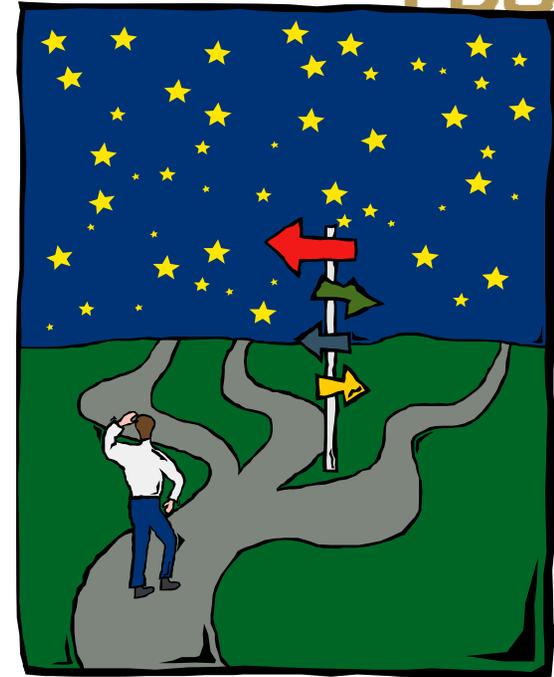


PD&E Project Management



Presented by:

Catherine Bradley

June, 2015



AGENDA

- ◆ Alternatives to be Evaluated
- ◆ Development of Alternatives
- ◆ Documentation
- ◆ Continual Coordination
- ◆ Context Sensitive Solutions/Complete Streets
- ◆ Everyday Counts
- ◆ New Initiatives

ALTERNATIVES TO BE EVALUATED

- ◆ Based on project need and design standards, develop conceptual alternatives
 - No-Action alternative
 - Transportation Systems Management and Operations (TSM&O Strategies)
 - Multi-Modal Alternatives
 - Build Alternatives
- ◆ Meet Purpose and Need

NO-ACTION ALTERNATIVE

- ◆ Describe the beneficial and adverse effects of doing no improvements
- ◆ Describe how the No-Action alternative addresses (or doesn't address) the need
- ◆ ALWAYS carry the No-Action Alternative through the entire study

TRANSPORTATION SYSTEMS MANAGEMENT and OPERATIONS (TSM&O) ALTERNATIVE

- ◆ An alternative which optimizes the performance and utilization of existing infrastructure.
 - Managed Lanes
 - Conversion to Toll Facility
 - Operational Improvements
 - Multi-modal improvements
- ◆ May have been addressed in a Traffic Operations Study

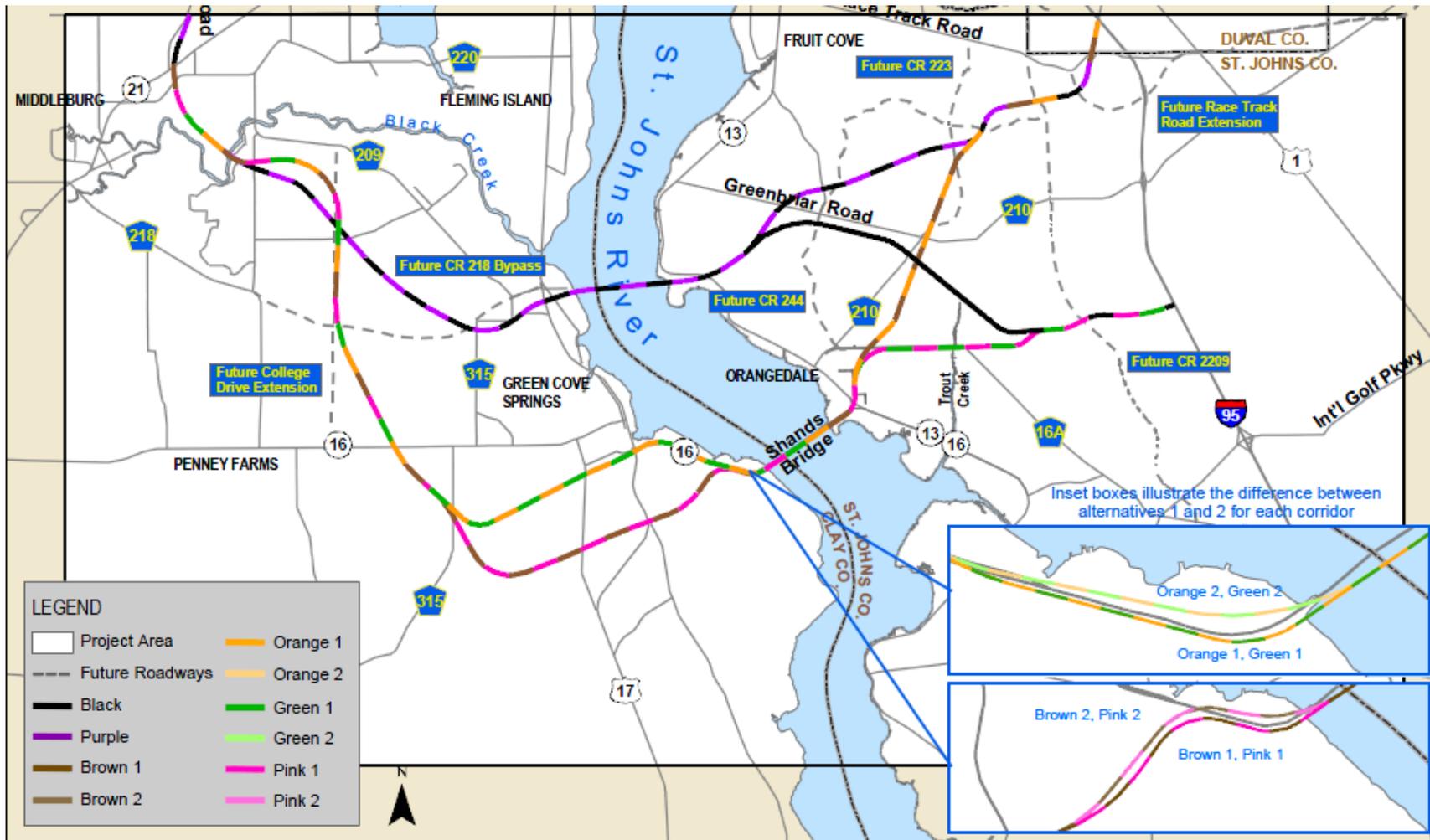
BUILD ALTERNATIVES

- ◆ Meet the “Need” identified
 - Capacity- widening?
 - New Corridor
 - Interchange/Intersection - Operations
 - Safety
- ◆ Feasible
 - Can it be built
- ◆ FDOT Procedure Topic No.: 525-030-020
 - Consider tolling on all capacity projects on Limited Access facilities
 - Other considerations for Controlled Access facilities

BUILD ALTERNATIVES

- ◆ May go through iterations
- ◆ Begin to identify where Variances and Exceptions may be needed
- ◆ Begin to identify impact avoidance and minimization
- ◆ Develop a consistent naming convention
 - Alternative 1, Alternative 1a, Alternative 1b...
- ◆ Alternatives laid out on base maps using aerials and survey data

BUILD ALTERNATIVES



DEVELOPMENT OF ALTERNATIVES

- ◆ Data Collection
 - Survey
 - Traffic
 - Existing Conditions
- ◆ Establish Engineering Controls
- ◆ Preliminary Engineering – at a minimum
 - Design traffic
 - Horizontal alignment
 - Vertical alignment in special areas (check vertical clearance to bridges)
 - Preliminary stormwater assessment
 - Special details to address public or ETAT comments received during the ETDM Programming Screen and the PD&E phase.

