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, January 15, 2019
1:30 pm

AGENDA

1. Call to Order

2. Roll Call

3. Comments from the Public

4. Approval of Agenda

5. Approval of Meeting Summary
   - *September 18, 2018 Regular Meeting*

6. Action Items

   6a. Annual Officer Elections: Election of a Chairperson and a Vice Chairperson for the TAC for 2019.

   Action: Nominate and Elect a Chairperson and a Vice Chairperson for the TAC.

   6b. Transportation Alternatives Program (TAP) 2019 Grant Applications: Review and prioritization of the TAP grant applications for the 2019 grant cycle.

   Action: Review and recommend the prioritization of the TAP grant applications for the 2019 grant cycle, recommend prioritization with conditions, or do not recommend prioritization.

   6c. Automated/Connected/Electric/Shared-Use (ACES) Vehicles for Transit Study: A presentation of the ACES Vehicles for Transit Study.

   Action: Review and recommend the selected recommendations in the ACES Vehicles for Transit Study for implementation assistance by the TPO, recommend with conditions, or do not recommend.

6d. South Causeway Bridge Reconfiguration Project: Review of the proposed South Causeway Bridge Reconfiguration Project and the Preferred Alternative and the plan for its reconsideration.

Action: Review and recommend a Preferred Alternative and the plan for its reconsideration, recommend with conditions, or do not recommend.

7. Recommendations/Comments by Members

8. Staff Comments

9. Next Meeting: The next St. Lucie TPO TAC meeting is a regular meeting scheduled for 1:30 pm on Tuesday, March 19, 2019.

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.

Persons who require special accommodations under the Americans with Disabilities Act (ADA) or persons who require translation services (free of charge) should contact Marceia Lathou 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.

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, September 18, 2018

TIME: 1:30 pm

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

MEETING SUMMARY

1. Call to Order

Chairwoman Chesser called the meeting to order at 1:35 pm.

2. Roll Call

The roll call was taken via sign-in sheet and the following members were present:

Members Present	Representing
Roxanne Chesser, Chairwoman	City of Port St. Lucie
Kimberly Graham, Vice Chairwoman	St. Lucie County
Jack Andrews	City of Fort Pierce
Anne Cox	Port St. Lucie Planning
Murriah Dekle	St. Lucie Co. Transit
Rebecca Grohall	City of Fort Pierce
David Rodriguez	Community Transit
Marty Sanders	St. Lucie Co. School District
Mira Skoroden	FDOT

DRAFT

Others Present	Representing
Peter Buchwald	St. Lucie TPO
Ed DeFini	St. Lucie TPO
Yi Ding	St. Lucie TPO
Marceia Lathou	St. Lucie TPO
Rachel Harrison	Recording Specialist
Christine Fasiska	FDOT
Bolivar Gomez	Martin MPO
Jennifer Harris	Florida Dept. of Health
Dan Hiden	FDOT
Enock Mtoi	Florida's Turnpike
Henry Pinton	Florida's Turnpike
John Podczerwinsky	FDOT
Brian Ribaric	Florida's Turnpike
Kim Samson	Florida's Turnpike
Victoria Williams	Florida's Turnpike

3. Approval of Meeting Summary
   · July 17, 2018 Regular Meeting

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

** SECONDED by Ms. Cox Carried UNANIMOUSLY

4. Comments from the Public – None.

5. Approval of Agenda

* MOTION by Mr. Rodriguez to approve the agenda.

** SECONDED by Ms. Dekle Carried UNANIMOUSLY

6. Action Items

6a. Florida's Turnpike Project Development and Environment (PD&E) Study: A project update by the Florida's Turnpike Enterprise for the PD&E Study being conducted from Jupiter to Fort Pierce.

Mr. Buchwald introduced Mr. Ribaric who explained the PD&E Study as encompassing the Turnpike segment from Indiantown Road in Jupiter

to SR 70 in Fort Pierce. Mr. Ribaric outlined the general goals of the study before listing particular improvements proposed for the segment. He described several challenges associated with the project, notified the TAC of where his team was within the PD&E process, and then transitioned to a detailed discussion of the alternatives for both the existing and potential interchanges within the Turnpike segment. He concluded with an overview of the PD&E Study schedule.

In response to remarks about the significant congestion caused primarily by truck traffic at the SR-70 interchange, Mr. Ribaric explained that the issue would likely be alleviated once All Electronic Tolling (AET) was implemented for the Turnpike in 2019, and that his team was already researching long-term routing solutions for that interchange. He further explained that the transition to AET would involve the removal of toll booths, the reconfiguration or relocation of ramps, and various other improvements to ensure the free flow of traffic.

Mr. Rodriguez asked how the interchange improvements would be conducted, and Mr. Ribaric clarified that they would be completed sequentially from south to north. However, improvements to some interchanges might need to be initiated before the overall widening was completed.

Mr. Buchwald asked the TAC for guidance on the alternatives, and it was decided that an endorsement would be deferred until after the Turnpike representative's presentation to the Port St. Lucie City Council.

6b. 2018/19 List of Priority Projects (LOPP) Amendments: Review of proposed amendments to the Transportation Alternatives (TA) Projects List of the 2018/19 LOPP of the St. Lucie TPO.

Mr. Buchwald explained that the TPO Advisory Committees had recommended at their July meetings that the draft 2018/19 LOPP be adopted with the Technical Advisory Committee further recommending the removal of recently completed sidewalk projects from the TA Projects list along with the addition of several new projects originating from the City of Port St. Lucie as unranked and unscored projects. Mr. Buchwald further explained that St. Lucie County staff had submitted a list of proposed projects for the TA Projects List after the July meetings, but that the TPO Board had voted at its August meeting to approve the draft LOPP without the addition of the County

projects so that they may undergo the usual process of review and approval. Both the City of Port St. Lucie projects and the County projects had since been scored, Mr. Buchwald indicated, and the TA Projects List reprioritized accordingly. He noted that all of the projects on the TA List originated from the St. Lucie Walk-Bike Network.

Vice Chairwoman Graham expressed concern that several SUN Trail projects had dropped lower in the rankings as a result of the reprioritization. Mr. Buchwald explained that the development of those projects would not be impacted by their relative position within the LOPP since SUN Trail projects and sidewalks are typically funded from different sources.

Ms. Dekle noted that the Transportation Alternatives funding could be used for a wider variety of projects than what was represented in the LOPP.

* MOTION by Vice Chairwoman Graham to recommend adoption of the 2018/19 LOPP Amendments.

** SECONDED by Mr. Sanders Carried UNANIMOUSLY

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

Mr. Buchwald 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 continued the presentation by indicating that state DOTs are required to establish statewide targets which MPOs can either support or forego in favor of adopting their own quantifiable targets. He noted that the TPO Board had voted to support the FDOT 2018 PM1 targets in December 2017 and that the TPO had until November 2018 to make a resolution regarding the FDOT PM2 and PM3 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 for the TPO to adopt the same targets as FDOT's PM2 and PM3 initial targets.

In response to Vice Chairwoman Graham's question, Mr. Buchwald clarified that the performance targets under discussion only pertained to major roadways on the National Highway System (NHS).

Mr. Sanders inquired about the merits of adopting more aspirational targets, and Mr. Buchwald explained that doing so could result in the TPO spending more of its funding on NHS roadways rather than on local projects.

Mr. Rodriguez asked how target-setting relates to funding. Mr. Buchwald replied that failure to meet a bridge target, for example, may result in an MPO having federal funding withheld until it allocated more money toward bridges but that consequences of other target failures were unclear since the regulations were so new. He speculated that FDOT could take the TPO's funding and redistribute it to other Florida MPOs or, conversely, that the TPO could be allowed to spend more of its money on other projects.

* MOTION by Vice Chairwoman Graham to recommend adoption of the Pavement, Bridge, and System Performance Targets and to include a map clarifying which roadways are on the National Highway System.

** SECONDED by Mr. Rodriguez Carried UNANIMOUSLY

7. Discussion Items

7a. Healthy Outcomes and Transportation: A presentation by the Florida Department of Health in St. Lucie County on the upcoming Community Health Assessment and continuing Billion Steps Challenge.

Mr. Buchwald noted that transportation intersects with many aspects of health inviting Jennifer Harris to speak about her organization's recent initiatives. She explained the mission of the Healthy St. Lucie Coalition before summarizing the four themes of the current Community Health Improvement Plan: Eating Healthy from Birth, Eating Healthy for Life, Moving More, and Feeling Better. Expounding on the third theme, Ms. Harris described the origins of the 2018 Billion Steps Challenge along with efforts to secure community participation. She reported on the status of the Challenge and requested that members encourage their friends and colleagues to get involved.

7b. Public Involvement Program (PIP) Annual Evaluation of Effectiveness and PIP Major Update Survey: Review of the PIP Annual Evaluation of Effectiveness and completion of the PIP Major Update Survey.

Mr. Buchwald explained that the TPO conducts an annual review of its performance measures in meeting or implementing the PIP Goals, Objectives and Strategies to ensure that its public involvement efforts remain the most effective. He noted that the present evaluation would be the final one before the PIP major update in FY 2018/19 and invited Mr. Ding to present the analysis. Mr. Ding described the three greatest increases and three greatest decreases in the measures for FY 2017/18 and provided an overview of the Public Outreach Matrix which identifies the tools and techniques currently utilized for conducting public outreach and obtaining public input. He noted that these tools and techniques could potentially be modified as a result of the PIP Major Update and concluded with the request that members complete the transportation survey distributed during the meeting.

8. Recommendations/Comments by Members – In response to Vice Chairwoman Graham's question, Mr. Buchwald indicated that he had not planned to present the Local Incentive Program for Project Advancement (LIPPA) again to the TAC before bringing it before the TPO Board for a discussion of pros and cons.

9. Staff Comments – Mr. Buchwald introduced John Podczerwinsky as the new FDOT MPO liaison manager.

10. Next Meeting: The next St. Lucie TPO TAC meeting is a joint meeting with the Citizens Advisory Committee and Bicycle-Pedestrian Advisory Committee scheduled for 1:30 pm on Tuesday, November 27, 2018.

11. Adjourn – The meeting was adjourned at 3:15 pm.

Respectfully submitted:

_____
Rachel Harrison
Recording Specialist

Approved by:

_____
Roxanne Chesser
Chairwoman

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AGENDA ITEM SUMMARY

Board/Committee:	Technical Advisory Committee (TAC)
Meeting Date:	January 15, 2019
Item Number:	6a
Item Title:	Annual Officer Elections
Item Origination:	TPO By-Laws, Rules, and Procedures
UPWP Reference:	Task 1.1 - Program Management
Requested Action:	Nominate and elect a Chairperson and a Vice Chairperson for the TAC. In 2018, the Chairperson was Roxanne Chesser, and the Vice Chairperson was Kimberly Graham.
Staff Recommendation:	Not applicable

Attachments

- TAC Member Summary - 2019

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TECHNICAL ADVISORY COMMITTEE (TAC)
MEMBER SUMMARY
2019

Member	Representing
Roxanne Chesser	PSL Public Works
Kimberly Graham	SLC Public Works
Mayte Santamaria	SLC Planning
Rebecca Grohall	FP Planning
Anne Cox	PSL Planning
Jack Andrews	FP Engineering
John Wiatrak	TCI Airport
Marty Sanders	SLC School District
David Rodriguez	Community Transit
Lieutenant Wayne H. Boyer	SLC Fire District
George Pantuso	TPO Area Freight Rep.
Jeff Buchanan	SLC Sheriff's Office
Murriah Dekle	SLC Transit Management
Mira Skoroden (Non-Voting)	FDOT

Total = 13 Quorum = 7 Current Vacancies = 0

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AGENDA ITEM SUMMARY

Board/Committee:	Technical Advisory Committee (TAC)
Meeting Date:	January 15, 2019
Item Number:	6b
Item Title:	Transportation Alternatives Program (TAP) 2019 Grant Applications
Item Origination:	St. Lucie TPO and Florida Department of Transportation (FDOT) District 4
UPWP Reference:	Task 3.3 - Transportation Improvement Program
Requested Action:	Review and recommend the prioritization of the TAP grant applications for the 2019 grant cycle, recommend prioritization with conditions, or do not recommend prioritization.
Staff Recommendation:	Based on the Selvitz Road Sidewalk Project being ranked higher than the Bell Avenue and Sunrise Boulevard Sidewalk Project in the TPO's Transportation Alternatives (TA) Priority Project List, it is recommended that the TPO Advisory Committees recommend that the Selvitz Road Sidewalk Project be prioritized for TAP funding above the Bell Avenue and Sunrise Boulevard Sidewalk Project and that the Bell Avenue and Sunrise Boulevard Sidewalk Project receive the remainder of the TPO's TAP funding for 2019 and any excess TAP funding allocated by FDOT District 4 for 2019.

Attachments

- Staff Report
- 2018/19 TA Priority Project List
- Bell Avenue and Sunrise Boulevard Sidewalk Project Application Excerpts
- Selvitz Road Sidewalk Project Application Excerpts

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MEMORANDUM

TO: Technical Advisory Committee (TAC)

FROM: Peter Buchwald
Executive Director

DATE: January 8, 2019

SUBJECT: Transportation Alternatives Program (TAP)
2019 Grant Applications

BACKGROUND

The TAP provides funding to the St. Lucie TPO for the following:

- Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized modes;
- Construction of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities, to access daily needs;
- Conversion of abandoned railroad corridors into trails for pedestrians, bicyclists, or other non-motorized modes;
- Construction of turnouts, overlooks, and viewing areas;
- Community improvement activities including the control/removal of outdoor advertising, preservation/rehabilitation of historic transportation facilities, vegetation management practices in rights-of-way, and archaeological activities relating to impacts from transportation projects;
- Environmental mitigation activities including pollution prevention and abatement activities related to highway construction or runoff and activities that reduce vehicle-caused wildlife mortality; and,
- Recreational Trails and Safe Routes to School Programs.

The funding available for the 2019 TAP grant cycle for the St. Lucie TPO is $679,339 that will be programmed by the Florida Department of Transportation (FDOT) District 4 in Fiscal Year 2022/23. The TPO Advisory Committees recommend to the TPO Board the prioritization of the TAP grant applications received during the grant cycle for submittal to FDOT. Proposed TAP Projects typically have been prioritized based on the TPO's current (2018/19) Transportation Alternatives (TA) Priority Project List which is attached.

ANALYSIS

The following two TAP grant applications (attached), listed in alphabetical order, were submitted for consideration for the 2019 TAP grant cycle:

Project Name	Project Location/Limits	Project Description	Project Cost	Funding Requested	Project Sponsor	2018/19 TA Priority Ranking
Bell Avenue and Sunrise Boulevard Sidewalk Project	25th Street to Sunrise Boulevard and Bell Avenue to NSLWCD Canal 15	~0.93-mile long, 6-foot wide, concrete sidewalk	$1,113,875	$809,375	St. Lucie County	56/57
Selvitz Road Sidewalk Project	Floresta Drive to Bayshore Boulevard	~0.38-mile long, 6-foot wide, concrete sidewalk	$450,961	$344,650	City of Port St. Lucie	16

Both projects are included in the TPO's TA Priority Project List with the Priority Rankings as identified above based on the TA Project Prioritization Methodology. Based on the TA Project Prioritization Methodology, the TAP grant applications for 2019 would be prioritized for funding as follows:

2019 TAP Project Rank	2018/19 Priority Ranking	Project Name	Project Sponsor	Funding Requested
1	16	Selvitz Road Sidewalk Project	City of Port St. Lucie	$344,650
2	56/57	Bell Avenue and Sunrise Boulevard Sidewalk Project	St. Lucie County	$809,375

RECOMMENDATION

Based on the Selvitz Road Sidewalk Project being ranked higher than the Bell Avenue and Sunrise Boulevard Sidewalk Project in the TPO's TA Priority Project List, it is recommended that the TPO Advisory Committees recommend that the Selvitz Road Sidewalk Project be prioritized for TAP funding above the Bell Avenue and Sunrise Boulevard Sidewalk Project and that the Bell Avenue and Sunrise Boulevard Sidewalk Project receive the remainder of the TPO's TAP funding for 2019 and any excess TAP funding allocated by FDOT District 4 for 2019.

Transportation Alternatives (TA) Projects

2018/19 Priority Ranking	Score[1]	Facility	Project Limits		Project Description	Project Source	Estimated Cost[2]	2017/18 Priority Ranking
			From	To				
1	42.0	Curtis Street	Prima Vista Boulevard	Marion Avenue	Sidewalk-0.3 miles	2018 TA Grant Application[3] and St. Lucie WBN[4]	$573,568[5]	16
2	38.5	Alcantarra Boulevard	Port St. Lucie Boulevard	Savona Boulevard	Sidewalk-0.8 miles	2018 TA Grant Application[3] and St. Lucie WBN	$606,402[5]	14
3	58.0	East Torino Parkway	Volucia Drive	Conus Street	Sidewalk-0.4 miles	St. Lucie WBN	$220,080	9
~~4~~	52.5	St. James Drive	Royce Avenue	Lazy River Parkway	Sidewalk-0.3 miles	2017 TA Grant Application and St. Lucie WBN	$260,000[6]	6
5	50.0	Florida SUN Trail, Historic Fort Pierce Downtown Retrofit	Georgia Avenue	North State Route A1A	Bicycle Boulevard, Roadway Section Connections, and Railroad Crossing Improvements	Florida SUN Trail Grant and St. Lucie WBN	TBD[7]	3
6	49.0	Floresta Drive	Port St. Lucie Boulevard	Southbend Boulevard	Sidewalk-0.6 miles	St. Lucie WBN	$489,821[6]	6
6	49.0	Floresta Drive	Port St. Lucie Boulevard	Streamlet Avenue	Sidewalk-1.0 mile	St. Lucie WBN	$850,898[8]	11
8	48.5	Walton Road	Lennard Road	Green River Parkway	Sidewalk-1.1 miles	St. Lucie WBN	$3,040,000[9]	5
9	46.0	Rosser Boulevard	Openview	Bamberg Street	Sidewalk-2.1 miles	St. Lucie WBN	$708,889[8]	27
9	46.0	East Torino Parkway	Vizcaya Falls	Midway Road	Sidewalk-1.3 miles	St. Lucie WBN	$851,000[8]	NR[10]
9	46.0	Torino Parkway	Cashmere Boulevard	California Boulevard	Sidewalk-1.0 miles	St. Lucie WBN	$645,000[8]	NR
12	44.0	Florida SUN Trail, Historic Highwayman Trail Gap	Indian Hills Drive	Georgia Avenue	Multi-Use Trail and Roadway Section Connections	Florida SUN Trail Grant and St. Lucie WBN	TBD	4
12	44.0	Paar Drive	Bamberg Street	Savona Boulevard	Sidewalk-0.9 miles	St. Lucie WBN	$1,136,495[8]	26
14	43.5	Selvitz Road	Milner Drive	Peachtree Boulevard	Sidewalk-0.8 miles	St. Lucie WBN	$582,000[8]	10
14	43.5	Orange Avenue	Rock Road	North Kings Highway	Sidewalk-0.5 miles	St. Lucie WBN	$500,000[6]	NR
16	42.5	Selvitz Road	Floresta Drive	Bayshore Boulevard	Sidewalk-0.1 miles	St. Lucie WBN	$1,077,927[8]	30
16	42.5	Oleander Avenue	Edwards Road	South Market Avenue	Sidewalk-1.3 miles	St. Lucie WBN	$1,500,000[6]	NR
16	42.5	Oleander Avenue	Saeger Avenue	Beach Avenue	Sidewalk-1.4 miles	St. Lucie WBN	$1,650,000[6]	NR
19	42.0	Lakehurst Drive	Bayshore Boulevard	Airoso Boulevard	Sidewalk-1.3 miles	St. Lucie WBN	$825,000[8]	NR

