Table of Contents

Introduction .............................................................................................................. 1

Study Area Description .......................................................................................... 1

Public and Stakeholder Input .................................................................................. 2

Review and Summary of Existing Initiatives ......................................................... 2

City of Jacksonville Bicycle Facility Network East/Wonderwood Route ............... 2

City of Jacksonville Office of Greenway and Trails (Core to Coast Loop) .......... 3

Jacksonville Transportation Authority (JTA) JTAMobilityWorks Initiative .......... 4

Downtown to Beaches Connectivity Study Area Options ..................................... 5

Infrastructure Characteristics .............................................................................. 6

Roadway Characteristics ....................................................................................... 6

Annual Average Daily Traffic (AADT) ................................................................... 6

Existing Bicycle Infrastructure .............................................................................. 8

SR 116 (the “North Option”) .................................................................................. 8

SR 10 (Atlantic Boulevard) .................................................................................... 8

US 90 (Beach Boulevard) ....................................................................................... 8

SR 202 (J. Turner Butler Boulevard) ..................................................................... 9

Potential Future Bike Lanes .................................................................................... 10

SR 116 (the “North Option”) ................................................................................ 10

SR 10 (Atlantic Boulevard) ................................................................................... 10

US 90 (Beach Boulevard) ...................................................................................... 11

SR 202 (J. Turner Butler Boulevard) ................................................................... 11

Transit Characteristics ......................................................................................... 13

Transit Connectivity Options ................................................................................. 13

Evaluating Bicycle Connectivity Options ........................................................... 15

Conclusion ............................................................................................................. 16

Appendix A: Analysis of Infrastructure Connections ........................................... 17

Stakeholder Identified Opportunities: ................................................................. 17

City of Jacksonville Core 2 Coast Loop ................................................................. 17

East Coast Greenway Detour ................................................................................ 18

SR 202 (J. Turner Butler Boulevard) ................................................................... 18

Online Route Identification .................................................................................... 18

Aerial Review: ........................................................................................................ 19
LIST OF FIGURES

Figure 1. Downtown to Beaches Bike-Ped Connectivity Study Area ......................... 1
Figure 2. Downtown to Beaches Bike-Ped Connectivity Study Area Options ............ 5
Figure 3. Roadway Characteristics within Connectivity Study Area ....................... 7
Figure 4. Annual Average Daily Traffic (AADT) within Connectivity Study Area ...... 7
Figure 5. Bicycle Infrastructure within Connectivity Study Area ........................ 9
Figure 6. Potential Re-Stripe Opportunities within Connectivity Study Area .......... 11
Figure 7. Potential Road Diet Opportunities within Connectivity Study Area .......... 12
Figure 8. JTA Bus Routes within Connectivity Study Area .................................. 13
Figure A1. Reproduced Figure from AASHTO Bike Guide ................................. 26

LIST OF TABLES

Table 1. COJ East/Wonderwood Route Strength and Weakness Facilities .............. 3
Table 2. Summary of Transit Connectivity Options within Connectivity Study Area 14
Table 3. Summary Matrix of Downtown to Beaches Connectivity Study Options .... 15
Table A1. Summary Table for SR116/University Avenue Corridor ........................ 21
Table A2. Summary Table for SR10 (Atlantic Boulevard) Corridor ........................ 23
Table A3. Summary Table for US 90 (Beach Boulevard) Corridor ........................ 25
Table A4. Summary Table of Locations along SR 202 where ROW Limit is Less Than 30 Feet from Edge of Pavement ................................................................. 27
Table A5. Summary Table of Grade-Separated Crossings along SR202 .................. 28
INTRODUCTION

This report focuses on the bicycle connectivity between two focus areas identified in the North Florida Transportation Planning Organization (North Florida TPO) Bicycle and Pedestrian Plan from October 2013. The two focus areas include the Riverside/San Marco communities and the Beaches communities. This summary report provides an evaluation of existing infrastructure and potential bicycle connectivity options between the Riverside/San Marco and Beaches Bike-Ped study areas.

STUDY AREA DESCRIPTION

The study area for the connectivity study is centered on the east side of Jacksonville and is bounded by Riverside/San Marco communities to the west and Beaches communities to the east. The study area for the connectivity study is illustrated in Figure 1. Wonderwood Drive, McCormick Road, Monument Road, Lone Star Road, Arlington Expressway and Atlantic Boulevard all together serve as the northern limits for the study area and J. Turner Butler Boulevard serves as the southern limits. Beach Boulevard and Atlantic Boulevard facilities provide a direct major east-west connection between the Riverside/San Marco communities and Beaches communities. J. Turner Butler Boulevard is a limited-access facility that connects to the Beaches communities via State Road A1A and Riverside/San Marco via Philips Highway.

Figure 1. Downtown to Beaches Bike-Ped Connectivity Study Area
**PUBLIC AND STAKEHOLDER INPUT**

The project team organized a kick-off and stakeholder input event April 16, 2015 to gather valuable information regarding popular destinations and existing route options used by the community. Stakeholders were asked about their preferences in regards to the facility they preferred to cross the intercostal waterways from the Beaches communities. Furthermore, at the meeting the stakeholders and project team reviewed and discussed existing initiatives and route options.

**REVIEW AND SUMMARY OF EXISTING INITIATIVES**

The existing routes and/or initiatives that were reviewed are described in this section:

- City of Jacksonville Bicycle Facility Network East/Wonderwood Route
- City of Jacksonville Office of Greenway and Trails (Core to Coast Loop)
- Jacksonville Transportation Authority JTAMobilityWorks Initiative

**CITY OF JACKSONVILLE BICYCLE FACILITY NETWORK EAST/WONDERWOOD ROUTE**

The City of Jacksonville (COJ) East/Wonderwood Route identified existing facilities and current needs along with employment clusters, residential development and recreational shopping destinations along the route. It also identified facilities that are strengths or assets for a bicycle route and facilities that showed weakness or threats to cyclists. These asset and threat facilities within the connector study area are outlined in Table 1. Additionally, the north boundary of this study closely matches the identified COJ route and will be useful for the connectivity study analysis. The COJ route provides a baseline for Downtown to Beaches connectivity route.
The City of Jacksonville Office of Greenway and Trails has also identified a bicycle route called the Core to Coast Loop. The southern end of the loop mirrors the COJ East/Wonderwood bicycle route with the only difference that it follows Merrill Road as opposed to Monument Road. The northern end of the loop crosses the St. Johns River and stretches east-west along Hecksher Drive and north-south along Main Street.
The JTA as part of its JTAMobilityWorks initiative is studying transit, pedestrian, and bicycle movement within 14 mobility corridors identified through the JTAMobilityWorks Program. The 14 mobility corridors include:

- Arlington Expressway Mobility Corridor (within connectivity study area)
- Beach Boulevard Mobility Corridor (within connectivity study area)
- Blanding Boulevard Mobility Corridor
- Dunn Avenue Mobility Corridor
- Edgewood Avenue Mobility Corridor
- Lem Turner Road Mobility Corridor
- Main Street Mobility Corridor
- Mandarin/Plummer Cove Road Mobility Corridor
- Merrill Road Mobility Corridor
- Moncrief/Myrtle/8th Street Mobility Corridor
- New Kings Road Mobility Corridor
- Normandy/Cassat/Lenox Avenue Mobility Corridor
- Philips Highway Mobility Corridor (within connectivity study area)
- University Boulevard Mobility Corridor (within connectivity study area)