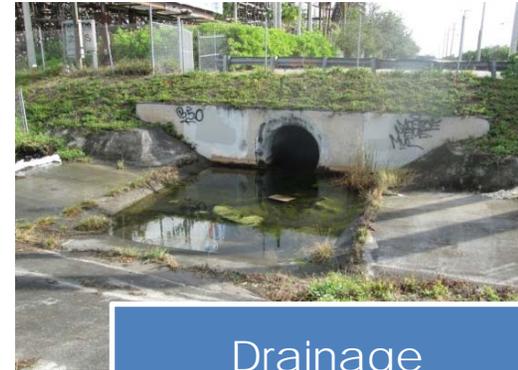
DATA COLLECTION



Utilities



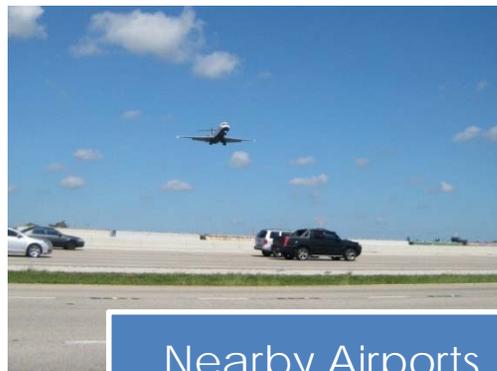
Beam Damage



Drainage



Florida Gas Transmission



Nearby Airports



Pavement

DATA COLLECTION

- ◆ FDOT Roadway Characteristics Inventory (RCI)
- ◆ Existing Roadway Plans
- ◆ Straight-line Diagrams
- ◆ Existing Structures Plans
- ◆ Crash Data
- ◆ Existing Signage
- ◆ Existing Utilities/Railroads
- ◆ Transportation Plans
- ◆ Geotechnical Data

(See PD&E Manual, Chapter 4)



AERIALS

- ◆ Scope identifies coverage areas
 - Determines if using existing aerials or new ones flown

- ◆ Scope outlines “scale”



- ◆ <http://www.dot.state.fl.us/surveyingandmapping/aerialmain.shtm>



Get Aerials

Search, request and download aerial photography using the *Aerial Photo Look Up System (APLUS)*.

Quick **reference guide** for the new APLUS application



Products: Aerial Photo Archive Collection:

Learn about the largest collection of aerial photography images of the State of Florida.



Most Current Aerials

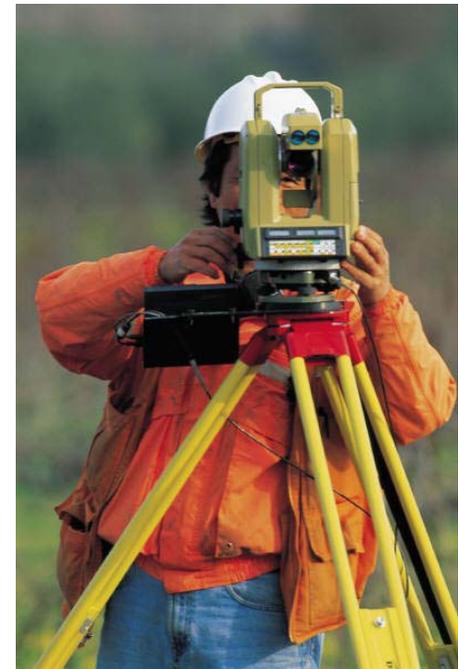
A map of the latest available county aerial datasets by year. (PDF)

Photo Index List

A list of photo indexes by county and available years. (PDF)

SURVEY

- ◆ PD&E Study usually has some level of survey
 - Low Altitude Mapping Photography (LAMP)
 - Digital Terrain Modeling (DTM)
- ◆ Initial survey work (at beginning of project)
 - Base line
 - Roadway Center line
- ◆ Save some survey time for later issues
 - Pond borings
 - Side streets
- ◆ Level of survey project dependent
 - Subsurface utility exploration



DESIGN TRAFFIC

- ◆ FDOT Design Traffic Procedure No.: 525-030-120
- ◆ Traffic Study
 - Previously done vs. part of PD&E
- ◆ Traffic Methodology
- ◆ Traffic Forecasts/Projected Volumes
- ◆ Level of Service
- ◆ Design Traffic Technical Memorandum
 - Documents Traffic volumes that will be addressed by conceptual alternatives



DESIGN TRAFFIC ANALYSIS

- ◆ Establishes Design Traffic Volumes
- ◆ Addresses Opening, Interim and Design Years
 - AADT and Design Hour
 - LOS
 - Year LOS hit "F"
- ◆ Examines Multi-Modal
 - Bus, Rail, Ports ...
- ◆ Pedestrian/Bicycle Counts



INTERCHANGE DESIGN TRAFFIC

- ◆ Projects Involving the Interstate and providing access:
 - Interchange Justification Report (IJR)
 - Interchange Modification Report (IMR)
- ◆ To be coordinated with the DIRC
- ◆ Approved by the Lead Agency

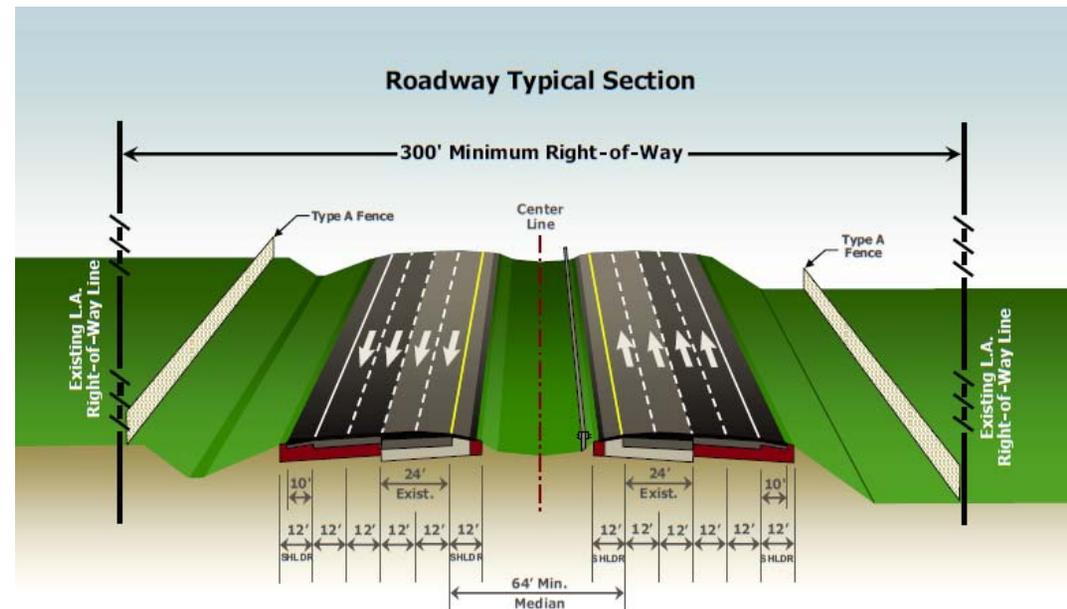


DESIGN CRITERIA

- ◆ Establish controls and standards for design
 - Functional Classification
 - Design Speed
 - Access Classification
 - Season High Water
 - Clear Zones
 - Shoulder / Median / Lane Width
 - Grades
 - Side Slopes
 - Minimum Horizontal and Vertical Clearance
 - Superelevation
 - Sight Distance

