Summary

This study’s purpose is to identify improvements to enhance traffic flow and safety in the vicinity of SR A1A from Mickler Road to Duval County Line, Mickler Road, Palm Valley Road, and Roscoe Boulevard/Solana Road. The following intersections were examined to assess traffic benefits, right-of-way impacts and costs.

SR A1A
- Mickler Road
- Crossroad Lakes Drive/Oceans Edge Drive
- Plantation Drive
- Sawgrass Drive/Fairfield Boulevard
- Palm Valley Road/Old CR 210
- ATP Tour Boulevard
- PGA Tour Boulevard/Country Club Boulevard
- Sawgrass Village Drive/L’Atrium Circle
- Thousand Oaks Boulevard/Ocean Place
- Corona Road/Summerfield Drive
- Library Boulevard
- Solana Road
- Dolphin Boulevard
- Marlin Avenue

Roscoe Road
- Solana Road at North Roscoe Boulevard

Palm Valley
- Roscoe Boulevard
- Canal Boulevard/Possum Trot Road
- Landrum Lane
- Mickler Road

Current and future traffic concerns in the Ponte Vedra area prompted this traffic study. Continued traffic growth is anticipated within this study area over the design period for the project, 2040. Alternatives to improve the intersections anticipated to have the worst congestion in the future were evaluated. Improvements are proposed at the following intersections:

- SR A1A at Mickler Road
- SR A1A at PGA Tour Boulevard
- SR A1A at Sawgrass Village/L’Atrium Drive
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- Palm Valley Road at Mickler Road
Improvements to meet the long-term needs within the corridor include:

- Widening SR A1A from two to four lanes from Mickler Road to ATP Tour Boulevard
- Widening SR A1A from four to six lanes from ATP Tour Boulevard to Marlin Avenue
- Widening Mickler Road and the east-west segment of Palm Valley Road from two to four lanes
- Constructing a new ramp from Palm Valley Road to Roscoe Boulevard in advance of the Intracoastal Waterway Bridge
- Constructing new sidewalk and bicycle lanes along Palm Valley Road

The total construction costs of these standalone intersection improvements are estimated to be $3.4 million. The total construction costs of the widening improvements are anticipated to be $32.6 million.
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1 Introduction

1.1 Purpose
This study’s purpose is to identify improvements to enhance traffic flow and safety in the vicinity of SR A1A from Mickler Road to the Duval County Line, Mickler Road, Palm Valley Road, and Roscoe Boulevard/Solana Road. The following intersections were examined to assess traffic benefits, right-of-way impacts and costs.

SR A1A
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- Solana Road
- Dolphin Boulevard
- Marlin Avenue

Roscoe Road
- Solana Road at North Roscoe Boulevard

Palm Valley
- Roscoe Boulevard
- Canal Boulevard/Possum Trot Road
- Landrum Lane
- Mickler Road
1.2 Background

Current and future traffic concerns in the Ponte Vedra area prompted this traffic study. Continued traffic growth is anticipated within this study area over the design period for the project, 2040. Alternatives to improve the intersections anticipated to have the worst congestion in the future were evaluated. Long-term improvements consider the impacts of widening SR A1A, Mickler Road and the east-west portion of Palm Valley Road.

This project analyzed existing roadways with improvements that will result in increased connectivity and will support planned development within the study area. Several intersection alternatives considered were eliminated from further consideration because of fatal flaws that included capacity and cost considerations.

The North Ponte Vedra Beach Traffic Study was conducted as the first phase of this study in 2016. The study included the North Ponte Vedra Beach and South Jacksonville Beach areas and along SR A1A from Ponte Vedra Lakes Boulevard to SR 202/J. Butler Boulevard (JTB). The following intersections were examined to assess traffic benefits, right-of-way impacts and costs.

- SR 202/JTB eastbound off-ramp at Marsh Landing Boulevard
- Marsh Landing Parkway at South Beach Parkway
- SR 202/JTB westbound on-ramp (Sanctuary Parkway) at South Beach Parkway
- Ponte Vedra Lakes Boulevard at Marsh Cove Drive
- Marsh Landing Parkway at SR A1A
- Ponte Vedra Lakes Boulevard at SR A1A

Two alternatives were analyzed for the design year of 2040. The first alternative implements Transportation System Management (TSM) strategies. Typical TSM improvements evaluated included short-term intersection improvements, signal modification and removing bottlenecks. The second alternative considers the impacts of extending South Beach Parkway to Ponte Vedra Lakes Boulevard via Vista Grande Drive. With the second alternative, the impacts of the shift in traffic were considered at each intersection.

The following summarize the recommendations of this study.

SR 202/JTB eastbound off-ramp at Marsh Landing Boulevard
- Remain as existing

Marsh Landing Parkway at South Beach Parkway
- Add southbound left-turn lane
- Add exclusive westbound channelized right-turn lane
- Extend eastbound left-turn bays
- Convert eastbound left-turn lane to additional receiving lane
- Add bike lanes along Marsh Landing Parkway and along South Beach Parkway

Sanctuary Parkway at South Beach Parkway
- Add additional receiving lane on Sanctuary Parkway
- Add multiuse path on north side of Sanctuary Parkway
• Add bike lane along South Beach Parkway

Ponte Vedra Lakes Boulevard at Marsh Cove Drive
• Add a community park with walkway that can be used by emergency vehicles on the north side of the intersection
• Add a parking lot to accommodate up to 20 vehicles
• Add two bus bays on the north and south sides of Ponte Vedra Lakes Boulevard, adjacent to the park to accommodate school buses

Marsh Landing Parkway at A1A
• Add bike lanes along A1A
• Add eastbound right-turn overlap phase
• Right-in right-out channelized island at Professional Drive
• Convert Avenue C median opening to directional median
• Extend JTB exit lane to Ponte Vedra Lakes Drive

Ponte Vedra Lakes Boulevard at A1A
• Construct a Florida T-Intersection
• Add additional northbound left-turn lane
• Add receiving lane on west leg to terminate at Professional Drive
• Add bike lanes along A1A
• Add eastbound right-turn overlap phase
• Maintain three southbound through lanes from Marsh Landing Parkway to Marlin Avenue

The anticipated cost for implementation of the recommended project alternatives at the study intersections is $4.0 million.

Based on the results of the *North Ponte Vedra Beach Traffic Study*, the limits were extended south to Mickler Road. Palm Valley Road and Solana Road were also evaluated.

### 1.3 Study Area
The project is located within Ponte Vedra Beach and Palm Valley. The study area includes SR A1A from Marlin Avenue to Mickler Road, Palm Valley Road, Mickler Road, and Roscoe Boulevard/Solana Road. This study area is located in northeast St. Johns County. A location map is provided in Figure 1.
2 Existing Conditions

2.1 Field Observations
Field reviews were performed within the study area at the following intersections during the AM and PM peak periods. The times of observation were from 7 AM to 9 AM and 4 PM to 6 PM. The AM and PM peak hours were 7:45 AM to 8:45 AM and 4:45 PM to 5:45 PM, respectively.

