South Causeway Bridge Reconfiguration Study

St. Lucie Transportation Planning Organization

prepared for

St. Lucie Transportation Planning Organization

prepared by

Kimley-Horn and Associates, Inc.

February 2012

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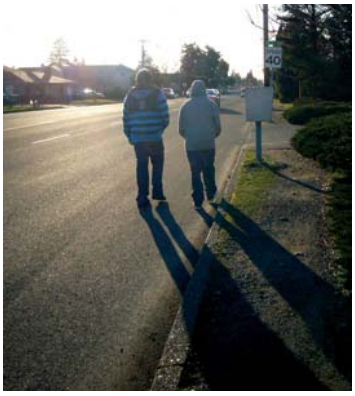
Executive Summary

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.

TRANSPORTATION FOR AMERICA: DANGEROUS BY DESIGN

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.

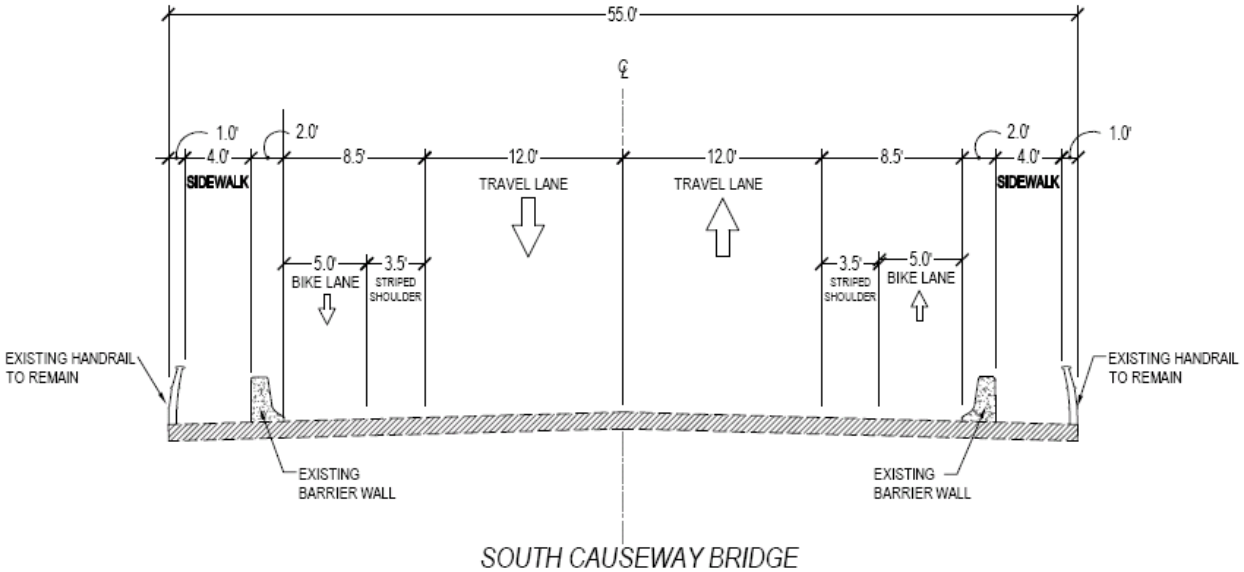
Conceptual plans were developed that were endorsed by the Fort Pierce City Commission. The plans consist of reducing the number of travel lanes to two 12-foot wide travel lanes with a 12.5-foot wide shared use path on both sides of the bridge. The shared use paths would be separated from the travel lanes 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.

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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.*

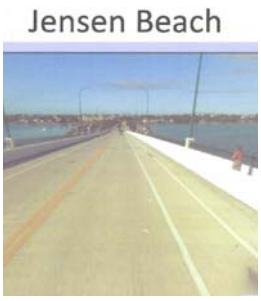
- *FDOT Manual of Uniform Minimum Standards recommends an outside lane width of 14 feet as the "minimum width that will allow passenger cars to safely pass bicyclists within a single lane."*

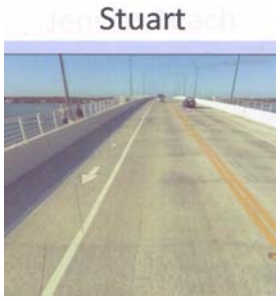
- *The minimum clearance for passing a bicyclist is 3 feet and total width of larger motor vehicles is commonly 8 feet or more, an outside traffic lane with less than 14 feet of width for travel is commonly not wide enough to accommodate passing motor traffic within the lane.*

