

COAST TO COAST TITUSVILLE GAP STUDY

Florida Department of Transportation District 5 FM#: 436187-1-12-02



Corridor Development Plan

November 2016

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Introduction

1.1 Coast to Coast Connector Trail

In fiscal year 2015, FDOT received budget authority to complete \$15.5 million in regional trail projects related to the Coast to Coast Connector Trail, a facility intended for long-distance, non-motorized travel. FDOT, the Florida Office of Greenways and Trails (OGT), and other state and regional agencies are working to fill several gaps to complete a continuous 275-mile multiuse trail that will provide a path between St. Petersburg on the west coast of Florida, and the Titusville area on the east coast. According to OGT, approximately 75 percent of the trail is either funded for construction or already constructed.

The Coast to Coast Connector Trail traverses a variety of environments including urban streetscapes, suburban neighborhoods, and natural areas, providing a diverse range of experiences to its users. The Coast to Coast Connector Trail not only connects communities but also establishes a pathway between regionally-significant trails. The Fred Marquis Pinellas Trail, the South Lake Trail, the West Orange Trail, the Seminole Wekiva Trail, and the East Central Florida Regional Rail Trail are all linked with the Coast to Coast Connector Trail.

1.2 The Coast to Coast Titusville Gap Study

In October 2015, the Florida Department of Transportation (FDOT) District Five commenced a Planning Study to close the gap of the Coast to Coast Trail within the City of Titusville. The study developed and evaluated alignment routes and typical section alternatives, and ultimately selected one recommended route and typical section to be carried through to design.

The study was coordinated with local and regional agency partners including the Space Coast Transportation Planning Organization (SCTPO), Brevard County, the City of Titusville, Florida Greenways & Trails Foundation, Space Coast Area Transit (SCAT), Florida East Coast (FEC) Railway, and Greater Titusville Renaissance (GTR) to receive feedback at key points throughout the study.

The Titusville gap is approximately 0.8 miles in length and is located from the end of the East Central Florida Regional Rail Trail (ECFRRT) on Canaveral Avenue just north of Main Street to the west end of the Max Brewer Bridge, where existing sidewalks and bike lanes are provided. A map of the trail gap location, the Study Area, is illustrated in Figure 1.

The purpose of this Corridor Development Plan is to document the entire study including data collection, public involvements, alternatives considered, the preferred alternative, and next steps for the project. This portion of the Coast to Coast Connector Trail will be known as the Downtown Connector Trail.







2 Existing Conditions

2.1 Introduction

The Study Area is located in the historic downtown area of the City of Titusville in Brevard County, Florida. The gap begins at the ECFRRT endpoint, located at Canaveral Avenue just north of Main Street, and extends to the west end of the Max Brewer Bridge. There is not presently a trail east of the Max Brewer Bridge, however a separate gap study will develop a plan for that section of the Coast to Coast Trail.

Data for the following roadways segments was collected to assist the Department in determining the most viable route for the Downtown Connector Trail:

- Canaveral Avenue from the ECFRRT to Main Street
- Main Street from Canaveral Avenue to Indian River Avenue
- Broad Street from Lemon Avenue to Indian River Avenue
- Julia Street from Wilson Avenue to US 1
- US 1 from Julia Street to State Road (SR) 406
- Indian River Avenue from Main Street to SR 406
- SR 406 from US 1 to the Max Brewer Bridge

2.2 Planned Improvements

The following planned improvements are located in or near the Study Area:

- FDOT SR 406 from west of I-95 interchange to US 1 improvements include a potential road diet from Dixie Avenue to US 1 from four lanes to two lanes (Planning study ended in September 2016, concept development phase to follow)
- FDOT US 1 from Grace Street to Indian River Avenue a potential Grace Street roundabout and improvements to pedestrian crosswalks along US 1 (Planning study ended in September 2016, concept development phase to follow)
- FDOT SR 406 from Petty Circle to US 1 Northbound (Washington Avenue) Resurface, Restoration, Rehabilitation project (Construction funded for FY 2018)
- City of Titusville Main Street from US 1 Northbound (Washington Avenue) to Indian River Avenue – Streetscape project to include bike lanes and widened sidewalks (Project postponed at start of this study)



- FDOT SR 406 from east end of Max Brewer Bridge to entrance Merritt Island National Wildlife Refuge Milling and Resurfacing including trail feature to connect bridge to the Space Coast Trail (Design FY 2017 and Construction FY 2019)
- FDOT Space Coast Trail from Max Brewer Causeway to Atlantic Ocean Construction of a trail to complete the Coast to Coast Trail to its eastern end point (Study phase to begin FY 2017 and Design FY 2018)
- FDOT Traffic Operations Department plans to conduct a safety study on the SR 406 and US 1 intersection

Over the course of the study, the City of Titusville completed (May 2016) construction on the pedestrian bridge for the ECFRRT.

2.3 Land Use

Land use data was compiled from the Brevard County Property Appraiser parcel data and FDOT District 5 Generalized Land Use Data. This data was used to identify existing and future land uses within the Study Area.

2.3.1 Existing Land Use

At the project begin point, on Canaveral Avenue north of Main Street, the surrounding land use is residential and industrial. Crossing over the railroad tracks, the downtown Titusville land use is mainly commercial and public lands along Main Street, Indian River Avenue, Broad Street, Julia Street, US 1, and SR 406. Figure 2 provides a map of the existing land use designations.

2.3.2 Future Land Use

The Future Land Uses (FLUs) assigned to the Study Area, illustrated in Figure 3, are generally consistent with the existing land uses along Canaveral Avenue, Main Street, Indian River Avenue, Broad Street, Julia Street, US 1, and SR 406. The entirety of the land east of the railroad is designated as Downtown Mixed-Use. The City of Titusville specifies that the Downtown Mixed-Use FLU was established to "pursue the renewal of Downtown Titusville as the center of professional, governmental, financial and unique retail and redevelop blighted areas." The Downtown Mixed-Use FLU is intended to enhance the visual attractiveness of downtown, utilize the waterfront, and encourage and promote pedestrian activity.







2.4 Existing Physical Features

The existing physical features were collected through field inspection and design/construction plans obtained from FDOT and City of Titusville. The features evaluated include typical sections, right-of-way, utilities, on-street parking, lighting, railroad crossings, and bicycle and pedestrian facility locations.

2.4.1 Canaveral Avenue

Typical section – ECFRRT to Main Street

Canaveral Avenue, between the ECFRRT and Main Street, is a narrow two-lane undivided residential road. There are 5' sidewalks provided on both sides of the roadway separated from the curb by a 6' grass strip. There are no existing bicycle lanes. The typical section for Canaveral Avenue is illustrated in Figure 4.