- SR A1A at Mickler Road
- SR A1A at Crossroad Lakes Drive/Oceans Edge Drive
- SR A1A at Plantation Drive
- SR A1A at Sawgrass Drive/Fairfield Boulevard
- SR A1A at Palm Valley Road/Old CR 210
- SR A1A at ATP Tour Boulevard
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Sawgrass Village Drive/L’Atrium Circle
- SR A1A at Thousand Oaks Boulevard/ Ocean Place
- SR A1A at Corona Road/Summerfield Drive
- SR A1A at Library Boulevard
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- SR A1A at Marlin Avenue
- Solana Road at North Roscoe Boulevard
- Palm Valley Road at Roscoe Boulevard
- Palm Valley Road at Canal Boulevard/Possum Trot Road
- Palm Valley Road at Landrum Lane
- Palm Valley Road at Mickler Road

2.1.1 SR A1A

2.1.1.1 Mickler Road
Mickler Road at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound:** one left-turn lane, one through lane and one channelized right-turn lane

**Southbound:** one left-turn lane, one through lane and one channelized right-turn lane

**Eastbound:** one shared through/left/right-turn lane

**Westbound:** one shared through/left/right-turn lane

During the field review, additional conditions were observed at the intersection of Mickler Road and SR A1A. This intersection has mast arm poles with no signs on the arms. Crosswalks are located on each leg, and the sidewalk is present along the west side and north side of the intersection. There is a bicycle lane in the southbound and northbound direction, and lighting is provided at the intersection's southwest corner.
During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays at the intersection were increased slightly during the AM and PM peak hour, particularly in the AM peak hour. Queues in the eastbound direction during the AM peak hour were approximately 10 to 15 vehicles; however, the maximum queue observed was 25 vehicles during the AM period. There were three to 10 vehicles queued southbound and three to five vehicles queued northbound during the AM peak hour. Queues in the eastbound direction during the PM peak hour averaged four to seven vehicles. There were three to six vehicles queued southbound and five to eight vehicles queued northbound during the PM peak hour.

2.1.1.2 Crossroad Lakes Drive
Crossroad Lakes Drive at SR A1A is a four-leg, stop controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane, and one shared through/right-turn lane
Southbound: one left-turn lane, one through lane and one right-turn lane
Eastbound: one shared left/through/right-turn lane
Westbound: one shared left/through/right-turn lane

During the field review, additional conditions were observed at the intersection of Crossroad Lakes Drive and SR A1A. The crosswalks and sidewalk are located along the west side of the intersection. There is a bicycle lane in the southbound and northbound directions. Lighting is provided along the intersection’s west leg.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were three to five vehicles queued eastbound during the AM peak hour and there were zero to two vehicles queued during the PM peak hour.

2.1.1.3 Plantation Drive
Plantation Drive at SR A1A is a three-leg, stop-controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane and one through lane
Southbound: one right-turn lane and one through lane
Eastbound: one shared left/right-turn lane

During the field review, additional conditions were observed at the intersection of Plantation Drive and SR A1A. A crosswalk and sidewalk is located on the west leg. There is a bicycle lane in the southbound and northbound directions. Lighting is provided along the west leg.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were three to five vehicles queued eastbound during the AM peak hour and there were zero to two vehicles queued during the PM peak hour.

2.1.1.4 Sawgrass Drive
Sawgrass Drive at SR A1A is a four-leg, stop-controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane, two through lanes and one right-turn lane
Southbound: one left-turn lane, two through lanes and one right-turn lane
Eastbound: one shared through/left-turn lane and one right-turn lane
Westbound: one shared through/left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of Sawgrass Drive and SR A1A. The crosswalks and sidewalk are located along the west side of the intersection. There is a bicycle lane in the southbound and northbound directions. There is no lighting present at the intersection.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were one to two vehicles queued eastbound during the AM period and PM period.

2.1.5 Palm Valley Road
Palm Valley Road at SR A1A is a three-leg, signal-controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane and two through lanes
Southbound: two through lanes and one right-turn lane
Eastbound: one left-turn lane and one shared left/right-turn lane

During the field review, additional conditions were observed at the intersection of Palm Valley Road and SR A1A. This intersection has mast arm poles with a left-turn yield on green sign (MUTCD R10-12) on the north and south leg mast arms and a no U-turn sign (MUTCD R3-4) on the east mast arm. Pedestrian push-buttons are located on the northwest, southwest and southeast poles. The crosswalks are located on the west and south legs, and the sidewalk is located along the west side of the intersection. There is a bicycle lane in the southbound and northbound directions. Lighting is provided at the intersection’s southwest corner.

During the AM and PM peak hours, heavy traffic was present on Palm Valley Road. Queues in the eastbound direction during the AM peak hour were approximately 15 to 20 with a maximum eastbound queue of 25 vehicles. The queues observed during the PM peak hour were approximately 18 to 28 vehicles. There were approximately five to 10 vehicles queued southbound and 10 to 14 vehicles queued northbound during the AM peak hour. There were approximately six to 11 vehicles queued southbound and five to twelve vehicles queued northbound during the PM peak hour.

2.1.6 ATP Tour Boulevard
ATP Tour Boulevard at SR A1A is a three-leg, signal-controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane and two through lanes
Southbound: two through lanes and one right-turn lane
Eastbound: one left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of ATP Tour Boulevard and SR A1A. This intersection has mast arm poles with a left-turn yield on green sign (MUTCD R10-12) on the north and south leg mast arms. Pedestrian push-buttons are located on the northwest and southwest poles. A
crosswalk is located on the west leg, and the sidewalks is located along the west side of the intersection. There is a bicycle lane in the southbound and northbound directions. No lighting is present at the intersection. There is a camera on the northwest corner pole. It was observed that there is some sight-distance obstruction for northbound left-turn vehicles due to trees in the median.

During the AM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were approximately two to seven vehicles queued southbound and two to four vehicles queued northbound during the AM peak hour. Heavy traffic was observed during the PM peak hour. The heaviest movement at the intersection during the PM peak hour was southbound. There were approximately 20 to 24 vehicles queued southbound, and extended approximately 620-feet. There were approximately 12 to 15 vehicles queued northbound and seven to 10 vehicles queued eastbound during the PM peak hour.

2.1.1.7 PGA Tour Boulevard
PGA Tour Boulevard at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound:** one left-turn lane, two through lanes and one right-turn lane  
**Southbound:** one left-turn lane, two through lanes and one right-turn lane  
**Eastbound:** one left-turn lane and one shared through/right-turn lane  
**Westbound:** one shared through/lef-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of PGA Tour Boulevard and SR A1A. This intersection has signal strain poles with a left-turn yield on green sign (MUTCD R10-12) on the north and south leg wires and a no U-turns sign (MUTCD R3-4) on the south leg wire. Pedestrian push buttons are located on each pole. The crosswalks are located on the north, south and west legs. Sidewalks are located along SR A1A on the east and west sides. There is a bicycle lane in the southbound and northbound directions. Lighting is present on the southwest corner. In addition, a project is underway to replace span wires with mast arm assemblies at this location.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were approximately 10 to 16 vehicles queued southbound and 10 to 18 vehicles queued northbound during the AM peak hour. Queues in the eastbound were approximately four to 10 vehicles. There were approximately four to seven vehicles queued southbound and six to 10 vehicles queued northbound during the PM peak hour. Queues in the eastbound direction were approximately five to 15 vehicles.

2.1.1.8 Sawgrass Village Drive
Sawgrass Village Drive at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound:** one left-turn lane, two through lanes and one right-turn lane  
**Southbound:** one left-turn lane, two through lanes and one right-turn lane  
**Eastbound:** one left-turn lane and one shared through/right-turn lane  
**Westbound:** one shared through/lef-turn lane and one right-turn lane
During the field review, additional conditions were observed at the intersection of Sawgrass Village Drive and SR A1A. This intersection has signal strain poles with left-turn yield on green sign (MUTCD R10-12) and right turn only (MUTCD R3-5R) on the north and south leg mast arms. The south leg also contains a no U-turn sign (MUTCD R3-4). The pedestrian push buttons are located on each pole. The crosswalks and sidewalks are located on west. There is a bicycle lane in the southbound and northbound directions. Lighting is present at the northwest and northeast corners. There is a camera on the northwest corner pole. It was observed that there is some sight-distance obstruction for northbound left-turn vehicles due to trees in the median. In addition, a project is underway to replace span wires with mast arm assemblies at this location.

During the AM peak hour, the heaviest movement at the intersection was northbound through. Queues in the northbound direction during the AM peak hour were approximately 20 to 32 vehicles and extended approximately 500-feet. Queues in the southbound direction were approximately five to eight vehicles. During the PM hour, heavy traffic was observed in the northbound and southbound directions. There were approximately 20 to 27 vehicles queued southbound and 14 to 20 vehicles queued northbound. Queues in the southbound direction extended approximately 500-feet. Heavy traffic was also observed in the eastbound direction during the PM peak hour. The queues in the eastbound direction were approximately 10 to 15 vehicles. The eastbound queues extended approximately 400-feet.