- *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

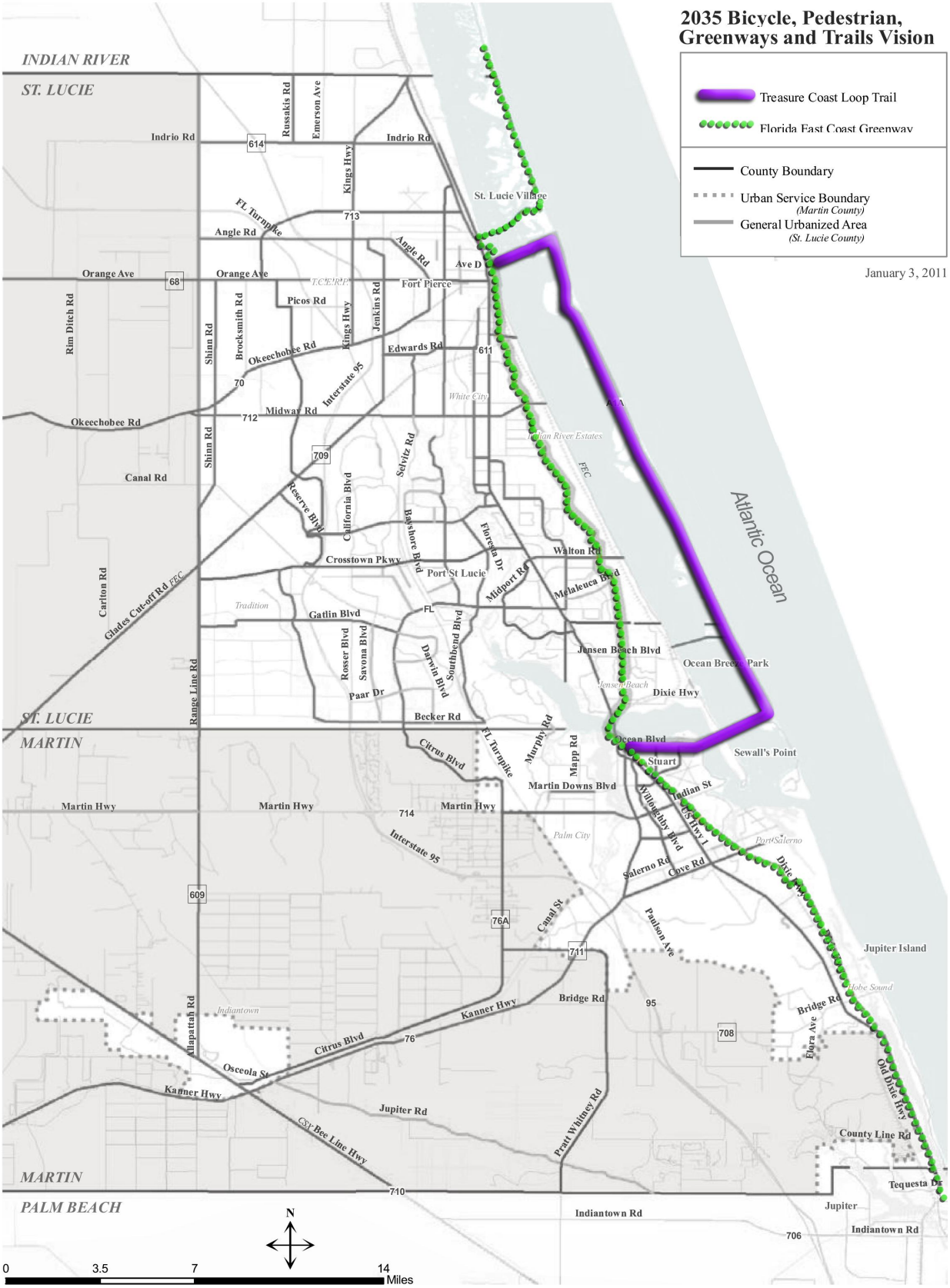
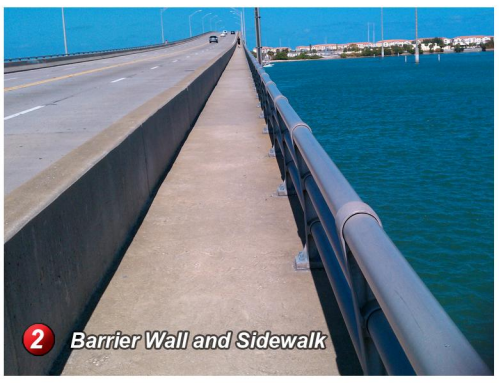
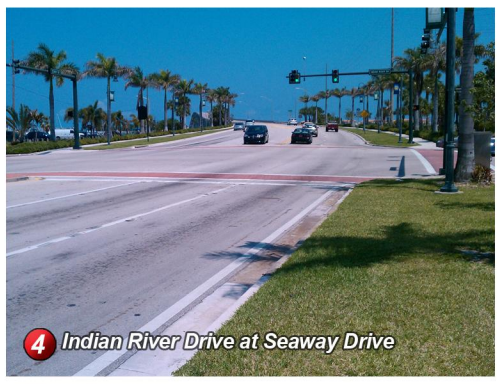

2035 Bicycle, Pedestrian, Greenways and Trails Vision
Treasure Coast Loop Trail
Florida East Coast Greenway
County Boundary
Urban Service Boundary
(Martin County)
General Urbanized Area
(St. Lucie County)
January 3, 2011
INDIAN RIVER
ST. LUCIE
MARTIN
PALM BEACH
Atlantic Ocean
Indrio Rd
Russakis Rd
Emerson Ave
Kings Hwy
St. Lucie Village
FL Turnpike
Angle Rd
Ave D
Orange Ave
Fort Pierce
Picos Rd
Rim Ditch Rd
Shinn Rd
Brocksmith Rd
Okeechobee Rd
Jenkins Rd
Edwards Rd
Interstate 95
Midway Rd
White City
Canal Rd
Selvitz Rd
Reserve Blvd
California Blvd
Bayshore Blvd
Florenia Dr
Walton Rd
Crosstown Pkwy
Port St Lucie
Midport Rd
Melaleuca Blvd
Cariton Rd
Glades Cut-off Rd
Tradition
Gatlin Blvd
Rosser Blvd
Savona Blvd
Darwin Blvd
Southbend Blvd
Jensen Beach Blvd
Ocean Breeze Park
Jensen Beach
Dixie Hwy
Paar Dr
Range Line Rd
Becker Rd
Citrus Blvd
Murphy Rd
Mapp Rd
Ocean Blvd
Stuart
Sewall's Point
Martin Downs Blvd
Indian St
Kyllaghby Blvd
CR Hwy 1
Martin Hwy
Palm City
Port Salerno
Salerno Rd
Cove Rd
Canal St
Paulson Ave
Jupiter Island
Hobe Sound
Bridge Rd
Kanner Hwy
Indiantown
Allapattah Rd
Osceola St
Flora Ave
Old Dixie Hwy
Jupiter Rd
Pratt Whitney Rd
County Line Rd
CSX Bee Line Hwy
Tequesta Dr
Jupiter
Indiantown Rd
N
0
3.5
7
14
Miles