2018/19 Priority Ranking	Score[1]	Facility	Project Limits		Project Description	Project Source	Estimated Cost[2]	2017/18 Priority Ranking
			From	To				
19	42.0	Sandia Drive	Crosstown Parkway	Thornhill Drive	Sidewalk-0.5 miles	St. Lucie WBN	$323,000[8]	NR
19	42.0	Sandia Drive	Lakehurst Drive	Crosstown Parkway	Sidewalk-0.8 miles	St. Lucie WBN	$516,000[8]	NR
19	42.0	North Kings Highway	North of I-95 State Project	Indrio Road	Sidewalk-5.0 miles	St. Lucie WBN	$5,219,982[6]	NR
23	41.5	Morningside Boulevard	Treasure Island Road	Cambridge Street	Sidewalk-1.3 miles	St. Lucie WBN	$342,000[8]	NR
23	41.5	Indrio Road	U.S. Highway 1	Old Dixie Highway	Sidewalk-0.2 miles	St. Lucie WBN	$225,000[6]	NR
25	41.0	Savage Boulevard	Import Drive	Gatlin Boulevard	Sidewalk-1.8 miles	St. Lucie WBN	$1,448,383[8]	20
25	41.0	Import Drive	Gatlin Boulevard	Savage Boulevard	Sidewalk-2.3 miles	St. Lucie WBN	$1,405,781[8]	20
25	41.0	West Torino Parkway	Blanton Road	California Boulevard	Sidewalk-1.6 miles	St. Lucie WBN	$1,710,000[8]	NR
25	41.0	Blanton Boulevard	East Torino Parkway	West Torino Parkway	Sidewalk-0.5 miles	St. Lucie WBN	$690,000[8]	NR
29	40.5	Volucia Drive	Blanton Boulevard	Torino Parkway	Sidewalk-1.0 mile	St. Lucie WBN	$645,000[8]	23
29	40.5	Indrio Road	Kings Highway	U.S. Highway 1	Sidewalk-2.6 miles	St. Lucie WBN	$3,050,790[6]	NR
31	40.0	Oleander Avenue	Midway Road	Saeger Avenue	Sidewalk-1.5 miles	St. Lucie WBN	$1,323,840	23
32	39.5	Southbend Boulevard	Oakridge Drive	Eagle Drive	Sidewalk-0.3 miles	St. Lucie WBN	$1,709,215[8]	11
33	39.0	Hillmoor Drive	Hospital	Woodstork Trail	Sidewalk-0.5 miles	St. Lucie WBN	$348,000[8]	NR
33	39.0	Hillmoor Drive	Lennard Road	Playground	Sidewalk-0.1 miles	St. Lucie WBN	$71,000[8]	NR
35	38.0	Emil Avenue	Oleander Avenue	U.S. Highway 1	Sidewalk-1.7 miles	St. Lucie WBN	$347,487	31
36	37.0	Florida SUN Trail, Savannas Preserve State Park Gap	Walton Road	Savannas Recreation Area	Multi-Use Trail	Florida SUN Trail Grant and St. Lucie WBN	$6,820,000[11]	2
37	36.5	Angle Road	Kings Highway	North 53rd Street	Sidewalk-1.3 miles	St. Lucie WBN	$1,461,595[6]	NR
38	36.0	17th Street Sidewalk Gaps	Georgia Avenue	Avenue Q	Sidewalk-1.7 miles	St. Lucie WBN	$222,700	6
38	36.0	Boston Avenue	25th Street	13th Street	Sidewalk-0.8 miles	St. Lucie WBN	$123,200	16
38	36.0	North Torino Parkway	East Torino Parkway	Blanton Road	Sidewalk-1.0 miles	St. Lucie WBN	$652,000[8]	NR
41	35.0	Florida SUN Trail, Florida East Coast Railroad Overpass	Savannas Recreation Area	Savannah Road	Railroad Overpass for Multi-Use Trail	Florida SUN Trail Grant and St. Lucie WBN	$2,210,000[12]	15
41	35.0	29th Street Sidewalk Gaps	Avenue I	Avenue Q	Sidewalk-0.5 miles	St. Lucie WBN	$77,000	16

2018/19 Priority Ranking	Score[1]	Facility	Project Limits		Project Description	Project Source	Estimated Cost[2]	2017/18 Priority Ranking
			From	To				
41	35.0	29th Street	Avenue Q	Avenue T	Sidewalk-0.1 miles	St. Lucie WBN	$197,000	25
41	35.0	Abingdon Avenue	Import Drive	Savona Boulevard	Sidewalk-0.9 miles	St. Lucie WBN	$575,000[8]	NR
41	35.0	Brescia Street	Savage Boulevard	Gatlin Boulevard	Sidewalk-1.3 miles	St. Lucie WBN	$323,000[8]	NR
41	35.0	Cadima Street	Fairgreen Road	Galiano Road	Sidewalk-0.2 miles	St. Lucie WBN	$96,000[8]	NR
41	35.0	Fairgreen Road	Cadima Street	Crosstown Parkway	Sidewalk-0.8 miles	St. Lucie WBN	$523,000[8]	NR
41	35.0	Galiano Road	Cadima Street	Import Drive	Sidewalk-0.5 miles	St. Lucie WBN	$290,000[8]	NR
41	35.0	Kestor Drive	Darwin Boulevard	Becker Road	Sidewalk-1.3 miles	St. Lucie WBN	$865,000[8]	NR
41	35.0	Volucia Drive	Blanton Boulevard	East Torino Parkway	Sidewalk-1.3 miles	St. Lucie WBN	$645,000[8]	NR
51	33.5	Tiffany Avenue	Grand Drive	Green River Parkway	Sidewalk-1.0 mile	St. Lucie WBN	$670,460[8]	13
51	33.5	Weatherbee Road	U.S. Highway 1	Oleander Avenue	Sidewalk-0.5 miles	St. Lucie WBN	$445,220	22
53	32.0	Range Line Road	Glades Cut Off Road	Martin County Line	Sidewalk-6.1 miles	St. Lucie WBN	$5,300,000[6]	NR
53	32.0	West Midway Road	West of Glades Cut Off Road	Shinn Road Area	Sidewalk-5.0 miles	St. Lucie WBN	$5,753,580[6]	NR
55	31.5	St. Lucie Boulevard	Kings Highway	North 25th Street	Sidewalk-3.0 miles	St. Lucie WBN	$2,600,000[6]	NR
56	30.5	Sunrise Boulevard	Edwards Road	Midway Road	Sidewalk-2.8 miles	St. Lucie WBN	$2,250,000[6]	NR
57	29.5	Bell Avenue	Oleander Avenue	25th Street	Sidewalk-1.0 miles	St. Lucie WBN	$600,000[6]	NR
57	29.5	Fort Pierce Boulevard	Indrio Road	Sebastian Road	Sidewalk-1.0 miles	St. Lucie WBN	$870,000[6]	NR
59	27.0	Old Dixie Highway	St. Lucie Boulevard	Turnpike Feeder Road	Sidewalk-5.2 miles	St. Lucie WBN	$6,066,780[6]	NR
60	26.5	Glades Cut Off Road	Port St. Lucie City Boundary	Range Line Road	Sidewalk-2.4 miles	St. Lucie WBN	$2,830,390[6]	NR
60	26.5	Keen Road	Angle Road	St. Lucie Boulevard	Sidewalk-1.0 miles	St. Lucie WBN	$1,160,000[6]	NR
62	25.5	Easy Street	US Highway 1	Silver Oak Drive	Sidewalk-1.0 miles	St. Lucie WBN	$1,090,396[6]	NR
62	25.5	Selvitz Road	Edwards Road	Midway Road	Sidewalk-2.4 miles	St. Lucie WBN	$2,760,790[6]	NR
64	24.5	Juanita Avenue	Bridge	U.S. Highway 1	Sidewalk-0.2 miles	St. Lucie WBN	$2,041,592[6]	NR
64	24.5	Juanita Avenue	North 53rd Street	North 25th Street	Sidewalk-1.8 miles	St. Lucie WBN	$2,041,592[6]	NR

2018/19 Priority Ranking	Score[1]	Facility	Project Limits		Project Description	Project Source	Estimated Cost[2]	2017/18 Priority Ranking
			From	To				
66	15.5	Silver Oak Drive	Easy Street	East Midway Road	Sidewalk-1.8 miles	St. Lucie WBN	$2,076,392[6]	NR
67	15.0	Taylor Dairy Road	Angle Road	St. Lucie Boulevard	Sidewalk-1.0 miles	St. Lucie WBN	$1,160,000[6]	NR

[1]Scores are based on the *St. Lucie TPO TA Project Prioritization Methodology*
[2]Source of Estimated Cost: *Go2040 Long Range Transportation Plan, February 2016*, unless otherwise noted
[3]Project is anticipated to be programmed for construction in the FDOT FY 2019/20 - FY 2023/24 Work Program as a result of the 2018 TA Grant Cycle
[4]WBN: Walk-Bike Network
[5]Source of Estimated Cost: 2018 TA Grant Application
[6]Source of Estimated Cost: *St. Lucie County Citing FDOT Cost Per Mile @ $226,656*
[7]TBD: To be Determined
[8]Source of Estimated Cost: *City of Port St. Lucie Sidewalk Master Plan (Design and Construction) July 2017*
[9]Source of Estimated Cost: *Walton Road Multimodal Improvements Feasibility Study, April 2017*
[10]NR: Not Ranked, typically because this is the first year that the project is in the list
[11]Source of Estimated Cost: *Feasibility Study, SUN Trail Savannas Preserve State Park Gap, June 2018*
[12]Source of Estimated Cost: *Feasibility Study for SUN Trail Florida East Coast Railroad Overpass, June 2018*

St. Lucie Transportation Planning Organization

2019
TRANSPORTATION ALTERNATIVES PROGRAM (TAP)
Application and Scoping Form
(for FY 2022/23 project funding)

General Information:

Project Title: Bell Avenue and Sunrise Boulevard Sidewalk
Name of Applicant (*If other than Project Sponsor*):
Project Sponsor: St. Lucie County BOCC
(*municipality, county, state, federal agency, or tribal council*)
Contact Person: Kimberly Graham, P.E.
Title: St. Lucie County Engineer
Email: grahamk@stlucieco.org
Phone Number: 772-462-1707
Sponsor Address: 2300 Virginia Avenue, 2nd Floor Rm 229
Fort Pierce, FL 34982

1 Qualifying TAP Funded Activities:

Check the Transportation Alternatives activity the proposed project will address. Please check **one** activity that represents the majority of the work proposed. Eligible activities must be consistent with details described under 23 U.S.C. 133(h)(3).

- ☒ Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the ADA Act of 1990
- ☐ Construction of infrastructure-related projects/systems that will provide safe routes for non-drivers, including children and disabled individuals, to access daily needs.
- ☐ Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users
- ☐ Construction of turnouts, overlooks, and viewing areas
- ☐ Inventory, control, or removal of outdoor advertising
- ☐ Historic preservation and rehabilitation of historic transportation facilities
- ☐ Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control
- ☐ Archaeological activities relating to impacts from implementation of a transportation project eligible under title 23
- ☐ Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation, to address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff; to reduce vehicle-caused wildlife mortality; or to restore and maintain connectivity among terrestrial or aquatic habitats.

2 Project Description:

Road Name: Bell Avenue & Sunrise Boulevard

Road Number: (*US, SR, CR, etc.*) ☒ Local Road (*Off-System*) ☐ State Road (*On-System*)

Project Limits: Begin: 25th Street, Bell Avenue

End: Sunrise Boulevard, NSLRWCD Canal 15

(a) Project Location

☒ Location map attached. (Location_Map.pdf) (*Required*)

(b) Project Typical Section – Complete the following information and Include a Typical Section schematic depicting existing and proposed features, dimensions, and right of way lines.

☒ Schematic Typical Section (existing and proposed) attached (Typical_Section.pdf) (*Required*)

Project Typical Section

Instructions: All boxes must be filled in. Blue highlighted boxes require a number. Write "0" in Existing/Proposed and check N/A if an item does not apply to the proposed project.

		EXISTING	PROPOSED	N/A
RIGHT-OF-WAY				
	Width (feet)	70, 80	70, 80	

Right-of-Way acquisition is NOT permitted.

ROADWAY

	Number of Travel Lanes			
	Lane Width (feet)			
a.	Total Roadway Width (*No. Travel Lanes x Lane Width*)	0	0	N/A

Curb & Gutter to remain: _____ yes _____ no _X_ N/A

b.	Bike Lane Width (feet) (*Not Including Buffer Width*)	0	0	N/A
c.	Buffer Width (feet)	0	0	N/A

Re-stripe for Bike Lane: _____ yes _____ no

Widen for Bike Lane: _____ yes _____ no

Posted Speed Limit	25/ 35	25/ 35	
Design Speed (if known)	0	0	N/A

MEDIAN

d.	Width (feet)	0	0	N/A

SIDEWALK

e.	Widen, Left - Width (feet)	0	0	
f.	Widen, Right - Width (feet)	0	6	
	Replace, Left - Width (feet)	0	0	
	Replace, Right - Width (feet)	0	0	

Material:

_X_ concrete _____ asphalt _____ paver

_____ other (specify) _____

SWALE

g.	Width (feet)	6	6	

TOTAL EXISTING / PROPOSED	6	12

Add (a.) + (b.) + (c.) + (d.) + (e.) + (f.) + (g.)

(c) Right of Way

Right-of-Way acquisition is NOT permitted.

Acquisition is defined as obtaining property not currently owned by the Local Agency through any means including: Deed, Easement, Dedication, Donation, etc.

☒ No Right-of-Way acquisition is proposed

Describe the project's existing Right-of-Way ownerships. This description shall identify when the Right-of-Way was acquired and how ownership is documented (i.e. plats, deeds, prescriptions, certified surveys, easements). If right-of-way is an easement, please describe the easement language.

The Right-of-Way is owned by St. Lucie County as shown on the attached recorded Plats.

Display the existing ownership with Right-of-Way maps to verify that all proposed work is within existing Right-of-Way currently owned by the Project Sponsor. Provide required right-of-way documentation (Right-of-Way.pdf):

☒ Right-of-Way maps are attached

☐ Plats, deeds, prescriptions, certified surveys, and/or easements are attached

3 Project Scope:

(a) Project Scope of Work

Briefly describe the scope of work of the project. Include major items of work to be built.

The project will construct 6' sidewalk along the south side of Bell Avenue from 25th Street to Sunrise Boulevard and along the east side of Sunrise Boulevard from Bell Avenue to NSLRWCD Canal 15.

Project Scope of Work

Instructions: All blue highlighted boxes must be checked Yes or No. Check "N/A" if an item does not apply to the proposed project.

ADA	YES	NO	N/A
All proposed crosswalks, sidewalks, ramps, etc. comply with ADA standards	X		

Describe proposed ADA items: (*Required, if yes*)
6' Concrete sidewalk shall be constructed to ADA standards. Curb ramps shall be constructed to comply with ADA standards.

ACCESS MANAGEMENT	YES	NO	N/A
Access management revisions		X	

Describe Access Management needs: (*Required, if yes*)
Click here to enter text

LIGHTING	YES	NO	N/A
Pedestrian lighting proposed			X
Roadway lighting proposed			X

Describe proposed Lighting: (*Required, if yes*)
Click here to enter text

LANDSCAPE	YES	NO	N/A
Median landscape proposed			X
Other landscape proposed	X		
Irrigation items proposed	X		

Describe proposed Landscape: (*Required, if yes*)
Removal/ relocation of existing trees and trimming of vegetation. Maintenance and modifiaction of existing irrigation.

SIGNALIZATION	YES	NO	N/A
Pedestrian signals proposed		X	
New traffic signalization proposed		X	
Existing signalization to be replaced		X	

Describe proposed Signalization: (*Required, if yes*)
Click here to enter text

TRANSIT	YES	NO	N/A
Queue Jump possible			X
Upgrade existing bus bay area			X
Transit provider concurrence provided (required)			X

Describe Proposed Transit: (*Required, if yes*)
Click here to enter text

SCHOOL ZONE	YES	NO	N/A
Existing flashing school zone signal on state road		X	
High emphasis cross walk at un-signalized crossing		X	

Describe proposed School Zone: (*Required, if yes*)
Click here to enter text

UTILITIES	YES	NO	N/A
Sub-surface relocation is required		X	
Utility coordination is required	X		

Describe Utility involvement: (*Required, if yes*)
Modification of the existing drainage may require utility relocations.

DRAINAGE/PERMIT	YES	NO	N/A
Existing closed drainage system to remain	X		
Existing open drainage system to remain	X		

Describe Drainage/Permit needs: (*Required, if yes*)
Modification of existing swales to allow placement of the proposed sidewalks adjacent to the Right-of-Way. Permitting required from South Florida Water Management District.

RAILROAD	YES	NO	N/A
Rail crossing within limits		X	
Replace all railroad signal equipment and gates			X

Describe Railroad involvement: (*Required, if yes*)
Click here to enter text

BRIDGES	YES	NO	N/A
Proposed Pedestrian Bridge on project			X
Bridge widening proposed			X
Bridge Replacement			X

Describe Bridge elements: (*Required, if yes*)
Click here to enter text

OTHER SCOPE ITEMS	YES	NO	N/A
Existing Driveway Modifications	X		

Describe Other Scope Items: (*Required*)
Existing driveways may need to be upgraded to meet current standards.

(b) Summarize any special characteristics of the project.

(Please type your description here)

(c) Identify any upcoming projects or projects currently underway adjacent to the proposed project.

☒ No adjacent projects are in construction or planned.
☐ Adjacent projects include:

(Please type your description here)

(d) Other specific project information that should be considered.

(Please type your description here)

4 Project Implementation Information:

(a) Describe the proposed method of performing (i.e. consultant contract or in-house) and administering each work phase of the project. If it is proposed that the project be administered by a governmental entity other than the Department of Transportation, the Agency must be LAP certified to administer Federal Aid projects in accordance with the Department's ***Local Agency Program Manual (topic no. 525-010-300)***. Web site: www.fdot.gov/programmanagement/LAP/LAP_TOC.shtm

- ☐ Design to be conducted by in-house staff
- ☒ Design to be conducted by FDOT pre-qualified consultant (1) (2)
- ☐ Design to be conducted by non-FDOT pre-qualified consultant (2)
- ☐ CEI to be conducted by in-house staff
- ☒ CEI to be conducted by FDOT pre-qualified consultant (1) (2)
- ☐ CEI to be conducted by non-FDOT pre-qualified consultant (2)

(1) FDOT pre-qualified consultants must be used on all design and CEI work for critical projects (a project is considered critical when it is on the State Highway System (SHS), features a major structure, and/or has a budget greater than $10 million)

(2) Design consultant and CEI consultant shall not be the same.

(b) Describe any public (and private, if applicable) support of the proposed project. (Examples include: written endorsement, formal declaration, resolution, financial donations or other appropriate means).

(Please type your description here)

(c) Describe the proposed maintenance responsibilities for the project when it is completed.

St. Lucie County will own and maintain the sidewalk.

5 Cost Estimate:

The total construction amount of Transportation Alternative Program (TAP**) funds requested per projects (infrastructure) must be in excess of $250,000 with a maximum project amount of $1,000,000.

Transportation Alternative Program funds will be used to fund Construction and FDOT in-house support activities.

Local Funds (LF) will be used for all non-participating items, contingency activities, Design activities, Construction Engineering and Inspection Activities (CEI), and any costs in excess of the awarded funding (TAP) allocation.

☒ A detailed cost estimate is attached. (Use attached Estimate.xlsx) (*Required*)

Estimate shall be broken down to eligible and non-eligible project costs. **Estimates are to be prepared and signed by a Professional Engineer from the Local Agency's Engineering office.**

Use the following links to access the basis of estimates manual as well as historical cost information for the project area:

Basis of Estimates Manual
Historical Cost Information

6 Certification of Project Sponsor:

I hereby certify that the proposed project herein described is supported by St. Lucie County (*municipal, county, state or federal agency, or tribal council*) and that said entity will:

(1) provide any funding required in addition to the grant amount;

(2) enter into a LAP and maintenance agreement with the Florida Department of Transportation;

(3) have complied with the Federal Uniform Relocation Assistance and Acquisition Policies Act for any Right of Way actions intended for this project previously performed within the project limits;

(4) will comply with NEPA process prior to construction, which may involve coordination with the State Historic and Preservation Office (SHPO); and

(5) support other actions necessary to fully implement the proposed project.

I further certify that the estimated costs included herein are reasonable, and that increases in these costs could cause significant increase to the local agency required participation. I understand that failure to follow through on the project once programmed in the Florida Department of Transportation's Work Program is not allowed.