2.1.1.9 Thousand Oaks Boulevard

Thousand Oaks Boulevard at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

- **Northbound**: one left-turn lane, two through lanes and one right-turn lane
- **Southbound**: one left-turn lane, two through lanes and one right-turn lane
- **Eastbound**: one shared left/through/right-turn lane
- **Westbound**: one left-turn lane and one shared through/right-turn lane

During the field review, additional conditions were observed at the intersection of Thousand Oaks Boulevard and SR A1A. This intersection has mast arm poles with left-turn yield on green signs (MUTCD R10-12) on the north and south leg mast arms. Pedestrian push buttons are located on each pole. Crosswalks are located on each intersection leg, and the sidewalks are located on both sides of SR A1A and the north side of the east and west legs. There is a bicycle lane in the southbound and northbound directions. Lighting is present along the west side of SR A1A and northeast corner of the intersection.

During the AM peak hour, the heaviest movement at the intersection was the northbound through. Queues in the northbound direction during the AM peak hour were approximately 10 to 20 vehicles, and extended approximately 600-feet. Queues in the southbound direction were approximately five to seven vehicles. During the PM peak hour, no operational issues were observed. Queues and delays were minimal. There were approximately three to five vehicles queued southbound and two to four vehicles queued northbound.
2.1.1.10 Corona Road
Corona Road at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound**: one left-turn lane, two through lanes and one right-turn lane  
**Southbound**: one left-turn lane, two through lanes and one right-turn lane  
**Eastbound**: one shared left/through/right-turn lane  
**Westbound**: one shared through/left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of Corona Road and SR A1A. This intersection has mast arm poles with left-turn yield on green signs (MUTCD R10-12) on the north and south leg mast arms. It was observed that one sign is flipped face-up on south leg mast arm. Pedestrian push buttons are located on each pole. A signal head on a pedestal is provided at the southeast corner of the intersection for vehicles traveling westbound. The crosswalks are located on the west, east, and south side legs. There are sidewalks along all legs of the intersection except the north side of the east leg. There is a bicycle lane in the southbound and northbound directions. Lighting is present at the northwest and northeast corners. PV/PV-Rawlings Elementary school is located at the southwest corner.

During the AM hour traffic, no operational issues were observed. Queues and delays were minimal. Queues in the northbound direction during the AM peak hour were approximately four to seven vehicles. Queues in the westbound direction during the AM peak hour were approximately five to eight vehicles. During the PM peak hour, heavy traffic was observed in the northbound direction. There were approximately seven to 13 vehicles queued southbound and 13 to 22 queued northbound during the PM peak hour.

2.1.1.11 Library Boulevard
Library Boulevard at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound**: one left-turn lane and two through lanes  
**Southbound**: one left-turn lane, one right-turn lane and two through lanes  
**Eastbound**: one shared through/left-turn lane and one right-turn lane  
**Westbound**: one shared left/through/right-turn lane

During the field review, additional conditions were observed at the intersection of Library Boulevard and SR A1A. The intersection has a new signal traffic mast arm on the west side leg, and there are left-turn yield on green signs (MUTCD R10-12) on the north and south leg mast arms. Crosswalks are located on each intersection leg, and there are sidewalks along both sides of SR A1A and on the south side of the west leg. There is a bicycle lane in the northbound and southbound directions. Lighting is provided on the intersection’s southwest corner, and detector cameras are on each mast arm. There is a Ponte Vedra Beach Library and the Ponte Vedra Fire Department is located near the intersection.

During the AM peak hour, there was heavy traffic on SR A1A. The heaviest movement at the intersection was northbound through, due to the traffic queues extending from Solana Road. There were approximately four to 10 vehicles queued southbound and 13 to 21 vehicles queued northbound during the AM peak hour. During the
PM peak hour, there were approximately five to 10 vehicles queued southbound and four to seven vehicles queued northbound.

### 2.1.1.12 Solana Road
Solana Road at SR A1A is a four-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound:** one left-turn lane, two through lanes and one right-turn lane  
**Southbound:** one left-turn lane, two through lanes and one channelized right-turn lane  
**Eastbound:** two left-turn lanes and one shared through/right-turn lane  
**Westbound:** one shared through/left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of Solana Road and SR A1A. The intersection has mast arm poles with a right-turn only (MUTCD R3-5R) signage in the north and south leg mast arms. There are two signal pedestals on the southwest corner with count down pedestrian heads, one signal pedestal in the northwest corner and one on the southeast corner. Crosswalks are located on the west and the south legs, and sidewalks are located along the west side of SR A1A north of the intersection and east side of SR A1A south of the intersection. Sidewalk is additionally located on the south side of Solana Road. There is a bicycle lane in the northbound and southbound directions. Lighting is present on the intersection’s southeast and southwest corners. There is a right turn only light-emitting diode (LED) sign on the east leg mast arm and a closed-circuit television (CCTV) camera located on the south leg mast arm.

During the AM peak hour, the northbound, southbound and the eastbound through movements are heavy. Queues in the northbound, southbound and eastbound direction during the AM peak hour were approximately thirty to thirty-four, twenty-four to thirty, and eighteen to thirty-three vehicles, respectively. The traffic during the AM period in the northbound and southbound extended approximately 480-feet and 730-feet, respectively. Queues in the northbound, southbound and eastbound direction during the PM peak hour were approximately 15 to 35, 26 to 35, and 11 to 15 vehicles, respectively. The traffic during the PM period in the northbound and southbound extended approximately 295-feet and 700-feet, respectively.

### 2.1.1.1 Dolphin Boulevard
Dolphin Boulevard is a three leg, stop-controlled intersection. The intersection configuration is as follow:

**Northbound:** one left-turn lane and two through lanes  
**Southbound:** two through lanes and one right-turn lane  
**Eastbound:** one shared left/right-turn lane

During the field review, additional conditions were observed at the intersection of Dolphin Boulevard and SR A1A. There are no sidewalks along the east leg. A crosswalk is located on the west leg, and lighting is present at the intersection’s northwest corner. There is one bicycle lane in the northbound and southbound directions.

During the AM and PM peak hours, heavy traffic was observed in the southbound direction. The southbound queues from Solana Road block the eastbound and northbound left movements.
2.1.1.2 Marlin Avenue
Marlin Avenue at SR A1A is a three-leg, signal-controlled intersection. The intersection configuration is as follows:

**Northbound:** one left-turn lane and two through lanes  
**Southbound:** two through lanes and one right-turn lane  
**Eastbound:** one left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of Marlin Avenue and SR A1A. The intersection has signal strain poles with a left-turn yield on green sign (MUTCD R10-12) on the north leg. Signal pedestals with count down pedestrian heads and push buttons are located on the northwest and southwest corners of the intersections. A crosswalk is located on the intersection’s west leg. A sidewalk is located along the west side of SR A1A, and there is lighting present on the southwest corner. There is a bicycle lane in the northbound and southbound directions. There are No Parking signs (MUTCD R8-3) located on the east leg. In addition, a project is underway to replace span wires with mast arm assemblies at this location.

During the AM peak hours traffic, no operational issues were observed. Queues and delays were minimal. There were approximately 10 to 15 vehicles queued southbound and 18 to 25 vehicles queued northbound during the AM peak hour. Heavy traffic was observed during the PM peak hour in the southbound direction. There were approximately 15 to 22 vehicles queued southbound and one to four vehicles queued northbound during the PM peak hour. Traffic queues extended from Dolphin Boulevard to the south leg of Marlin Avenue.