The JTAMobilityWorks Mobility Corridors program is intended to target safety, mobility, and accessibility improvements within ¼ mile of JTA’s highest ridership transit corridors through a comprehensive community focused planning and conceptual design process. The Mobility Corridors program includes two initiatives. The first initiative is “Transit Enhancements”, which identifies and resolve immediate issues and concerns related to transit stops and rider amenities, American with Disabilities (ADA) accessibility, and pedestrian safety. The second initiative is “Complete Streets”, which identifies pedestrian, bicyclist, and automotive safety concerns. Through these initiatives, conceptual plans will be developed to mitigate safety concerns and improve multimodal connections along the corridor with adjacent land uses. The Complete Streets program includes an extensive community outreach and engagement process. The program and identified improvements are scheduled to be presented to JTA by summer of 2016. Four of the 14 mobility corridors are within the connectivity study area.
**DOWNTOWN TO BEACHES CONNECTIVITY STUDY AREA OPTIONS**

Based on the review of existing initiatives and routes, the connectivity study area was broken down into four options for further analysis. The options are identified as following (Figure 2):

- **North Option**
  - Follows Wonderwood Drive, McCormick Road, Monument Road, Lone Star Road, Arlington Road, and Atlantic Boulevard

- **Atlantic Boulevard Option**
  - Follows Atlantic Boulevard

- **Beach Boulevard Option**
  - Follows Beach Boulevard

- **South Option**
  - Follows J. Turner Butler Boulevard and Philips Highway or Old St. Augustine Road

*Figure 2. Downtown to Beaches Bike-Ped Connectivity Study Area Options*

These options were further evaluated based on two major components: Infrastructure characteristics and Transit/Mobility characteristics. The infrastructure component focuses on the options based on bicycle infrastructure and roadway characteristics. The non-infrastructure component focuses on the options based on Annual Average Daily Traffic (AADT) and transit accessibility/mobility options along the corridor.
INFRASTRUCTURE CHARACTERISTICS

The infrastructure characteristics component of the Downtown to Beaches Connectivity Study focuses on existing bicycle infrastructure and the existing roadway characteristics along the four major options. The roadway characteristics section focuses on number of lanes along major facilities for each option. The bicycle infrastructure analysis includes evaluating potential re-striping or road diet opportunities.

ROADWAY CHARACTERISTICS

This section examines the number of lanes along major roadways within each option (Figure 3). Majority of the North Option includes a mix of two lane facilities with a divided and or undivided two-way left turn lane median types. This includes Wonderwood Drive, McCormick Road, Monument Road, and Lone Star Road. Atlantic Boulevard portion leading into San Marco becomes three lanes in both directions with a two-way left turn lane median. Furthermore, Atlantic Boulevard Option shows similar roadway characteristics along the stretch of the facility from Interstate 295 east towards the beaches.

The Beach Boulevard Option is also similar to the Atlantic Option from the beaches west towards the Hart Bridge Expressway. The stretch of Beach Boulevard from Hart Bridge Expressway to San Marco becomes two lanes with a two way left turn lane median. Lastly, the South Option, J. Turner Butler Boulevard is a limited access divided median facility that is predominantly three or four lanes in both directions. Philips Highway connection for the South Option would be two lanes in both directions with a divided median. Furthermore, with the Florida Department of Transportation’s plans of shared-use facility on Fuller Warren Bridge and Interstate 95 provides an opportunity to discuss bicycle connectivity options along J. Turner Butler Boulevard. The Atlantic and Beach options provide direct connection between San Marco/Riverside communities to the Beaches communities.

ANNUAL AVERAGE DAILY TRAFFIC (AADT)

The AADT for major facilities within the connectivity study area is illustrated in Figure 4. The figure shows that North and Beach Options have less automobile traffic for larger sections of the corridor. Furthermore, the few sections of Beach Boulevard with high AADT range in the low 50,000. The Atlantic Option and the South Options have larger sections of the corridor that exhibit AADT greater than 50,000. Additionally, J. Turner Butler Boulevard around Interstate 295 has AADT greater than 100,000. A large portion of the North Option from Wonderwood Drive west to Monument Road has AADT less than 25,000. Similarly, small stretches of Atlantic Boulevard and Beach Boulevard heading into San Marco also exhibit AADT less than 25,000.
**Figure 3. Roadway Characteristics within Connectivity Study Area**

**Figure 4. Annual Average Daily Traffic (AADT) within Connectivity Study Area**
EXISTING BICYCLE INFRASTRUCTURE

The consultant team performed a windshield survey of the four major arterial corridors linking Downtown Jacksonville and the communities of Duval County’s beaches:

» SR 116 (Merrill Road/Fort Caroline Road/McCormick Road/Mt. Pleasant Road/Wonderwood Drive) (aka the “North Option”);
» SR 10 (Atlantic Boulevard);
» US 90 (Beach Boulevard); and
» SR 202 (J. Turner Butler Boulevard)

This on-site inventory was supplemented by a review of online aerial and street view imagery (Google Maps) and facility inventory GIS data provided by the City of Jacksonville. The results of this inventory are shown on the map in Figure 5, and are described generally for each corridor below.

SR 116 (THE “NORTH OPTION”)
SR 116 extends between Interstate 295 and Mayport Road, and includes shoulders over the entirety of its length. These shoulders are marked as bike lanes throughout except for the portion between Girvin Road (just west of the Intracoastal Waterway bridge and Sand Castle Lane (just east of the ICW bridge).

West of Interstate 295, the North Option corridor follows Merrill Road and University Boulevard, neither of which currently has shoulders or bike lanes.

SR 10 (ATLANTIC BOULEVARD)
Atlantic Boulevard includes marked bike lanes between St. Johns Bluff Road and Sunnyside Avenue (the last intersection west of the bridge over the Intracoastal Waterway). The bridge includes wide shoulders which continue on the east up to the flyover ramp for the Mayport Road intersection.

West of St. Johns Bluff Road, there are no existing bike lanes or shoulders along Atlantic Boulevard.

US 90 (BEACH BOULEVARD)
Bike Lanes are already marked along Beach Boulevard from the bridge over the Intracoastal Waterway back west to I-295. The bridge includes wide shoulders (typically 7 ft.), which are not marked as bike lanes. East of the bridge, Beach Boulevard includes bike lanes up to the intersection with Penman Road.
Between I-295 and the Commodore Point Expressway, the roadway includes shoulders, but they are not marked as bike lanes. The useable width of these shoulders is variable. In aerials they appear to range between three and four feet, but the variability appears to be mostly due to accumulation of sand and growth of grass along the outer edges. It is likely that routine maintenance of the shoulders could reveal consistent pavement width sufficient for bike lanes, which could be marked as such with relative ease.

There are neither bike lanes nor shoulders along Beach Boulevard between the Commodore Point Expressway and Atlantic Boulevard.

**SR 202 (J. Turner Butler Boulevard)**
East of Salisbury Road, all the way to SR A1A in Jacksonville Beach, SR 202 has shoulders that are typically 10 feet wide, and in all places greater than 7.5 feet wide. These shoulders are not presently open to bicyclists.

