

Doing More with Less: Implementing Complete Streets through Resurfacing Projects

Stephen Benson and Kelli Bradley

### **Presentation Outline**

- Why Complete Streets?
- Screening resurfacing candidates
- Building "goes-with" scopes and identifying funding
- Work program best practices
- Lessons learned
- Recent projects



## What is Complete Streets?

- FDOT's approach to plan, design, construct, reconstruct, and operate the transportation system
- Serve the transportation needs of users of all ages, abilities, and modes
- Context-Based
- Provide a transportation system responsive to local land development patterns



RICK SCOTT GOVERNOR 605 Suwannee Street Tallahassee, FL 32399-0450 ANANTH PRASAD, P.E.

POLICY

Effective: September 17, 2014 Office: Design Director Topic No.: 000-625-017-a

#### COMPLETE STREETS

It is the goal of the Department of Transportation to implement a policy that promotes safety, quality of life, and economic development in Florida. To implement this policy, the Department will routinely plan, design, construct, reconstruct and operate a context-sensitive system of "Complete Streets." While maintaining safety and mobility, Complete Streets shall serve the transportation needs of transportation system users of all ages and abilities, including but not limited to:

Cyclists

- Motorists
- Transit riders

- Freight handlers
- Pedestrians

The Department specifically recognizes Complete Streets are context-sensitive and require transportation system design that considers local land development patterns and built form. The Department will coordinate with local governments, Metropolitan Planning Organizations, transportation agencies and the public, as needed to provide Complete Streets on the State Highway System, including the Strategic Intermodal System.

This Complete Streets Policy will be integrated into the Department's internal manuals, guidelines and related documents governing the planning, design, construction and operation of transportation facilities.

Ananth Prasad, P.E. Secretary



## What is Complete Streets?



**FDOT Context Classifications** 



Improve Safety, Support Economic Development and Create Quality Places through integrated land use and transportation



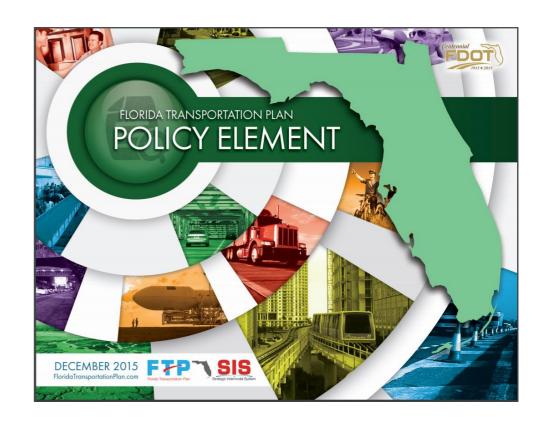
"provide a safe
transportation system
that ensures the mobility
of people and goods,
enhances economic
prosperity and preserves
the quality of our
environment and



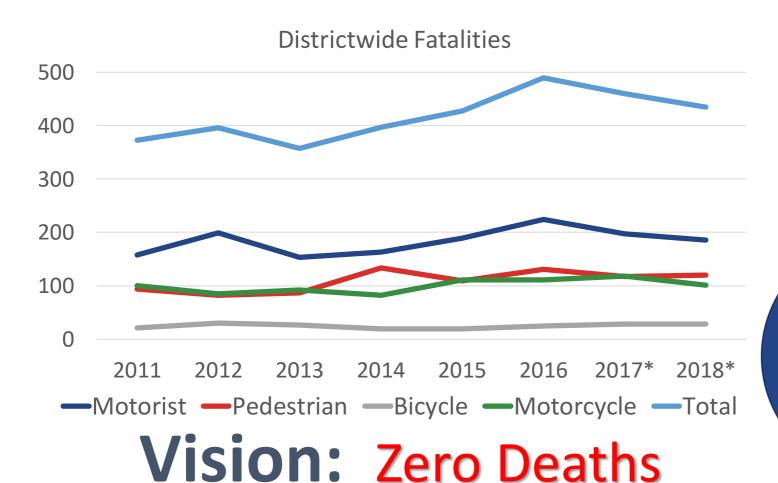


#### Florida Transportation Plan Goals

- Safety and security for residents, visitors, and businesses
- Agile, resilient, and quality infrastructure
- Efficient and reliable mobility for people and freight
- More transportation choices for people and freight
- Support Florida's global economic competitiveness
- Support quality places to live, learn, work, and play
- Enhance Florida's environment and conserve energy









## Florida Rated Most Dangerous State for Pedestrians

The last two years on record (2016 and 2017) were the most deadly years for people killed by drivers while walking since 1990, according to the report, which ranks states and metropolitan areas around the country using Smart Growth America's "Pedestrian Danger Index."