2.1.2 Roscoe Boulevard

2.1.2.1 Solana Road
Solana Road at North Roscoe Boulevard is a three-leg, stop-controlled intersection. Stop-control is present only on the west leg. The intersection configuration is as follows:

**Northbound:** one through lane  
**Southbound:** one through lane  
**Eastbound:** one shared left/through/right-turn lane

During the field review, additional conditions were observed at the intersection of Roscoe Boulevard and Solana Road. There are no crosswalks, sidewalks or bicycle lanes at this intersection. There is one street light located in the northwest corner.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. Queues in the eastbound during the AM and PM peak hours were approximately one to two vehicles.
2.1.3 Palm Valley Road

2.1.3.1 Roscoe Boulevard
Roscoe Boulevard at Palm Valley Road is a three-leg, stop-controlled intersection. The intersection configuration is as follows:

Northbound: one through lane and one right-turn lane
Southbound: one left right-turn lane and one through lane
Westbound: one left-turn lane and one right-turn lane

During the field review, additional conditions were observed at the intersection of Roscoe Boulevard and Palm Valley Road. The crosswalk and the sidewalk are located along the east side of Palm Valley Road. There are no bicycle lanes, and lighting is present on the southeast, southwest and northeast corners of the intersection.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. Queues in the southbound direction during the AM and PM peak hours were approximately zero to two vehicles. Queues in the westbound direction averaged seven to 12 vehicles in the AM and PM peak hours.

2.1.3.2 Mickler Road
Mickler Road at Palm Valley Road is a four-leg, roundabout-controlled intersection. The intersection configuration is as follows:

Northbound: one shared left/through/right-turn lane
Southbound: one shared left/through/right-turn lane
Eastbound: one shared left/through/right-turn lane
Westbound: one shared left/through/right-turn lane

During the field review, additional conditions were observed at the intersection of Mickler Road and Palm Valley Road roundabout. Crosswalks and sidewalks are located on each direction. There are two street lights per each direction. There are no bicycle lanes present.

During the AM and PM peak hour traffic, no operational issues were observed. Heavy traffic was observed in the westbound direction during the AM and PM peak hours. Queues in the eastbound direction during the AM and PM peak hour were approximately 25 to 30 vehicles, up to a maximum of 55 vehicles, and extended approximately 1,500-feet. There were approximately five to 11 vehicles queued southbound and four to 10 vehicles queued northbound during the AM peak hour. During the PM peak hour, there were approximately 11 to 18 vehicles queued southbound and five to 10 vehicles queued northbound during the PM peak hour.

2.1.3.3 Landrum Lane
Landrum Lane at Palm Valley Road is a three-leg, signal-controlled intersection. The intersection configuration is as follows:

Northbound: one left-turn lane and one through lane
Southbound: one through lane and one right-turn lane
Eastbound: one left-turn lane and one right-turn lane
During the field review, additional conditions were observed at the intersection of Landrum Lane and Palm Valley Road. There are no crosswalks or bicycle lanes at the intersection. Sidewalks start at the southwest corner of the intersection and continue south along Palm Valley Road and west along Landrum Lane. Lighting is present on the northwest corner.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal. There were approximately four to 12 vehicles queued southbound and two to six vehicles queued northbound during the AM peak hour. Queues in the eastbound direction during the AM peak hour were approximately three to six vehicles. There were approximately five to 10 vehicles queued southbound and one to four vehicles queued northbound during the PM peak hour. Queues in the eastbound direction during the PM peak hour were approximately one to four vehicles.

2.1.3.1 Canal Boulevard
Canal Boulevard at Palm Valley Road is a four-leg, stop-controlled intersection. The intersection configuration is as follows:

**Northbound**: one left-turn lane, one through lane and one right-turn lane  
**Southbound**: one left-turn, one through lane and one channelized right-turn lane  
**Eastbound**: one shared through/left-turn lane and one right-turn lane  
**Westbound**: one shared left/through/right-turn lane

During the field review, additional conditions were observed at the intersection of Canal Boulevard and Palm Valley Road. There are no crosswalks or bicycle lanes at the intersection. Sidewalks start at the southwest corner of the intersection and continue south along Palm Valley Road and west along Canal Blvd. Lighting is present at the southwest corner.

During the AM and PM peak hour traffic, no operational issues were observed. Queues and delays were minimal.
2.2 Traffic Data Collection
To understand and study the existing conditions of the roadways within the study area, traffic counts were conducted along SR A1A from Marlin Avenue to Mickler Road, Palm Valley Road and Roscoe Boulevard. Intersection volume counts were conducted at the nineteen intersections. Traffic volume counts (72-hours) were recorded between the subject intersections on Mickler Road, Palm Valley Road and Solana Road/Roscoe Boulevard. Appendix A and B provide the 72-hour volume counts and turning movement volume counts, respectively.

2.2.1 Truck Average Volume
The traffic truck volume was analyzed for each intersection for the AM and PM hours. The following table summarizes the average truck volume.

**Table 1. Average Truck Volume Summary**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Average Truck Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  SR A1A and Mickler Road</td>
<td>55 AM  54 PM</td>
</tr>
<tr>
<td>2  SR A1A and Crossroad Lakes Drive/Oceans Edge Drive</td>
<td>42 AM  44 PM</td>
</tr>
<tr>
<td>3  SR A1A and Plantation Drive</td>
<td>35 AM  38 PM</td>
</tr>
<tr>
<td>4  SR A1A and Sawgrass Drive/Fairfield Blvd</td>
<td>49 AM  45 PM</td>
</tr>
<tr>
<td>5  SR A1A and Palm Valley Road/Old CR 210</td>
<td>65 AM  53 PM</td>
</tr>
<tr>
<td>6  SR A1A and ATP Tour Boulevard</td>
<td>75 AM  65 PM</td>
</tr>
<tr>
<td>7  SR A1A and PGA Tour Boulevard/Country Club Boulevard</td>
<td>79 AM  63 PM</td>
</tr>
<tr>
<td>8  SR A1A and Sawgrass Village L'Atrium Circle</td>
<td>76 AM  63 PM</td>
</tr>
<tr>
<td>9  SR A1A and Thousand Oaks Drive/Ocean Place</td>
<td>70 AM  55 PM</td>
</tr>
<tr>
<td>10 SR A1A and Corona Road/Summerfield Drive</td>
<td>80 AM  59 PM</td>
</tr>
<tr>
<td>11 SR A1A and Library Boulevard</td>
<td>79 AM  35 PM</td>
</tr>
<tr>
<td>12 SR A1A and Solana Road</td>
<td>91 AM  44 PM</td>
</tr>
<tr>
<td>13 SR A1A and Dolphin Boulevard</td>
<td>78 AM  52 PM</td>
</tr>
<tr>
<td>14 SR A1A and Marlin Avenue</td>
<td>78 AM  46 PM</td>
</tr>
<tr>
<td>15 Solana Road and Roscoe Boulevard</td>
<td>25 AM  22 PM</td>
</tr>
<tr>
<td>16 Palm Valley Road and Roscoe Boulevard</td>
<td>79 AM  67 PM</td>
</tr>
<tr>
<td>17 Palm Valley Road and Canal Boulevard/Possum Trot Road</td>
<td>41 AM  33 PM</td>
</tr>
<tr>
<td>18 Palm Valley Road and Landrum Lane</td>
<td>51 AM  42 PM</td>
</tr>
<tr>
<td>19 Mickler Road/Palm Valley Road Roundabout</td>
<td>77 AM  54 PM</td>
</tr>
</tbody>
</table>
2.2.2 Crash Analysis
The five-year crash data between 2011 and 2016 was analyzed at SR A1A from Marlin Avenue to Mickler Road, Palm Valley Road, Mickler Road, and Roscoe Boulevard/Solana Road. The crash data was obtained from Signal Four Analytics crash mapping and analysis system for the five-year period from July 1, 2011 through July 31, 2016.

A total of 1,082 crashes occurred during this period in the study area. There were seven fatal crashes, 285 injury crashes and 790 crashes that involved damage to vehicle only. Rear end collisions were the most common crashes along SR A1A accounting for 52 percent of the total crashes.

Table 2 shows the summary of crashes by severity within the study area.