Signature

Don West, P.E.
Name (*please type or print*)

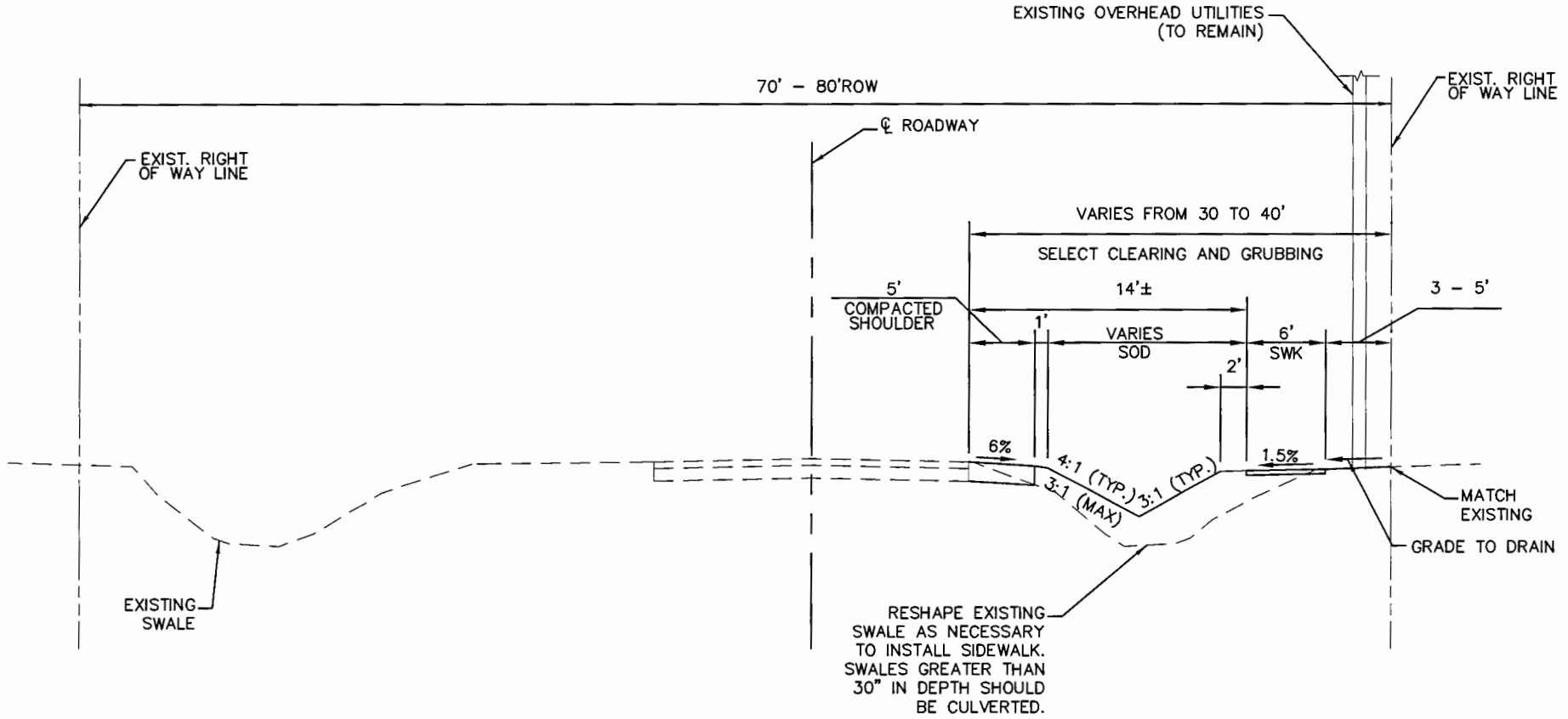
Director of Public Works, St. Lucie County
Title

1/07/19
Date

FOR FDOT USE ONLY		
Application Complete	☐ Yes	☐ No
Project Eligible	☐ Yes	☐ No
Implementation Feasible	☐ Yes	☐ No
Include in Work Program	☐ **Yes**	☐ **No**

BELL AVENUE & SUNRISE BOULEVARD SIDEWALK

S:\Engineering\Programs\P006-SRTS\ROW\OLEANDER-SIDEWALK-PARCEL-LINES.DWG, 1/7/2019 2:23:14 PM



BELL AVENUE/ SUNRISE BOULEVARD SIDEWALK FROM 25TH STREET TO SUNRISE BOULEVARD & BELL AVENUE TO NSLWCD CANAL 15 TYPICAL SECTION

NTS

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ENGINEERS COST ESTIMATE

(Use for Off-System Projects - Administered through LAP)

FM#123456-1-58-01

Project Title: Bell Avenue & Sunrise Boulevard Sidewalk

Date: 01/04/19

		FHWA Participating				FHWA non-participating (Local funds)					
Pay Item Number*	Pay Item Description*	Quantity	Unit	Engineer's Unit Cost	Engineer's Subtotal Cost	Quantity	Unit	Engineer's Unit Cost	Engineer's Subtotal Cost	Total Quantity	Total Engineer's Cost
	Roadway										
101-1A	Mobilization/Demobilization	1	LS	$ 60,000.00	$ 60,000.00				$ -	1	$ 60,000.00
102-1	Maintenance of Traffic	1	LS	$ 60,000.00	$ 60,000.00				$ -	1	$ 60,000.00
104-2A	Prevention , Control & Abatement of Erosion & Water Pollution	1	LS	$ 20,000.00	$ 20,000.00				$ -	1	$ 20,000.00
108-1	Construction Layout and Record Drawings				$ -	1	LS	$ 10,000.00	$ 10,000.00	1	$ 10,000.00
110-1-1	Clearing and Grubbing (Select)	2.45	AC	$ 13,000.00	$ 31,850.00				$ -	2.45	$ 31,850.00
110-7-1A	Mailbox (Remove, Protect & Reset)	20	EA	$ 200.00	$ 4,000.00				$ -	20	$ 4,000.00
120-1	Regular Excavation	800	CY	$ 10.00	$ 8,000.00				$ -	800	$ 8,000.00
120-6	Embankment	1,000	CY	$ 15.00	$ 15,000.00				$ -	1000	$ 15,000.00
400-90A	Dewatering for Construction Operations	1	LS	$ 10,000.00	$ 10,000.00				$ -	1	$ 10,000.00
425-8A	Drainage Modifications	1	LS	$ 100,000.00	$ 100,000.00				$ -	1	$ 100,000.00
520-1-10	Concrete Curb & Gutter - Type F	330	LF	$ 30.00	$ 9,900.00				$ -	330	$ 9,900.00
520-2-4	Concrete Curb - Type D	100	LF	$ 30.00	$ 3,000.00				$ -	100	$ 3,000.00
522-1	6' Concrete Sidewalk, 4" Thick, 3000 PSI	2,950	SY	$ 40.00	$ 118,000.00				$ -	2950	$ 118,000.00
522-2	6' Concrete Sidewalk, 6" Thick, 3000 PSI	1,150	SY	$ 60.00	$ 69,000.00				$ -	1150	$ 69,000.00
522-2	Concrete Driveway Repair, 6"" Thick, 3000 PSI	1,250	SY	$ 60.00	$ 75,000.00					1250	$ 75,000.00
570-1-2	Performance Turf, Sod	24,000	SY	$ 4.00	$ 96,000.00				$ -	24000	$ 96,000.00
580-2-	Landscape - Relocate Trees, Trim Excess Vegetation	1	LS	$ 50,000.00	$ 50,000.00				$ -	1	$ 50,000.00
590-70-1	Irrigation System Repairs	1	LS	$ 20,000.00	$ 20,000.00				$ -	1	$ 20,000.00
700-1-1A	Signs, Remove & Relocate	1	LS	$ 15,000.00	$ 15,000.00				$ -	1	$ 15,000.00
701-11-1A	Thermoplastic Pavement Markings, White	1	LS	$ 8,000.00	$ 8,000.00				$ -	1	$ 8,000.00
701-18-1A	Profiled Thermoplastic (previously "Audible and Vibratory Pavement Markings")	1	LS	$ 2,250.00	$ 2,250.00				$ -	1	$ 2,250.00
					$ -				$ -	0	$ -
1080-21-500	Adjust Water Meter				$ -	30	EA	500	$ 15,000.00	30	$ 15,000.00
1080-24-500	Adjust Valves				$ -	5	EA	400	$ 2,000.00	5	$ 2,000.00
1844-800	Fire Hydrant Relocation				$ -	3	EA	3500	$ 10,500.00	3	$ 10,500.00
		TAP Funds for Construction			$ 775,000.00	Local Funds for Construction			$ 37,500.00	Subtotal	$ 812,500.00
	FDOT IN-HOUSE DESIGN SUPPORT (Phase 31) (REQUIRED)	1	LS	$5,000	$ 5,000.00						
	ADDITONAL FDOT IN-HOUSE DESIGN SUPPORT FOR CRITICAL PROJECTS	0	LS	$2,000	$ -	FDOT In-House Support must be included as an FHWA Participating Item					
	FDOT IN-HOUSE CONSTRUCTION SUPPORT (Phase 61) (REQUIRED)	1	LS	$5,000	$ 5,000.00						
	ADDITONAL FDOT IN-HOUSE CONSTRUCTION SUPPORT FOR CRITICAL PROJECTS	0	LS	$2,000	$ -						
	LOCAL FUNDS FOR DESIGN	Local Agency Design Work is not a FHWA Participating Item				1	LS		$ 100,000.00		
	CONTINGENCY (REQUIRED)	Contingency is not a FHWA Participating Item				1	LS	20%	$ 162,500.00		
	TRANSIT RELATED PROJECTS (10% FTA ADMINISTRATIVE FEE)	Administrative Fee is not a FHWA Participating Item				0	LS	10%	$ -		
	LOCAL FUNDS FOR CONSTRUCTION ENGINEERING & INSPECTION ACTIVITIES (CEI)					1	LS	12%	$ 4,500.00		
	FDOT OVERSIGHT CEI (3% OF TOTAL CONSTRUCTION COST ESTIMATE) (Phase 62) (REQUIRED)	1	LS	3%	$ 24,375.00	FDOT In-House Support must be included as an FHWA Participating Item					
					$ 809,375.00				$ 304,500.00		$ 1,113,875.00
					Subtotal FHWA Participating				Subtotal FHWA Non-Participating		Total Construction Cost Estimate

*Projects on the State Highway System and Critical Projects **SHALL** utilize FDOT pay items numbers and descriptions.

Non-participating items:
- Mowing & Litter removal
- Engineering work; Optional services; Survey; Video inspection; MOT plans preparation; As-builts/record drawings
- Utility work -- this includes, but is not limited to: valve adjustments, utility relocations, FPL power pole relocations, AT&T directional bore, etc...
- Contingency

Other elements may be non-participating; the ones listed above are the commonly used pay items that are non-participating.
If you have any questions regarding an eligible or non-participating item, please contact District Four Local Program Unit.

Prepared by: PE Number: 37638

Joseph W. Capra, P.E. — Name: — Signature: — Date: 1/7/2019

Reviewed by:

Name: — Signature: — Date: 1/8/19

Approved by (Agency Responsible Charge):

Kimberly Graham — Name: — Signature: — Date: 01/08/2019

St. Lucie Transportation Planning Organization

2019
TRANSPORTATION ALTERNATIVES PROGRAM (TAP)
Application and Scoping Form
(for FY 2022/23 project funding)

General Information:

Project Title: Selvitz Road Sidewalk Project
Name of Applicant (*If other than Project Sponsor*):
Project Sponsor: City of Port St. Lucie
(*municipality, county, state, federal agency, or tribal council*)
Contact Person: Edith Majewski
Title: Special projects Coordinator
Email: emajewski@cityofpsl.com
Phone Number: 772-344-4291
Sponsor Address: 121 SW Port St. Lucie Boulevard
Port St. Lucie, FL 34984

1 Qualifying TAP Funded Activities:

Check the Transportation Alternatives activity the proposed project will address. Please check **one** activity that represents the majority of the work proposed. Eligible activities must be consistent with details described under 23 U.S.C. 133(h)(3).

- ☒ Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the ADA Act of 1990
- ☐ Construction of infrastructure-related projects/systems that will provide safe routes for non-drivers, including children and disabled individuals, to access daily needs.
- ☐ Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users
- ☐ Construction of turnouts, overlooks, and viewing areas
- ☐ Inventory, control, or removal of outdoor advertising
- ☐ Historic preservation and rehabilitation of historic transportation facilities
- ☐ Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control
- ☐ Archaeological activities relating to impacts from implementation of a transportation project eligible under title 23
- ☐ Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation, to address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff; to reduce vehicle-caused wildlife mortality; or to restore and maintain connectivity among terrestrial or aquatic habitats.

2 Project Description:

Road Name: Selvitz Road

Road Number: ☒ Local Road ☐ State Road
(*US, SR, CR, etc.*) (*Off-System*) (*On-System*)

Project Limits: Begin: Bayshore Boulevard

End: Floresta Drive

(a) Project Location

☒ Location map attached. (Location_Map.pdf)

(b) Project Typical Section – Complete the following information and Include a Typical Section schematic depicting existing and proposed features, dimensions, and right of way lines.

☒ Schematic Typical Section (existing and proposed) attached (Typical_Section.pdf)

Project Typical Section

Instructions: All boxes must be filled in. Blue highlighted boxes require a number. Write "0" in Existing/Proposed and check N/A if an item does not apply to the proposed project.

		EXISTING	PROPOSED	N/A
RIGHT-OF-WAY				
	Width (feet)	60	0	

Right-of-Way acquisition is NOT permitted.

ROADWAY

	Number of Travel Lanes	2		
	Lane Width (feet)	12'		
a.	Total Roadway Width (*No. Travel Lanes x Lane Width*)	24'	0	

Curb & Gutter to remain: _____ yes _____ no _ N/A X

b.	Bike Lane Width (feet) (*Not Including Buffer Width*)			X
c.	Buffer Width (feet)			X

Re-stripe for Bike Lane: _____ yes _____ no

Widen for Bike Lane: _____ yes _____ no

Posted Speed Limit	30	30	
Design Speed (if known)	0	0	

MEDIAN

d.	Width (feet)			X

SIDEWALK

e.	Widen, Left - Width (feet)	0	0	
f.	Widen, Right - Width (feet)	0	0	
	Replace, Left - Width (feet)	0	0	
	Replace, Right - Width (feet)	0	0	

Material:

_____ concrete _____ asphalt _____ paver

_____ other (specify) _____

SWALE

g.	Width (feet)	8'		

TOTAL EXISTING / PROPOSED		

Add (a.) + (b.) + (c.) + (d.) + (e.) + (f.) + (g.)

(c) Right of Way

Right-of-Way acquisition is NOT permitted.

Acquisition is defined as obtaining property not currently owned by the Local Agency through any means including: Deed, Easement, Dedication, Donation, etc.

☒ No Right-of-Way acquisition is proposed

Describe the project's existing Right-of-Way ownerships. This description shall identify when the Right-of-Way was acquired and how ownership is documented (i.e. plats, deeds, prescriptions, certified surveys, easements). If right-of-way is an easement, please describe the easement language.

The existing right-of-way is owned and maintained by the City of Port St. Lucie as described in the Recorded Plats.

Display the existing ownership with Right-of-Way maps to verify that all proposed work is within existing Right-of-Way currently owned by the Project Sponsor. Provide required right-of-way documentation (Right-of-Way.pdf):

☒ Right-of-Way maps are attached

☒ Plats, deeds, prescriptions, certified surveys, and/or easements are attached

3 Project Scope:

(a) Project Scope of Work

Briefly describe the scope of work of the project. Include major items of work to be built.

Construct a 6-foot wide concrete sidewalk on the west sideof Selvitz Road from the existing sidewalk on Bayshore Boulevard east to the existing sidewalk on Floresta Drive.

Project Scope of Work

Instructions: All blue highlighted boxes must be checked Yes or No. Check "N/A" if an item does not apply to the proposed project.

ADA	YES	NO	N/A
All proposed crosswalks, sidewalks, ramps, etc. comply with ADA standards	X		

Describe proposed ADA items: (*Required, if yes*)
All ADA requirements will be meet through design and construction of the sidewalk and crosswalks. 2% cross slopes will be a requirement of the project.

ACCESS MANAGEMENT	YES	NO	N/A
Access management revisions		X	

Describe Access Management needs: (*Required, if yes*)

LIGHTING	YES	NO	N/A
Pedestrian lighting proposed		X	
Roadway lighting proposed		X	

Describe proposed Lighting: (*Required, if yes*)

LANDSCAPE	YES	NO	N/A
Median landscape proposed		X	
Other landscape proposed		X	
Irrigation items proposed		X	

Describe proposed Landscape: (*Required, if yes*)

SIGNALIZATION	YES	NO	N/A
Pedestrian signals proposed		X	
New traffic signalization proposed		X	
Existing signalization to be replaced			X

Describe proposed Signalization: (*Required, if yes*)

TRANSIT	YES	NO	N/A
Queue Jump possible		X	
Upgrade existing bus bay area			X
Transit provider concurrence provided (required)		X	

Describe Proposed Transit: (*Required, if yes*)

SCHOOL ZONE	YES	NO	N/A
Existing flashing school zone signal on state road		X	
High emphasis cross walk at un-signalized crossing	X		

Describe proposed School Zone: (*Required, if yes*)
High emphasis crosswalks will be required as part of the project.

UTILITIES	YES	NO	N/A
Sub-surface relocation is required		X	
Utility coordination is required	X		

Describe Utility involvement: (*Required, if yes*)
Design plans will be sent to all utility companies for review.

DRAINAGE/PERMIT	YES	NO	N/A
Existing closed drainage system to remain			X
Existing open drainage system to remain	X		

Describe Drainage/Permit needs: (*Required, if yes*)
South Florida Water Management Verification Permit
Compliance with the City's National Pollution Discharge Ellimination Systems (NPDES) will be met.

RAILROAD	YES	NO	N/A
Rail crossing within limits			X
Replace all railroad signal equipment and gates			X

Describe Railroad involvement: (*Required, if yes*)

BRIDGES	YES	NO	N/A
Proposed Pedestrian Bridge on project		X	
Bridge widening proposed			X
Bridge Replacement			X

Describe Bridge elements: (*Required, if yes*)

OTHER SCOPE ITEMS	YES	NO	N/A

Describe Other Scope Items: (*Required*)

(b) Summarize any special characteristics of the project.

This project has two schools within a two mile radius. Parkway Elementary School is one mile north of Bayshore Boulevard and Northport K-8 School is three-quarters of a mile to the east of Floresta Drive.

(c) Identify any upcoming projects or projects currently underway adjacent to the proposed project.

☒ No adjacent projects are in construction or planned.
☐ Adjacent projects include:

(d) Other specific project information that should be considered.

4 Project Implementation Information:

(a) Describe the proposed method of performing (i.e. consultant contract or in-house) and administering each work phase of the project. If it is proposed that the project be administered by a governmental entity other than the Department of Transportation, the Agency must be LAP certified to administer Federal Aid projects in accordance with the Department's ***Local Agency Program Manual (topic no. 525-010-300)***. Web site: www.fdot.gov/programmanagement/LAP/LAP_TOC.shtm

- ☐ Design to be conducted by in-house staff
- ☒ Design to be conducted by FDOT pre-qualified consultant (1) (2)
- ☐ Design to be conducted by non-FDOT pre-qualified consultant (2)
- ☐ CEI to be conducted by in-house staff
- ☒ CEI to be conducted by FDOT pre-qualified consultant (1) (2)
- ☐ CEI to be conducted by non-FDOT pre-qualified consultant (2)

(1) FDOT pre-qualified consultants must be used on all design and CEI work for critical projects (a project is considered critical when it is on the State Highway System (SHS), features a major structure, and/or has a budget greater than $10 million)

(2) Design consultant and CEI consultant shall not be the same.

(b) Describe any public (and private, if applicable) support of the proposed project. (Examples include: written endorsement, formal declaration, resolution, financial donations or other appropriate means).

(c) Describe the proposed maintenance responsibilities for the project when it is completed.

The ownership and maintenance of this sidewalk will be the sole responsibility of the City of Port St. Lucie.

5 Cost Estimate:

The total construction amount of Transportation Alternative Program (TAP**) funds requested per projects (infrastructure) must be in excess of $250,000 with a maximum project amount of $1,000,000.

Transportation Alternative Program funds will be used to fund Construction and FDOT in-house support activities.

Local Funds (LF) will be used for all non-participating items, contingency activities, Design activities, Construction Engineering and Inspection Activities (CEI), and any costs in excess of the awarded funding (TAP) allocation.

☒ A detailed cost estimate is attached. (Use attached Estimate.xlsx) (*Required*)

Estimate shall be broken down to eligible and non-eligible project costs. **Estimates are to be prepared and signed by a Professional Engineer from the Local Agency's Engineering office.**

Use the following links to access the basis of estimates manual as well as historical cost information for the project area:

Basis of Estimates Manual
Historical Cost Information

6 Certification of Project Sponsor:

I hereby certify that the proposed project herein described is supported by **the City of Port St. Lucie** and that said entity will:

(1) provide any funding required in addition to the grant amount;

(2) enter into a LAP and maintenance agreement with the Florida Department of Transportation;

(3) have complied with the Federal Uniform Relocation Assistance and Acquisition Policies Act for any Right of Way actions intended for this project previously performed within the project limits;

(4) will comply with NEPA process prior to construction, which may involve coordination with the State Historic and Preservation Office (SHPO); and

(5) support other actions necessary to fully implement the proposed project.

I further certify that the estimated costs included herein are reasonable, and that increases in these costs could cause significant increase to the local agency required participation. I understand that failure to follow through on the project once programmed in the Florida Department of Transportation's Work Program is not allowed.

Signature

Roxanne M Chesser

Name: Roxanne Chesser, P.E.

