St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, Florida 34953
772-462-1593 www.stlucietpo.org

# TECHNICAL ADVISORY COMMITTEE (TAC)

## Regular Meeting

Tuesday, August 22, 2023
1:30 pm

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### Public Participation / Accessibility

Participation in Person: Public comments may be provided in person at the meeting. Persons who require special accommodations under the Americans with Disabilities Act (ADA) or persons who require translation services (free of charge) should contact the St. Lucie TPO at 772-462-1593 at least five days prior to the meeting. Persons who are hearing or speech impaired may use the Florida Relay System by dialing 711.

Participation by Webconference (not intended for Committee Members): Using a computer or smartphone, register at https://attendee.gotowebinar.com/register/7504293736122179679. After the registration is completed, a confirmation will be emailed containing instructions for joining the webconference. Public comments may be provided through the webconference chatbox during the meeting.

Written and Telephone Comments: Comment by email to TPOAdmin@stlucieco.org; by regular mail to the St. Lucie TPO, 466 SW Port St. Lucie Boulevard, Suite 111, Port St. Lucie, Florida 34953; or call 772-462-1593 until 1:00 pm on August 22, 2023.

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## AGENDA

1. Call to Order

2. Roll Call

3. Comments from the Public

4. Approval of Agenda

5. Approval of Meeting Summary
   - *May 16, 2023 Regular Meeting*

6. Action Items

   6a. East Midway Road Corridor Study: Presentation of the draft East Midway Road Corridor Study.

   *Action: Recommend acceptance of the draft East Midway Road Corridor Study, recommend acceptance with conditions, or do not recommend acceptance.*

6b. Sustainable Transportation Plan: Presentation of the draft Sustainable Transportation Plan.

*Action: Recommend acceptance of the draft Plan, recommend acceptance with conditions, or do not recommend acceptance.*

6c. 2024 Legislative Priorities: Review of the proposed Legislative Priorities for the St. Lucie TPO for 2024.

*Action: Recommend adoption of the proposed priorities, recommend adoption with conditions, or do not recommend adoption.*

6d. Advanced Air Mobility (AAM) Study Phase 2 Scope of Services: Review of the draft Scope of Services for Phase 2 of the AAM Study.

*Action: Recommend approval of the draft Scope of Services, recommend approval with conditions, or do not recommend approval.*

6e. Congestion Management Process (CMP) Major Update Scope of Services: Review of the CMP Major Update draft Scope of Services.

*Action: Recommend approval of the draft Scope of Services, recommend approval with conditions, or do not recommend approval.*

7. Recommendations/Comments by Members

8. Staff Comments

9. Next Meeting: The next St. Lucie TPO TAC meeting is a joint meeting with the Citizens Advisory Committee and the Bicycle-Pedestrian Advisory Committee scheduled for 1:30 pm on Tuesday, October 17, 2023.

10. Adjourn

NOTICES

The St. Lucie TPO satisfies the requirements of various nondiscrimination laws and regulations including Title VI of the Civil Rights Act of 1964. Public participation is welcome without regard to race, color, national origin, age, sex, religion, disability, income, or family status. Persons wishing to express their concerns about nondiscrimination should contact Marceia Lathou, the Title VI/ADA Coordinator of the St. Lucie TPO, at 772-462-1593 or via email at lathoum@stlucieco.org.

Items not included on the agenda may also be heard in consideration of the best interests of the public's health, safety, welfare, and as necessary to protect every person's right of access. If any person decides to appeal any decision made by the St. Lucie TPO Advisory Committees with respect to any matter considered at a meeting, that person shall need a record of the proceedings, and for such a purpose, that person may need to ensure that a verbatim record of the proceedings is made which includes the testimony and evidence upon which the appeal is to be based.

Kreyol Ayisyen: Si ou ta renmen resevwa enfòmasyon sa a nan lang Kreyòl Aysiyen, tanpri rele nimewo 772-462-1593.

Español: Si usted desea recibir esta informaciòn en español, por favor llame al 772-462-1593.

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# TECHNICAL ADVISORY COMMITTEE (TAC)

## REGULAR MEETING

DATE: Tuesday, May 16, 2023

TIME: 1:30 pm

LOCATION: St. Lucie TPO
Coco Vista Centre
466 SW Port St. Lucie Boulevard, Suite 111
Port St. Lucie, Florida

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## MEETING SUMMARY

1. Call to Order

Chairman Sanders called the meeting to order at 1:30 pm.

2. Roll Call

The roll was conducted via sign-in sheet, and the following members were present:

| Members Present | Representing |
|---|---|
| Marty Sanders, Chairman | St. Lucie County School District |
| Jack Andrews | Fort Pierce Engineering |
| Adolfo Covelli | St. Lucie County Transit Management |
| Anne Cox | Port St. Lucie Planning |
| Thad Crowe | St. Lucie County Planning |
| Patrick Dayan | St. Lucie County Public Works |
| Joe DeFronzo | Port St. Lucie Public Works |
| Robert Driscoll | Independent Public Transportation Operator |
| Wade Tindall | St. Lucie County Fire District |

| Others Present | Representing |
|---|---|
| Kyle Bowman | St. Lucie TPO |
| Peter Buchwald | St. Lucie TPO |
| Yi Ding | St. Lucie TPO |
| Marceia Lathou | St. Lucie TPO |
| Rachel Harrison | Recording Specialist |
| James Brown | Florida's Turnpike |
| Christine Fasiska | FDOT |
| Kris Kehres | FDOT |
| Lucine Martens (via web) | Martin MPO |
| Edwin Molinary | St. Lucie County |
| Srin Varanasi | Corradino Group |
| Ricardo Vazquez (via web) | Martin MPO |

3. Comments from the Public – None.

4. Approval of Agenda

* MOTION by Mr. Driscoll to approve the agenda.

** SECONDED by Ms. Cox Carried UNANIMOUSLY

5. Approval of Meeting Summary
   - March 21, 2023 Regular Meeting

* MOTION by Mr. Driscoll to approve the Meeting Summary.

** SECONDED by Mr. Dayan Carried UNANIMOUSLY

6. Action Items

6a. Pavement, Bridge, and System Performance Targets: Review of Pavement, Bridge, and System Performance Targets for adoption by the St. Lucie TPO.

Mr. Buchwald introduced Mr. Ding, who explained that recent legislation aimed at ensuring efficient investment of Federal transportation funds had established three Performance Measure (PM) rules to monitor Safety (PM1), Bridge and Pavement (PM2), and System Performance (PM3). Mr. Ding indicated that state DOTs were required to establish statewide targets, which MPOs could either

support or forego in favor of adopting their own quantifiable targets. He noted that FDOT had established PM2 and PM3 Targets for 2022-2025 in December 2022, and that the TPO had until mid-June to support those Targets or adopt its own targets. Mr. Ding reported that staff had analyzed the TPO's PM2 and PM3 data and found that its performance significantly exceeded the State average, and it was therefore appropriate to adopt the same targets as FDOT's PM2 and PM3 Targets.

Mr. Dayan asked whether the TPO's outperformance of the Statewide Targets could lead to additional funding opportunities. Mr. Buchwald described how FDOT typically has not worked with MPOs to identify and prioritize resurfacing projects to ensure the most expedient use of Federal funding.

* MOTION by Mr. Dayan to recommend adoption of the Pavement, Bridge, and System Performance Targets.

** SECONDED by Mr. Driscoll Carried UNANIMOUSLY

6b. Draft FY 2023/24 – FY 2027/28 Transportation Improvement Program (TIP): Review of the draft FY 2023/24 – FY 2027/28 TIP.

Mr. Buchwald explained that the TPO was required to develop a TIP annually to identify projects within the TPO area that had been prioritized and were to receive Federal or State funding within the next five years. He then invited Mr. Ding to continue. Mr. Ding outlined the year-long process necessary to develop the TIP, noted several agencies involved in its production, and highlighted a number of multimodal projects included in the draft under consideration. He presented the total amount of funding in the TIP and concluded with an overview of the performance meaures to be used in the TIP's evaluation.

In response to Mr. DeFronzo's clarification, Mr. Buchwald indicated that the TIP's description of the Volucia Drive project would be changed from a sidewalk to a shared-use path.

Chairman Sanders inquired about the increase in the TIP's budget as compared with that of the previous year. Mr. Ding explained that the previous year's budget had been unusually low because a large number of projects had been funded for construction and, therefore, were not included in the TIP that year.

* MOTION by Mr. Covelli to recommend adoption of the draft TIP.

** SECONDED by Mr. Driscoll Carried UNANIMOUSLY

6c. Carbon Reduction Strategy: Review of the draft Carbon Reduction Strategy for the St. Lucie TPO area.

Mr. Buchwald introduced Mr. Ding, and Mr. Ding invited Mr. Varanasi to present the agenda item. Mr. Varanasi provided an overview of the project before describing the methodology that had been developed to estimate the impact of various carbon reduction strategies within the TPO area. He presented the results of the analysis of those strategies, noted the Study's conclusions and recommendations, and outlined several example projects that could be considered for implementation.

Chairman Sanders noted that telecommuting sometimes had the effect of encouraging workers to live farther away from their places of employment and asked whether that had been taken into account during the analysis. Mr. Varanasi indicated that long-distance telecommuting had not been a factor in the Study. He explained that telecommuting often increased residential building emissions and then elaborated upon the Study's focus on evaluating the relative impact of the various scenarios versus the baseline, do-nothing approach.

* MOTION by Mr. Dayan to recommend approval of the draft Carbon Reduction Strategy.

** SECONDED by Mr. Covelli Carried UNANIMOUSLY

6d. 2023/24 List of Priority Projects (LOPP): Review of the draft LOPP for 2023/24 for the St. Lucie TPO.

Mr. Buchwald described how the LOPP was produced each year as part of the annual TIP development cycle before detailing the differences between the previous year's LOPP and the draft under consideration. In doing so, he reported on revisions to the Master List, the Congestion Management Process (CMP) List, the Transportation Alternatives (TA) List, and the Transit List. He also reported on additions to the Local Projects for Carbon Reduction Program (CRP) Funding and Transportation Alternatives Additional (TAA) Funding List, which had been adopted in October 2022.

* MOTION by Mr. Driscoll to recommend adoption of the draft 2023/24 LOPP.

** SECONDED by Mr. Covelli Carried UNANIMOUSLY

6e. Transit Development Plan (TDP) Major Update Scope of Services: Review of the TDP Major Update draft Scope of Services.

Mr. Buchwald invited Ms. Lathou to present the agenda item, and she described the purpose and scope of the Transit Development Plan (TDP) before outlining its various requirements and components. Ms. Lathou identified the consultant engaged to conduct the TDP Major Update, reported on the Update's timeline and cost, and noted that the County might fund additional public involvement activities throughout the Update process. She then described elements of the TDP Public Involvement Plan, subsequently offering a preview of the Visioning process.

* MOTION by Mr. Driscoll to recommend approval of the draft Scope of Services.

** SECONDED by Mr. Andrews Carried UNANIMOUSLY

7. Recommendations/Comments by Members – Chairman Sanders introduced Mr. Crowe as a new TAC representative for St. Lucie County Planning, and Mr. Crowe provided an overview of his professional experience.

Mr. Covelli thanked the TPO for its support of the TDP Major Update and its commitment to public transportation, remarking on the need to expand the County's transit system in response to the community's growth and changing needs.

Chairman Sanders announced his retirement effective in July. He thanked the members for allowing him to serve as chair, noting his enjoyment of the role, and expressed his pride in the TAC's accomplishments. Mr. Buchwald, in turn, noted his enjoyment of working with Chairman Sanders over the years and thanked him for his valuable contributions to the TAC.

8. Staff Comments – Mr. Buchwald noted the upcoming workshop regarding the Transportation Alternatives Program Project Prioritization

Methodology and the Standardized Traffic Impact Study Methodology and Procedures.

Mr. Buchwald indicated that Ms. Harrison had completed the requirements for her doctoral degree, and members offered their congratulations.

9. Next Meeting: The next St. Lucie TPO TAC meeting is a regular meeting scheduled for 1:30 pm on Tuesday, July 18, 2023.

10. Adjourn – The meeting was adjourned at 2:25 pm.

Respectfully submitted:

_____
Rachel Harrison
Recording Specialist

Approved by:

_____
Marty Sanders
Chairman

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# AGENDA ITEM SUMMARY

| | |
|---|---|
| Board/Committee: | Technical Advisory Committee (TAC) |
| Meeting Date: | August 22, 2023 |
| Item Number: | 6a |
| Item Title: | East Midway Road Corridor Study |
| Item Origination: | Unified Planning Work Program (UPWP) |
| UPWP Reference: | Task 3.7 – Safety and Security Planning |
| Requested Action: | Recommend acceptance of the draft East Midway Road Corridor Study, recommend acceptance with conditions, or do not recommend acceptance. |
| Staff Recommendation: | Because the East Midway Road Corridor Study identifies and evaluates the safety and operational issues on East Midway Road and facilitates the development and programming of projects for future funding to address the issues, it is recommended that the draft Study be recommended for acceptance by the TPO Board. |

Attachments

- Staff Report
- Draft East Midway Road Corridor Study

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# MEMORANDUM

TO: Technical Advisory Committee (TAC)

FROM: Peter Buchwald
Executive Director

DATE: August 15, 2023

SUBJECT: East Midway Road Corridor Study

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## BACKGROUND

During the development of the TPO's Unified Planning Work Program (UPWP), public and local agency input identified the presence of safety issues on Midway Road from U.S. Highway 1 to Indian River Drive. These safety issues were identified to pertain to excessive speeding, inadequate bicycle and pedestrian infrastructure, the intersection at Wetherbee Road, and the entrance to the St. Lucie County Savannas Recreation Area. In addition, this segment of Midway Road will include a future crossing of the East Coast Greenway/Florida Shared-Use Network (SUN) Trail which may exacerbate the issues. Therefore, Task 3.7, *Safety and Security Planning,* of the UPWP included the completion of the East Midway Road Corridor Study to evaluate the issues.

In January 2023, the TPO Advisory Committees reviewed and recommended for approval the Scope of Services for the Study that was prepared by Kimley-Horn, which is one of the TPO's General Planning Consultants. Subsequently, the Study was completed, and Kimley-Horn will present the results of the Study for review and recommendation by the TPO Advisory Committees.

## ANALYSIS

The attached draft Study evaluated the corridor from a safety and traffic operations perspective and identifies potential improvements to reduce the severity, frequency, and risk for crashes; manage speeds; and enhance traffic operations. The Study includes a corridor overview; crash, traffic, capacity

and speed data analyses; field reviews; and identification of potential improvements.

Based on the data analyses and field reviews, a total of 12 safety and operational issues were identified within the corridor. Potential improvements, also known as countermeasures, were developed to address the identified issues and were programmed into the following four categories:

- Maintenance: Implementation through maintenance work orders on a short timeframe and at a relatively low cost.

- Near-Term: Implementation through a push button contract. Further studies and/or coordination may be required.

- Long-Term: Implementation through a separate capital project.

- Already-Programmed Project: Implementation through incorporation into an upcoming programmed project. May require an additional study prior to inclusion in the other project.

The countermeasures that were developed range from the implementation of additional signage and roadway markings to the construction of a roundabout at the Weatherbee Road intersection. The estimated costs for the implementation of the countermeasures are provided in a summary table for each category which facilitates the development and programming of projects for future funding.

## RECOMMENDATION

Because the East Midway Road Corridor Study identifies and evaluates the safety and operational issues on East Midway Road and facilitates the development and programming of projects for future funding to address the issues, it is recommended that the draft Study be recommended for acceptance by the TPO Board.

St. Lucie Transportation Planning Organization

# East Midway Road Corridor Study

## Between US-1 and Indian River Drive

*August **2023***

*Prepared By:*

Kimley»Horn

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# INTRODUCTION

The St. Lucie Transportation Planning Organization (TPO) initiated an operational and safety analysis study for E Midway Road between State Road (SR)-5/US Highway (US)-1/Federal Highway (hereafter called US-1) and Indian River Drive in St. Lucie County. E Midway Road is one (1) of only three (3) roadways that provides connectivity to Indian River Drive between Jensen Beach and Fort Pierce. Additionally, E Midway Road provides access to the St. Lucie County Savannas Recreation Area and will include a future crossing of the East Coast Greenway corridor. A study location map is included as Figure 1.

## Study Objective

The purpose of this safety study is to evaluate the corridor from a safety and traffic operations perspective and identify potential improvements to reduce the severity, frequency, and risk for crashes, countermeasures to reduce speeds, and potentially improve traffic operations.

## Documentation

This report documents the corridor overview, crash data analysis, traffic data, capacity analysis, speed data analysis, field reviews, and countermeasure identification.

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# East Midway Road Corridor Study

Between US-1 and Indian River Drive

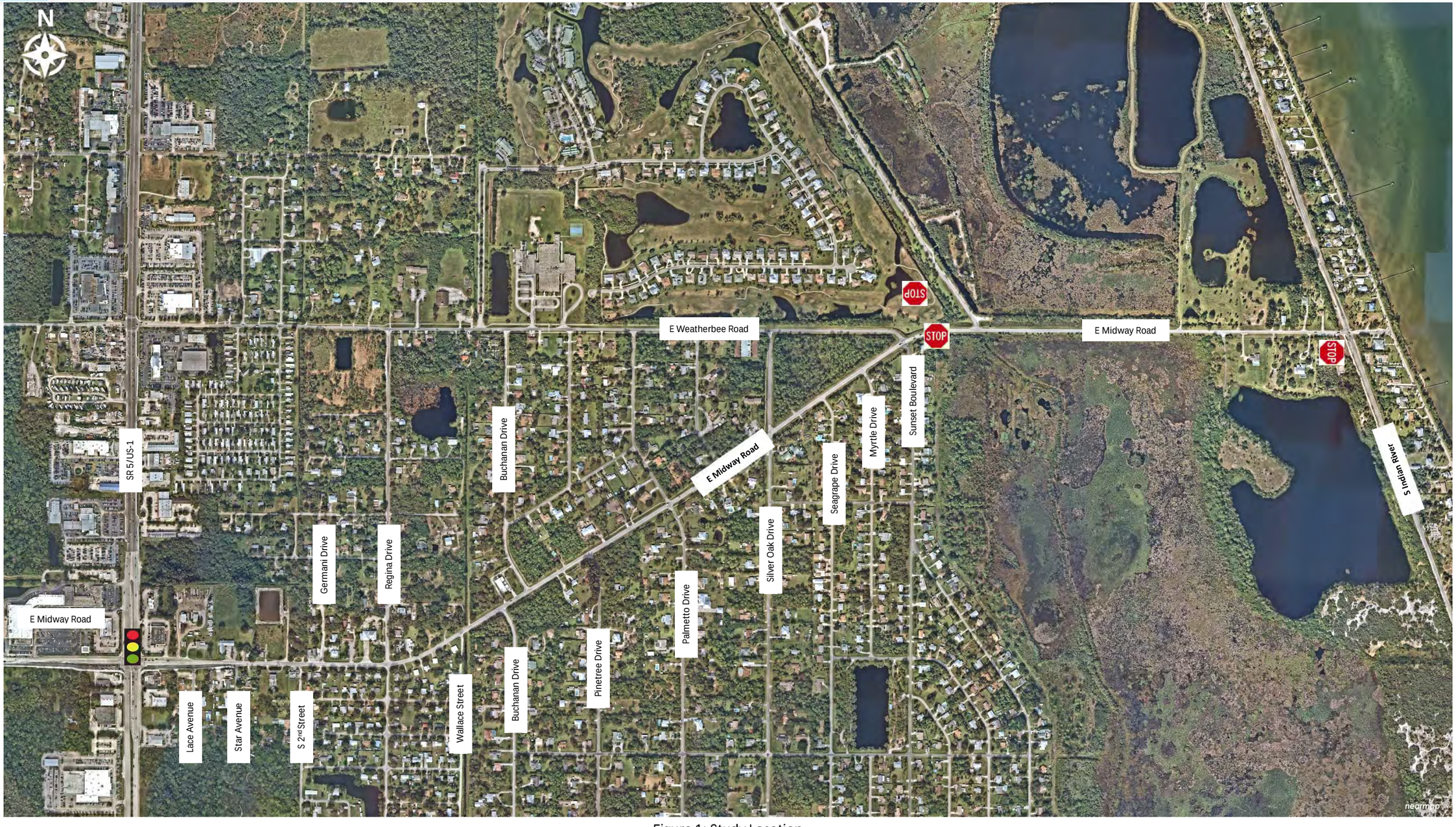


Figure 1: Study Location

## CORRIDOR OVERVIEW

E Midway Road is a two-lane undivided roadway within the project limits. The length of the study corridor is approximately two (2) miles. There is one (1) signalized intersection, 17 unsignalized intersections, and one railroad crossing within the study segment. Average daily traffic (ADT) along E Midway Road west of Indian River Drive is 3,600 vehicles (2022 traffic data). Roadway characteristics of the study corridor were compiled from numerous sources including FDOT's GIS database, Florida Traffic Information Database, and field reviews. Table 1 summarizes roadway characteristics of E Midway Road.

Table 1: Existing Roadway Characteristics

| | | |
|---|---|---|
| Roadway Type | Two-lane undivided (US-1 to Indian River Drive) | |
| Functional Classification | Urban Minor Arterial | |
| FDOT Access Classification | N/A | |
| Context Classification | C4 – Urban General: US-1 to Buchanan Street<br>C3R – Suburban Residential: Buchanan Street to Indian River Drive | |
| Speed Limit | 30 MPH: Between US-1 and Regina Drive<br>40 MPH: Between Regina Drive and S Indian River Drive | |
| Signalized Intersections | One (1) at US-1 | |
| Lighting | Cobra head lighting at the intersections of Lace Avenue, Regina Drive, Buchanan Drive, Pinetree Drive , Palmetto Drive, Silver Oak Drive, Seagrape Drive, Myrtle Drive, and S Indian River Drive. | |
| Horizontal/Vertical Curves | Horizontal curve associated with E Weatherbee Road/Sunset Boulevard and between Regina Drive to Wallace Street and | |
| Drainage | Curb and gutter (from US-1 to Lace Avenue) and culvert (Lace Avenue to E Weatherbee Road/Sunset Boulevard) | |
| 2022 Traffic Volumes (AADT) | 17,000 (Midway Road from Oleander Avenue to Meville Road, Station 94-8540)<br>3,600 (CR 712/Midway Roadway - West of Indian River Drive, Station 94-0023) | |
| Pedestrian Facilities | Sidewalks | South side: from Buchanan Drive (W) to Silver Oak Drive<br>North Side: from Buchanan Drive (E) to Silver Oak Drive & from E of Germani Drive to Regina Drive |
| | Crosswalks | SR 5/US-1 (signalized) |
| Bicycle Facilities | Marked bike lane | From US-1 to E Weatherbee Road (Note Faded markings and overgrown grass per Field Review) |
| Transit Service/Facilities | Area Regional Transit | None |
| Adjacent Land Uses | residential, open space, retail, church, | |

## Annual Average Daily Traffic

Figure 2 shows the 2022 synopsis count data extracted from the AADT Florida Department of Transportation (FDOT) Annual Average Daily Traffic (AADT) (Station ID: 948540 and 940023) and the calculated 2023 AADT for the four (4) locations in which 24-hour counts were collected as part of this study (from US-1 to Indian River Drive).

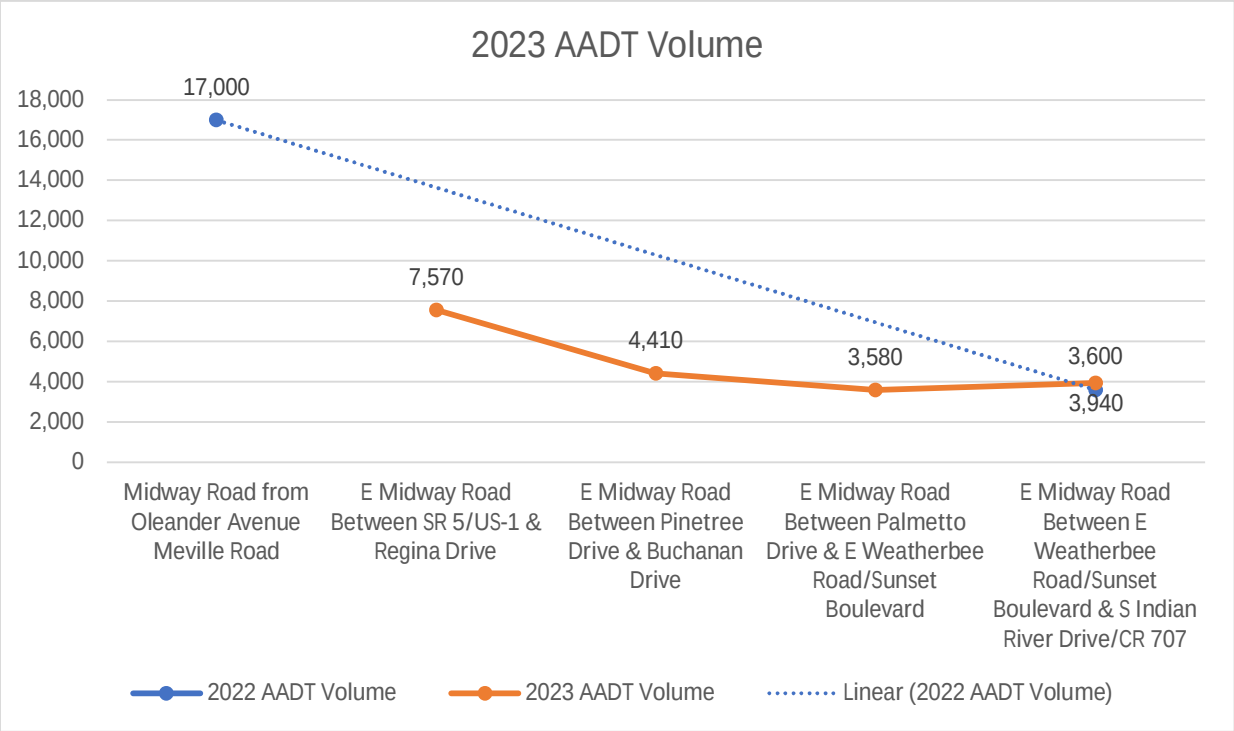


Figure 2: AADT by Location

## Context Classification

FDOT's context classification system describes the general characteristics of the land use, development patterns, and roadway connectivity along a roadway, providing cues as to the types of uses and user groups that will likely utilize the roadway. The context classification of a roadway will inform planning, design, construction, and maintenance approaches to ensure that state roadways are supportive of safe and comfortable travel for their anticipated users.

The study corridor has two (2) context classifications as follows:

- C4 – Urban General from US-1 to Buchanan Drive (approximately 0.6 miles)
    - C4 is described as a "Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to

residential neighborhoods immediately along the corridor or behind the uses fronting the roadway."

- C3R – Suburban Residential from Buchanan Drive to Indian River Drive (approximately 1.4 miles)
  - C3R is described as "Mostly residential uses within large blocks and a disconnected or sparse roadway network."

Different context classifications are associated with different design criteria as outlined in the FDOT Design Manual (FDM). Examples of design control associated with C3R context classification are listed in Table 2.

Table 2: FDM Design Controls for C3R Context Classification

| Design Control | Context Class C4 | Context Class C3R | East Midway Road |
|---|---|---|---|
| Allowable design speed range | 30-45 MPH | 35 – 55 MPH | 30 and 40 MPH |
| Minimum travel and auxiliary lane width | 25 – 35 MPH: 10 feet<br>40 – 45 MPH: 11 feet | | N/A |
| Two-way left turn lane | 25 – 35 MPH: 11 feet<br>40 – 45 MPH: 12 feet | | N/A |
| Median width | 25 – 35 MPH: 15.5 feet<br>40 – 45 MPH: 22 feet | 25 – 35 MPH: 22 feet<br>40 – 45 MPH: 22 feet | N/A |
| Standard sidewalk width | 6 feet (may be increased up to 8 feet when the demand is demonstrated) | | 6 feet [(1)] |

[(1)] From Buchanan Drive to Silver Oaks Drive

## Land Uses and Pedestrian and Bicycle Generators/Attractors

The area immediately surrounding the study corridor is comprised of retail (Walgreens and 7-Eleven at the US-1 intersection), residential units, and preserved land uses (east of Weatherbee Road/Sunset Boulevard). Residential uses are generally located between 750 feet east of US-1 and E Weatherbee Road/Sunset Boulevard. West of S Indian River Drive, there are FEC railroad tracks that run North-South, crossing E Midway Road.

## Traffic Signal Timing and Phasing

Available traffic signal timing and phasing plans for the signalized US-1 intersection are included in Appendix A. In addition, signal timing was confirmed during the field review.

## Planned FDOT Projects

The Florida Department of Transportation (FDOT) is planning to construct the Savannas Suntrail in St. Lucie County. This project is a 4.2-mile-long trail that will make the Savanna Recreational Area, located north of E Midway Road between Weatherbee Road and S Indian River Drive, more pedestrian friendly and easily accessible to the community within the surrounding area. Pedestrian improvements will be located throughout E Midway Road from just East of Wallace Street to Camp Ground Road (approximately

0.9 miles). Improvements are programmed for implementation through FM 439999-3-52-01 with construction funds allocated in FY 2025. The following Savannas Suntrail improvements are applicable to this study:

- Adding a shared use path for both pedestrians and bicyclists along the south side of W Midway Road between Buchanan Drive and Camp Ground Road.
- Adding a Rapid Rectangular Flashing Beacon (RRFB) for a new pedestrian crossing along the west leg of the E Midway Road and Camp Ground Road intersection.

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## CRASH DATA ANALYSIS

Crash data for the most recent complete five years (2018-2022) was obtained from Signal Four Analytics (S4A). Crash data was obtained for E Midway Road from US-1 to Indian River Drive. A summary of the crash analysis is provided below in Table 3. Additional information is included in Appendix B.

Table 3: Crash Data Summary (2018-2022)

| Crashes by Year | | *2018* | *2019* | *2020* | *2021* | *2022* | *Total* |
|---|---|---|---|---|---|---|---|
| | | 41 | 36 | 38 | 34 | 32 | 181 |
| Crash Severity | PDO | 33 | 17 | 23 | 19 | 20 | 112 |
| | Injury | 8 | 18 | 14 | 14 | 11 | 65 |
| | Fatality | 0 | 1 | 1 | 1 | 1 | 4 |
| Lighting Conditions | Dark-Lighted | 12 | 19 | 10 | 8 | 9 | 58 |
| | Daylight | 29 | 17 | 28 | 26 | 23 | 123 |
| Surface Conditions | Wet | 5 | 3 | 3 | 2 | 4 | 17 |
| | Dry | 35 | 33 | 35 | 32 | 28 | 163 |
| | Mud, Dirt, Gravel | 1 | 0 | 0 | 0 | 0 | 1 |
| Day of the Week | Monday | 6 | 6 | 11 | 4 | 2 | 29 |
| | Tuesday | 8 | 9 | 5 | 5 | 6 | 33 |
| | Wednesday | 5 | 5 | 7 | 3 | 6 | 26 |
| | Thursday | 10 | 3 | 3 | 7 | 3 | 26 |
| | Friday | 4 | 6 | 5 | 3 | 7 | 25 |
| | Saturday | 8 | 3 | 2 | 11 | 4 | 28 |
| | Sunday | 0 | 4 | 5 | 1 | 4 | 14 |
| Crash Types | Rear End | 19 | 10 | 13 | 14 | 11 | 67 |
| | Sideswipe | 9 | 2 | 7 | 2 | 2 | 22 |
| | Left Turn | 1 | 7 | 4 | 2 | 5 | 19 |
| | Off Road | 3 | 4 | 2 | 4 | 2 | 15 |
| | Angle | 0 | 5 | 4 | 1 | 4 | 14 |
| | Head On | 0 | 1 | 0 | 1 | 1 | 3 |
| | Pedestrian | 0 | 0 | 0 | 1 | 1 | 2 |
| | Right Turn | 0 | 0 | 0 | 2 | 0 | 2 |
| | Rollover | 4 | 1 | 0 | 0 | 0 | 5 |
| | Others | 5 | 6 | 8 | 7 | 6 | 32 |

- As shown in Table 3, a total of 181 crashes occurred within the influence area of the subject corridor during the five-year period.
- The frequency of crashes generally decreased each year with crashes in 2022 being approximately 22 percent (22%) less than in 2018.

- There were four (4) fatal crashes, 112 injury crashes, and 65 property damage only (PDO) crashes. Fatal and injury and fatal crashes accounted for 38% of total crashes.
- Fifty-eight crashes occurred during non-daylight (dark, dawn, and dusk) conditions. The percentage of non-daylight condition crashes (32%) is slightly higher than the districtwide average (30%).
- Seventeen of the 181 crashes (9%) occurred during wet roadway surface conditions. This percentage is less than the districtwide average of 18 percent.
- The most frequent crash types were rear end (67 crashes/37 percent), sideswipe (22 crashes/ 20 percent), and left turn (19 crashes/10 percent).
- There were 2 pedestrian crashes.

Crashes by Year

A total of 181 crashes occurred between January 2018 and December 2022.