**TABLE 2. CRASH SEVERITY SUMMARY**

<table>
<thead>
<tr>
<th>Crash Severity</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatal</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>7</td>
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<tr>
<td>Injury</td>
<td>27</td>
<td>60</td>
<td>52</td>
<td>47</td>
<td>54</td>
<td>45</td>
<td>285</td>
</tr>
<tr>
<td>Property Damage Only</td>
<td>6</td>
<td>96</td>
<td>173</td>
<td>172</td>
<td>205</td>
<td>138</td>
<td>790</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>157</td>
<td>226</td>
<td>221</td>
<td>260</td>
<td>184</td>
<td>1,082</td>
</tr>
</tbody>
</table>

Of the seven fatal crashes, two crashes occurred where the driver was at fault. In the first, the driver failed to drive in a single lane and collided with a cyclist who was traveling in the bike lane. The second crash occurred due to a driver running a stop signal and striking a bicyclist in the bike lane. In the other two crashes, the pedestrian and the bicyclist were at fault. The pedestrians and the bicyclist failed to use a crosswalk and were struck by a vehicle. The other three fatal crashes are non-traffic and geometric related.

During the five-year study period, of the crashes that were classified as specific crash events, the highest were rear end collisions (549 crashes) followed by left-turn collisions (103 crashes) and by off road collisions (96 crashes). Table 3 provides a summary of the types of crashes within the study area.
### Table 3. Crash Types

<table>
<thead>
<tr>
<th>Harmful Event</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backed Into</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bicycle</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>4</td>
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<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Head On</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Left Entering</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Off Road</td>
<td>6</td>
<td>20</td>
<td>26</td>
<td>12</td>
<td>23</td>
<td>15</td>
<td>102</td>
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<td>Opposing Sideswipe</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Other</td>
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<td>13</td>
<td>39</td>
<td>39</td>
<td>33</td>
<td>30</td>
<td>158</td>
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<td>Parked Vehicle</td>
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<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>16</td>
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<tr>
<td>Pedestrian</td>
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<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Rear End</td>
<td>15</td>
<td>75</td>
<td>111</td>
<td>115</td>
<td>145</td>
<td>103</td>
<td>564</td>
</tr>
<tr>
<td>Angle</td>
<td>1</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>13</td>
<td>2</td>
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<td>Right/Through</td>
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<td>0</td>
</tr>
<tr>
<td>Rollover</td>
<td>1</td>
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<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Sideswipe</td>
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<td>9</td>
<td>8</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>45</td>
</tr>
<tr>
<td>Single Vehicle</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Unknown</td>
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<td>0</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Left Turn</td>
<td>5</td>
<td>24</td>
<td>18</td>
<td>22</td>
<td>24</td>
<td>15</td>
<td>108</td>
</tr>
<tr>
<td>Right Turn</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Animal</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>160</strong></td>
<td><strong>229</strong></td>
<td><strong>225</strong></td>
<td><strong>263</strong></td>
<td><strong>187</strong></td>
<td><strong>1098</strong></td>
</tr>
</tbody>
</table>

Rear end collisions represent nearly 52 percent of the total crashes occurring along SR A1A between Marlin Avenue and Mickler Road, Palm Valley Road and Roscoe Boulevard study corridors for the five-year period analyzed. Eighty-five percent (549 crashes) of the rear end collisions occurred during daylight lighting conditions and approximately 77 percent occurred during “clear” weather conditions. The data indicates that the high occurrence of rear-end collisions may be due to peak periods of heavy congestion along the corridor. Table 4 provides a summary of these types of conditions.
Table 4. Crash Conditions Summary

<table>
<thead>
<tr>
<th>Conditions</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dark - Lighted</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>Dark - Not Lighted</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>10</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>Dawn</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Daylight</td>
<td>10</td>
<td>61</td>
<td>94</td>
<td>95</td>
<td>127</td>
<td>93</td>
<td>480</td>
</tr>
<tr>
<td>Dusk</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>0</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>75</td>
<td>111</td>
<td>115</td>
<td>144</td>
<td>103</td>
<td>563</td>
</tr>
<tr>
<td>Weather Conditions</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clear</td>
<td>10</td>
<td>52</td>
<td>91</td>
<td>89</td>
<td>108</td>
<td>81</td>
<td>431</td>
</tr>
<tr>
<td>Cloudy</td>
<td>3</td>
<td>16</td>
<td>11</td>
<td>17</td>
<td>22</td>
<td>16</td>
<td>85</td>
</tr>
<tr>
<td>Fog, Smog, Smoke</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Rain</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>14</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>Unknown</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>75</td>
<td>111</td>
<td>115</td>
<td>144</td>
<td>102</td>
<td>562</td>
</tr>
</tbody>
</table>

Appendix C illustrates the locations of crashes along SR A1A from Marlin Avenue to Mickler Road, Palm Valley Road, Mickler Road, and Roscoe Boulevard/Solana Road corridors for each of the five study years from 2011 through 2016.
## 2.3 Existing Traffic Volumes and LOS

### 2.3.1 Volumes and LOS

Existing traffic volumes on each intersection within the project study area are shown in Figure 2. Congestion currently exists on several of the major roadways within the study area including SR A1A from Marlin Avenue to Mickler Road, Palm Valley Road and Roscoe Boulevard. Intersections that experience the most delay today are:

- SR A1A at Solana Road
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Mickler Road
- Palm Valley Road at Mickler Road

AM and PM peak hour turning movement volumes are shown in Figure 2.

### 2.3.2 Cut-Through Volumes

Cut-through traffic volumes were accessed along the Palm Valley Road corridor. During the AM and PM peak period the cut-through volume is significant. About 50 percent of the northbound volume utilizes Palm Valley Road and does not continue to SR A1A via Mickler Road. Similarly, about 40 percent of southbound traffic utilizes Palm Valley Road in the AM and PM peak hours rather than continuing southbound on SR A1A. This volume also includes personal vehicles and trucks making trips to residences or places of business on Palm Valley Road.
2.4 Intersection Volumes and LOS

Intersection operations were determined using traffic counts collected December 8, 2015 and December 9, 2015, in conjunction with the existing signal timing plans for the AM (7:45-8:45) and PM (4:45-5:45) analysis periods. The existing signal timings for each analysis were obtained from the Florida Department of Transportation and St. Johns County Board of County Commissioners Traffic and Transportation Department. Appendix E contains the signal timing plans.

The information for each intersection was analyzed using SYNCHRO/SimTraffic package (V9.0). The SYNCHRO analysis reports are provided in Appendix E.

Existing LOS was analyzed at the following intersections.

- SR A1A at Mickler Road
- SR A1A at Crossroad Lakes Drive/Oceans Edge Drive
- SR A1A at Plantation Drive
- SR A1A at Sawgrass Drive/Fairfield Boulevard
- SR A1A at Palm Valley Road/Old CR 210
- SR A1A at ATP Tour Boulevard
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Sawgrass Village Drive/L’Atrium Circle
- SR A1A at Thousand Oaks Boulevard/Ocean Place
- SR A1A at Corona Road/Summerfield Drive
- SR A1A at Library Boulevard
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- SR A1A at Marlin Avenue
- Solana Road at North Roscoe Boulevard
- Palm Valley Road at Roscoe Boulevard
- Palm Valley Road at Canal Boulevard/Possum Trot Road
- Palm Valley Road at Landrum Lane
- Palm Valley Road at Mickler Road

A Level of Service (LOS) grade of A or B reflect free-flow conditions. A level of service grade of LOS B or LOS C reflect some congestion and slower speeds. A level of service grade of LOS E or LOS F reflects unstable and stop-and-go conditions. The desire is to maintain a level of service of LOS D or better on all state roads and a level of service of LOS E or better on local roads.