Figure 4: Canaveral Avenue Typical Section (From the ECFRRT to Main Street)

Right-of-way, utilities, and observations

The right-of-way within this short segment is approximately 48 feet. There are overhead utilities located on the west side of the street. One street light is provided and collocated with a utility pole. While there is no designated on-street parking, cars were observed on several occasions utilizing the 6' planting strip and sidewalk for parking. There are no railroad crossings on this section of Canaveral Avenue.



Intersection

There is a two-way stop controlled (northbound/southbound) intersection located at the intersection of Canaveral Avenue and Main Street. There are no crosswalks provided at the intersection.

2.4.2 Main Street

Railroad crossing

There is one Florida East Coast (FEC) Railway crossing (DOT Crossing Inventory #271998T) on Main Street between Wilson Avenue and Dummitt Avenue. The crossing report indicates that there are currently 2 nightly through trains (between 6 pm and 6 am) that cross at this location traveling at a typical speed of 20 to 25 mph. Additional information about the railroad crossing is provided in Appendix A.

Typical section – Canaveral Avenue to FEC Railroad

The typical section from Canaveral Avenue to Indian River Avenue varies throughout Main Street. From Canaveral Avenue to the FEC railroad crossing, shown in Figure 5, Main Street is a two-lane undivided roadway with 5' sidewalks on both sides and 6' grass strips between the sidewalks and back of curb. There are no bicycle lanes within this segment on Main Street.

Figure 5: Main Street Typical Section (From Canaveral Avenue to FEC Railroad Crossing)





Right-of-way, utilities, and observations

The right-of-way within this segment of Main Street is approximately 55 feet. Overhead utilities are located on the north side of Main Street. One street light is provided in this segment and collocated with a utility pole. No on-street parking is provided.

Intersections

This short segment of Main Street is intersected by Canaveral Avenue and the FEC railroad. The Canaveral Avenue intersection is a two-way stop controlled (northbound/southbound) intersection, with no crosswalk markings. The FEC railroad has crossing pavement markings and roadway gate arms. There are no pedestrian gate arms.

Typical section – FEC Railroad to US 1 Southbound

Main Street from the FEC railroad to US 1 Southbound (Hopkins Avenue), shown in Figure 6, is a two-lane undivided roadway. Sidewalk of varying widths is provided on both sides, with grass strip provided where possible. With a total paved width of approximately 46 feet, each travel lane has a width of 23 feet. Sporadic, non-designated on-street parking is currently utilized as part of the oversized travel lanes. No bicycle lanes are provided.



Figure 6: Main Street Typical Section (From FEC Railroad Crossing to Hopkins Avenue)

Right-of-way, utilities, and observations

The existing right-of-way within this segment of Main Street is approximately 63 feet wide. Utilities are located on the north side of the street, with lighting collocated. There are two utility poles on the south side of the roadway near the Lemon Avenue intersection. No lighting is provided on the southern poles. The corridor within this segment is constrained by buildings close to the right-of-way on the north side.



Intersections

The following intersections are present along Main Street between the FEC railroad crossing and US 1 Southbound (Hopkins Avenue):

- Lemon Avenue This intersection is a T-intersection that is one-way stop controlled (southbound). There are no crosswalks provided.
- Palm Avenue This intersection is a four-way stop controlled intersection, with crosswalks for crossing Main Street on both sides of the intersection.
- US 1 Southbound (Hopkins Avenue) This intersection is a four leg signalized intersection, with crosswalks and pedestrian signals provided for all four legs of the intersection. US 1 Southbound is a one-way (southbound) movement. An eastbound right turn lane is provided.

Typical section – US 1 Southbound to Indian River Avenue

Main Street from US 1 Southbound (Hopkins Avenue) to Indian River Avenue, shown in Figure 7, is a two-lane undivided segment with bicycle lanes and designated on-street parking on both sides of the roadway. Sidewalks varying between 5 to 8 feet in width are provided on both sides of the roadway with varying landscaped strips and bulb outs provided where possible.



Figure 7: Main Street Typical Section (From Hopkins Avenue to Indian River Avenue)

Right-of-way, utilities, and observations

The existing right-of-way within this segment is between 61 and 64 feet. Retail buildings and parking lots are directly against the existing right-of-way on both sides of the roadway. Utility poles are present along the north side, between the sidewalk and roadway curb. Lighting is collocated on the utility poles.

Intersections

The following intersections are present along Main Street between US 1 Southbound (Hopkins Avenue) and Indian River Avenue:



- US 1 Northbound (Washington Avenue) This is a four leg signalized intersection, with crosswalks and pedestrian signals provided on all four legs of the intersection. US 1 Northbound is a one-way (northbound) movement.
- Indian River Avenue This is a T-intersection that is one-way stop (eastbound) controlled. The intersection provides a crosswalk for the south leg of Indian River Avenue. Both pedestrian crossing signs and pavement markings are provided to warn for the pedestrian crossing. There is a designated southbound right turn lane provided.

2.4.3 Broad Street

Typical section – Lemon Avenue to Indian River Avenue

Broad Street from Lemon Avenue to Indian River Avenue is a two lane undivided roadway. Sidewalks are provided on both sides of the roadway, except between Lemon Avenue and Palm Avenue (no sidewalks) and between US 1 Northbound (Washington Avenue) and Indian River Avenue (sidewalks on north side). On-street parking is provided from Palm Avenue to Indian River Avenue as parallel and angled parking. A typical section for Broad Street is presented in Figure 8.

Figure 8: Broad Street Typical Section from Lemon Avenue to Indian River Avenue



Right-of-way, utilities, and observations

The existing right-of-way on Broad Street is approximately 80 feet wide. Overhead utilities are provided along the north side of the roadway, north of the sidewalk. At the eastern end of the corridor, there are overhead utilities present along the south side of the roadway. Broad Street does not have a crossing over the FEC railroad track. The trail would have to connect to Broad Street through adjacent roadways.

Intersections

The following intersections are present along Broad Street between the Lemon Avenue and Indian River Avenue:

• Lemon Avenue – This T intersection is one-way stop controlled (westbound). There are no crosswalks or sidewalks at the intersection.



- Palm Avenue The intersection is two-way stop controlled (eastbound/westbound) with no crosswalks.
- US 1 Southbound (Hopkins Avenue) This intersection is two-way stop controlled (eastbound/westbound) with no crosswalks. US 1 Southbound is a one-way (southbound) movement.
- US 1 Northbound (Washington Avenue) This intersection is two-way stop controlled (eastbound/westbound) with no crosswalks. US 1 Northbound is a one-way (northbound) movement.
- Indian River Avenue This intersection is two-way stop controlled (eastbound/westbound) with no crosswalks.