Title: Interim Public Works Director

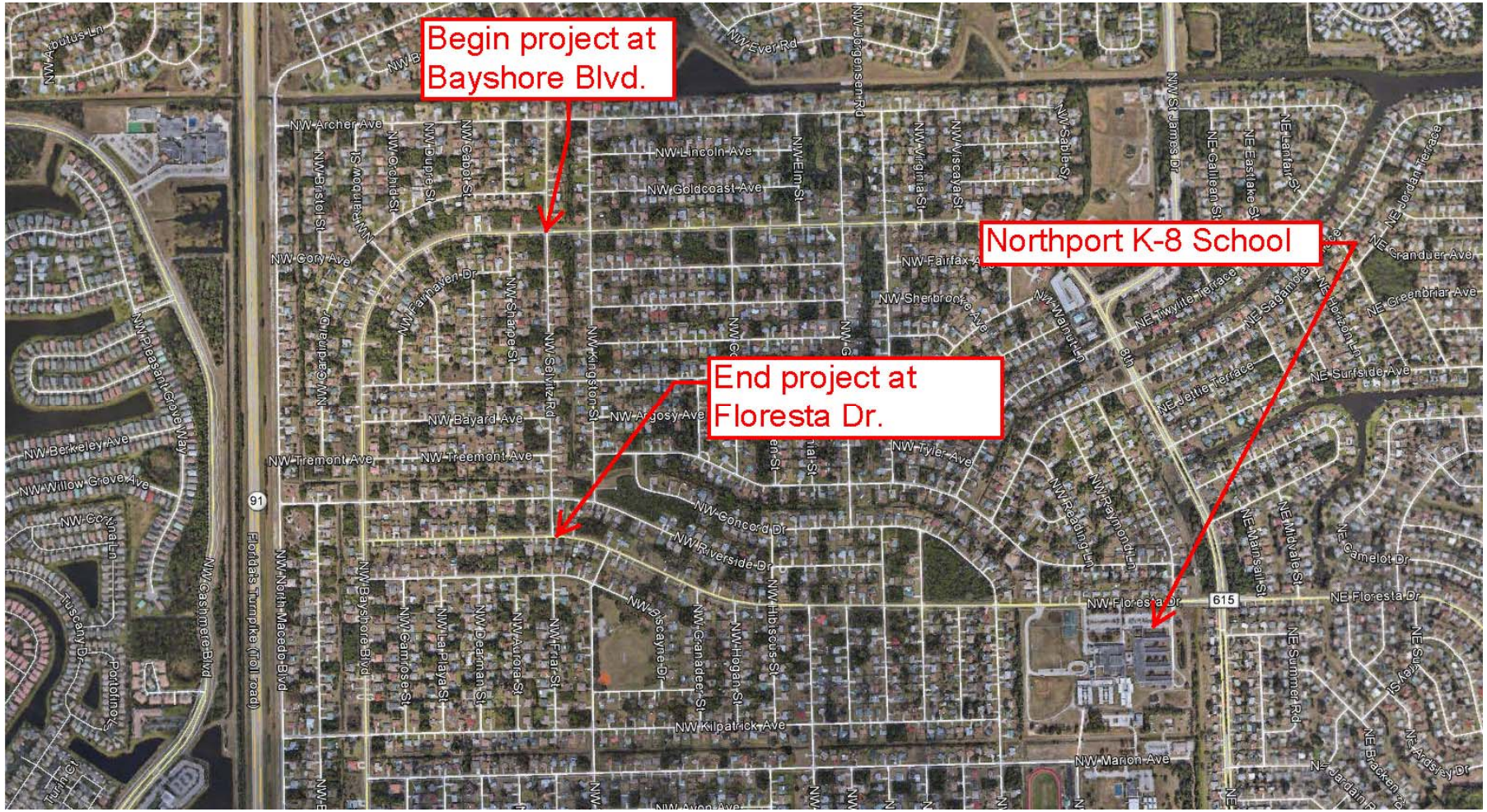
12/6/18

Date

FOR FDOT USE ONLY		
Application Complete	☐ Yes	☐ No
Project Eligible	☐ Yes	☐ No
Implementation Feasible	☐ Yes	☐ No
Include in Work Program	☐ **Yes**	☐ **No**

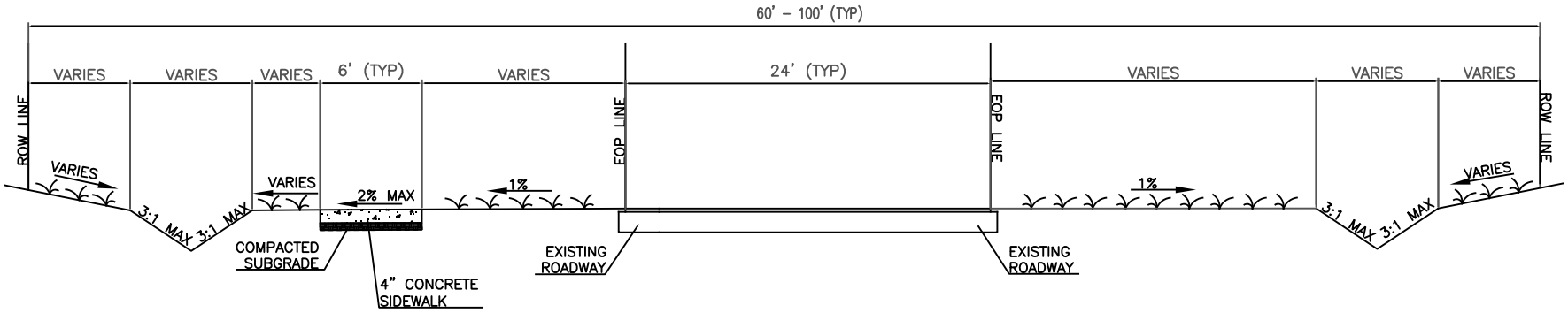
2019 TAP Application Location Map

Selvitz Road between Bayshore Boulevard and Floresta Drive



"A City for All Ages"

PUBLIC WORKS DEPARTMENT



TYPICAL CROSS-SECTION DETAIL
N.T.S.

TAP Grant Application FY 22/23

Selvitz Road Sidewalk

Bayshore Boulevard to Floresta Drive

ENGINEERS COST ESTIMATE
(Use for Off-System Projects - Administered through LAP)
FM#123456-1-58-01
Project Title: Selvitz Road Sidewalk Project
Date: December 5, 2018

		FHWA Participating				FHWA non-participating (Local funds)					
Pay Item Number*	Pay Item Description*	Quantity	Unit	Engineer's Unit Cost	Engineer's Subtotal Cost	Quantity	Unit	Engineer's Unit Cost	Engineer's Subtotal Cost	Total Quantity	Total Engineer's Cost
	Roadway										
101-1	Mobilization	1	LS	$ 43,202.00	$ 43,202.00				$ -	1	$ 43,202.00
101-1B	Construction Video				$ -	1	LS	$ 750.00	$ 750.00	1	$ 750.00
101-99	Survey Staking and Record Drawings				$ -	1	LS	$ 22,900.00	$ 22,900.00	1	$ 22,900.00
102-1	Manitenance of Traffic	1	LS	$ 35,000.00	$ 35,000.00				$ -	1	$ 35,000.00
102-3	Driveway Maintenance	250	CY	$ 22.00	$ 5,500.00				$ -	250	$ 5,500.00
104-10-3	Sediment Barrier	2400	LF	$ 1.46	$ 3,504.00				$ -	2400	$ 3,504.00
104-11	Floating Turbidity Barrier	50	LF	$ 12.05	$ 602.50				$ -	50	$ 602.50
104-12	Staked Turbidity Barrier	120	LF	$ 3.50	$ 420.00				$ -	120	$ 420.00
104-18	Inlet Protection	6	EA	$ 75.77	$ 454.62				$ -	6	$ 454.62
110-1-1	Clearing & Grubbing	2.3	AC	$ 6,500.00	$ 14,950.00				$ -	2.3	$ 14,950.00
110-4	Removal of Existing Concrete	450	SY	$ 16.88	$ 7,596.00				$ -	450	$ 7,596.00
110-7-1	Mailbox (Furnish & Install)	9	EA	$ 117.74	$ 1,059.66				$ -	9	$ 1,059.66
120-1	Regular Excavation	370	CY	$ 17.50	$ 6,475.00				$ -	370	$ 6,475.00
120-6	Embankment	245	CY	$ 17.00	$ 4,165.00				$ -	245	$ 4,165.00
425-1529	Inlet, Ditch Bottom, Type C, Modify	2	EA	$ 2,847.76	$ 5,695.52				$ -	2	$ 5,695.52
425-1551	Inlets, Ditch Bottom, Type E,<10'	4	EA	$ 3,200.00	$ 12,800.00				$ -	4	$ 12,800.00
430-174-218	Pipe Culvert (Ellip)(18"SD)	352	LF	$ 68.02	$ 23,943.04				$ -	352	$ 23,943.04
430-174-230	Pipe Culvert (Ellip)(30"SD)	130	LF	$ 81.55	$ 10,601.50				$ -	130	$ 10,601.50
430-963-1	PVC for back of sidewalk 4"	150	LF	$ 29.28	$ 4,392.00				$ -	150	$ 4,392.00
430-984-633	MES (Ellip)(30"SD)	2	EA	$ 2,164.58	$ 4,329.16				$ -	2	$ 4,329.16
514-71-1	Inlet Protection (Filter Fabric)	75	SY	$ 7.07	$ 530.25				$ -	75	$ 530.25
514-72	Liner Install Only	2200	LF	$ 10.28	$ 22,616.00				$ -	2200	$ 22,616.00
515-1-2	Aluminum Pedestrian Handrail	75	LF	$ 37.19	$ 2,789.25				$ -	75	$ 2,789.25
522-1	Concrete Sidewalk (4" Thick)	1680	SY	$ 39.00	$ 65,520.00				$ -	1680	$ 65,520.00
522-2	Concrete Sidewalk (6" Thick)	350	SY	$ 52.00	$ 18,200.00				$ -	350	$ 18,200.00
526-1-1	Pavers, Architectural, Driveway	39	SY	$ 59.52	$ 2,321.28				$ -	39	$ 2,321.28
527-2	Detectable Warning Mats	448	SF	$ 15.00	$ 6,720.00				$ -	448	$ 6,720.00
700-20-11	Single Post Sign (F&I)	8	AS	$ 262.94	$ 2,103.52				$ -	8	$ 2,103.52
711-11-111	Thermo White 6" Solid	2000	LF	$ 1.70	$ 3,400.00				$ -	2000	$ 3,400.00
711-11-123	Thermo White Solid 12"	288	LF	$ 1.76	$ 506.88				$ -	288	$ 506.88
711-11-125	Thermo White 24" Solid	60	LF	$ 3.75	$ 225.00				$ -	60	$ 225.00
711-11-211	Thermo Yellow 6" Solid	125	LF	$ 1.70	$ 212.50				$ -	125	$ 212.50
1000-1	Utility Coordination		LS		$ -	1		$ 1,500.00	$ 1,500.00	0	$ 1,500.00
1080-15	Utility Fixture Adjust/Modify		EA		$ -	10		$ 450.00	$ 4,500.00	0	$ 4,500.00
1644-800	Fire Hydrant Relocate		EA		$ -	2		$ 900.00	$ 1,800.00	0	$ 1,800.00
					$ -				$ -	0	$ -
	Landscape										
570-1-2	Performance Sod	4880	SY	$ 2.90	$ 14,152.00				$ -	4880	$ 14,152.00
					$ -				$ -	0	$ -
					$ -				$ -	0	$ -
					$ -				$ -	0	$ -
		TAP Funds for Construction			$ 323,986.68	Local Funds for Construction			$ 31,450.00	Subtotal	$ 355,436.68
	FDOT IN-HOUSE DESIGN SUPPORT (Phae 31) **(REQUIRED)**	1	LS	$5,000	$ 5,000.00						
	ADDITONAL FDOT IN-HOUSE DESIGN SUPPORT FOR CRITICAL PROJECTS	0	LS	$2,000	$ -	FDOT In-House Support must be included as an FHWA Participating Item					
	FDOT IN-HOUSE CONSTRUCTION SUPPORT (Phae 61) **(REQUIRED)**	1	LS	$5,000	$ 5,000.00						
	ADDITONAL FDOT IN-HOUSE CONSTRUCTION SUPPORT FOR CRITICAL PROJECTS	0	LS	$2,000	$ -						
	LOCAL FUNDS FOR DESIGN	Local Agency Design Work is not aFHWA Participating Item				1	LS		$ -		
	CONTINGENCY **(REQUIRED)**	Contingency is not a FHWA Participating Item				1	LS	20%	$ 71,087.34		
	TRANSIT RELATED PROJECTS (10% FTA ADMINISTRATIVE FEE)	Administrative Fee is not a FHWA Participating Item				0	LS	10%	$ -		
	LOCAL FUNDS FOR CONSTRUCTION ENGINEERING & INSPECTION ACTIVITIES (CEI)					1	LS	12%	$ 3,774.00		
	FDOT OVERSIGHT CEI (3% OF TOTAL CONSTRUCTION COST ESTIMATE) (Phae 62) **(REQUIRED)**	1	LS	3%	$ 10,663.10	FDOT In-House Support must be included as an FHWA Participating Item					
					$ 344,649.78				**$ 106,311.34**		**$ 450,961.12**
					Subtotal FHWA Participating				**Subtotal FHWA Non-Participating**		**Total Construction Cost Estimate**

*Projects on the State Highway System and Critical Projects **SHALL** utilize FDOT pay items numbers and descriptions.

Non-participating items:
- Mowing & Litter removal
- Engineering work; Optional services; Survey; Video inspection; MOT plans preparation; As-builts/record drawings
- Utility work -- this includes, but is not limited to: valve adjustments, utility relocations, FPL power pole relocations, AT&T directional bore, etc...
- Contingency

Other elements may be non-participating; the ones listed above are the commonly used pay items that are non-participating.
If you have any questions regarding an eligible or non-participating item, please contact District Four Local Program Unit.

Prepared by: Colt Schwerdt — PE Number: 76887
Name: Colt Schwerdt — Signature: Colt Schwerdt — Date: 12-6-2018

Reviewed by:
Name: _____ Signature: _____ Date: _____

Approved by (Agency Responsible Charge):
Name: Yoraima Cruzen — Signature: Yoraima Cruzen — Date: 12/6/18

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

AGENDA ITEM SUMMARY

Board/Committee:	Technical Advisory Committee (TAC)
Meeting Date:	January 15, 2019
Item Number:	6c
Item Title:	Automated/Connected/Electric/Shared-Use (ACES) Vehicles for Transit Study
Item Origination:	Unified Planning Work Program (UPWP)
UPWP Reference:	Task 4.1 – Automated/Connected/Electric/ Shared-Use (ACES) Vehicles Planning
Requested Action:	Review and recommend the selected recommendations in the ACES Vehicles for Transit Study for implementation assistance by the TPO, recommend with conditions, or do not recommend.
Staff Recommendation:	It is recommended that the selected recommendations in the ACES Vehicles for Transit Study be recommended to the TPO Board for implementation assistance.

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Attachments
- Staff Report
- ACES for Transit Study

St. Lucie Transportation Planning Organization

Coco Vista Centre
466 SW Port St. Lucie Blvd, Suite 111
Port St. Lucie, Florida 34953
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MEMORANDUM

TO: Technical Advisory Committee (TAC)

THROUGH: Peter Buchwald
Executive Director

FROM: Marceia Lathou
Transit Program Manager

DATE: January 8, 2019

SUBJECT: Automated/Connected/Electric/Shared-Use (ACES) For Transit Study

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BACKGROUND

New technologies are creating dramatic change for the transit industry. Cities are piloting automated vehicle (AV) services using "micro-transit" shuttles. Transit agencies are partnering with Uber and Lyft. Government agencies and industry associations are helping by providing resources for "mobility management", which is a flexible, customer-centric approach to designing and delivering transportation services, often incorporating Automated, Connected, Electric, and Shared-Use (ACES) vehicles.

The TPO's Unified Planning Work Program (UPWP) includes a specific task related to ACES. The objective of this task is to plan and support innovative technologies and business practices with regard to ACES and determine how best to address the challenges and opportunities presented by ACES. Activities related to this task are:

- Participation in training activities regarding advanced transportation technologies
- Development of recommendations in support of ACES to inform the Transit Development Plan (TDP) Major Update
- Development of recommendations in support of ACES to inform the 2045 Long Range Transportation Plan (LRTP)

A TDP is required by the Florida Department of Transportation (FDOT) for the receipt of funding through the Public Transit Block Grant Program. A Major Update of the TDP is required every five years. The TPO is assisting St. Lucie County and Community Transit in the preparation of the TDP Major Update, which is due for submittal to the Florida Department of Transportation (FDOT) by September 1, 2019.

ANALYSIS

A TDP is a planning, development, and operational guidance document based on a 10-year planning horizon. The attached ACES for Transit Vehicles Study was completed by the TPO to assist the TPO in planning and preparing for the development and implementation of ACES vehicles and to assist St. Lucie County in preparing its transit system for future mobility by developing recommendations for incorporation into the TDP. The TDP covers the Fiscal Year 2020-2029 planning period during which some experts predict the gradual mainstreaming of ACES will occur.

Transit agencies, in particular, must prepare for ACES because experts and other resources identified in the ACES for Transit Study agree that public transportation and shared mobility providers will be among the first sectors to adopt advanced technologies. ACES may indirectly reduce demand for transit but could create opportunities for more cost-effective and customer-friendly service.

Early forms of ACES are already on the market. These include connected mobile apps, adaptive cruise control, and automatic emergency braking. Today's technologies are only a fraction of the revolutionary changes being heavily researched for the future. The TDP brand "Bus Plus" acknowledges that every bus ride begins or ends as a multimodal trip and these trips are often impacted by technology.

The TDP Bus Plus focus on the future will set forth a program of improvements to implement the County's vision of mobility for all. Though there is a great deal of uncertainty and speculation on the potential impacts of ACES, its influence must be factored into the TPO's planning priorities and the the Bus Plus plan to define needs, develop alternatives, and make recommendations to address those needs using a flexible approach.

Based on reviews of recent studies developed by government agencies, industry associations, and consultants, ACES recommendations for the TDP Major Update were prepared and are included in the ACES for Transit Study. While many of the recommendations are intended to be implemented by a transit operator, the TPO can facilitate the implementation of the following

recommendations based on its planning priorities, skills, abilities, and experience.

- Maintain ongoing dialogue with stakeholders to determine unmet needs and identify potential solutions that might be addressed through ACES. Stakeholders include community residents, original equipment manufacturers (OEMs), technology developers, integrators, and industry associations.

- Work with local partners to review land use policies and practices that could facilitate the deployment of transit automation.

- Ensure that planning for ACES includes considering the need for accessibility for persons with disabilities and environmental justice communities.

- Develop appropriate messaging as well as public engagement and education activities to promote awareness, understanding, and acceptance of ACES.

- Pursue New Mobility partnerships with a focus on meeting St. Lucie County goals and priorities.

- Create a framework or roadmap for realizing the benefits of emerging technologies.

- Consider forming a working group with all stakeholders to start the dialogue around goals for AV implementation and potential policy barriers.

RECOMMENDATION

It is recommended that the selected recommendations in the ACES Vehicles for Transit Study be recommended to the TPO Board for implementation assistance.

St. Lucie Transportation Planning Organization

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

Automated/Connected/Electric/Shared-Use (ACES) Vehicles for Transit Study

Draft
January 2019

Program Manager: Marceia Lathou
Email:lathoum@stlucieco.org

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.

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.

Automated/Connected/Electric/Shared-Use (ACES) Vehicles for Transit

INTRODUCTION

Technological advances in transportation are transforming the urban landscape. These advancements may lead to great improvements in safety, transportation choices, and quality of life. Despite uncertainty about when and how these impacts will occur, transportation agencies need to determine how best to address, respond to, and/or facilitate the resulting challenges and opportunities. Due to the swiftness of change, agencies must collaborate with a broad range of transportation partners to encourage the safe development, testing and deployment of Automated, Connected, Electric and Shared-Use (ACES) vehicles.

The purpose of the ACES for Transit study is to assist the St. Lucie TPO in planning and preparing for the development and implementation of ACES vehicles and to assist St. Lucie County in preparing its transit system for ACES by developing recommendations to be incorporated into the County's Transit Development Plan (TDP) Major Update. The TDP covers the ten-year Fiscal Year 2020-2029 planning period. The TDP brand "Bus Plus" acknowledges that every bus ride begins or ends as a multimodal trip and that these trips are influenced by surrounding land uses and technology.

The Bus Plus focus on the future will set forth a program of improvements to implement the County's vision of mobility for all. Though there is a great deal of uncertainty and speculation on the potential impacts of ACES, its influence must be factored into the Bus Plus plan to define needs, develop alternatives, and make recommendations to address those needs using a flexible approach.

The following are brief definitions of ACES:

Automated: An automated vehicle (AV) capable of guiding itself with little or no human input. Often referred to as "autonomous" or "driverless".

Connected: A vehicle linked to other devices to improve safety or efficiency.

Electric: A vehicle using an electric motor for propulsion.

Shared-Use: A vehicle used by more than one person or organization.

Overlaps may also occur among the four types of ACES. For example, some autonomous shuttle buses are powered by electricity. Shared-ride companies like Uber and Lyft are testing AVs on public roads, and AVs are, by nature, connected vehicles. The trend is for continuing convergence of ACES types.

In addition to these emerging technologies, early forms of ACES are already on the market, advanced driver assistance systems being one example. Other examples include connected mobile apps, adaptive cruise control, and automatic emergency braking. As advanced as they are, today's technologies are only a fraction of the revolutionary changes being heavily researched for the future.

Transit agencies, in particular, must prepare for the advent of ACES. The sources reviewed for this report identify that public transportation and shared mobility providers will be among the first sectors to adopt advanced technologies. It is also identified that ACES may indirectly reduce demand for transit but could create opportunities for more cost-effective and customer-friendly service.

What follows are detailed definitions of ACES.

Automated

The U.S. Department of Transportation (DOT) defines automated vehicles according to a classification system developed by SAE International, a professional association and standards-developing organization for engineering professionals in various industries. This classification system divides AV into six categories of driver assistance technology based on "who does what, when" using the term "dynamic driving task" to describe the real-time operation and tactical functions required to operate a vehicle in on-road traffic. The definitions below were derived from the National Highway Traffic Safety Administration (NHTSA) website.

Level 0 - The human driver does all the driving.

Level 1 - An Advanced Driver Assistance System (ADAS) on the vehicle can sometimes assist the human driver with either steering or braking/accelerating, but not both simultaneously.

Level 2 - An Advanced Driver Assistance System (ADAS) on the vehicle can itself actually control both steering and braking/accelerating simultaneously under some circumstances. The human driver must continue to pay full attention ("monitor the driving environment") at all times and perform the rest of the driving task.

Level 3 - An Automated Driving System (ADS) on the vehicle can itself perform all aspects of the driving task under some circumstances. In those circumstances, the human driver must be ready to take back control at any time when the ADS requests the human driver to do so. In all other circumstances, the human driver performs the driving task.

Level 4 - An Automated Driving System (ADS) on the vehicle can itself perform all driving tasks and monitor the driving environment – essentially, do all the driving – in certain circumstances. The human need not pay attention in those circumstances.

Level 5 - An Automated Driving System (ADS) on the vehicle can do all the driving in all circumstances. The human occupants are just passengers and need never be involved in driving.

Connected

Connectivity refers to technology-enabled cars, buses, trucks, trains, roads, other infrastructure, smartphones, and other devices that exchange data with one another. Cars on the highway, for example, could use electronic signals to continuously communicate important safety and mobility information with other vehicles. Drivers would receive notifications and alerts of hazards, such as impending collisions, flooded roads, and dangerous curves. Traffic signal priority is an example of current connectivity in which transit or emergency vehicles are given the green light as they approach signalized intersections.

Connected vehicles enable the development of automated vehicles because the full benefits of vehicle automation can be achieved only through connectivity. Connected vehicles are expected to improve safety, mobility, and the environment.

Electric

Electric vehicles (EVs) consume less fuel, if any, and produce fewer emissions than similar conventional vehicles. There are two basic types of EVs: all-electric vehicles (AEVs) and plug-in hybrid electric vehicles (PHEVs). AEVs run only on electricity; when the battery becomes depleted, it must be recharged. PHEVs run on electricity for shorter ranges, then switch over to an internal combustion engine running on gasoline when the battery becomes depleted, allowing drivers to use electricity as often as possible while also being able to rely on gasoline-powered propulsion when needed. The

widespread use of electric vehicles could result in significant improvements in environmental quality.