Jan 24, 2019

Nearly 50% of pedestrian crashes occurred while a pedestrian was trying to cross the road.

21% of
bike/ped
crashes in
District 7
ended in
serious injury
or death

D7 State Highway System – Context Zone and Crash Distribution by Centerline Miles

Context	Centerline Miles	% Centerline Miles by Context	Ped/Bike Crashes	% Ped/Bike Crashes by Context
C1 – Natural	18	2%	8	0.1%
C2 – Rural	187	22%	110	1.9%
C2T – Rural Town	16	2%	44	0.8%
C3C – Suburban Commercial	322	38%	2,486	42.7%
C3R - Suburban Residential	191	23%	1,167	20.1%
C4 – Urban General	87	10%	1,536	26.4%
C5 – Urban Center	17	2%	364	6.3%
C6 – Urban Core	7	1%	102	1.8%

# Leveraging RRR to Promote Complete Streets



- C4, C5, & C5 corridors are overrepresented in crash data, especially for vulnerable road user crashes.
- Low hanging fruit have been picked.
- Opportunities to fully reconstruct C4, C5, C6 roads are rare.



# Leveraging RRR to Promote Complete Streets



- The RRR program eventually touches every lane mile in the district.
- Candidate RRR projects are developed annually.
- RRR Program performance measures incentivize cost-efficiency.

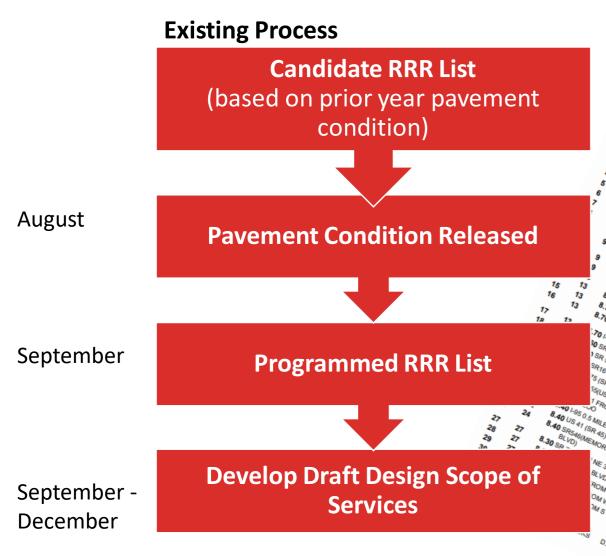


# Leveraging RRR to Promote Complete Streets



- Set aside district allocated funds, request MPO prioritization and pursue safety program funds when eligible.
- Screen RRR candidates annually and identify conceptual improvements.
- Identify programming strategy, potential funding sources and scenarios.