2.4.4 Julia Street

Typical Section – Wilson Avenue to US 1 Northbound

Julia Street from Wilson Avenue to US 1 Northbound (Washington Avenue) is consistently a twolane roadway with on-street parking throughout. With the exception of a small gap on the western end of the corridor on the south side, sidewalks are provided along both sides throughout the length of the corridor. The Julia Street typical section is provided in Figure 9.



Figure 9: Julia Street Typical Section from Wilson Avenue to US 1 Northbound

Right-of-way, utilities, and observations

The existing right-of-way of Julia Street ranges between 54 and 62 feet wide. Overhead utilities are located on the south side of the roadway, in the utility strip between the curb and sidewalk. Overhead utilities are not present in the block between US 1 Southbound (Hopkins Avenue) and US 1 Northbound (Washington Avenue). Lighting is collocated on utilities poles. Buildings and



parking lots are immediately adjacent to the existing right-of-way lines, including the historic Emma Parrish Theatre. There is no direct route from the start point of the gap and Julia Street.

Intersections

The following intersections are present along Broad Street between the Lemon Avenue and US 1 Northbound (Washington Avenue):

- Wilson Avenue This two leg intersection does not currently have any formal controls. The only movements supported by the intersection is southbound left and westbound right, which are not conflicting movements. The intersection does not provide crosswalks.
- Palm Avenue This is a four-way stop controlled intersection with no designated crosswalks.
- US 1 Southbound (Hopkins Avenue) This signalized intersection provides crosswalks and pedestrian signals at all four legs. US 1 is a one-way (southbound) movement.
- US 1 Northbound (Washington Avenue) This is a stop controlled T intersection, with Julia Street being the only movement with a stop. US 1 is a one-way (northbound) movement. There is a designated crosswalk on the south leg of the intersection equipped with Rectangular Rapid Flashing Beacon (RRFB) to promote driver awareness when pedestrians are using the crosswalk.

2.4.5 US 1 Southbound (Hopkins Avenue)

Typical Section – Julia Street to SR 406

US 1 Southbound (Hopkins Avenue) is a one-way (southbound) corridor with sidewalks on both sides. On-street parking on the west side is provided from Julia Street to Main Street. A 4' paved shoulder is provided from Main Street to SR 406. A typical section of US 1 Southbound (Hopkins Avenue) is shown in Figure 10.





Figure 10: US 1 Southbound Typical Section from Julia Street to SR 406

Right-of-way, utilities, and observations

The existing right-of-way along US 1 Southbound (Hopkins Avenue) is approximately 45 feet wide and directly abutted by buildings. Overhead utility poles run along the west side of the roadway, within the utility strip between the sidewalk and curb. Lighting poles run along the east side of the roadway, also within the utility strip or where space is limited, directly in the sidewalk.

Two bus stops are present along the corridor, one on the southwest corner of Garden Street for Route 2 and one on the northwest corner of Broad Street for Routes 2 and 5.

Intersections

The following intersections are present along US 1 Southbound (Hopkins Avenue) between Julia Street and SR 406:

- Julia Street This signalized intersection provides crosswalks and pedestrian signals at all four legs.
- Main Street This signalized intersection provides crosswalks and pedestrian signals at all four legs. An eastbound right turn lane is provided.
- Broad Street This intersection is two-way stop controlled (eastbound/westbound) with no designated crosswalks.
- SR 406 This intersection is signalized and provides crosswalks and pedestrian signals at all four legs. There is a designated westbound left turn lane and southbound right turn lane.



2.4.6 US 1 Northbound (Washington Avenue)

Typical Section – Julia Street to SR 406

US 1 Northbound (Washington Avenue) is a one-way (northbound) corridor with wide sidewalks. North of Main Street, a 4' wide paved shoulder is provided on the east side of the roadway. A typical section of US 1 Northbound is displayed in Figure 11.



Figure 11: US 1 Northbound from Julia Street to SR 406

Right-of-way, utilities, and observations

Between Julia Street and Main Street, the existing right-of-way is approximately 45 feet wide. The right-of-way widens north of Main Street to between 55 and 60 feet wide. A recent streetscape project along this corridor provided wide sidewalks with benches and landscape between Julia Street and Main Street, promoting a pedestrian friendly atmosphere for this segment of Downtown Titusville.

A bus stop on the northeast side of the Julia Street intersection accommodates Route 5.

Intersections

The following intersections are present along US 1 Northbound (Washington Avenue) between Julia Street and SR 406:



- Julia Street This is a one-way stop controlled (eastbound) T-intersection. There is a
 designated crosswalk on the south leg of the intersection equipped with a RRFB to
 promote driver acknowledgement when a pedestrian is crossing.
- Main Street This signalized intersection includes crosswalks and pedestrian signals at all four legs.
- Broad Street This intersection is two-way stop controlled (eastbound/westbound) with no designated crosswalks.
- Orange Street This T-intersection is one-way stop controlled (westbound) with no designated crosswalks.
- SR 406 This signalized intersection provides designated crosswalks and pedestrian signals at all four legs of the intersection. A designated northbound left turn lane and right turn lane is provided at the intersection.

2.4.7 Indian River Avenue

Typical section – Main Street to SR 406

Indian River Avenue from Main Street to SR 406 is a three-lane undivided roadway, with two northbound lanes and one southbound lane. A southbound right turn auxiliary lane is provided throughout the majority of the corridor. Sporadic sidewalk coverage is provided on the east side of the roadway, and on-street parking is present on both sides of the road. The typical section for Indian River Avenue is shown in Figure 12.



Figure 12: Indian River Avenue Typical Section (From Main Street to SR 406)

Right-of-way, utilities, and observations

The existing right-of-way along Indian River Avenue from Main Street to SR 406 is approximately 80 to 83 feet wide. Utility poles cross Indian River Avenue north of the Main Street intersection, and continue along the east side of the corridor. Lighting is collocated with the utility poles, along the east side of the corridor, with the exception of one light pole on the west side just north of the Main Street intersection. Space View Park is located on both sides of Indian River Avenue between Broad Street and Orange Street. The western park property encroaches the right-of-way causing a narrowing of Indian River Avenue near the park. A bus stop is provided at the corner of Indian River Avenue and Broad Street. There are no existing bus stop accommodations at the stop, such as a bench or shelter.



While there are no designated bicycle lanes provided along Indian River Avenue, this corridor has been designated as a bicycle facility due to low volume and wide pavement section.