Between Bonneval Road and Salisbury Road, SR 202 has a variable cross section, as it passes through the interchange area of Interstate 95. This cross section includes intermittent shoulders. There are no shoulders along SR 202 between US 1 and Bonneval Road.

**Figure 5. Bicycle Infrastructure within Connectivity Study Area**
**Potential Future Bike Lanes**

There are two basic strategies by which bike lanes can be added to an existing roadway, either narrowing lane widths or reducing the number of lanes on the roadway in order to create sufficient space for bike lanes. For this study the consultant team considered lane widths as narrow as 10 feet; this width is the minimum recommended width for urban arterials according to AASHTO’s *A Policy on Geometric Design of Highways and Streets*. Various agencies may prefer wider lanes on specific roadways. This analysis looks only to establish that the geometry is possible, and makes no policy recommendation one way or another.

In order to identify lane reduction (a.k.a. “Road Diet”) candidates, FDOT’s Generalized Annual Average Daily Volumes for Urbanized Areas (Table 1 in the 2012 *FDOT Quality/Level of Service Handbook*) were consulted for threshold values on various roadway configurations associated with Motor Vehicle Levels of Service (MVLOS). Lane reduction candidates are identified where the modified configuration will still perform at Motor Vehicle Level of Service “D” for the current reported volume. This performance threshold is consistent with the planning priorities of many Florida metropolitan areas. Projected future volumes were not provided for this analysis, and may yield different results. The findings of the analysis of the project’s four main corridors are summarized below, and results are depicted in Figures 6 and 7. A detailed account of these analyses is presented in Appendix A of this report.

**SR 116 (The “North Option”)**

Potential for bike lanes was found in the following sections of the “North Option Corridor”:

- Merrill Road, between University Boulevard and I-295;
- University Boulevard between Merrill Road and the Arlington Expressway, only with the removal of existing on-street parking lanes; and
- University Boulevard between Atlantic Boulevard and Cesery Boulevard.

Potential for bike lanes via lane removal (“road diet”) was found on Atlantic Boulevard between Southside Boulevard and Arlington Expressway and, also between I-95 and University Boulevard.

**SR 10 (Atlantic Boulevard)**

Potential for bike lanes was found in the section of the Atlantic Boulevard between University Boulevard and the Arlington Expressway. Potential for bike lanes via lane removal (“road diet”) was found on Merrill Road, between University Boulevard and I-295.
**US 90 (Beach Boulevard)**

Potential for bike lanes was found in the section of the Beach Boulevard between Atlantic Boulevard and I-295. Potential for bike lanes via lane removal (‘road diet”) was not found anywhere along Beach Boulevard.

**SR 202 (J. Turner Butler Boulevard)**

Existing shoulders on Butler Boulevard are wide enough to designate as bike lanes between Salisbury Road and SR A1A. Opening these shoulders to bicycle traffic would require a FDOT policy change to include Butler Boulevard among the five limited access state roadways which are open to bicycle travel. If these shoulders are converted to bike lanes, they should also be designed to facilitate comfortable crossing of entrance and exit ramps. Potential for bike lanes via lane removal (‘road diet”) was not found anywhere along Beach Boulevard.

**Figure 6. Potential Re-Stripe Opportunities within Connectivity Study Area**
Figure 7. Potential Road Diet Opportunities within Connectivity Study Area
TRANSIT CHARACTERISTICS

The transit characteristics component of the Downtown to Beaches Connectivity Study focuses on existing JTA transit routes and stops along the four major options. The JTA transit analysis includes evaluating proposed Bus Rapid Transit (BRT) routes and stops, and local bus routes and stops in the vicinity of the connectivity options. The AADT section provides the latest traffic data for the major facilities within the connectivity study to analyze automobile traffic and identify facilities with less automobile traffic that would be more suitable for bicycle connectivity.

TRANSIT CONNECTIVITY OPTIONS

This section examines the proposed JTA BRT routes and stops along with existing local routes and stops within the connectivity study area (Figure 8). The transit connectivity options are analyzed to provide a bicycle to transit to bicycle option for connectivity. With JTA’s plans for four BRT routes the transit connectivity options to downtown may provide the fastest and safest bicycle connectivity option from Downtown to Beaches. Two of the four proposed BRT routes provide service to large portions of the connectivity study area. Furthermore, 13 local bus routes and three express routes also provide service to the connectivity study area. Table 2 summarizes the different transit connectivity options for the four major corridor.

Figure 8. JTA Bus Routes within Connectivity Study Area
### Table 2. Summary of Transit Connectivity Options within Connectivity Study Area

<table>
<thead>
<tr>
<th>Connectivity Option</th>
<th>BRT Routes</th>
<th>BRT Stations</th>
<th>Local Bus Routes</th>
<th>Local Bus Stops</th>
<th>Schools</th>
<th>Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Option</td>
<td>1</td>
<td>2</td>
<td>13 (2 express)</td>
<td>240</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Beach Blvd Option</td>
<td>1</td>
<td>7</td>
<td>10 (2 express)</td>
<td>184</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Atlantic Blvd Option</td>
<td>1</td>
<td>1</td>
<td>13 (2 express)</td>
<td>187</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>South Option</td>
<td>1</td>
<td>3</td>
<td>8 (1 express)</td>
<td>260</td>
<td>13</td>
<td>14</td>
</tr>
</tbody>
</table>
# Evaluating Bicycle Connectivity Options

Table 3 below summarizes the four different options in regards to the bicycle infrastructure, roadway characteristics, AADT, and transit connectivity. It provides a snapshot of the different options and the opportunities and challenges presented by each base on the different characteristics analyzed for this study.

## Table 3. Summary Matrix of Downtown to Beaches Connectivity Study Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Bike Infrastructure</th>
<th>Roadway Characteristics</th>
<th>AADT</th>
<th>Transit Connectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Option</strong></td>
<td>Bike lanes with observed shoulder or at least an observed shoulder from A1A west to Southside Blvd, Monument Rd. Also has bike lanes with observed shoulder for majority of the corridor.</td>
<td>2 lane corridor along the different roadway options; Wonderwood Dr., McCormick Rd., Monument Rd.</td>
<td>Ranges between 10,000 – 25,000 from McCormick Rd. to Wonderwood Dr., and 25,000 – 50,000 along Monument Rd.</td>
<td>JTA local route with stops along Wonderwood Dr., McCormick Rd., and Monument Rd.</td>
</tr>
<tr>
<td><strong>Beach Blvd Option</strong></td>
<td>Bike lanes with observed shoulder or at least an observed shoulder from St. Johns Bluff Rd. East to San Pablo Blvd, no shoulder or bike lane from St. Johns Bluff Rd. West to I-95.</td>
<td>Predominantly 3 lane arterial with a mix of divided and undivided medians.</td>
<td>Ranges between 50,000 – 100,000 from Arlington Expy. East to San Pablo Blvd, and 25,000 – 50,000 along the remainder of the corridor.</td>
<td>BRT East Flyer from Arlington Expy, to Downtown, JTA local route with stops along Atlantic Blvd, up to Hart Expy.</td>
</tr>
<tr>
<td><strong>Atlantic Blvd Option</strong></td>
<td>Bike lanes with observed shoulder or at least an observed shoulder from Intercostal Bridge West to Hart Expy, no shoulder or bike lane from Hart Expy, West to I-95.</td>
<td>Predominantly 3 lane arterial with a mix of divided and un-divided medians, 2 lane corridor west of Hart Expy.</td>
<td>Mostly ranges between 25,000 – 50,000 with a few segments over 50,000: West of University Blvd. and East of St. Johns Bluff Rd.</td>
<td>BRT East Flyer from Beaches to Southside, JTA local route with stops all along Beach Blvd.</td>
</tr>
<tr>
<td><strong>South Option</strong></td>
<td>Not analyzed, however with the shared use path on Fuller Warren Bridge there might be precedent for a future bicycle facility within J. Turner Butler Blvd, right-of-way.</td>
<td>Predominantly 3 to 4 lane divided highway from I-95 going East towards Beaches, 2 lane divided highway from San Pablo Blvd. to FL-A1A</td>
<td>AADT greater than 50,000 for majority of the corridor.</td>
<td>There are no transit options along JTB.</td>
</tr>
</tbody>
</table>
CONCLUSION