These grades reflect conditions where the additional delays caused by crashes are not considered.
### Table 5. Existing Level of Service and Intersection Delay

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak</th>
<th>PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR A1A and Marlin Avenue</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>19.4</td>
<td>17.1</td>
</tr>
<tr>
<td>SR A1A and Solana Road</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>51.6</td>
<td>45.7</td>
</tr>
<tr>
<td>SR A1A and Library Boulevard</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>16.7</td>
<td>11.2</td>
</tr>
<tr>
<td>SR A1A and Corona Road/ Summerfield Drive</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>16.3</td>
<td>16.9</td>
</tr>
<tr>
<td>SR A1A and Thousand Oaks Drive/ Ocean Place</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>17.3</td>
<td>5.8</td>
</tr>
<tr>
<td>SR A1A and Sawgrass Village Drive/ L’Atrium</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Circle</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19.5</td>
<td>33.8</td>
</tr>
<tr>
<td>SR A1A and PGA Tour Boulevard/Country Club</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>Boulevard</td>
<td>22.8</td>
<td>37.8</td>
</tr>
<tr>
<td>SR A1A and ATP Tour Boulevard</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>20.3</td>
<td>24.2</td>
</tr>
<tr>
<td>SR A1A and Palm Valley Road/ Old CR 210</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>21.9</td>
<td>20.8</td>
</tr>
<tr>
<td>SR A1A and Mickler Road</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>39.6</td>
<td>28.7</td>
</tr>
<tr>
<td>Palm Valley Road and Mickler Road</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>68.6</td>
<td>78.6</td>
</tr>
</tbody>
</table>

- **LOS Standard**
- **Below LOS Standard**
- **Failing**
With the continued development of residential, commercial and retail land uses within the study area, congestion on the major roadways will worsen. Multiple intersections currently operate at a deficient LOS in the AM and PM peak hours. The LOS at intersection of SR A1A at PGA Tour Boulevard/Country Club Boulevard is a LOS D during the afternoon peak hour. The LOS at the intersection of Palm Valley Road and Mickler Road is a LOS F during the morning and afternoon peak hours. The LOS at the intersection of SR A1A and Mickler Road is a LOS F during the morning and afternoon peak hours. At all other intersections, the LOS is a C or better.
3 Methodology

3.1 Adopted Travel Demand Forecasting Model
The Northeast Regional Planning Model (NERPM-AB) was used in assessing future demand for the Ponte Vedra study area. The modeling effort used in this evaluation was the 2040 Cost Feasible Plan network and contains all updated model input information which was available at the time of the preparation of this report.

3.2 Alternatives Analyzed
The following alternatives were modeled.

3.2.1 Base Year
A base year model of 2010 was developed and assignments were run to conduct reasonableness tests and to compare with the future No Build alternative to estimate growth rates.

3.2.2 No Build
This alternative showed the anticipated traffic volumes and travel patterns if no additional improvements are made. Developments considered in the model include the Player’s Club Planned Unit Development near the intersection of Palm Valley Road and SR A1A.

3.2.3 Build Alternative
This scenario included the widening of SR A1A from two to four lanes from Mickler Road to ATP Tour Boulevard and four to six lanes from ATP Tour Boulevard to Marlin Avenue. This includes the 2040 Cost Feasible Plan projects. The Build modeling scenario additionally provides for the widening of Mickler Road and the east-west segment of Palm Valley Road from two to four lanes between SR A1A and the Intracoastal Waterway bridge.

Scenarios were also modeled for the widening of the north-south segment Palm Valley Road and for widening SR A1A from two to four lanes from Mickler Road to Corona Road and four to six lanes from Corona Road to Marlin Avenue. These scenarios were dismissed due to feasibility and operational impacts.
3.3 Design Traffic Volumes

3.3.1 Annual Average Daily Traffic Volumes
Annual Average Daily Traffic (AADT) volumes were developed using the following procedure:

1. The growth rate between the 2010 Base Year and 2040 No Build Alternative assignments was determined.

2. Using the growth rates established in step 1, existing traffic count volumes (2015) were escalated to 2040 No Build volumes. Intersection only improvements utilized No Build volumes.

3. By following a similar procedure outlined in steps 1 and 2, the 2040 Build Alternative assignments were determined. In conducting the reasonableness check, areas with questionable results were analyzed as the maximum practical design.
4 No Build Alternative

4.1 Intersection Peak Hour Volumes
The intersection peak hour volumes for the No Build analysis were developed from the NERPM-AB model AADTs and refined to reflect capacity constraints and local termini. The growth rate from the 2010 to 2040 model was calculated and applied to the existing volumes to obtain the 2040 volumes. Turning movement percentages in the existing counts were assumed to remain the same in the No Build Years. Figure 3 shows the AM and PM peak hour intersection volumes for 2040 No Build.
4.2 Intersection LOS
LOS analyses for the No Build Alternative during 2040 were performed using SYNCHRO/SimTraffic package (V9.0). The red and yellow timings were updated from the existing timings to reflect the current computation for yellow and red clearance interval based on ITE’s Traffic Engineering Handbook standards. The SYNCHRO analysis reports are provided in Appendix E. The following locations were analyzed.

- SR A1A at Mickler Road
- SR A1A at Crossroad Lakes Drive/Oceans Edge Drive
- SR A1A at Plantation Drive
- SR A1A at Sawgrass Drive/Fairfield Boulevard
- SR A1A at Palm Valley Road/Old CR 210
- SR A1A at ATP Tour Boulevard
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Sawgrass Village Drive/L’Atrium Circle
- SR A1A at Thousand Oaks Boulevard/Ocean Place
- SR A1A at Corona Road/Summerfield Drive
- SR A1A at Library Boulevard
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- SR A1A at Marlin Avenue
- Solana Road at North Roscoe Boulevard
- Palm Valley Road at Roscoe Boulevard
- Palm Valley Road at Canal Boulevard/Possum Trot Road
- Palm Valley Road at Landrum Lane
- Palm Valley Road at Mickler Road

No Build Intersection LOS and delays are shown for 2040 in Table 6.
### Table 6. 2040 No Build Level of Service and Delays

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Level of Service (LOS)</th>
<th>Intersection Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM Peak</td>
<td>PM Peak</td>
</tr>
<tr>
<td>SR A1A and Marlin Avenue</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>SR A1A and Solana Road</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>SR A1A and Library Boulevard</td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td>SR A1A and Corona Road/ Summerfield Drive</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>SR A1A and Thousand Oaks Drive/ Ocean Place</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>SR A1A and Sawgrass Village Drive/ L’Atrium Circle</td>
<td>C</td>
<td>E</td>
</tr>
<tr>
<td>SR A1A and PGA Tour Boulevard/Country Club Boulevard</td>
<td>D</td>
<td>F</td>
</tr>
<tr>
<td>SR A1A and ATP Tour Boulevard</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>SR A1A and Palm Valley Road/ Old CR 210</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>SR A1A and Mickler Road</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Palm Valley Road and Mickler Road</td>
<td>F</td>
<td>F</td>
</tr>
</tbody>
</table>

**LOS Standard**

**Below LOS Standard**

**Failing**
The LOS will worsen from the existing year through 2040. The intersections of Solana Road, Mickler Road at SR A1A are failing during the AM and PM peak hours by 2040. Palm Valley Road at Mickler Road are failing during the AM and PM peak period.
5 2040 Intersection Improvements

5.1 Intersection Improvements
Intersection improvements are proposed to alleviate existing congestion in the study area. Typical improvements evaluated include geometric and safety improvements and signal modification. Intersection improvements are proposed at seven locations:

- SR A1A at Mickler Road
- SR A1A at PGA Tour Boulevard
- SR A1A at Sawgrass Village Drive
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- Palm Valley Road at Mickler Road
- Palm Valley Road at Roscoe Boulevard

All signal timing plans for 2040 were adjusted and optimized per the timing needs of the recommended improvements. All unsignalized intersections should be monitored over time for applicable signal warrants and roundabout screening. A potential roundabout at Palm Valley Road at Canal Boulevard may meet LOS standards by 2040; however, right-of-way would need to be acquired at Canal Boulevard for construction.