Intersections

The following intersections are present along Indian River Avenue between Main Street and SR 406:

- Main Street This is a T-intersection that is one-way stop controlled (eastbound). The intersection provides a crosswalk for the south leg of Indian River Avenue. Both pedestrian crossing signs and pavement markings are provided to warn for the pedestrian crossing. There is a designated southbound right turn lane.
- Broad Street This intersection is a two-way stop controlled (eastbound/westbound) intersection. There is a dedicated southbound right turn lane, however no pedestrian crosswalks are provided.
- Orange Street This T-intersection is one-way stopped controlled (eastbound). The intersection includes a southbound right turn lane; however, no pedestrian crosswalks are provided.
- SR 406 This intersection is a two-way stop controlled (northbound/southbound) intersection with a dedicated northbound right turn lane, westbound left turn lane, westbound right turn lane, and channelized eastbound right turn lane. The southbound approach is a gated park entrance that remains closed the majority of the year. There are no pedestrian crosswalks provided at the intersection.

2.4.8 SR 406

Typical Section – US 1 to the Max Brewer Bridge

SR 406 from US 1 to the Max Brewer Bridge has varying typical sections throughout the segment. In general, SR 406 is four lanes from US 1 to Indian River Avenue and two lanes from Indian River Avenue to the Max Brewer Bridge. There are turn lanes throughout. Sidewalks are provided along the south side of the corridor, and bike lanes are provided from Indian River Avenue to the Max Brewer Bridge.

Right-of-way, utilities, and observations

The existing right-of-way is approximately 72 feet wide between the US 1 one-way pair intersections and widens out to 250 feet near the Max Brewer Bridge. Overhead utilities generally run along the north side of the roadway at the right-of-way line. Lighting poles are provided on both sides of the roadway, on the north side behind the curb and on the south side behind the sidewalk.



Intersections

The following intersections are located with the SR 406 segment between US 1 and the Max Brewer Bridge:

- US 1 Southbound (Hopkins Avenue) This signalized intersection has crosswalks and pedestrian signals at all four legs. US 1 is a one-way (southbound) movement. The intersection has a designated southbound right turn lane and westbound left turn lane.
- US 1 Northbound (Washington Avenue) This signalized intersection has crosswalks and pedestrian signals at all four legs. US 1 is a one-way (northbound) movement. The intersection has a designated northbound left and right turn lane. There are three westbound through lanes, one that runs directly into the US 1 Southbound intersection's designed westbound left turn lane. The westbound approach also provides a channelized right turn lane approximately 170 feet ahead of the signal.
- Indian River Avenue This intersection is two-way stop controlled (northbound/southbound) intersection with a dedicated northbound right turn lane, westbound left turn lane, westbound right turn lane, and a channelized eastbound right turn lane. The southbound approach is a gated park entrance that remains closed the majority of the year. There are no pedestrian crosswalks provided at the intersection.

2.5 Utilities

A Sunshine One Call ticket was processed in September 2016 to identify a list of potential utility providers within the Study Area. The listed facilities in the Sunshine One Call ticket does not indicate definite presence within the corridor, therefore the utility companies were contacted to verify the location and content of the facilities. Table 1 presents the utility companies listed on the Sunshine One Call ticket along with feedback received from the company. A copy of the Sunshine One Call ticket and utility coordination emails are provided in Appendix B.



Table 1: Utilities

| Utility Company | Contact Number | Notes | | |
|-------------------------------|--------------------|---|--|--|
| Florida City Gas | 321-638-3424 | Natural gas facilities buried along Main Street from west of Hopkins to Indian River Avenue, along Canaveral Avenue south of Main Street, along Indian River Avenue from south of Main Street to SR 406 | | |
| Florida Power & Light | 305-219-9143 | Overhead powerlines are located along Main Street and Indian River Avenue for the entirety of the project corridor. | | |
| MCI | 972-729-6322 | MCI indicated there are no facilities within the study area. | | |
| CenturyLink | 303-992-9931 | Buried facilities along Indian River Avenue, in Main Street R/W, FEC Railway R/W, and crossing Main Street near Dummitt Avenue. | | |
| AT&T Distribution | 561-997-0240 | Overhead facilities are located along Indian River Avenue and Main Street, in addition to several located along major cross streets. Buried facilities are located near the abandoned railway bed as well as along segments of Main Street and Indian River Avenue. | | |
| City of Titusville | 321-567-3883 | Water and sewer lines generally located along study corridors, including gravity and force main, as well as water and sewer laterals to adjacent properties. | | |
| Brighthouse Networks, LLC | 321-757-6451 | Overhead facilities and accompanying poles are located along Main Street and Indian River Avenue. Two drop lines cross over Indian River Avenue at Orange Street and Broad Street. Brighthouse Networks does not anticipate any issues with the project, except for potential guy wire conflicts. | | |
| Allied Fiber, LLC (Southeast) | 212-920-8305 | No information received. | | |
| Level 3 Communications, LLC | 577-366-8344 EXT 2 | Buried cables are located within the western portion of the FEC Railway R/W. Overhead facilities are located along Main Street from Deleon Avenue to Palm Avenue, and continue south along Palm Avenue. | | |
| Sprint Nextel | | 2-inch conduit with fiber optic cable is located along FEC Railroad R/W within the Study Area, intersecting with Main Street. | | |

2.6 Access Management

The existing driveway and signalized intersection spacing is provided in Figure 13. Medians are present in the small segment of SR 406 between Indian River Avenue and the Max Brewer Bridge. Figure 14 shows the median opening spacing for SR 406.









Titusville Gap Study Corridor Development Plan



FIGURE 13a Access Management Driveway and Signalized Intersection Spacing

Canaveral Ave. - End of ECFRRT to Main St.





Titusville Gap Study Corridor Development Plan



FIGURE 13b Access Management Driveway and Signalized Intersection Spacing



Indian River Ave. - Main St. to SR 406



Titusville Gap Study Corridor Development Plan



FIGURE 13c Access Management Driveway and Signalized Intersection Spacing



FIGURE 13d Access Management Driveway and Signalized Intersection Spacing



Main St. - Canaveral Ave. to Indian River Ave.