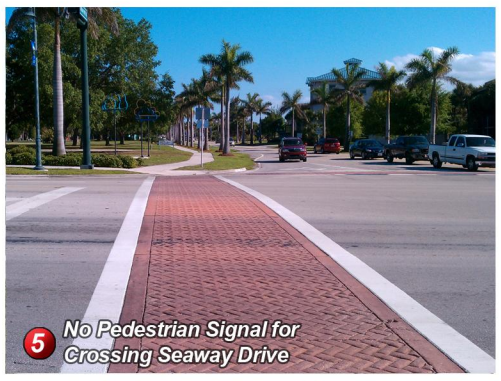
EXHIBIT 2
Existing Conditions Map


1 North Pedestrian Bridge


2 Barrier Wall and Sidewalk

3 Shared Use Path with Connection to Bridge


4 Indian River Drive at Seaway Drive


5 No Pedestrian Signal for Crossing Seaway Drive

6 Push Button Only Crossing Indian River Drive


7 No Sidewalk Connection to Seaway Drive

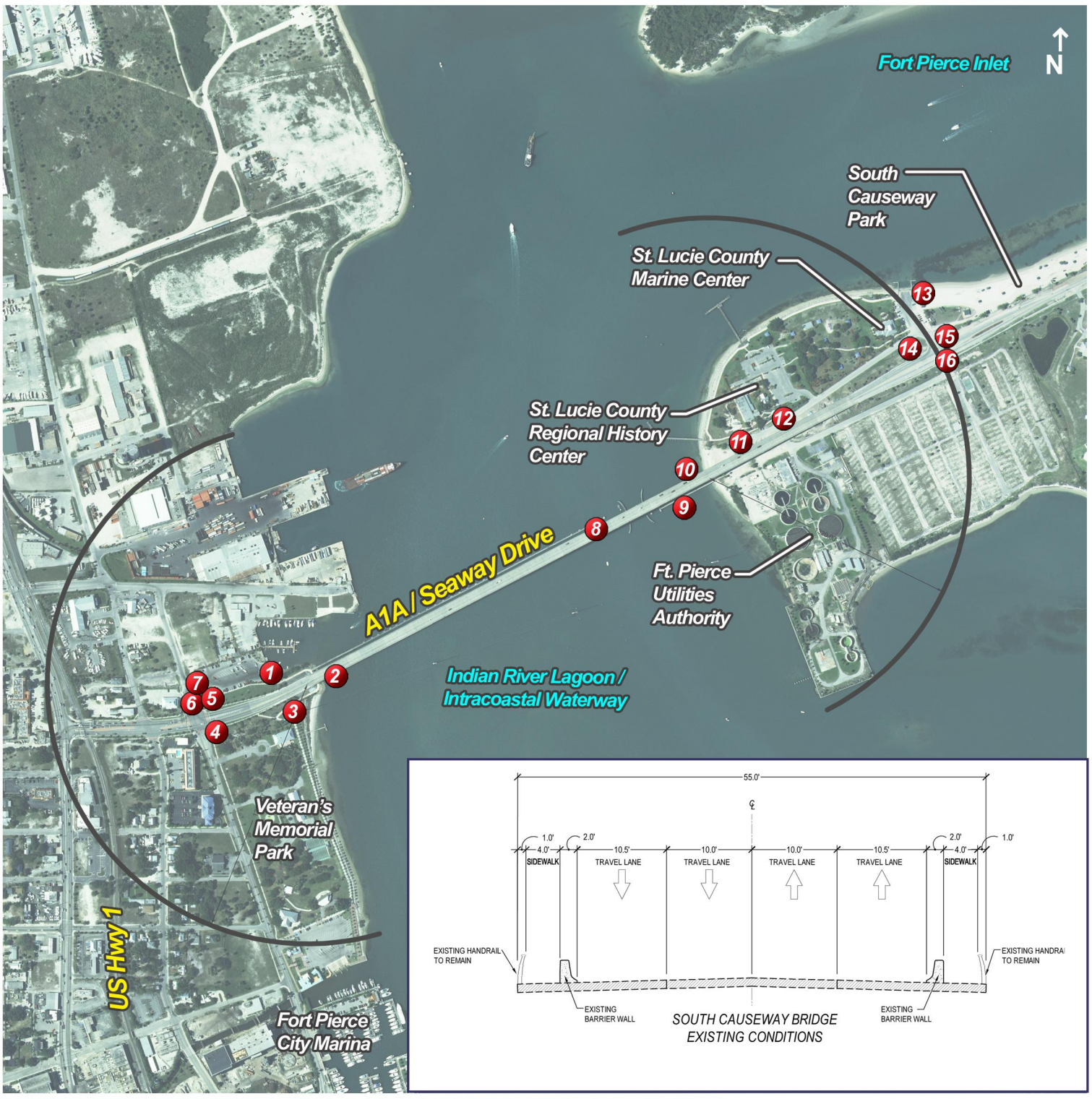

8 North Pedestrian Bridge


9 South Pedestrian Bridge

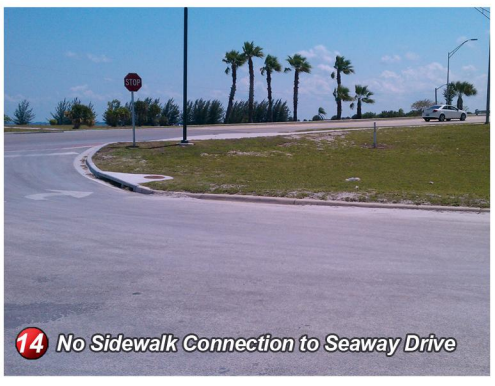

10 South Causeway Bridge West Bound