TYPICAL SECTIONS

- ◆ Functional Classification
- ◆ Traffic
- ◆ Design Speed
- ◆ Design Controls



VARIATIONS AND EXCEPTIONS

Chapter 23 Plans Preparation Manual

- ◆ **Design Variations – Below PPM Criteria but an exception not needed**
 - Approval required by District Design Engineer
- ◆ **Exceptions – Below PPM and AASHTO criteria**
 - Approval required by District Design Engineer
- ◆ **Design Speed Variation and Exception on SIS Facility**
 - Approval required by Chief Engineer following review by State Transportation Planner
- ◆ **Review approvals required by others in Chapter 23 PPM**
 - FHWA Divisions Administrator
 - State Roadway Design Engineer
 - District / State Structures Design Engineer
- ◆ **Process or identify in PD&E – check scope**

EXCEPTIONS

Below PPM and AASHTO

- ◆ Design Speed
- ◆ Lane Width
- ◆ Shoulder Width
- ◆ Bridge Width
- ◆ Structural Capacity
- ◆ Vertical Clearance
- ◆ Grades
- ◆ Cross Slope
- ◆ Superelevation
- ◆ Horizontal Alignment
- ◆ Vertical Alignment
- ◆ Stopping Sight Distance
- ◆ Horizontal Clearance

❖ FHWA - 13 Point Meeting

Design Variations and Exceptions Summary		
Compliance	Design Elements	Location/Description
Design Variations	Bridge Width	Bridge No. 860430 and Bridge No. 860431 over the South Fork New River
	Vertical Clearance	I-595 over the I-95 NB lanes measures 16.43 ft. I-595 over the I-95 SB lanes measures 16.33 ft. Park and Ride ramp north of Broward Boulevard over the I-95 SB lanes measures 16.02 ft. Sunrise Boulevard (SR 838) over the I-95 NB lanes measures 16.41 ft. I-95 over Griffin Road (SR 818) measures 16.42 ft. I-95 over NW 6 Street (Sistrunk Boulevard) measures 16.48 ft. (16.5-ft is ok – field verify)
	Horizontal Alignment	Nine curves do not meet the minimum length requirement as per PPM
	Vertical Alignment	Eight curves do not meet the minimum K-Value requirement. Two sag curves and 7 crest curves do not meet the minimum length requirement.
	Lane Width	Express lanes and two general purpose lanes will be 11 ft. wide from Marina Mile Boulevard (SR 84) to Sunrise Boulevard (SR 838).
Design Exceptions	Shoulder Width	At the following locations, shoulder widths will be reduced. Outside shoulder widths will vary from 3 ft. to 9 ft. and inside shoulders will range from 8 ft. to 11 ft.: -SW 42 Street -SR 84 -South Fork New River -Davie Boulevard (SR 736) -Sunrise Boulevard (SR 838)
	Vertical Clearance	I-95 clearance over Oakland Park Boulevard (SR 816) is 15.29 ft.

ONCE ALTERNATIVES ARE DEVELOPED...

- ◆ Examine Engineering Impacts
 - Drainage
 - Structures
 - Utilities
 - Right of way
- ◆ Examine Environmental Impacts
 - Natural
 - Socio-Cultural
 - Physical



DRAINAGE ANALYSIS

- ◆ Potential drainage solutions are developed
 - Environmental Look Around (ELA)
 - *Adjacent property stormwater management systems*
 - Off-Site Ponds (Positive systems vs Closed Basin systems)
 - Swales
 - Exfiltration Trenches
 - Curb and Gutter (Urban)
- ◆ Meet with Water Management District
 - Determine Criteria for treatment

DRAINAGE AND WATER REPORTS

- ◆ Pond Siting Report (PSR)
 - Identifies potential and preferred pond site locations
 - *ROW Impacts*
 - *Wetland Impacts*
 - *Other Environmental*
 - *Conveyance*
- ◆ Location Hydraulic Report (LHR)
 - Identifies impacts to floodplains
- ◆ Water Quality Impact Evaluation (WQIE)

ALTERNATIVES MATRIX

◆ Required Information on Matrix

- Constructability
- Construction Cost
- Engineering Cost
- ROW Costs
- Bicycle Pedestrian Facilities
- Temporary Traffic Control
- Environmental Impacts
- Social and Economic Impacts
- Operational Analysis
- Safety

QUANTITATIVE MATRIX

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY FOR I-95 FROM STIRLING ROAD (SR 848) TO OAKLAND PARK BOULEVARD (SR 816)

LEGEND	Engineering					Socio-Economic					Environment					Cost	S C O R E	R A N K					
	Geometric Compliance to Design Criteria	Access Management	Multimodal Issues (Transit/Pedestrian/Bicycle)	Mobility	Safety Impacts	Utility Impacts	Maintenance of Traffic	Meets Purpose & Need	Displacements Residential / Businesses	Social & Neighborhood Impacts	Economic & Employment Impacts	Community Services / Features	Public Comments	Noise Impact	Air Quality	Contamination			Biological / Wetland Impacts	Water Quality	Cultural / Historic / Archaeological	Engineering, CEI & Construction Right of Way / Business Damages	
5 SUBSTANTIAL POSITIVE EFFECT OR BEST ALTERNATIVE																							
4 GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE																							
3 GENERALLY NO EFFECT OR MODERATE ALTERNATIVE																							
2 GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE																							
1 SUBSTANTIAL NEGATIVE EFFECT OR WORST ALTERNATIVE																							
ALTERNATIVES																							
No Build	4	3	2	1	2	5	5	1	5	2	2	3	2	3	2	3	3	2	3	5	5	63	4
Build Alternative 1	3	3	5	5	4	3	2	5	5	3	3	3	4	3	3	2	3	3	3	4	5	74	1
Build Alternative 1A	3	3	5	4	4	3	2	5	5	3	3	3	4	3	3	2	2	3	3	3	2	68	3
Build Alternative 1B	3	3	5	4	4	3	2	5	5	3	3	3	4	3	3	2	2	3	3	3	5	71	2

EVALUATION MATRIX – QUANTITATIVE MATRIX

QUALITATIVE MATRIX

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY FOR I-95 FROM STIRLING ROAD (SR 848) TO OAKLAND PARK BOULEVARD (SR 816)