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FIGURE 13e Access Management Driveway and Signalized Intersection Spacing



Driveway and Signalized Intersection Spacing



US 1 NB (Washington Ave.) - Julia St. to SR 406

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Titusville Gap Study Corridor Development Plan



FIGURE 13g Access Management Driveway and Signalized Intersection Spacing



US 1 SB (Hopkins Ave.) - Julia St. to SR 406



Titusville Gap Study Corridor Development Plan



FIGURE 13h Access Management Driveway and Signalized Intersection Spacing



SR 406 - Indian River Ave. to Sand Point Park Entrance

2.7 Existing Traffic Conditions

This section provides an overview of the existing traffic conditions along the Study Area corridors including 24-hour tube counts. Existing roadway 24-hour bi-directional volume traffic counts were collected in October 2015 at the following locations:

- Main Street between Canaveral Avenue and railroad tracks
- Main Street between US 1 Northbound (Washington Avenue) to Indian River Avenue
- Indian River between Main Street and SR 406

Weekday turning movement counts were collected at the following Study Area intersections on Tuesday, March 3, 2015 (US 1 counts) and Thursday October 29, 2015 (Indian River Avenue counts) for the AM (7:00 - 9:00 AM) and PM (4:00 - 6:00 PM) peak hours:

- US 1 Northbound/Julia Street
- US 1 Southbound/Julia Street
- US 1 Northbound/Main Street
- US 1 Southbound/Main Street
- Indian River Avenue/Main Street
- Indian River Avenue/SR 406

All traffic count data collected was adjusted utilizing the latest (2013) FDOT axle (where applicable) and seasonal adjustment factors for Brevard County, to provide 2015 annual average conditions. All collected traffic counts and seasonal factors are provided in Appendix C. Existing volumes are illustrated in Figure 15.

Main Street and Indian River Avenue roadway counts were compared to Table 7 of the 2013 FDOT Quality/Level of Service Handbook to obtain the generalized daily and peak hour Level of Service (LOS), presented in Table 2. The study intersections were evaluated to determine their existing operations and LOS, as shown in Table 3 and Figure 16.

Table 2: Existing Study Area Roadway Level of Service

| Roadway/Segment | Daily | | AM Peak | | PM Peak | |
|--|-------|-----|---------|-----|---------|-----|
| | AADT | LOS | Volume | LOS | Volume | LOS |
| Main Street | | | | | | |
| Canaveral Avenue to Palm Avenue | 1,408 | В | 104 | В | 146 | В |
| Palm Avenue to US 1 Southbound | 980 | В | 60 | В | 98 | В |
| US 1 Southbound to US 1 Northbound | 1050 | В | 57 | В | 105 | В |
| US 1 Northbound to Indian River Avenue | 595 | В | 65 | В | 58 | В |
| Indian River Avenue | | | | | | |
| Main Street to SR 406 | 1,641 | В | 150 | В | 168 | В |

Table 3: Existing Study Area Intersection Level of Service

| Intersection | AM Peak | | PM Peak | |
|---------------------------------|----------|-----|----------|-----|
| | Delay | LOS | Delay | LOS |
| US 1 Northbound/Julia Street | 0.4/12.0 | A/B | 0.1/14.1 | A/B |
| US 1 Southbound/Julia Street | 2.0 | А | 2.7 | А |
| US 1 Northbound/Main Street | 2.8 | А | 4.0 | А |
| US 1 Southbound/Main Street | 3.6 | А | 5.6 | А |
| Indian River Avenue/Main Street | 8.9/0.6 | A/A | 9/0.8 | A/A |
| Indian River Avenue/SR 406 | 0.6/10.6 | A/B | 0.3/13.3 | A/B |





FDOT









Titusville Gap Study Corridor Development Plan



los d

LOS E





Titusville Gap Study Corridor Development Plan



FIGURE 16 Existing Intersection Turning Movement Counts As shown in Table 2 and 3, all Study Area corridors and intersections currently operate within acceptable LOS standards and support the addition of a future trail.

2.8 Drainage

The general stormwater conveyance system that serves the Study Area roadway segments is curb and gutter with storm pipes directing runoff to localized storm drainage retention ponds. The corridors are on a relatively flat terrain. The portion of SR 406 from Indian River Avenue to the Max Brewer Bridge is currently an open drainage system with curb and gutter. Water from the curb and gutter is redirected to flumes that drains into the adjacent swales acting as a linear pond.

There is a culvert east of the Indian River Avenue and Main Street intersection. The City of Titusville identified plans to install a new culvert and embankment at this location in the near future.



Bublic Involvement

Public involvement brings diverse viewpoints and values between all interested people, groups, and government organizations into the decision-making process regarding the development of a project. To achieve successful public involvement, the study team worked on building credibility, understanding, and consensus by implementing activities to generate interest in the project, present information about the project in an easy to understand format, and by providing open access for stakeholders to provide input to the study team. The public involvement activities were held concurrently with the US 1 and SR 406 Corridor Planning Studies due to overlapping Study Areas with similar stakeholders. The following sections summarize the public involvement activities held during the Coast to Coast Titusville Gap Study. Summaries of the following activities, including details on the feedback received, are provided in the *Comments and Coordination Summary* in Appendix D.

3.1 Project Visioning Team

A Project Visioning Team (PVT) was established, concurrently with the US 1 and SR 406 Corridor Planning Studies, to assist and guide the planning and concept development process throughout the study. By involving and interacting with the PVT, the study team was able to proactively identify and establish a route for the Downtown Connector Trail. The PVT consisted of staff representatives from:

- FDOT
- City of Titusville
- Brevard County
- Space Coast Transportation Planning Organization (SCTPO)
- Space Coast Area Transit (SCAT)
- Titusville Police Department
- Greater Titusville Renaissance (GTR)
- North Brevard Economic Development Zone
- Local business owners and residents

The PVT met twice throughout the trail project. During the first meeting, held on October 6, 2015, the PVT members brainstormed potential routes and provided potential trail features. A walkthrough of the trail concept was provided to the PVT during the meeting held on March 30, 2016.

3.2 Public Meeting

A Public Alternatives Meeting was held concurrently with the US 1 and SR 406 Corridor Planning Studies, on Thursday, February 25, 2016 from 5:30 pm to 7:30 pm at the City of Titusville City Hall Council Chambers. The



purpose of the meeting was to present and explain the trail concept and to allow interested people the opportunity to provide feedback and comments to the study team about the project. The meeting was held as an informal open house with display boards and a handout for the public to review and discuss with the study team. There was a formal presentation given at approximately 6:00 pm providing details on the proposed concept of the trail. In addition to the Department staff and study team, there were approximately 24 members of the general public, 1 elected official, and 7 agency stakeholders.

3.3 Small Group Meetings

3.3.1 Stakeholder Coordination Meeting

A meeting was held on November 12, 2015 to facilitate an open forum with the main agencies within the Study Area. In addition to FDOT and the study team, representatives from US Fish and Wildlife Service, SCTPO, North Area Park Recreation, Brevard County, and City of Titusville attended the meeting. Roll plots and plan sheets of the work in progress concept was provided to facilitate the open discussion. A summary of this coordination meeting is included in Appendix D.