As outlined above in the summary matrix, four major corridors provide an opportunity to connect the Jacksonville Beaches communities to Downtown Jacksonville:

» North Option
  o Follows Wonderwood Drive, McCormick Road, Monument Road, Lone Star Road, Arlington Road, and Atlantic Boulevard

» Atlantic Boulevard Option
  o Follows Atlantic Boulevard

» Beach Boulevard Option
  o Follows Beach Boulevard

» South Option
  o Follows J. Turner Butler Boulevard and Phillips Highway or Old St. Augustine Road

Each opportunity has some potential benefits, and challenges that would need to be addressed to provide safe and operational connection. The south option along J. Turner Butler Boulevard is the most challenging in regards to determining policy change actions that may be required along with interchange design connects for many of the grade-separated crossings along the corridor. Therefore, it would likely be a longer term alternative for connecting the beaches and downtown communities.

The north option, Atlantic option, and Beach option, all provide a more direct connection when compared to the south option alternative. Furthermore these three options already have some existing bicycle infrastructure along the corridor and have identified neighborhood routes that are utilized regularly. Therefore, these options with some additional improvements to connect the gaps and missing links identified through this preliminary analysis and further analysis could provide safe and operational connectivity between downtown and the beaches.

The summary report, also looked at transit connectivity as an opportunity for bicycle-transit-bicycle routes. For this scenario, the Beach option provides the best connectivity, specifically in the mid-term once the third phase of the JTA BRT Flyer begins operations along the identified East Corridor (Beach Boulevard – Arlington Expressway – Downtown). The north and Atlantic options provide local bus route connectivity and could also be used as a short term opportunity for bicyclists to connect between the two focus areas.
APPENDIX A: ANALYSIS OF INFRASTRUCTURE CONNECTIONS

To assess the state of existing and proposed connections through the study area, the consultant team solicited input from the numerous stakeholders and agencies. Much input was received in advance of and at the stakeholder meeting described previously, including proposed infrastructure developments and existing routes preferred by bicyclists in the area. Three specific corridors emerged from the stakeholder input. The consultants reviewed online ride logging sites to identify routes already used by local bicyclists, which revealed two sequences of local roads which could be incorporated into a route connecting Downtown to the beaches. The consultants also documented existing infrastructure throughout the study areas via a review of on-line aerial imagery and field review; this process examined four specific corridors for how they could be modified to incorporate bicycle travel, such as by adding bike lanes via lane narrowing or lane reduction. The information gained through these processes is discussed within this section.

STAKEHOLDER IDENTIFIED OPPORTUNITIES:

Stakeholders contributed input on three corridor concepts that had been identified that link downtown to the beaches: the City of Jacksonville’s Core 2 Coast Loop (a potential future regional greenway concept); an alternate route used by the East Coast Greenway during a period in which the Mayport Ferry was not operating; and SR 202 (a.k.a J.Turner Butler Boulevard), which had allowed bicycle access along its shoulders when operated by the Jacksonville Transportation Authority. These are each described in more detail below.

CITY OF JACKSONVILLE CORE 2 COAST LOOP
Planners within the City’s parks and transportation department shared a concept map of a looped route that connects Downtown Jacksonville to Mayport via corridors on both sides of the St. Johns River. This “Core 2 Coast Loop” has been submitted to Florida’s Office of Greenways and Trails as a potential future opportunity, and has neither been programmed nor designed. The southern corridor of the loop passes through the northern portion of this project’s study area. The corridor follows Atlantic Boulevard east from the San Marco neighborhood, turns north onto University Boulevard to Merrill Road, and then follows Merrill east to the 295 Beltway, and continues east along SR 116 (locally designated as Merrill Road/Fort Caroline Road/McCormick Road/Mt. Pleasant Road/Wonderwood Drive) and then turns north on SR A1A to Mayport. The loop would return to downtown Jacksonville from the north ferry landing via Heckscher (SR 105) Drive and N. Main Street (US 17). There are no existing pathway facilities in the identified corridors.
Existing bike lanes run along SR 116 between I-295 and SR A1A. Shoulders are along SR A1A for most of the distance between Wonderwood and the Mayport Ferry. All other facility improvements for bicycling would need to be developed within or closely parallel to the indicated corridors. The City has made no funding commitments to further develop this loop concept.

**East Coast Greenway Detour**

The East Coast Greenway Alliance shared a route that they published for their members during a temporary closure of the Mayport Ferry. This route leaves downtown Jacksonville via Atlantic Boulevard just as the Core 2 Coast Loop does, but stays with Atlantic Boulevard out past its junction with the Arlington Expressway to Monument Road. The route turns north onto Monument Road and continues north to SR 116/McCormick Road, and then continues east along SR 116 (McCormick Road/Mt. Pleasant Road/Wonderwood Drive) out to SR A1A, just as the Core 2 Coast Loop does. This route has no existing pathways. It does include bike lanes on Monument Road (all but the most southerly 3,200 feet) and on SR 116 (i.e. a similar general proportion of the entire route as the Core 2 Coast Loop).

**SR 202 (J. Turner Butler Boulevard)**

Several stakeholder participants at the April 16 kickoff meeting recalled that when J. Turner Butler Boulevard was owned and operated by JTA, bicyclists were allowed to ride on its shoulders, which are 10 feet wide for most of its length. Since FDOT took over Butler Boulevard, bicycles have been prohibited from operating on the shoulder or the roadway. Several stakeholders expressed a strong desire to return to this option, which could provide an immediate lengthy connection, albeit for the limited cohort of bicyclists who are comfortable riding along a high speed roadway.

**Online Route Identification**

The consultant team reviewed routes uploaded to the online services “MapMyRide.com” and “Bikely.com” which pass through the study area to see if users had identified any existing routes that could serve as alternatives to the four main arterial connections across the study area (Butler/Beach/Atlantic/Wonderwood). Data reviewed from these services did reveal several areas where local bicyclists are using parallel sequences of local streets to bypass stretches of arterial roadway.