11 St. Lucie County History Center / Marina Center Sidewalk Facilities


12 St. Lucie County History Center / Marina Center Sidewalk Facilities




13 No Continuous Sidewalk Connection from Park to Seaway Drive


14 No Sidewalk Connection to Seaway Drive


15 Park Entrance from Seaway Drive

16 Begin Bike Lane

St. Lucie Transportation Planning Organization

Special Project Planning Services

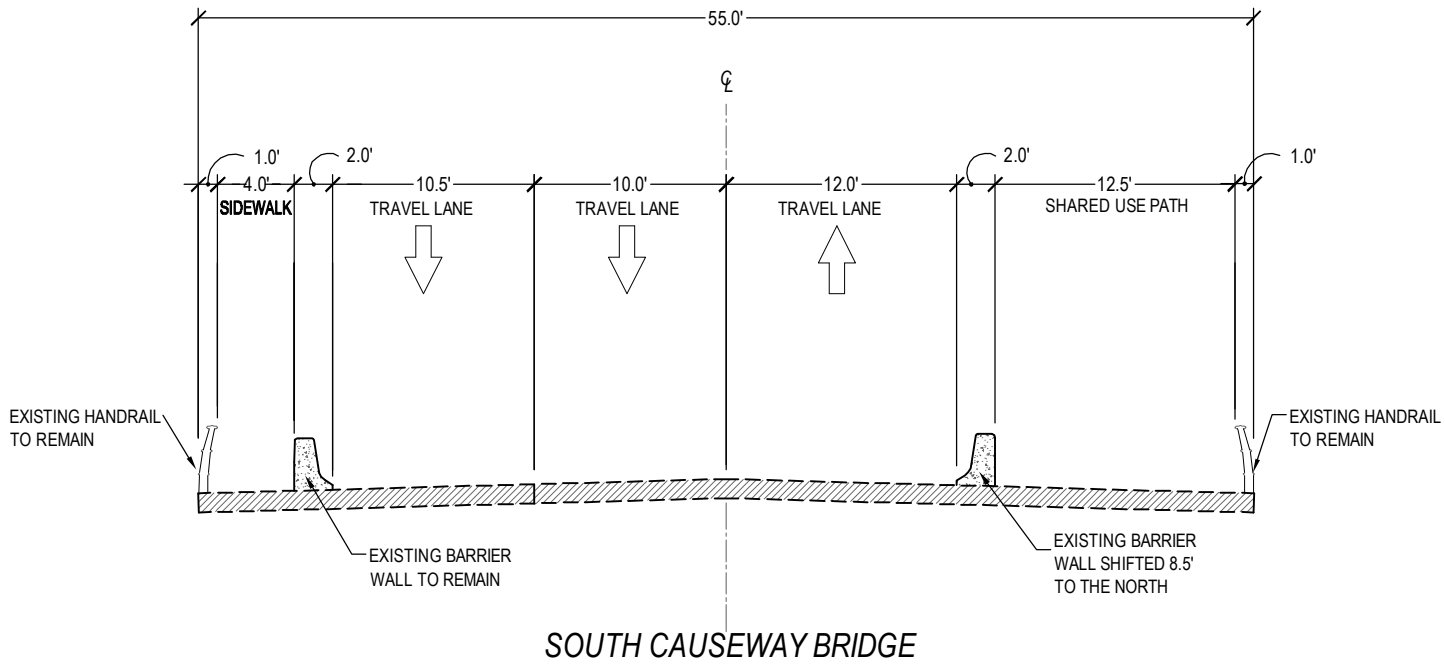
SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

Existing Conditions

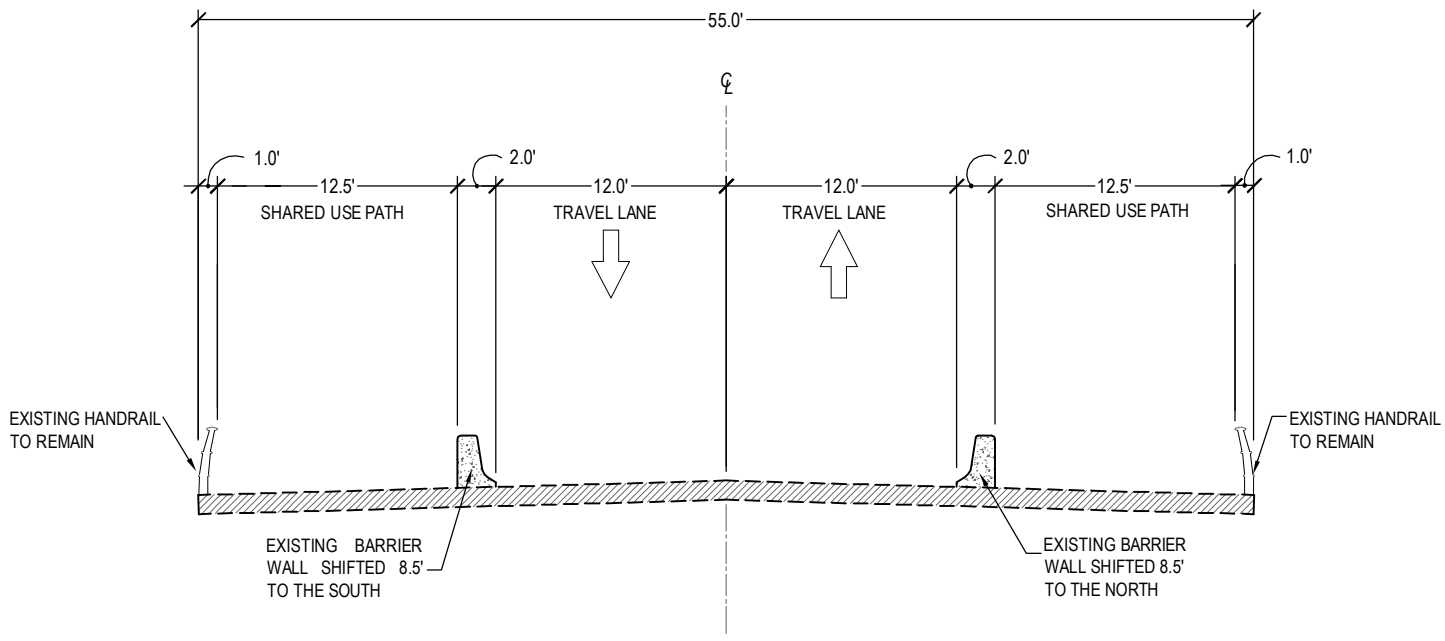
JUNE 2011

Kimley-Horn and Associates, Inc.