3.3.2 Florida Greenways & Trails Foundation

The study team met with the Executive Director of the Florida Greenways & Trails Foundation on November 18, 2015 to receive feedback on the concept plans, proposed route, and additional suggestions. A summary of this meeting is included in Appendix D.

3.3.3 FEC Field Visit

On December 16, 2015, FDOT hosted a field visit for FEC to view the FEC property at the end of the ECFRRT, near Main Street and Dummitt Avenue. In attendance was a representative for FEC, City of Titusville Mayor Tulley and Commissioner Fisher, a representative from SCTPO, and the study team. Information about the field visit is included in Appendix D.

3.3.4 FEC Lease Proposal

FDOT, along with SCTPO and the City of Titusville, coordinated with FEC to circulate and approve the lease proposal for Alternative Route 2. On March 3, 2016, FDOT received email confirmation of the FEC Railway's management approval for the lease proposal. The email chain is provided in Appendix D.

3.3.5 City of Titusville - City Council Presentation

Following the Public Alternatives Meeting and PVT meeting, the study team refined the final concept based on input received. The final concept was presented to the City of Titusville City Council at its regular board meeting held on April 26, 2016. During the presentation, the City Council was given the opportunity to provide feedback. Official meeting minutes of the council meeting are included in Appendix D.



3.3.6 City of Titusville – Coordination Teleconference

During the study, the City of Titusville began design on the portions of the trail within the City's jurisdiction. A teleconference with City Staff was held on April 27, 2016 to discuss the limits of the City's design and additional details about the Department's final concept. At closing, the City requested that the Department push their portion of the project (along SR 406 from Indian River Avenue to the Max Brewer Bridge) as soon as possible to provide connectivity for the overall Coast to Coast Trail. A summary of the teleconference is included in Appendix D.

3.3.7 SCTPO – Committee Update Presentation

The study team also presented the final concept to the SCTPO Board (May 12, 2016) and the Technical and Citizens Advisory Committees (May 9, 2016). During the presentation, TPO members were given the opportunity to provide feedback. Official meeting minutes are included in Appendix D.

3.3.8 Local Stakeholder Coordination Meeting

A meeting was held on August 8, 2016 to openly discuss concerns on route selection with several property owners. After several email exchanges, the City of Titusville and FDOT decided it would be beneficial to hold a meeting with all entities to discuss concerns regarding the route and loss of on-street parking. The City agreed to look at ways to provide additional parking along Main Street between US 1 Northbound (Washington Avenue) and Indian River Avenue. As a result of the meeting, the City developed a concept to convert Main Street to one-way (eastbound) facility between US 1 Northbound (Washington Avenue) and Indian River Avenue. The westbound lane would be repurposed to provide on-street parking. A summary of the meeting is provided in Appendix D.



Purpose and Need

The Purpose and Need Statement is the standard against which alternatives are developed, considered, and evaluated based upon a review of stakeholder feedback, public input, and existing conditions. It is designed to set the framework for the development a concept that addresses the needs of the trail.

4.1 Issues and Opportunities

This section is intended to summarize the issues identified in the Study Area corridors to determine route alternatives for the trail. These issues and opportunities were identified during the existing conditions inventory process along with input from the PVT. The following is a list of issues and opportunities noted:

4.1.1 Routing

Broad Street

The wide existing right-of-way along Broad Street makes this corridor an attractive route for the trail. However, utilizing Broad Street would require additional right-of-way through the FEC Railway property and a new crossing over the railroad. Coordination with FDOT Central Office Rail Crossing Opening and Closure Program Specialist revealed that a new crossing is not an option, leaving the existing crossing at Main Street as the only opportunity to cross the trail. After crossing the railroad at Main Street there are two streets (Lemon Avenue and Palm Avenue) prior to US 1 to connect the trail to Broad Street. Both streets do not provide sufficient right-of-way to accommodate a trail in addition to vehicle traffic. Broad Street also does not provide signalized intersections at US 1 Southbound (Hopkins Avenue) and US 1 Northbound (Washington Avenue), which would not provide trail users a protected crossing at the high volume US 1 intersections. Adding signals to these intersections is not an option due to the close spacing between Broad Street and the Main Street signals.

Main Street

The existing right-of-way along Main Street is sufficient to support the addition of a trail and provides signalized intersections at both US 1 Southbound (Hopkins Avenue) and US 1 Northbound (Washington Avenue). This route also provides the most direct connectivity from the trail gap beginning point and Indian River Avenue.



The City of Titusville recently completed (May 2015) design plans for streetscape project for Main Street between US 1 Northbound (Washington Avenue) and Indian River Avenue. The City put the construction phase of the streetscape project on hold at the start of the Downtown Connector Trail Study in order to avoid double improvements to the corridor. The option to incorporate the trail in the Main Street streetscape project was identified as an opportunity by the City and FDOT.

Julia Street

Julia Street, closest to the heart of Downtown Titusville, will route trail users directly to the City's planned Welcome Center (located on the east side of US 1 Southbound just south of Julia Street). There is a signalized intersection at US 1 Southbound (Hopkins Avenue) and a Rectangular Rapid Flashing Beacon (RRFB) at US 1 Northbound (Washington Avenue). This route would require the trail to first use Main Street and connect to Julia Street through either Wilson Avenue or Palm Avenue, both requiring right-of-way acquisition to add a trail. This route also does not connect directly to Indian River Avenue, which would require additional right-of-way and potential business impacts. The section of Indian River Avenue south of Main Street has a smaller right-of-way footprint than north of Main Street, and may require right-of-way acquisition in order to get the trail through that section.

SR 406

The existing right-of-way along SR 406 is currently fully occupied by lanes and restricted by businesses on both the north and south side. With a heavy demand for capacity between the two one-way pair intersections of US 1, there is little flexibility for a trail. The end of the ECFRRT does not directly connect to SR 406.

North/South Route

The existing right-of-way for the US 1 Southbound (Hopkins Avenue) and US 1 Northbound (Washington Avenue) corridors is currently fully utilized and restricted by business structures and parking lots throughout. Indian River Avenue, north of Main Street has ample right-of-way to support the addition of a trail while supporting vehicular traffic needs. Indian River Avenue connects to SR 406 where the existing right-of-way is less restricted and offers flexibility to incorporate a trail.

4.2 Purpose

To provide a safe local and regional bicycle and pedestrian facility that enhances alternative transportation modes and supports opportunities for recreation, tourism, and economic development by closing the gap of the Coast to Coast Connector Trail within the City of Titusville.