These sequences include (these sequences are shown on Figures 6 and 7 in the report):

- A route that parallels the 1.4 miles of Atlantic Boulevard between Monument Road and St. Johns Bluff road, mostly via residential streets south of Atlantic; and
- Two neighborhood detours to avoid one-mile stretches of Beach Boulevard between the Atlantic boulevard and Commodore Point expressway.
AERIAL REVIEW:
The consultant team performed a windshield survey of the four major arterial corridors linking Downtown Jacksonville and the communities of Duval County’s beaches:

» SR 116 (Merrill Road/Fort Caroline Road/McCormick Road/Mt. Pleasant Road/Wonderwood Drive);
» SR 10 (Atlantic Boulevard);
» US 90 (Beach Boulevard); and
» SR 202 (J. Turner Butler Boulevard)

This on-site inventory was supplemented by a review of online aerial and street view imagery (Google Maps) and facility inventory GIS data provided by the City of Jacksonville. The results of this inventory are shown on Figure 5 in the report, and are described generally for each corridor below. Options considered for each segment include the possibility of either narrowing lane widths or reducing the number of lanes on the roadway to create sufficient space for bike lanes. Lane widths as narrow as 10 feet were considered; this width is the minimum recommended width for urban arterials according to AASHTO’s A Policy on Geometric Design of Highways and Streets. Various agencies may prefer wider lanes on specific roadways.

This analysis looks only to establish that the geometry is possible, and make no policy recommendation. Segments of the study corridors which have potential for re-stripping for bike lanes are shown on the map labelled as Figure 4 in the Summary Report. FDOT’s Generalized Annual Average Daily Volumes for Urbanized Areas (Table 1 in the 2012 FDOT Quality/Level of Service Handbook) were consulted for threshold values on various roadway configurations associated with Motor Vehicle Levels of Service (MVLOS). Lane reduction candidates are identified where the modified configuration will still perform at Motor Vehicle Level of Service “D” for the current reported volume. This performance threshold is consistent with the planning priorities of many Florida metropolitan areas. Projected future volumes were not provided for this analysis and may yield different results. Segments of the study corridors which have potential for bike lanes via lane removal are shown on Figure 7 in the Summary Report.

SR 116: SR 116 includes marked bike lanes for the entirety of its length from its western terminus at Interstate 295 to the intersection with Girvin Road/Buccaneer Circle, about one mile west of the Intracoastal Waterway, where the local name of the road changes from Mt. Pleasant Road to Wonderwood Parkway. The road continues to have shoulders from Girvin Road, and up to and including the bridge span across the Intracoastal Waterway, but they are not marked as bike lanes. The bike lane markings return after the first intersecting street on the east side of the Intracoastal Waterway (Sand Castle Lane) and continue to SR 116’s eastern terminus at Mayport Road.
Merrill Road extends west of SR116, along the same general corridor alignment, between I-295 and University Boulevard. Merrill Road is a four lane, undivided roadway with a center two-way left turn lane (TWLTL). There are no shoulders in this section, and lane widths are generally between 12 feet (60 feet across 5 lanes, including the center lane). **This could be re-striped for four-foot bike lanes if the travel lane widths were reduced to 10 feet and the TWLTL width was maintained at 12 feet.** Lane reduction may also be considered as the volumes in this stretch are around 14,500 Annual Average Daily Traffic (AADT) (per FDOT Traffic Online 2014), which is under the threshold of maintaining Level of Service C if reduced to two lanes, according to FDOT’s Service Volume Tables for a signalized arterial with a speed limit of 40 mph or higher, and also under the threshold for maintaining Level of Service D for a signalized arterial with a speed limit of 35 mph or lower. **Such a lane reduction (a.k.a. “road diet”) could provide space for a buffered bike lane or a shared bus-bike lane.**

University Boulevard connects Merrill Road to Atlantic Boulevard. Its typical cross section is four lanes with a TWLTL situated across 60 feet of pavement (between Atlantic Boulevard and the bridge over the Arlington River, and again between the Arlington Expressway interchange and Merrill Road. At various points between Arlington Expressway and Merrill, the lanes are reduced to 10 feet to allow for marking a parking lane on either side of the road. **Bike lanes could be considered south of the river if 10 foot lanes were implemented and a 12-foot TWLTL width is maintained. Bike lanes could be considered north of Arlington Expressway if the need for parking lanes is reviewed.** Lane reduction is not an option as the volumes in these stretches are between 23,500 and 30,000 AADT (per FDOT Traffic Online 2014). This exceeds the maximum volume at which Level of Service D can be achieved, according to FDOT’s Service Volume Tables for a two-lane signalized arterial with a speed limit of 35 mph or lower.

The section of University Boulevard between Arlington Expressway and the Arlington River is currently two lanes marked on 20 feet of pavement, so no further narrowing or lane removal is an option. **The cross section does not currently include curb-and-gutter, so adding shoulders could provide space for bike lanes.**
**Table A1. Summary Table for SR116/University Avenue Corridor**

<table>
<thead>
<tr>
<th>Road</th>
<th>From</th>
<th>To</th>
<th>Re-Stripe Potential</th>
<th>Note</th>
<th>Lane Reduction Potential</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wonderwood Blvd</td>
<td>ICW Bridge</td>
<td>Girvin Rd</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>McCormick Rd</td>
<td>Girvin Rd</td>
<td>Ft Caroline Rd</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Ft Caroline Rd</td>
<td>McCormick Rd</td>
<td>Merrill Rd</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Merrill Rd</td>
<td>Ft Caroline Rd</td>
<td>I-295</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Merrill Rd</td>
<td>I-295</td>
<td>University Blvd</td>
<td>Yes*</td>
<td>4x10’ lanes 12’ TWLTL</td>
<td>Yes</td>
<td>2 lanes @ 14,500 AADT = MVLOS C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2x4’ bike lanes 60’ pavement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Blvd</td>
<td>Merrill Rd</td>
<td>Arlington Expwy</td>
<td>Yes*</td>
<td>4x10’ lanes 12’ TWLTL</td>
<td>No</td>
<td>2 lanes @ 23,500+ AADT = MVLOS F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2x4’ bike lanes 60’ pavement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Bike lane only possible with removal of parking lane</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Blvd</td>
<td>Arlington Expwy</td>
<td>Cesery Blvd</td>
<td>No*</td>
<td>Shoulders could be widened, bridge TBD</td>
<td>No</td>
<td>Already 2 lanes</td>
</tr>
<tr>
<td>University Blvd</td>
<td>Cesery Blvd</td>
<td>Atlantic Blvd</td>
<td>Yes</td>
<td>4x10’ lanes 12’ TWLTL</td>
<td>No</td>
<td>2 lanes @ 26,500 AADT = MVLOS F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2x4’ bike lanes 60’ pavement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AADT= Annual Average Daily Traffic  
MVLOS=Motor Vehicle Level of Service  
TWLTL=Two-Way Left Turn Lane

**SR 10(Atlantic Boulevard):** Atlantic Boulevard includes marked bike lanes between St. Johns Bluff Road and Sunnyside Avenue, the last intersection west of the bridge over the Intracoastal Waterway. The bridge includes wide shoulders which continue on the east up to the flyover ramp for the Mayport Road intersection.