5.1.1 SR A1A Improvements

5.1.1.1 Mickler Road
The proposed configuration at Mickler Road at SR A1A includes improvements on the west leg. The eastbound lanes would be constructed as two left-turn lanes and one shared through/right-turn lane. Right-of-way acquisition is proposed along the north side of Mickler Road.

5.1.1.2 PGA Tour Boulevard
The addition of a northbound left-turn lane is proposed at PGA Tour Boulevard. This improvement includes two receiving lanes on the west leg. It is also recommended to add an exclusive eastbound right-turn lane on the west leg to accommodate the heavy right-turns at the intersection.

5.1.1.3 Sawgrass Village Drive
Improvements on the west leg of the intersection are proposed at Sawgrass Village Drive. The current lane configuration of one left-turn lane and one shared through/right-turn lane is proposed to change to two left-turn lanes, one through lane and a channelized right-turn lane.

5.1.1.4 Solana Road
Improvements are proposed at Solana Road to enhance vehicular safety on the west leg of the intersection. Based on collisions on the west leg and the proximity of La Pasada Circle at Solana Rd intersection to the intersection at SR A1A, it is recommended to convert La Pasada Circle to a right-in/right-out entrance. In doing so, the eastbound left-turn storage will increase by 85-feet. Westbound vehicles on Solana Road wanting to access the shopping center adjacent to La Pasada Circle or vehicles exiting La Pasada Circle wanting to go westbound may use the two driveways west of La Pasada Circle. Vehicles may also use Library Boulevard to access La Pasada Circle.
5.1.1.5 Dolphin Boulevard
During the AM and PM peak hours, the heavy traffic in the southbound direction on A1A blocks the intersection at Dolphins Boulevard. “Do Not Block” signs and pavement markings are recommended at this location to prevent delays for the eastbound and northbound left-turn traffic.

Figure 4 through 8 show the improvements at the intersections on SR A1A.
5.1.2 Palm Valley Road Improvements

5.1.2.1 Mickler Road Roundabout
To improve capacity and traffic flow, it is proposed to convert the roundabout at Mickler Road at Palm Valley Road to a four-leg, signal-controlled intersection. The proposed intersection configuration is as follows:

- **Northbound Palm Valley Road**: Two left-turn lanes, one through lane and one shared through/right lane
- **Southbound Mickler Road**: One left-turn lane, two through lanes and one right-turn lane
- **Eastbound Palm Valley Road**: One shared through/left-turn lane and two right-turn lanes
- **Westbound Palm Valley Road**: One shared left/through/right-turn lane

Right-of-way is proposed on the along the east side of Palm Valley Road.

5.1.2.2 Roscoe Boulevard
The reconfiguration of Roscoe Boulevard at Palm Valley Road is proposed to enhance safety and traffic flow at the intersection. It is proposed to convert the northbound entrance from Roscoe Boulevard to right-in/right-out only. An off-ramp in the westbound direction will be constructed to allow westbound vehicles access to Roscoe Boulevard. An on-ramp on the north side of the intersection is proposed to allow vehicles to travel westbound on Palm Valley Road. The current median will be extended to the Intracoastal water way bridge, and a sidewalk is proposed along the north side of Palm Valley Road. Right-of-way is proposed for construction of the north side ramps and sidewalk.

Figures 10 and 11 show the intersection improvements on Palm Valley Road.
### 5.2 Intersection LOS

LOS analyses for the 2040 intersection improvements were performed using SYNCHRO/SimTraffic package (V9.0). The red and yellow timings were updated from the existing timings to reflect the current computation for yellow and red clearance interval based on ITE’s Traffic Engineering Handbook standards. The SYNCHRO analysis reports are provided in Appendix E. The following locations were analyzed.

- SR A1A at Mickler Road
- SR A1A at Crossroad Lakes Drive/Oceans Edge Drive
- SR A1A at Plantation Drive
- SR A1A at Sawgrass Drive/Fairfield Boulevard
- SR A1A at Palm Valley Road/Old CR 210
- SR A1A at ATP Tour Boulevard
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Sawgrass Village Drive/L’Atrium Circle
- SR A1A at Thousand Oaks Boulevard/Ocean Place
- SR A1A at Corona Road/Summerfield Drive
- SR A1A at Library Boulevard
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- SR A1A at Marlin Avenue
- Solana Road at North Roscoe Boulevard
- Palm Valley Road at Roscoe Boulevard
- Palm Valley Road at Canal Boulevard/Possum Trot Road
- Palm Valley Road at Landrum Lane
- Palm Valley Road at Mickler Road

2040 Intersection improvements LOS and delays are shown for 2040 in Table 7.
### Table 7. 2040 Intersection Improvements Level of Service and Delays

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak</th>
<th>PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR A1A and Marlin Avenue</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>SR A1A and Solana Road</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>SR A1A and Library Boulevard</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>SR A1A and Corona Road/ Summerfield Drive</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>SR A1A and Thousand Oaks Drive/ Ocean Drive</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>SR A1A and Sawgrass Village Drive/ L'Atrium Circle</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>SR A1A and PGA Tour Boulevard/Country Club Blvd</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>SR A1A and ATP Tour Boulevard</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>SR A1A and Palm Valley Road/ Old CR 210</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td>SR A1A and Mickler Road</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Palm Valley Road and Mickler Road</td>
<td>E</td>
<td>E</td>
</tr>
</tbody>
</table>

- LOS Standard
- Below LOS Standard
- Failing
5.3 2040 Build Alternative

With the continued development of residential, commercial and retail land uses within the study area, congestion on the major roadways currently operating at a deficient LOS will increase. Intersection improvements alone will not be sufficient to meet the needs in the year 2040. Safety improvements and widening of roads in the study area are recommended.

Improvements to meet the long-term needs within the corridor include:

- Widening SR A1A from two to four lanes from Mickler Road to ATP Tour Boulevard
- Widening SR A1A from four to six lanes from ATP Tour Boulevard to Marlin Avenue
- Widening Mickler Road and the east-west segment of Palm Valley Road from two to four lanes
- Constructing a new ramp from Palm Valley Road to Roscoe Boulevard in advance of the Intracoastal Waterway Bridge
- Constructing new sidewalk and bicycle lanes along Palm Valley Road

Figure 11 shows the locations that are being widened, and the peak hour volumes are shown in Figure 12. Intersection improvements with the widening are shown in Figures 13 to 19.

Right-of-way acquisition due to widening is proposed at the following locations:

- Palm Valley Road at Woodsdale Drive entrance
- The north side of Mickler Road, west of Cuello Court
- The east side of Palm Valley Road, south of Bay Cove Drive
- The northwest and northeast corners of the SR A1A at Solana Road intersection
Figure 12

Ponte Vedra/Palm Valley 2040 Build Intersection Volumes
5.4 Intersection LOS

LOS analyses for the 2040 Build Alternative were performed using SYNCHRO/SimTraffic package (V9.0). The red and yellow timings were updated from the existing timings to reflect the current computation for yellow and red clearance interval based on ITE’s Traffic Engineering Handbook standards. The SYNCHRO analysis reports are provided in Appendix E. Arterial analysis performed is located in Appendix F. The following locations were analyzed:

- SR A1A at Mickler Road
- SR A1A at Crossroad Lakes Drive/Oceans Edge Drive
- SR A1A at Plantation Drive
- SR A1A at Sawgrass Drive/Fairfield Boulevard
- SR A1A at Palm Valley Road/Old CR 210
- SR A1A at ATP Tour Boulevard
- SR A1A at PGA Tour Boulevard/Country Club Boulevard
- SR A1A at Sawgrass Village Drive/L’Atrium Circle
- SR A1A at Thousand Oaks Boulevard/Ocean Place
- SR A1A at Corona Road/ Summerfield Drive
- SR A1A at Library Boulevard
- SR A1A at Solana Road
- SR A1A at Dolphin Boulevard
- SR A1A at Marlin Avenue
- Solana Road at North Roscoe Boulevard
- Palm Valley Road at Roscoe Boulevard
- Palm Valley Road at Canal Boulevard/Possum Trot Road
- Palm Valley Road at Landrum Lane
- Palm Valley Road at Mickler Road