Shared-Use

The shared use of a vehicle, bicycle, or other mode enables users to gain short-term access to transportation modes on an as-needed basis. The practice includes various forms of carsharing, bikesharing, ridesharing (carpooling and vanpooling), and on-demand ride services like Uber and Lyft. Shared-use mobility can also include alternative transit services, such as paratransit, shuttles, and private transit services (called microtransit), all of which can supplement fixed route bus and rail services. Shared-use mobility has experienced explosive growth fueled by innovations in smartphone applications.

GOVERNMENT AND INDUSTRY RESPONSE TO ACES

Given the rapid nature of technological change, the full integration of ACES requires two phases: testing and adoption. Public/private partnerships are the optimal means to accelerate this integration due to the complexity of the pilot testing process, the modernization of regulations, and implementation. Below are descriptions of the responses of various government agencies and industry associations that are preparing for ACES.

Federal Response to ACES

Because federal transportation agencies are in agreement on the significant impact of ACES, these agencies are engaged in immediate planning for ACES.

The U.S. DOT publishes reports which discuss the agency's approach to moving forward in response to automated vehicles. A recent report entitled *Preparing for the Future of Transportation - Automated Vehicles 3.0* provides federal guidance on AVs, advancing the agency's commitment to supporting the safe integration of automation into the broad multimodal surface transportation system. U.S. DOT is implementing five core strategies related to AVs. The strategies are:

1. Engage stakeholders and the public
2. Provide best practices and policy considerations to support stakeholders
3. Support voluntary technical standards
4. Conduct targeted technical research
5. Modernize regulations

Agencies within the U.S. DOT are likewise advancing automation. The Federal Highway Administration (FHWA) Office of Innovative Program Delivery supports the widespread use of innovation and enhanced business processes in meeting mobility needs and increasing the efficiency of project delivery. Similarly, the FHWA Center for Accelerating Innovations is responsible for developing a national network of innovation and stakeholder collaboration within the highway transportation community.

The Federal Transit Administration (FTA) Office of Research, Demonstration and Innovation is exploring the use of vehicle automation technologies in bus operations with the goal of advancing transit readiness for automation by:

- conducting enabling research to achieve safe and effective transit automation deployments
- identifying and resolving barriers to deployment of transit automation
- leveraging technologies from other sectors to move the transit automation industry forward
- demonstrating market-ready technologies in real-world settings
- transferring knowledge to the transit stakeholder community

To facilitate automation in bus transit and mitigate the challenges, FTA has developed a *Strategic Transit Automation Research Plan* that identifies a research agenda and outlines a strategy leveraging the strengths of the public sector, private sector, and academia. Five broad areas of use cases have been identified, including transit bus advanced driver assistance systems (ADAS), automated shuttles, automated maintenance and yard operations, automated mobility-on-demand service, and automated bus rapid transit (BRT). These areas represent a range of near-term and long-term concepts as well as a range of automation levels. They also respond to interest expressed by stakeholders.

State of Florida Response to ACES

Florida is a leader among states in incorporating ACES in long-range planning activities. In 2016, the State of Florida passed a bill mandating that metropolitan planning organizations (MPOs) address AV technology in their Long Range Transportation Plans (LRTPs). Adopting and supporting innovative technologies and business practices supports all seven goals of the statewide *Florida Transportation Plan* developed by the Florida Department of Transportation (FDOT).

The Florida Automated Vehicles (FAV) program, led by FDOT, helps to educate the public by engaging stakeholders, developing research and pilot projects,

and creating awareness of ACES technologies and how they support FDOT's vision. FDOT co-hosts the annual Florida Automated Vehicles Summit, which brings industry leaders together to address technologies, operations, and policy issues related to ACES and provides live demonstrations of connected and automated vehicles. FDOT, in partnership with other agencies, is developing SunTrax, a large-scale, cutting-edge facility dedicated to the research, development and testing of emerging transportation technologies in safe and controlled environments, at the Florida Polytechnic University located in Polk County, Florida.

FDOT supports the development of guidance documents to assist partner agencies with incorporating ACES considerations into planning activities. To provide guidance to MPOs regarding the potential impact ACES may have on long range planning, FDOT funded a document entitled, "*Guidance for Assessing Planning Impacts and Opportunities of Automated, Connected, Electric and Shared-Use Vehicles*." Regarding potential effects of ACES on planning issues, the study found the following:

- Automated Vehicles – When many vehicles can operate without a driver on board, potential increases in vehicle miles traveled (VMT) from empty vehicles, increased mobility for children, elderly or the disabled from lower costs and could result in reduced parking demand and changes in urban form.

- Connected Vehicles – When most of the vehicle fleet can communicate with other vehicles and roadside devices, increases in road capacity, new safety features and improved congestion management could become more prevalent.

- Electric Vehicles – When a significant share of the vehicle fleet no longer pays motor fuel taxes, existing transportation funding sources may no longer be adequate, requiring MPOs to adjust their investment programs. On the other hand, widespread adoption of electric vehicles could result in substantially reduced air emissions. The magnitude of this effect depends on what energy sources are used to generate electricity and other factors.

- Shared-Use Vehicles – Ride sourcing, bike sharing and other shared mobility platforms are already creating new competition for limited curb space in urban areas creating Complete Streets design challenges as well as opportunities for mobility hubs and new funding sources.

The following are key findings of the *Autonomous Vehicle Policy Guide for Public Transportation in Florida MPOs,* prepared for FDOT by Florida State University, which addresses impacts of ACES specific to transit agencies.

- Fully automated buses and shuttles are already here and undergoing testing.
- Retrofitting is a financially viable option compared to buying a new autonomous bus or shuttle.
- An electric bus will be necessary for compatibility and economic efficiency to transition to an autonomous bus.
- Retrofitting is done mainly for freight semi-trucks, but bus manufacturing companies are applying this to buses.
- Fully automated buses are nearing the end of real-world testing and will be on the market soon.
- Autonomous buses will be very expensive to buy or lease.
- Shuttles have about a 12-person capacity with an average maximum speed of 25 MPH and have undergone more extensive testing than buses.
- Shuttles are currently estimated at $250,000 per year to lease, and most Florida pilot programs have leased their shuttles.
- Carts are impractical for transit operations but help to advance the technology necessary for autonomous buses to work.

Local Response to ACES

St. Lucie Transportation Planning Organization (TPO)

The St. Lucie TPO was one of the first MPOs in the state of Florida to incorporate AVs into its Long Range Transportation Plan (LRTP) in anticipation of the 2016 state legislation. AVs are incorporated into the objectives of the TPO's Go2040 LRTP which include:

- Provide for the transportation needs of transportation disadvantaged persons that may include use of automated vehicles.
- Improve the safety of the transportation system that may include incorporation of infrastructure in support of automated vehicles.

In addition, the LRTP supports Intelligent Transportation System (ITS) technologies. ITS improves transportation safety and mobility and enhances productivity through the integration of advanced communications technologies into the transportation infrastructure and in vehicles. ITS encompasses a broad range of wireless and wire line communications-based information and electronics technologies. These technologies could enable vehicles, roads and other infrastructure, and our smartphones to all communicate and share vital transportation information.

A regional Advanced Transportation Management System (ATMS) Master Plan for St. Lucie County was completed in February 2013 and incorporates input

from the regional transportation agencies into an integrated approach for ITS. The ATMS Master Plan includes a phasing plan and cost estimates to implement the short- to mid-term ITS systems and other ITS infrastructure. Integration of the ATMS Master Plan into the LRTP and Transportation Improvement Plan (TIP) processes has been accomplished.

The TPO's Unified Planning Work Program also includes a specific task dedicated to ACES. The objective of this task is to plan and support innovative technologies and business practices with regard to ACES and determine how best to address the challenges and opportunities presented by ACES. Activities related to this task are:

- Participation in training activities regarding advanced transportation technologies
- Development of recommendations in support of ACES vehicles to inform the Transit Development Plan (TDP) Major Update
- Development of recommendations in support of ACES vehicles to inform the 2045 Long Range Transportation Plan (LRTP)

St. Lucie County

St. Lucie County recognizes the need to determine how best to address the challenges and opportunities presented by ACES. Toward this end, the County, which contracts with the Council on Aging of St. Lucie, Inc. to provide bus service, established an innovative shared-ride program called Direct Connect. The County is also exploring avenues for additional ACES implementation. For example, the County commissioned a comprehensive analysis of its bus system and future ACES opportunities described in the study entitled *Transit Operations Analysis and New Mobility Planning*. St. Lucie County's support for ACES in the transit system will be outlined in the County's "Bus Plus" TDP Major Update.

Industry Response to ACES

American Planning Association (APA)

The American Planning Association (APA), a nonprofit association representing the field of urban planning, has issued guidance to its members on the significant implications of new transportation technologies on society. The APA recommends the following near-term actions related to public transportation:

- Invest further in mass transportation and transit infrastructure to support a mobility sharing economy potentially centered on AV technology that provides access to all with respect to income, gender,

race, and other unforeseen discriminators while reducing historically inequitable transportation decisions.

- Continue as a profession to further policies that encourage ridesharing and shared mobility strategies which address first and last mile issues.

- Consider how the availability of AVs may encourage greater opportunity to age in place and develop long-term community plans accordingly.

American Public Transportation Association (APTA)

The American Public Transportation Association (APTA), a nonprofit association serving transit industry professionals nationwide, provides its members with a wealth of ACES resources. APTA features ACES topics in conferences and seminars and periodically conducts research related to ACES. For example, one recent APTA study explored the transit industry's integration of clean technology. APTA's website includes a Mobility Innovation Hub that facilitates understanding of the dynamic and disruptive rise of technology-driven mobility services.

National Association of City Transportation Officials (NACTO)

The National Association of City Transportation Officials (NACTO) is an association of major North American cities and transit agencies. NACTO's *Blueprint for Autonomous Urbanism* lays the groundwork and sets a vision for city streets that are designed for people in the automated future. The *Blueprint* acknowledges the rapid advancement of technology as well as the need for communities to proactively build on their visions to keep pace and to develop local policies to ensure that potential benefits of ACES are realized equitably.

Florida Public Transportation Association (FPTA)

The Florida Public Transportation Association (FPTA) is a nonprofit association whose members include every major public transit agency in Florida as well as interested citizens and businesses. The FPTA monthly newsletter features advances in ACES by member agencies, and FPTA's annual conference includes sessions designed to move transit innovation forward.

University of South Florida Center for Urban Transportation Research (CUTR)

FDOT and CUTR have partnered to create the Florida Automated Transit and Shared Use Network (Florida ATSUN) with the ultimate goal of serving as the primary resource on automated transit and shared use mobility in the state of

Florida and nationwide. One of the initial tasks of ATSUN was to conduct a survey regarding automation and shared mobility activities at Florida transit agencies. The next task is to build a robust ATSUN membership of transit professionals who are interested in sharing information, expertise, and lessons learned. ATSUN will facilitate this exchange of information through the creation of a listserv and website. In addition to transit agencies and vendors, the ATSUN network includes the Florida MPOs.

RECOMMENDATIONS

Transit agencies could adapt to the potentially disruptive effects of ACES in a variety of ways. One response is to transform into mobility managers. According to the FTA, mobility management moves beyond establishing and operating traditional fixed route transit systems to fostering and organizing a network of diverse transportation services and providers to satisfy customer needs. Another option for transit agencies to participate in ACES is by transitioning their fleets to modern technologies. By incorporating smartphone applications into their business models, transit agencies could improve the rider experience.

The following are ACES recommendations for transit from a variety of sources:

- Maintain ongoing dialogue with stakeholders to determine unmet needs and identify potential solutions that might be addressed through ACES. Stakeholders include community residents, original equipment manufacturers (OEMs), technology developers, integrators, and industry associations.

- Work with FTA, industry associations, and private sector consultants to identify core training needs to begin preparing for workforce changes that may accompany transformations in surface transportation.

- Work with local partners to review land use policies and practices that could facilitate the deployment of transit automation.

- Ensure that planning for ACES includes considering the need for accessibility for persons with disabilities and environmental justice communities.

- Develop appropriate messaging as well as public engagement and education activities to promote awareness, understanding, and acceptance of ACES.

The following are ACES recommendations specific to St. Lucie County as outlined in the *Transit Operations Analysis and New Mobility Planning* study:

- Pursue New Mobility partnerships with a focus on meeting St. Lucie County goals and priorities.
- Explore pilot projects with private operators that may help St. Lucie County understand the effects of New Mobility services on its current system.
- Create a framework or roadmap for realizing the benefits of emerging technologies.
- Enhance fixed route transit in New Mobility planning to avoid increasing congestion.
- Supplement, rather than replace, existing fixed route services with New Mobility options.
- Consider grant programs that may offset the purchase cost of electric buses.
- Consider electric buses in St. Lucie County's Transit Asset Management (TAM) plan.
- Consider partnering with academic institutions or private companies to develop small-scale pilot projects, particularly as related to AVs.
- Consider forming a working group with all stakeholders to start the dialogue around goals for AV implementation and potential policy barriers.
- Explore partnerships with Transportation Network Companies (TNCs) and local taxi companies to provide demand response trips.

St. Lucie Transportation Planning Organization

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AGENDA ITEM SUMMARY

Board/Committee:	Technical Advisory Committee (TAC)
Meeting Date:	January 15, 2019
Item Number:	6d
Item Title:	South Causeway Bridge Reconfiguration Project
Item Origination:	St. Lucie TPO Advisory Committees
UPWP Reference:	Task 3.5 - Complete Streets Planning Task 3.7 - Safety and Security Planning
Requested Action:	Review and recommend a Preferred Alternative and the plan for its reconsideration, recommend with conditions, or do not recommend.
Staff Recommendation:	It is recommended that the South Causeway Bridge Reconfiguration Study be reviewed, a Preferred Alternative be recommended, and the plan for reconsideration of the proposed project be recommended to the TPO Board for implementation.

Attachments

- Staff Report
- South Causeway Bridge Reconfiguration Study

St. Lucie Transportation Planning Organization

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MEMORANDUM

TO: Technical Advisory Committee (TAC)

FROM: Peter Buchwald
Executive Director

DATE: January 8, 2019

SUBJECT: South Causeway Bridge Reconfiguration Project

BACKGROUND

At the Joint Meeting on November 27, 2018, the TPO Advisory Committees unanimously approved a motion to request the TPO Board to re-examine the issue of adding bicycle lanes to the South Causeway Bridge in Fort Pierce. Because the subsequent TPO Board Meeting on December 4, 2018, had already been advertised, the request could not be included in the agenda for the December 4th Board Meeting. However, the opportunity now is provided for the TPO Advisory Committees to develop a plan for the reconsideration of adding bicycle lanes to the South Causeway Bridge for approval by the TPO Board at its upcoming February 6th meeting.

The addition of bicycle lanes to the South Causeway Bridge was initially evaluated in the attached South Causeway Bridge Reconfiguration Study that was completed by the TPO in February 2012. As part of the Study, information was collected within a quarter-mile radius of the South Causeway Bridge to determine the existing conditions with regard to bicycle and pedestrian connections, routes, signage, markings, and signals. Conceptual plans then were prepared showing feasible cross-sections which improve the existing conditions for bicycles and pedestrians.

The conceptual plans reduce the number of travel lanes on the bridge from four to two and maximize the bicycle and pedestrian accommodations. An analysis of the plans identified that the accommodations for bicycles and pedestrians could be significantly improved without reducing the vehicular level of service on the bridge.

The conceptual plans were presented to the City of Fort Pierce staff in May 2011 for initial comments. The plans were revised to incorporate the staff comments, and the revised plans were presented to the Fort Pierce City Commission at a meeting in July 2011. At the meeting, the Fort Pierce City Commission endorsed the conceptual plans for public review and encouraged the TPO to pursue funding opportunities for the potential construction of the project in the future.

A Public Input Meeting regarding the proposed project was conducted in September 2011 at the River Walk Center located adjacent to the South Causeway Bridge in downtown Fort Pierce. More than 100 individuals attended the Public Input Meeting, and the majority of the comments from the attendees indicated opposition to the project and that the bridge should not be reconfigured because of potential congestion and safety issues.

The conceptual plans, associated costs, and public comments were presented to the TPO's Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC) in November 2011. Both committees recommended the conceptual plan, depicted as "Exhibit 5, Preferred Alternative" in the Study, which involves the reconfiguration of the bridge as follows:

- The existing sidewalks, handrails, and concrete barriers on the bridge remain in their current locations;

- The widths of the two inside travel lanes on the bridge are increased to 12 feet; and,

- The two outside travel lanes remaining on the bridge are restriped and designated for emergency vehicles, emergency evacuations, disabled vehicles, and bicycles.

The conceptual plans, associated costs, and public comments also were presented to the TPO's Bicycle-Pedestrian Advisory Committee (BPAC) in November 2011, and the BPAC recommended the conceptual plan, depicted as "Exhibit 3, Proposed Alternatives, Option 2A" in the Study, which involves the reconfiguration of the bridge as follows:

- The existing barrier walls are moved to allow bicyclists a 5-foot-wide path and pedestrians a 7.5-foot-wide path in each direction and both are separated from vehicular traffic by the barrier walls and from each other by audible thermoplastic striping; and,

- The widths of the two inside travel lanes on the bridge are increased to 12 feet.

At the TPO Board Meeting in December 2011, signed petitions from members of the public against the reconfiguration of the bridge were presented, three members of the public spoke in opposition to the bridge reconfiguration, and one member of the public spoke in favor of the bridge reconfiguration. After significant discussion by the Board, a motion to approve the Study was not passed by the Board.

Since the South Causeway Bridge Reconfiguration Project was last considered by the Board, there have been a number of inquiries, including from members of the public and TPO Advisory Committees, about the potential for the bridge to be reconfigured to add bicycle lanes.

ANALYSIS

Because of the length of time since the South Causeway Bridge Reconfiguration Project was considered by the TPO Advisory Committees and the presence of new members on the Advisory Committees, it appears to be appropriate to review the configuration alternatives to obtain consensus with regard to the Preferred Alternative. In addition, it appears to be appropriate to develop a plan for the reconsideration of the proposed project.

It is recommended that the plan for reconsideration of the proposed project consists of the following:

- Completion of an online survey of residents with regard to their support or opposition to the proposed project;
- Presentation of the proposed project at a public meeting of the Fort Pierce South Beach Association; and,
- Presentation of the proposed project to the Fort Pierce City Commission.

Upon completion of the above-listed public input activities, the proposed project would be considered by the TPO Board for endorsement and subsequent inclusion in the TPO's List of Priority Projects.

RECOMMENDATION

It is recommended that the South Causeway Bridge Reconfiguration Study be reviewed, a Preferred Alternative be recommended, and the plan for reconsideration of the proposed project be recommended to the TPO Board for implementation.

South Causeway Bridge Reconfiguration Study

February 2012

Prepared for:

St. Lucie Transportation Planning Organization

Prepared by:

Kimley-Horn and Associates, Inc.

Kimley-Horn and Associates, Inc.

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Exhibit 2 – Existing Conditions Map
Exhibit 3 – Proposed Alternatives
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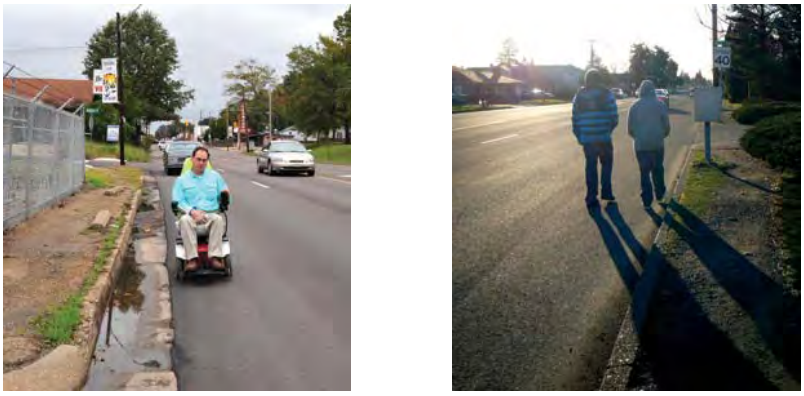
List of Attachments

Attachment A – Overall View and Proposed Alternative
Attachment B - Public Input Comment Summary

Executive Summary

Transportation for America produced a study in 2011 entitled "Dangerous by Design." The report introduced the following statement; "*In the last 15 years, more than 76,000 Americans have been killed while crossing or walking along a street in their community. Children, the elderly and ethnic minorities are disproportionately represented in this figure, but people of all ages and all walks of life have been struck down in the simple act of walking. These deaths typically are labeled "accidents," and attributed to error on the part of motorist or pedestrian. In fact, however, an overwhelming proportion share a similar factor: They occurred along roadways that were dangerous by design, streets that were engineered for speeding cars and made little or no provision for people on foot, in wheelchairs or on a bicycle.*

During this same period, there has been a growing recognition that walking and bicycling – what many now refer to as "active transportation" – are critical to increasing levels of healthy exercise and reducing obesity and heart disease. At the same time, it has become increasingly clear that these clean, human-powered modes of transportation are an essential part of efforts to limit the negative impacts of traffic congestion, oil dependency and climate change. In recent years, community after community has begun to retrofit poorly designed roads to become complete streets, adding sidewalks and bicycle lanes, reducing crossing distances and installing trees and crosswalks to make walking and biking safer and more inviting. The resulting safer streets have saved the lives of both pedestrians and motorists even as they promote health by leading many residents to become more physically active."