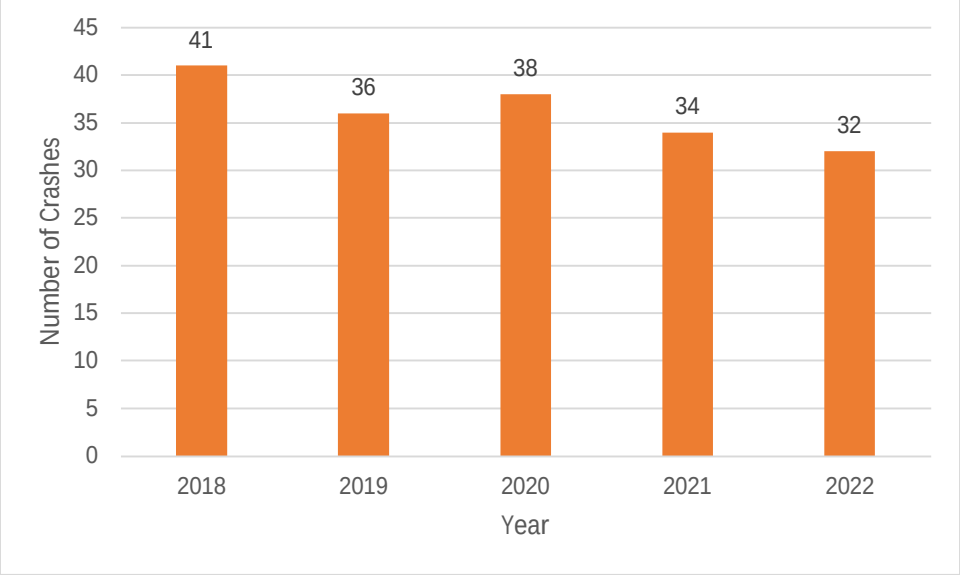


Figure 3: Crashes by Year

## Crashes by Severity

There were 4 fatal crashes, 58 injury crashes, 7 serious injury, and 112 non-injury/property damage only (PDO) crashes. Figure 4 shows the crash severity by mode.

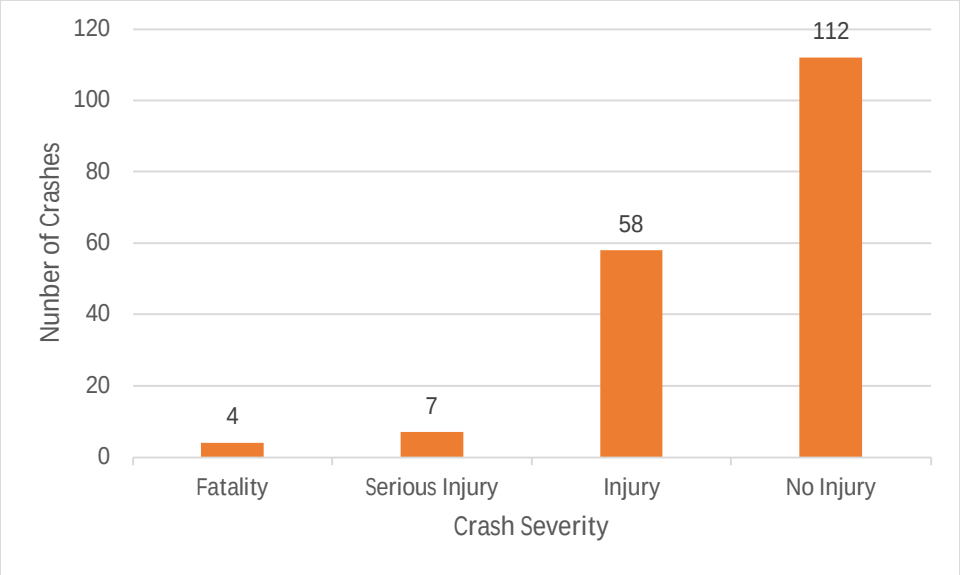


Figure 4: Crashes by Severity

## Crashes by Lighting Condition

As shown in Figure 5, 123 crashes occurred during daylight conditions and 58 crashes occurred during non-daylight conditions (dark, dawn, and dusk). The percentage of non-daylight condition crashes (32%) is slightly higher than the statewide average (30%).

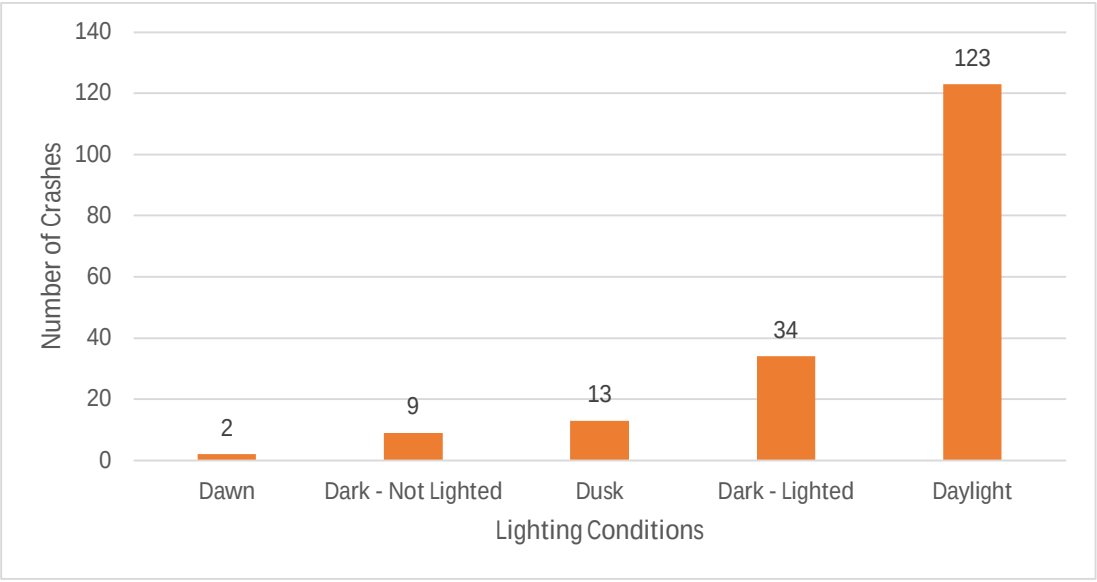


Figure 5: Crashes by Lighting Condition

## Crashes by Roadway Surface Condition

As shown in Figure 6, 163 crashes (90%) occurred during dry road surface conditions. There were 17 crashes (9%) that occurred during wet roadway surface conditions. This percentage is lower than the statewide average of 18 percent.

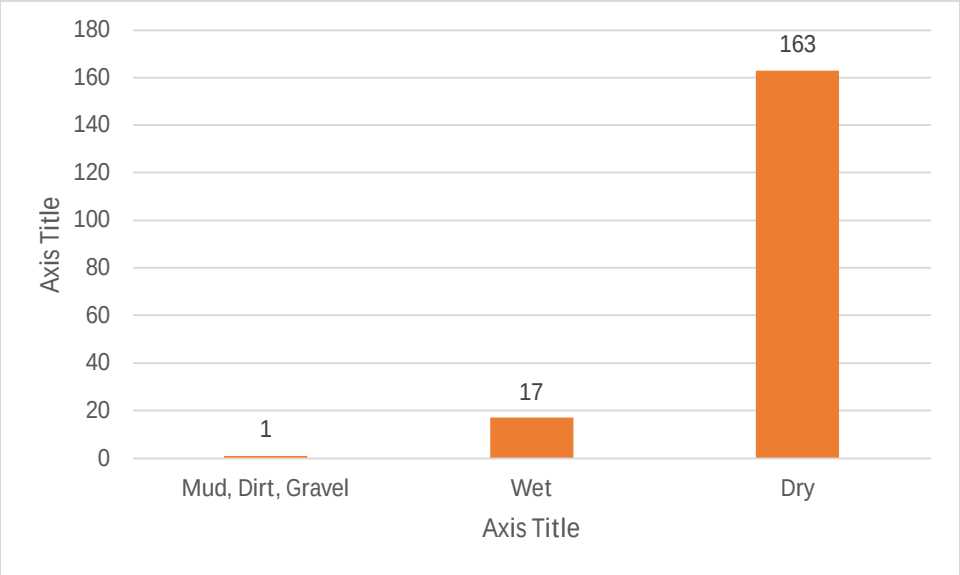


Figure 6: Crashes by Road Surface Condition

## Crashes by Type

As shown in Figure 7, the three (3) leading crash types are rear end (67 crashes/37 percent), sideswipe (22 crashes/12 percent), and Left Turn (19 crashes/10 percent).

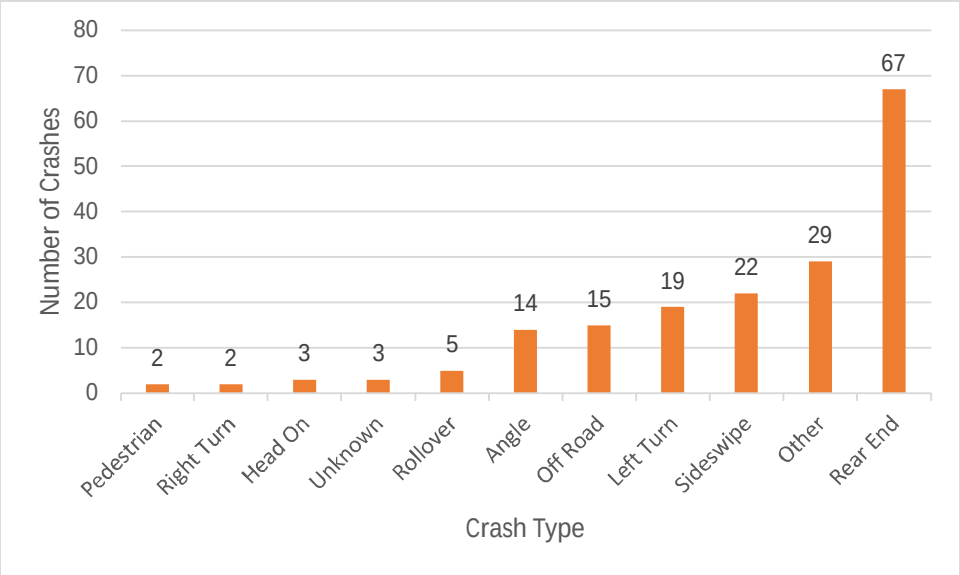


Figure 7: Crashes by Type

## Crashes by Location

As shown in Figure 8, the majority of the rear end crashes were not coded to an intersection and therefore may have occurred at a driveway. Additionally, 26 of the 67 rear end crashes (39 percent) occurred at the US-1 intersection. A possible reason for a high incidence of rear-end is the tendency of drivers to speed within the segment and not anticipating a vehicle ahead slowing down due to a driveway or horizontal curve. Additionally, sideswipe crashes may be due to a vehicle attempting to pass another vehicle using the opposing lane and switching back to the original lane when an opposing vehicle approaches.

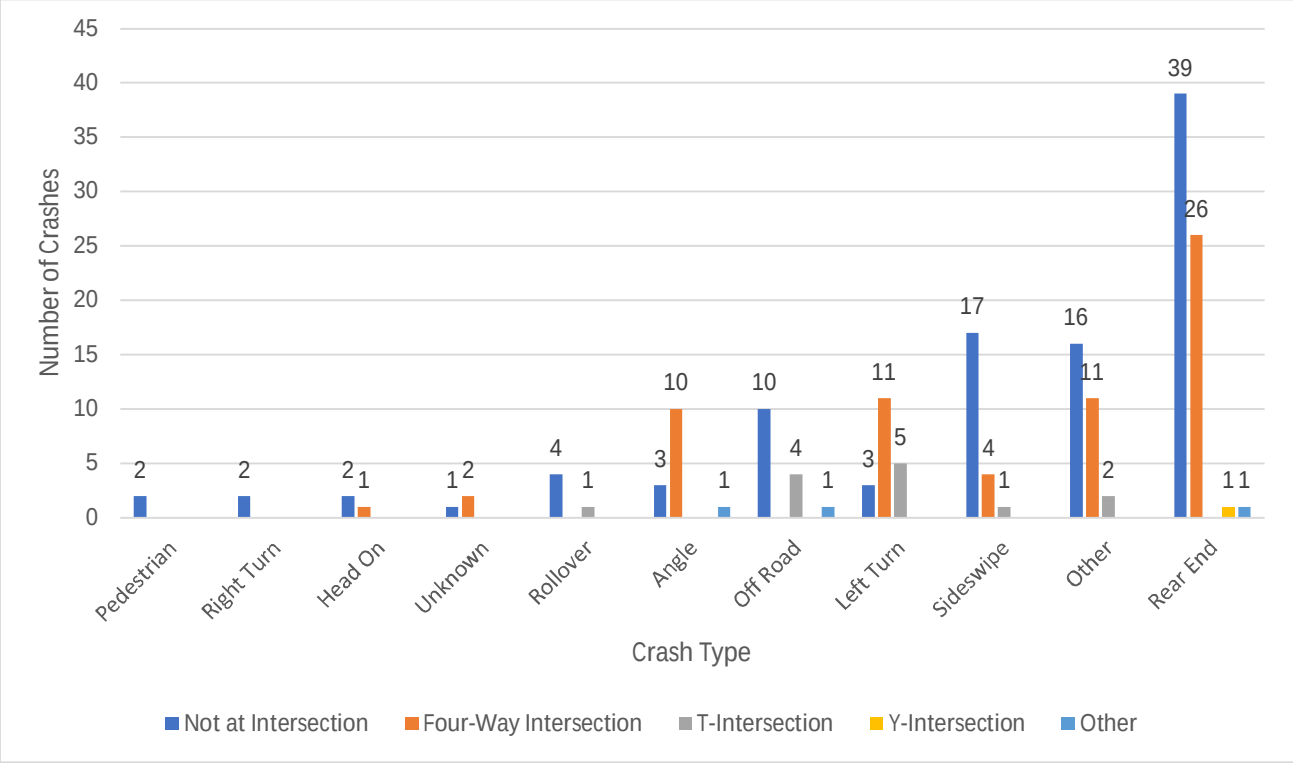


Figure 8: Crashes by Location

## TRAFFIC DATA

A.M. peak period (7:00 to 9:00 A.M.) and P.M. peak period (4:00 to 6:00 P.M.) turning movement counts, pedestrian counts, and bicycle counts were collected on March 21, 2023 (Tuesday) at the following intersections:

- US-1 & E Midway Road
- E Weatherbee Road/Sunset Boulevard & E Midway Road
- S Indian River Drive/CR 707 & E Midway Road

Additionally, 24-hour speed and volume data were also collected on March 21, 2023 (Tuesday), by direction (eastbound and westbound) along E Midway Road at the following locations:

- Between US-1 and Regina Drive
- Between Regina Drive and Palmetto Drive
- Between Palmetto Drive and E Weatherbee Road
- Between E Weatherbee Road and Indian River Drive

### *Turning Movement Counts*

Table 4 summarizes the intersection turning movement volumes at each of the three (3) count locations. This data is included in Appendix C.

Table 4: Peak Hour Turning Volumes

| US-1 & E Midway Road | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Peak | NBL | NBT | NBR | SBL | SBT | SBR | EBL | EBT | EBR | WBL | WBT | WBR |
| A.M. | 238 | 977 | 58 | 78 | 806 | 140 | 227 | 170 | 357 | 107 | 210 | 92 |
| P.M. | 1 | 354 | 974 | 107 | 161 | 1187 | 262 | 193 | 265 | 329 | 154 | 220 |
| E Weatherbee Road/Sunset Boulevard & E Midway Road | | | | | | | | | | | | |
| A.M. | 41 | 57 | 39 | 45 | 13 | 1 | 2 | 138 | 23 | 8 | 94 | 42 |
| P.M. | 2 | 31 | 27 | 19 | 55 | 49 | 7 | 1 | 120 | 74 | 53 | 196 |
| CR 707/S Indian River Drive & E Midway Road | | | | | | | | | | | | |
| A.M. | 73 | 138 | 0 | 0 | 99 | 57 | 95 | 0 | 120 | 0 | 0 | 0 |
| P.M. | 141 | 138 | 0 | 0 | 229 | 160 | 64 | 0 | 105 | 0 | 0 | 0 |

# East Midway Road Corridor Study

## Between US-1 and Indian River Drive

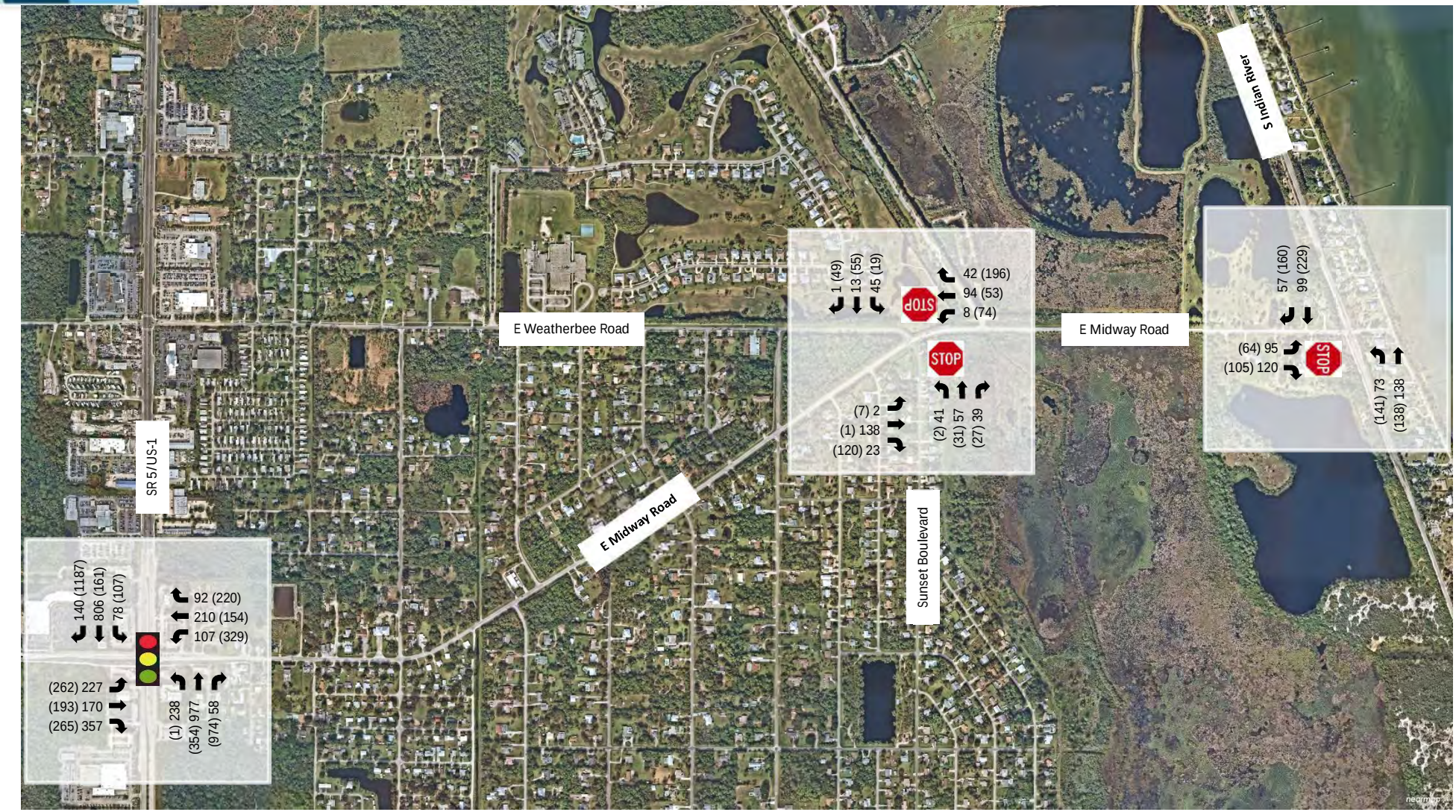


Figure 9: Turning Movement Counts

## CAPACITY ANALYSIS

The study area intersections operating conditions were analyzed for existing conditions) using Trafficware's *SYNCHRO 11* software, which applies methodologies outlined in the Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM), 2000/2010/6th Editions. Synchro worksheets for the study intersections are included in Appendix C.

A summary of the intersection capacity analysis results for the A.M. and P.M. peak hours is presented in Tables 5 and 6, respectively.

Table 5: A.M. Peak Hour Intersection Capacity Analysis

| Intersection | Traffic Control | Overall LOS/Delay | Approach LOS | | | |
|---|---|---|---|---|---|---|
| | | | EB | WB | NB | SB |
| US-1 & E Midway Road | Signalized | E/59.6 | F/174.8 | E/60.3 | C/23.2 | B/19.8 |
| Sunset Boulevard/E Weatherbee Road & E Midway Road | Two-Way Stop Control | (1)/4.4 | (3) | (3) | B/10.9 | B/11.0 |
| S Indian River Drive/CR 707 & E Midway Road | One-Way Stop Control | (1)/5.3 | B/11.8 | (2) | (3) | (3) |

Notes: (1) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.
(2) Approach does not exist.
(3) Approach operates under free-flow conditions. LOS is not defined.

Table 6: P.M. Peak Hour Intersection Capacity Analysis

| Intersection | Traffic Control | Overall LOS/Delay | Approach LOS | | | |
|---|---|---|---|---|---|---|
| | | | EB | WB | NB | SB |
| US-1 & E Midway Road | Signalized | D/50.6 | F/137.0 | E/61.5 | C/26.9 | B/26.7 |
| Sunset Boulevard/E Weatherbee Road & E Midway Road | Two-Way Stop Control | (1)/4.0 | (3) | (3) | B/12.1 | B/13.3 |
| S Indian River Drive/CR 707 & E Midway Road | One-Way Stop Control | (1)/4.3 | B/13.8 | (2) | (3) | (3) |

Notes: (1) Overall intersection LOS is not defined, as intersection operates under stop-control conditions.
(2) Approach does not exist.
(3) Approach operates under free-flow conditions. LOS is not defined.

## SPEED DATA ANALYSIS

The 24-hour speed data was collected by direction (eastbound and westbound) on Tuesday March 21, 2023 along E Midway Road at the following four (4) locations:

- Between US-1 and Regina Drive
- Between Regina Drive and Palmetto Drive
- Between Palmetto Drive and E Weatherbee Road
- Between E Weatherbee Road and Indian River Drive

A summary of the speed data is provided in Table 7 and detailed speed data is included in Appendix C. The posted speed limit on E Midway Road between US-1 and Regina Drive is 30 mph and the posted speed limit between Regina Drive and S Indian River Drive is 40 MPH. The 50$^{th}$ percentile speeds, 85$^{th}$ percentile speed, and 10-MPH pace per segment is shown in Table 7. As shown in Table 7 both the 50$^{th}$ percentile and 85$^{th}$ percentile speeds for all segments are greater than the posted speed limit.

Table 7: Speed Data Summary

| Direction | Between US-1 and Regina Drive | Between Regina Drive and Palmetto Drive | Between Palmetto Drive and W Weatherbee Road/Sunset Boulevard | Between W Weatherbee Road/Sunset Boulevard and S Indian River Drive |
|---|---|---|---|---|
| Posted Speed Limit | 30 MPH | 40 MPH | 40 MPH | 40 MPH |
| 50$^{th}$ Percentile Speed | | | | |
| Eastbound | 39 | 43 | 42 | 46 |
| Westbound | 39 | 44 | 43 | 47 |
| 85$^{th}$ Percentile Speed | | | | |
| Eastbound | 44 (+14) | 48 (+8) | 48 (+8) | 52 (+12) |
| Westbound | 43 (+13) | 49 (+9) | 49 (+9) | 52 (+12) |
| 10-MPH Pace | | | | |
| Eastbound | 34-43 | 39-48 | 39-48 | 41-50 |
| Westbound | 34-43 | 39-48 | 39-48 | 42-51 |

# FIELD REVIEWS

Field reviews were conducted on Thursday June 15, 2023. Attendees included Peter Buchwald (St. Lucie TPO), Ian Rairden (Kimley-Horn), and Bud Wild (corridor resident). The following field reviews were conducted:

- Afternoon (from 3:30 pm to 6:00 pm)
  - Drive corridor with all attendees
  - Walking audit at the following locations
    - Regina Drive (horizontal curve)
    - Weatherbee Road/Sunset Boulevard
    - Camp Ground Road
    - S Indian River Drive
  - General observations of pedestrian/bicycle activity
  - Sidewalk and bike lane locations and conditions
  - General observations of speeding vehicles and driver behavior
    - No speed data was collected during field review
  - Traffic operations observations at US-1 & E Midway Road intersection
    - Documented signal timing, queues, and cycle failures
- Nighttime (from 8:00 pm to 9:00 pm)
  - Drive the corridor to perform a qualitative assessment of lighting levels
  - Collect light meter readings
  - General observations of pedestrian/bicycle activity
  - General observations of speeding vehicles and driver behavior
    - No speed data was collected during field review

The field review map handout is included as Appendix D.

*LIGHT METER READINGS*

A sample of light meter readings taken along the study corridor and the results are summarized in Appendix E. Light meter readings ranged from 0.01 foot-candles (fc) (throughout the majority of the corridor) to 0.37 fc (on Pinetree Drive). The most frequent light meter readings were between 0.01 fc and 0.02 fc. Note that the majority of the road is residential. Additionally, as previously noted the percentage of non-daylight condition crashes (32%) is slightly higher than the statewide average (30%).

The summary of issues identified, and preliminary recommendations are documented in the next chapter.

# COUNTERMEASURE IDENTIFICATION

This section summarizes the issues identified through desktop analysis and field reviews and preliminary countermeasures to address the issues. Both location specific and corridor-wide countermeasures were identified using safety best practices such as systemic improvement implementation opportunities and proven safety countermeasures. The proposed countermeasures were categorized based on anticipated implementation as noted below.

- Maintenance: Implementation through maintenance work orders (local agency) on a short timeframe and at a relatively low cost.
- Near term: Implementation through a push button contract. Further studies and/or coordination with local agency may be required.
- Long term: Implementation through a separate capital project.
- Already Programmed Project: Implementation through incorporation into an upcoming programmed project. May require an additional study prior for inclusion in the other project.

The issues and proposed countermeasures are summarized into one-page briefing sheets in the next several pages. Overall, there are four (4) corridor-wide (impacting multiple locations) issues/countermeasures and 13 location specific issues/countermeasures. Furthermore, three (3) issues are primarily pedestrian focused, and one (1) issue is primarily bicycle focused. CMF Summary sheets are provided in Appendix F.

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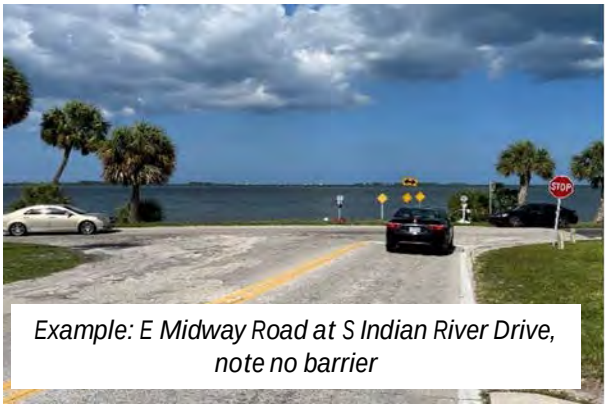
| | |
|---|---|
| *Issue 1* | Crashes at T-intersection |
| *Location* | E Midway Road at S Indian River Drive |

*Issue Description*:

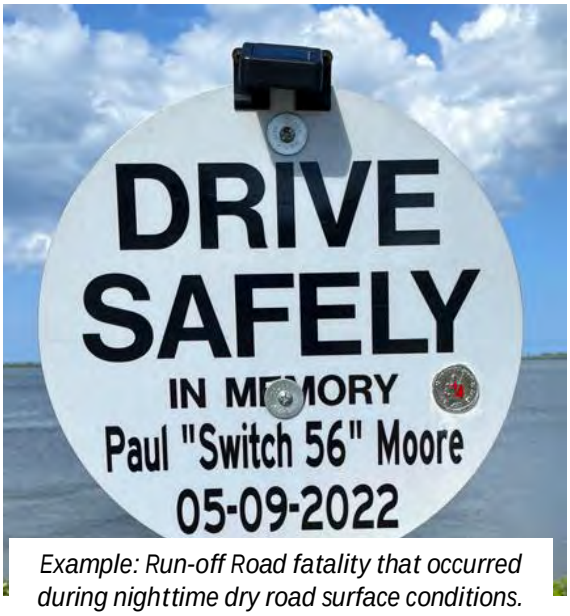
- Limited safety restrictions on eastbound approach.




*Example: E Midway Road at S Indian River Drive, note no barrier*


*Example: Three (3) OM1-1 yellow reflectors warning signs*


*Example: Run-off Road fatality that occurred during nighttime dry road surface conditions.*




*Example: Run-off Road fatality that occurred during nighttime dry road surface conditions.*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Determine the feasibility of installing Fitch Barriers OR crash cushions* | *Near Term* |
| • *Add a T-intersection sign (W2-4) with a supplemental stop ahead (W3-1)* | *Maintenance* |
| • *Add a T-intersection sign (W2-4) with a supplemental distance sign (W16-2aP)* | *Maintenance* |
| • *Replace existing STOP sign with flashing LED STOP sign* | *Maintenance* |

*Crash History (if applicable): 6 off-road crashes (2 fatalities)*

*Crash Modification Factor (if applicable): 0.31 (CMF ID 55 for crash cushions at fixed roadside features) and 0.585 (CMF ID 6602 for replacing a standard stop sign with flashing LED stop sign)*

| | |
|---|---|
| *Issue 2* | Cracked and uneven roadway |
| *Location* | E Midway Road at S Indian River Drive and throughout the segment |

*Issue Description*:

- Cracked and uneven roadway

*Example: Looking north on S Indian River Drive at E Midway Road*

*Example: Looking south on S Indian River Drive at E Midway Road*

*Example: Looking west on E Midway Road at S Indian River Drive*

*Example: Cracked pavement at E Midway Road/ E Weatherbee Road/ Sunset Boulevard*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Mill and resurface roadway* | *Maintenance* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

| | |
|---|---|
| *Issue 3* | Railroad Marking not up to current standards |
| *Location* | FEC crossing at E Midway Road |

*Issue Description*:

- Railroad markings/dynamic envelope not up to current standards (2022/2023 FDOT Standards/Florida Design Manual (FDM))

*Example: E Midway Road at FEC, looking east*

*Example: E Midway Road at FEC, looking west*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Re-stripe railroad approach striping to current standards* | *Maintenance* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*:

| | |
|---|---|
| *Issue 4* | No shoulder/recovery area provided |
| *Location* | Between E Weatherbee Road/Sunset Boulevard and S Indian River Drive |

*Issue Description*:

- Typical section does not provide shoulder on either side of the roadway

*Example: Looking east at Camp Ground Road*

*Example: Looking west at Camp Ground Road*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Add a shoulder/recovery area throughout the segment* | *Long Term* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*:

| | |
|---|---|
| *Issue 5* | Poor visibility/sight distance on E Weatherbee Road/Sunset Boulevard approaches to E Midway Road |
| *Location* | E Midway Road & E Weatherbee Road/Sunset Boulevard |

*Issue Description*:

- Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature

*Example: Looking west on E Midway Road*

*Example: Looking southeast at Sunset Boulevard*

*Example: Looking north on E Weatherbee Road*


*Example: Looking east on E Midway Road*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Install an advisory Speed Limit (W3-5) sign OR a Right Turn Arrow with a supplemental advisory Speed (W13-1P) sign on E Weatherbee Road* | *Maintenance* |
| • *Install Reduced Speed Ahead (R2-5A) sign on E Weatherbee Road* | *Maintenance* |
| • *Replace static diamond-shaped horizontal alignment (W1-2) signs with LED diamond-shaped horizontal alignment (W1-2) signs* | *Maintenance* |
| • *Replace static chevron alignment (W1-8) signs with LED chevron alignment (W1-8) signs* | *Maintenance* |
| • *Determine feasibility of constructing a roundabout* | *Long Term* |
| • *Determine feasibility to straighten Weatherbee Road (east to west) and connect to E Midway Road such that Weatherbee Road to E Midway Road east of the horizontal curve becomes main movement and E Midway Road west of Wetherbee Road becomes minor approach* | *Long Term* |

*Crash History (if applicable): 6 angle crashes*

*Crash Modification Factor (if applicable): 0.585 (CMF ID 6602 for Flashing LED STOP signs) and 0.488 (CMF ID 4870 for Conversion of intersection to roundabout)*

*Notes*: Weatherbee Elementary School located along Weatherbee Road west of intersection; therefore, consideration should be given to the increase in traffic in front of school if roadway is realigned.

| | |
|---|---|
| *Issue 5 Continued* | Poor visibility/sight distance on E Weatherbee Road/Sunset Boulevard approaches to E Midway Road |
| *Location* | E Midway Road & E Weatherbee Road/Sunset Boulevard |

*Issue Description*:

- Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature

*Roundabout Concepts:*

- *Preliminary layouts for the roundabout were prepared to determine if the roundabout could be implemented in the current right-of-way. Two (2) layouts were considered:*
  - *(1) Construct in the current location as the existing intersection (see Figure 10)*
  - *(2) Construct an oval roundabout in the right-of-way just north of the existing intersection and re-align approaches*

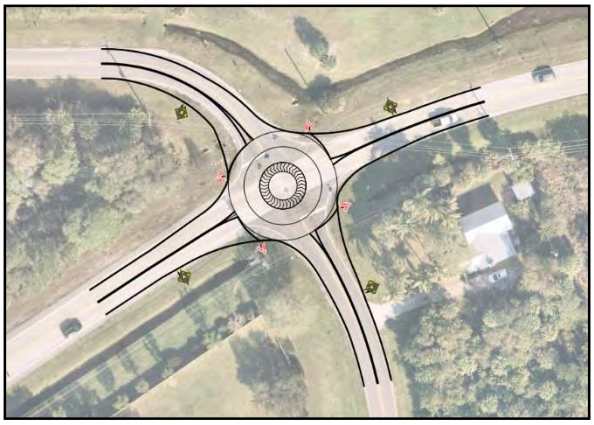


Figure 10: Single Lane Roundabout Current Location

Figure 11: Single Lane Roundabout shifted North

| | |
|---|---|
| *Issue 6* | Sidewalk connection missing |
| *Location* | E Midway Road & Silver Oak Drive |

*Issue Description*:

- Sidewalk on the southeast corner does not connect to any existing sidewalk.
- Faded pedestrian crosswalk on Silver Oak Drive leg

*Example: Faded Crosswalk*

*Example: Missing sidewalk connection*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Provide additional Sidewalk/Shared Use Path along E Midway Road* | *Already Programmed Project* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*: *Improvements will be provided through the Savannas Preserve State Park GAP Project (FM 439999-3-52-01)*

| | |
|---|---|
| *Issue 7* | Sidewalk connection missing |
| *Location* | E Midway Road & Buchanan Drive |

*Issue Description*:

- Sidewalk on the south end of Buchanan Drive has no connection to any roads.
- Faded pedestrian crosswalk on Buchanan Drive.