West of St. Johns Bluff Road, the bike lanes go away, and then, west of the I-295 interchange, Atlantic Boulevard transitions from a six-lane divided roadway to a six-lane roadway with a center two-way left turn lane. These seven lanes occupy approximately 77 feet of pavement, which is insufficient for re-stripping to include bike lanes, even with 10 foot wide lanes. Lane reduction is not an option, either, as the volumes in this stretch are around 51,500 AADT (per FDOT Traffic Online 2014). This exceeds the maximum volume at which Level of Service D can be achieved, according to FDOT’s Service Volume Tables for a four-lane signalized arterial with a speed limit of
40 mph or higher. This cross section extends west back to the junction with the Arlington Expressway.

West of the Arlington Expressway Junction, Atlantic Boulevard transitions again to a short section (2,900 feet) with a total of six lanes (two westbound, center left turn lane, three eastbound) across 78 feet of pavement to Southside Boulevard. This cross section between the Arlington and Southside could support buffered bike lanes in conjunction with 11-foot lanes, and additional width could be gained with a widening of the westbound shoulder, which is currently not lined with curb. Traffic volumes of the range of 28,500 AADT are reported by FDOT’s Traffic Online 2014 website in this section, which would put it well under the threshold of maintaining Level of Service C if reduced to four lanes, according to FDOT’s Service Volume Tables for a signalized arterial with a speed limit of 40 mph or higher. Such a lane reduction (a.k.a. “road diet”) could provide space for four 12-foot lanes, a 14-foot TWLTL, and buffered bike lanes.

From Southside Boulevard, west to the bridge over Pottsburg Creek (approximately 2.2 miles) Atlantic Boulevard is 60 feet wide as it carries five lanes including a center two-way left turn lane. This pavement width could support four-foot bike lanes if the travel lane widths were reduced to 10 feet and the TWLTL was kept at 12 feet. The TWLTL is not included on the bridge deck, which is approximately 56 feet wide. Given the close curbs (i.e., no gutter pan) on the bridge deck, five-foot bike lanes would be required to meet AASHTO guidance, which could be accomplished in conjunction with 11-foot general purpose lanes. There is actually room for 6-foot shoulders on the bridge deck if 11-foot lanes are used. The roadway returns to the five lanes over 60 feet of pavement west of the bridge, to the intersection with University Boulevard. Thus, bike lanes are a distinct possibility on Atlantic Boulevard between University Avenue and Arlington Expressway, if narrow lanes can be considered.

Narrow lanes (10-foot) are used in sections of Atlantic Boulevard west of this section (see below). Lane reduction is not an option as the volumes in these stretches are between 23,500 and 30,000 AADT (per FDOT Traffic Online 2014). This exceeds the maximum volume at which Level of Service D can be achieved, according to FDOT’s Service Volume Tables for a two-lane signalized arterial with a speed limit of 35 mph or lower.

From University Boulevard, back west to Beach Boulevard, Atlantic Boulevard is a six-lane divided roadway, with 30 feet of pavement in each direction (i.e., 10-foot lanes). This section has no room to spare for bike lanes. Traffic volumes in the range of 25,000 to 30,500 AADT are reported by FDOT’s Traffic Online 2014 website in this section, which would put it well under the threshold of maintaining Level of Service C if reduced to four lanes, according to FDOT’s Service Volume Tables for a signalized arterial with a speed limit of 40 mph or higher. Such a lane reduction (a.k.a. “road diet”) could provide space for a buffered bike lane or a shared bus-bike lane.
In the 3,400 feet between Beach Boulevard and the I-95 interchange, Atlantic Boulevard is an eight-lane, divided roadway. The four lanes in each direction occupy approximately 43 feet of pavement, and thus are likely too narrow to support bike lanes. If exact field measurements can confirm 44 feet of pavement, then bike lanes in conjunction with 10 foot lanes might be possible. FDOT reports traffic volumes of 42,054 AADT in this section, which is well under the threshold for maintaining Level of Service C if reduced to six lanes, according to FDOT's Service Volume Tables for a signalized arterial with a speed limit of 40 mph or higher. Such a lane reduction (a.k.a. “road diet”) could provide space for a buffered bike lane or a shared bus-bike lane.

Table A2. Summary Table for SR10 (Atlantic Boulevard) Corridor

<table>
<thead>
<tr>
<th>ROAD</th>
<th>FROM</th>
<th>TO</th>
<th>RE-STRIPE POTENTIAL</th>
<th>NOTE</th>
<th>LANE REDUCTION POTENTIAL</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATLANTIC BLVD</td>
<td>ICW Bridge</td>
<td>St Johns Bluff Rd</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>ATLANTIC BLVD</td>
<td>St Johns Bluff Rd</td>
<td>Arlington Expwy</td>
<td>No</td>
<td>7 lanes/77’ pavement</td>
<td>No</td>
<td>4 lanes @ 51,500 AADT = MVLOS F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Consider alternate route via local streets, shown on Bikely.com</td>
</tr>
<tr>
<td>ATLANTIC BLVD</td>
<td>Arlington Expwy</td>
<td>Southside Blvd</td>
<td>Yes</td>
<td>6x11’ lanes (3EB, TWLTL, 2WB) 2x2’ buffer 2x4’ bike lanes 78’ pavement</td>
<td>Yes</td>
<td>4 lanes @ 28,500 AADT = MVLOS C 4x12’ lanes 14’ TWLTL 2x4’ buffer 2x4’ bike lane</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shoulder could also be widened.</td>
</tr>
<tr>
<td>ATLANTIC BLVD</td>
<td>Southside Blvd</td>
<td>University Blvd</td>
<td>Yes</td>
<td>4x10’ lanes 12’ TWLTL 2x4’ bike lanes 60’ pavement</td>
<td>No</td>
<td>2 lanes @ 23,500+ AADT = MVLOS F</td>
</tr>
<tr>
<td></td>
<td>W side Pottsburg Creek Bridge</td>
<td>E side Pottsburg Creek Bridge</td>
<td>Yes</td>
<td>4x11’ lanes 0’ TWLTL 2x6’ bike lanes 56’ bridge deck</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>ATLANTIC BLVD</td>
<td>University Blvd</td>
<td>Beach Boulevard</td>
<td>No</td>
<td>3x10’ lanes 30’ pavement (directional)</td>
<td>Yes</td>
<td>4 lanes @ 30,500 AADT = MVLOS C</td>
</tr>
<tr>
<td>ATLANTIC BLVD</td>
<td>Beach Boulevard</td>
<td>I-95</td>
<td>No*</td>
<td>4x10+’ lanes 43’ pavement (directional)</td>
<td>Yes</td>
<td>6 lanes @ 42,054 AADT = MVLOS C</td>
</tr>
</tbody>
</table>

*Bike lanes may be possible if consistent 44’ of pavement is confirmed
US 90 (Beach Boulevard):
Bike Lanes are already marked along Beach Boulevard from the bridge over the Intracoastal Waterway back west to I-295.

Between I-295 and the Commodore Point Expressway, the roadway includes shoulders, but they are not marked as bike lanes. The useable width of these shoulders is variable. In aerials they appear to range between three and four feet, but the variability appears to be mostly due to accumulation of sand and grass growth along the outer edges. It is likely that routine maintenance of the shoulders could reveal consistent pavement width sufficient for use as bike lanes, which could be marked as such with relative ease. Design review would be necessary to ensure their proper positioning at intersections as right turn lanes come and go. This section of roadway is typically a six-lane, divided roadway with 39-40 feet of total pavement.