"Dangerous by Designs 2001 produced by Transportation for America"

The report goes on to provide a metro area pedestrian safety ranking by State. ***Figure 1*** ranks the largest metro areas in Florida ranking the Port St. Lucie area within the top 20.

Florida

Safety Rank Within State	Metro Area	Pedestrian Danger Index	Total Pedestrian Fatalities (2007-2008)	% of Total Traffic Deaths That Were Pedestrians	Avg. Yr. Fed $ Spent Per Person	% of Workers Walking to Work	2008 Population
1	Punta Gorda	398.2	9	16.70%	$0.53	0.70%	150,060
2	Sebastian-Vero Beach	293.1	10	20.40%	$0.07	1.30%	132,315
3	Ocala	236.6	22	14.50%	$0.08	1.40%	329,628
4	Panama City-Lynn Haven	222.5	12	21.10%	$4.90	1.60%	163,946
5	Orlando-Kissimmee	221.5	117	17.40%	$0.87	1.30%	2,054,574
6	Lakeland-Winter Haven	220.7	36	15.10%	$2.55	1.40%	580,594
7	Tampa-St. Petersburg-Clearwater	205.5	192	22.40%	$1.86	1.70%	2,733,761
8	Palm Bay-Melbourne-Titusville	201.8	28	15.60%	$0.37	1.30%	536,521
9	Cape Coral-Fort Myers	183.3	32	17.50%	$1.12	1.50%	593,136
10	Palm Coast	183	4	8.50%	$0.00	1.20%	91,247
11	Miami-Fort Lauderdale-Pompano Beach	181.2	329	22.50%	$0.65	1.70%	5,414,772
12	Jacksonville	157.4	68	14.60%	$2.25	1.70%	1,313,228
13	Port St. Lucie	150.8	14	10.60%	$0.78	1.20%	403,768
14	Deltona-Daytona Beach-Ormond Beach	147.7	28	13.00%	$1.20	1.90%	498,036
15	Bradenton-Sarasota-Venice	126.3	27	12.60%	$0.00	1.60%	687,823
16	Tallahassee	109.4	14	11.60%	$0.94	1.80%	357,259
17	Naples-Marco Island	105.4	12	13.60%	$2.87	1.80%	315,258
18	Fort Walton Beach-Crestview-Destin	74.1	4	7.80%	$2.44	1.50%	179,693
19	Pensacola-Ferry Pass-Brent	58.3	24	14.40%	$0.85	4.50%	452,992
20	Gainesville	55.5	9	7.80%	$2.18	3.10%	258,555

"Dangerous by Designs 2001 produced by Transportation for America"

On March 11, 2010, the United States Department of Transportation issued a policy statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The Policy Statement is intended to encourage the incorporation of safe and convenient walking and bicycling facilities into transportation projects. In addition, the policy encourages integrating bicycle and pedestrian accommodations on new, rehabilitated, and/or limited-access bridges with connections to streets or paths.

In its FY 2010/2011 – 2011/2012 Unified Planning Work Program (UPWP), the St. Lucie Transportation Planning Organization (TPO) established the need to review, update, and implement the St. Lucie Greenways and Trails Master Plan, build upon previous bicycle/pedestrian/greenway planning efforts, and continue the ongoing planning and coordinating efforts which support the provision of bicycle, pedestrian, and greenway facilities.

Concerns were expressed by the City of Fort Pierce relating to the current and future safety of pedestrians maneuvering across the South Causeway Bridge in the City of Fort Pierce. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

The South Causeway Bridge from State Route A1A to downtown Fort Pierce was considered for such improved accommodations as the current configuration is inadequate for both bicycles and pedestrians. There was interest in encouraging a walking/bicycling environment that would complete the streets from downtown Fort Pierce to the beach and which would support economic development, health awareness and recreational goals.

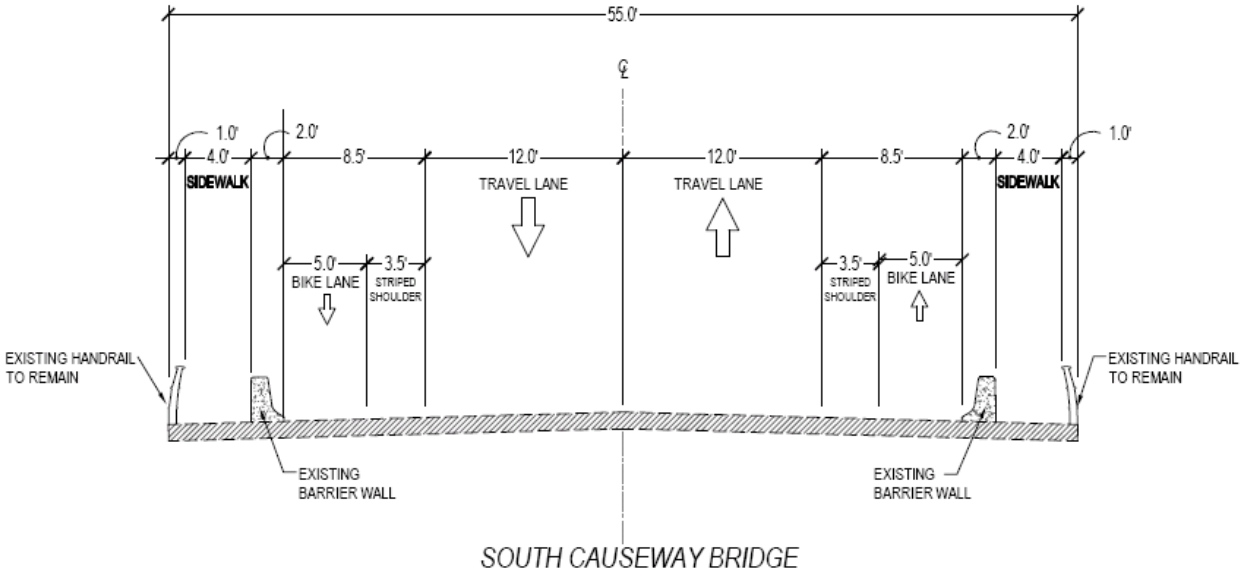
Conceptual plans were developed that were endorsed by the Fort Pierce City Commission. The plans consist of reducing the number of travel lanes to two 12-foot wide travel lanes with a 12.5-foot wide shared use path on both sides of the bridge. The shared use paths would be separated from the travel lanes by concrete barriers and each would contain a 5-foot wide sidewalk and a 7.5-foot wide bicycle path separated by audible vibratory thermoplastic striping.

This study was completed by Kimley-Horn and Associates, Inc. (KHA) to evaluate the current configuration of the bridge and analyze the feasibility of reconfiguration that would accommodate both existing vehicular traffic as well as bicycle/pedestrian users. Cost feasibility, conceptual plans, and solicitation of public input with community members and other stakeholders would complete the study.

Following public input, it was determined that greater than 70% of the participants who attended the public meeting were against the project moving forward as presented due to concerns regarding travel lane reductions on the bridge and potential blockage of the bridge by breakdowns. The Bicycle/Pedestrian Advisory Committee (BPAC) recommended the conceptual plans moving forward as presented. However, the TAC and CAC recommended the conceptual plans moving forward with conditions and provided specific recommendations for revisions to the conceptual plans in order to address the immediate concerns

of the general public. Therefore, the recommended course of action was to endorse the plan with conditions which addressed the concerns expressed by the general public and Advisory Committees.

Following the results of the public meeting, and in conjunction with TPO Advisory Committees, a buffered bike lane that does not require relocation of the jersey barrier wall is recommended as the preferred alternative.



SOUTH CAUSEWAY BRIDGE
PROPOSED IMPROVEMENTS

1.0 Introduction

On March 11, 2010, the United States Department of Transportation issued a policy statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations. The Policy Statement is intended to encourage the incorporation of safe and convenient walking and bicycling facilities into transportation projects. In addition, the policy encourages integrating bicycle and pedestrian accommodations on new, rehabilitated, and/or limited-access bridges with connections to streets or paths.

Because of the numerous individual and community benefits that walking and bicycling provide, including health, safety, environmental, transportation, and quality of life benefits, transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes. Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use.

The goals and objectives of the Martin/St. Lucie 2035 Regional Long Range Transportation Plan (RLRTP) are to enhance multi-modal transportation, and increase recreation and economic opportunities in the County. Several projects identified within the RLRTP are working simultaneously to create the best, most economical local and regional connections. Two major trails include the Treasure Coast Loop Trail and the Florida East Coast Greenway (Refer to **Exhibit 1, Regional Trails Map**). The South Causeway Bridge is an important connection for completing these routes.

- The Florida East Coast Greenway is an initiative focused on providing a connection along Florida's Atlantic Coast from Georgia to the Florida Keys. The 2035 Martin/St. Lucie Bicycle, Pedestrian, Greenways, and Trails Vision Map identifies the need for an inter-related set of non-motorized improvements along the A1A corridor and the Florida East Coast Greenway corridor to link origins and destinations in the eastern core of St. Lucie and Martin Counties.

- The Treasure Coast Loop Trail project will become a regional multi-purpose connector between Martin and St. Lucie Counties. The Trail is envisioned to be a state of the art greenway trail built to multi-use trail standards. Several sections of the trail already exist or may require only minor enhancements, such as along A1A and Green River Parkway.

In its FY 2010/2011 – 2011/2012 Unified Planning Work Program (UPWP), the St. Lucie Transportation Planning Organization (TPO) established the need to review, update, and implement the St. Lucie Greenways and Trails Master Plan, build upon previous bicycle/pedestrian/greenway planning efforts, and continue the ongoing planning and coordinating efforts which support the provision of bicycle, pedestrian, and greenway facilities.

Concerns were expressed by the City of Fort Pierce relating to the current and future safety of pedestrians maneuvering across the South Causeway Bridge in the City of Fort Pierce. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

The South Causeway Bridge from State Route A1A to downtown Fort Pierce was considered for such improved accommodations as the current configuration is inadequate for both bicycles and pedestrians. There is interest in encouraging a walking/bicycling environment that would complete the streets from downtown Fort Pierce to the beach and which would support economic development, health awareness and recreational goals.

This study was completed by Kimley-Horn and Associates, Inc. (KHA) to evaluate the current configuration of the bridge and analyze the feasibility of reconfiguration that would accommodate both existing vehicular traffic as well as bicycle/pedestrian users. Cost feasibility, conceptual plans, and solicitation of public input with community members and other stakeholders would complete the study.

2.0 Existing Conditions/Data Collection

Gathering pertinent planning, land use, and engineering information required for the feasibility analysis was an important component of the study. Reviews were completed to determine existing conditions, potential connections, and accepted design standards. Ground-truthing was conducted to further develop the accuracy of the alignments and facility types.

KHA conducted a feasibility analysis within a quarter mile radius of the South Causeway Bridge to determine existing conditions regarding bicycle/pedestrian facilities which included: connections, routes, signage, markings and signals (Refer to **Exhibit 2, Existing Conditions**). In addition, traffic data, design requirements, and City of Ft. Pierce staff input was considered as part of this task.

KHA prepared conceptual plans, cross-sections, and opinion of probable cost. A series of cross-sections were developed from applicable design standards to provide the flexibility needed to respond to site conditions and design opportunities. Stakeholder meetings were conducted with local government staff, TPO staff, and presentations to the City of Fort Pierce Commission and the Fort Pierce South Beach Association, were made to present the findings, solicit input and determine the feasibility of the proposed reconfiguration (Refer **Exhibit 3, Proposed Alternatives**).

3.0 Conceptual Plans and Cross Sections

Attachment A depicts the proposed alternative based on applicable design standards and stakeholder response. An overall sketch depicts the entire bridge with potential elements that may be added to the design such as lighting, vistas and public art elements. The proposed cross section and applicable plan views of improvements to the existing alignments on both east and west sides of the bridge are also part of the Proposed Alternative.

The Proposed Alternative consists of reducing the number of travel lanes to two 12-foot wide travel lanes with a 12.5-foot wide shared use path on both sides of the bridge. The shared use paths would be separated from the travel lanes by concrete barriers and each would contain a 5-foot wide sidewalk and a 7.5-foot wide bicycle path separated by audible vibratory thermoplastic striping.

Several elements of consideration were made as part of selecting the proposed conceptual plan and cross section. The following provides a summary of the analysis conducted based on preliminary meetings with staff and stakeholders. A Topics Board was provided during the public input workshop to assist in relaying pertinent information to the general public (Refer to **Exhibit 4, Topic Board**).

- *No decrease in the capacity of the road, just a shift of travel lanes to the west in relation to the existing design.*
- *The new facility provides a destination linkage with existing cultural and recreational facilities, and economic centers*
- *Reconfiguration is part of the Treasure Coast Loop Trail utilized by pedestrians and bicyclists for the recreational and health benefits of a continuous and extended corridor*
- *Separate bikes from vehicular traffic with barrier*
- *Design intent to improve connection with city and beaches for recreation, economic development, and quality of life benefits*
- *Reuse of existing space is preferable and less expensive than new construction or addition of separate cantilevered pedestrian bridge*
- *Reconfiguration is dependent on available funds and no funding is available at this time.*
- *If this project is placed on the 5 Year Work Program, it will most likely be 5 to 15 years from construction*
- *Separate bikes from pedestrian users with detectable warning domes or audible vibratory strips*
- *Add right turn only lanes and drop lanes for continuous flow of traffic*
- *ADA compliant design includes mountable curbs with removable barriers at corner of crosswalk*
- *FDOT requires merge length prior to entering bridge to avoid merge / transition in intersection*
- *Several recent research studies all show strong evidence that bike-friendly cities are safer for <u>all</u> roadway users including motorists*

- *Hurricane evacuation considerations include two emergency traffic lanes with mountable curbs that enable traffic volume on the South Causeway Bridge to increase from 13,300 to 36,700 during times of emergency. These lanes would be available daily for disabled and emergency vehicles*

- *Bike lanes exists on the east side of bridge but are not continuous west of bridge*

- *Cycle Tracks are an exclusive bike facility which combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. It is physically separated from motor traffic and distinct from the sidewalk. Cycle tracks have different forms but all share common elements - they provide space that is intended to be exclusively or primarily used for bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. If at street level, they can be separated from motor traffic by raised medians or bollards. By separating cyclists from motor traffic, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public. (Urban Bikeway Design Guide, National Association of City Transportation Officials (NACTO)*

- *Shared Use Paths are preferable in areas where pedestrians and cyclists may not feel comfortable sharing parts of the roadway with moving vehicles. These types of trail facilities allow both cyclists and pedestrians safe passage apart from the roadway. The primary function of off road shared use paths is intended to balance the overall transportation system and provide better connectivity to the mobility network.*

- *FDOT Manual of Uniform Minimum Standards recommends an outside lane width of 14 feet as the "minimum width that will allow passenger cars to safely pass bicyclists within a single lane."*

- *The minimum clearance for passing a bicyclist is 3 feet and total width of larger motor vehicles is commonly 8 feet or more, an outside traffic lane with less than 14 feet of width for travel is commonly not wide enough to accommodate passing motor traffic within the lane.*

- *According to the FDOT Safety Office's Crash Reduction Factors (April 2005), increasing travel lane widths from 10 feet to 12 feet results in a 23% reduction in head-on and sideswipe crashes.*

- *Traffic volume data on South Causeway Bridge supports reducing it from 4 lanes to 2 lanes.*
  Existing Traffic Volume = 13,300 vehicles per day (2010 data)
  4-Lane Capacity = 36,700 (36%)
  2-Lane Capacity = 16,500 (80%)

- *In accordance with the 2009 FDOT Quality/Level of Service Handbook, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas; 2 Lanes Undivided at Level of Service D can handle 16,500 trips per day*

- *Traffic volume is similar to other 2-lane bridges in the area including the Jensen Beach Causeway and the South Hutchinson Island Causeway in Stuart.*

- *The lane widths appear to have been determined under constrained conditions (10 feet and 10.5 feet). Lane widths of 10 feet are considered the absolute minimum for state roadways at or below a design speed of 35 mph. This encourages slower speeds where appropriate and accommodates alternative modes of transportation. However, the South Causeway Bridge has no bicycle facilities and the pedestrian sidewalks are of substandard width.*

- *Due to the constrained width of the bridge and the FDOT requirements to incorporate bicycle and pedestrian uses on all new and renovated roadways, the number of travel lanes for new construction would most likely be reduced, or the drop from four lanes to two lanes would be "shifted" to the west to provide a safer continuum from the South Beach side to the mainland. The lane width would most likely be 11 to 12 feet in relation to allowing the optimum alternative modes of travel.*

- ***An Opinion of Probable Cost (OPC) was provided for the Proposed Alternative that ranged from $770,000 to $1,150,000.***

  (Data, collected from prior FDOT projects, provided planning-level unit cost estimates to assist with future budgeting & implementation activities.)

4.0 Public Involvement

On May 13, 2011, a meeting was organized by the St. Lucie TPO to present concept drawings to the City of Ft. Pierce staff in order to start discussion on the proposed project and elicit comments on the alternatives presented. The Proposed Alternative is a culmination of the comments provided by staff from the City and TPO.

The Fort Pierce City Commission met on July 5, 2011 and endorsed the Proposed Alternative as presented.

On September 17, 2011, KHA presented the Proposed Alternative in a public workshop. ***Attachment B*** contains a summary of concerns captured by the participants by flip chart, comment card and email. Of the 66 participants at the workshop, greater than 70% were against the project moving forward. Their specific concerns included:

- Emergency evacuation during hurricanes and nuclear power plant failure would be affected
- Removal of extra lane in each direction would probably cause breakdowns to block traffic
- Not enough bike traffic to warrant improvements
- Propose other alternatives such as cantilevered bridge
- There is fiscal responsibility in County to spend money on other projects
- Travel lanes for automobiles are restricted
- More development on barrier island will increase traffic over bridge

On November 15, 2011, a presentation of the study was made to the Technical Advisory Committee (TAC), and the Citizens Advisory Committee (CAC). Recommendations from both Advisory Committees were to endorse the study with the following conditions:

- Reduce travel lanes to two 12-foot lanes
- Replace existing travel lanes with 5 foot bike lane and striped shoulder area (Gore area)
- Gore area will provide breakdown lane for emergency vehicles and during evacuation situations
- Four foot pedestrian walkway and barrier wall will remain as existing
- Cost projections will be reduced by ¾ of OPC
- Create a buffered bike lane

On November 17, 2011, a presentation was made to the Bicycle/Pedestrian Advisory Committee (BPAC). Recommendation from the BPAC was to unconditionally endorse the **Proposed Alternative** which was endorsed by the Fort Pierce City Commission on July 5, 2011.

5.0 Recommendation

Kimley-Horn drafted alternative conceptual plans and typical cross-sections for review by stake holders. Early review garnered positive response to the Proposed Alternative by staff; however public review has not been favorable towards moving forward with the Proposed Alternative.

In accordance with public sentiment and comments from the Advisory Committees, a typical cross section is presented in **Exhibit 5** that provides a **Preferred Alternative**. The cross section includes a bike lane within a shoulder. This design will accommodate a gore area for emergency situations and a buffered bike lane for increased safety to cyclist. Reduction of the bridge to two lanes and increasing lane widths improves vehicular safety by decreasing the opportunity for head-on and sideswipe crashes. The Preferred Alternative will reduce the overall cost of the project to only include mainly signage and stripping. In addition, the flexible nature of these changes to the layout of the bridge may satisfy the users of the facility and provide the multi-use transportation corridor desired for the community.

Buffered Bicycle Lane*—the preferential lane-use marking for a bicycle lane shall consist of a bicycle symbol or the word marking BIKE LANE.*

(Federal Highway Administration. (2009).
Manual on Uniform Traffic Control Devices.
Section 3D.01.)