*Example: No sidewalk connection on the south end of Buchanan Drive*

*Example: Faded pedestrian crosswalk on Buchanan Drive*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Provide additional Sidewalk/Shared Use Path along E Midway Road* | *Already Programmed Project* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*: *Improvements will be provided through the Savannas Preserve State Park GAP Project (FM 439999-3-52-01)*

| | |
|---|---|
| *Issue 8* | Missing speed limit sign |
| *Location* | E Midway Road east of SR 5/US-1 |

*Issue Description*:

- No speed limit sign is placed in the eastbound direction before the 35-mph advisory speed limit sign, east of S 2nd Street.

*Example: Note the advisory speed limit sign before the curve near the fire station*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Install speed limit sign* | *Maintenance* |

*Crash History (if applicable): N/A*

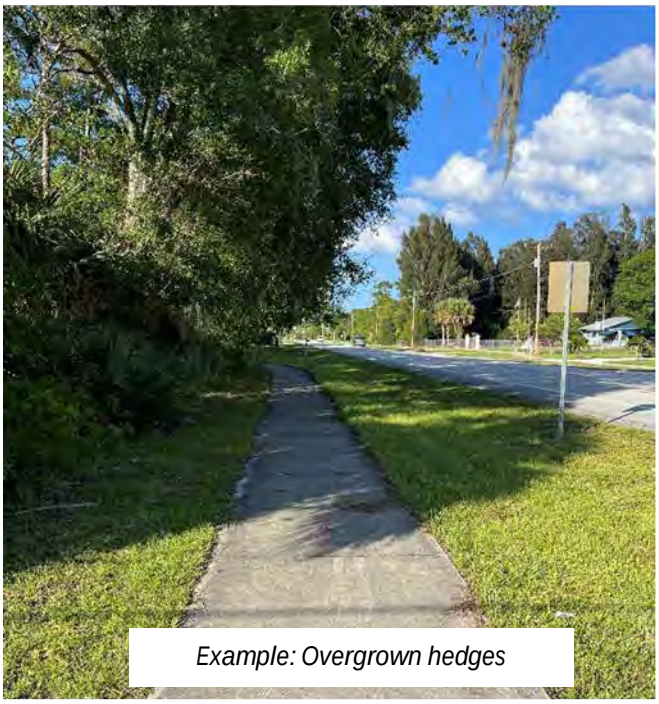
*Crash Modification Factor (if applicable): Not available*

*Notes*: Coordinate with St. Lucie County to determine appropriate posted speed limit for this sections, 30-mph or 40-mph

| | |
|---|---|
| *Issue 9* | Effective width of pedestrian facilities impacted by overgrown landscaping |
| *Location* | Between Buchanan Drive to Silver Oak Drive |

*Issue Description*:

- Vegetation blocks sidewalks along study corridor



*Example: Overgrown hedges*

*Example: Overgrown hedges and ingrown grass at the sidewalk*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Coordinate with private land owners to trim landscaping to improve effective width of sidewalk* | *Maintenance* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*:

| | |
|---|---|
| *Issue 10* | Faded bike lane markings |
| *Location* | Corridor-wide |

*Issue Description*:

- Faded bike lane markings and missing bike lane signs

*Example: Faded bike lane markings*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Re-Stripe bike lane markings* | *Near Term* |
| • *Add and replace bike lane signs* | *Maintenance* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*:

| *Issue 11* | Alerting drivers of Emergency Vehicles |
|---|---|
| *Location* | Between Germani Drive and Regina Drive |

*Issue Description*:

- No signage alerting westbound traffic that they are approaching an emergency vehicles driveway/fire station.


*Example: An Emergency Vehicle sign posted in the eastbound direction*

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Install an Emergency Vehicle sign (W11-8) with supplemental ahead sign (W16-9P) OR distance sign (W16-2aP).* | *Maintenance* |
| • *Consider installation of Emergency Vehicle Exiting When Flashing lighted traffic sign (TS50-S12DB)* | *Near Term* |

*Crash History (if applicable): N/A*

*Crash Modification Factor (if applicable): Not available*

*Notes*:

| | |
|---|---|
| *Issue 12* | Speeding |
| *Location* | Corridor-wide |
| *Issue Description*:<br>• Speeding throughout the segment | |
| | |

| *Suggestions for Improvements*: | *Implementation*: |
|---|---|
| • *Install missing speed limit sign (Issue #8)* | *Maintenance* |
| • *Replace static chevron alignment (W1-8) signs with LED chevron alignment (W1-8) signs (Issue #5)* | *Maintenance* |
| • *Implement speed feedback signs* | *Near Term* |
| • *Coordinate with local agency to add optical speed bars* | *Near Term* |
| • *Coordination with the St. Lucie County Sheriff's Office for speed enforcement* | *Near Term* |
| • *Consider increasing lane width markings (to 8-inches) to visually reduce lane width* | *Near Term* |
| • *Implement a double yellow center line with new RPMs* | *Near Term* |
| • *Implement in-pavement chevron markings on approaches to horizontal curves* | *Near Term* |
| • *Determine feasibility of constructing a roundabout* | *Long Term* |
| *Crash History (if applicable): N/A* | |
| *Crash Modification Factor (if applicable): 0.585 (CMF ID 6885 for installing dynamic speed feedback sign) and 0.488 (CMF ID 4870 for Conversion of intersection to roundabout)* | |
| *Notes*: | |

# COUNTERMEASURE SUMMARY

This section summarizes the identified issues and suggested improvements by implementation category. The implementation categories include Maintenance, Near-term, Long-Term, and Already Programmed Projects recommendations. It should be noted that there could be more than one suggested improvement for an identified issue and those may fall into different implementation categories.

The follow up studies that have been completed and/or planned are also identified in the tables below.

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# East Midway Road Corridor Study
Between US-1 and Indian River Drive

Table 8: Maintenance Recommendations

| Issue Number | Location | Issue | Suggestion | CMF | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| 1 | E Midway Road at S Indian River Drive | Limited safety restrictions on eastbound approach. | *Add a T-intersection sign (W2-4) with a supplemental stop ahead (W3-1)* | - | $1,000 |
| 1 | E Midway Road at S Indian River Drive | Limited safety restrictions on eastbound approach. | *Add a T-intersection sign (W2-4) with a supplemental distance sign (W16-2aP)* | - | $1,000 |
| 1 | E Midway Road at S Indian River Drive | Limited safety restrictions on eastbound approach. | *Replace existing STOP sign with flashing LED STOP sign* | 0.585 | $12,600 |
| 3 | FEC crossing at E Midway Road | Railroad markings/dynamic envelope not up to current standards | *Re-stripe railroad approach striping to current standards* | - | $25,000 |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Install an advisory Speed Limit (W3-5) sign OR a Right Turn Arrow with a supplemental advisory Speed (W13-1P) sign on E Weatherbee Road* | - | $1,000 |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Install Reduced Speed Ahead (R2-5A) sign on E Weatherbee Road* | - | $600 |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Replace static diamond-shaped horizontal alignment (W1-2) signs with LED diamond-shaped horizontal alignment (W1-2) signs* | - | $13,000 |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Replace static chevron alignment (W1-8) signs with LED chevron alignment (W1-8) signs* | - | $100,000 |

# East Midway Road Corridor Study
## Between US-1 and Indian River Drive

Table 9 Continued : Maintenance Recommendations

| | | | | | |
|---|---|---|---|---|---|
| 8 | E Midway Road east of US-1 | No speed limit sign is placed in the eastbound direction before the 35-mph advisory speed limit sign, east of S 2nd Street. | *Install speed limit sign* | - | $600 |
| 9 | Between Buchanan Drive to Silver Oak Drive | Vegetation blocks sidewalks along study corridor | *Coordinate with private land owners to trim landscaping to improve effective width of sidewalk* | - | N/A |
| 10 | Corridor-wide | Faded bike lane markings and missing bike lane signs | *Add and replace bike lane signs* | - | $6,400 |
| 11 | Between Germani Drive and Regina Drive | No signage alerting westbound traffic that they are approaching an emergency vehicles driveway/fire station. | *Install an Emergency Vehicle sign (W11-8) with supplemental ahead sign (W16-9P) OR distance sign (W16-2aP).* | - | $1,000 |
| 12 | Corridor-wide | Speeding | *Install missing speed limit sign (Issue #8)* | - | $600 |
| 12 | Corridor-wide | Speeding | *Replace static chevron alignment (W1-8) signs with LED chevron alignment (W1-8) signs (Issue #5)* | - | $100,000 |

Table 10: Near-Term Recommendations

| Issue Number | Location | Issue | Suggestion | CMF | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| 1 | E Midway Road at S Indian River Drive | Limited safety restrictions on eastbound approach. | *Determine the feasibility of installing Fitch Barriers OR crash cushions* | 0.31 | TBD |
| 11 | Between Germani Drive and Regina Drive | No signage alerting westbound traffic that they are approaching an emergency vehicles driveway/fire station. | *Consider installation of Emergency Vehicle Exiting When Flashing lighted traffic sign (TS50-S12DB)* | - | $8,400 |
| 12 | Corridor-wide | Speeding | *Implement speed feedback signs* | - | $70,000 |
| 12 | Corridor-wide | Speeding | *Coordinate with local agency to add optical speed bars* | - | $500 |
| 12 | Corridor-wide | Speeding | *Coordination with the St. Lucie County Sheriff's Office for speed enforcement* | - | N/A |
| 12 | Corridor-wide | Speeding | *Consider increasing lane width markings (to 8-inches) to visually reduce lane width* | - | $79,000 |
| 12 | Corridor-wide | Speeding | *Implement a double yellow center line with new RPMs* | - | $60,000 |
| 12 | Corridor-wide | Speeding | *Implement in-pavement chevron markings on approaches to horizontal curves* | - | $1,400 |

# East Midway Road Corridor Study
Between US-1 and Indian River Drive

Table 11: Long Term Recommendations

| Issue Number | Location | Issue | Suggestion | CMF | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| 2 | E Midway Road at S Indian River Drive and throughout the segment | Cracked and uneven roadway | *Mill and resurface roadway* | - | $404,000 |
| 4 | Between E Weatherbee Road/Sunset Boulevard and S Indian River Drive | Typical section does not provide shoulder on either side of the roadway | *Add a shoulder/recovery area throughout the segment* | - | $176,000 |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Determine feasibility of constructing a roundabout* | 0.488 | $1.5 million |
| 5 | E Midway Road & E Weatherbee Road/Sunset Boulevard | Limited sight distance at E Weatherbee Road and Sunset Boulevard approaches to E Midway Road due to horizontal roadway curvature | *Determine feasibility to straighten Weatherbee Road (east to west) and connect to E Midway Road such that Weatherbee Road to E Midway Road east of the horizontal curve becomes main movement and E Midway Road west of Wetherbee Road becomes minor approach* | - | TBD |
| 12 | Corridor-wide | Speeding | *Determine feasibility of constructing a roundabout (Issue # 5)* | 0.488 | $1.5 million |

Table 12: Recommendations for Implementation through Other Programmed Projects

| Issue Number | Location | Issue | Suggestion | CMF | Opinion of Probable Construction Cost |
|---|---|---|---|---|---|
| 6 | E Midway Road & Silver Oak Drive | Sidewalk on the southeast corner does not connect to any existing sidewalk. And faded pedestrian crosswalk on Silver Oak Drive leg. | *Provide additional Sidewalk/Shared Use Path along E Midway Road* | - | N/A |
| 7 | E Midway Road & Buchanan Drive | Sidewalk on the south end of Buchanan Drive has no connection to any roads. And faded pedestrian crosswalk on Buchanan Drive. | *Provide additional Sidewalk/Shared Use Path along E Midway Road* | - | N/A |
| 10 | Corridor-wide | Faded bike lane markings and missing bike lane signs | *Add and replace bike lane signs (From Wallace Street to Camp Ground Road)* | - | N/A |

St. Lucie Transportation Planning Organization

Coco Vista Centre
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# AGENDA ITEM SUMMARY

| | |
|---|---|
| Board/Committee: | Technical Advisory Committee (TAC) |
| Meeting Date: | August 22, 2023 |
| Item Number: | 6b |
| Item Title: | Sustainable Transportation Plan |
| Item Origination: | Unified Planning Work Program (UPWP) |
| UPWP Reference: | Task 3.10 – Automated/Connected/Electric/ Shared-Use (ACES) Vehicles Planning |
| Requested Action: | Recommend acceptance of the draft Sustainable Transportation Plan, recommend acceptance with conditions, or do not recommend acceptance. |
| Staff Recommendation: | Because the Sustainable Transportation Plan would support the development of ACES Network Mobility Hubs as identified in the SmartMoves 2045 Long Range Transportation Plan, it is recommended that the draft Sustainable Transportation Plan be recommended for acceptance by the TPO Board. |

Attachments

- Staff Report
- Draft Sustainable Transportation Plan

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# MEMORANDUM

TO: Technical Advisory Committee (TAC)

THROUGH: Peter Buchwald
Executive Director

FROM: Marceia Lathou
Transit/ACES Program Manager

DATE: August 14, 2023

SUBJECT: Sustainable Transportation Plan

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## BACKGROUND

As part of its sustainable transportation strategy, the St. Lucie TPO has initiated various plans and studies related to ACES (Automated/Connected/Electric/Shared-Use) vehicles. ACES vehicles are expected to make travel safer and more efficient, but most importantly, greatly improve mobility, particularly for vulnerable and underserved populations.

The 2045 SmartMoves Long Range Transportation Plan (LRTP) recommends the development of an ACES Network at interchanges along I-95. The ACES Network is the foundation of ACES because these are Mobility Hubs consisting of park-and-ride lots incorporating Electric Vehicle (EV) charging stations and connecting to transit. The TPO's FY 2022/23 – FY 2023/24 Unified Planning Work Program (UPWP) includes a Sustainable Transportation Plan to further develop the ACES Network. The Sustainable Transportation Plan is being developed by The Corradino Group, one of the TPO's general planning consultants.

## ANALYSIS

The draft Sustainable Transportation Plan resulted in ten areas defined as opportunity areas for ACES Mobility Hubs. These areas are prioritized in the table and on the map in the Implementation Section of the attached draft

Plan. A representative from The Corradino Group will describe typical projects within the highest priority areas and the next steps for implementing these projects.

## RECOMMENDATION

Because the Sustainable Transportation Plan would support the development of ACES Network Mobility Hubs as identified in the SmartMoves 2045 LRTP, it is recommended that the draft Sustainable Transportation Plan be recommended for acceptance by the TPO Board.


# St. Lucie
# Transportation Planning Organization

## Automated Connected Electric and Shared-Use
# Sustainable Transportation Plan
## July 2023

THE CORRADINO GROUP
Engineers • Planners • Program Managers • Environmental Scientists
Helping communities since 1970

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# Table of Contents

# Introduction

The St. Lucie TPO continues to be at the forefront of planning for efficient and sustainable mobility services. Mobility strategies of all transportation modes, technology, land use and the economy will need to work in coordination to form a sustainable mobility network that will have low impact on the environment, and will include walking, cycling, transit, carpooling, car sharing, and low carbon footprint vehicles that are Automated, Connected, Electric and Shared-use (ACES).

The 2045 Smart Moves Long Range Transportation Plan (2021) called for the development of an ACES vehicle network along major highways that considers infrastructure improvements that more efficiently and sustainably use existing roadway capacity as an alternative for building more capacity. The TPO has also developed and updated in 2023 its Electric Vehicle Charging Station Plan. The purpose of this plan is to identify the location of public charging stations for electric vehicles that allow for rapid charging and to assess the need for additional stations.

The TPO now will continue to leverage and unify prior, current, and planned efforts to further develop the Smart Moves LRTP ACES plan by identifying the most immediately relevant infrastructure needs through the St. Lucie TPO Sustainable Transportation Plan.

The most readily implementable infrastructure from the perspective of public need, technology acceptance, investor readiness, and public funding potential is Electric Vehicle Supply Equipment (EVSE), commonly called charging stations. There are three types of charging stations: Level 1, Level2 and Direct-Current (DC) Fast Charging, with Level 2 focused more on parking places, and Level 3 focused more on pull-through stations. Leveraging EVSE infrastructure with transit and micro mobility networks, a critical infrastructure component will become Mobility Hubs that bring all of the transportation modes and technologies together, allowing coordinated transfers and introducing greater numbers of single-occupant vehicle drivers to the new mobility. The focus of the Sustainable Transportation Plan is on building an ACES enabling network of Mobility Hubs that unite ACES infrastructure into a mobility network that is ready for continued future adaption to ACES vehicles.

This study is short-range in scope to coordinate existing efforts and identify new opportunities toward immediately "shovel-ready" projects that are eligible for priority funding and/or coordination with new development.

*Conceptual example of urban mobility hub incorporated in an employment center*

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# 1 Review of Existing Plans

## Introduction

The purpose of this section is to identify and review the existing plans that are related to developing an ACES network of infrastructure in St. Lucie County. There is a particular focus on intermodal hub plans, as well as EV fleet and infrastructure plans as these are the components of ACES that currently have more activity. This section also includes an inventory of existing land uses and development to identify possible ACES gap and opportunity locations that meet the criteria for people to have greater intermodal mobility access, as well as access to EV charging infrastructure within proximity to major roadways and enroute locations for private, shared, and public EV, reducing range anxiety and improving acceptance and adoption of more sustainable transportation options.

## 1.1 Plans Review

### Smart Moves 2045, St Lucie TPO Long Range Transportation Plan

St. Lucie TPO; adopted February 3, 2021

"*Smart Moves 2045*", the St. Lucie TPO Long Range Transportation Plan (LRTP) is the plan through the horizon year 2045 for the TPO to identify and address the needed improvement to the transportation network in St. Lucie County, including the City of Port St. Lucie, St. Lucie Village, the City of Fort Pierce, and unincorporated St. Lucie County. More than identifying and coordinating needs, the LRTP provides a financially constrained long-term investment framework to address the current and future transportation challenges, and support and guide community development in the county. The Smart Moves 2045 LRTP called for the development of an ACES vehicle network along major highways that considers operational improvements as an alternative for addressing capacity issues. In addition, several projects in the Multimodal Needs Plan are important to the EVSE Update and are listed below.


**Table 1.1**
**Electric Vehicle Charging Station Relevant Projects from the St. Lucie TPO LRTP**

| Project Name/Type | | Location | Description | Status | Relevance |
|---|---|---|---|---|---|
| **4226814** | **Jobs Express Terminal Park & Ride Lot** | Gatlin Boulevard at Brescia Street | Jobs Express Terminal at the south side of Gatlin Boulevard east of I-95, is a high-priority regional multi-modal mobility asset developed to support regional commuter trips in St. Lucie County. The Jobs Express Terminal includes: | Complete | The Jobs Express Terminal is located within 1 mile of the I-95 Gatlin Blvd. interchange and is a relevant location for deployment of Level 3 DCFS |

| Project Name/Type | | Location | Description | Status | Relevance |
|---|---|---|---|---|---|
| | | | • parking capacity for 162 vehicles<br>• sheltered bus stop bays for 6 buses<br>• Level 3 electric vehicle charging stations<br>• Secure environment with lighting and ADA accessibility | | consistent with the Florida EVMP. |
| **Needs Plan ID 101** | **New SIS Interchange** | Florida's Turnpike at Midway Road | New tight diamond interchange, estimated at $89.07-million with assumed revenue sources from "State, Other Roads, construction and ROW" funds. (new project added since 2040 LRTP) | Cost Feasible Plan | New interchange changes the driveshed for the DCFC SIS and the NHFN networks by adding a new node. |
| **Needs Plan ID 102** | **New SIS Interchange** | Fl Turnpike at Northern Connector | New interchange for a private developer-built road that is considered one project with project ID 103. | Private Funding | New interchange changes the driveshed for the DCFC SIS and NHFN networks by adding a new node. |
| **Needs Plan ID 103** | **New SIS Interchange** | I-95 at Northern Connector | New interchange for a private developer-built road that is considered one project with project ID 102. | Private Funding | New interchange changes the driveshed for the DCFC SIS and NHFN networks by adding a new node. |
| **Needs Plan ID 105, 106** | **Airport Connector** | From I-95 to Kings Highway | New 4-lane roadway that is in two segments: I-95 to Johnston Road and Johnston Road to Kings Highway, with cost estimate at $61.91-million. | Cost Feasible Plan | New spur extends driveshed for DCFC SIS and also connects to airport as a DCFC location that fulfills implementation of the Florida EVMP. |
| **Needs Plan ID 155** | **ACES Network** | I-95 at Becker Road | Addition of DCFC – specifics TBD | Unfunded | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP |
| **Needs Plan ID 156** | **ACES Network** | I-95 at Midway Road | Addition of DCFC – estimated at $16.17-million | Cost Feasible Plan | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP. |
| **Needs Plan ID 157** | **ACES Network** | Okeechobee Road between Florida's Turnpike & I-95 | Addition of DCFC – estimated at $16.17-million | Cost Feasible Plan | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP. |
| **Needs Plan ID 158** | **ACES Network** | I-95 at Indrio Road | Addition of DCFC – specifics TBD | Unfunded | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP. |
| **Needs Plan ID 168** | **ACES Network** | I-95 at Crosstown Parkway | Addition of DCFC – specifics TBD | Unfunded | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP. |
| **Needs Plan ID 416** | **Port St. Lucie City Center Transit Hub Phase II** | 395 Deacon Avenue across from the City municipal Complex and PSL Community Center | The project is to make the Port St. Lucie Intermodal station as an enjoyable and secure destination that will both serve existing riders and attract new ones. | Unfunded In design phase | Additional location for Level 3 DCFC fulfills implementation of the Florida EVMP. |

ACES: Automated Connected Electric Shared-Use
DCFC: Direct Current Fast Charger
SIS: Florida Strategic Intermodal System
NHFN: National Highway Freight Network
EVMP: Florida Electric Vehicle Master Plan

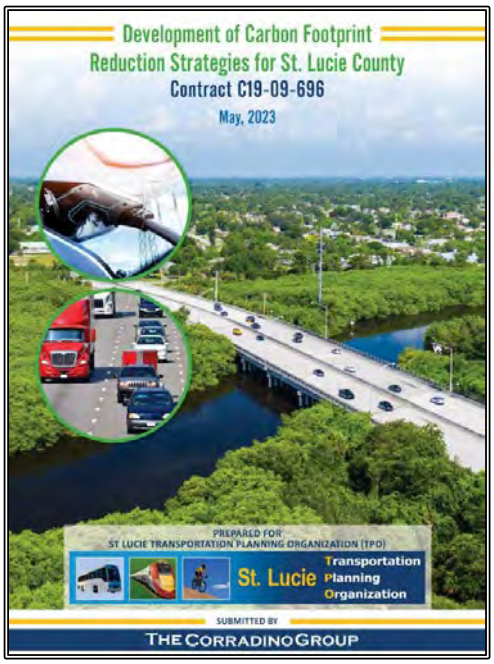
The LRTP Appendix B, *Study Area Data Review and Analysis* contains a summary of the "*FDOT Guidance for Assessing Planning Impacts and Opportunities of Automated, Connected, Electric and Shared-Use Vehicles, 2018. (pp. 9-12)* Listed as potential ACES-supportive projects, specific to EV infrastructure, are:

- Curb space value capture policy plans
- Activity center master plans to guide the conversion of parking
- Conversion of public parking facilities
- ACES priority parking
- Electric vehicle charging stations and related support systems
- Mobility hubs

## Development of Carbon Footprint Reduction Strategies for St. Lucie County

St. Lucie TPO; received 2023

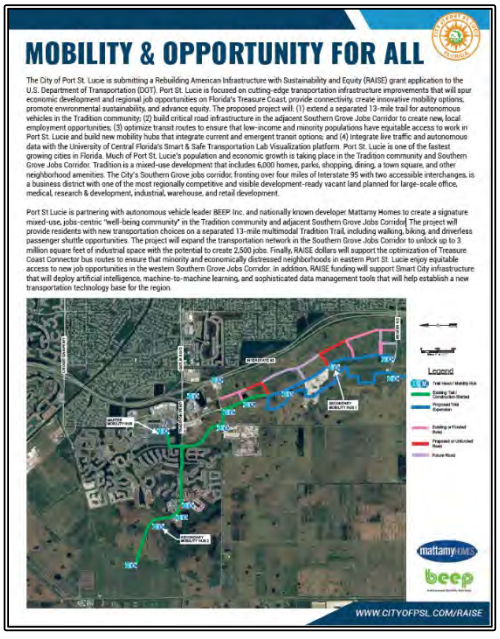
This study addresses means for carbon footprint reduction in St. Lucie county by reducing greenhouse gas emissions from passenger vehicle traffic. The study defines and demonstrates locally actionable strategies that will reduce emissions generated by automobile traffic. The four major strategies recommended by this study are: 1) encouragement of mixed-use/ multimodal neighborhoods, 2) development of more high-density neighborhoods, 3) greater participation by employer and employees in telecommuting, and 4) development of multimodal assets for greater travel choices in the County mobility network.




## Mobility for All Fact Sheet

City of Port St. Lucie; 2022

The City of Port St. Lucie is developing a plan and grant application for infrastructure improvements that focus on cutting-edge infrastructure improvements to spur economic development and job opportunities. The planned improvements are directly related to ACES infrastructure in that they include: 1) extension of a separated 13-mile trail for autonomous vehicles in the Tradition community; (2) optimization of transit routes to ensure that low-income and minority populations have equitable access to work in Port St. Lucie with new mobility hubs to integrate emergent transit options; and 3) integration of live traffic and autonomous data with the University of Central Florida's Smart & Safe Transportation Lab Visualization platform. The planning is in partnership with private equity sources including autonomous vehicle leader BEEP. Inc. and developer Mattamy Homes to create a mixed-use, jobs-centric "well-being community" in the Tradition community and adjacent Southern Grove Jobs Corridor.



## Micro-Mobility Study

St. Lucie TPO ; adopted May 2022

This study reviewed the needs and characteristics of different modes of micro-mobility, including autonomous micro-transit, shared bicycle, shared scooter, and low-speed electric vehicles. The analysis then compared the needs to existing conditions in the transportation network, land development patterns and demographics for three distinctly different study areas, including Tradition / Gatlin, Torino, and Downtown Ft. Pierce. Using lessons learned, the study developed recommendations for each area that are reproduceable throughout the County that the TPO can implement or coordinate to promote more widespread and greater density of micro-mobility options to improve short-distance mobility, first-last mile connectivity, and increased use of public transportation resources.


## EV Charging Station Plan Update

St. Lucie TPO; 2022

The *Electric Vehicle Charging Station Plan Update* developed criteria for siting electric vehicle charging stations and identified appropriate locations based on the criteria, with a secondary objective to raise awareness of the need to incorporate EV charging station planning into major planning efforts. The plan summarizes the types and need for public EV charging stations, as well as a brief overview of how they are operated and consumer cost ranges. The Plan reviews the benefits of planning for equitable deployment of federally funded investments in historically disadvantaged and marginalized communities within St. Lucie County and the relevance to EV charging station deployment locations. The Plan maps extended-hour public facilities as potential DCFC locations, including 24-hour gyms, Walmart Supercenters, hospitals, the St. Lucie West hotel district, and South Hutchinson Island near Jetty Park. Funding and funding criteria, ownership, operation, risks of technology advancement and equipment obsolescence and impact on road (gasoline) tax revenue are summarized.

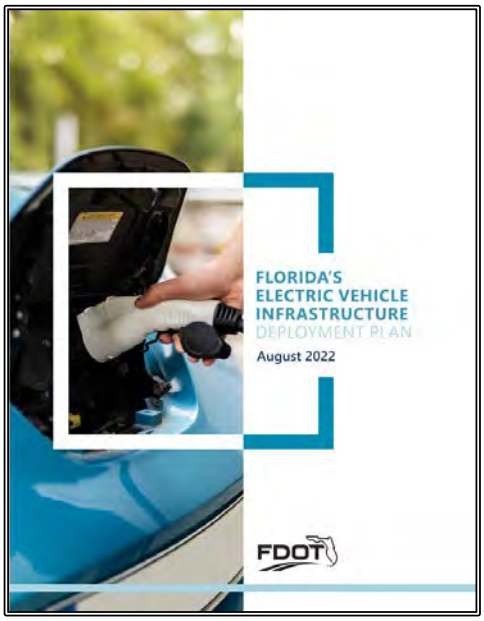

## ACES Vehicles for Transit Study Update

St. Lucie TPO; 2022


The ACES Vehicles for Transit Study Update provided considerations with regard to the future electrification of St. Lucie County public transit, called Area Regional Transit (ART) . The Plan summarizes existing conditions of the bus fleet that at this time does not include electric vehicles. The Plan also summarizes the ACES-relevant infrastructure of the major intermodal centers in Fort Pierce and Port St. Lucie, and the status of planning for the new Transit Operations and Maintenance Center. The plan provides: a summary of the benefits of transitioning to electric transit vehicles; the infrastructure opportunities and challenges; federal and state requirements; and considerations and steps for further study toward future implementation. The study provides background about the potential adoption of electric and automation technologies that could impact the future requirements of mobility hub programming to include bus enroute charging equipment.

## Florida's Electric Vehicle Infrastructure Deployment Plan

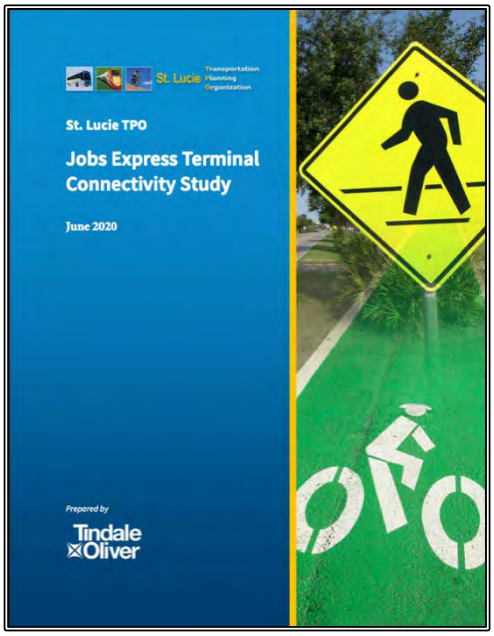
Florida Dept. of Transportation; approved September 14, 2022




The *Florida Electric Vehicle Infrastructure Deployment Plan* is a five-year plan that supports the State's long-range transportation plan and the State's Electric Vehicle Master Plan (EVMP). The plan focuses on supporting the National Electric Vehicle Infrastructure (NEVI) program, and outlines NEVI-fundable infrastructure criteria and evaluation with background growth estimates of need; summarized descriptions of eligible equipment; locational criteria; risks and challenges; electric infrastructure capacity and readiness; emergency preparedness and resiliency; equitable investment ("Justice 40" areas); and strategies for collaboration and partnerships for implementation.

## Jobs Express Terminal Connectivity Study

St. Lucie TPO ; adopted June 2020



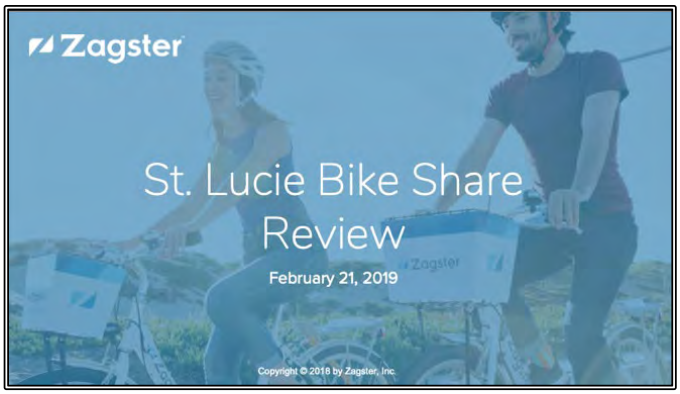

The Jobs Express Terminal at the south side of Gatlin Boulevard east of I-95, is a high-priority regional multi-modal mobility asset developed to support regional commuter trips to and from St. Lucie County. In furthering its purpose, the Jobs Express Terminal provides environmental, traffic and economic benefits to St. Lucie County residents and businesses. The Jobs Express Terminal includes:

- connection to the roads and areas to the east
- parking capacity for 162 vehicles
- sheltered bus stop bays for 6 buses
- pedestrian lighting, landscaping & ADA accessibility
- bicycle racks
- electric vehicle charging stations

The Jobs Express Terminal has many of the components of an ACES Hub and is well positioned for further improvements for increased use of transit automation, electrification, and connectivity, as well as a potential location for shared-use mobility connections for first-last-mile use.