VARIABLES		NO-BUILD ALTERNATIVE	BUILD ALTERNATIVE 1	BUILD ALTERNATIVE 1A	BUILD ALTERNATIVE 1B
ENGINEERING	Geometric Compliance to Design Criteria	The No Build Alternative has similar deficiencies as both Build Alternatives. However, the Build Alternative would allow you to improve some of these deficiencies.	Variations: Border Width, Vertical Clearance, Horizontal Curve Length, Vertical Curve Length, Stopping Sight Distance, Exceptions: Vertical Clearance, lane width, shoulder width (in reduced and constrained typical sections), horizontal clearance,	Variations: Border Width, Vertical Clearance, Horizontal Curve Length, Vertical Curve Length, Stopping Sight Distance, Exceptions: Vertical Clearance, lane width, shoulder width (in reduced and constrained typical sections), horizontal clearance,	Variations: Border Width, Vertical Clearance, Horizontal Curve Length, Vertical Curve Length, Stopping Sight Distance, Exceptions: Vertical Clearance, lane width, shoulder width (in reduced and constrained typical sections), horizontal clearance,
	Access Management	No access management modifications proposed	No access management modifications proposed	No access management modifications proposed	No access management modifications proposed
	Multimodal Issues/ Transit	No impact	Provides ability to incorporate regional express bus service	Provides ability to incorporate regional express bus service	Provides ability to incorporate regional express bus service
	Mobility	Increased congestion	Added capacity with Express Lanes and travel time reliability. Improved operation of General Purpose Lanes	Added capacity with Express Lanes and travel time reliability. Improved operation of General Purpose Lanes	Added capacity with Express Lanes and travel time reliability. Improved operation of General Purpose Lanes
	Safety Impacts	No safety improvements	Additional capacity will likely improve safety.	Additional capacity will likely improve safety	Additional capacity will likely improve safety
	Utility Impacts	No impacts	Moderate impacts at interchanges and I-95 mainline bridges	Moderate impacts at interchanges and I-95 mainline bridges	Moderate impacts at interchanges and I-95 mainline bridges
	Maintenance of Traffic	No construction, no traffic disruption and no impacts	moderate impacts during construction	Build Alternative 1A requires widening of northbound CD road bridge which will result in greater MOT impacts than Build Alternative 1.	Build Alternative 1B requires construction underneath the Sunrise Boulevard overpass and will also result in slightly greater MOT impacts than Build Alternative 1.
	Purpose and Need	Does not meet Purpose and Need	Meets Purpose and Need	Meets Purpose and Need	Meets Purpose and Need
SOCIO-ECONOMIC	Displacement of Residences & Businesses	None	No right of way acquisition for off-sit ponds and roadway improvements. No corner clips necessary to improve ramps at Stirling Rd. and Griffin Rd.	No right of way acquisition for off-sit ponds and roadway improvements. No corner clips necessary to improve ramps at Stirling Rd. and Griffin Rd.	No right of way acquisition for off-sit ponds and roadway improvements. No corner clips necessary to improve ramps at Stirling Rd. and Griffin Rd.
	Social & Neighborhood Impacts	None	Provides ability to incorporate regional express bus service which offers an alternative to auto travel and addresses needs of low-income users and disadvantage groups.	Provides ability to incorporate regional express bus service which offers an alternative to auto travel and addresses needs of low-income users and disadvantage groups.	Provides ability to incorporate regional express bus service which offers an alternative to auto travel and addresses needs of low-income users and disadvantage groups.
	Economic & Employment Impacts	No impacts	Improved mobility, throughput, travel speeds and travel time reliability for this important SIS facility supports economic development. Reduced congestion improves access to businesses, freight activity centers, local distribution facilities and freight corridors	Improved mobility, throughput, travel speeds and travel time reliability for this important SIS facility supports economic development. Reduced congestion improves access to businesses, freight activity centers, local distribution facilities and freight corridors	Improved mobility, throughput, travel speeds and travel time reliability for this important SIS facility supports economic development. Reduced congestion improves access to businesses, freight activity centers, local distribution facilities and freight corridors
	Community Services / Features	No impacts	No impacts	No impacts	No impacts
	Public Comments	Public generally understands the need for improvements to I-95.	Generally in favor	Generally in favor	Generally in favor
ENVIRONMENT	Noise Impact	No Effect, but no ability to add noise abatement	Noise impacts identified at 13 areas, noise barrier found reasonable for 1 area.	Noise impacts identified at 13 areas, noise barrier found reasonable for 1 area.	Noise impacts identified at 13 areas, noise barrier found reasonable for 1 area.
	Air Quality	Potential impact from increased congestion	Air quality analysis shows no adverse impact from project	Air quality analysis shows no adverse impact from project	Air quality analysis shows no adverse impact from project
	Contamination	No Impacts	Potential impact due to work adjacent to construction, including drainage, adjacent to high and medium risk sites	Potential impact due to work adjacent to construction, including drainage, adjacent to high and medium risk sites	Potential impact due to work adjacent to construction, including drainage, adjacent to high and medium risk sites
	Biological / Wetland Impacts	No impacts	Stormwater Swale with hydrophytic vegetation - 1.47 acres of direct impact/0.57 acres of indirect impact; "other surface waters" - 1.51 acres of direct impact/0.81 acres of indirect impact (includes mangrove fringe impact)	Greater impacts to mangrove fringe (other surface waters)	Greater direct wetland impact; greater impacts to "other surface waters"
	Water Quality	No Impacts	Equivalent water quality treatment will be provided	Equivalent water quality treatment will be provided	Equivalent water quality treatment will be provided
	Cultural / Historic / Archaeological	No impacts	Historic resources will be avoided	Historic resources will be avoided	Historic resources will be avoided
COST	Engineering, CEI & Construction	No construction, no cost involved (\$ 0)	\$77,000,000- however tolling option provides a revenue source to pay for improvements and maintain the system	\$ 86,400,000.00 - However, tolling option provides a revenue source to pay for improvements and maintain the system	\$77,300,000.00 - However, tolling option provides a revenue source to pay for improvements and maintain the system
	Right of Way- Business Damages	No R/W acquisition or business damages , no cost involved (\$0)	No right of way acquisition to develop improvements	No right of way acquisition to develop improvements	No right of way acquisition to develop improvements

EVALUATION MATRIX - QUALITATIVE COMPARISON

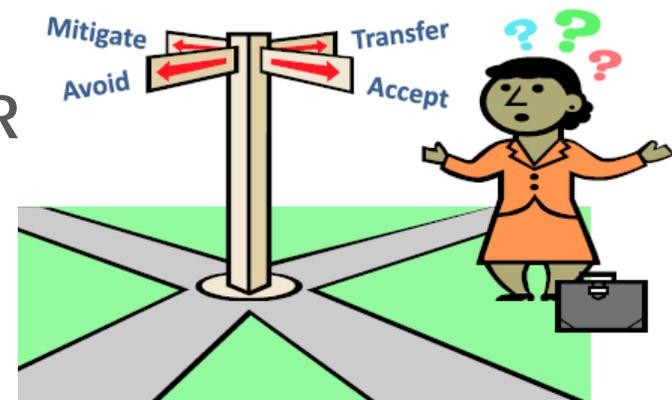
ALTERNATIVES WORKSHOP

- ◆ Once Alternatives are developed and initial impacts identified
- ◆ Hold an Alternatives Public Workshop
 - Present alternatives
 - Gather public comment
 - Help refine alternatives



VALUE ENGINEERING/ RISK ASSESSMENT

- ◆ Required for projects costing \$25 MIL
 - Variances for some projects may be requested – see procedure 625-030-002
- ◆ Schedule with District VE Team
 - Week-long event
 - VEIR prepared in advance
- ◆ Summarize VE recommendations in PER and Environmental Document
- ◆ Cost Risk Assessment



REFINE ALTERNATIVES

- ◆ Incorporate Public Comments
- ◆ Incorporate Value Engineering
- ◆ Make adjustments to alternatives as necessary
- ◆ One alternative will begin to become the “Recommended Alternative”

PUBLIC MEETING OR HEARING

- ◆ Once Alternatives are Refined
 - FDOT Recommended Alternative
 - Present Alternatives
 - Present the No-Action Alternative
 - Gather public comment



RECOMMENDED ALTERNATIVE

- ◆ Finalize Recommended Alternative
 - Respond / address hearing comments
 - Transmit final documents to FHWA
- ◆ Recommended Build vs. No Action
- ◆ FHWA approves alternative = Preferred Alternative
- ◆ SEIR

COORDINATION

- ◆ Commitments
- ◆ Design
- ◆ ROW
- ◆ Drainage
- ◆ Structures
- ◆ Utilities/Rail
- ◆ Planning (Planning Consistency)
- ◆ Lead Federal Agency
- ◆ Resource Agencies
- ◆ Local Government
- ◆ Others



DOCUMENTATION

◆ Documentation

- Environmental Document
- Environmental Technical Studies
- Preliminary Engineering Report
- Engineering Technical Reports

◆ A complete project file must be kept. The project file should be available to provide to the lead agency upon request.