### District 7 RRR Process



2019
FOR PAVEMENT CONDITION

WITH SPEED IN 2018 (AT LEAST RIDE RANKINGS

MODES ON COLUMBIA CO. INC 202000 DISTRICT COUNTY

ARCHERON COLUMBIA CO. INC 302000 SACKSON 42800 DAY

PAS SON COLUMBIA CO. INC 3004000 SACKSON 42800 DAY

A SON COLUMBIA CO. INC 3004000 SACKSON 42800 DAY

A SON COLUMBIA CO. INC 3004000 SACKSON 42800 DAY

A SON COLUMBIA CO. INC 3004000 SACKSON 42800 DAY

BERSON COLUMBIA CO. INC 30040000 SACKSON 42800 DAY

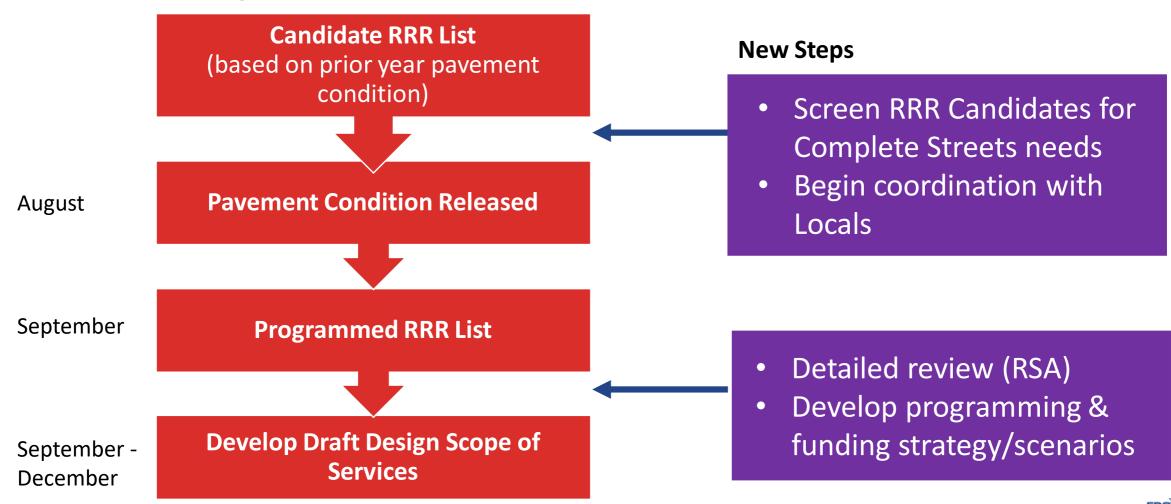
BERSON COL

PASCO

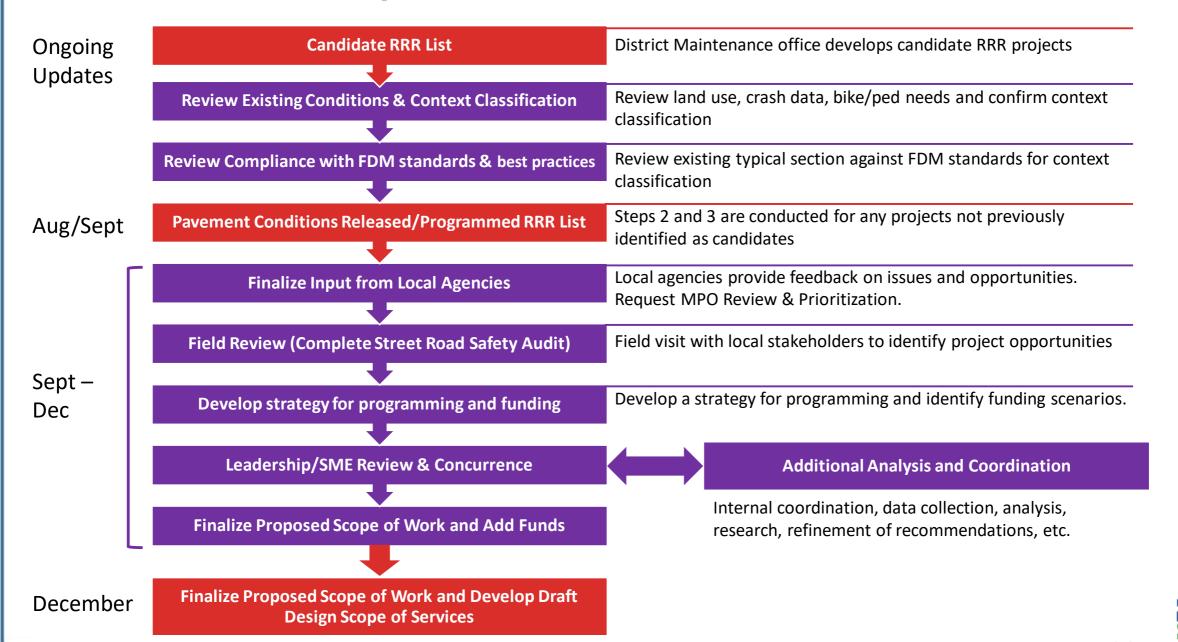
LEON

## How does Complete Street fit in?

#### **Existing Process**



## How does Complete Streets Fit in?



Identify list of safety and other opportunities from:

- Road Safety Audit
- Planning screens
- Input from locals





Complete Streets is About More Than Just Bike/Ped

## Projects are screened for all disciplines

- Traffic operations
- Drainage
- Lighting
- Access management
- Turn lanes
- Signalization