## St. Lucie Bike Share Review

Provided by Zagster to the City of Fort Pierce, February 2019



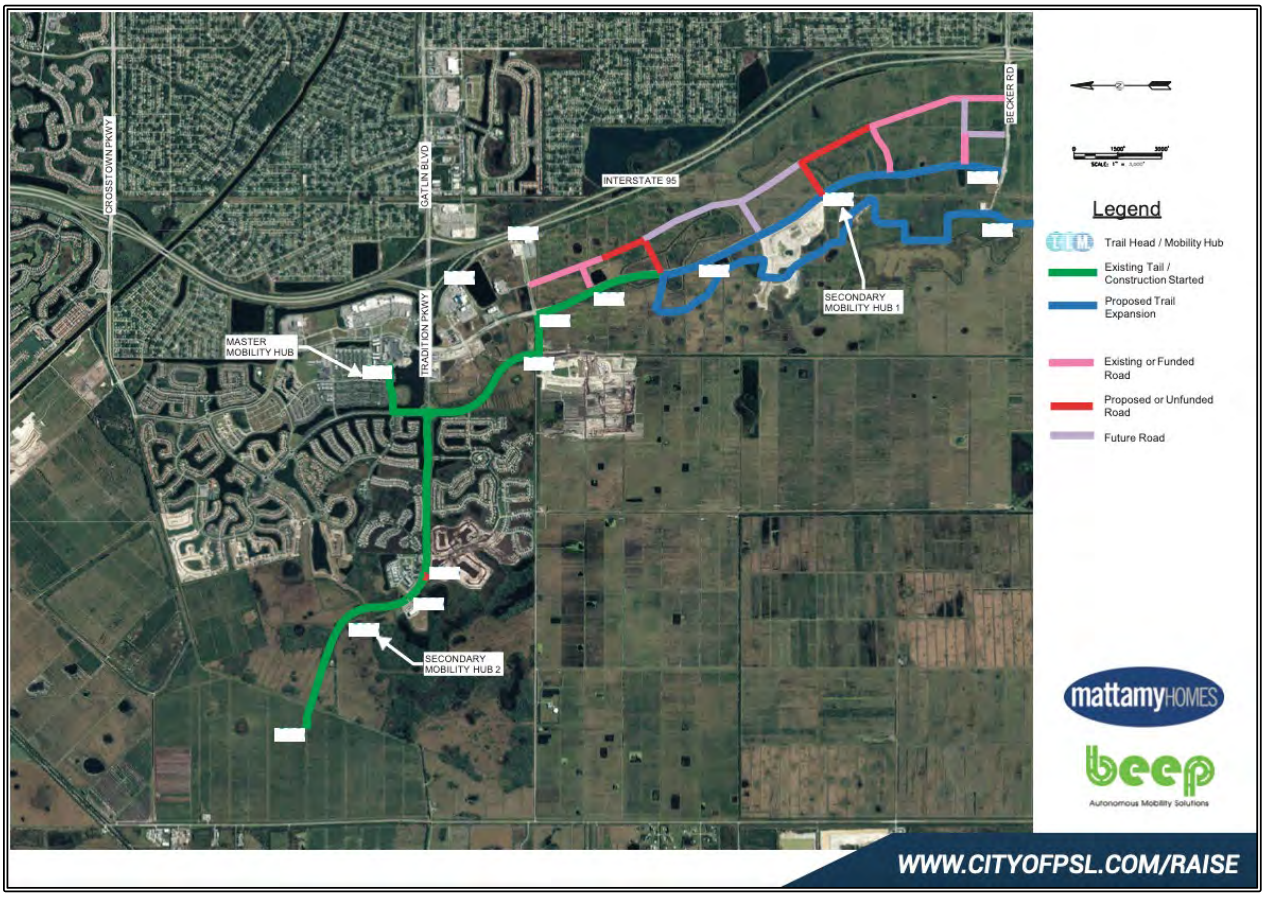

Zagster, established in 2007, was a national company that built and operated bike sharing programs for cities, campuses, hotels, and residential communities. The company provided its customers with bike sharing infrastructure, technology, and operation using local maintenance staff to service bikes, perform repairs and rebalance the system.

Zagster bike sharing commenced in downtown Fort Pierce, January 2018 and operated in until 2020. Prior to the COVID-19 pandemic, it published a review of operations as a resource for its Fort Pierce partner. The report provides a pre-pandemic snapshot of operations. Shared mobility as a service is a critical part of the ACES network of mobility infrastructure that provides the important first and last mile assets that increase the viability of other public transportation options.

## 1.2 ACES Mobility Hubs

One of the most important and on-point ACES-supportive projects in the LRTP is the planning for mobility hubs in St. Lucie County. The first proposed project will: 1) extend a separated 13-mile trail for autonomous vehicles in the Tradition community; 2) build critical road infrastructure in the adjacent Southern Grove Jobs Corridor; 3) optimize transit routes to enable mobility to new employment centers; and 4) build new mobility hubs that integrate current and emergent transit options; and 5) integrate a live traffic and autonomous data platform.

The proposed Port St. Lucie Mobility Hub is to be funded through a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant application to the U.S. Department of Transportation. The City is partnering with autonomous vehicle leader, BEEP. Inc. to provide autonomous vehicle infrastructure and service in conjunction with the University of Central Florida's Smart & Safe Transportation Lab to operate the autonomous data control and visualization platform.




Mobility hubs are ideal partner projects to further ACES priorities by providing intermodal opportunities to incorporate infrastructure to support vehicle automation, support electric vehicle deployment, and provide physical connectivity for people and goods that to support intermodalism.

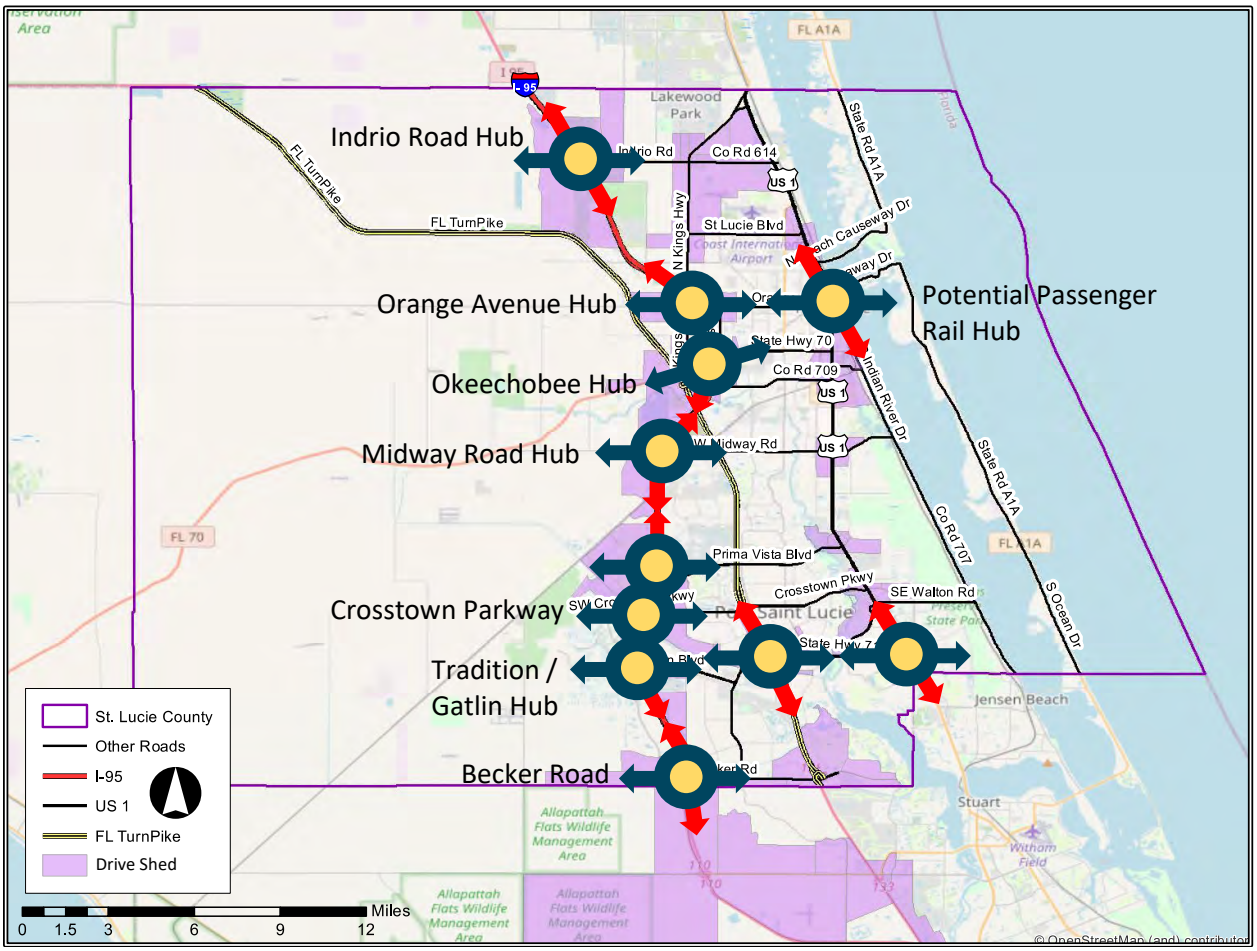
A network of ACES intermodal hubs in in the County centered along the spine of I-95 at major east-west connections, as well as a rail-centric hub in Fort Pierce to build a more ready environment for a future potential station of the Brightline high speed rail service are identified for further development in Sections 3 and 4 of this plan. The concept for the St. Lucie ACES Intermodal Hubs Network, as illustrated

in Map 1.1, includes hub locations at SIS interchanges and at major intermodal locations such as a potential intercity / commuter rail location. The ACES hubs network map shows the general locations that will be evaluated and prioritized in Sections 2 and 3 of this plan.

Drivesheds are the distance that most drivers are willing to drive off of a limited access freeway to refuel while enroute to a further destination. They represent the willingness of a driver to go off-route, especially in an unknown area. The concept is also applicable to EV charging and a one-mile drive distance is used assuming that information is provided to the driver by smart-phone or the vehicle information system. The concept is behavioral rather than related to vehicle technology; therefore, additional services or destination attractions at a hub can have an effect on increasing driveshed distance.

Mobility hubs would include key ACES features and development partnering to move the County forward towards autonomous, connected, electric and shared mobility infrastructure to create a sustainable transportation to meet the needs of future development in St. Lucie County.

**Map 1.1**
**ACES Mobility Hubs Concept**

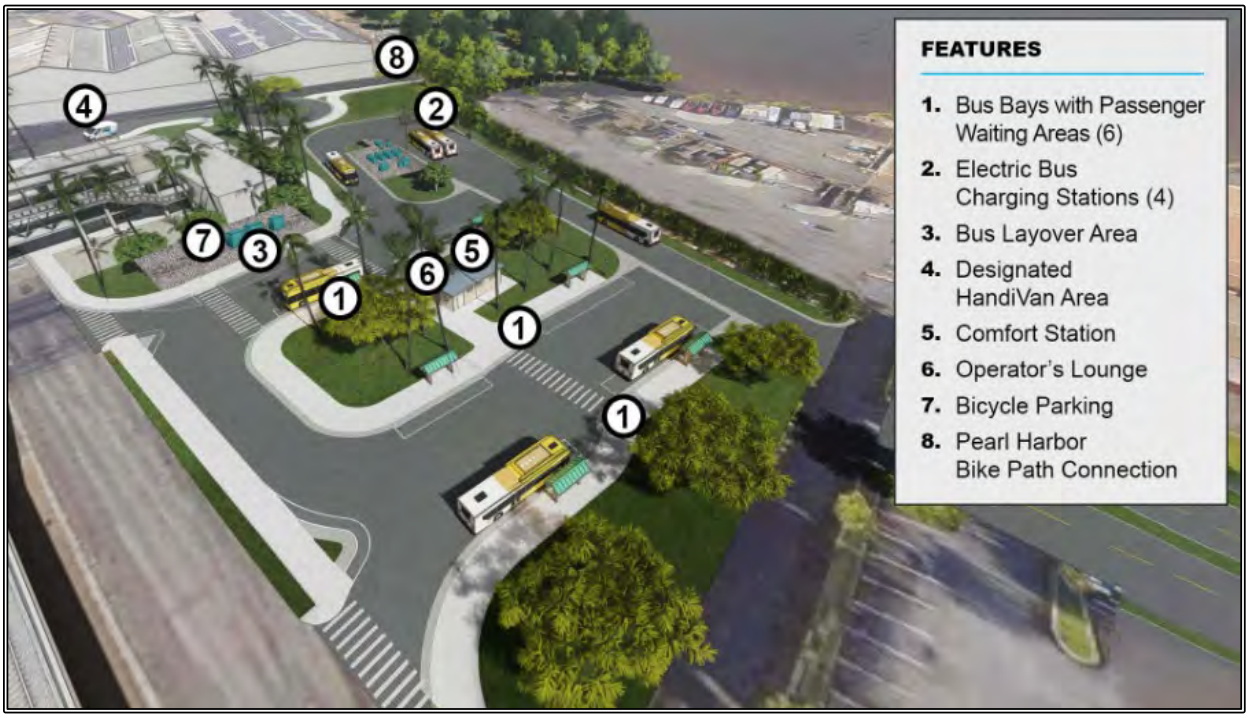


**Mobility hubs are transportation intermodal facilities that are people-oriented developments for the purposes of:**

1) **to enable travelers to access supportive amenities for providing services for through-trips where the hub is not the final destination;**
2) **to enable intermodalism by facilitating comfortable changes from personal vehicles or other high-capacity intercity travel modes, such as rail, to a range of mobility options for first-last-mile trips to local destinations in a convenient and sustainable way.**
3) **To provide destination with walking distance of the intermodal facility that reduce local trip making and provide for greater comfort and convenience as a short stop for through travelers, especially for time to charge EV.**

Built on a backbone of high-capacity transportation infrastructure, the hubs provide safe, comfortable, convenient, and accessible spaces to seamlessly transfer across different mobility modes. The hubs also provide for demand-responsive micro-transit operating in defined zones ranging out from the hub, thereby, extending the range of geo-fenced on-demand micro services.

Mobility hubs are an important concept to reduce transportation sector greenhouse gas emission and also increase County resiliency with a redundancy of the transportation options. Leveraging this positive impact on GHG emissions, global warming contribution and sea level rise, the ACES Mobility Hubs concept amplifies the positive sustainability benefits by also creating a hub of vehicular electric charging




*Conceptual illustration of the Kalauao Mobility Hub and Project Features*
*source: City and County of Honolulu, Hawaii*

ACES Mobility Hubs also have an important contribution to make to health of the Floridians by providing intermodal locations for people arriving by cars that are new to transit and active travel choices that can be motivated to complete their local trip by alternative mobility, and for through travelers to have comfortable and active locations to recharge their vehicles and simultaneously recharge themselves with mixed use development that is accessible and enjoyable for short active transportation circulation. Where located within or connected to an existing 15-minute walk neighborhood, mobility motivates the use of alternatives to the private car helping to embed shared transport to achieve people-centered community mobility. The menu of features for ACES Mobility Hubs to be effective as an interface among transportation modes in an ACES network and connected with the County's communities is summarized in Table 1.2, with ACES-related components highlighted in blue.


*Tacoma Dome Station as an example of an ACES mobility hub built around a regional rail station (Sound Transit), connecting long distance rail (Amtrack) and Tacoma Light Rail transit, integrated in a mid-level scaled urban setting with Greyhound bus and metro bus transit connections, bicycle facilities, ride sharing, shared micro-mobility (Razor), conventional parking facilities, public EV charging, and retail commerce at the ground floor of parking facilities.*

The ACES Mobility Hubs, more than an intermodal center, are an interface between transportation and the community, and should therefore include destination land use development via a public-private partnership, and include development elements that include:

- Destination retail and sit-down eateries with occupancy times that synchronize well to Level 3 vehicle charging time.
- Community service establishments to provide typical daily needs for intermodal commuters, such as post office, private postal businesses, dry cleaners, pharmacies, sundry stores, and quick marts, cafes, gyms.

- Workspaces that facilitate and emphasize flexible work hours to reduce peak demands and increase non-peak demands on transit. Membership type co-workspaces are ideal.
- Mixed use development with residential component is possible depending on environment and location to existing community.
- Package delivery lockers to reduce the number of house-level trips made by on-line retail sales.
- Comfortable weather protected non-retail waiting areas and lounges with live information and infotainment systems.
- Outdoor green spaces and plazas to relieve travelers from mechanized nature of transportation.
- Outdoor water fountains to help mask the sound of transport vehicle operations.
- Art-in-public places to visually relieve pedestrian users.
- Large and dynamic information kiosks in high pedestrian traffic areas.
- Signage and identity / branding which identifies the space as a mobility hub that is part of a wider network.

**Table 1.2**
**ACES Mobility Hubs Mobility-Related Components**

| | Public Mass Transit Components | Shared Mobility Components | Personal Mobility Components | Pedestrian Components |
|---|---|---|---|---|
| Modes | • Local heavy rail<br>• Intracity heavy rail<br>• Light Rail Transit (LRT) capable<br>• County battery-electric buses<br>• Geofenced on-demand micro-transit | • Car sharing<br>• E-car sharing | • Personal vehicles<br>• Commercial vehicles | • Pedestrians<br>• Pedestrians with disabilities |
| Vehicle Infrastructure | • Rail / LRT Guideway<br>• Exclusive Bus Lanes | • Passenger car lanes<br>• Design to safely accommodate Low Speed Electric Vehicles<br>• Bike lanes and paths suitable for e-bikes and e-scooters | • Passenger Car Lanes<br>• Truck Areas<br>• Bike lanes and paths suitable for e-bikes and e-scooters | • Complete Streets where applicable in interior of hub (not access points from I-95) |
| Access & Egress | • Direct access and re-entry to I-95<br>• Rail access<br>• Direct bus lane access | • Passenger Car Lanes<br>• Design to safely accommodate Low Speed Electric Vehicles<br>• Bike lanes and paths suitable for e-bikes and e-scooters | • I-95 access points exclusive to highway vehicles<br>• Access to crosstown roadways includes bike paths and/or buffered lanes. | • I-95 access separated from walkable areas<br>• Access to crosstown roadways is part of complete street access for pedestrians and micro modes |
| Pick-Up Drop-Off Space | • Dedicated train station and bus stops with shelters, information and raised platforms | • Pick-up and drop-off zones for shared car services (Uber model)<br>• Parking pods for shared car services (Zip Car model) | • Kiss-and-ride location near transit station | • Pick-up drop-off locations and paths to them are ADA accessible |
| Vehicle Storage | • Bus layover areas or sufficient stop pullouts for layover time | • Shared bike docks or dockless return zones<br>• Shared mobility kiosks<br>• Parking pods with Level 3 charging for shared car services (Zip Car model) | • Lockable bicycle racks<br>• Lockable bicycle lockers | • Not applicable |
| Vehicle Charging | • En-route inductive charging for regional buses at layover location or stops<br>• Micro transit vehicle charging at layover location or stops | • Level 3 chargers for battery electric shared vehicles in dedicated spaces<br>• Proprietary charging docks for shared e-bikes<br>• Charging areas for inductive charging of shared scooters or bikes | • Level 3 chargers for personal EV<br>• Level 2 chargers for personal EV for transit park-&-ride commuters<br>• Level 2 chargers for personal use by workspace occupants | • Not applicable |
| Information Systems | • Transit smart phone application<br>• integration with on-board bus/train information system | • Dynamic roadway sign<br>• smart phone application<br>• integration with car infotainment system | • Dynamic roadway sign<br>• smart phone application<br>• integration with car infotainment system | • Pedestrian level kiosks with live information<br>• smart phone application |
| Fossil Fuel Pump islands | • Not applicable | • Not applicable | • Fueling area to allow non-EV passengers to change to electric first- and -last mile trips | • Not applicable |

## 1.2 Funding Opportunities

When the Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58 was passed on November 15, 2021, unprecedented investments in ACES infrastructure were made possible to catalyze deployment of automated, connected, electric and shared vehicles to promote consumer adoption of transportation alternatives that will: 1) reduce transportation-related greenhouse gas emissions and help put the U.S. on a path to net-zero emissions by no later than 2050; and 2) position U.S. industries to lead global transportation electrification efforts and help create family-sustaining union jobs that cannot be outsourced. The BIL created the major programs that are described below. Some of the application deadlines occurred in late 2022; however, they are provided below for tracking toward the next reauthorization of BIL funding.

***Advanced Transportation Technologies and Innovative Mobility Deployment (ATTIMD) Program***

Administered through the Department of Transportation (Federal Highway Administration), ATTIMD provides funding for projects to deploy, install, and operate advanced transportation technologies with the objectives to improve safety, mobility, efficiency, system performance, intermodal connectivity, and infrastructure return on investment.

***National Electric Vehicle Infrastructure (NEVI) Formula Program***

The $5 billion NEVI Formula Program provides funding to States to strategically deploy EV charging infrastructure and establish an interconnected network to facilitate data collection, access, and reliability. Initially, funding under this program is directed to designated Alternative Fuel Corridors to build out this national network, particularly along the Interstate Highway System. When the national network is fully built out, funding may be used on any public road or in other publicly accessible locations. Ten percent (10%) of the NEVI Formula Program will be set-aside each fiscal year for the Secretary of Transportation to provide discretionary grants to help fill gaps in the national network.

The NEVI funding for the State of Florida for the next 5 fiscal years, as sourced by the US Department of Transportation is summarized in Table 1.3. Based on the population of St. Lucie County being 1.6% of the State of Florida population, a rough order-of-magnitude estimate is made for each year's potential NEVI funding for St. Lucie County.

**Table 1.3**
**ACES - Electric Vehicle Infrastructure NEVI Funding Availability**

| Fiscal Year | State of Florida Allocation | St. Lucie County Estimate |
|---|---|---|
| 2022 | $ 29,315,442 | $ 469,047 |
| 2023 | $ 42,185,251 | $ 674,964 |
| 2024 | $ 42,185,543 | $ 674,969 |
| 2025 | $ 42,185,579 | $ 674,969 |
| 2026 | $ 42,185,666 | $ 674,971 |
| **Total for 5 Years** | **$198,057,481** | **$3,168,920** |

The criteria for the NEVI funding program are documented by the US DOT and the Florida DOT for the Florida's Electric Vehicle Infrastructure Deployment Plan.

***Discretionary Grant Program for Charging and Fueling Infrastructure***

The $2.5 billion Discretionary Grant Program is divided into two $1.25-billion grant programs to support EV charger deployment to ensure charger deployment supports rural charging, building resilient infrastructure, climate change, and increasing EV charging access in underserved and overburdened communities ("disadvantaged communities"):

***Corridor Charging Grant Program***

The Corridor Charging Grant Program will strategically deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure along designated Alternative Fuel Corridors. Additional guidance is forthcoming.

***The Community Charging Grant Program***

The Community Charging Grant Program will strategically deploy publicly accessible EV charging infrastructure and hydrogen, propane, and natural gas fueling infrastructure in communities. Additional guidance is forthcoming.

***The Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program***

Administered by the Department of Transportation (Federal Rail Administration), the program provides funding for projects focused on advanced smart city or community technologies and systems to improve transportation efficiency and safety.

***Thriving Communities Program***

The program is administered by the Department of Transportation, Build America Bureau, and provides technical assistance to help selected communities plan and develop a pipeline of comprehensive and integrated transportation, housing, and community revitalization activities.

***Rebuilding American Infrastructure with Sustainability and Equity (RAISE)***

The RAISE discretionary grant program is administered by the U.S. DOT to provide for investment in road, rail, transit, and port projects that promise to achieve national objectives. The eligibility requirements allow project sponsors at state and local levels to obtain funding for multi-modal projects that are more difficult to support through other DOT programs. Projects for RAISE funding are evaluated based on merit criteria, including: safety; innovation; environmental sustainability and reducing impacts of climate change; improving quality of life; economic competitiveness and creation of good paying jobs; and improving racial equity.

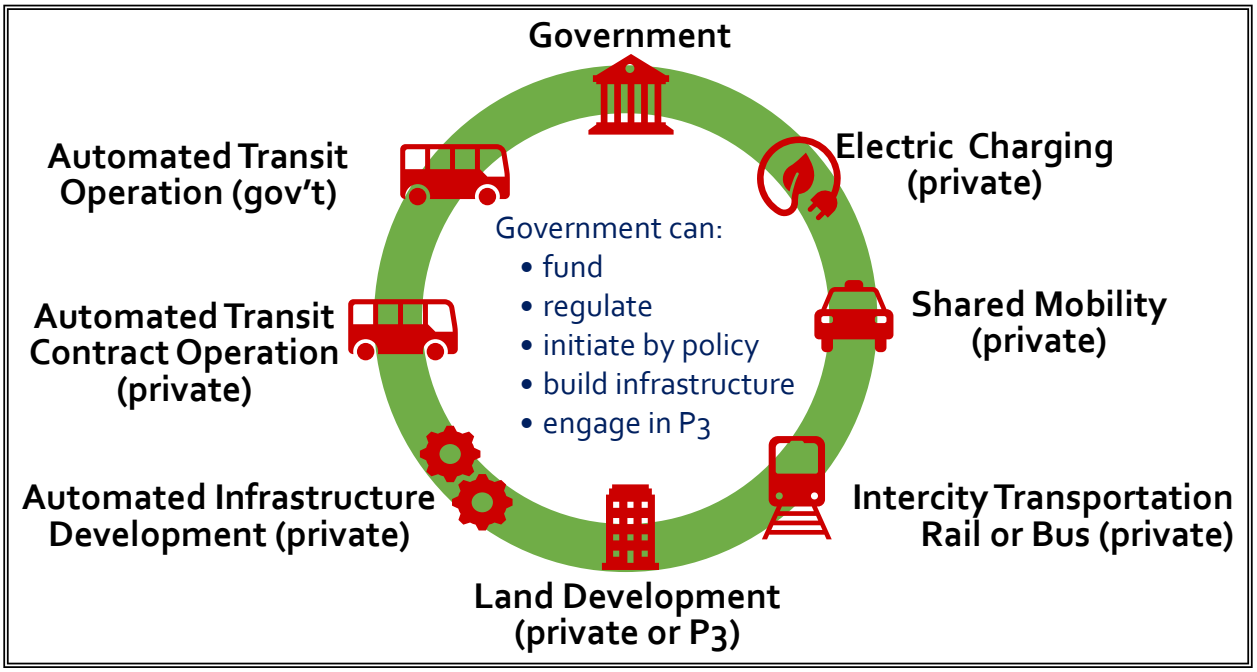
**Public Private Partnerships (P3)**

Traditionally, the delivery of mobility improvements has been through government funding for planning, environmental analysis, design, and construction. Deployment of ACES mobility strategies includes these mechanisms; however, the most prominent growth of automated, connected, electric, and shared mobility has been through the entry of private companies and non-government organizations into urban mobility markets.

A major subject of this report is on the development of ACES Mobility Hubs that necessarily include commercial destination uses, especially to allow time for EV charging and the create attractive walkable places that induce increased use of public transportation at these intermodal points by a population that currently does not use alternative and sustainable mobility. The real estate development that is critical to ACES Hubs is best provided by private investment.

For the purposes of governmental actions for the ACES mobility network, the emphasis is on using governmental resources to fund, regulate, build infrastructure, initiate by policy, and engage in partnerships in ways that support and foster the development of privately-owned and operated mobility options. The local match component of these projects also fosters a broad and deep base of support for the project and an appreciation of the proposed benefits to the community and return on investment to providers of those funds. Often the local match includes the dedication of public land for the purposes of developing the ACES Hub. Public land facilitates the project by controlling cost on the most important component of development and can also streamline planning and permitting. Public land in the right location is a critical part for a successful P3-developed ACES Hub project.

The critical importance of public-private partnership to implementing a County-wide ACES network is highlighted by the delivery model diagram below.




*Automated, Connected, Electric, and Shared (ACES) Mobility Delivery Models*

## 1.3 Mobility Hubs Location Criteria & Map Updates

To determine additional opportunity locations and gaps in the ACES network along major highways, the locational criteria are provided in Table 1.4. These criteria are used as the themes for the initial existing conditions map series that will guide the identification of gaps and opportunities in Task 3 after establishing priorities of the criteria in Task 2. Task 4 will finalize a project priority list of "shovel-ready" projects that are eligible for high-priority funding, coordination with new development, and other implementation methods. Among the criteria, there is an important focus on the inclusion in the mobility hubs of Level 3 Fast Charging Stations (DCFC) that are publicly available for private passenger cars at enroute locations.

The existing public EV chargers for all charger types, for DC Fast Chargers only, and for each other individual location criteria have been mapped and are included in Appendix A.

**Table 1.4**
**ACES Hub Location Criteria**

| Category | Criteria | Description | Existing Condition Map Reference | Requirement Source |
|---|---|---|---|---|
| **Geographic** | **SIS Roadway Spacing** | 1-mile maximum lateral travel distance from interchanges, Florida SIS includes: I-95, Florida's Turnpike, and Okeechobee Road | **Roadway System** (Appendix A Map 3) | NEVI Guidance, Florida Electric Vehicle Deployment Plan |
| **Geographic** | **SIS Roadway Shed** | 1-mile maximum lateral travel distance from interchanges, Florida SIS includes: I-95, Florida's Turnpike, and Okeechobee Road | **Roadway System** (Appendix A Map 3) | NEVI Guidance, Florida Electric Vehicle Deployment Plan |
| **Operational** | **Number of Charging Ports** | Minimum of 4 DCFC plugs for simultaneous use | not applicable to locational analysis | NEVI Guidance, Florida Electric Vehicle Deployment Plan |
| **Operational** | **Electric Capacity per Charging Port** | Minimum 150kW at 480 volts | not applicable to locational analysis | NEVI Guidance, Florida Electric Vehicle Deployment Plan |
| **Operational** | **Utility Readiness** | Location has sufficient capacity or planned capacity in electric distribution network – minimum 4 DCFC plugs: 600 kW at 480 V | not mapped | NEVI Guidance, Florida Electric Vehicle Deployment Plan |
| **Emergency & Resiliency** | **Evacuation Routes** | Location along evacuations routes with redundancy | **Emergency Evacuation** (Appendix A Map 4) | Florida Electric Vehicle Deployment Plan |
| **Emergency & Resiliency** | **Mobile Charging Solutions** | Location along evacuations routes with redundancy | not applicable to locational analysis | Florida Electric Vehicle Deployment Plan |

| Category | Criteria | Description | Existing Condition Map Reference | Requirement Source |
|---|---|---|---|---|
| **Emergency & Resiliency** | **Hardening of DCFC Stations** | Hardening solutions to ensure safety during storms: strategies such as automatic station shut-off, waterproofing, elevated foundations, and structures. | not applicable to locational analysis | Florida Electric Vehicle Deployment Plan |
| **Land Use** | **Population Density** | Location where population densities are highest. Threshold criteria to be determined in Task 2 | **Population Density** (Appendix A Maps 5 & 6) | St. Lucie TPO Smart EV Charging Station Plan<br><br>St Lucie TPO Development of Carbon Reduction Strategies for St. Lucie County (Strategy 4.2) |
| **Land Use** | **Employment Density** | Location where employment densities are highest. Threshold criteria to be determined in Task 2 | **Employment Density** (Appendix A Maps 7 & 8) | St. Lucie TPO Smart EV Charging Station Plan<br><br>St Lucie TPO Development of Carbon Reduction Strategies for St. Lucie County |
| **Land Use** | **Mixed Use Multimodal Neighborhoods** | Location where medium density residential areas are mixed within ¼-mile of major employment land uses | **Mixed Use Development** | St Lucie TPO Development of Carbon Reduction Strategies for St. Lucie County (Strategy 4.1) |
| **Land Use** | **Retail Major Activity Centers** | Locations of large centers of compact, contiguous commercial development, including mixed use. Threshold metric such as total floor area or FAR to be determined in Task 2. | **Destinations** (Appendix A Map 9) | St. Lucie TPO Smart EV Charging Station Plan |
| **Land Use** | **Hospitals** | Locations of hospitals with minimum of Level IV Trauma Center – to be reviewed in Task 2 | **Destinations** (Appendix A Map 9) | St. Lucie TPO Smart EV Charging Station Plan |
| **Land Use** | **Airports** | Locations of commercial passenger airport terminals | **Intermodal Hubs** (Appendix A Map 10) | St. Lucie TPO Smart EV Charging Station Plan |
| **Land Use** | **Rail Stations** | Locations of commercial passenger rail stations | **Intermodal Hubs** (Appendix A Map 10) | St. Lucie TPO Smart EV Charging Station Plan |
| **Land Use** | **Bus Transit & Intermodal Hubs** | Locations of bus transit hubs with multiple bus bays and park-and-ride facilities. Minimum criteria to be determined in Task 2. | **Intermodal Hubs** (Appendix A Map 10) | St. Lucie TPO Smart EV Charging Station Plan<br><br>St Lucie TPO Development of Carbon Reduction Strategies for St. Lucie County (Strategy 4.4) |

| Category | Criteria | Description | Existing Condition Map Reference | Requirement Source |
|---|---|---|---|---|
| **Land Use** | **Shared Vehicle Pods** | Locations of publicly located shared vehicle pods. Criteria to be reviewed in Task 2. | no shared vehicle pods in St. Lucie County | St. Lucie TPO Smart EV Charging Station Plan |
| **Land Use** | **Publicly Owned Vacant Land** | As a practical criterion, an ACES Hub can be developed through public funding and development, as a P3, or by regulating to require hubs for major development. The availability of sufficient vacant land is critical for public development or P3 means. | **Shown on Hub Location Aerials** | Practical consideration for development. Refer to Section 1.2 regarding P3 funding mechanisms. |
| **Equity** | **Disadvantaged Community Investment** | U.S. Department of Transportation (USDOT) Justice40 (J40) is an opportunity to address gaps in transportation infrastructure and public services by working toward the goal that at least 40% of the benefits from many FDOT grants, programs, and initiatives flow to disadvantaged communities. As a criterion for ACES Mobility Hubs, serving TAZs that are identified as J40 helps to serve future demands, , provides economic development support, provides greater equity, and increases funding opportunity. | **Disadvantaged Community Investment** (Appendix A Map 11) | NEVI Guidance, Florida Electric Vehicle Deployment Plan |

# 2 ACES Hub Areas Prioritization

## Introduction

A plan for the St. Lucie ACES infrastructure network and nodes is developed Based on existing conditions and plans as presented in Section 1. The first step to identifying geographic nodes that become the places in which to locate ACES Mobility Hubs, is to establish criteria priorities on the basis of:

- ability to serve population needs,
- location characteristics,
- effectiveness toward reducing the county's carbon footprint,
- effectiveness to increase adoption of ACES mobility modes and inter-modalism,
- opportunities for implementation, and
- potential for funding.