2040 Build Alternative LOS and delays are shown for 2040 in Table 8.
### Table 8. 2040 Build Alternative Level of Service and Delays

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak</th>
<th>PM Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR A1A and Marlin Avenue</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>22.2</td>
<td>44.3</td>
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<tr>
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<td>E</td>
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<tr>
<td></td>
<td>64.9</td>
<td>66.8</td>
</tr>
<tr>
<td>SR A1A and Library Boulevard</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>14.2</td>
<td>18.9</td>
</tr>
<tr>
<td>SR A1A and Corona Road/ Summerfield Drive</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>18.8</td>
<td>23.0</td>
</tr>
<tr>
<td>SR A1A and Thousand Oaks Drive/ Ocean Place</td>
<td>C</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>21.7</td>
<td>10.0</td>
</tr>
<tr>
<td>SR A1A and Sawgrass Village Drive/ L'Atrium Circle</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>23.2</td>
<td>33.6</td>
</tr>
<tr>
<td>SR A1A and PGA Tour Boulevard/Country Club Boulevard</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>25.9</td>
<td>30.9</td>
</tr>
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<td>SR A1A and ATP Tour Boulevard</td>
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<td>SR A1A and Palm Valley Road/ Old CR 210</td>
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<td>28.8</td>
<td>19.6</td>
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<tr>
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<td>277.4</td>
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<td>Palm Valley Road and Mickler Road</td>
<td>C</td>
<td>C</td>
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<tr>
<td></td>
<td>21.6</td>
<td>25.8</td>
</tr>
</tbody>
</table>
6 Cost Estimate

The anticipated cost for implementing the recommended project alternatives at the following study intersections is $3.4 million. The following table shows the total cost at each intersection.

**TABLE 9. INTERSECTION IMPROVEMENTS**

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR A1A at Mickler Road</td>
<td>$320,000</td>
</tr>
<tr>
<td>SR A1A at PGA Tour Boulevard</td>
<td>$320,000</td>
</tr>
<tr>
<td>SR A1A at Sawgrass Village Drive</td>
<td>$160,000</td>
</tr>
<tr>
<td>SR A1A at Solana Road</td>
<td>$50,000</td>
</tr>
<tr>
<td>SR A1A at Dolphin Boulevard</td>
<td>$50,000</td>
</tr>
<tr>
<td>Palm Valley Road at Roscoe Boulevard</td>
<td>$1 million</td>
</tr>
<tr>
<td>Mickler Road at Palm Valley Road</td>
<td>$1.5 million</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$3.4 million</strong></td>
</tr>
</tbody>
</table>

These intersection improvements could be implemented individually or in combination to improve traffic flow in the area. However, the intersection improvements will not be sufficient to meet the needs in the year 2040. The alternatives to address the ultimate needs for the corridor are included in the following table.

**TABLE 10. LONG TERM IMPROVEMENTS**

<table>
<thead>
<tr>
<th>Location</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mickler Road to ATP Tour Boulevard</td>
<td>$6.4 million</td>
</tr>
<tr>
<td>ATP Tour Boulevard to Marlin Avenue</td>
<td>$8.2 million</td>
</tr>
<tr>
<td>Marlin Avenue to JTB</td>
<td>$18 million</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>$32.6 million</strong></td>
</tr>
</tbody>
</table>

Right-of-way acquisition due to widening is proposed at the following locations; however, the cost of these impacts are not estimated. The total construction costs of the widening improvements are anticipated to be $32.6 million.

- Palm Valley Road at Woodsdale Drive entrance
- The north side of Mickler Road, west of Cuello Court
- The east side of Palm Valley Road, south of Bay Cove Drive
- The northwest and northeast corners of the SR A1A at Solana Road intersection

The total construction costs of for the intersection improvements and the long-term improvements are anticipated to be $36 million.

Cost estimate details are shown Appendix G.
7 Conclusion

Current and future traffic concerns in the Ponte Vedra area prompted this traffic study. Continued traffic growth is anticipated within this study area over the design period for the project, 2040.

Intersection improvements to alleviate today's traffic congestion are recommended at the following locations:

- **SR A1A at Mickler Road**
  - The proposed configuration at Mickler Road at SR A1A includes improvements on the west leg. The eastbound lanes would be constructed as two left-turn lanes and one shared through/right-turn lane. Right-of-way acquisition is proposed along the north side of Mickler Road.

- **SR A1A at PGA Tour Boulevard**
  - The addition of a northbound left turn lane is proposed at PGA Tour Boulevard. This improvement includes two receiving lanes on the west leg. Also recommended is the addition of an exclusive eastbound right-turn lane on the west leg to accommodate the heavy right-turns at the intersection.

- **SR A1A at Sawgrass Village/L’Atrium Drive**
  - Improvements on the west leg of the intersection are proposed at Sawgrass Village Drive. The current lane configuration of one left-turn lane and one shared through/right-turn lane is proposed to change to two left-turn lanes, one through lane and a channelized right-turn lane.

- **SR A1A at Solana Road**
  - Improvements are proposed at Solana Road to enhance vehicular safety on the west leg of the intersection. Based on collisions on the west leg and the proximity of La Pasada Circle at Solana Road intersection to the intersection at SR A1A, it is recommended to convert La Pasada Circle to a right-in/right-out entrance. In doing so, the eastbound left-turn storage will increase by 85-feet. Westbound vehicles on Solana Road wanting to access the shopping center adjacent to La Pasada Circle or vehicles exiting La Pasada Circle wanting to go westbound may use the two driveways west of La Pasada Circle. Vehicles may also use Library Boulevard to access La Pasada Circle.

- **SR A1A at Dolphin Boulevard**
  - During the AM and PM peak hours, the heavy traffic in the southbound direction on A1A blocks the intersection at Dolphins Boulevard. “Do Not Block” signs and pavement markings are recommended at this location to prevent delays for the eastbound and northbound left-turn traffic.

- **Palm Valley Road at Mickler Road**
  - To improve capacity and traffic flow, it is recommended to convert the roundabout at Mickler Road at Palm Valley Road to a four-leg, signal-controlled intersection. Right-of-way acquisition is proposed on the along the east side of Palm Valley Road.

- **Palm Valley Road at Roscoe Boulevard**
  - The reconfiguration of Roscoe Boulevard at Palm Valley Road would enhance safety and traffic flow at the intersection. It is proposed to convert the northbound entrance from Roscoe Boulevard to right-in/right-out only. An off-ramp in the westbound direction will be constructed to allow westbound vehicles access to Roscoe Boulevard. An on-ramp on the north side of the intersection is proposed to allow vehicles to travel westbound on Palm Valley Road. The current
median will be extended to the Intracoastal water way bridge. Right-of-way acquisition is required for construction of the north side ramps and sidewalks.

These intersection improvements could be constructed individually or in combination to improve traffic flow in the area. The total construction costs of these standalone intersection improvements are estimated to be $3.4 million.

These improvements will not be sufficient to meet the needs in the year 2040. The alternatives to address the ultimate needs for the corridor include:

- Widening SR A1A from two to four lanes from Mickler Road to ATP Tour Boulevard
- Widening SR A1A from four to six lanes from ATP Tour Boulevard to J. Turner Butler Boulevard
- Widening Mickler Road and the east-west segment of Palm Valley Road from two to four lanes
- Constructing a new ramp from Palm Valley Road to Roscoe Boulevard in advance of the Intracoastal Waterway Bridge and
- Constructing new sidewalk and bicycle lanes along Palm Valley Road

Right-of-way acquisition due to widening is proposed at the following locations; however, the cost of these impacts are not estimated.

- Palm Valley Road at Woodsdale Drive entrance
- The north side of Mickler Road, west of Cuello Court
- The east side of Palm Valley Road, south of Bay Cove Drive
- The northwest and northeast corners of the SR A1A at Solana Road intersection

The total construction costs of the widening improvements are anticipated to be $32.6 million.