Example: SR 44 Citrus County



Input from Locals & Stakeholders

### What do you know?

Bike/Ped Issues

**Planned Trails** 

Safety/Operational Issues

Types of User

**Future Land Use** 

**Nearby Projects** 

## What would you like to see?

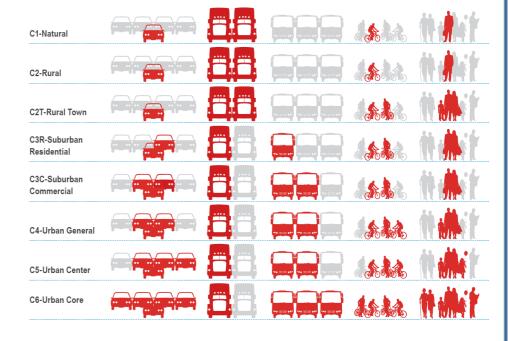
Changes to Typical Section

**Pedestrian Crossings** 

Safety Improvements

**Operational Improvements** 

**Additional Features** 





# Building a RRR "Goes-With" Scope Input from Locals & Stakeholders

#### SHAREPOINT SITE

- View upcoming RRR projects in your jurisdiction
- Get notified when new projects are created



#### Hello, Juan FDOT

Welcome to the Complete Streets Portal. This site is designed to collect information from multiple agencies which have stakes in the Florida DOT project corridor.

The purpose of the *District 7 Complete Streets Program* is implement the Complete Streets Plan developed by FDOT. This program facilitates collaboration and early communication on identified resurfacing, restoration and rehabilitation (RRR) projects to ensure that these projects satisfy the department's Complete Street Policy with regards to a context-sensitive system of "Complete Streets."

#### RRR Opportunity\*

The resurfacing program provides for pavement resurfacing and rehabilitation to preserve the structural integrity of the pavement. Adding lanes and bridge replacements are not included in this program

A resurfacing, restoration and rehabilitation (RRR) project is undertaken for a variety of reasons, the primary of which is the result of deficient pavement condition. Other reasons for a RRR project include:

- · To preserve or extend the life of the existing pavement
- Improve capacity (without adding continuous through lanes)
- · Improve operating characteristics
- · Site-specific crash reduction
- Section wide crash reduction
- · General safety modifications

#### Generally, RRR projects include:

- · Safety improvements needed to address crash problems
- · Pavement Resurfacing/Rehabilitation
- Modifications necessary to comply with the American's with Disability Act (ADA)
- · Paved Shoulders (on rural roads)
- · Improvements to roadside barriers and guardrail necessary to meet minimums standards
- Design Exceptions require Central Office approval
- Improvements to bridge rails necessary to meet minimum standards. Design Variations require Central Office approval
- Traffic Signal Mast Arms within the mast arm policy area where existing strain poles require replacement/relocation



View Project



Search this site

# Building a RRR "Goes-With" Scope Input from Locals & Stakeholders

### SHAREPOINT SITE

- View upcoming RRR projects in your jurisdiction
- Get notified when new projects are created
- Provide project feedback

1) List any issues with existing bicycle/pedestrian facilities and network connections in this area. This includes gaps in sidewalk or trail networks as well as roadway crossings.

#### **Agency Responses:**

Agency: Pinellas County, Responder: Joan Rice

**Response:** There are no bicycle lanes as the speed is high. The sidewalks could be wider to accommodate passing people.

3) Are you aware of any <u>safety issues</u> that should be analyzed addressed?. If so, please describe.

Note: For preliminary crash data summary, see Context Classification Report in Project Documents section above.

#### Agency Responses:

Agency: Pinellas County, Responder: Joan Rice

**Response:** Sight visibility with overgrown medians. The north 5 or 6 medians are part of a landscape project that will clean out some of the growth. Michael Kidde, D7 Landscape Architect knows about this project.



Input from Locals & Stakeholders

## PARTICIPATE IN FIELD REVIEWS

- Understand challenges first hand
- Hear from stakeholders with other interests and priorities







# Building a RRR "Goes-With" Scope Leverage Flexibility in the FDM

Florida Design Manual Chapter 114 Resurfacing, Restoration and Rehabilitation (RRR)

#### 114.1.1 Proposed Improvements (Type of Work)

The <u>following items must be included in each RRR project</u> unless written authorization to deviate from this policy is obtained at a Director level position in the District:

- Safety improvements needed to address crash problems.
- (2) Pavement Resurfacing/Rehabilitation.
- (3) Modifications necessary to Comply with the Americans with Disabilities Act (ADA).