Reflecting the understanding that an ACES Mobility Hub has multiple benefits, and that each criteria can leverage one or more of these benefits, the importance of each location criteria is weighted to account for their potential for multiple benefits, which are: effectiveness to increase adoption of ACES mobility modes; fostering a seamless traveler experience through multiple modes from door to door; and potential for funding to plan, design and implement; and to leverage community and business investment.

The criteria themselves account for the importance of existing roadway infrastructure, transit services, existing park-and-ride and multi-modal terminals, land development characteristics, employment and residential populations, and the location of disadvantaged communities. Area locations will be scored based on how many criteria are met and the weighted scoring for each criterion. The prioritization is to guide efforts toward focusing planning on the locations with the better potential to leverage greater benefits to develop the ACES network of hubs. The outcome will be displayed as a map with scoring ranges to prioritize the ACES Mobility Hubs Concept (Map 1.1), to develop the ACES Mobility Hubs Concept Prioritized Hubs (Map 3.1).

## 2.1 Criteria Weighting for Prioritization

Prioritization discussion. Each of the criteria will be assigned a weighting based on summation of points for each of the reasons that are:

- Demand Factor: A positive factor toward increasing public adaption of private, fleet, and other commercial electric vehicles by addressing range anxiety.
- Multi-Modal: Location provides sustainability benefits beyond EV adoption toward greater public adaption to new multi-modalism for primary trips and first-last-mile trips components through ACES Mobility Hub potential, as described in Section 1.2.
- Carbon Reduction Strategy: The St. Lucie TPO has prioritized reducing the carbon footprint of transportation in the County through land use and is to be partnered with the infrastructure for an ACES intermodal system.
- State & Federal Funding: Meets eligibility requirements for state and federal funding.
- Feasibility for Implementation: The importance of vacant land in public-sector ownership, as discussed in Section 1.2, that is within the drive shed of the ACES Mobility Hub opportunity areas is critical. It has been included as an implementation criterion. It is not directly related to the weighting factors; however, it is assigned a high weighting value of 5 per parcel over 1 acre. **Where there is available land for a short-term or mid-term priority ACES Hub project, reservation of the public land is an immediate priority.**

The criteria are then geographically overlaid by summing the points for each particular criteria as a layer in the geographic information system place and represented as a heat map to illustrate the highest priorities for Near-Term, Mid-Term and Long-Term time horizons.

Most of the criteria are discrete variables; in other words, they either meet the criteria or not, and for meeting the criteria a single point is the initial score. Some of the criteria represent continuous variables, in other words having amounts such as population density, and these variables have been stratified into ranges that represent breakpoints of requiring EV charging needs and represented by 0, 1 or more points as an initial score. The initial score for each variable, binary or continuous, are then multiplied by the weighting factor to account for the importance of the three types of benefits described above. For example, if a geographic area includes a disadvantaged community that qualifies as an environmental justice community, the area is assigned a positive point and then multiplied by 2 because this criteria is important as a demand factor and is important for state and federal funding eligibility. The size of the environmental justice community does not have to be captured in this criteria, since the area is also scored in the population density category. The sum of all weighted criteria scores than is used to assign priorities.

Priority Map:

The map that follows in the column-sum analysis of ACES Hub prioritization by Transportation Analysis Zone (TAZ). Based on an initial overlay map showing the summation of criteria and weightings for each TAZ, areas have been geographically aggregated by network or land use functions, with summations of TAZ score used to determine priorities for the areas. The areas

defined by mobility centroids, such as interchanges, major intersections, and downtowns. The aggregated analysis for geographic places is described and presented in Section 3 of this Plan.

**Table 2.1**
**ACES Hub Location Criteria Prioritization**

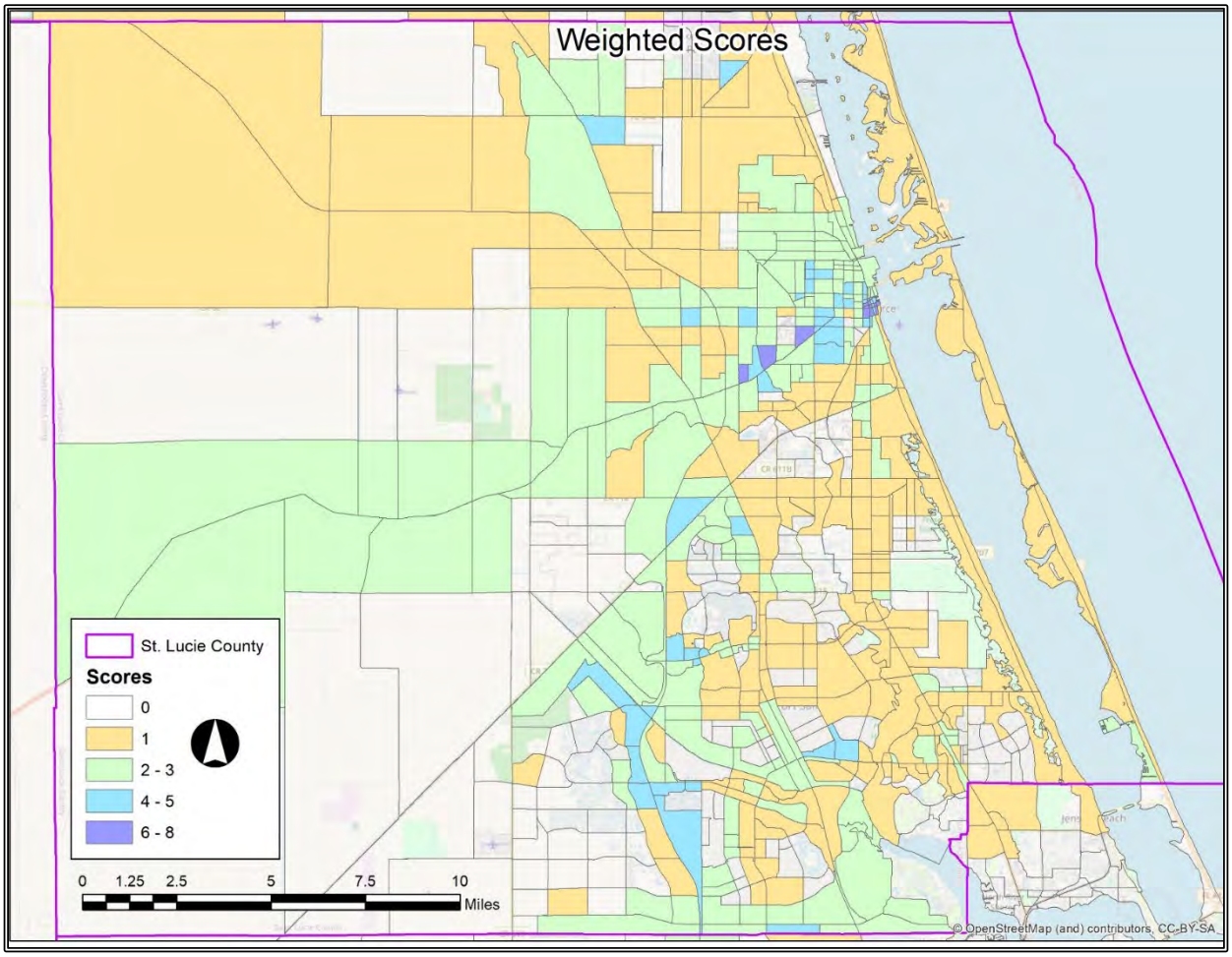
| Category | Criteria | Description | Demand Factor | Multi-Modal | State & Federal Funding | Carbon Footprint Reduction | Weight Factor |
|---|---|---|---|---|---|---|---|
| **Geographic** | **SIS Roadway Spacing** | 50 miles maximum from DCFC station to station. This consideration will be reviewed again after priority locations are determined to assure a 50-mile grid is available into the rural, agricultural, or tribal lands as well as the urbanized areas of St. Lucie County; thereby, fulfilling NEVI guidance for project eligibility. | 1 | - | 1 | - | **2** |
| **Geographic** | **SIS Roadway Shed** | 1-mile maximum lateral travel distance from interchanges. In St. Lucie County, the Florida SIS includes I-95, Florida's Turnpike, and Okeechobee Road. | 1 | - | 1 | - | **2** |
| **Operational** | **Number of Charging Ports** | Minimum of 4 DCFC plugs for simultaneous use - room for 4 spaces | - | Not location criteria. These criteria are to be used for facility programming after location is prioritized | | | |
| **Operational** | **Electric Capacity per Charging Port** | Minimum 150kW at 480 volts | - | | | | |
| **Operational** | **Utility Readiness** | Location has sufficient capacity or planned capacity in electric distribution network – minimum 4 DCFC plugs: 600 kW at 480 V | - | | | | |
| **Emergency & Resiliency** | **Evacuation Routes** | Location along evacuations routes with redundancy | - | - | 1 | - | **1** |
| **Emergency & Resiliency** | **Mobile Charging Solutions** | Location along evacuations routes with redundancy | - | Not location criteria. These criteria are to be used for facility programming after location is prioritized | | | |
| **Emergency & Resiliency** | **Hardening of DCFC Stations** | Hardening solutions to ensure safety during storms: strategies such as automatic station shut-off, | - | | | | |

| Category | Criteria | Description | Demand Factor | Multi-Modal | State & Federal Funding | Carbon Footprint Reduction | Weight Factor |
|---|---|---|---|---|---|---|---|
| | | waterproofing, elevated foundations, and structures. | | | | | |
| Land Use | Population Density | 10 to 15 persons per acre | 1 | 1 | - | - | 2 |
| | | 15 to 25 persons per acre | 1 | 1 | - | 1 | 3 |
| Land Use | Employment Density | 10 to 20 employees per acre | 1 | - | - | - | 1 |
| | | 20 to 40 employees per acre | 1 | - | - | - | 1 |
| | | 40 or more employees per acre | 1 | 1 | - | - | 2 |
| Land Use | Mixed Use Multimodal Neighborhoods | Major developments and Developments of Regional Impact that have both residential and commercial components that create significant live wok opportunities. These are significant assets for placement of ACES Hubs; therefore, points are scaled to size:<br>For DRI and new development; 1 point per 1,000 dwelling units, plus 1 point per 1,000 employment units.<br>For existing neighborhoods, 3 points per existing walkable neighborhood and commercial center. | 1 for existing mixed-use area<br><br>1 per 1,000 DU and 1 per 1,000 jobs for DRI | 1 for existing mixed-use area<br><br>1 per 1,000 DU and 1 per 1,000 jobs for DRI | - | 1 for existing mixed-use area<br><br>1 per 1,000 DU and 1 per 1,000 jobs for DRI | **3 for existing mixed-use area**<br><br>**3 per 1,000 DU and 3 per 1,000 jobs for DRI** |
| Land Use | Retail Major Activity Centers | Locations of large centers of compact, contiguous commercial or mixed-use development: 500,000 to 1,000,000 square feet of gross leasable area (gla) | 1 | - | - | 1 | 1 |
| | | Locations of large centers of compact, contiguous commercial or mixed-use development: 1,000,000 or more square feet gla (considered a regional center) | 1 | 1 | - | 1 | 2 |
| Land Use | Hospitals | Locations of hospitals with minimum of Level IV (lowest) Trauma Center | 1 | - | - | - | 1 |

| Category | Criteria | Description | Demand Factor | Multi-Modal | State & Federal Funding | Carbon Footprint Reduction | Weight Factor |
|---|---|---|---|---|---|---|---|
| **Land Use** | **Airports** | Locations of commercial passenger airport terminals | 1 | 1 | - | - | **2** |
| **Land Use** | **Rail Stations** | Locations of commercial passenger rail stations | 1 | 1 | - | 1 | **3** |
| **Land Use** | **Bus Transit & Intermodal Hubs** | Locations of bus transit hubs with multiple bus bays and park-and-ride facilities | 1 | 1 | - | 1 | **3** |
| **Land Use** | **Shared Vehicle Pods** | Locations of publicly located shared vehicle pods | - | 1 | - | 1 | **2** |
| **Equity** | **Disadvantaged Community Investment** | U.S. Department of Transportation (USDOT) Justice40 (J40) is an opportunity to address gaps in transportation infrastructure and public services by working toward the goal that at least 40% of the benefits from many FDOT grants, programs, and initiatives flow to disadvantaged communities. As a criterion for ACES Mobility Hubs, serving TAZs that are identified as J40 helps to serve future demands, , provides economic development support, provides greater equity, and increases funding opportunity. | 1 | - | 1 | - | **2** |
| **Land Use** | **Vacant Public Land within the Driveshed** | Presence of vacant land that is publicly owned and not designated for environmental preservation or utilities. The score is 1 point per acre within 1 mile and ½ point per acre from 1 to 2 miles. | - | - | - | - | **1 / acre within 1 mile; ½ / acre within 2 miles** |
| **Land Use** | **Vacant Private Land within the Driveshed** | Presence of vacant land that is privately owned and part of a DRI or owned by a potentially willing entity. The score is 1 point per acre within 1 mile and ½ point per acre from 1 to 2 miles. | - | - | - | - | **1 / acre within 1 mile; ½ / acre within 2 miles** |

## 2.2 ACES Hub Location Prioritization

**Map 2.1**
**Priority Opportunity / Need Areas for ACES Hubs**
**Weighted Scores for Prioritization by TAZ**



# 3 ACES Opportunity & Gap Areas

## Introduction

In Section 3, the areas for potential ACES mobility hubs are presented and defined based on existing conditions and plans, including the ACES Mobility Hubs Concept (Map 1.1) that is presented in Section 1 and the criteria prioritization and weighting that in Section 2.

The prioritization map is at a geographic level of Transportation Analysis Zones (TAZ) which is the basic geographic unit of the St. Lucie County Transportation Model. TAZ generally represent boundaries of major and secondary roadways (respectively: highways, arterials, and collectors) and generally include areas of homogeneous development. TAZ area size also responds to levels of urbanization, population density and employment density; therefore, in downtown areas a TAZ may only be a few blocks, are several acres in a suburban area, and are very large areas of one or more square miles in agricultural and undeveloped areas. Using the scorings and the heat maps developed by TAZ, aggregations of high scoring areas have been logically assembled to create contiguous areas of gaps and opportunities for siting of ACES Mobility Hubs.

Ten areas have been defined and are provided below in a summary table. For each of the areas, a summary sheet follows that further describes the area, and the criteria rankings that identify these areas as priority areas. Each area is named around its Mobility Centroid, which is the location that initially describes a hub in the network, being at the intersection of two major transportation facilities. It is not necessarily the geographic centroid of the described area.

The interchange of I-95 and Tradition Parkway / Gatlin Boulevard was evaluated to encompass the characteristics of the Tradition and Gatlin area; however, the City of Port St. Lucie has a project underway that includes ACES Mobility Hub components in a mixed-use environment near SIS interchange access. This project (described on page 5) is in partnership with private equity sources including autonomous vehicle operators and development investors to create a mixed-use, jobs-centric mobility hub. When evaluated, this area scored very high based on the criteria in Section 2 and underscores the foresight of the City of Port St. Lucie and its partners to develop the ACES hub. This area is not included in the opportunity and gap area priority analysis because the effort is already underway.

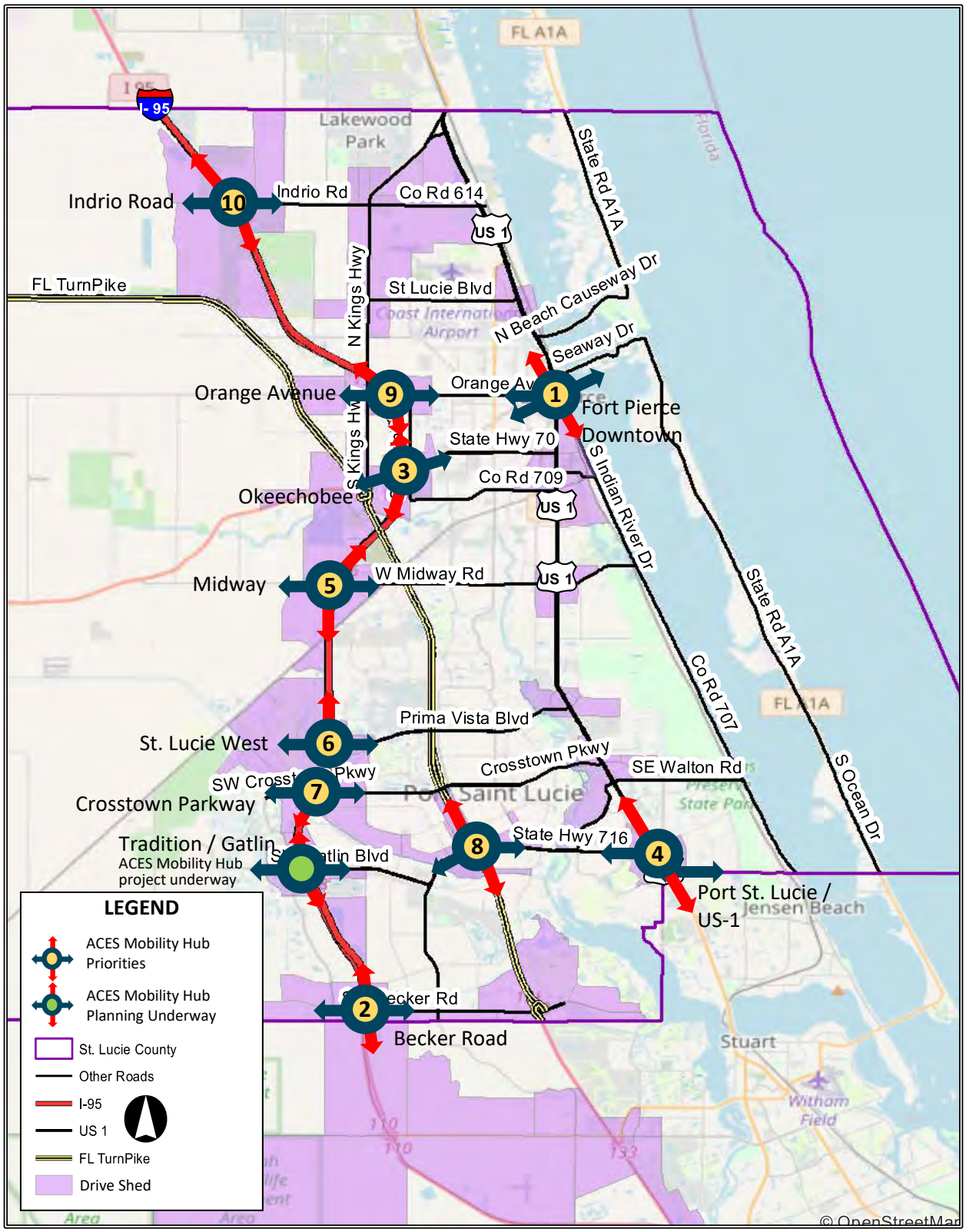
Within the highest priority areas, typical projects will be described in Section 4 for ACES Mobility Hubs to become the nodes of the future St. Lucie County ACES Sustainable Transportation network.

**Table 3.1**
**Opportunity Areas for ACES Mobility Hubs**

| Place | Mobility Centroid | Report Section | Priority |
|---|---|---|---|
| **Fort Pierce Downtown** | Orange Avenue and FEC Railroad | 3.1 | 1 (101 points) |
| **Becker Road** | I-95 Interchange & Becker Road | 3.2 | 2 (73 points) |
| **Okeechobee Road** | Okeechobee Road and I-95 Interchange to Fort Pierce West | 3.3 | 3 (64 points) |
| **US-1 & Port St. Lucie Blvd** | Intersection of US-1 & SE Port St. Lucie Boulevard | 3.4 | 4 (42 points) |
| **Midway Road** | I-95 Interchange & Midway Road | 3.5 | 5 (30 points) |
| **St. Lucie West** | I-95 Interchange & St. Lucie West Boulevard | 3.6 | 6 (21 points) |
| **Crosstown Parkway** | I-95 Interchange and Crosstown Parkway | 3.7 | 7 (21 points) |
| **Port St. Lucie Boulevard & Airoso Boulevard** | Port St. Lucie Boulevard & Florida's Turnpike / Airoso Boulevard | 3.8 | 8 (21 points) |
| **Orange Avenue** | I-95 Interchange and Orange Avenue | 3.9 | 9 (20 points) |
| **Indrio Road Planned Development** | I-95 Interchange & Indrio Road | 3.10 | 10* (17 points) |

* Coordination of Indrio project with proposed Indrio & I-95 and Indrio Town Center mixed-use developments may change priority and timeline.

**Map 3.1**
**ACES Mobility Hubs Concept Prioritized Hubs**



## 3.1 Fort Pierce Downtown

**Mobility Centroid**
Orange Avenue (SR-68)
& FEC Railroad

**Boundaries**
North: Avenue Q
South: Georgia Avenue
East: FEC Railroad
West: S. 25th Street

**Area Type**
Downtown: mixed-use destination and civic / business center

**Major Transportation Infrastructure**
US-1 (SR-5)
Orange Avenue (SR-68)
Okeechobee Road / Delaware Av.
Seaway Drive (A-1A)
Florida East Coast (FEC) Railroad

**Fort Pierce Downtown**
**ACES Mobility Infrastructure Opportunity/Gap Area**
- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.2**
**Fort Pierce Downtown ACES EVSE Infrastructure Opportunity Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | No | 0 | nearest edge is 2.7 miles from I-95 interchange |
| Evacuation Route | Yes | 3 | US-1, Orange Avenue (SR-68), Seaway Drive |
| Population Density Existing | Yes | 9 | 1 TAZ 15+ density, 3 TAZ at 10-15 density |
| Population Density 2045 | Yes | 28 | 6 TAZ at 15+ density, 5 TAZ at 10-15 density |
| Employment Density - Existing | Yes | 11 | 1 TAZ at 40+ emp. density, 6 at 20-40, 3 at 10-20 |
| Employment Density 2045 | Yes | 11 | 1 TAZ at 40+ emp. density, 6 at 20-40, 3 at 10-20 |
| Major Retail Activity Center (MAC) | Yes | 3 | Downtown Fort Pierce (over 1,000,000 sq. ft.) |
| Mixed-Use Development | Yes | 3 | Downtown Fort Pierce |
| Hospitals | Yes | 1 | Florida Lawnwood Hospital is 1.6 mi. from centroid |
| Rail Station | Yes | 3 | Potential for Brightline Station (unconfirmed) |
| Transit Hubs | Yes | 3 | Fort Pierce Bus Terminal: Avenue D & N. 8th St. |
| Disadvantaged Community Investment | Yes | 22 | 11 TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | Yes | 1 | The Depot Drive Site (3 parcels totaling 1.3 acres) has been proposed by the City of Fort Pierce for the Brightline Station site. Status is not confirmed. |
| Vacant Private Land P3 Potential | TBD | 3 | HD King Plan Site (7.2 acres) has been proposed by the City for Brightline site. Status is not confirmed. |
| **TOTAL SCORE** | | **101** | |

## 3.2 Becker Road

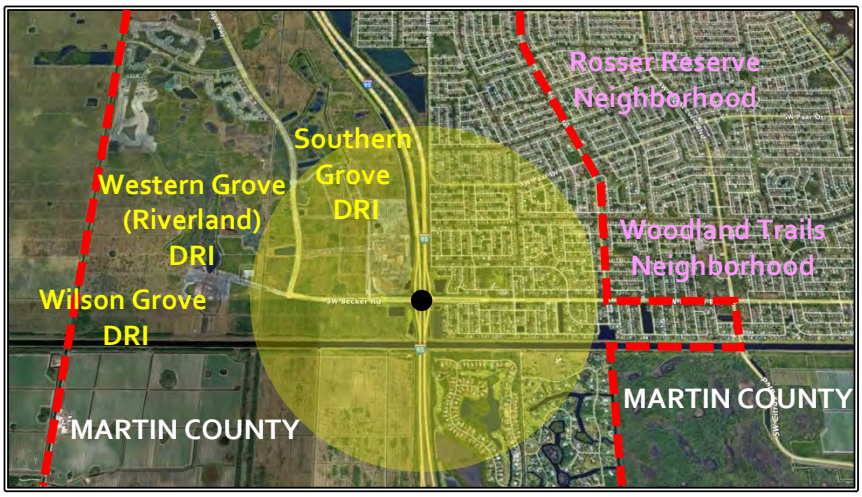
**Mobility Centroid**
I-95 Interchange and
Becker Road

**Boundaries**

| | |
|---|---|
| North | SW Hunnicut Avenue |
| South | County Line |
| East | SW Savona Blvd. |
| West | w.o. SW Village Pkwy. |

**Area Type**
State Highway Interchange
Rural and Suburban Edge

**Major Roadways**
I-95
Becker Road




**Becker Road ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.3**
**Becker Road ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and Becker Road |
| Evacuation Route | Yes | 2 | I-95, Becker Road |
| Population Density Existing | No | 0 | 1 TAZ at 6-10 density, 6 TAZ at 1-6 density, 19 TAZ at 0-1 |
| Population Density 2045 | No | 0 | 7 TAZ at 6-10 density, 6 TAZ at 1-6 density, 12 TAZ at 0-1 density |
| Employment Density - Existing | No | 0 | 7 TAZ at 0-10 emp. density |
| Employment Density 2045 | Yes | 0 | 7 TAZ at 0-10 emp. density |
| Major Retail Activity Center (MAC) | Yes | 7 | Future Retail MAC with DRIs at 1.8-million sq ft, 893,000 sq. ft., and 765,000 sq. ft. |
| Mixed-Use Development | Yes | 50 | **Southern Grove DRI**: 7,388 HH; employment, 14,069. **Western Grove DRI**: 11,700 HH; employment, 4,412. **Wilson Grove DRI:** 7,700 HH; employment, 4,412. |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | None |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | Yes | 3 | City of Port St. Lucie owns 15.4 acres on the east side of the interchange; however, it is used for storm water retention and not suitable. The City also owns 2.9 acres along the south side of Becker Road that may be suitable, noting that it is adjacent to single family homes, so facilities must be small and low impact. |
| Vacant Private Land P3 Potential | Yes | 9 | DRI: Southern Grove, Western Grove, Wilson Grove |
| **TOTAL SCORE** | | **73** | |

## 3.3 Okeechobee Road: I-95 to Fort Pierce

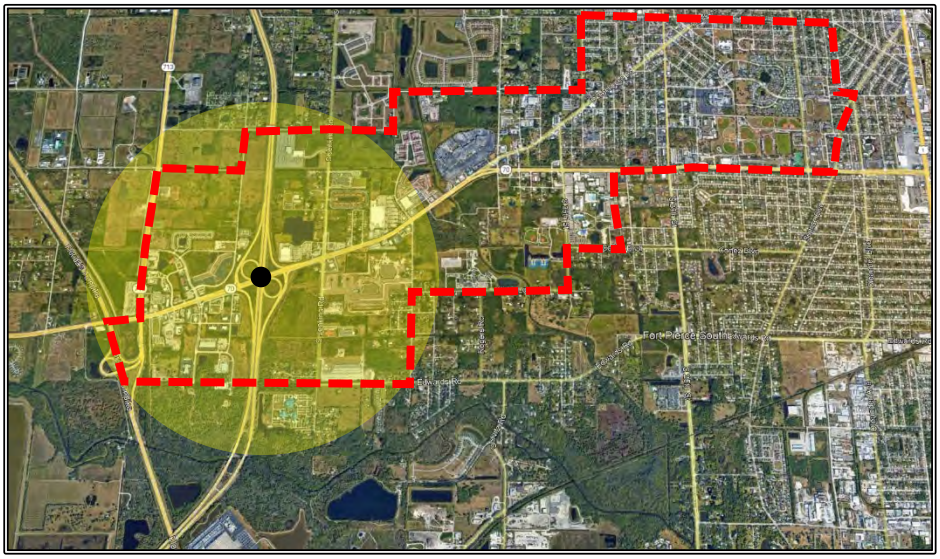
**Mobility Centroid**
Interchange of I-95 and Okeechobee Road

**Boundaries**

| | |
|---|---|
| North | Georgia Avenue |
| South | Virginia Avenue<br>Edwards Road |
| East | S. 7th Street<br>SW 23rd Steet<br>McNeil Road |
| West | I-95 |

**Area Type**
State Highway Interchange
Commercial Corridors

**Major Roadways**
I-95
Florida's Turnpike
Okeechobee Road
South Kings Highway



**Okeechobee Road / I-95 / Fort Pierce West**
**ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.4**
**Okeechobee Road: I-95 to Ft. Pierce West ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and Fl Turnpike at Okeechobee |
| Evacuation Route | Yes | 4 | I-95, Fl. Turnpike, Okeechobee Rd (SR-70), Kings Hwy |
| Population Density Existing | Yes | 4 | 2 TAZ at 10-15 density |
| Population Density 2045 | Yes | 18 | 2 TAZ at 15+ density, 6 TAZ at 10-15 density |
| Employment Density - Existing | Yes | 4 | 1 TAZ at 20-40 emp. density, 2 at 10-20 emp. density |
| Employment Density 2045 | Yes | 6 | 2 TAZ at 20-40 emp. density, 2 at 10-20 emp. density |
| Major Retail Activity Center (MAC) | Yes | 3 | Walmart (220,000 sq. ft.), Indian River State College |
| Mixed-Use Development | No | 0 | Okeechobee corridor not walkable to MF residential |
| Hospitals | Yes | 1 | Florida Lawnwood Hospital is 3.1 mi. from centroid |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | St. Lucie ART Route 3 bus stops. No Transit hub. |
| Disadvantaged Community Investment | Yes | 14 | 7 TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | Yes | 8 | One mile west, a 13-acre parcel south of Okeechobee and west of Kings Hwy with the western 3 acres used for maintenance equipment may be repurposed. On the south side of Okeechobee, Indian River State College owns a 5.7-acre vacant parcel, 1 mile from the centroid. It is designated for general commercial use. Intended use is not known. |
| Vacant Private Land P3 Potential | TBD | 0 | None |
| **TOTAL SCORE** | | **64** | |

## 3.4 US-1 & Port SE Port St. Lucie Boulevard

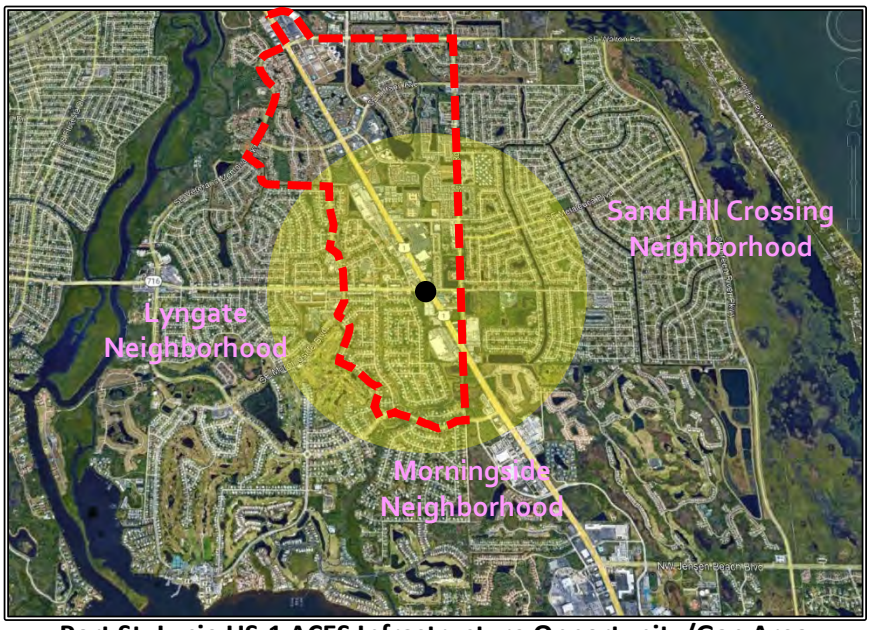
**Mobility Centroid**
US-1 and
Port St. Lucie Boulevard

**Boundaries**

| | |
|---|---|
| North | Crosstown Parkway<br>SE Walton Road |
| South | County Line |
| East | SE Lennard Road |
| West | SE Midport Road |