EXHIBIT 1
Regional Trails Map

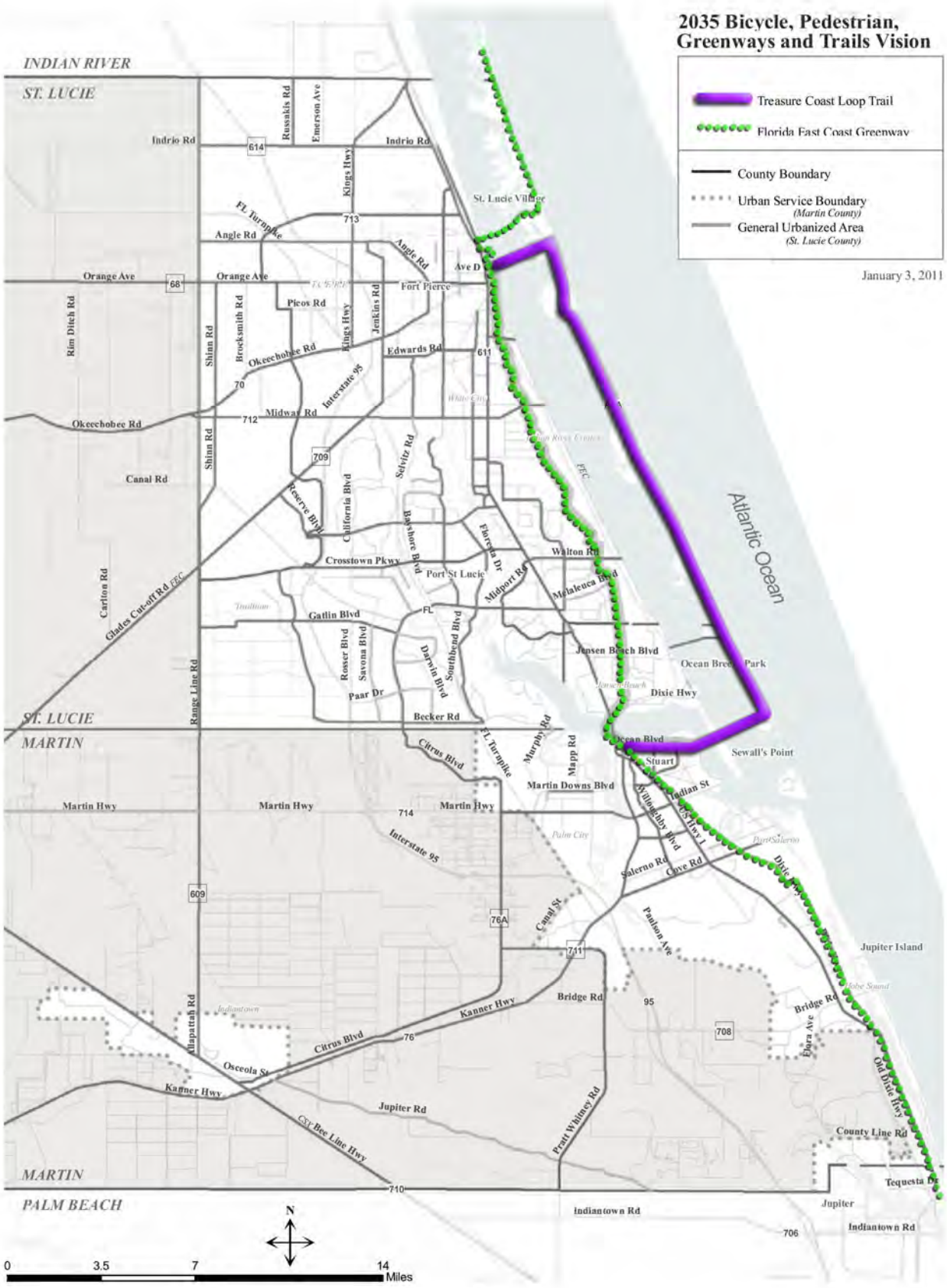
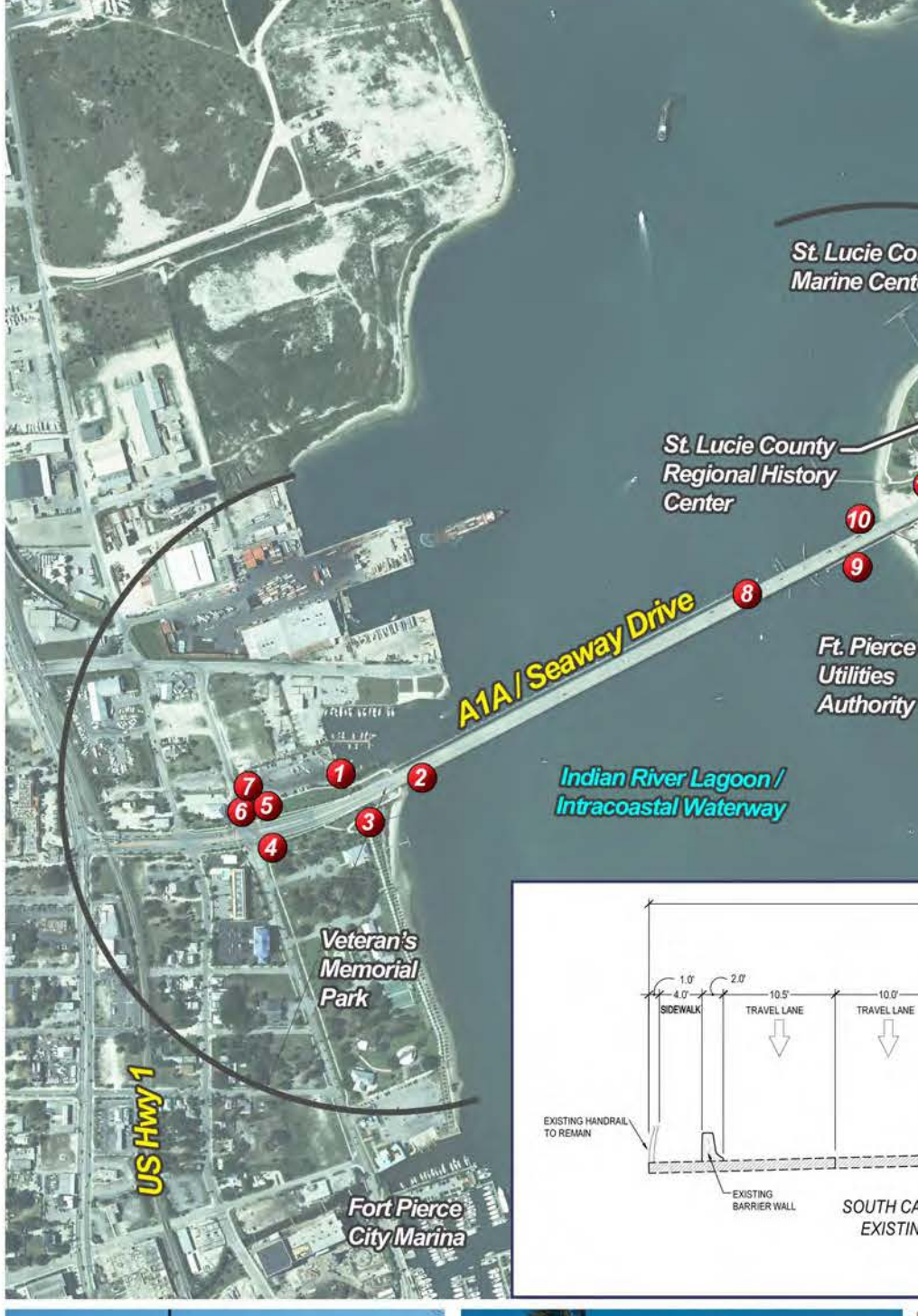
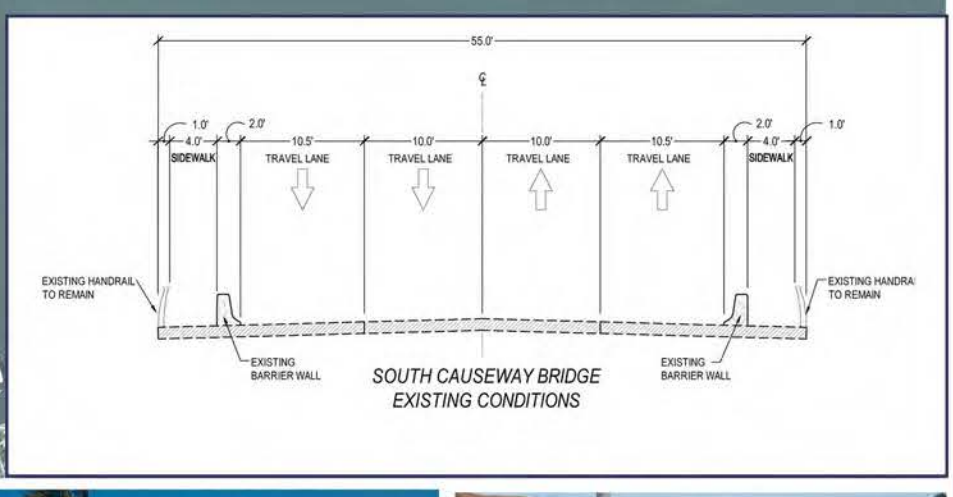

2035 Bicycle, Pedestrian, Greenways and Trails Vision
Treasure Coast Loop Trail
Florida East Coast Greenway
County Boundary
Urban Service Boundary
(Martin County)
General Urbanized Area
(St. Lucie County)
January 3, 2011
INDIAN RIVER
ST. LUCIE
MARTIN
PALM BEACH
Atlantic Ocean
Indrio Rd
Orange Ave
Okeechobee Rd
Canal Rd
Angle Rd
Fort Pierce
St. Lucie Village
Port St Lucie
Crosstown Pkwy
Gatlin Blvd
Becker Rd
Martin Hwy
Kanner Hwy
Citrus Blvd
Bridge Rd
Jupiter Rd
Indiantown Rd
County Line Rd
Jupiter
Tequesta
Jupiter Island
Stuart
Sewall's Point
Dixie Hwy
Ocean Blvd
Jensen Beach Blvd
Walton Rd
Midway Rd
Edwards Rd
Picos Rd
Martin Downs Blvd
Interstate 95
FL Turnpike
Florida East Coast Railway
Russakis Rd
Emerson Ave
Kings Hwy
Jenkins Rd
Brocksmith Rd
Shinn Rd
Rim Ditch Rd
Selvitz Rd
California Blvd
Reserve Blvd
Range Line Rd
Carlton Rd
Glades Cut-off Rd
Savona Blvd
Rosser Blvd
Darwin Blvd
Southbend Blvd
Paar Dr
Midport Rd
Floresta Dr
Bayshore Blvd
Melaleuca Blvd
Murphy Rd
Mapp Rd
Ocean Breeze Park
Dixie Hwy
Indian St
Ayllon Ave
Salerno Rd
Cove Rd
Canal St
Paulson Ave
Bridge Rd
Flora Ave
Old Dixie Hwy
Allapattah Rd
Osceola St
Pratt Whitney Rd
Bee Line Hwy
Tradition
Indiantown
Palm City
Port Salerno
Hobe Sound
White City
Fort Pierce
Jensen Beach
Indian River Estates
0
3.5
7
14
Miles
N

EXHIBIT 2
Existing Conditions Map





St. Lucie Transportation Planning Organization

Special Project Planning Services

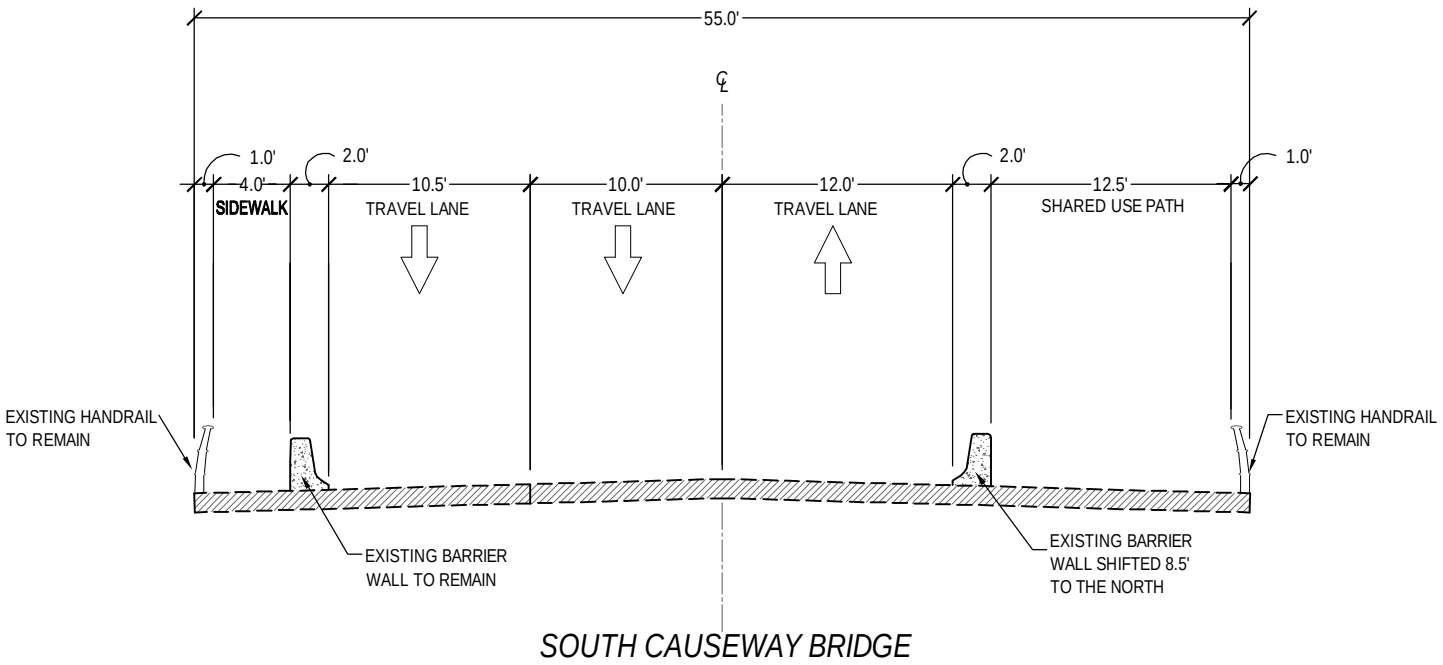
SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

Existing Conditions

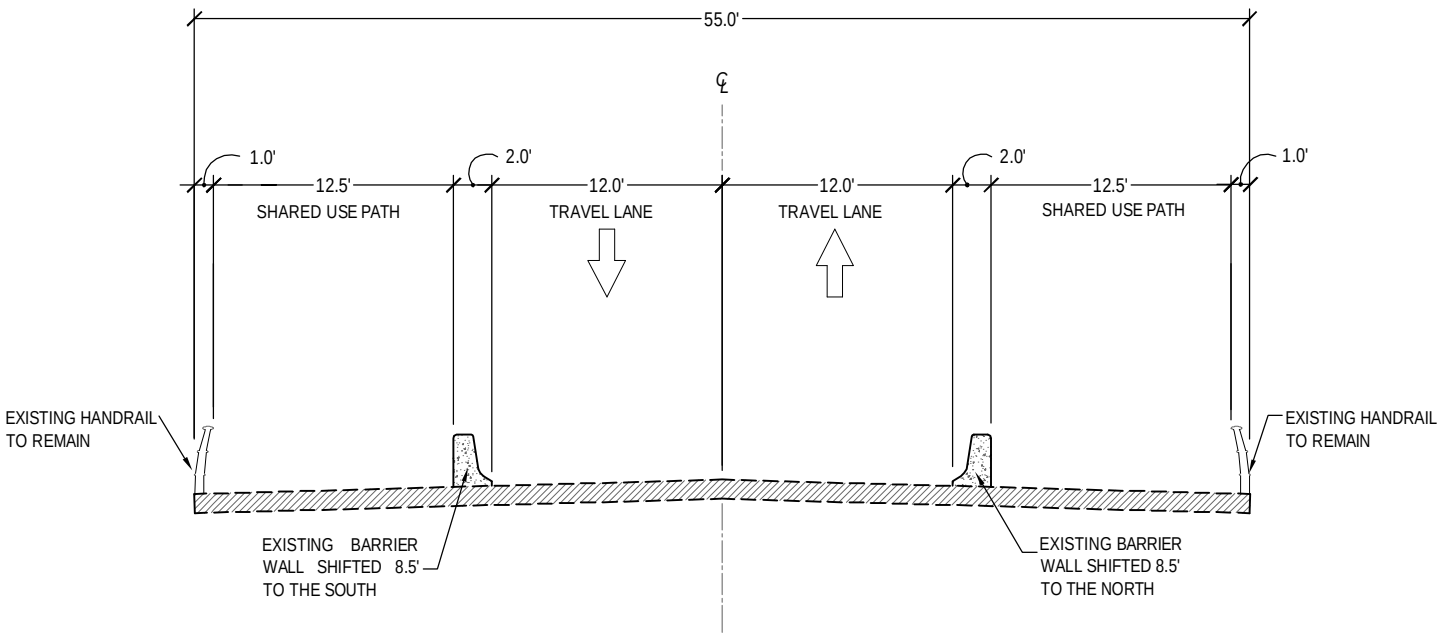
JUNE 2011

Kimley-Horn and Associates, Inc.

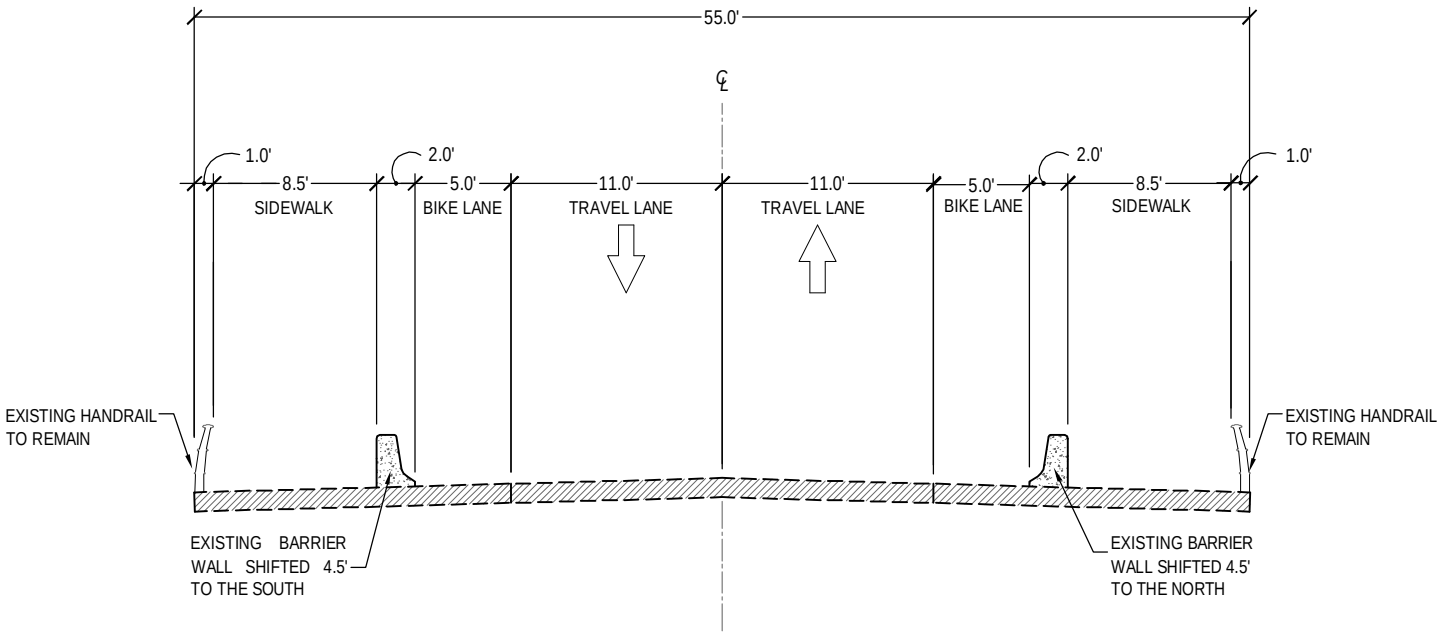
EXHIBIT 3
Proposed Alternatives



SOUTH CAUSEWAY BRIDGE
OPTION 1
ONE-LANE EASTBOUND



SOUTH CAUSEWAY BRIDGE
OPTION 2A
ONE-LANE IN EACH DIRECTION



SOUTH CAUSEWAY BRIDGE
OPTION 2B
ONE-LANE PLUS BIKE LANE IN EACH DIRECTION

EXHIBIT 4
Topic Board

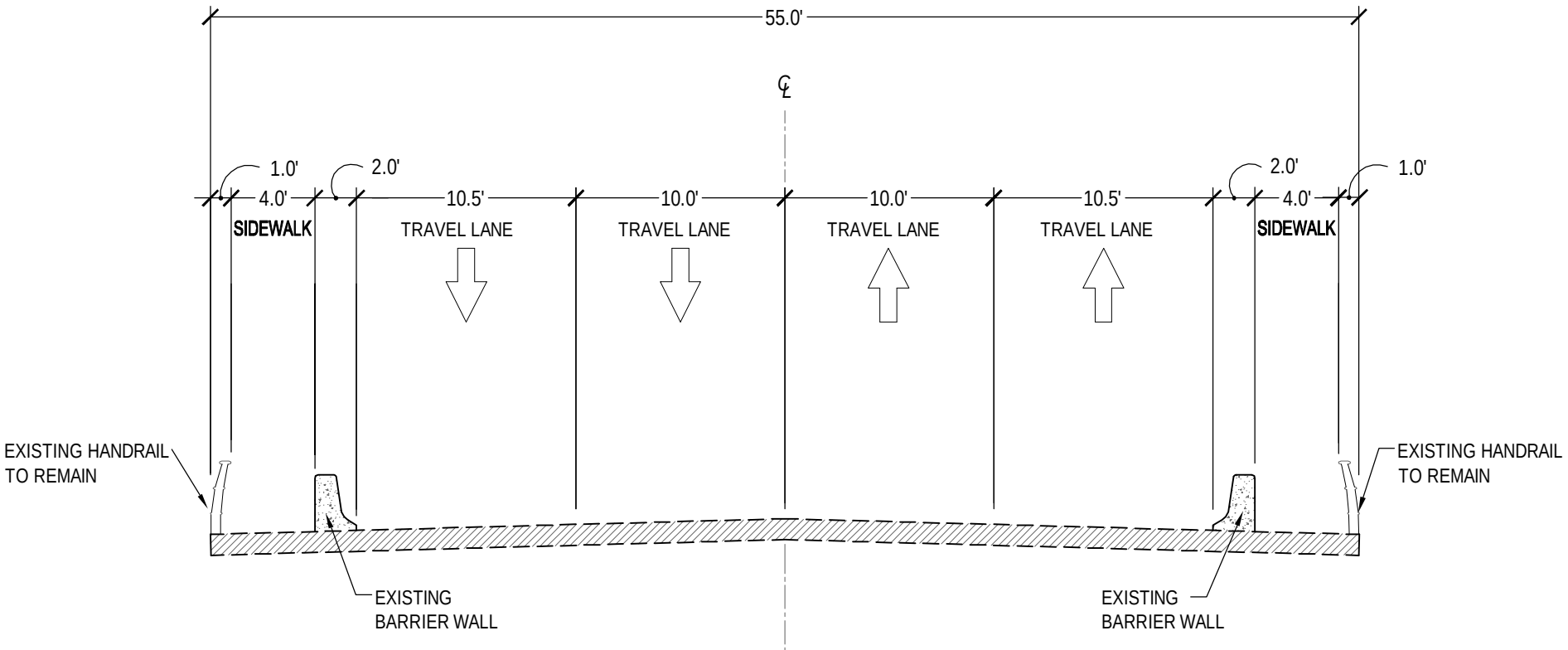
South Causeway BRIDGE Reconfiguration Study