If 40 feet is the true nominal width once the roadway is maintained to establish a consistent edge, then there is adequate space for a four-foot wide bike lane adjacent to three 12 foot wide lanes. Alternatively, lanes widths could be reduced to 11 or even 10 feet wide. 11-foot lanes could leave six feet, enough for a buffered bike lane (four-foot bike lane next to a two-foot buffer) within 39 feet of pavement. Reduction to 10-foot lanes (a width already commonly used elsewhere in the study area) would yield enough space for a 5-foot buffer next to a 4-foot bike lane. Lane reduction is not an option, as most reported traffic volumes in this stretch of Beach Boulevard exceed 49,000 AADT (per FDOT’s Traffic Online 2014), and so would exceed the threshold for maintaining Level of Service D if reduced to four lanes, according to FDOT’s Service Volume Tables for a signalized arterial with a speed limit of 40 mph or higher.

From the Commodore Point expressway back west to the junction with Atlantic Boulevard, Beach Boulevard is a four lane roadway with a center two-way left turn lane, all marked within 60 feet of total pavement width. This roadway could be marked to include four-foot bike lanes if the general purpose travel lanes are reduced to 10 feet wide and the TWLTL width is maintained at 12 feet. Lane reduction is not an option as the volume in this section is approximately from 19,000 to 27,500 AADT (per FDOT’s Traffic Online 2014), all of which exceeds the maximum volume at which Level of Service D can be achieved for a two-lane signalized arterial with a speed limit of 40 mph or higher, according to FDOT’s Service Volume Tables.
**Table A3. Summary Table for US 90 (Beach Boulevard) Corridor**

<table>
<thead>
<tr>
<th>Road</th>
<th>From</th>
<th>To</th>
<th>Re-Stripe Potential</th>
<th>Note</th>
<th>Lane Reduction Potential</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEACH BLVD</strong></td>
<td>ICW Bridge</td>
<td>I-295</td>
<td>n/a</td>
<td>Existing Bike Lanes</td>
<td>n/a</td>
<td>Clearing of existing shoulder may reveal sufficient width for bike lane adjacent to 12’ lanes. 10’ lanes would allow 5’ buffer.</td>
</tr>
<tr>
<td><strong>BEACH BLVD</strong></td>
<td>I-295</td>
<td>Commodore Point Expwy</td>
<td>Yes*</td>
<td>3x11’ lanes 1x2’ buffer 1x4’ bike lane 39’ pavement (directional)</td>
<td>No</td>
<td>4 lanes @ 49,000+ AADT = MVLOS F</td>
</tr>
<tr>
<td><strong>BEACH BLVD</strong></td>
<td>Commodore Point Expwy</td>
<td>Atlantic Blvd</td>
<td>Yes</td>
<td>4x10’ lanes 12’ TWLTL 2x4’ bike lanes 60’ pavement</td>
<td>No</td>
<td>2 lanes @ 19,000+ AADT = MVLOS F</td>
</tr>
</tbody>
</table>

**SR 202 (J. Turner Butler Boulevard):**

Between US 1 and Bonneval Road, SR 202 is a four-lane, divided roadway with no more than 22 feet of pavement across the two through lanes in each direction. This is not sufficient width to allow for marked bike lanes. Volumes on this stretch are reported as 41,500 AADT, according to FDOT Traffic Online 2014, which far exceed thresholds at which reducing lanes would be appropriate.

Between Bonneval Road and Salisbury Road, SR 202 has a variable cross section, as it passes through the interchange area of Interstate 95. The roadway adds and drops lanes through the interchange, but the basic configuration of through lanes is four lanes, and divided, with 22 feet of pavement across the nominal space of the through lanes in each direction. Shoulders are found through the interchange, but intermittently so. There are neither opportunities for adding bike lanes via lane narrowing nor by lane removal, as volumes here are reported as 98,000 AADT.

If a connection can be made via shoulders or a trail between I-95 and SR A1A at Jacksonville Beach (see below) it may well be necessary to look for neighborhood connections to the north to ultimately connect to downtown Jacksonville, perhaps along Southpoint Boulevard or Salisbury Road to Bowden Road, and then by the most direct sequence of neighborhood streets between Bowden Road and Beach Boulevard.
East of Salisbury Road, all the way out to SR A1A in Jacksonville Beach, SR 202 has shoulders that are typically 10 feet wide, and in all places greater than 7.5 feet wide. These shoulders were once open to bicyclists when JTA owned the roadway, but presently they are closed to bicyclists because SR 202 is not among the limited access roadways that FDOT may open to bicycle use. Given their width the could be marked as ordinary or buffered bicycle lanes if SR 202 was added to the list of limited access roadways open to bicycles. If shoulder use by bicycles or bike lanes were considered, steps should be taken to provide comfortable and perpendicular crossings of the high-speed ramps at each interchange, such as shown in the AASHTO Bike Guide Figure 4-42, which is reproduced in Figure A1 below.

**Figure A1. Reproduced Figure from AASHTO Bike Guide**

Bike lanes or shoulders adjacent to high speed roadways such as SR 202 can provide a basic level of connectivity that is otherwise unavailable, but will only serve a very small percentage of the overall cohort of bicyclists. Consideration should also be given to developing a trail within the right of way of SR 202. Such a trail would be more comfortable and inviting to a broader range of users. At a minimum the overall footprint of a shared use path that complies with AASHTO (and Florida Greenbook) guidance is 20 feet (5 ft. separation from roadway (including 2 ft. pathway shoulder) + 10 ft. pathway + 2 ft. shoulder + 3+ ft. to return to existing grade.). While there is more than 30 feet of available right-of-way adjacent to both sides of SR 202, there are several locations where the available ROW is less than 20 feet wide on one or both sides, and thus favor development on one side or require some vertical barrier between the roadway and a path, or acquisition of right of way. These most constrained locations are toward the west end of SR 202, between US 1 and the Belfort Road interchange. In addition, there is an area near Beach Parkway in Jacksonville Beach where the right-of-way is narrows to approximately 24 feet beyond the edge of the shoulder. A pathway through this section could meet the minimum width criteria, but would be uncomfortably close to the high speed roadway for many bicyclists. These constrained locations are listed in Table A4.
**Table A4. Summary Table of Locations along SR 202 where ROW Limit is Less Than 30 Feet from Edge of Pavement**

<table>
<thead>
<tr>
<th>Location</th>
<th>Side</th>
<th>Distance from EOP to ROW (Feet)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 feet W of Bonneval Rd</td>
<td>N</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>75 feet East of Bonneval Rd</td>
<td>N</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>800 feet East of Bonneval Rd</td>
<td>N</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>157 feet W of Salisbury Rd</td>
<td>S</td>
<td>6</td>
<td>Constrained ROW per Google imagery; ample ROW per gismaps.coj.net</td>
</tr>
<tr>
<td>30 feet W of Salisbury Rd</td>
<td>S</td>
<td>0</td>
<td>Constrained ROW per Google imagery; ample ROW per gismaps.coj.net</td>
</tr>
<tr>
<td>50 feet E of Salisbury Rd</td>
<td>N</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>280 feet E of Salisbury Rd</td>
<td>N</td>
<td>8</td>
<td>8 feet to building</td>
</tr>
<tr>
<td>460 feet E of Salisbury Rd</td>
<td>N</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>625 feet E of Salisbury Rd</td>
<td>S</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>700 feet E of Salisbury Rd</td>
<td>N</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>100 feet W of Southpoint Blvd</td>
<td>S</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>300 feet E of Belfort Rd</td>
<td>N</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>750 feet E of Belfort Rd</td>
<td>N</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>970 feet W of South Beach Pkwy</td>
<td>N</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