**Area Type**
Commercial Corridor
Intersection with Major Arterial

**Major Roadways**
US-1
SE Port St. Lucie Boulevard
SE Walton Road
NW Jensen Beach Boulevard




**Port St. Lucie US-1 ACES Infrastructure Opportunity/Gap Area**
- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.5**
**US-1 & SE Port St. Lucie Blvd. ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | No | 0 | I-95 interchange is 4.3 miles west |
| Evacuation Route | Yes | 4 | US-1, Crosstown Pkwy, SE Walton Rd, SE PSL Blvd. |
| Population Density Existing | Yes | 6 | 3 TAZ at 10-15 density |
| Population Density 2045 | Yes | 11 | 1 TAZ at 15+ density, 4 TAZ at 10-15 density |
| Employment Density - Existing | Yes | 5 | 1 TAZ at 40+ emp. density, 2 at 20-40, 1 at 10-20 |
| Employment Density 2045 | Yes | 2 | 1 TAZ at 40+ emp. density, 2 at 20-40, 1 at 10-20 |
| Major Retail Activity Center (MAC) | Yes | 5 | Treasure Coast Square (950,000 sq. ft.), Super Center, (450,000 sq. ft.) Walmart (220,000 sq. ft.) |
| Mixed-Use Development | Yes | 6 | US-1 commerce with Lyngate neighborhood to west and Sandhill Crossing neighborhood to east |
| Hospitals | Yes | 0 | HCA Florida St. Lucie Hospital |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 3 | St. Lucie ART Route 1 & 4 bus stops. No Transit hub. |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | The City of Port St. Lucie owns 7 acres of vacant land at SE Hillmoor Drive and 32 acres of land on Mariposa Avenue. All are designated for conservation. |
| Vacant Private Land $P_3$ Potential | TBD | 0 | At 2002 SE Port St. Lucie Blvd, there is a 4.6-acre parcel belonging to Southern Bell Telephone & Telegraph and used as a communication substation. It is mostly underutilized with an 11,220 sq. ft. building and little parking. $P_3$ potential is not determined. |
| **TOTAL SCORE** | | **42** | |

# 3.5 Midway Road

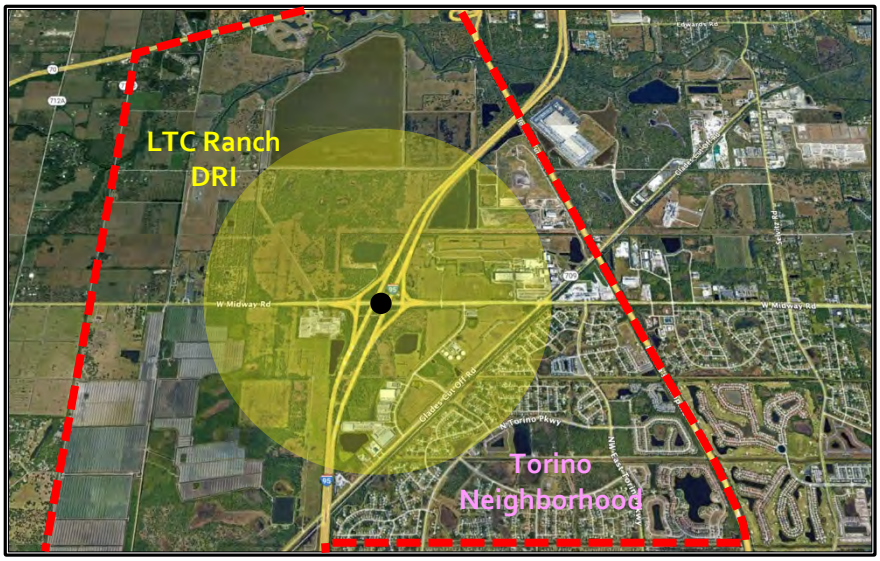
**Mobility Centroid**
I-95 Interchange and
W. Midway Road

**Boundaries**

| | |
|---|---|
| North | approximate latitude where I-95 & Tpk cross |
| South | North Torino Pkwy. canal s.o. W Blanton |
| East | Florida's Turnpike |
| West | McCarty Road |

**Area Type**
State Highway Interchange
Rural and Suburban Edge

**Major Roadways**
I-95
W. Midway Road




**Midway Road ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.6**
**Midway Road ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and W. Midway Road |
| Evacuation Route | Yes | 2 | I-95, W. Midway Road |
| Population Density Existing | Yes | 2 | 1 TAZ at 10-15 density, 18 TAZ at 1-6 density, 11 TAZ at 0-1 density |
| Population Density 2045 | Yes | 4 | 2 TAZ at 10-15 density,2 TAZ at 6-10 density, 19 TAZ at 1-6 density, 11 TAZ at 0-1 density |
| Employment Density - Existing | Yes | 0 | 30 TAZ at 0-10 emp. density |
| Employment Density 2045 | Yes | 0 | 30 TAZ at 0-10 emp. density (LTC approx. 3 / acre) |
| Major Retail Activity Center (MAC) | Yes | 0 | None |
| Mixed-Use Development | Yes | 7 | **LTC Ranch DRI**, Wylder Residential Development: 2,500 HH, 980,100 sq. ft. offices, 1,275 employment. **Torino neighborhood** and **Town Center.** |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | None |
| Disadvantaged Community Investment | No | 10 | 5 TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | None |
| Vacant Private Land P3 Potential | Yes | 3 | The LTC Ranch DRI is planned as a major mixed-use development encompassing 200 acres north of Midway Road and west of I-95. South of the DRI is a 46-acre parcel owned by FPL and the site of an electric substation. It is not likely for use without hindering safe operation of the substation. |
| **TOTAL SCORE** | | **30** | |

## 3.6 St. Lucie West

**Mobility Centroid**
I-95 Interchange and
St. Lucie West Boulevard

**Boundaries**

| | |
|---|---|
| North | NW Peacock Blvd. |
| South | Crosstown Pkwy. |
| East | Country Club Drive |
| West | SW Visconti Way<br>Glades Cut Off Road |

**Area Type**
State Highway Interchange
Commercial Corridor
Suburban

**Major Roadways**
I-95
St. Lucie West Boulevard


**St. Lucie West ACES EVSE Infrastructure Opportunity/Gap Area**
- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.7**
**St. Lucie West ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and St. Lucie West Boulevard |
| Evacuation Route | Yes | 1 | I-95 interchange, St. Lucie West Boulevard |
| Population Density Existing | Yes | 2 | 1 TAZ at 10-15 density |
| Population Density 2045 | Yes | 2 | 1 TAZ at 10-15 density |
| Employment Density - Existing | Yes | 4 | 4 TAZ at 10-20 emp. density |
| Employment Density 2045 | Yes | 4 | 1 TAZ at 20-40 emp. density, 3 at 10-20 |
| Major Retail Activity Center (MAC) | Yes | 3 | Town Center at St. Lucie West (920,000 sq. ft.) |
| Mixed-Use Development | Yes | 3 | St. Lucie West neighborhoods and Town Center, and Indian River State College, Ken Pruitt Campus |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | St. Lucie ART Route 8 bus stops. No Transit hub. |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | There are several large parcels east of the interchange that are owed by St. Lucie West Services District; however, they are designated for preservation/ conservation. |
| Vacant Private Land P3 Potential | Yes | 0 | None |
| **TOTAL SCORE** | | **21** | |

## 3.7 Crosstown Parkway

**Mobility Centroid**
I-95 Interchange and
Crosstown Parkway

**Boundaries**

| | |
|---|---|
| North | s.o. St. Lucie West Blvd. / Reserve Blvd. |
| South | Tanforan Blvd. s.o. Webster Lane |
| East | w.o. SW California Blvd. |
| West | Novella Way Fairgreen Road |

**Area Type**
State Highway Interchange
Suburban

**Major Roadways**
I-95
Crosstown Parkway


**Crosstown Parkway ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.8**
**Crosstown Parkway ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and Crosstown Parkway |
| Evacuation Route | Yes | 2 | I-95 interchange, Crosstown Parkway |
| Population Density Existing | Yes | 0 | 8 TAZ at 1-6 density, 3 TAZ at 0-1 density |
| Population Density 2045 | Yes | 0 | 3 TAZ at 6-10 density, 6 TAZ at 1-6 density, 2 TAZ at 0-1 density |
| Employment Density - Existing | Yes | 0 | 11 TAZ at 0-10 emp. density |
| Employment Density 2045 | Yes | 0 | 11 TAZ at 0-10 emp. density |
| Major Retail Activity Center (MAC) | Yes | 3 | Future Retail MAC with Verano |
| Mixed-Use Development | Yes | 8 | **Verano DRI**: 7,200 HH, 848,500 sq. ft. commercial, employment of 865 |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | None |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | The City of Port Saint Lucie owns 84.8 acres of land that is designated for electric transmission easement and designated for open space and conservation. |
| Vacant Private Land P3 Potential | Yes | 6 | Verano DRI is currently building out. Mostly single-family residential, there is a mixed-use commercial center on the northwest corner of SW Crosstown Parkway and Village Parkway. The 36.7-acre Verano Center Community Development District is located at the southwest corner of the I-95 interchange . |
| **TOTAL SCORE** | | **21** | |

# 3.8 SE Port St. Lucie Boulevard & Airoso Blvd. / Florida's Turnpike

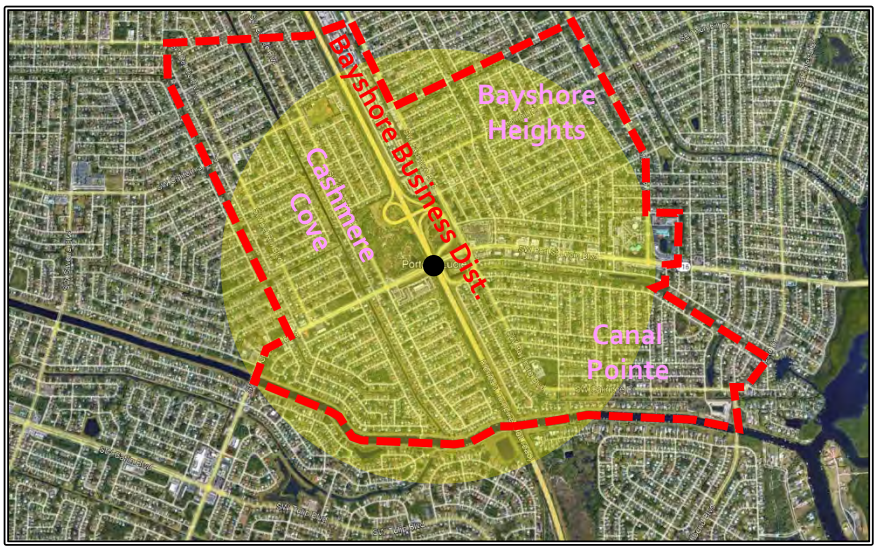
**Mobility Centroid**
Florida's Turnpike and
SE Port St. Lucie Boulevard

**Boundaries**

| | |
|---|---|
| North | Crosstown Parkway<br>SW Voltair Terrace |
| South | St. Lucie River |
| East | SW Airoso Blvd.<br>SE Floresta Drive |
| West | SW Susset Lane<br>SW PSL Blvd. |

**Area Type**
State Highway Interchange
Commercial Corridor
Suburban

**Major Roadways**
Florida's Turnpike
SE Port St. Lucie Boulevard




**SE Port St. Lucie Boulevard & Florida's Turnpike**
**ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.9**
**SW Port St. Lucie Blvd. & Florida's Tpk. ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | Turnpike and Port St. Lucie Boulevard interchange |
| Evacuation Route | Yes | 2 | Florida's Turnpike, SE Port St. Lucie Boulevard |
| Population Density Existing | Yes | 2 | 1 TAZ at 10-15 density |
| Population Density 2045 | Yes | 2 | 1 TAZ at 10-15 density; significant densification in area with TAZs growing from density of 1-6 to 6-10. |
| Employment Density - Existing | No | 0 | All TAZ at 0-10 emp. density |
| Employment Density 2045 | No | 0 | All TAZ at 0-10 emp. density |
| Major Retail Activity Center (MAC) | No | 1 | PSL Boulevard commercial strip |
| Mixed-Use Development | Yes | 6 | **Bayshore Business District** and **PSL Blvd commercial corridor** with neighborhoods of Cashmere Cove, Bayshore Heights and Canal Pointe. |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | Yes | 2 | Port St. Lucie Intermodal Transit Facility |
| Disadvantaged Community Investment | Yes | 4 | 2 TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | None |
| Vacant Private Land P3 Potential | No | 0 | At the southeast corner of the interchange is a 5.8-acre parcel owned by FPL and the site of an electric substation. Part of the land is vacant, and access to the site is difficult. It is not likely for use without hindering safe operation of the substation. |
| **TOTAL SCORE** | | **21** | |

## 3.9 Orange Avenue

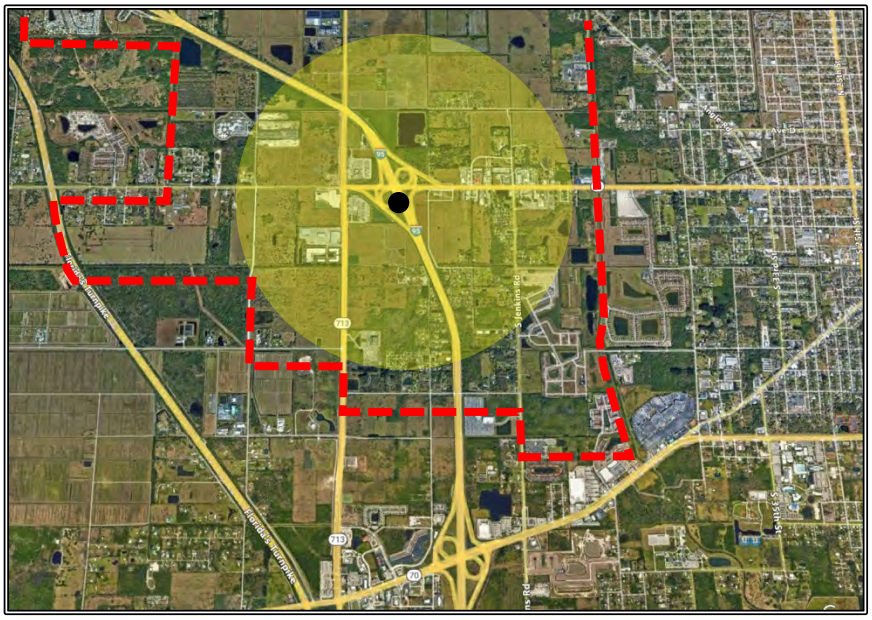
**Mobility Centroid**
I-95 Interchange and
Orange Avenue

**Boundaries**

| | |
|---|---|
| North | W Angle Road |
| South | Picos Road, Graham Road |
| East | Panther Lane, canal |
| West | Florida's Turnpike |

**Area Type**
State Highway Interchange
Rural / Suburban Edge

**Major Roadways**
I-95
Orange Avenue
Kings Highway



**Orange Avenue ACES EVSE Infrastructure Opportunity/Gap Area**
- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.10**
**Orange Avenue ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and Orange Avenue |
| Evacuation Route | Yes | 3 | I-95 interchange, Orange Avenue, Kings Highway |
| Population Density Existing | Yes | 0 | 1 TAZ at 1-6 density, 9 TAZ at 0-1 density |
| Population Density 2045 | Yes | 0 | 6 TAZ at 1-6 density, 4 TAZ at 0-1 density |
| Employment Density - Existing | Yes | 0 | 10 TAZ at 0-10 emp. density |
| Employment Density 2045 | Yes | 0 | 10 TAZ at 0-10 emp. density |
| Major Retail Activity Center (MAC) | Yes | 0 | None |
| Mixed-Use Development | No | 0 | None |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | None |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | TBD | 15 | At 5220 Orange Avenue, FDOT owns 28.7 acres of vacant land, 2 miles east of the interchange. It is not right-of-way. The intended purpose is not known. |
| Vacant Private Land P3 Potential | No | 0 | There are large lots currently in development for industrial and logistics uses. There are no major planned mixed-use developments. |
| **TOTAL SCORE** | | **20** | |

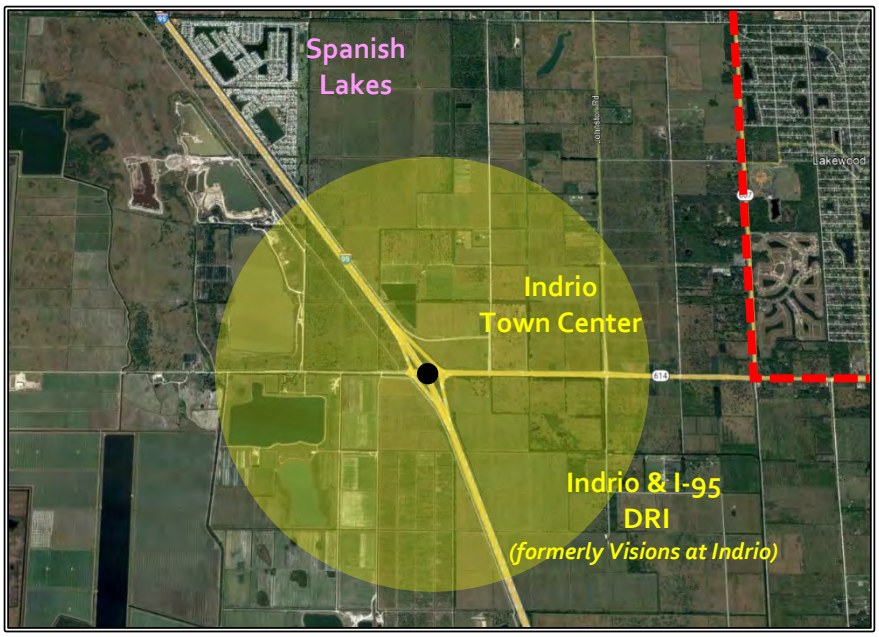
# 3.10 Indrio Road Planned Development

**Mobility Centroid**
I-95 interchange and
Indrio Road

**Boundaries**
North 25th Street SW
South canal
East Johnston Road
West not defined

**Area Type**
State Highway Interchange
Rural
Large Planned Mixed-Use
Development

**Major Roadways**
I-95
Indrio Road




**Indrio Road ACES EVSE Infrastructure Opportunity/Gap Area**

- red dashed line = boundary of TAZs and criteria that identify area
- black dot is opportunity area mobility centroid
- yellow shaded circle is 1-mile radius around mobility centroid

**Table 3.11**
**Indrio Planned Development ACES EVSE Infrastructure Opportunity/Gap Area Criteria**

| Criteria | Finding | Score | Comments |
|---|---|---|---|
| State Intermodal System Driveshed | Yes | 2 | I-95 interchange and Indrio Road |
| Evacuation Route | Yes | 2 | I-95 interchange, Indrio Road |
| Population Density Existing | No | 0 | All TAZ at 0-1 and 1-6 density |
| Population Density 2045 | No | 0 | All TAZ at 0-1 and 1-6 density. Developer plans 2,683 homes – density is not determined. |
| Employment Density - Existing | No | 0 | All TAZ at 0-10 emp. density |
| Employment Density 2045 | No | - | All TAZ at 0-10 emp. density |
| Major Retail Activity Center (MAC) | Yes | 3 | Future Retail MAC with I-95 and Indrio DRI |
| Mixed-Use Development | Yes | 4 | **I-95 & Indrio DRI**: 2,683 HH, 1,088,00 sq. ft. commercial, employment of 1,109. |
| Hospitals | No | 0 | None |
| Rail Station | No | 0 | No rail station existing or planned |
| Transit Hubs | No | 0 | No transit service. No Transit hub. |
| Disadvantaged Community Investment | No | 0 | No TAZ are identified as J40 areas |
| Publicly Controlled Vacant Land | No | 0 | None |
| Vacant Private Land P3 Potential | Yes | 6 | Indrio & I-95 DRI (837 acres); Indrio Town Center (111 acres). Also, most of the land near the interchange is currently in active agricultural use, with assemblages ranging from 225 acres to 1,850 acres. |
| **TOTAL SCORE** | | **17** | |

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# 4 ACES Mobility Hub Concepts

## Introduction

In Section 3, eleven opportunity areas are identified as priority areas in which an ACES Mobility Hub may be located that would meet a range of different criteria that address the geography of the St. Lucie County transportation network, emergency response and resiliency considerations, land use, aggregations of population, aggregations of employment, major retail activity centers, existing or planned intermodal hubs, and development of disadvantaged com munities. The eleven areas represent a range of opportunities for linking the component of the future ACES network, ranging from a downtown to a major activity center at commercial crossroads, to more highway-focused locations that also serve the State Intermodal System, and to green-fields where major future development is planned.

## Mobility Hub Facility Components

While Mobility Hubs provide a focal point in the transportation network to integrate different modes of transportation with multi-modal supportive infrastructure, they also often include place–making strategies to create activity centers to maximize first–and-last-mile connectivity and provide a destination or semi-destination for creating an attractive location for charging EV. Mobility Hub design and programming include six areas discussed below.

**1. Pedestrian Facilities** that are related to encouraging walking within the Mobility Hub and to and from connections to connect to existing or planned neighborhoods and commercial districts. Closely related to this are encouraging active uses that focuses on supporting mixed-use environment with quality public space. In addition, the multimodal aspects require infrastructure to ensuring safe and comfortable environment for users with information, intuitive design, comfortable and secure infrastructure, protected road crossings, waiting areas, and improved safety and security.

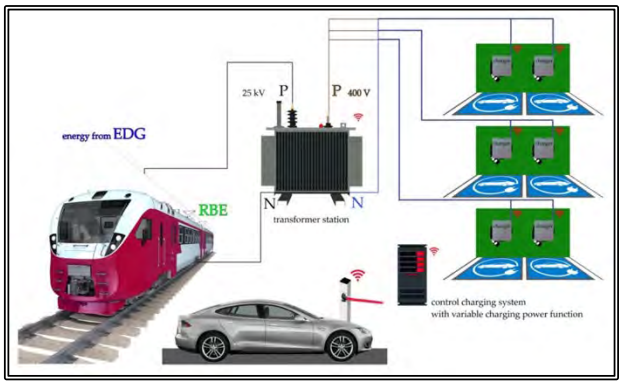
**2. Bike Facilities** that are related to encouraging these means as a first-and-last-mile choice to and from a mobility hub. Bike facilities include all modes that provide personal transportation that are road-legal vehicles, Low Speed Electric Vehicles, or golf carts and not pedestrian. This mode includes human-powered bikes, electric bicycles, scooters, and skateboards. Design programing should include continuous connections and storage facilities

*Shared E-Bike solar-powered, charging dock*
*WeCycle / Sky Hook charging station, Basalt, Colorado*

for both personal and shared bicycles, scooters, and skateboards.

**3. Vehicle Facilities** are related to encouraging and developing ride share, car share, and adoption of alternative fuel sources and green technology such as electric vehicles. This includes adequate parking for the intermodal purposes, as well as adequate capacity of electric Level 3 DC fast chargers charging capacity for EV vehicles and designated spaces for EV shared vehicles (Uber/Lyft delivery model) and short-term rental shared vehicles (Zip-Car/Car2Go delivery model). For highway-focused Mobility Hubs, truck, and other commercial vehicles EV chargers as well as conventional fueling also need to be assessed.

Transit Commuter Parking to provide sufficient EV and non-EV parking capacity to serve the intermodal functions. Whether supporting rail or bus transit, this is a day-parking capacity with little turnover. In addition to forecasting capacity, it is also necessary to have sufficient electrical capacity to provide for conversion of conventional parking spaces to EV parking spaces as EV adoption. Systems are available to control the power requirements depending on space occupancy, level of charge, and the arrival of trains or buses that will temporarily require higher electric current.




*Example of electric demand control system for intermodal stations with EV charging*

The car sharing EV component requires an adequate number of EV spaces that are in high-visibility priority locations both from the transit platforms and from the surrounding neighborhood or commercial district.

*Example of dedicated EV car sharing spaces*

Parking capacity is also necessary for the destination retail and public place components of the Mobility Hub. Retail establishments will rely on commuters and non-commuting clientele to thrive. An adequate number of parking spaces (accounting or discounting for commuters and mixed-use pedestrian traffic) is required to support these businesses. These spaces are also in more prioritized locations and include a mix of conventional and EV spaces with the capability to convert more to EV as the EV adoption rate grows.

*Example of large EV parking capacity for day use*

In addition to the parking needs above, there is also a need for transient EV charging stations that may be included with the retail parking. Particularly at Mobility Hubs that are within the driveshed of highways, these are priority located Level 3 DC fast chargers for travelers to stop and conveniently charge while occupied with retail and restaurant uses, while becoming more familiar with the location. This is akin to an interstate highway rest stop.

Some of the infrastructure planning for the EV automotive recharging needs include:

- Electrical supply that is needed for current and future forecast needs. High-speed DC fast charging requires 480-volt, 3-phase electrical service. The kilowatts for peak demand need to be forecast, along with peak management strategies.
- Space for the electrical infrastructure (electrical panels, remote power cabinets, conduit runs, and the charging stations themselves) in a safe location with access that meets building codes.
- Making chargers easy to find with signage and live wayfinding to an available space.
- How to serve both commercial and passenger vehicles. For most passenger vehicles, pulling or backing into a spot is the most desirable configuration. For larger vehicles, commercial vehicles or vehicles towing trailers, pull-through configurations for EV charging need to be considered.
- EV charging stations and electrical service need to be scaled up in the future.
- How will the EV charging be funded and what can impact expected returns on investment.

*Example of DC Fast Charging with conventional pull-through service island*

**4. Bus Facilities** are related to encouraging public transit bus ridership at the levels of: fixed regional routes, smaller area shuttles and trolleys and demand-responsive micro-transit. The facilities vary as the vehicle technology used by each level of transit varies:

- Regional transit buses are typically full-sized 40-foot buses, for which the fleet is running on fossil fuels and does need refueling at a Mobility Hub; however, as the fleet electrifies, enroute charging during layover time may aid the route schedule and duration. For charging in a Mobility Hub, safety will likely require inductive charging, either overhead or embedded in the road surface. and bus layover zones in particular.
- Shuttles and trolleys that travel through smaller service areas, are typically smaller buses either based on a small truck or van chassis. These vehicle fleets are also converting to battery electric propulsion and will require similar facilities as for full size buses; however, the inductive charging equipment may not be the same. In terms of facility programming, stop/layover areas for shuttles must be different from full size buses.
- Demand responsive micro-transit is trending strongly toward use of low-speed electric vehicles (LSEV) with 6 to 10 seats and door opening for each row. In addition to a distinct stop, micro-transit LSEV require an EV charging point. The LSEV technology can use assigned Level 3 EV parking spaces.

For all of the bus types, there must be separate transitway circulation in the Mobility Hub to access and depart the stops. Ideally, separated and or priority operations should be incorporated on the approach to the hub. This is necessary to provide priority to transit that will not be hindered from personal vehicle queues and is especially important near congested intersections and where hubs serve highways at locations near a limited-access highway interchange.


*In ground inductive charging for buses - Momentum Dynamics, Lynx Transit*

## 5. Rail Facilities

are related to encouraging public transit ridership at the levels of urban light rail, metro heavy rail, or intercity line-haul, heavy rail. These are appropriate discussions only where there is an existing passenger rail station, or a passenger rail station that is planned or potentially planned in partnership with a rail service operator. In addition to all of the other modes, an additional set of facilities are required that include enough linear space along an active right-of-way for the intended platform length which is related to the rail engine, livery, and number of passenger cars to be in operation at peak times. Electrical needs must be coordinated with the needs of EV charging at a mobility hub. The rail service, in addition to the platform requires a ticketing area and lounge; however, much of the lounge, retail and pedestrian transfer spaces will be shared with the Mobility Hub facilities. Rail operators have their own specific needs for their station locations, and these should be references. Relevant to St. Lucie County, there is an evaluation underway for a Brightline Station in Fort Pierce. Brightline has provided its station requirements, and these are summarized below.

**Criteria for Considering Brightline Station Locations in the Treasure Coast** *(not all-inclusive)*

*source: Brightline Trains, LLC, provided to Treasure Coast Regional Planning Council, August 27, 2018*

**Ridership Potential**

- Population within 30 miles of proposed station
- Population within 5 miles of station
- Proximity to key origins and destinations
- Proximity to business centers, attractions, hotels, and residential populations
- Economic and demographic data to support ridership potential
- Intermodal connections with local transit systems
- Accessibility from local street network

**Development Potential**

- Parcel(s) must accommodate 1000 linear feet for station platform
- Total available acreage including station
- Adjacent developable parcels and properties
- Existing land use supports residential, hotel, and business development
- Acres of vacant or underutilized parcels within ½ mile
- Nearby parking and transportation network
- Favorable wetland and floodplain conditions

**Location**

- Distance from other Brightline stations north and south
- Proximity and accessibility to major arterial and collector roads
- Available access points to station from frontage roads
- Proximity to airports
- Proximity to cultural and recreational and commercial destinations
- Area is walkable and compatible with early morning and evening activity
- Location allows continued fluidity of railroad operations for both freight and passenger service
- Location does not cause local vehicular traffic issues

**Community Support**

- Demonstration of community support for a rail station offering regular intercity passenger service connecting the Treasure Coast to South Florida, Central Florida and eventually Tampa from the proposed location
- Local incentives

**6. Information, Public Communication and Data Sharing**: To tie together a Mobility Hub as an ACES (Coordinated) Hub, information, public communication, and data sharing is essential. The hub physically brings together many modes into a single, walkable location. For the intermodality to be seamless for the user, efficient for providers, and productive for the County, schedules, availabilities, capacities, demands, and energy use must be coordinated and communicated via smart phone app, large well-located central kiosks within the hub, and signage at the access points outside of the hub.

## Mobility Hub Typologies

Each Mobility Hub priority area presents unique opportunities and challenges based on its context and transportation functions. In order to reflect the varying mobility needs and the existing built environment, there are general tiers of Mobility Hubs: Typically, there are three types: Regional Hubs, Central Mobility Hubs, and Neighborhood Mobility Hubs. In the context of creating ACES Mobility Hubs to anchor the St. Lucie county ACES mobility network, an additional category is required to describe hubs that are important to the State Intermodal System (SIS) and Florida ACES and EV plans.

**Regional ACES Mobility Hubs** are the largest scale station areas in either dense urban areas or end of line stations where they connect to other regional transit providers. The Regional ACES Mobility Hub offers the most intermodal facilities including:

- direct pedestrian access;
- significant conventional parking with market-proportionate EV charging spaces (level 2 for day parking, Level 3 for shorter parking);
- secured bike parking;
- transit bus stops, shuttle bus stops, and layover zones;
- LSEV demand-responsive transit;
- EV car sharing and short-term membership-based EV car rental;
- E-bike sharing, micro-mobility;
- live wayfinding and information kiosks;
- green spaces, art and other placemaking amenities.

Amenities include walkable mixed-use development and on-site amenities built into the Mobility Hub itself. The hub may be a campus design of multiple buildings or have a single multi-story structure consistent with the surrounding development and land cost considerations.

**Central ACES Mobility Hubs** are typically located in a more suburban context, often at a retail major activity centers (MAC) and at the crossroads of two major mobility facilities. The intermodal facilities may encompass:

- a bus station with one or more bus stops;
- sheltered transfer platforms or lobby to transfer to shuttles and demand responsive micro-transit services;
- a bus EV charging layover facility;
- E-bike sharing and other micro-mobility dock or pod;
- Safe, low stress bicycle paths or buffered lanes leading into and out of the Mobility Hub;
- surface parking that is likely shared with the commercial parking and includes a grouping of several EV charging spaces (level 2 for day parking, mostly level 2 for commuters);
- pedestrian access that safely and comfortably connects to the retail center(s) and the sidewalk network with pedestrian protected, signalized, and marked crossings;
- live wayfinding and information kiosks;
- green spaces, art and other placemaking amenities.

The amenities may be spread throughout the surrounding intersection, while still within easy walking distance from the station itself.

**SIS Central ACES Mobility Hubs** are a special type of Central Mobility Hub that focuses on providing a resting and recharging location for enroute travelers on the State Intermodal System while providing retail amenities scaled for this market and express connections to the Regional Mobility Hub, a major activity center or a downtown. They may also function as park-and-ride facilities to alleviate traffic congestion to downtowns by providing safe and convenient express transit to downtowns and major activity centers. The SIS ACES Mobility Hubs are located within the 1-mile driveshed of and interchange along I-95 or Florida's Turnpike. The intermodal facilities include:

- Level 3 DC Fast Chargers for through travelers and commercial vehicles in pull-through configurations;
- fossil fuel service stations that can be transitioned to more EV chargers;
- a bus station with one or more bus stops;
- sheltered transfer platforms or lobby to transfer to shuttles and demand responsive micro-transit services;
- a bus EV charging layover facility;
- E-bike sharing and other micro-mobility dock or pod depending on location;
- Safe, low stress bicycle paths or buffered lanes leading into and out of the Mobility Hub if there are bicycle facilities programmed;
- commuter surface parking that includes a grouping of several EV charging spaces (level 2 for commuters);
- safe, separated, pedestrian circulation throughout the facility;
- pedestrian access depending on location;
- live wayfinding and information kiosks
- green spaces, art and other placemaking amenities.

The amenities are arranged in a campus configuration with pedestrian circulation throughout.

**Neighborhood Mobility Hubs** are smaller ancillary station areas generally found in lower density neighborhoods or at the entrance to planned are developments. They offer a few basic amenities including wayfinding, bike share and bike parking areas. All these amenities are generally immediately visible from the station stop, and generally located across the street or within the same block.

- a bus sheltered station with one or more bus lines serving it;
- transfer to shuttles and demand responsive micro-transit services;
- E-bike sharing and other micro-mobility dock or pod;
- safe, low stress bicycle paths or buffered lanes leading into and out of the Mobility Hub;
- Small off-street surface parking that includes a grouping of two EV charging spaces;
- pedestrian access that safely and comfortably connect to the sidewalk network with pedestrian protected, signalized, and marked crossings;
- live wayfinding and information kiosks;
- green spaces, art and other placemaking amenities.

Table 4.1 summarizes mobility hub components and amenities for planning in terms of necessity for the type of ACES Mobility Hub. For each component or attribute, there is an indication of whether it is vital (green circle), optional (blue triangle),or not included (red square).