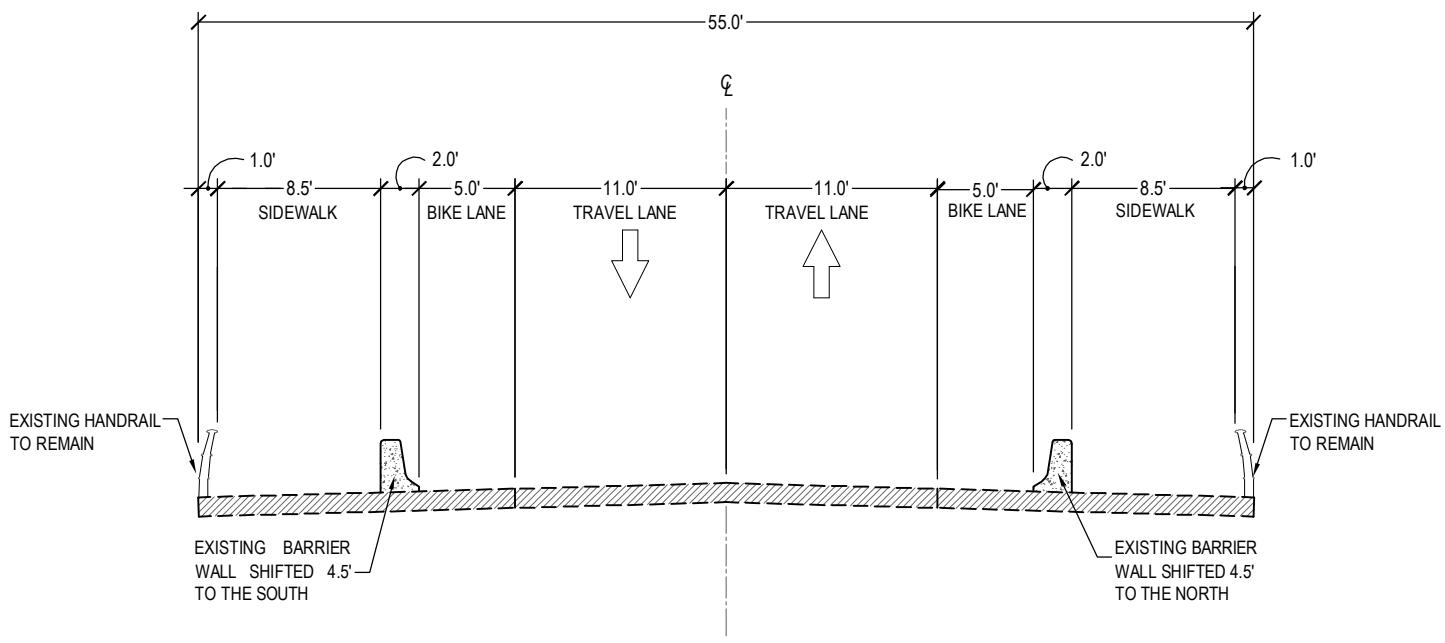
EXHIBIT 3
Proposed Alternatives



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