Numerous structures are along SR 202 including under- and over-pass crossings of roadways and bridges over waterways—including the main crossing of the Intracoastal Waterway which is almost 4,600 feet long. Any trail constructed along SR 202 would have to include new separated or at-grade crossings of roadways, detour to meet and cross the intersecting road at its grade or divert pathway users up onto existing shoulders. If shoulders are used for two-way path traffic, they will need to be modified to include vertical barriers to comply with design guidance for pathways immediately adjacent to roadways. Similarly, new crossings of water bodies would need to be constructed for pathway users or existing shoulders would need to be modified to accommodate two-way pathway traffic. In total, almost 8,600 feet of the overall length of SR 202 (12.5% of 13 miles) is over or under bridges. The grade-separated crossings along SR 202 are listed in Table A5.
<table>
<thead>
<tr>
<th>MILE (PER SLD)</th>
<th>LOCATION</th>
<th>TYPE</th>
<th>CROSSES</th>
<th>LENGTH</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.496</td>
<td>I-95 Interchange</td>
<td>Underpass</td>
<td>Limited access roadway</td>
<td>68 ft</td>
<td></td>
</tr>
<tr>
<td>1.076</td>
<td>Belfort Rd (No interchange)</td>
<td>Overpass</td>
<td>Surface road</td>
<td>307 ft</td>
<td></td>
</tr>
<tr>
<td>1.677</td>
<td>3,100 E of Belfort Rd</td>
<td>Bridge</td>
<td>Pottsburg Creek</td>
<td>151 ft</td>
<td></td>
</tr>
<tr>
<td>2.337</td>
<td>3,450 ft W of Southside Blvd</td>
<td>Bridge</td>
<td>Tiger Hole Creek</td>
<td>101 ft</td>
<td></td>
</tr>
<tr>
<td>2.997</td>
<td>Southside Blvd Interchange</td>
<td>Overpass</td>
<td>Surface road</td>
<td>224 ft</td>
<td></td>
</tr>
<tr>
<td>3.621</td>
<td>3,150 ft E of Southside Blvd</td>
<td>Bridge</td>
<td>Puncheon Creek</td>
<td>101 ft</td>
<td></td>
</tr>
<tr>
<td>3.984</td>
<td>Gate Parkway Interchange</td>
<td>Overpass</td>
<td>Surface Road</td>
<td>224 ft</td>
<td></td>
</tr>
<tr>
<td>4.286</td>
<td>1,450 ft E of Gate Pkwy</td>
<td>Equipment Crossing</td>
<td>Sidewalk</td>
<td>24 ft</td>
<td>Labelled as “Equipment Crossing” in SLD and on structure. Sidewalk is 5’ wide.</td>
</tr>
<tr>
<td>4.504</td>
<td>2,650 ft E of Gate Pkwy</td>
<td>Box Culvert</td>
<td>Pottsburg Creek</td>
<td>23 ft</td>
<td></td>
</tr>
<tr>
<td>4.907</td>
<td>1,450 W of I-295</td>
<td>Bridge</td>
<td>Mill Dam Creek</td>
<td>178 ft</td>
<td></td>
</tr>
<tr>
<td>5.026</td>
<td>I-295 Interchange</td>
<td>Underpass 1</td>
<td>SB to EB ramp</td>
<td>36 ft</td>
<td></td>
</tr>
<tr>
<td>5.084</td>
<td>I-295 Interchange</td>
<td>Underpass 2</td>
<td>WB to SB ramp</td>
<td>49 ft</td>
<td></td>
</tr>
<tr>
<td>5.190</td>
<td>I-295 Interchange</td>
<td>Overpass</td>
<td>Limited Access Roadway</td>
<td>220 ft</td>
<td></td>
</tr>
<tr>
<td>5.335</td>
<td>I-295 Interchange</td>
<td>Underpass 3</td>
<td>EB to NB ramp</td>
<td>36 ft</td>
<td></td>
</tr>
<tr>
<td>5.384</td>
<td>I-295 Interchange</td>
<td>Underpass 4</td>
<td>NB to WB ramp</td>
<td>36 ft</td>
<td></td>
</tr>
<tr>
<td>5.732</td>
<td>2,700 ft east of I-295</td>
<td>Bridge</td>
<td>Buckhead Branch</td>
<td>178 ft</td>
<td></td>
</tr>
<tr>
<td>6.268</td>
<td>Kernan Blvd Interchange</td>
<td>Bridge</td>
<td>Surface Road</td>
<td>180 ft</td>
<td></td>
</tr>
<tr>
<td>6.996</td>
<td>2,200 Feet east of Kernan</td>
<td>Bridge</td>
<td>Ryals Swamp</td>
<td>150 ft</td>
<td></td>
</tr>
<tr>
<td>7.152</td>
<td>4,600 feet east of Kernan</td>
<td>Equipment Underpass</td>
<td>Driveway</td>
<td>33 ft</td>
<td></td>
</tr>
<tr>
<td>7.751</td>
<td>7,800 feet east of Kernan</td>
<td>Bridge</td>
<td>Cedar Swamp Creek</td>
<td>253 ft</td>
<td></td>
</tr>
<tr>
<td>8.196</td>
<td>Hodge Blvd Interchange</td>
<td>Overpass</td>
<td>Surface Road</td>
<td>163 ft</td>
<td></td>
</tr>
<tr>
<td>Mile (Per SLD)</td>
<td>Location</td>
<td>Type</td>
<td>Crosses</td>
<td>Length</td>
<td>Notes</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------</td>
<td>----------</td>
<td>----------------------------------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>10.024</td>
<td>San Pablo Rd Interchange</td>
<td>Overpass</td>
<td>Surface Road</td>
<td>166 ft</td>
<td></td>
</tr>
<tr>
<td>10.358</td>
<td>ICW Bridge (long)</td>
<td>Bridge</td>
<td>Intracoastal Waterway (Pablo Creek)</td>
<td>4,594 ft</td>
<td></td>
</tr>
<tr>
<td>11.394</td>
<td>ICW Bridge (med)</td>
<td>Bridge</td>
<td>Intracoastal Waterway (Cut Creek Branch)</td>
<td>600 ft</td>
<td></td>
</tr>
<tr>
<td>11.769</td>
<td>ICW Bridge (short)</td>
<td>Bridge</td>
<td>Intracoastal Waterway (Tidal Marsh)</td>
<td>195 ft</td>
<td></td>
</tr>
<tr>
<td>12.636</td>
<td>S Beach Pkwy (no interchange)</td>
<td>Overpass</td>
<td>Surface Road</td>
<td>165 ft</td>
<td></td>
</tr>
<tr>
<td>12.990</td>
<td>SR A1A Flyover</td>
<td>Overpass</td>
<td>Surface Rd</td>
<td>169 ft</td>
<td>Flyover for access to/from Northbound SR A1A. Ramps connect to/from Southbound SR A1A</td>
</tr>
</tbody>
</table>