**Table 4.1**
**ACES Mobility Hub Components & Attributes**

| Mobility Mode | Infrastructure | Neighbor-hood ACES Mobility Hub | Central ACES Mobility Hub | SIS Central ACES Mobility Hub | Regional ACES Mobility Hub |
|---|---|---|---|---|---|
| Pedestrian Connections | continuous pedestrian path to and from ACES Mobility Hub | ● | ● | ▲ | ● |
| | walkable environment within ACES Mobility Hub | ● | ● | ● | ● |
| | placemaking green spaces, plazas, and points of interest | ▲ | ● | ● | ● |
| Bicycle & Personal Modes Connections | continuous bike path to and from ACES Mobility Hub | ● | ● | ▲ | ● |
| | bicycle racks | ● | ● | ■ | ● |
| | bicycle lockers | ● | ▲ | ● | ▲ |
| | shared bicycle docks | ● | ● | ▲ | ● |
| | shared E-scooter docks/area | ● | ● | ▲ | ● |
| Vehicle Connections | access separated from transit, pedestrian, and bicycle ways | ▲ | ▲ | ● | ● |
| | commuter long-term day parking | ● | ● | ● | ● |
| | commuter long-term day spaces for Level 2 EV charging | ● | ● | ● | ● |
| | short-term priority parking for retail patronage | ■ | ● | ■ | ● |
| | pick-up drop-off areas for Uber/Lyft type car sharing | ● | ● | ● | ● |
| | priority EV parking for Uber/Lyft type car sharing (L3) | ■ | ● | ▲ | ● |
| | priority EV parking for short-term rental car sharing (L3) | ■ | ● | ▲ | ● |
| | Level 3 DC Fast Chargers in pull-through configuration | ■ | ■ | ● | ■ |
| Bus Infrastructure (Express, Regional, Shuttles) | sheltered bus station area with multiple bus stops | ■ | ● | ● | ● |
| | single bus stop with shelter and amenities | ● | ■ | ■ | ■ |
| | raised platform waiting and boarding area at stop | ▲ | ● | ● | ● |
| | EV charging bus layover zone | ■ | ● | ● | ● |
| Demand Responsive Transit | sheltered waiting area with amenities (may be shared with bus stop) | ● | ● | ● | ● |
| | dedicated LSEV charging space for layover/ wait time | ▲ | ● | ● | ● |

| Mobility Mode | Infrastructure | Neighbor-hood ACES Mobility Hub | Central ACES Mobility Hub | SIS Central ACES Mobility Hub | Regional ACES Mobility Hub |
|---|---|---|---|---|---|
| Passenger Rail | sheltered station area with platform length and width per rail service requirements | ■ | ■ | ■ | ● |
| | raised platform | ■ | ■ | ■ | ● |
| Information & Coordination | large information kiosks in high pedestrian traffic areas | ▲ | ● | ● | ● |
| | real-time schedule information | ● | ● | ● | ● |
| | wi-fi / smartphone real-time information and wayfinding | ● | ● | ● | ● |
| | parking coordination for space and EV charger availability | ■ | ● | ● | ● |
| | public information messaging for safety and other concerns | ● | ● | ● | ● |
| | power management for hub EV charging to manage peaks | ■ | ▲ | ● | ● |
| Support Infrastructure and Active Uses | pedestrian connected waiting areas | ● | ● | ● | ● |
| | retail and eateries with occupancy times that synch-ronize to DC Fast charging | ■ | ● | ▲ | ● |
| | community service retail to provide typical daily needs for intermodal commuters | ■ | ● | ● | ● |
| | Co-workspaces | ■ | ● | ▲ | ● |
| | mixed use development within 5-minute walkshed | ■ | ● | ▲ | ● |
| | package delivery lockers to reduce home delivery trips | ▲ | ▲ | ▲ | ● |
| | waiting areas and lounges with information & infotainment | ▲ | ● | ● | ● |
| | green spaces and plazas | ▲ | ● | ● | ● |
| | water fountains to help mask the sound of transport vehicles | ▲ | ▲ | ▲ | ▲ |
| | art-in-public places to visually relieve pedestrian users | ▲ | ▲ | ▲ | ▲ |
| | signage for identity / branding | ● | ● | ● | ● |

Key: Vital ● Optional ▲ Not required or not applicable ■

The typologies that are appropriate for each of the eleven areas are summarized in Table 4.2.

**Table 4.2**
**ACES Mobility Hub Typologies for the Ten Opportunity Areas**

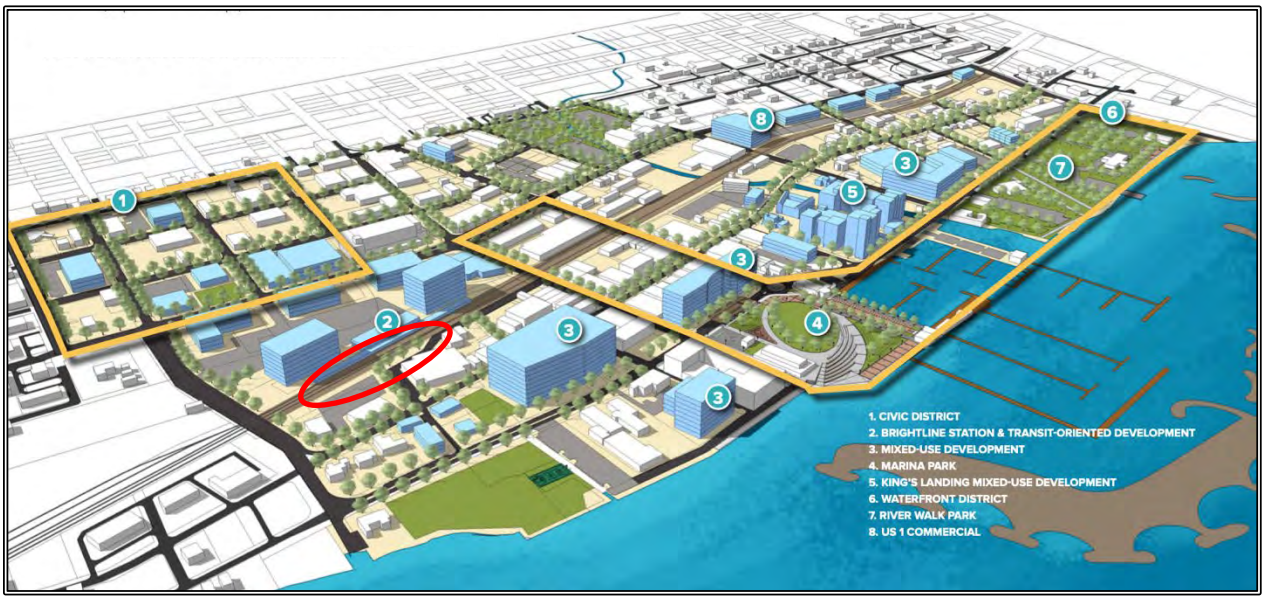
| Place | Mobility Centroid | Priority | Mobility Hub Typology |
|---|---|---|---|
| **Fort Pierce Downtown** | Orange Avenue & FEC Railroad | 1 | Regional |
| **Becker Road** | I-95 Interchange & Becker Road | 2 | SIS Central |
| **Okeechobee Road** | Okeechobee Road: I-95 to Fort Pierce West | 3 | SIS Central |
| **US-1 & Port St. Lucie Blvd** | US-1 & SE Port St. Lucie Boulevard | 4 | Central |
| **Midway Road** | I-95 Interchange & Midway Road | 5 | SIS Central |
| **St. Lucie West** | I-95 Interchange & St. Lucie West Boulevard | 6 | SIS Central |
| **Crosstown Parkway** | I-95 Interchange and Crosstown Parkway | 7 | SIS Central |
| **Port St. Lucie Boulevard & Airoso Boulevard** | Port St. Lucie Boulevard & Florida's Turnpike / Airoso Boulevard | 8 | SIS Central |
| **Orange Avenue** | I-95 Interchange and Orange Avenue | 9 | SIS Central |
| **Indrio Road Planned Development** | I-95 Interchange & Indrio Road | 10 | SIS Central |

In the following sections, the typologies are applied to the top four Mobility Hub priority areas that were identified in Section 3. Each provides an example of how the ACES Mobility Hub attributes can be applied to specific areas to help determine typology, siting, infrastructure, and components. Each represents a different typology of ACES Mobility Hub.

Specific sites are suggested as ideal locations within the area; however, Mobility Hub site selection must be determined with further analysis of public and privately available land within each area, land costs, acreage, access and utilities, area compatibility, land development regulations, and specific opportunities for public-private partnerships. Site selection also goes hand-in-hand with forecasting capacities of the infrastructure components which requires demand forecasting analysis and relevant pro-forma analysis, after which decisions regarding horizontal or vertical development will help determine required land area required and specific location.

Section 1.2 of this report provides some visual examples of urban vertically developed mobility hubs in urban settings (Tacoma Dome Station, Tacoma Washington, p. 12) as well as more suburban horizontally developed mobility hubs. (Kalauao Mobility Hub, Honolulu metropolitan area, Hawaii, conceptual drawing) Additional photo examples are provided for each typology from other areas in the country. Most are also in conceptual or planning stages.

## 4.1 Fort Pierce ACES Mobility Hub Concept




*Fort Pierce Downtown Vision Plan, potential site for Brightline Station a potential site for the Fort Pierce ACES Mobility Hub (indicated by red oval) Source: Fort Pierce Downtown Master Plan, November 2022*

The City of Fort Pierce is well-positioned to be selected as a location for a Brightline Station intercity passenger rail station. The *Fort Pierce Downtown Master Plan* has identified several parcels of underutilized and vacant property directly adjacent to the rail corridor that could provide a location for the future Brightline Station as well as provide redevelopment opportunities for mixed-use development. The Brightline Train station will serve as a catalyst for walkable, transit-oriented downtown redevelopment, and connect people by electrically-powered regular passenger service to Orlando, West Palm Beach, Fort Lauderdale, and Miami.

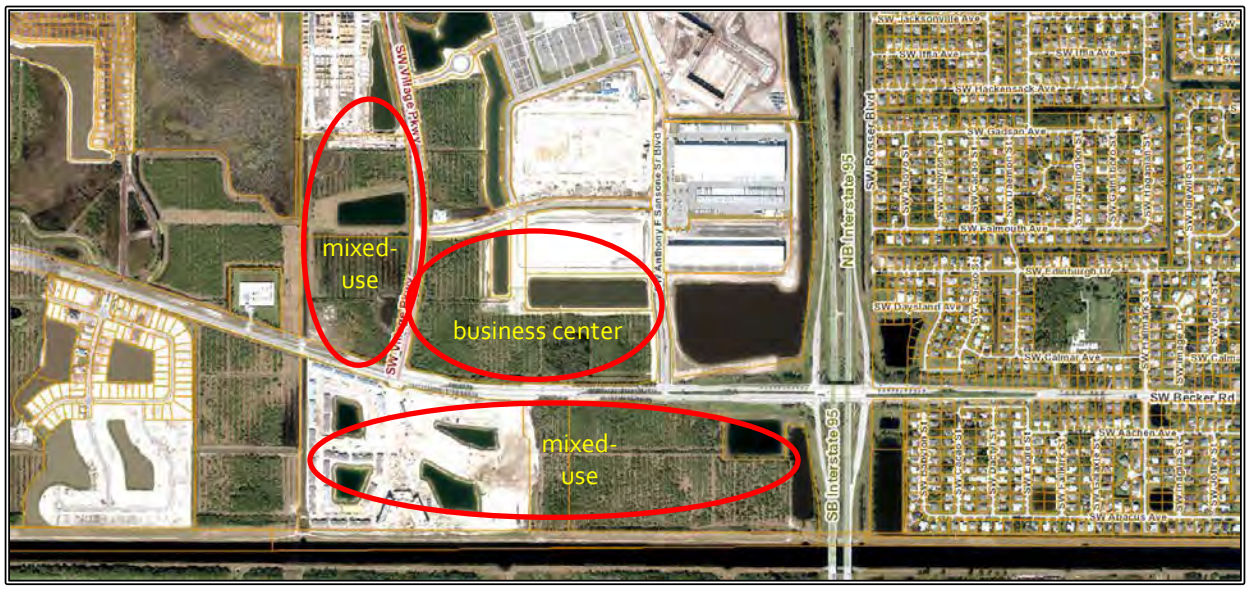
This area is priority #1 as an ACES Mobility Hub. The focus of this ACES Mobility Hub is intercity rail service that can also enable long-distance commuter travel which in turn spins off economic development in down-town Fort Pierce as an employment destination and housing market. The existing waterfront downtown is compact, walkable, and includes restaurants, small shops and a center of government offices and legal services. It is well suited for micro-mobility, transit, and other alternative mobility, for which the rail service establishes an effective hub.

*Concept planning for rail station mobility station in Sacramento, California – illustration by Perkins + Will*

**Table 4.3**
**Fort Pierce ACES Mobility Hub Components**

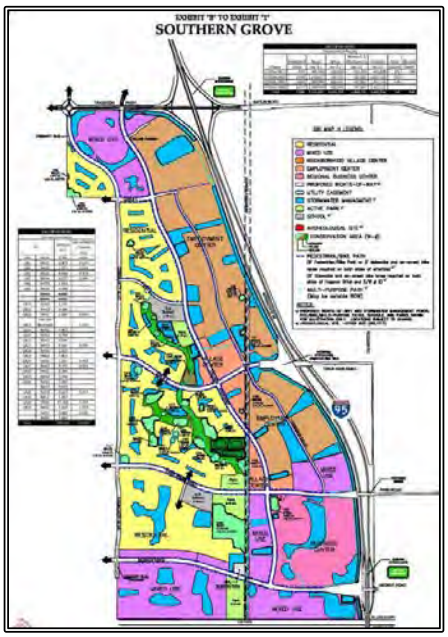
| | |
|---|---|
| Aces Mobility Hub Type | Regional |
| City | Fort Pierce |
| Setting | Urban Downtown |
| Primary Transportation Mode | Passenger Rail – Intercity |
| SIS Links | not applicable |
| Transit | • St. Lucie County Area Regional Transit Routes 1, 2, 3, 7, and 8<br>• Ft. Pierce Downtown Tram |
| Demand Responsive Modes | • micro transit (currently provided by City of Ft. Pierce Freebie)<br>• shared micro-mobility |
| Site | Suggested by Ft. Pierce Economic Development: former HD King Site and Depot Drive Site |
| Design Concept | Vertical development with transit transfer, micro-mobility, parking, and EV charging on site with mixed-use amenities in downtown within a 5-minute walk. |
| On-Site Mobility Amenities | • public parking<br>• public pull-in EV charging spaces<br>• shared EV service spaces – membership short-term rentals<br>• shared ride pickup and drop-off zone<br>• shared ride priority EV DC fast charger pull-in spaces<br>• public bicycle racks<br>• shared use bicycle, E-bike<br>• shared-use scooter docks / pods |
| On-Site Information and Connectivity Amenities | • large information kiosks in high pedestrian traffic areas<br>• real-time schedule information<br>• wi-fi / smartphone real-time information and wayfinding<br>• parking coordination for space and EV charger availability<br>• public information messaging for safety and other concerns<br>• power management for hub EV charging to manage peaks |
| On-Site Amenities | • pedestrian connected waiting areas<br>• waiting areas and lounges with information & infotainment<br>• limited snack take-away food and beverage services<br>• package delivery lockers to reduce home delivery trips<br>• signage for identity / branding |
| Off-Site Support Infrastructure and Active Uses | • existing pedestrian network<br>• plan for enhanced pedestrian crosswalks with protected pedestrian crossing phases within the Mobility Hub walkshed<br>• complete bicycle network (planned)<br>• mixed-use development including retail, office employment centers, hotels and future residential uses within 5 minute walk |

## 4.2 Becker Road ACES Mobility Hub Concept




*Aerial view of the US-1 & Becker Road SIS Central ACES Mobility Hub area showing initial development of regional business center and employment center between I-95 and SW Village Parkway*

The attributes of the I-95 and Becker Road area is suburban single-family neighborhoods to the east, with small vacant publicly owned vacant parcels along Becker Road. To the west of the interchange, the land is under development pursuant to the approved Southern Grove DRI, with the Western Grove, Riverland, and Wilson Groves DRI immediately adjacent to the west and north. In sum, planned and under-construction development includes over 26,000 new households, and approximately 3.5-million square feet of commercial space (retail, office, light industrial and logistics) representing over 22,000 jobs. Based on these characteristics, this would be an SIS Central ACES Mobility Hub type, with emphasis on its functions to intercept highway vehicles and express transit and facilitate intermodal connections to shared-use EV, micro-transit, micro-mobility, and walking. As an SIS Central type, mobility options and amenities will be oriented to integrate into the planned mixed-use in either the "business center" (pink) area or "mixed-use" (purple) area of the DRI Master Plan along Village Parkway or Becker Rd, developed via a P3 agreement.

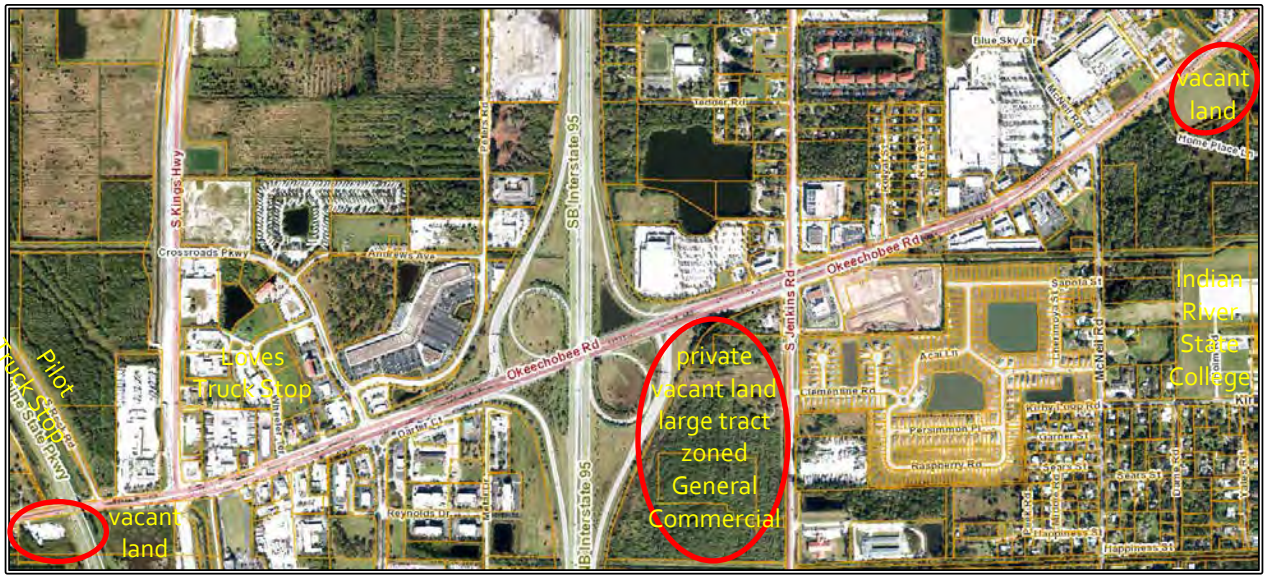



*Above: Southern Grove DRI Master Plan land uses*
*Below: conceptual suburban mobility hub integral with mixed-use*

**Table 4.4**
**Becker Road ACES Mobility Hub Components**

| | |
|---|---|
| Aces Mobility Hub Type | SIS Central |
| City | Port St. Lucie |
| Setting | Suburban new community development: residential, neighborhood commercial, employment center, regional business center |
| Primary Transportation Mode | Automobile: private EV, shared EV |
| SIS Links & Evacuation Network | I-95 |
| Transit | St. Lucie County Area Regional Transit Route 5 |
| Demand Responsive Modes | • shared micro-mobility: ART On-Demand<br>• extension of Tradition In Motion(TIM) autonomous micro transit |
| Site | in the "business center" area or "mixed-use" area of the Southern Grove DRI along Village Parkway or Becker Road, developed via P3 agreement |
| Design Concept | horizontal or mixed-use vertical development with transit transfer, micro-mobility, parking, and EV charging on single site |
| On-Site Mobility Amenities | • public parking<br>• public pull-in EV charging spaces<br>• pull-though Level 3 DC fast chargers<br>• shared EV service spaces – membership short-term rentals<br>• shared ride pickup and drop-off zone<br>• shared ride priority EV DC fast charger pull-in spaces<br>• public bicycle racks<br>• shared use bicycle, E-bike<br>• shared-use scooter docks / pods |
| On-Site Information and Connectivity Amenities | • large information kiosks in high pedestrian traffic areas<br>• real-time schedule information<br>• wi-fi / smartphone real-time information and wayfinding<br>• parking coordination for space and EV charger availability<br>• public information messaging for safety and other concerns |
| On-Site Amenities | • pedestrian connected waiting areas<br>• waiting areas and lounges with information & infotainment<br>• package delivery lockers to reduce home delivery trips<br>• retail and eateries with occupancy times that synchronize to EV charging time<br>• community service retail for daily needs of intermodal commuters<br>• signage for identity / branding |
| Off-Site Support Infrastructure and Active Uses | • existing pedestrian network<br>• existing bicycle network<br>• plan pedestrian protected and enhanced pedestrian crossings<br>• mixed-use including retail, office employment, and residential uses within a 5 to 10-minute demand-responsive-transit and micro-mobility coverage area |

## 4.3 Okeechobee Road SIS ACES Mobility Hub Concept




*Aerial view of Okeechobee Road Corridor between Florida's Turnpike and I-95 showing potential locations for redevelopment of an ACES Mobility Hub*

The Okeechobee Road area has unique attributes as a nexus of major transportation roadways in the State highway system and is within a 5-mile trip to Downtown Fort Pierce. (10 minutes by express transit). It is already a major crossroads for commercial truck traffic and stopovers at the existing Loves and Pilot truck stop. Located at the fringe of existing suburban development, the area is described as exurban and there are within the area privately owned vacant lands as well as publicly owned vacant lands. This area, based substantially on its characteristics of a state and county transportation nexus and the short connection to downtown Fort Pierce is the Priority 3 location for an ACES Mobility Hub. The focus of this hub is weighted more to ACES transportation functions and a quick, frequent, and reliable express transit connection to downtown Fort Pierce, Indian River State College, Massey Campus, and Lawnwood Hospital.

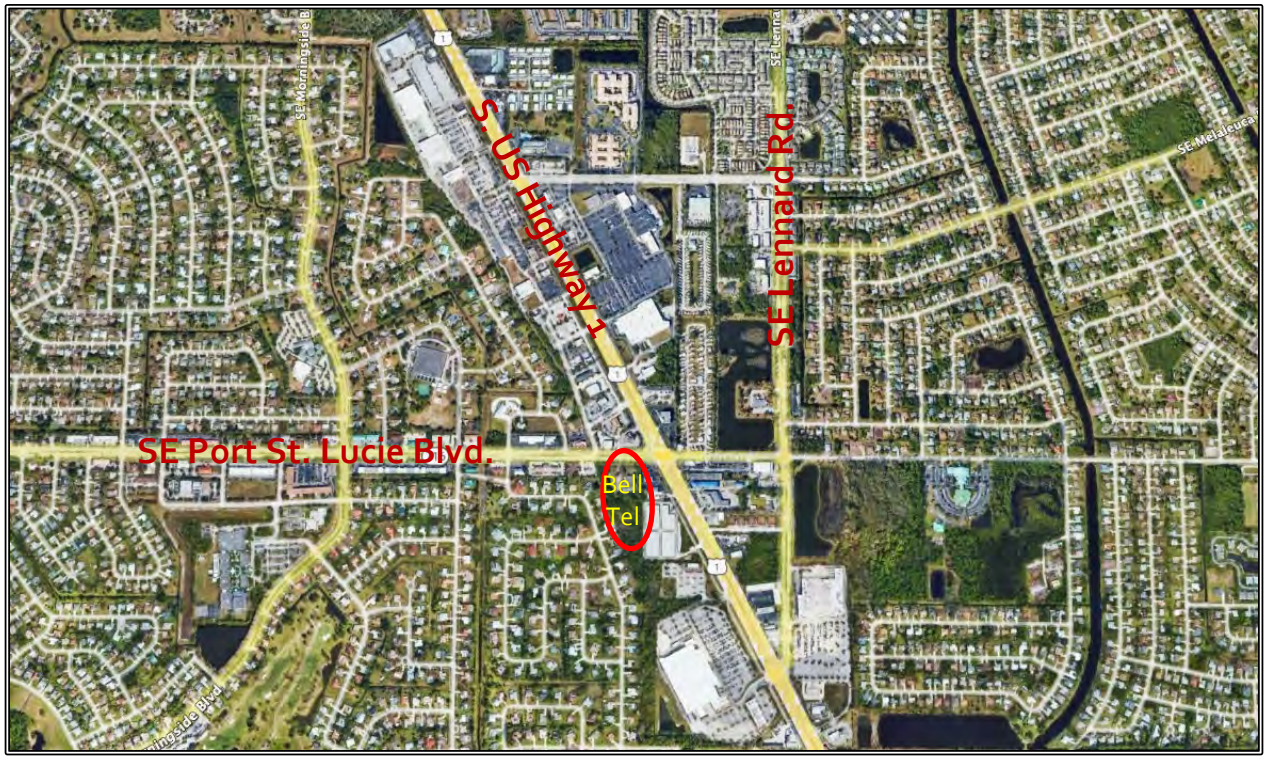
The context of the area with high-speed, multilane roads and high levels of truck traffic is not well suited for micro-mobility and pedestrian use. Instead, the critical express transit connection would serve to provide amenity functions for EV charging time, introduce travelers to downtown Ft. Pierce, and would also function as an interceptor ACES park-and-ride to reduce traffic congestion in Fort Pierce. There would also be a connection to the existing truck stops as freight transportation layover places.


*Conceptual Suburban Mobility Hub, Bend, Oregon*

**Table 4.5**
**Okeechobee Road & I-95 ACES Mobility Hub Components**

| | |
|---|---|
| Aces Mobility Hub Type | SIS Central |
| City | Fort Pierce (Fort Pierce South) |
| Setting | exurban corridor within 1-mile driveshed of I-95 and Florida's Turnpike |
| Primary Transportation Mode | State Intermodal System |
| SIS Links | I-95, Florida's Turnpike, Okeechobee Road (SR 70), Kings Hwy (SR 713) |
| Transit | • St. Lucie County Area Regional Transit Route 3<br>• Express bus route along Okeechobee Road to downtown Ft. Pierce, Lawnwood Hospital (employment center), and the Indian River State College, Massey Campus. |
| Demand Responsive Modes | micro transit coordinated with or instead of express route along Okeechobee Road |
| Site | potential sites in vacant land and underutilized commercial development |
| Design Concept | horizontal development with transit transfer, parking and EV charging on site. Limited retail amenities and transit connection to suburban corridor and downtown Fort Pierce |
| On-Site Mobility Amenities | • public parking<br>• public pull-in EV charging spaces<br>• pull-though Level 3 DC fast chargers<br>• conventional fueling (gasoline, ethanol, diesel)<br>• shared EV service spaces – membership short-term rentals<br>• shared ride pickup and drop-off zone<br>• shared ride priority EV DC fast charger pull-in spaces |
| On-Site Information and Connectivity Amenities | • large information kiosks in high pedestrian traffic areas<br>• real-time schedule information<br>• wi-fi / smartphone real-time information and wayfinding<br>• parking coordination for space and EV charger availability<br>• public information messaging for safety and other concerns |
| On-Site Amenities | • pedestrian connected waiting area internal to site<br>• pedestrian connections to existing and planned sidewalks<br>• waiting areas and lounges with information & infotainment<br>• limited snack take-away food and beverage services<br>• signage for identity / branding |
| Off-Site Support Infrastructure and Active Uses | • shopping along Okeechobee Road Corridor east toward downtown Ft. Pierce to be accessed by transit connection (Walmart)<br>• employment centers (Lawnwood Hospital) along the Okeechobee Road Corridor east toward downtown Ft. Pierce.<br>• Indian River State College, Massey Campus<br>• mixed-use development including retail, office employment centers, hotels, and future residential uses in downtown Ft. Pierce to be accessed by transit connection |

## 4.4 US-1 & Port St. Lucie Boulevard ACES Mobility Hub Concept




*Aerial view of the US-1 & SE Port St. Lucie Boulevard Central ACES Mobility Hub area*

At the crossroads of US-1 and SE Port St. Lucie Boulevard is the retail and commercial Major Activity Center (MAC) Port Saint Lucie. It is suburban, with commercial development along the major corridors and mostly built-out single-family and low density multi-family development behind the commercial corridors. For the existing context of the area, the southwest site is relatively underutilized from the perspective of community functionality, occupied by single-story mini-storage and a Southern Bell Telephone and Telegraph facility (non-retail) with 3 to 4 acres of underutilized vacant land behind it, and could potentially be a good site for an ACES Mobility Hub located on one of the four corners of the major intersecting roads. The area is located at the intersection of two of the major cardinal direction roads in Port St. Lucie and being the location of a Retail Major Activity Center serving the large residential communities of Lyngate, Sand Hill Crossing, and Morningside. It is the Priority 4 location for an ACES Mobility Hub in the County. The focus of this ACES Mobility Hub is to serve surrounding communities and support the large amount of commerce and employment with multimodal ACES transportation alternatives.

*Conceptual Suburban Mobility Hub with High Amenity Level at Bend, Oregon*

**Table 4.6**
**US-1 & SE Port St. Lucie Boulevard ACES Mobility Hub Components**

| | |
|---|---|
| Aces Mobility Hub Type | Central |
| City | Port St. Lucie |
| Setting | Suburban Major Retail Activity Center |
| Primary Transportation Mode | Automobile: private EV, shared EV |
| SIS Links | not applicable |
| Transit | St. Lucie County Area Regional Transit Routes 1 and 4 |
| Demand Responsive Modes | • micro transit<br>• shared micro-mobility |
| Site | among four sites at crossroads of US-1 and SE Port St. Lucie Boulevard, with initial preference for feasibility analysis at the southwest corner |
| Design Concept | horizontal development with transit transfer, micro-mobility, parking and EV charging on single site or shared with other sites that are interconnected with protected pedestrian paths and crossings |
| On-Site Mobility Amenities | • public parking<br>• public pull-in EV charging spaces<br>• shared EV service spaces – membership short-term rentals<br>• shared ride pickup and drop-off zone<br>• shared ride priority EV DC fast charger pull-in spaces<br>• public bicycle racks<br>• shared use bicycle, E-bike<br>• shared-use scooter docks / pods |
| On-Site Information and Connectivity Amenities | • large information kiosks in high pedestrian traffic areas<br>• real-time schedule information<br>• wi-fi / smartphone real-time information and wayfinding<br>• parking coordination for space and EV charger availability<br>• public information messaging for safety and other concerns |
| On-Site Amenities | • pedestrian connected waiting areas<br>• waiting areas and lounges with information & infotainment<br>• package delivery lockers to reduce home delivery trips<br>• retail and eateries with occupancy times that synchronize to EV charging time<br>• community service retail for daily needs of intermodal commuters<br>• signage for identity / branding |
| Off-Site Support Infrastructure and Active Uses | • existing pedestrian network<br>• plan pedestrian protected and enhanced pedestrian crossing at the intersection of US-1 and SE Port St. Lucie Boulevard<br>• complete bicycle network (planned)<br>• mixed-use horizontal development including retail, office employment, and residential uses within a 5 to 10-minute demand-responsive-transit and micro-mobility coverage area |

# 5 Implementation

Each Mobility Hub presents unique opportunities and challenges based on its context and transportation functions. A variety of partnerships, including public-private partnerships, will be identified to facilitate implementation of the prioritized list of Mobility Hubs mapped below, and listed in Table 5.1.