◆ Administrative Record

ENVIRONMENTAL DOCUMENT

- ◆ All Reasonable (EIS) Alternatives objectively evaluated
- ◆ Briefly discuss reasons for eliminated alternatives
- ◆ Include No-Action Alternative
- ◆ If one exists, identify Lead Agency approved Preferred Alternative
- ◆ Include mitigation opportunities

ENVIRONMENTAL DOCUMENT

- ◆ **Type 2 CE:** Block 2b
- ◆ **EA:** Alternatives Considered
- ◆ **EIS:** Alternatives Including Proposed Action
- ◆ **SEIR:** Block 2b

ENVIRONMENTAL DOCUMENT – ALTERNATIVES SECTION

- ◆ Alternatives Development
- ◆ Alternatives Considered but Eliminated
- ◆ Alternatives Considered for Additional Study

ENVIRONMENTAL DOCUMENT

◆ Alternative Development

- Project History
- Planning Reports
- Alternative Corridor Evaluation (ACE)
- Description of original alternatives that were considered and the methodology used for evaluation

ENVIRONMENTAL DOCUMENT

- ◆ Alternatives Considered but Eliminated
 - Eliminated during Planning, ACE or PD&E
 - What point in process and criteria used to eliminate
 - Who was involved in establishing criteria
 - Rationale used for elimination

ENVIRONMENTAL DOCUMENT

- ◆ Alternatives Considered for Additional Study
 - Description of each alternative
 - *Termini*
 - *Typical section*
 - *ROW requirements*
 - *Cost*
 - *Impacts*

PRELIMINARY ENGINEERING REPORT

- ◆ Purpose is to provide technical engineering information
 - Supplements information provided in the Environmental Document
 - Supports the decisions made related to the project alternatives
 - Describes the Preferred Alternative
- ◆ Signed and sealed by a Florida Registered Professional Engineer

OUTLINE OF PRELIMINARY ENGINEERING REPORT

◆ 1. Cover Page

- The cover page should contain the following statement:
- “This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for project _____.”

OUTLINE OF PRELIMINARY ENGINEERING REPORT

◆ 2. Summary of Project

- a. The summary of the *PER* should include
- “This preliminary engineering report contains detailed engineering information that fulfills the purpose and need for project _____.”
- b. Commitments and Recommendations
- c. Description of Proposed Action

OUTLINE OF PRELIMINARY ENGINEERING REPORT

- ◆ 3. Existing Conditions
- ◆ 4. Planning Phase/Corridor Analysis
- ◆ 5. Project Design Standards

OUTLINE OF PRELIMINARY ENGINEERING REPORT

◆ 6. Alternative Alignment Analysis

- a. No - Build Alternative (advantages and disadvantages should be considered)
- b. Transportation Systems Management and Operations
- c. Multi-Modal Alternatives
- d. Alternative Evaluation (for each alternative)
- e. Evaluation Matrix – compare all major impacts
- f. Preferred Alternative - explain alternative chosen by and the rationale

OUTLINE OF PRELIMINARY ENGINEERING REPORT

- ◆ 7. Design Details of Preferred Alternative (including Typical Section Package)
- ◆ 8. Conceptual Design Plans
- ◆ 9. List of Technical Reports Completed for the Project



Florida Department of
TRANSPORTATION



Florida's Turnpike Enterprise

- ◆ Streamlining PD&E Documents

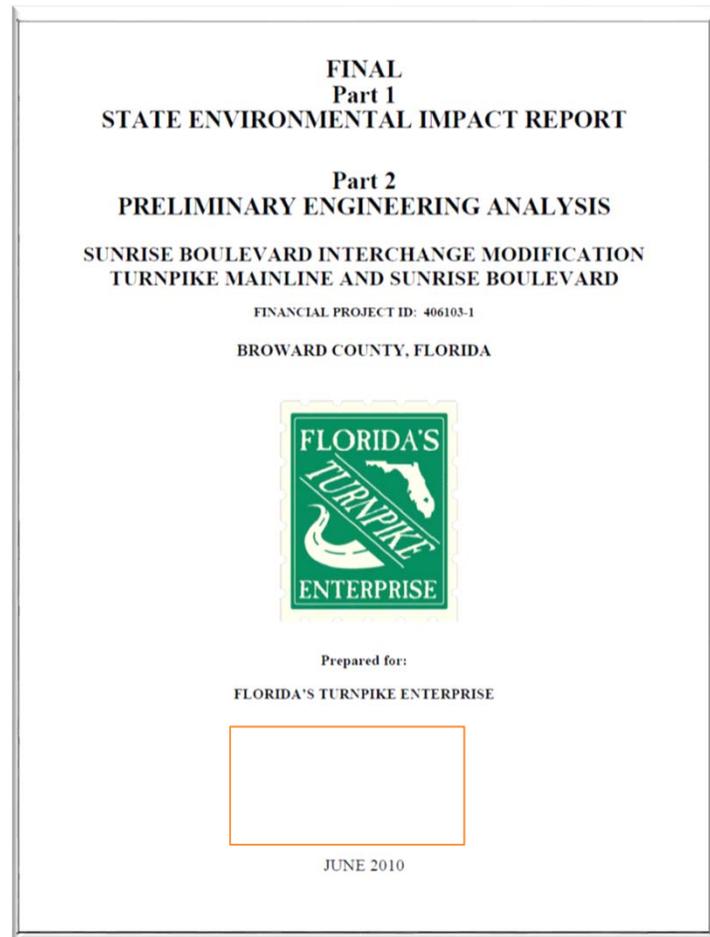
Central EMO Training

June 2015

Streamlining PD&E Documents



Combined Document – SEIR & PER



Streamlining PD&E Documents



Combined Document – SEIR & PER

Part One: SEIR

Executive Summary
Project Description
Proposed Improvements
Environmental Impact Analysis
Commitments and Recommendations

Part Two: PER

Chapter 1 –	Need for Improvement
Chapter 2–	Existing Conditions
Chapter 3 –	Corridor Analysis
Chapter 4 –	Design Controls and Standards
Chapter 5 –	Traffic
Chapter 6 –	Alternative Alignment Analysis
Chapter 7 –	Design Details of Preferred Alternative
Chapter 8 –	Conceptual Design Plans
Chapter 9 –	List of Technical Reports

Streamlining PD&E Documents

TECHNICAL COMPENDIUM - TECHNICAL MEMORANDA

- Air Quality
- Biological Assessment
- Location Hydraulics
- Stormwater Management
- Wetland Evaluation
- Utilities Assessment
- Multi-Use Trail Feasibility
- Geotechnical
- Bridge Analysis
- More as needed.....

Draft
TECHNICAL COMPENDIUM

Widening Florida's Turnpike (S.R. 91) from North of the
Golden Glades Interchange to Miramar Parkway and
Turnpike Extension (S.R. 821) from east of NW 57th
Avenue to Miramar Parkway

FINANCIAL PROJECT ID: 423373-1-22-01

Miami-Dade and Broward Counties, Florida

The logo for Florida's Turnpike Enterprise, featuring a green square with a white outline of the state of Florida and the text "FLORIDA'S TURNPIKE" in white capital letters above the map.