Many safety items can be absorbed as part of a typical RRR scope of work



Leverage Flexibility in the FDM - Retrofit

Document design speed, posted speed, and allowable range

➤ Set a target speed

Used to determine the design elements

**Established by FDOT Design Manual** 

**SPEED** 

LIMIT

Design Speed NARROW LANES

The speed at which all drivers are legally required to operate at or below.

Established by Procedure – Rule 14-15.012, Florida Administrative Code

Posted Speed

Operating Speed

The speed at which vehicles operate during free flow conditions.





# Building a RRR "Goes-With" Scope Leverage Flexibility in the FDM

Built-in flexibility to do more on resurfacing projects

- When posted speed exceeds the allowable range, roadway elements that encourage lower operating speeds should be included with the project
- Width of the bicycle lane depends on the width of the available roadway pavement
- Sections of raised or restrictive medians are recommended on RRR projects



## Cost Estimating - "Goes-With" Improvements

### Estimate Early, Update Often

Long Range Estimates should be completed after Road Safety Audit report

Date: 9/21/2018 9:46:54 AM

#### FDOT Long Range Estimating System - Production

R3: Project Details by Sequence Report

Project: 441685-2-52-01 Letting Date: 01/2099

Description: SR 44/Gulf to Lake Highway from US 19 to E of NE 10 Ave Corridor Improvements.

District: 07 County: 02 CITRUS Market Area: 07 Units: English

Contract Class: Lump Sum Project: N Design/Build: N Project Length: 4.296 MI

Project Manager: Alex Henry

Version 1-P Project Grand Total \$681,517.18

Description: SR 44/Gulf to Lake Highway from US 19 to E of NE 10 Ave Corridor Improvements.

Sequence: 1 NDU - New Construction, Divided, Urban Net Length: 0.380

2,006 (

Description: Construct midblock crossings with refuge islands and overhead RRFBs at SR 44 and 8th Ave and

9th Ave.

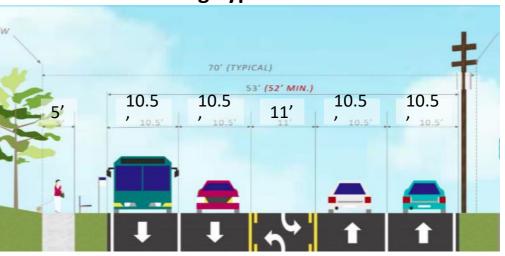


# RRR Goes-With Something Is Better Than Nothing

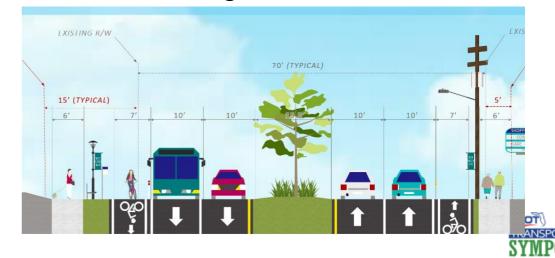
### **Busch Blvd**

- 3.3 miles corridor
- City of Tampa and unincorporated Hillsborough County
- Corridor Planning Study recommended reconstruction to add median and bike lanes and fill sidewalk gaps