4.3 Need

The three primary factors that define the need for the Downtown Connector Trail are regional connectivity, local connectivity, and economic development. The need is reinforced by the following data and observations within the Study Area:



4.3.1 Regional Connectivity

The Downtown Connector Trail is a missing segment in the Coast to Coast Connector Trail. This trail is characterized by its interconnection to regional destinations and other statewide trails across nine counties. It is intended to provide long distances of travel for recreational users by connecting to major trail systems in the surrounding counties such as the East Central Florida Regional Rail Trail, northwest of the Titusville gap.

4.3.2 Local Connectivity

While this trail serves as a portion of the larger Coast to Coast Connector Trail, it also serves as local mode of transportation and recreation. The Study Area is within a dense residential and commercial area, providing a need to encourage alternate modes of transportation among the community.

4.3.3 Economic Development

Trails and greenways are increasingly an economic engine for communities in Florida. By combining regional trails together into larger systems, there is great potential to advance the area's and the state's economic development strategy. The City of Titusville and other local agencies see this portion of the trail as an economic benefit to the Downtown Titusville area. The City is planning bicycle connection routes to and from the trail to important City areas including the planned Welcome Center.



5

Concept Development

5.1 Route Alternatives

One of the greatest challenges for defining the trail route was crossing the FEC railroad, which runs north-south within the existing trail gap. To avoid the challenges associated with establishing a new crossing point, the best option for the trail to cross was defined at the existing Main Street crossing. The existing crossing consists of 45-ft of pavement over the railroad tracks, providing enough room to implement a multi-use trail.

Based on feedback from the PVT meeting, two trail routes (shown in Figure 17) were identified as preferred alternatives for the Downtown Connector Trail. The minor variance in the two trail routes is from the start point of the gap to Main Street. Route Alternative 1 utilizes Canaveral Avenue to bring the trail down to Main Street, while Route Alternative 2 utilizes a portion of the FEC right-of-way to access Main Street. Route Alternative 2 is only possible if an agreement can be made with FEC to use the right-of-way for the trail. If right-of-way cannot be obtained, Route Alternative 1 will be the recommended route.

Both route alternatives utilize Main Street east to Indian River Avenue. The trail then turns north on Indian River Avenue to SR 406, where it is then routed east to the Max Brewer Bridge.

5.2 Trail Typical Section

The typical section for the Downtown Connector Trail was developed with three main goals:

- Provide a facility for all trail users
- Consistency with adjacent sections / overall Coast to Coast Trail
- Minimize impacts to existing facilities

In order to fulfil these goals, a typical section concept including a "cycle track" with a raised barrier was developed for this trail. A cycle track is a two-way bike trail facility that is physically separated from vehicular traffic. The typical section concept would fit within existing right-of-way within the proposed route and would require minimal curb and gutter modification/relocations. The typical section will have low to no impact to existing utilities and lighting structures. Figures 18 and 19 depict the proposed typical section for the trail through Main Street and Indian River Avenue, respectively. The raised concrete separator width between the cycle track and travel lanes vary throughout.





Figure 18: Trail Typical Section – Main Street



Figure 19: Trail Typical Section – Indian River Avenue



With Route Alternative 1, the bicycles would share the road with sharrows along Canaveral Avenue. Sharrows are shared lane markings that notify both drivers and bicyclist that the travel lane is open to bicycle traffic where no bicycle lane or paved shoulder exists. A designated crosswalk would be provided at the Canaveral Avenue and Main Street intersection. Route Alternative 2 would provide a designated crosswalk at Dummitt Avenue with widened sidewalks to accommodate the trail west of the railroad crossing. And on Main Street west of the railroad tracks, the sidewalk would be widened to 10 feet to provide a multi-use trail for bicycle and pedestrians to share.

Due to the existing Max Brewer Bridge setup of split bicycle lanes and sidewalks, the trail along SR 406 from Indian River Avenue to the Max Brewer Bridge required a split of westbound/eastbound and bicycle/pedestrian movements. In an effort to increase user safety, the crossing to split or combine the trail traffic is situated between the Indian River Avenue and Sandpoint Park Entrance intersections. Safety was further improved by making the following changes within the SR 406 segment:

• Shorten the existing eastbound left turn lane at the Sandpoint Park Entrance intersection



- Drop this segment of SR 406 to two through lanes (consistent with road diet recommendation for SR 406 Corridor Planning Study west of this segment and consistent with the number of lanes on the bridge today)
- Provide an eastbound left turn lane at the Indian River Avenue intersection (in place of existing eastbound through lane)
- Remove the existing dedicated westbound right turn lane at the Indian River Avenue intersection and convert the existing westbound through lane to a shared through/right
- Widen the existing median where space available to provide pedestrian refuge at new crossing

The SR 406 section of the trail is detailed in Figure 20.





FDOT

6

Recommended Trail Concept

6.1 Route Alternative Selection

Based on public and agency feedback, there was a strong preference to utilize Route Alternative 2. In addition to local preference, this route also avoids the need to improve Canaveral Avenue. Through extensive coordination with FEC, an agreement was reached to utilize the right-of-way needed within the FEC property for this route. The SCTPO and City of Titusville are working together to complete the lease application and agreement.

6.2 Recommended Concept

The final recommended concept for the Downtown Connector Trail is provided in Figures 21a through 21g. The proposed driveway closure locations are conceptual only and will require a full justification to carry through. Designated trail crossings will be provided at the following locations:

- Dummitt Avenue north/south crossing at the east leg of intersection
- FEC Railroad crossing
- US 1 Southbound (Hopkins Avenue) east/west at south leg of intersection (signalized)
- US 1 Northbound (Washington Avenue) east/west at south leg of intersection (signalized)
- Indian River Avenue east/west at south leg of intersection
- Broad Street north/south at east leg of intersection
- Orange Street east/west at south leg of intersection to accommodate park crossings
- SR 406 north/south between Indian River Avenue and Sand Point Park intersections
- Sand Point Park east/west on both north and south leg of intersection

The recommended concept does not anticipate any right-of-way acquisition. Starting at end point of the ECFRRT the Downtown Connector Trail will continue down the west side of the FEC property through an easement until it connects to Main Street at Dummitt Avenue. The trail then continues east on Main Street to the railroad tracks as a wide concrete sidewalk. As the trail transition on to both Main street and Indian River Avenue, the use of the cycle track along these wide corridors minimized the need for a major renovation. The existing pavement section will be repurposed to provide the cycle track with concrete traffic separators between the cycle track and travel lanes. Parking is also provided primarily on the north side of Main Street and on either side of Indian



River Avenue. The trail then connects bicycle and pedestrian traffic back together onto a wide multi-use sidewalk on Indian River Avenue just south of SR 406. Once the trail reaches SR 406 it travels east behind a storm water detention pond and connects to SR 406 using a maintenance berm between two detention ponds. The trail separates eastbound/westbound movements and bicycle/pedestrian traffic on SR 406 at a midblock crossing to allow trail users to utilize the existing pedestrian/bike features located on the Max Brewer Bridge.