**Map 5.1**
**ACES Mobility Hubs Concept Prioritized Hubs**

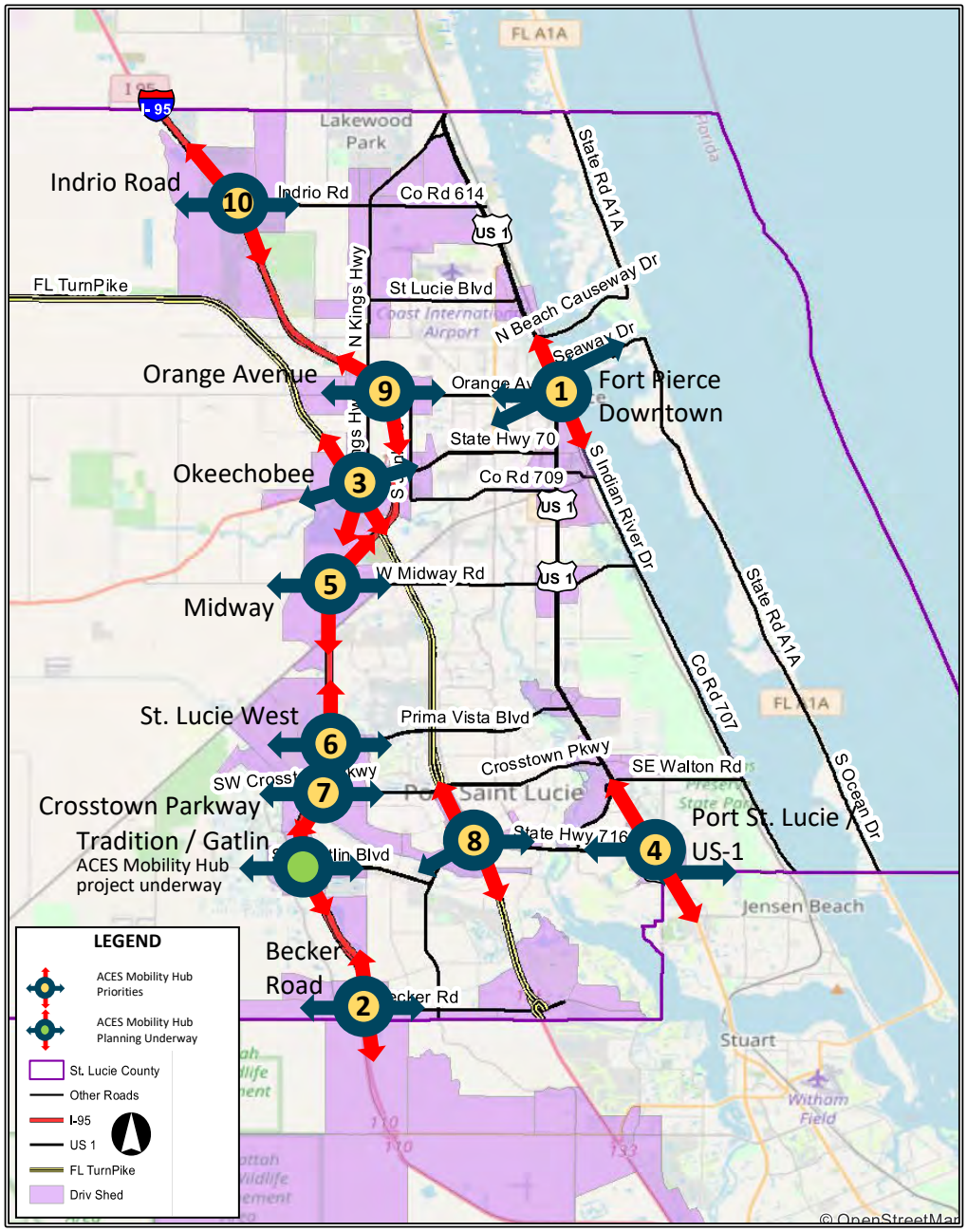


**Table 5.1**
**ACES Mobility Hub Typologies for the Ten Opportunity Areas**

| Place | Mobility Centroid | Priority | Mobility Hub Typology |
|---|---|---|---|
| **Fort Pierce Downtown** | Orange Avenue & FEC Railroad | 1 | Regional |
| **Becker Road** | I-95 Interchange & Becker Road | 2 | SIS Central |
| **Okeechobee Road** | Okeechobee Road: I-95 to Fort Pierce West | 3 | SIS Central |
| **US-1 & Port St. Lucie Blvd** | US-1 & SE Port St. Lucie Boulevard | 4 | Central |
| **Midway Road** | I-95 Interchange & Midway Road | 5 | SIS Central |
| **St. Lucie West** | I-95 Interchange & St. Lucie West Boulevard | 6 | SIS Central |
| **Crosstown Parkway** | I-95 Interchange and Crosstown Parkway | 7 | SIS Central |
| **Port St. Lucie Boulevard & Airoso Boulevard** | Port St. Lucie Boulevard & Florida's Turnpike / Airoso Boulevard | 8 | SIS Central |
| **Orange Avenue** | I-95 Interchange and Orange Avenue | 9 | SIS Central |
| **Indrio Road Planned Development** | I-95 Interchange & Indrio Road | 10 | SIS Central |

As shown in the table above, there are three categories of Mobility Hub implementation strategies:

**Regional ACES Mobility Hubs** - the largest scale station areas in either dense urban areas or end of line stations where they connect to other regional transit providers.

**Central ACES Mobility Hubs** - typically located in a more suburban context, often at a retail major activity center (MAC) and at the crossroads of two major mobility facilities.

**SIS Central ACES Mobility Hubs** - a special type of Central Mobility Hub that focuses on providing a resting and recharging location for enroute travelers on the State Intermodal System (SIS) located near interchanges along I-95 or Florida's Turnpike.

Each Mobility Hub will be analyzed in detail for the availability of suitable property acquisition. Priority will be given to publicly owned vacant land or publicly owned underdeveloped properties. Public land facilitates implementation by controlling land acquisition costs and possibly streamlining planning and permitting. The next property acquisition priority would be privately owned vacant or underdeveloped properties. An example would be a shopping mall with a large outparcel available for sale.

Opportunities will be sought to pair Mobility Hubs with large-scale, mixed-use development projects. For instance, the TPO is currently working with the City of Fort Pierce to prepare an initial site plan and conceptual design for a future passenger rail station in downtown Fort Pierce. The #1 priority Fort Pierce Downtown Mobility Hub will be integrated into this planning process.

The colocation of Mobility Hubs with major roadway improvements by FDOT and Florida's Turnpike Enterprise will be explored. When either agency reconfigures a highway interchange the possibility of using surplus land within the interchange right-of-way could be considered as a Mobility Hub location.

To facilitate funding of Mobility Hubs, the projects will be analyzed for inclusion in the TPO's List of Priority Projects (LOPP). The LOPP is a short-term ranking process that is completed annually. After completion, the LOPP is submitted to the Florida Department of Transportation District 4 (FDOT). The projects identified in the LOPP subsequently are funded and included in the FDOT Work Program to the maximum extent feasible. The St. Lucie TPO's Transportation Improvement Program (TIP) is then developed based on the LOPP and the FDOT Work Program. The TIP is the document that includes all the transportation improvement projects within the TPO's boundaries.

St. Lucie Transportation Planning Organization

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# AGENDA ITEM SUMMARY

| | |
|---|---|
| Board/Committee: | Technical Advisory Committee (TAC) |
| Meeting Date: | August 22, 2023 |
| Item Number: | 6c |
| Item Title: | 2024 Legislative Priorities |
| Item Origination: | Unified Planning Work Program (UPWP) |
| UPWP Reference: | Task 1.1 – Program Management |
| Requested Action: | Recommend adoption of the proposed priorities, recommend adoption with conditions, or do not recommend adoption. |
| Staff Recommendation: | Based on the consideration of the priorities of other transportation organizations and the consistency of the priorities with the Transportation Improvement Program and the Goals and Objectives of the SmartMoves 2045 Long Range Transportation Plan, it is recommended that the proposed 2024 Legislative Priorities be recommended for adoption by the TPO Board. |

Attachments

- Staff Report
- Draft 2024 Legislative Priorities

St. Lucie Transportation Planning Organization

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# MEMORANDUM

TO: Technical Advisory Committee (TAC)

FROM: Peter Buchwald
Executive Director

DATE: August 15, 2022

SUBJECT: 2024 Legislative Priorities

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## BACKGROUND

Task 1.1, *Program Management*, of the FY 2022/23 - FY 2023/24 Unified Planning Work Program (UPWP) of the St. Lucie TPO includes the annual adoption of legislative priorities for the TPO. The proposed 2024 Legislative Priorities (attached) have been developed for review and recommendation by the TPO Advisory Committees prior to the TPO Board considering their adoption.

## ANALYSIS

As part of the development of the 2024 Legislative Priorities, the adopted 2023 Legislative Priorities were reevaluated and updated based on the results of the 2023 Florida Legislative Session. The proposed 2024 Legislative Priorities were further developed with consideration of the legislative priorities of other transportation organizations, such as Florida's Pedestrian and Bicycle Safety Coalition (FPBSC) and the Florida Bicycle Association (FBA).

The proposed priorities then were evaluated for consistency with the TPO's priorities established in the Transportation Improvement Program (TIP) and the SmartMoves 2045 Long Range Transportation Plan (LRTP) to which the TPO's TIP/LRTP System Performance Report is linked.

The proposed 2024 Legislative Priorities for the TPO are attached and consist of the following:

- Hands-Free Florida: Would prohibit the handheld use of electronic wireless devices by a driver for any purpose. Almost one half of all the states already have enacted legislation that prohibits drivers' cell phones or other electronic devices to be in their hands while they drive. This is a proposed FBPSC and FBA priority.

- Moving Florida Forward Forever: Would develop a future replacement for the diminishing and unsustainable State fuel tax revenue by implementing a mileage-based user fee. Until the mileage-based user fee is implemented, alternative-fueled vehicles would be assessed an electric vehicle registration fee equal to the fuel tax paid by gasoline or diesel fueled vehicles. This would assist the local governments in restoring the declining future revenues due to local fuel taxes that are diminishing because of increased fuel efficiencies of newer vehicles and the use of electric and alternative-fueled vehicles.

- Move Over For People: Would protect vulnerable road users, such as pedestrians, bicyclists, and disabled individuals using mobility devices, by expanding the current Move Over Law. The requirements would include vacating the lane being used by or next to the vulnerable road user similar to the requirements for overtaking an emergency vehicle or tow truck and operator on the side of the road. This is a proposed FBPSC and FBA priority.

Based on a review for consistency, the proposed 2024 Legislative Priorities appear to be consistent with the TIP and the SmartMoves 2045 LRTP Goals and Objectives.

## RECOMMENDATION

Based on the consideration of the legislative priorities of other transportation organizations and the consistency of the priorities with the TIP and the Goals and Objectives of the SmartMoves 2045 LRTP, it is recommended that the proposed 2024 Legislative Priorities be recommended for adoption by the TPO Board.

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# 2024
# LEGISLATIVE PRIORITIES

*(Adopted: _____)*

The St. Lucie Transportation Planning Organization (TPO) supports legislation that:

- Results in a Hands-Free Florida Act, in support of Vision Zero/Target Zero efforts, that prohibits drivers' cell phones or other electronic devices to be in their hands while they drive.

- Keeps Moving Florida Forward Forever by developing a future replacement for the diminishing and unsustainable State fuel tax revenue such as:

  - Implementing a mileage-based user fee.

  - Assessing alternative-fueled vehicles an electric vehicle registration fee equal to the fuel tax paid by gasoline or diesel-fueled vehicles until the mileage-based user fee is implemented.

- Expands the current Move Over Law to include people and protect vulnerable road users such as pedestrians, bicyclists, and disabled individuals using mobility devices.

***Note:*** *Background information on the 2024 Legislative Priorities is provided on the back of this page.*

## Background Information

***Hands-Free Florida:*** In 2019, the "Wireless Communications While Driving" law was enacted that makes texting while driving a primary offense. Despite the enactment of this law, crashes due to districted driving continue to increase at an alarming rate, and the law is deemed unenforceable by numerous law enforcement agencies. This legislative priority would increase roadway safety, support law enforcement, and reduce the potential for racial profiling by prohibiting the handheld use of electronic wireless devices by a driver for any purpose. Almost one half of all the states already have enacted legislation that prohibits drivers' cell phones or other electronic devices to be in their hands while they drive.

***Moving Florida Forward Forever:*** As part of the 2023 Session, the Florida Legislature approved Governor Ron DeSantis' Moving Florida Forward initiative which prioritizes $4 billion of short-term funding towards the State's transportation infrastructure. However, beyond the short-term, future transportation funding is in jeopardy. The Florida Transportation Plan Implementation Element (FTP), July 2022, identifies that the "increases in fuel efficiency, growing use of electric and other alternative fuel vehicles, and shifts from driving to other modes mean less revenue from the motor fuel tax, which is the primary source of transportation funding at the state and federal levels". This loss in revenue has been estimated to be up to 20 percent by 2040. Meanwhile, the costs of construction continue to increase. Therefore, the FTP recommends expanding the use of "user fees" to prepare for "the anticipated decline in the value of the motor fuel tax". To address the ever-widening gap between the rising cost of needed transportation infrastructure and diminishing and unsustainable revenue sources such as the traditional fuel tax, this legislative priority proposes recommendations to keep Moving Florida Forward toward a replacement funding source for the State fuel tax.

***Move Over For People:*** Florida consistently ranks as one of the worst states for pedestrian fatalities and fatality rates. Current Florida law protecting vulnerable road users is limited to a three-foot passing requirement for motorists approaching bicyclists which is deemed unenforceable by numerous law enforcement agencies. Therefore, this legislative priority seeks to include requirements in the Move Over Law (Florida Statute 316.126) for motorists overtaking vulnerable road users, such as pedestrians, bicyclists, and disabled individuals using mobility devices. The requirements would include vacating the lane being used by or next to the vulnerable road user similar to the requirements for overtaking an emergency vehicle or tow truck and operator on the side of the road.

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# AGENDA ITEM SUMMARY

| | |
|---|---|
| Board/Committee: | Technical Advisory Committee (TAC) |
| Meeting Date: | August 22, 2023 |
| Item Number: | 6d |
| Item Title: | Advanced Air Mobility (AAM) Study Phase 2 Scope of Services |
| Item Origination: | UPWP |
| UPWP Reference: | Task 3.6- Freight Planning |
| Requested Action: | Recommend approval of the draft Scope of Services, recommend approval with conditions, or do not recommend approval. |
| Staff Recommendation: | Based on the proposed AAM Study Phase 2 Scope of Services being consistent with the FY 2022/23 – FY 2023/24 UPWP, it is recommended that the draft Scope of Services be recommended for approval by the TPO Board. |

Attachments

- Staff Report
- Draft AAM Study Phase 2 Scope of Services

St. Lucie Transportation Planning Organization

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Port St. Lucie, Florida 34953
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# MEMORANDUM

TO: Technical Advisory Committee (TAC)

THROUGH: Peter Buchwald
Executive Director

FROM: Yi Ding
Transportation Systems Manager

DATE: August 15, 2023

SUBJECT: Advanced Air Mobility (AAM) Study Phase 2 Scope of Services

---

## BACKGROUND

The emerging AAM technology is outpacing the development of the regulatory framework. Currently, there is limited AAM-related guidance at the Federal, State, and local levels. In 2022, the St. Lucie TPO hired Kimley-Horn to conduct a Drone Port/AAM Study Phase 1 which provided a preliminary review of the AAM industry and recommended potential opportunities for the TPO to integrate AAM into the future planning activities.

To continue the effort, the AAM Study Phase 2 was included in Task 3.6, *Freight Planning*, of the FY 2022/23 – FY 2023/24 Unified Planning Work Program (UPWP). The attached Scope of Services for the AAM Study Phase 2 has been prepared for review and recommendation by the TPO Advisory Committees.

## ANALYSIS

The draft Scope of Services consists of an AAM demand analysis, use cases evaluation, and airspace and infrastructure visualization and modeling. As part of the Scope of Services, census and other available data will be collected and evaluated to identify a minimum of three (3) suitable destination locations within the TPO area for vertiports/drone ports. Further evaluation will be performed on the Treasure Coast International Airport property to identify

potential origin locations for vertiport and related development. A 3D visualization of the AAM operation will be developed to simulate the AAM integration. Along with the visualization component, basic metrics generated by the simulation will provide how a new AAM system or design may benefit/impact the current transportation network in the TPO area.

The attached Scope of Services will be completed by Kimley-Horn, one of the TPO's General Planning Consultants. The Study will be completed by June 2024 at a cost of $99,859 which is consistent with the UPWP.

## RECOMMENDATION

Based on the proposed AAM Study Phase 2 Scope of Services being consistent with the FY 2022/23 – FY 2023/24 UPWP, it is recommended that the draft Scope of Services be recommended for approval by the TPO Board.

Kimley»Horn

# St. Lucie Transportation Planning Organization (TPO)

## General Transportation Planning Consultant Services

## Advanced Air Mobility Study Phase II– Demand Analysis and Airspace Modeling

**PROJECT UNDERSTANDING:**

***Background***

Advanced Air Mobility (AAM) is an air transportation system that moves people and cargo between local, regional, intraregional, and urban places previously served or underserved by aviation. At a mature state, AAM will integrate revolutionary aircraft including Electrical Vertical Take-Off and Landing (eVTOL) aircraft, Short Take-Off and Landing (STOL) aircraft, Unmanned Aircraft Systems (UAS), or drones, fixed-wing aircraft, and helicopters into highly automated networks. The new AAM technology is outpacing the development of the regulatory framework. Currently, there is limited AAM-related guidance at the federal, state, and local levels. As such, the St. Lucie Transportation Planning Organization (TPO) is independently seeking to learn more about this emerging industry and explore the possible integration of AAM into the region.

The TPO has undertaken an initiative as part of its FY 2022/23 Unified Planned Work Program (UPWP) to gain a deeper understanding of the emerging industry. This effort has resulted in the creation of a work product entitled *Drone Port/Advanced Air Mobility Preliminary Review*. Within this document, the report provides recommendations and outlines potential opportunities for TPO to support the integration of AAM in the TPO area. The following scope outlines the short-term opportunities included as part of the roadmap to AAM integration.

***Purpose***

The purpose of these services is to perform a short-term evaluation identified in the roadmap. This evaluation will involve a series of sequential steps, including identifying the demand, evaluating use cases, and visualizing the potential benefits and possible negative impacts of AAM integration through visualizing the potential use cases operating in the TPO area.

**Task 1 – Demand Analysis of St. Lucie TPO Area to Identify Most Suitable Use Cases**

Kimley-Horn (the "Consultant") will conduct an evaluation of local consumer demand for each use case by analyzing the census and other available data to recommend suitable use cases for the TPO area. This evaluation will analyze the Concept of Operations of AAM and Long-Range Transportation Plan's goals to establish distinctive input variables to provide a result that is current and relevant to the TPO's objective. The consultant will further evaluate the potential sites for vertiport/droneport within the Treasure Coast International Airport ("FPR" or "the Airport") property. These sites will serve as origin and destination locations for **Task 2** - Airspace and Infrastructure Modeling/Simulation.

The duration of Task 1 is estimated at 4-6 months.

Kimley»Horn

### 1.1 – Inventory of the Existing Data

The consultant will conduct a review of the currently available census data for the TPO area and explore any additional data sources that could be relevant in determining the AAM demand within the region. Below are some examples of data that may be collected for the evaluation:

- Average Commute Time to Work
- Consumer Expenditure on Transportation
- Average Income per Household
- Population Density
- Points of Interest
- Land Use and Zoning
- Future development or transportation plans identified in the Long-Range Transportation Plan (LRTP)

### 1.2 – Evaluation of the Data

The consultant will assess the collected data, define variables, establish priorities, and assign weights to each variable for running the data simulation analysis. The objective is to identify a minimum of three (3) destination locations within the TPO area that exhibit the demand for AAM services. These identified locations will serve as a potential destination point and a suitable location for a vertiport/droneport.

### 1.3 – Preliminary Site Review

The consultant will perform a desktop analysis of the Airport property as part of a vertiport preliminary site review. The analyses listed below will be performed as part of this task, and one (1) potential vertiport location on Airport property will be identified as a result of these analyses.

1. **Integration into airspace/airport operations:** Perform cursory airspace analysis to identify clearance requirements and potential obstructions (e.g., buildings, towers, vegetation) to future vertiport imaginary surfaces, including obstacle clearance surfaces and Part 77 surfaces. This analysis will utilize obstacle data provided by the Airport, if applicable, the Airport's most recent FAA-approved airport layout plan (ALP), data from the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) database, and/or the Consultant's knowledge of the project area. As part of this analysis, the vertiport approach, departure, and transitional surfaces, as published in EB 105 and 14 CFR Part 77, respectfully, will be evaluated to determine eVTOL ingress/egress clearance requirements, potential obstructions, and include a review of the Airport's approach and departure procedures, traffic flow, and the surrounding airspace.
2. **FAA separation standards:** Review FAA separation standards for aircraft operations, utilizing guidance published in EB 105, FAA Advisory Circular (AC) 150/5300-13B - Airport Design, and FAA Order JO 7110.65 - Consolidated Wake Turbulence.
3. **Potential for future vertiport infrastructure and expansion possibilities:** Review Airport property to identify one (1) area that may be used for future vertiport and related development.

Kimley»Horn

### 1.4 – Technical Memorandum of the Findings

The Consultant will develop a technical memorandum to document the findings. The technical memorandum will include:

1. Project understanding
2. Inventory of the data
3. Definition and weight of the variables
4. Descriptions and results of analyses
5. Identification of the use cases and demand regions
6. Preliminary Site Investigation on Airport property
7. Summary of findings

A draft technical memorandum will be submitted to the Client electronically in PDF format for review and comment and the consultant will prepare a presentation deck to summarize the content of the draft technical memorandum to serve as a visual aid for a virtual Client briefing meeting. This meeting will be used to obtain Client feedback on the study's findings and recommendations and discuss the next steps. Based on the Client's comments and feedback from the virtual briefing meeting, the Consultant will complete up to one (1) round of revisions to the technical memorandum.

**Deliverable: Technical Memorandum and a summary presentation deck**

## Task 2 – Airspace and Infrastructure Modeling/Simulation

The Consultant will develop 3D visualization of the AAM operation in the region. It's important to note that this material will be preliminary and offer visualization to explore the possibilities of AAM integration. Along with the visualization component, basic metrics generated by the simulation will offer a context regarding how a new system or design may benefit/impact the current transportation network in the TPO area.

The duration of Task 2 is estimated at 2-3 months.

### 2.1 – Airspace and Infrastructure Visualization and Modeling

The consultant will develop 3D airspace models with dedicated AAM routes so that when the AAM vehicles are ultimately certified by the FAA, users will already have vetted airspace integration concepts. TPO will evaluate the airspace in the TPO area with the objective to understand the required infrastructure to support cargo and/or passenger AAM operations within the community. The findings of the evaluation will be documented and summarized in a technical memorandum that includes:

- Identification of airspace constraints in the TPO area
- Opportunities to integrate last-mile delivery in support of industrial development in the area
- Development a conceptual flight corridor network to support AAM

- Development of a simulation model to perform trade-off studies that identify the most feasible airspace corridors, considering traffic, public safety, etc.

### 2.2 – Technical Memorandum of the Findings

The Consultant will develop a technical memorandum to document the findings. The technical memorandum will include:

1. Project understanding
2. Airspace and Infrastructure Visualization
3. Descriptions and results of analyses
4. Summary of findings and recommend next steps

A draft technical memorandum will be submitted to the Client electronically in PDF format for review and comment. The consultant will prepare a presentation deck to summarize the content of the draft technical memorandum to serve as a visual aid for a virtual Client briefing meeting. This meeting will be used to obtain Client feedback on the study's findings and recommendations and discuss the next steps. Based on the Client's comments and feedback from the virtual briefing meeting, the Consultant will complete up to one (1) round of revisions to the technical memorandum.

**Deliverable: Technical Memorandum and visualization material**

## Task 3: Stakeholder Support and Advisory Services

Kimley-Horn (the “Consultant”) will conduct up to six (6) virtual meetings with regional partners as follows:

1. St. Lucie TPO
2. City of Fort Pierce
3. City of Port St. Lucie
4. Treasure Coast Intl Airport and Business Park
5. FDOT
6. FAA

The purpose of these meetings is for TPO to coordinate activities with stakeholders as the AAM concept evolves. This includes planning, updates, and recommendations that are required with local, state, and federal transportation agencies.

Kimley-Horn will also attend the TAC, CAC, BPAC and Board meetings in-person to present the study

Kimley»Horn

## Schedule

We will provide our services as expeditiously as practicable with the goal of meeting the following schedule:

- Deliverables will be submitted within 8 months of written Notice to Proceed.

## Fee

Kimley-Horn will perform the services in Tasks 1 - 3 for the total lump sum fee below. Individual task amounts are informational only.

| **Task Name** | | **Total** |
|---|---|---|
| Task 1 | Demand Analysis of St. Lucie TPO Area to Identify Most Suitable Use Cases | **$64,823.00** |
| Task 2 | Airspace and Infrastructure Modeling/Simulation | **$19,961.00** |
| Task 3 | Stakeholder Support and Advisory Services | **$15,075.00** |
| | **TOTAL FEE** | **$99,859.00** |

St. Lucie Transportation Planning Organization

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# AGENDA ITEM SUMMARY

| | |
|---|---|
| Board/Committee: | Technical Advisory Committee (TAC) |
| Meeting Date: | August 22, 2023 |
| Item Number: | 6e |
| Item Title: | Congestion Management Process (CMP) Major Update Scope of Services |
| Item Origination: | Unified Planning Work Program (UPWP) |
| UPWP Reference: | Task 3.4 – CMP |
| Requested Action: | Recommend approval of the draft Scope of Services, recommend approval with conditions, or do not recommend approval. |
| Staff Recommendation: | Based on the proposed CMP Major Update Scope of Services being consistent with the FY 2022/23 – FY 2023/24 UPWP, it is recommended that the CMP Major Update Scope of Services be recommended for approval by the TPO Board |

Attachments

- Staff Report
- CMP Major Update Scope of Services

St. Lucie Transportation Planning Organization

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# MEMORANDUM

TO: Technical Advisory Committee (TAC)

THROUGH: Peter Buchwald
Executive Director

FROM: Yi Ding
Transportation Systems Manager

DATE: August 15, 2023

SUBJECT: Congestion Management Process (CMP) Major Update Scope of Services

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## BACKGROUND

The Congestion Management Process (CMP) is described by the Federal Highway Administration (FHWA) as a systematic and regionally-accepted approach for managing congestion. It provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet State and local needs. Federal regulations require Metropolitan Planning Organizations (MPOs) with a population over 200,000 to establish a process for managing congestion.

The St. Lucie TPO's CMP has been utilized to allocate the TPO's CMP box funds of $300,000- $400,000 annually towards CMP projects in the TPO's List of Priority Projects (LOPP). The last major update of the CMP was completed in June 2018 and the need to prepare a major update of the CMP was established in the FY 2022/23 – FY 2023/24 Unified Planning Work Program (UPWP) in Task 3.4, *Congestion Management Process (CMP)*.

## ANALYSIS

The UPWP identifies the need for consultant assistance in the preparation of the CMP Major Update. The attached Scope of Services for the CMP Major Update was prepared by Benesch, one of the TPO's General Planning

Consultants. The Update will be completed by June 2024 at a cost of $79,962 which is consistent with the UPWP.

This CMP Major Update will update the CMP procedures document and performance measures; update the toolbox of strategies for consideration to reduce congestion and/or provide mobility options; and prioritize and recommend projects for TPO plans and programs. Below are tasks that are included in the scope of services:

- Goals and Objectives
- Define Network and Identify Available CMP Data
- Identify Performance Measures
- Evaluate System Performance and Prioritize Segments
- Identify Strategies and Prioritize Improvements

In order to effectively identify areas of congestion that are concerns of the community, coordination among St. Lucie County, the City of Fort Pierce, the City of Port St. Lucie, and the Florida Department of Transportation District 4 Traffic Operations and Safety Offices will be conducted to obtain input and identify additional CMP projects.

## RECOMMENDATION

Based on the proposed CMP Major Update Scope of Services being consistent with the FY 2022/23 – FY 2023/24 UPWP, it is recommended that the CMP Major Update Scope of Services be recommended for approval by the TPO Board.

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# St. Lucie Transportation Planning Organization (TPO)

**General Transportation Planning Consultant Services**

**Scope of Services**

**Congestion Management Process (CMP) Major Update**

## PURPOSE

The purpose of this scope is to complete the congestion management process (CMP) Major Update and prepare the CMP Major Update report for the St. Lucie TPO (TPO) which complies with all state and federal requirements and is consistent with all current state and federal guidance.

## Background

Through the years, federal transportation legislation has emphasized the congestion-related management process requirement, known as the CMP. The TPO has regularly completed minor and major updates of the CMP to meet this requirement and identify and evaluate alternatives to traditional major capacity improvements. This major update will review/update the CMP procedures document and performance measures; review/update toolbox of strategies for consideration to reduce congestion, address safety issues, and/or provide mobility options; and prioritize and recommend projects for TPO plans and programs.

The CMP has evolved in providing technological and multimodal solutions to traffic congestion and safety. Therefore, the system evaluation will consider modal options where the presence and applicability of walking, biking, and public transit can relieve congestion and safety issues and technological options that more cost-effectively address congestion and safety issues.

As with all TPO programs, coordination with local partners and stakeholders will be an important part of the CMP Major Update. For this project, coordination with implementing agencies including St. Lucie County, the City of Fort Pierce, the City of Port St. Lucie, and the Florida Department of Transportation (FDOT) District 4 Traffic Operations and Safety Offices will be important in identifying congestion and safety issues and implementable project solutions.

The tasks outlined below will be completed for the CMP Major Update for the TPO.

## Task 1: Goals and Objectives

Goals and objectives which are consistent with the current adopted 2045 Long Range Transportation Plan (LRTP) and other TPO products and programs, including the St. Lucie Advanced Transportation System (ATMS) Master Plan and the Treasure Coast Transportation Systems Management & Operations (TSM&O) Master Plan, will be developed specifically for the CMP. The objectives will ensure that the CMP addresses the operation and management needs of the transportation system.

**Deliverable: CMP Goals and Objectives**

## Task 2: Define Network and Identify Available CMP Data

This task includes identifying the facilities that will comprise the CMP network that will be analyzed as part of the CMP Major Update. This will include roadways and multimodal infrastructure, including bicycle and pedestrian facilities. The network also includes the existing transit system and the current and proposed St. Lucie ATMS and Treasure Coast TSM&O Networks within the metropolitan planning area.

A CMP requires a regular update and evaluation of network performance. Therefore, it is important to identify performance measures with readily available data that can be collected by the TPO and is updated on a regular basis. The TPO and Benesch will identify existing transportation databases maintained by local and state agencies that could be utilized for the CMP.

**Deliverable: Map of CMP Network and Selection of CMP Data**

## Task 3: Performance Measures

Based upon the readily-available data that can be collected by the TPO, performance measures will be identified for each of the transportation modes to measure congestion, safety, and efficiency. These performance measures will support the CMP goals. For consistency with state and federal guidelines and compliance with state and federal requirements, the performance measures of the current TPO CMP, as well as performance measures of CMPs of other select TPOs, will be reviewed.

**Deliverable: Performance Measures**

## Task 4: Evaluate System Performance and Prioritize Segments

An evaluation of current system performance using the identified performance measures will be completed to establish a baseline for comparison as part of the regular update and evaluation of network performance. Congestion, safety, and other system issues will be identified, located on the network, and quantified. The analysis will result in a ranked list of roadway segments based on the specific performance measures developed.

Segment prioritization criteria will be developed and applied to rank identified problem segments of the transportation system. Strategies will be identified to address the transportation issues of the highest ranked segments.

**Deliverable: Technical Memorandum Summarizing the Evaluation of System Performance and Prioritization of Segments of Concern**

## Task 5: Identify Strategies and Prioritize Improvements

Strategies will be identified to address the system performance issues identified in the segments ranked in the previous tasks. This will result in a wide range of specific recommendations which are facility and modally specific.

Strategies will consider both supply (capacity) strategies, including ATMS and TSM&O strategies such as

Cloud-Based Arterial Management, and demand (Transportation Demand Management) strategies. This will result in a recommended strategy for each of the highest-ranked segments or locations of major concern.

CMP projects that implement the strategies will be identified and prioritized according to a methodology developed as part of the CMP Major Update. Estimated costs, potential funding sources and action items will be developed for each CMP project.

**Deliverable: CMP Strategies and Projects Considered for Implementation and Inclusion in TPO Plans and Programs**

## Task 6: Documentation and Meetings

This task includes the development of the Draft CMP document. The CMP Major Update will include up to six (6) stakeholder virtual meetings with local government staff from St. Lucie County, the City of Fort Pierce, and the City of Port St. Lucie and with staff from FDOT District 4 Traffic Operations and Safety Offices.

The Draft CMP document will be submitted and presented in-person to the TPO's Technical Advisory Committee (TAC), Citizens Advisory Committee (CAC), and Bicycle Pedestrian Advisory Committee (BPAC) for review.

Upon receipt of review comments on the draft document, edits will be considered in the development of the final draft CMP document. A final draft will be presented in-person to the TPO Board and final study documentation will follow.

**Deliverable: Draft and Final Report Documentation, Meeting Agendas, and Meeting Summaries**

## Congestion Management Process (CMP) Major Update

| ACTIVITY | Principal-in-Charge $ 284.00 | Project Manager $ 177.00 | Chief Planner $ 278.00 | Senior Planner $ 146.00 | Senior Engineer $ 253.00 | Engineer $ 133.00 | GIS Analyst $ 93.00 | Planner $ 92.00 | Graphics $ 107.00 | Admin/ Clerical $ 89.00 | TOTAL HOURS | COST BY ACTIVITY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Congestion Management Process (CMP) Major Update | 16 | 80 | 12 | 80 | 40 | 100 | 80 | 130 | 22 | 12 | 572 | $ 79,962.00 |
| Task 1 Goals and Objectives | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 12 | $ 2,168.00 |
| Task 2 Define Network and Identify Available CMP Data | 2 | 2 | 0 | 2 | 2 | 0 | 8 | 4 | 0 | 0 | 20 | $ 2,832.00 |
| Task 3 Performance Measures | 2 | 4 | 0 | 8 | 2 | 8 | 12 | 24 | 0 | 0 | 60 | $ 7,338.00 |
| Task 4 Evaluate System Performance and Prioritize Segments | 2 | 16 | 2 | 16 | 8 | 16 | 40 | 60 | 0 | 0 | 160 | $ 19,684.00 |
| Task 5 Identify Strategies and Prioritize Improvements | 4 | 20 | 4 | 40 | 16 | 60 | 0 | 16 | 0 | 0 | 160 | $ 25,128.00 |
| Task 6 Documentation and Meetings | 4 | 36 | 4 | 12 | 12 | 16 | 20 | 24 | 20 | 12 | 160 | $ 22,812.00 |
| Total Hours: | 16 | 80 | 12 | 80 | 40 | 100 | 80 | 130 | 22 | 12 | 572 | |
| Total Labor: | $ 4,544 | $14,160 | $ 3,336 | $11,680 | $ 10,120 | $13,300 | $ 7,440 | ###### | $ 2,354 | $ 1,068 | $ 79,962 | $ 79,962.00 |

| Direct Expenses | Units | Rate | Total |
|---|---|---|---|
| Travel to Port St. Lucie | 0 | $0.655 | $0.00 |
| Prinitng, Copying, Binding | 0 | $0 | $0.00 |
| Total | 0 | | $0.00 |

| | |
|---|---|
| Total Labor: | $ 79,962.00 |
| Total Expenses: | $ - |
| TOTAL COSTS: | $ 79,962.00 |