#### **Existing Typical Section**



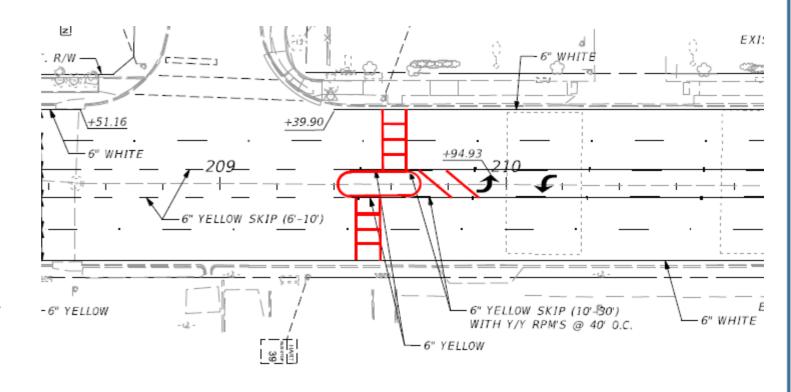
**Long Term Vision** 



# RRR Goes-With Something Is Better Than Nothing

### **Busch Blvd**

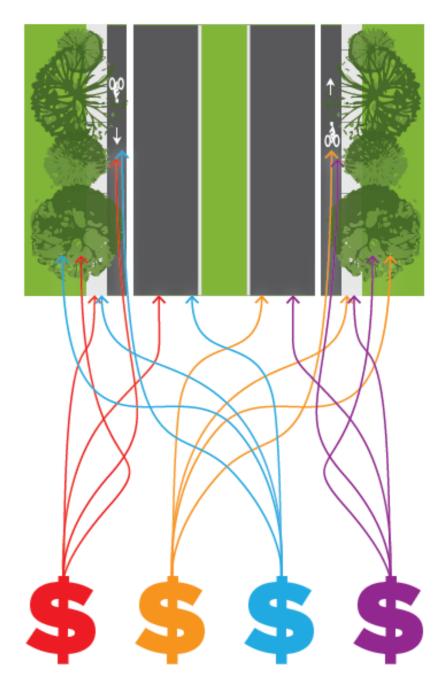
- Resurfacing project with construction to begin late Spring 2019
- Includes spot safety enhancements including spot medians and pedestrian crossings
- Continue to advance longterm vision through production process





# What About Funding? MPO Opportunities

- Funding allocated for RRR can typically not be used for additional elements
- Federal, state, and local sources can be added





# What About Funding? MPO Opportunities

If projects are on the MPO priority lists, it opens additional funding opportunities and local awareness

#### **2019 Hillsborough MPO List of Priority Projects**

2018 Priority	FPN	2040 LRTP Refer- ence	Project Limits	Project Description
10		Reduce Crashes	Busch Blvd (Dale Mabry to 56th)	Safety Enhancements
11	436419 2	Reduce Crashes	MLK Urban Corridor Improvements	Safety Enhancements
12	436489 1 437645 1 437645 2	Reduce Crashes	Kennedy Blvd (Westshore to Brevard)	Walk/Bike Safety



## What About Funding?

State Funds Reserved for Complete Streets

- Lane mile allocations for RRR projects to be used per FDM
  - Additional items of work to be funded with District Funds
- District 7 made a commitment in 2017 to implement Complete Streets



## What About Funding? State Funds Reserved for Complete Streets

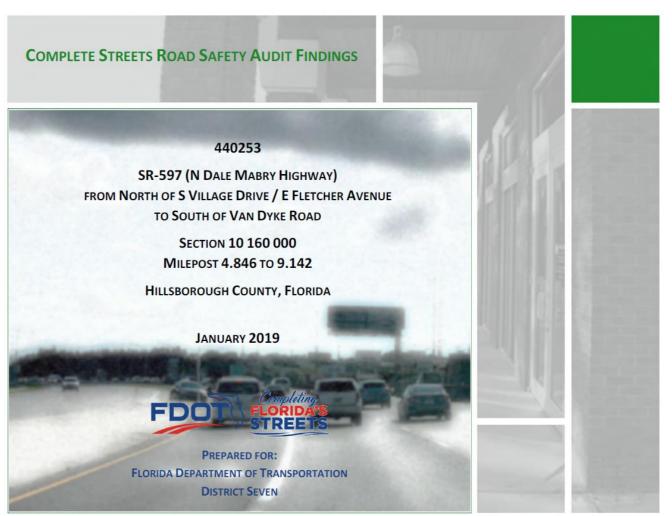
- District created a Complete Streets Reserve Box in outer years
  - \$5 million of district allocated funds originally approved
  - Future amount will be adjusted based on anticipated need
- Utilize reserved funds to add Complete
   Streets elements of work to RRR projects.
  - Must keep separate from RRR using separate sequence

FPID XXXXXXXX-X-52-02



### **Construction Costs**

- District completes "worst case" LRE using Complete Streets study (separate from RRR LRE)
- Prioritize recommendations if not enough \$\$ to do everything





### **Construction Costs**

- Programming as a -52-02 allows
  - One set of plans quantities separated in quantity boxes
  - 2 LREs
  - 2 projects in AASHTOWare
  - One specs package
  - -02 can be easily "turned off"
  - Allows District to track and report on multiple work types

## <u>STATE OF FLORIDA</u> DEPARTMENT OF TRANSPORTATION

FINANCIAL PROJECT ID 434841-1-52-02 FINANCIAL PROJECT ID 434841-1-52-03 (FEDERAL FUNDS)

FINANCIAL PROJECT ID 434841-1-52-01

HILLSBOROUGH COUNTY (10080)

STATE ROAD NO. 60/W KENNEDY BLVD

FROM W OF BREVARD AVE TO W OF MERIDIAN AVE

(US BUS 41/SR60/685/45/W KENNEDY/JACKSON/NEBRASKA/ASHLEY)