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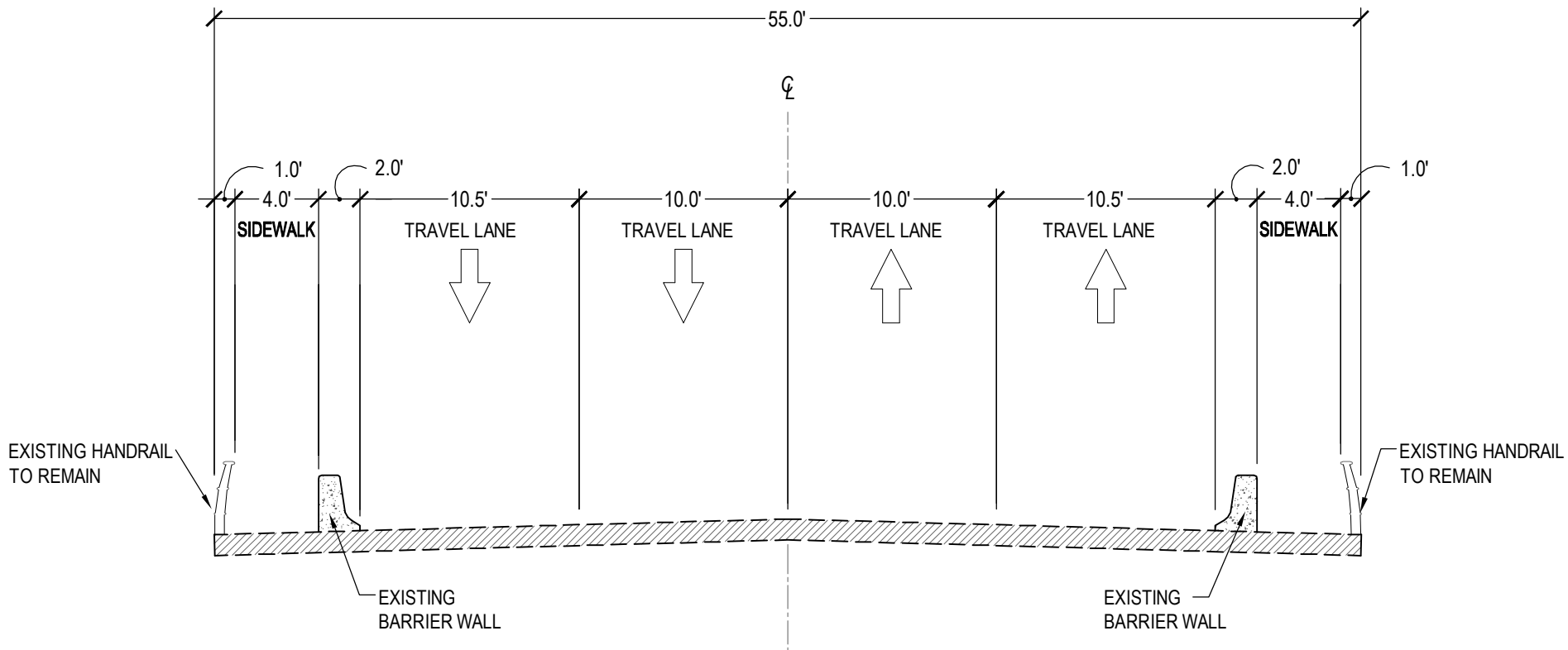
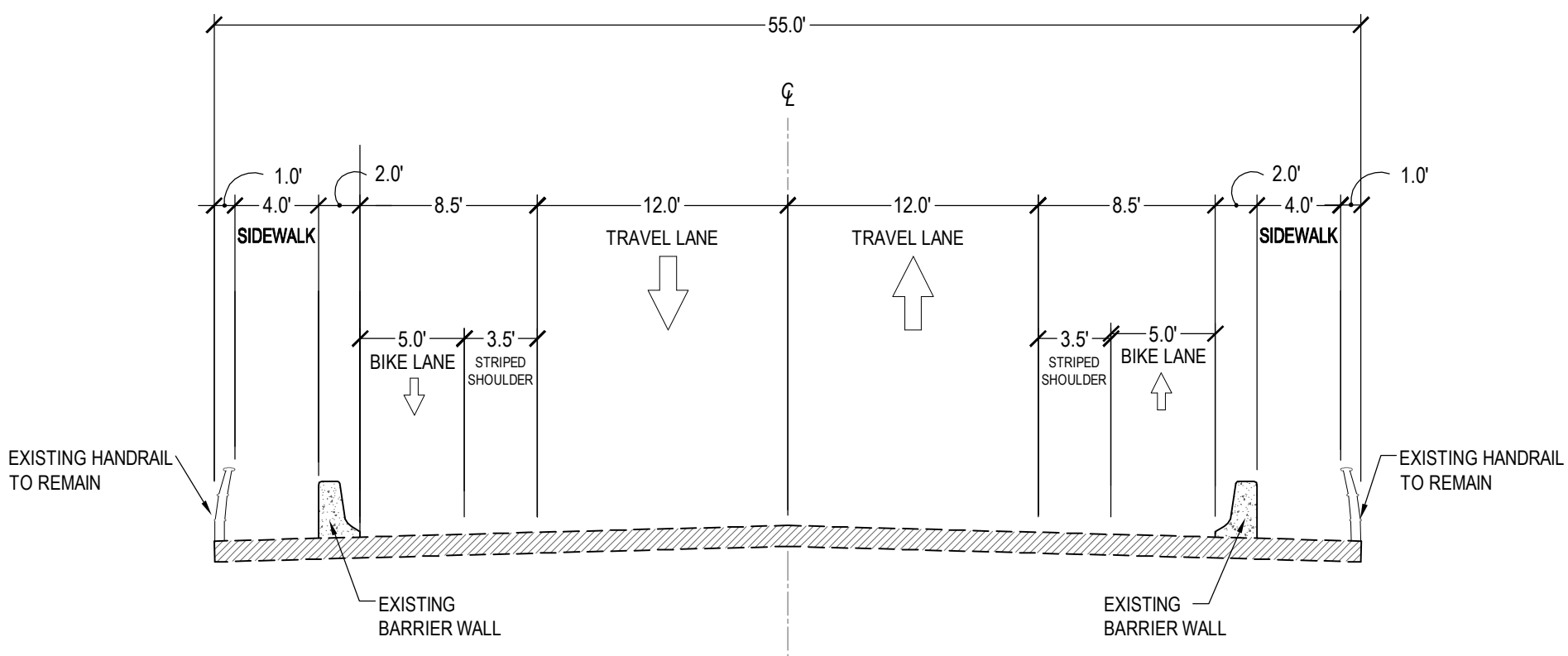
EXHIBIT 5
Preferred Alternative