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FIGURE 21b Proposed Trail Concept





CONNECTOR











CONNECTOR









FIGURE 21g Proposed Trail Concept

6.3 Stormwater Impacts

The stormwater impacts of the recommended alternative are anticipated to be minimal. In the FEC right-of-way section of the trail, and where widening of the sidewalk is required between Dummitt Avenue and the railroad track, impervious area is increased. Typically for trail projects, the project would be exempt through (62-330.051 (10), F.A.C.): for the constriction, of recreational paths for pedestrians and bicycles. If an exemption is not granted then the project would qualify for a General Permit to the Florida Department of Transportation, Counties, and Municipalities for Minor Activities within Existing Rights-of-Way or Easements (62-330.447). Coordination with other agencies, such as the St. Johns River Water Management District (SJRWMD) would be conducted early in the design process.

Stormwater from the proposed trail will sheet flow away from the pavement and prevent standing water within the trail.

For Main Street and Indian River Avenue, the impervious area will remain the same. The trail will utilize the existing pavement for the cycle track and the existing sidewalks for pedestrians, therefore no additional capacity is needed for stormwater. The proposed traffic separator that separates bicycle traffic from vehicle traffic will need to be slotted to allow stormwater runoff to pass through to existing drainage inlets.

Along SR 406 corridor, the existing impervious area will be reduced due to the bigger median proposed based on the removal of the westbound right turn into Sabal Point Park and the reduction of the eastbound left turn lane into the park's eastern entrance. The only stormwater impact is to the detention pond on the north side of SR 406 between the two park entrances. The addition of the sidewalk along the north side of the SR 406 has impacts to the capacity of the pond. After a brief analysis of the impact to the capacity of the pond vs the reduction in impervious from the bigger median it was determined that minor modifications could be made to the existing pond to maintain the same capacity. These minor modifications options include adjusting the side slopes and lowering the grade of the pond. This portion of the trail lies within the boundaries of existing stormwater permits. These would require a minor modification to applicable permits such as the Titusville Downtown Waterfront project (Permit number 56330), or the A. Max Brewer Causeway Realignment and Pier Parking Improvements project (Permit number 24431-1). As mentioned above, coordination with other agencies such as the SJRWMD would be conducted early in the design process.

6.4 Utility Impacts

No utilities were identified as being impacted by this concept plan. During the initial layout of this conceptual plan the utilities were identified and avoided as much as possible, resulting in locating the trail on the south side of Main Street from Dummitt Avenue to the FEC railroad crossing.



6.5 Lighting

There are no plans to enhance or remove the existing lighting along the route. Any changes to the existing lighting features on Main Street or Indian River Avenue could be implemented by the City. SR 406 has existing lighting along the corridor and should be sufficient for trail users in the area.

6.6 Signal Impacts

The following signalized intersections are present along the proposed trail corridor:

- Main Street at US 1 Southbound (Hopkins Avenue)
- Main Street at US 1 Northbound (Washington Avenue)

No major impacts to the signals are needed for the recommended trail concept. The signal heads and detectors will need to be adjusted to properly line up with the new location of the travel lane. The existing mast arms provide adequate room for the adjustment of the existing signal heads. Bicycle signals will need to be added to the cycle track to provide supplement view for the user to know when to stop and go on the cycle track. The signal heads can be mounted to the existing mast arm poles or as a standalone pedestal mount. Bicycle detectors including video or induction loops will be needed to notify the signal controller that a bicyclist is present if there are no vehicles waiting on Main Street. The bicycle detector can be linked into the same phase for Main Street so those movements can run concurrently.

6.7 Maintenance of Traffic during Construction Concerns

The recommended alternative will not significantly impact existing traffic flow or operations. No Maintenance of Traffic plans are required.

6.8 Cost Estimate

A planning level cost estimate was developed for the proposed trail using FDOT's Long Range Estimation Tool, historical cost data, and pay item unit costs for FDOT District 5. The total estimated cost for the trail, including construction and design is approximately \$1.5 million. A break-down of the costs by jurisdiction is provided in Table 4. Full details on the cost estimate is included in Appendix E.



Table 4: Cost Estimate

| Description | Cost | | | |
|--|----------------|--|--|--|
| City Segment (FEC Alignment, Main Street, Indian River Avenue) | | | | |
| Design | \$323,000 | | | |
| Construction | \$548,000 | | | |
| MOT/MOB (15%) | \$82,000 | | | |
| Contingency (25%) | \$137,000 | | | |
| Total for City Segment | \$1.09 Million | | | |
| FDOT Segment (SR 406) | | | | |
| Design | \$129,000 | | | |
| Construction | \$234,000 | | | |
| MOT/MOB (15%) | \$35,000 | | | |
| Contingency (25%) | \$58,000 | | | |
| Total for FDOT Segment | \$456,000 | | | |
| Total Cost | \$1.5 Million | | | |



7

Conclusion and Next Steps

7.1 City of Titusville Contributions

The City of Titusville has developed a final design for the Main Street and Indian River Avenue segments of the Downtown Connector Trail. A preliminary trail has already been striped on Main Street and Indian River Avenue to "demo" the concept and provide a continuous route from the existing ECFRRT. The City anticipates final construction along Main Street and Indian River Avenue (including the FEC Railway property section) in 2017.

Following additional input from local business owners, the City added plans to convert Main Street from US 1 Northbound (Washington Avenue) to Indian River Avenue to a one-way (eastbound) roadway. This improvement was established to provide additional on-street parking.

7.2 Next Steps

With the City of Titusville handling design and construction for the Main Street and Indian River Avenue portion of the trail, the final piece of the trail to advance is the segment on SR 406. The next step of the project is the design phase and then construction. The recommended concept does not anticipate right-of-way acquisition, and will therefore not require a right-of-way phase.

Future funded phases for this project is identified in the SCTPO Transportation Improvement Plan (TIP) as design in FY 2019 for \$810,000 and construction in FY 2021 for \$1.97 million. The TIP also notes that the City of Titusville will implement their portion sooner than FY 2021. The State Transportation Improvement Plan lists the project funded phases design in FY 2019 for \$659,040 and construction in FY 2021 for \$2.10 million. The City of Titusville requested of the Department to progress the SR 406 concept from Indian River Avenue to the Max Brewer Bridge as soon as possible to complete the connection from ECFRRT to the bridge.