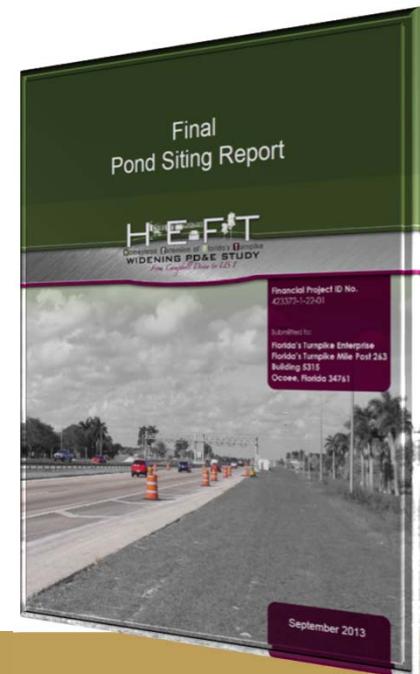
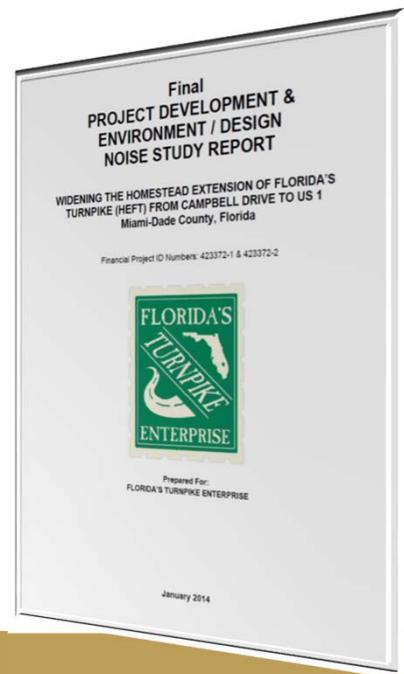
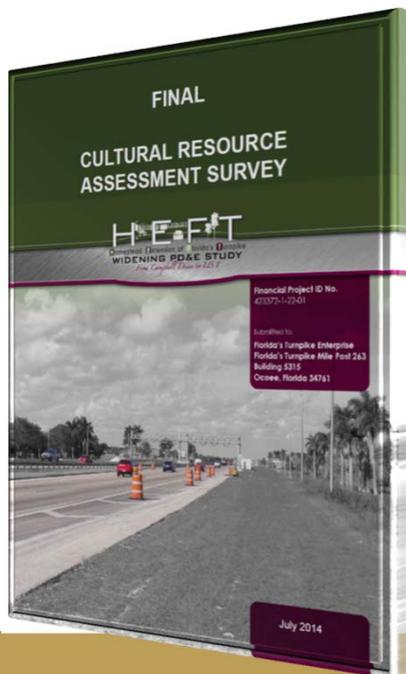
Prepared for:
FLORIDA'S TURNPIKE ENTERPRISE

September 2014

Streamlining PD&E Documents

Specific Reports

- Cultural Resources Assessment Survey
- Noise Report
- Pond Siting Report



EVERY DAY COUNTS/LEVEL OF DETAIL



- ◆ FHWA ORDER Classification Code 6640.1A - Policy on Permissible Project Related Activities during the NEPA process, dated October 1, 2010
 - Explains the level of preliminary design engineering detail allowed in PD&E studies.
 - Aim is to reduce project delivery time.



EVERY DAY COUNTS

- ◆ During PD&E, the Districts may perform specific preliminary design activities without prior approval from FHWA. However, until a project is approved as a Type 2 CE, EA with FONSI, or Record of Decision (ROD), no final design activities are allowed to proceed without FHWA coordination

PRELIMINARY DESIGN VS FINAL DESIGN

- ◆ Preliminary Design - Defines the general project location and design concepts. It includes, but is not limited to, preliminary engineering and other activities and analysis, such as environmental assessments, topographic surveys, metes and bounds surveys, geotechnical investigations, hydrologic analysis, utility engineering, traffic studies, financial plans, revenue estimates, hazardous materials assessments, general estimates of the types and quantities of materials, and other work needed to establish parameters for the final design.

PRELIMINARY DESIGN VS FINAL DESIGN

- ◆ Final Design - Any design activities following preliminary design and expressly includes the preparation of final construction plans and detailed specifications for the performance of construction work, final plans, final quantities and final engineer's estimate for construction.

EVERY DAY COUNTS

- ◆ FHWA will allow any work to be completed by FDOT in the PD&E process that is listed as “preliminary” in the *Sequence of Plans Preparation Chapter, Volume 2, Chapter 2, PPM, Topic No. 625-000-008, and Figure 2.1.*
 - Most items are in the preliminary phase or “P” through Phase II or 60% Design Phase.

EVERY DAY COUNTS

Topic #625-000-008
Plans Preparation Manual, Volume 2 - English

January 1, 2013
Revised – January 1, 2014

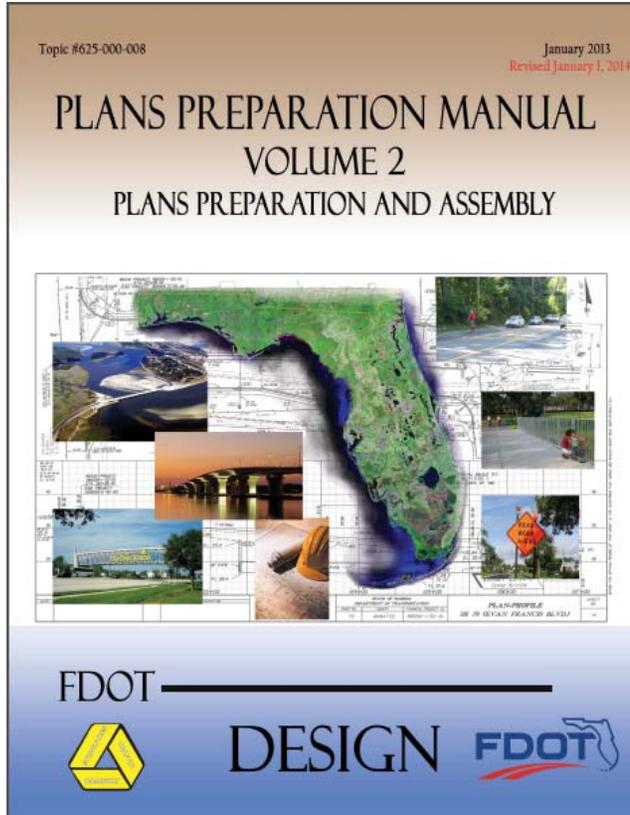


Figure 2.1 Summary of Phase Submittals
Provide the sheets listed as applicable

ITEM	PHASE I	PHASE II	PHASE III	PHASE IV
Key Sheet	P	P	C	F
Signature Sheet		P	C	F
Summary of Pay Items		P	C	F
Drainage Map	P	P	C	F
Interchange Drainage Map	P	P	C	F
Typical Section	P	C	C	F
Summary of Quantities			C	F
Summary of Drainage Structures		P	C	F
Optional Materials Tabulation		P	C	F
Project Layout	P	C	C	F
Roadway Plan-Profile	P	P	C	F
Special Profile	P	P	C	F
Back-of-Sidewalk Profile	P	C	C	F
Interchange Layout	P	P	C	F
Ramp Terminal Details		P	C	F
Intersection Layout/Detail	P	P	C	F
Drainage Structures		P	C	F
Three-Sided/Box Culvert Details			C	F
Lateral Ditch Plan-Profile		P	C	F
Lateral Ditch Cross Section		P	C	F
Retention/Detention Ponds		P	C	F
Cross Section Pattern		P	C	F
Roadway Soil Survey		P	C	F
Cross Sections	P	P	C	F
Stormwater Pollution Prevention Plan		P	C	F
Temporary Traffic Control Plans	P	P	C	F
Utility Adjustments		P	C	F
Project Network Control Sheets	P	C	C	F
Selective Clearing and Grubbing		P	C	F
Developmental Design Standards		C	C	F
Mitigation Plans		C	C	F
Miscellaneous Structures Plans		P	C	F
Signing and Pavement Marking Plans		P	C	F
Signalization Plans		P	C	F
Intelligent Transportation System (ITS) Plans		P	C	F
Lighting Plans		P	C	F
Landscape Plans	P	P	C	F
Utility Work by Highway Contractor Agreement Plans			C	F
Contract Time			P	F
Toll Facility Plans				
Site/Civil	P	P	C	F
Architectural	P	P	C	F
Structural	P	P	C	F
Electrical		P	C	F
Mechanical		P	C	F
Plumbing		P	C	F
Communications		P	C	F
Systems		P	C	F

Sequence of Plans Preparation

2-8

EVERY DAY COUNTS

- Any advanced engineering work performed on one alternative prior to final NEPA approval must be approved by FHWA.
- Must not prejudice the objective comparison of all the alternatives or limit alternatives.
- Comparison of alternatives must be done in a fair and balanced manner.