## **Design Costs**

### District decision and is subjective

- If only minor work being added, absorb under the -32-01 (RRR PE)
- If a larger effort, utilize reserve Box and add -32-02 (CPST PE)

#### If all else fails...

Include as optional services in design scope of services



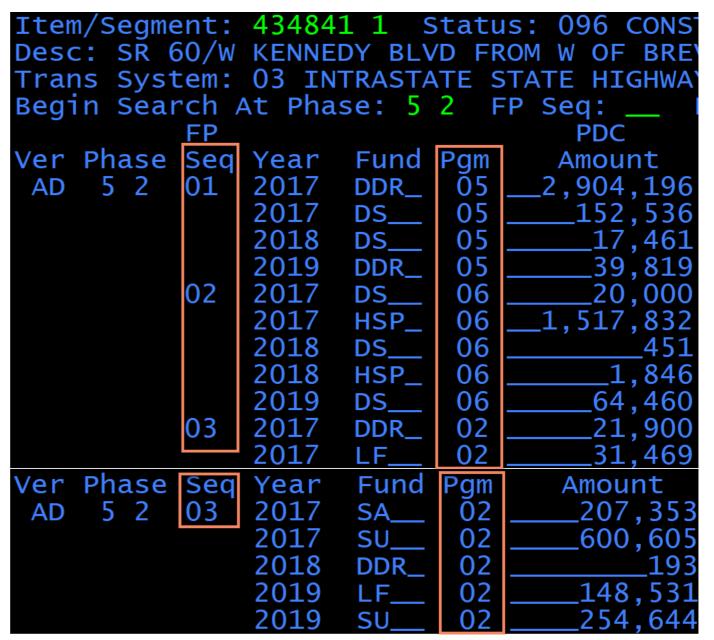
# Program Management Rules of Thumb & Work Program Instructions

- RRR allocations are to preserve our pavement system
- Different program numbers utilized in FM to track work type
- Each project sequence is limited to one program number:
  - 02 Roadway
  - 03 Bridge
  - 04 Bridge Repair
  - 05 Roadway Resurfacing
  - 06 Safety
  - 07 Traffic Operations



## Programming

- RRR project example
- Utilized 3 sequences
  - RRR
  - Safety
  - Complete Streets





### **Pre-Planning**

- Continuing to use existing District RRR process
- Adding new steps to process to address Complete Streets Policy
- Requires continuous coordination among multiple offices and external partners
- This coordination must be done quickly and efficiently, or will miss opportunity!



#### Cost Increases After Design Begins

- Design cost increases
  - Utilize contingencies
- Construction cost increases
  - Try to leave some funds in the reserve Box for future increases
  - Communicate with Work Program use contingencies
- It never hurts to ask for additional funds
- If additional fund are not available, may need to reduce scope
  - Something is better than nothing



#### **Lessons Learned**

- Each district operates a little differently but generally follow the same rules (Work Program Instructions, FDOT manuals, Targets)
- Funding is a challenge that requires multiple offices in the District, but it is not a barrier.
- New funding isn't always needed but most funds have strings. Its a matter of getting the right type of funds plugged into the right project.
- Consolidated project scoping process helps
- Get the locals & MPOs on board with the goals
- Early and often communication



Jackson Street (Downtown Tampa)

PROJECT BACKGROUND

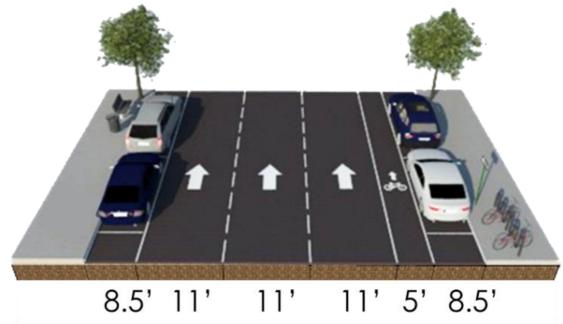


**Channel District** 



#### PRIOR CONDITION

 3 travel lanes with parking on both sides and an eastbound bike lane



- There is no bike lane on Kennedy Blvd (parallel westbound roadway)
- Identified need for two-way bicycle facility during resurfacing



## Public and Stakeholder Engagement

- Develop Graphics
- 17 Stakeholder Meetings
- 4 MPO Committee Meetings
  - + MPO Board
- 1 Public Meeting
- Significant Coordination With:
  - City of Tampa Economic Development and Transportation
  - Tampa-Hillsborough Expressway Authority









PROPOSED



#### **Proposed Changes**



Resurfacing

Minor drainage improvements

Upgraded signing and paving markings

Lane reduction and two-way protected bike lane

Before



New traffic signal with pedestrian crossing at Governor St.