St. Lucie Transportation Planning Organization

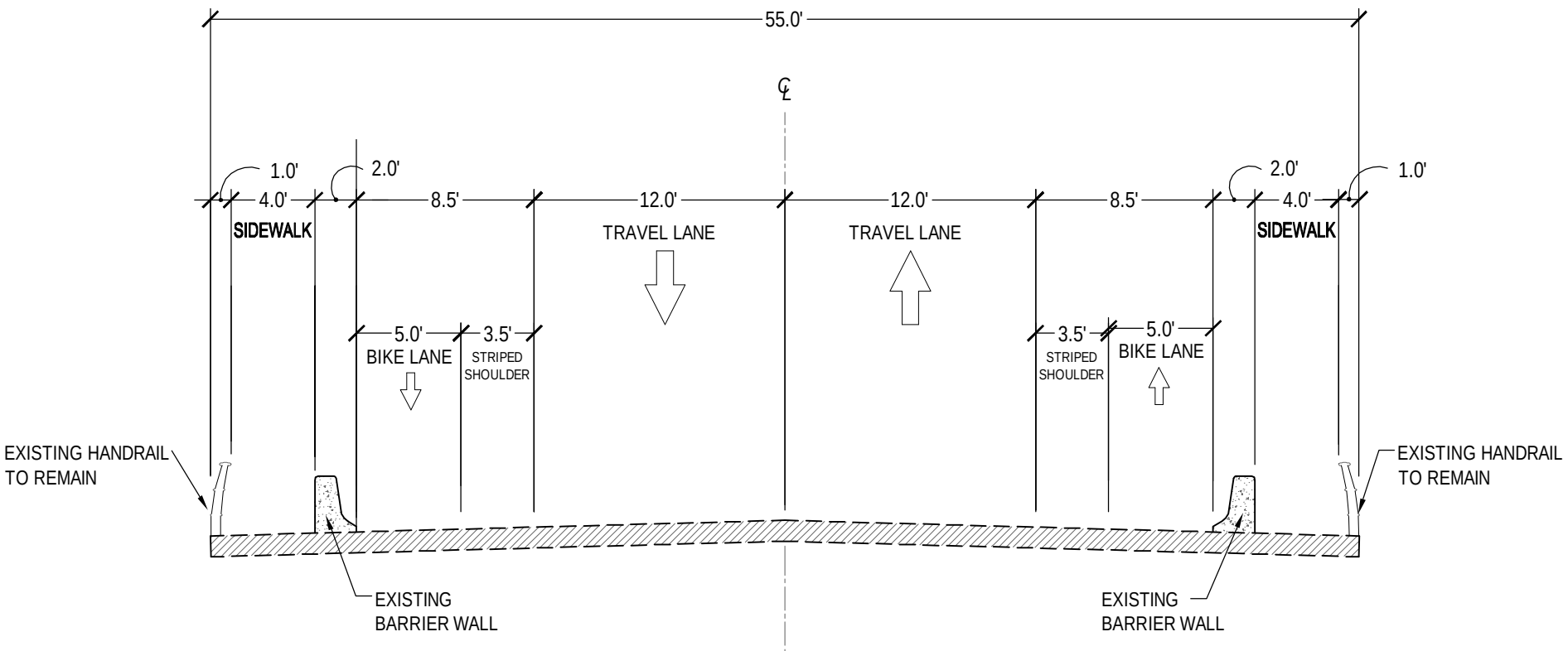
TOPIC	
PROCESS	City of Ft. Pierce request for project St Lucie TPO includes project request in UPWP Input received from City Staff, City Council, and South Beach Association Public Workshop CAC/TAC/BPTAC review and input St. Lucie TPO board recommendation St. Lucie TPO priority list of projects FDOT 5 –year work program
LOCAL CONNECTIVITY	Veterans Memorial Park & Riverwalk Center Fishermans Wharf Ft. Pierce City Marina St. Lucie County Regional History Center St. Lucie County Marine Center South Causeway Park Downtown Ft. Pierce
REGIONAL CONNECTIVITY	Florida East Coast Greenway Treasure Coast Loop Trail
TRAFFIC VOLUME	Current Volume (2010 FDOT) = 12,500 Daily Trips 2 Travel Lane Capacity = 16,000 Daily Trips
CURRENT LANE WIDTH	10 feet and 10.5 feet Minimum width for state roadways at or below design speed of 35 mph New construction = 11 feet, 12 feet desirable Incorporate bicycle and pedestrian uses on all new and renovated highways and bridges (FDOT)
DESIGN CONSIDERATIONS	
EMERGENCY MANAGEMENT	Wide Bicycle/Pedestrian Lane Mountable Curbs Removable Bollards
SAFETY FEATURES	Wider Lanes = Crash Reduction Separation of users Wider pedestrian walkway Buffered bike lanes Lane shift west of bridge Dedicated right turn lanes Barrier separation between vehicles and pedestrians Audible Vibratory Strips ADA Compliant
SPEED REDUCTION FEATURES	Lane shift to the west Lane reduction on bridge
ECONOMIC DEVELOPMENT	Improved connectivity to local and regional facilities Improved facilities to attract wider variety of users
RECREATIONAL OPPORTUNITIES	Improved safety/connectivity for all users Continuous bike lanes Pedestrian walkway connections to local Cultural and recreational facilities
HEALTH BENEFITS	Improved accessibility for non motorized travel

Kimley-Horn and Associates, Inc.

EXHIBIT 5
Preferred Alternative



SOUTH CAUSEWAY BRIDGE
EXISTING CONDITIONS



SOUTH CAUSEWAY BRIDGE
PROPOSED IMPROVEMENTS

ATTACHMENT A
Overall View and Alternatives as presented at Public Meetings

St. Lucie Transportation Planning Organization

Special Project Planning Services

SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

Overall View

JUNE 2011

Kimley-Horn and Associates, Inc.

Existing Conditions West of Causeway

Proposed Alternative West of Causeway

St. Lucie Transportation Planning Organization

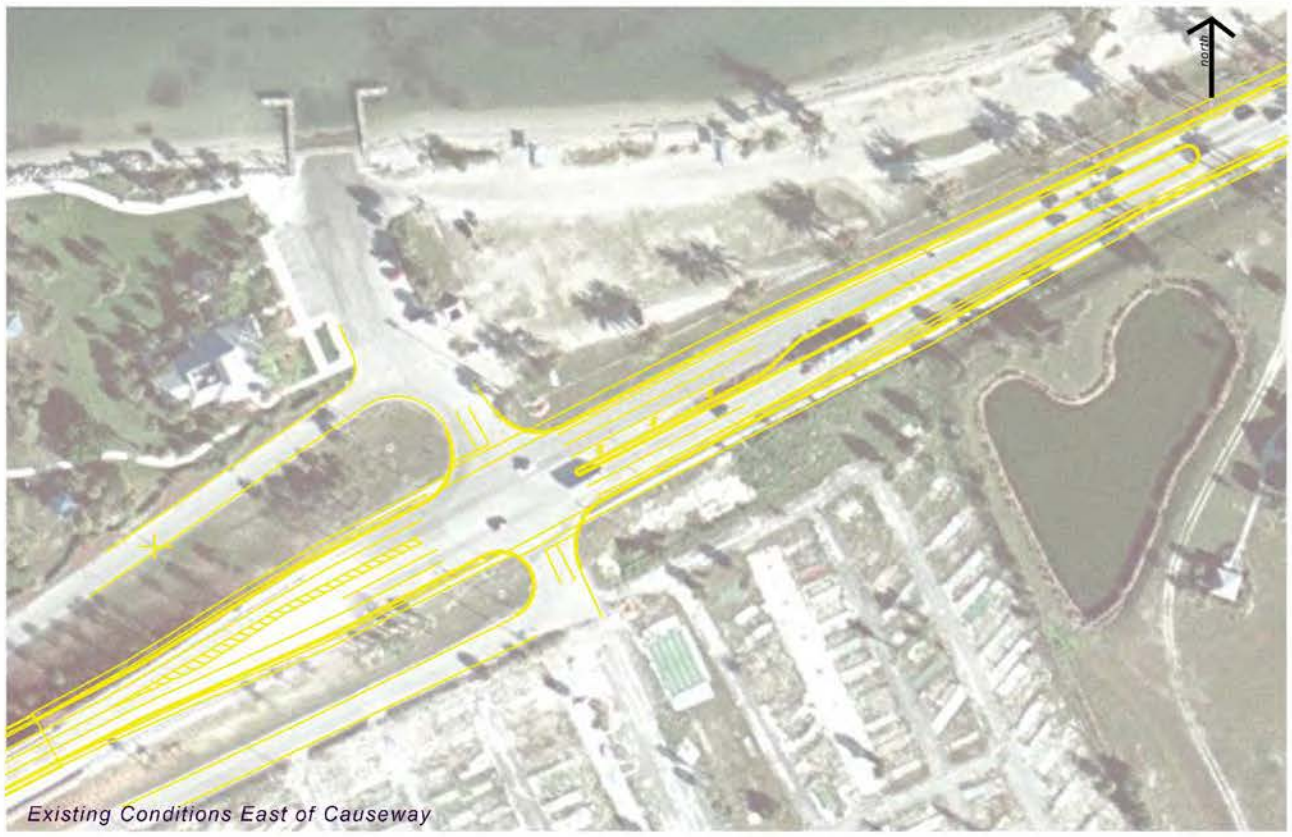
Special Project Planning Services

SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

Plan View West

JULY 2011

Kimley-Horn and Associates, Inc.



Existing Conditions East of Causeway

Proposed Alternative East of Causeway

St. Lucie Transportation Planning Organization

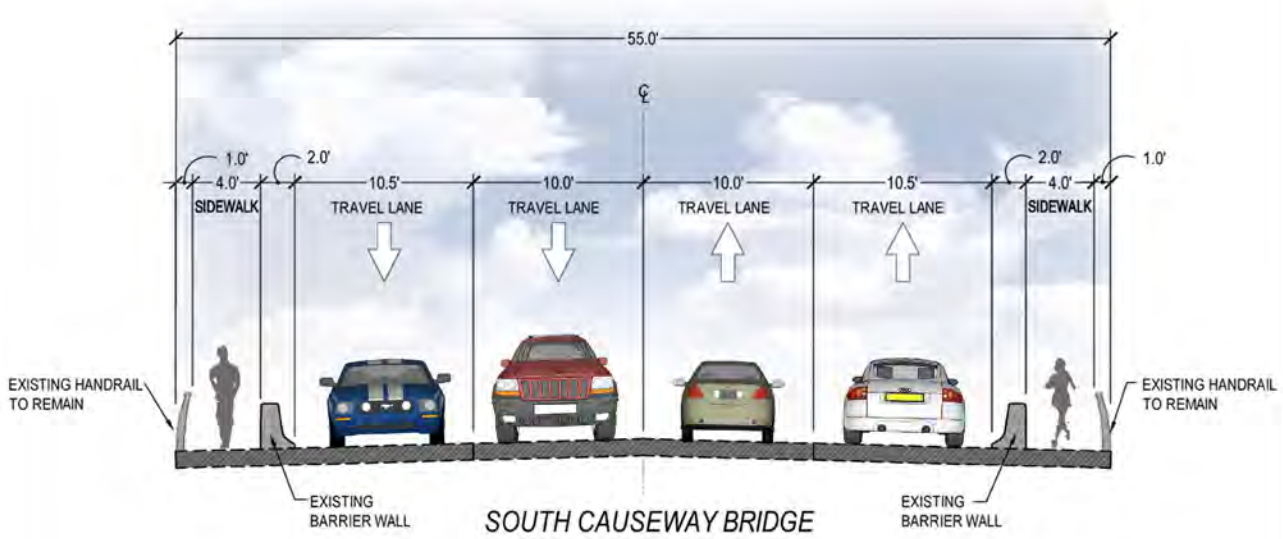
Special Project Planning Services

SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

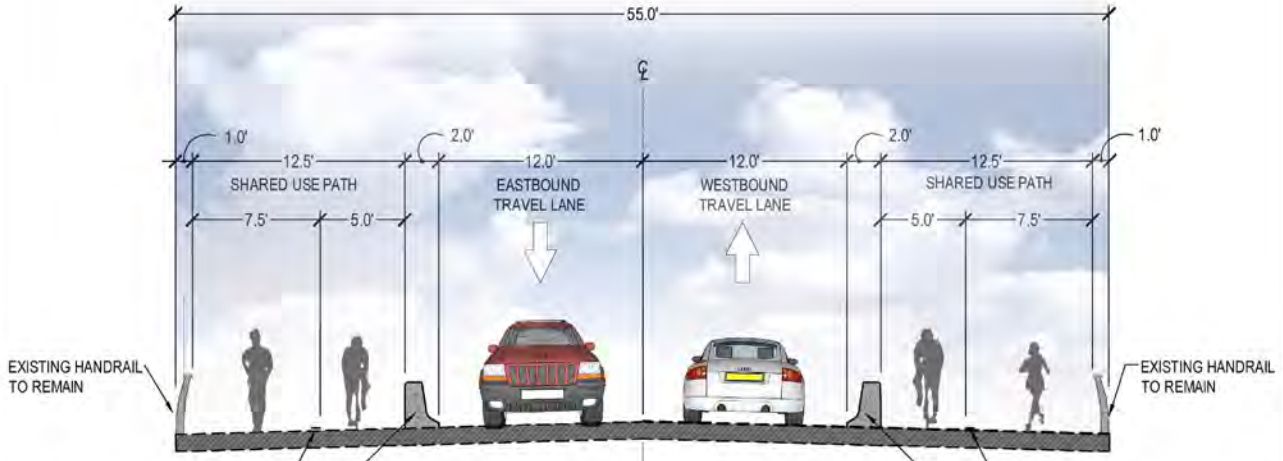
Plan View East

JUNE 2011

Kimley-Horn and Associates, Inc.



SOUTH CAUSEWAY BRIDGE
EXISTING CONDITIONS



SOUTH CAUSEWAY BRIDGE
PROPOSED ALTERNATIVE
ONE-LANE IN EACH DIRECTION

St. Lucie Transportation Planning Organization
Special Project Planning Services

SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

Proposed Alternative

JUNE 2011

Kimley-Horn and Associates, Inc.

ATTACHMENT B
Public Input Comment Summary

South Causeway BRIDGE Reconfiguration Study

St. Lucie Transportation Planning Organization

Transportation Planning for Fort Pierce, Port St. Lucie, St. Lucie Village, and St. Lucie County

Public Input

The following is a list of questions, comments, and concerns generated by the citizens who attended the South Causeway Bridge Reconfiguration Study Public Input Meeting. The meeting took place Saturday September 17th 2011, from 9am-11am and was held at the Riverwalk Center, 600 North Indian River Drive.

This list is typed out in order of comments received, captured on a flip chart during the meeting.

COMMENT 1:

- Evacuation due to power plant and evacuation at time of construction?
- There is more development now than when the bridge was built
- Repairs on the bridge cause back-up now
- Concern for immediate evacuation – FAST

COMMENT 2:

- Bicycles treated as moving vehicle, what are the rights on road?
- Vehicular responsibility
- What is the state law?

COMMENT 3:

- Ambulance, room to go by
- Everyday emergencies
- Wish bikes would go with traffic
- Alternative suggestions, emergency area and separate pedestrian and bike barrier

COMMENT 4:

- Quantity of Bicycles needed, bike-ped count
- Allocation of funds, use money on bike lane in other areas
- Allocation of funds for child sidewalk safety
- How to move/ timing/ construction of barrier?
- (Mountable Curbs) how to get bikes and pedestrians out of the way for daily emergencies
- Account for future development of island and future traffic counts
- Indian River Drive? (Lack of R.O.W.)

COMMENT 5:

- Process – future vote?

COMMENT 6:

- Current biking, intimidating now…. Going west in the afternoon is worst
- Current speed limit abused

- Bridge is an important recreation to the city

COMMENT 7:

- Sewer Plant, walk on North side because of sewer plant…. Site and smell
- Change needed to sewer plant in order to create a need for this project
- 40 people may bike or walk over bridge… even at 4,000 it only benefits 1% of users
- Federal dollars, deficit, fiscal responsibility
- Other improvements needed
- Future use on serer plant may be restricted due to two lanes
- Feel good project, fiscal responsibility at government level

COMMENT 8:

- What is the life span of the Existing Bridge?
- What is the input from FEMA, Power Plant, and Nuclear Regulator Commission
- Additional Study, Unified Plan Work Program…. Advisory boards

COMMENT 9:

- Safety, concern over collisions and traffic backup
- Is this a 1 million dollar project?
- Could we spend the money elsewhere?

COMMENT 10:

- Can you design it without barriers?

COMMENT 11:

- During a wreck the bridge shuts down for 3-4 hours
- Are there alternative plans, more options?

COMMENT 12:

- Can you use a central divider, prevent head-on collision?

COMMENT 13:

- Most Accidents, rear ends and break-downs…NIGHTMARES!
- How can you effectively accommodate break-downs?
- Three lanes for traffic
- Accommodating safe bike access may cause suffering (sitting in traffic, bumper to bumper)

COMMENT 14:

- Can you do Bike and Pedestrian on one side of bridge (North Side)?

COMMENT 15:

- Resources for North Bridge?

COMMENT 16:

- 4 Lane connectivity works
- Look at when Jensen Beach Bridge is backed up, need data, times, of day, times of year when this backs up
- Need to count bike and pedestrian traffic on South Causeway

COMMENT 17:

- I was pulled over by the police for riding my bike in the travel lane of the bridge, and it is un-safe for me to ride in the path of pedestrians
- More bikes equal less cars

COMMENT 18:

- Bikers should Walk their bikes over the bridge

COMMENT 19:

- Can you cantilever a bike lane?
- We need definitive traffic studies on future development
- Reduction to two lanes is an impaired service to the advalorem tax payers who live on the island
- Don't impair what you have

COMMENT 20:

- When was the bridge built?
- I like it the way it is
- Compare A1A traffic study
- I have not passed a biker on the bridge
- Spend the money elsewhere, like school bus stop safety

COMMENT 21:

- I'm a cyclist that using the bridge, I don't really need a barrier
- This is a major bridge for cyclist, 100's go in groups early on Saturday mornings

COMMENT 22:

- What is the code handrail height today, and do we meet that?
- This is the only hill around for cyclist
- It's not safe for cyclist now
- Fort Pierce, becoming bike friendly
- Promote biking

COMMENT 23:

- Can't we have a sign for bike promotion and safety "bike friendly community"

COMMENT 24:

- We have had several bike area deaths

COMMENT 25:

- Educate motorist
- Speak to Economic Impacts of project – studies
- Competition of funding
- What is the bridge's life cycle?
- Adjacent Bridge in future plan

COMMENT 26:

- Golf carts, electric bikes, three wheel bikes

COMMENT 27:

- Need input from fire / ambulance?

COMMENT 28:

- Using only one side of bridge doesn't work for runners, cyclist due to wind issues

The following list was captured from comment cards submitted during the public input meeting.

COMMENT CARD 1 WITH GRAPHIC:
Suggest changing configuration to two lanes with an additional Bike/wheelchair lane, leaving pedestrian walkway as is. This would provide a good alternative and add useable lanes for both bikes and low speed personal transportation devices. It would also provide a "pull out" lane to allow cars to get out of the way of emergency vehicles.

COMMENT CARD 2 WITH GRAPHIC:
Suggest moving all riders/walkers to one side of bridge (9' area) and keep remaining 4 lanes of traffic.
Mike and Pat Oyler

COMMENT CARD 3:

1) So, if you have a larger travel lane I guess you can & will go faster.
2) Did you have a count of bikes using the bridge?
3) It is a senior community.
4) Need to look at the land that needs to be developed the increase of the population.
5) We have had maybe a hand full of crashes on the bridge that's 5.

Mike and Pay Oyler

COMMENT CARD 4:
This plan is ridiculous. What would happen if: 1) Accident; 2) Ambulance; 3) Hurricane evacuation; 4) Nuclear mishap. We are closing libraries & have funds for this proposed bridge reconfiguration? There is presently ample space for bicycles & walkers. Old saying, "if it ain't broke – don't fix it".
Ronnie DeGarmo

COMMENT CARD 5:
What is the projected life span of the existing bridge? When would a new bridge have to be built? What does the SLC Sheriffs Dept say about this proposal? What is the bicycle traffic count?

COMMENT CARD 6:

1) Have you done a survey of how many cars vs bikers/walkers?
2) Spend your monies on sidewalks elsewhere in St. Lucie co for side walks for the children.
3) How many members St. Lucie TPO ride bikes over the causeway?
4) How and why did this ever get considered?
5) Why not do Riverside Drive where it is so narrow. Put your money there.
6) Take present barrier out and get 2 ft for bike and Pedestrian.
7) Have you thought of an hangover cantilevered bike/ped outside of current 4 lanes?
8) Do we have to have a barrier?

Bunny Evans

COMMENT CARD 7:

Have you contacted the Nuclear Regulatory Commission about your bridge proposal?

COMMENT CARD 8:

Why can't you just restrict one side of the bridge to bikes and the other for pedestrians and save $1Million? How is this a transportation improvement?

COMMENT CARD 9:

Are you familiar with the NRC's policy that evacuation of a 10-mile radius of a nuclear power plant must occur within less than 30 minutes? Were you involved in the original design for this bridge?