EVERY DAY COUNTS/FHWA APPROVAL FORM

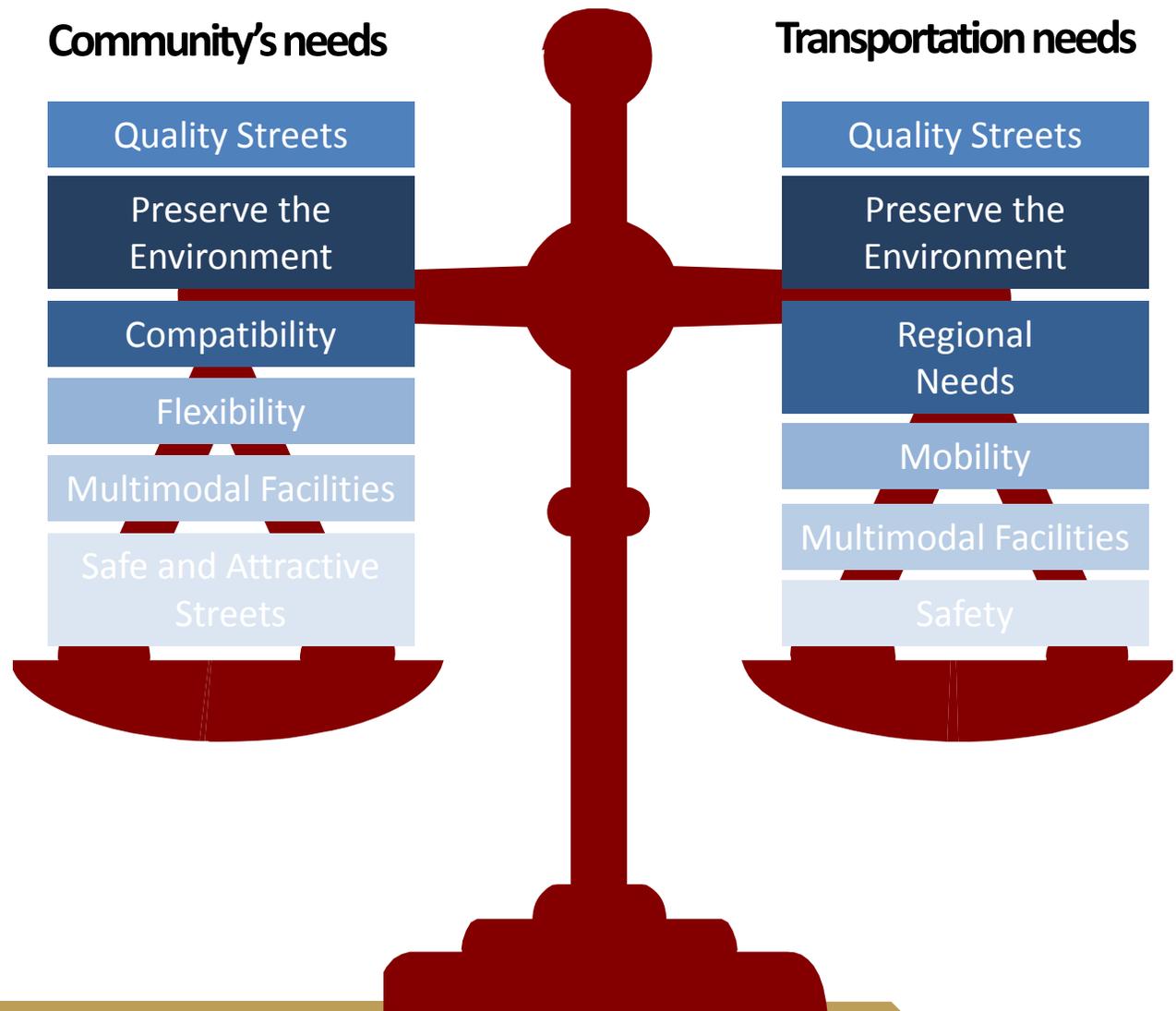
Approval to Advance Preliminary Design Activities			
Document Information:			
Date: <small>(Current Date)</small>	Document Type: <u>EIS/EA/CE 2</u>	Status: <u>Draft/Final</u>	
Project Name: <small>(PD&E Project Title)</small>		FM #: <small>(PD&E FM#)</small>	
Project Limits: <small>(NEPA Logical Termini/PD&E Study limits)</small>		ETDM #: _____	
		FAPN #: _____	
1) Provide a brief description of the project purpose		Attachment	
2) Briefly Describe Alternative being advanced <small>(i.e., existing facility, within existing right-of-way, proposed typical section, etc.)</small>			
3) Has alternative been presented to public		<i>yes/no</i>	
4) Identify what advanced design is requested and reasons for developing the preferred alternative to a higher level of detail. <small>(ie 30% design, additional survey, etc)</small>			
5) Summarize commitments that affect the findings and/or design, if any		<i>Project Commitment Record</i>	
6) Is Planning Consistency Form complete?		<i>yes/no</i>	
7) Indicate if additional design is necessary to make or support findings or permitting as appropriate. (including but not limited to the examples below)			
a) Section 106			
b) Section 4(f)			
c) USFWS			
d) NMFS			
e) Concurrent 404b(1)			
f) Concurrent state ERP			
g) Concurrent USCG Bridge Permit			
** Undertaking these activities prior to a NEPA decision is at the risk of the FDOT. FHWA will not be committed to a record of decision or funding of an alternative. **			
FDOT Name: _____		Date: _____	Phone #: _____
FDOT Signature: _____		Email: _____	
Project is approved for preliminary engineering:			
Additional information required: _____		Explain: _____	
FHWA Signature: _____		Date: _____	

CONTEXT SENSITIVE SOLUTIONS/ COMPLETE STREETS

Topic No.: 000-650-002-a

It is the policy of the Florida Department of Transportation (FDOT) to use a CSS approach on transportation projects.

By definition, Context Sensitive Solutions (CSS) is an approach to resolving transportation challenges by considering a community's unique characteristics, values and goals.



THIS APPROACH SEEKS TO BALANCE SAFETY AND MOBILITY WITH LOCAL PRIORITIES

WHAT IS COMPLETE STREETS?

Topic No.: 000-650-017-a

It is the goal of the Department of Transportation to implement a policy that promotes safety, quality of life, and economic development in Florida.

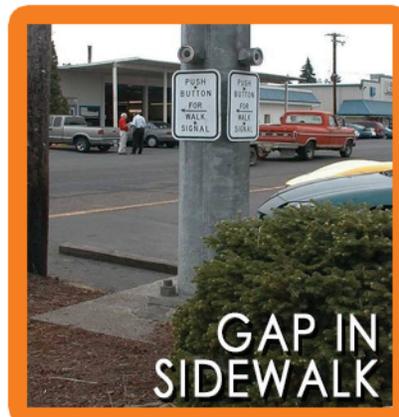
To implement this policy, the Department will routinely plan, design, construct, reconstruct and operate a context sensitive system of "Complete Streets."

While maintaining safety and mobility,



THIS APPROACH SEEKS TO BALANCE SAFETY AND MOBILITY WITH LOCAL PRIORITIES

THIS IS NOT CSS



PRESERVING AND ENHANCING RESOURCES



AESTHETICS

Attractive design elements contribute to the visual appeal of a transportation project. These features should be exciting as stand alone objects and should complement their surroundings.



HISTORY

The preservation of historic features is important to a community's unique past. These features should be included in ways that highlight their significance.



ENVIRONMENT

Air and water quality, endangered species, animal habitats, landscapes, and vegetation all deserve special consideration. Road projects should respect the natural environment.