DOWNTOWN

W Cass St Tampa Theatre

The University

Curtis Hixon Waterfront

Park

Tampa Riverwalk

Upgraded sidewalks and curb ramps

Landscape pots/
planters (movable)

Curb extensions

After

Jackson Street (Downtown Tampa)



E Whiting St

Map data @2019 Google

#### **Cost Considerations**

- In-house design
- Total CST cost (phases 52 & 57) = approx. \$5.7M
- Majority of the additional cost was associated with:
  - curb extensions/bulb outs at nearly every intersection
  - associated drainage impacts
  - traffic separator and supplemental signal heads associated with the two-way bike lane (cycle track)
- Project was broken into three sequence numbers to separate the resurfacing costs from the "complete streets" costs.



#### **Funding Solutions**

- FDOT used state and federal funds to cover 100% of the cost;
   no local funds were used
- District Safety Office secured HSP funds to cover some of the additional costs
- Hillsborough MPO supported the project and allowed SU/STP funds to be applied to the complete street features and cover balance of project cost



#### **Project Status**

- Construction complete October 2018
- Contact information for persons familiar with the project
  - Stephen Benson
  - Tana Johnston-Schultz (Design PM)





## US 41/ N. 40<sup>th</sup> Street (East Tampa)

PROJECT BACKGROUND



- 6-lane divided with no on-street bike facility
- Restriped during 2017 resurfacing project
- Converted to 4-lane divided with
   7' buffered bike-lane



#### Additional Improvements



- Reconstructed four existing span wire signals with mast arms
- Upgraded sidewalks and curb ramps, replaced broken sidewalks, and closed abandoned driveways
- Minor drainage improvements
- Added median landscaping
- Subsequent Landscape project currently underway



### **Funding Considerations**

- In-house design
- Total CST cost (phases 52 & 57) = approx. \$5.9M
- All improvements were absorbed into the overall resurfacing project cost



## Questions?



# PPRs: Setting Up the Project in Work Program

It ist below the current LRE* costs by functional component as follows. All amounts are unrounded pre-PS&E Present Day Costs (PDC).			
Phase 52-01		Phase 52-02	
ROADWAY: \$_	\$ 2,649,431.43	IKOADWAY: \$	
SIDEWALKS: \$_	\$ -	SIDEWALKS: \$_ \$ 4	491,069.64
BRIDGE: \$_	\$ -	BRIDGE: \$_ \$	-
TRAFFIC:	\$ -	TRAFFIC: \$	-
SIGNALS: \$_	\$ 37,677.03	SIGNALS: \$_ \$	-
LIGHTING: \$_	\$ -	LIGHTING: \$_ \$	-
SIGNING: \$_	\$ 113,447.45	SIGNING: \$_ \$	1,906.98
PAVEMENT MARKINGS: \$_	\$ 90,390.46	PAVEMENT MARKINGS: \$_ \$	-
ITS: \$_	\$ -	ITS: \$_ \$	-
DRAINAGE: \$	\$ 139,770.80	DRAINAGE: \$ \$	-
LANDSCAPE & HARDSCAPE: \$_	\$ -	LANDSCAPE & HARDSCAPE: \$_ \$	-
WALLS: \$_	\$ -	WALLS: \$_	-
UTILITIES: \$_	\$ -	UTILITIES: \$_ \$	-
TURN LANES & MEDIANS: \$_	\$ -	TURN LANES & MEDIANS: \$_ \$	-
M.O.T.: \$_	\$ 242,457.37	M.O.T.: \$_	39,438.13
MOBILIZATION: \$_	\$ 261,853.96	MOBILIZATION: \$_ \$	42,593.18
PROJECT UNKNOWNS: \$_ Pre-Design 15%	\$ 530,254.28	PROJECT UNKNOWNS: \$_ Pre-Design 15% \$	86,251.19
INITIAL CONTINGENCY: \$_	\$ 50,000.00	INITIAL CONTINGENCY: \$_ \$	33,062.96
TOTAL: \$_	\$ 4,115,282.78	TOTAL: \$_	694,322.08