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

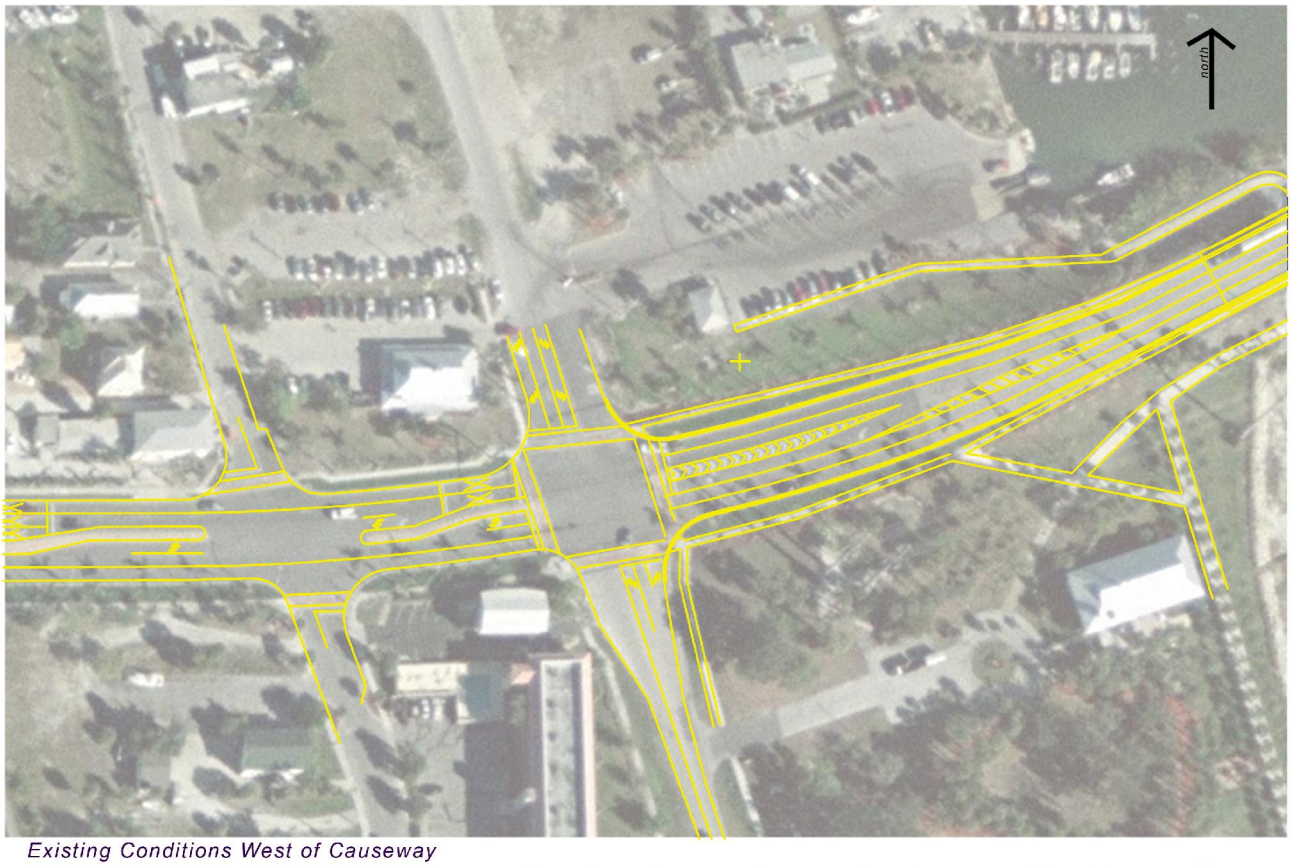
Special Project Planning Services

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

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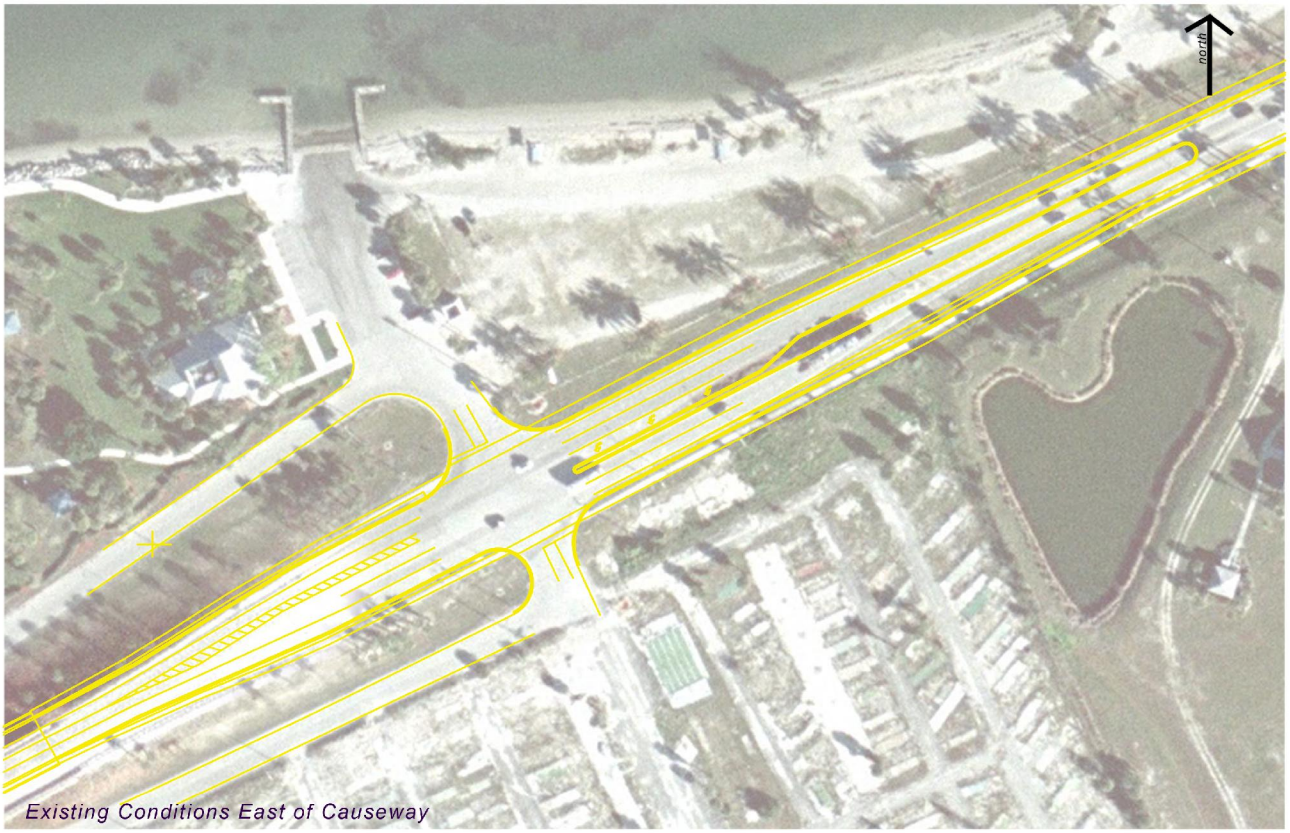


St. Lucie Transportation Planning Organization

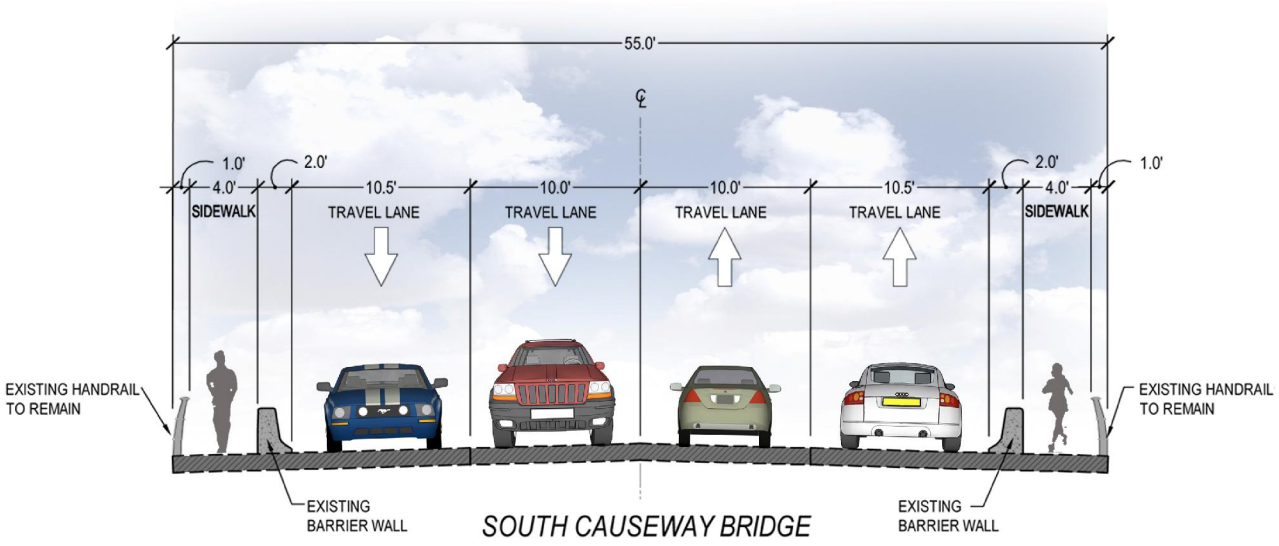
Special Project Planning Services

SOUTH CAUSEWAY BRIDGE RECONFIGURATION STUDY

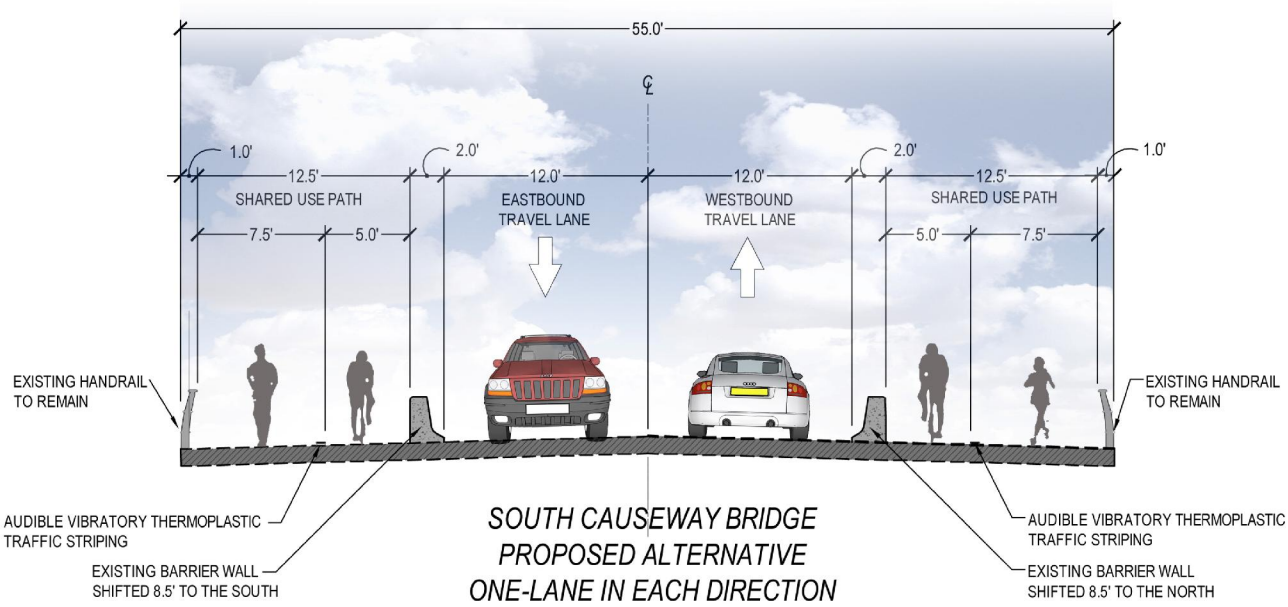
Plan View East

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.

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

<u>COMMENT 1:</u>

- 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

<u>COMMENT 2:</u>

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

<u>COMMENT 3:</u>

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

<u>COMMENT 4:</u>

- 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.)

<u>COMMENT 5:</u>

- Process – future vote?

<u>COMMENT 6:</u>

- 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?