SCENIC VIEWS

Striking views appeal to our senses and emotions. Scenic landscapes cause us to develop emotional attachments to distinctive places.



GATEWAYS

Entry monuments greet residents and visitors to a community or jurisdiction. They introduce an area's name without distracting travelers.

CSS CHALLENGES

- COORDINATION
- SCHEDULING
- CONSTRUCTION COST
- LONG TERM OPERATION AND MAINTENANCE
 - Lighting
 - Landscaping

◆ EDUCATE

- Get Involved - become part of the planning process
- Contact MPO
- Contact City/County
- Contact local representatives
- Support project and dedicate funding

◆ COORDINATE

- Involve all members of a community: residents, business owners, local officials and environmental agencies. It is important for these stakeholders to stay involved throughout the entire design process.

APPROACH TO CSS

- ◆ Understand Community's Vision
- ◆ Balance the Needs of the Community with the Transportation Needs
- ◆ Conceptual Design / Determine Constraints
- ◆ Involve the Public and Local Stakeholders
- ◆ Team Approach to Design



THINKING BEYOND THE PAVEMENT

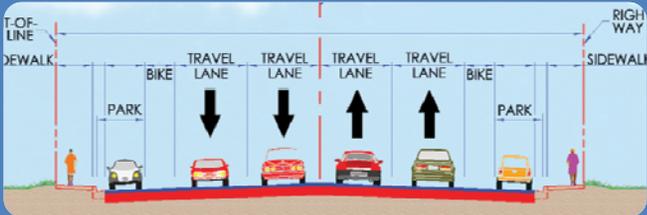


ON-STREET BICYCLE LANES



CURB EXTENSIONS

- IMPROVES VISIBILITY
- SHORTENS PEDESTRIAN CROSSING DISTANCE



TRAFFIC CALMING

- IN CERTAIN AREAS, NARROWING TRAVEL LANES MAY BE APPROPRIATE



LANDSCAPED ISLANDS

- COMBINED WITH ON-STREET PARKING WHERE RIGHT-OF-WAY IS LIMITED

THINKING BEYOND THE PAVEMENT

Shared Use Paths

Used by pedestrians, joggers, skaters, bicyclists, and equestrians



PATH WIDTHS

Wider sidewalks provide space for outdoor cafes, events, etc.

DESIGNS

Combine with other aesthetic elements : decorative lighting, landscaping, others

PEDESTRIAN AMENITIES

- Benches, public art, plazas, etc.
- Creates a sense of community

THINKING BEYOND THE PAVEMENT



BUS STOP AND AMENITIES

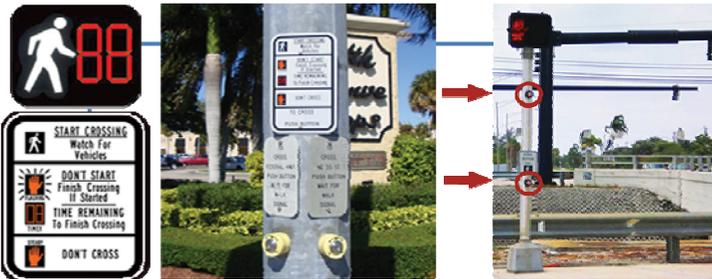
- Stable, level and unobstructed landing pad for special needs users
- Far-side bus stops (stops located directly after the intersection) result in fewer traffic delays, improves sight distance and causes fewer conflicts
- Sheltered benches protect users

THINKING BEYOND THE PAVEMENT



MIDBLOCK CROSSINGS

- May be needed when there is significant pedestrian crossing demand and distances between intersections are great
- An engineering study is required



PEDESTRIAN SIGNALS

- Indicates time remaining for both pedestrians and drivers alike
- In equestrian areas, users should be able to reach push button without dismounting from their horse



CROSSINGS

- Alternative paving treatments such as patterned / textured pavement may be used (architectural pavers are not recommended on State Highway Systems)

ROADWAY DESIGN BULLETIN 14-17



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

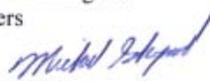
ANANTH PRASAD
SECRETARY

ROADWAY DESIGN BULLETIN 14-17

(FHWA Approved: November 18, 2014)

DATE: November 18, 2014

TO: District Directors of Transportation Development, District Directors of Operations, District Design Engineers, District Consultant Project Management Engineers, District Construction Engineers, District Structures Design Engineers, District Traffic Operations Engineers, District Planning and Environmental Managers, Program Management Engineers

FROM: Michael Shepard, P. E., State Roadway Design Engineer 
Marjorie Kirby, Manager, Environmental Management Office 

COPIES: Brian Blanchard, Tom Byron, Duane Brautigam, David Sadler, Tim Lattner, Mark Wilson, Bruce Dana, John Krause, Greg Schiess, Nicholas Finch (FHWA), Chad Thompson (FHWA) and Phillip Bello (FHWA)

SUBJECT: Urban Arterial Lane Width and Bicycle Lane Options

This bulletin modifies the criteria for Urban Arterial Travel Lane Width, Bicycle Lane Facilities and related Bicycle Lane Markings. Specifically, this bulletin establishes eleven foot travel lanes for roadways with a divided typical section in or within one mile of an urban area and with a Design Speed of 45 mph or less. This bulletin also establishes seven foot Buffered Bicycle Lanes as the standard for marked bike lanes.

Lane Widths -ROADWAY DESIGN BULLETIN 14-17

Table 2.1.1 Lane Widths

LANE WIDTHS (FEET)					
FACILITY		TRAVEL LANES	AUXILIARY LANES		
TYPE	AREA		SPEED CHANGE	TURNING (LT/RT/MED)	PASSING
FREEWAY	Rural	12	12	----	----
	Urban	12	12	----	----
ARTERIAL	Rural	12 ₆	12 ₆	12 ₆	12 ₆
	Urban	11 ₁	11 ₁	11 _{1,3}	11 ₁
COLLECTOR	Rural	12 _{5,6}	11 ₂	11 _{2,3}	11 _{2,4}
	Urban	11	11	11 ₃	11

1. 12 ft. for Design Speeds > 45 mph and for all undivided roadways
2. 12 ft. for 2-lane roadways
3. With severe R/W controls, 10 ft. turning lanes may be used where design speeds are 40 mph or less and the intersection is controlled by traffic signals. Median turn lanes shall not exceed 15 ft.
4. 12 ft. when truck volume exceeds 10%.
5. 11 ft. for low volume AADT.
6. 11 ft. for divided roadways with Design Speeds ≤ 45 mph within one mile of an urban area.

ROADWAY DESIGN BULLETIN 15-07

Roundabouts

- ◆ The *National Cooperative Highway Research Program (NCHRP) Report 672, Roundabouts: An Informational Guide*, is adopted by FDOT and establishes criteria and procedures for the operational and safety analysis of modern roundabouts in the United States. In addition, the *Florida Intersection Design Guide* contains Florida specific guidelines and requirements for evaluation and design of roundabouts in Florida.

ROADWAY DESIGN BULLETIN 15-07

Roundabouts

- ◆ A roundabout alternative must be evaluated on new construction and reconstruction projects. Evaluation is also required for all other types of projects that propose new signalization or require a change in an un-signalized intersection control. An evaluation is not required for minor operational improvements such as changes to signal phasing, or for signal replacement projects where the primary purpose is to upgrade deficient equipment and installations

ROADWAY DESIGN BULLETIN 15-07

Roundabouts

- ◆ A roundabout alternative must be evaluated on new construction and reconstruction projects. Evaluation is also required for all other types of projects that propose new signalization or require a change in an un-signalized intersection control. An evaluation is not required for minor operational improvements such as changes to signal phasing, or for signal replacement projects where the primary purpose is to upgrade deficient equipment and installations

FDOT Drainage Manual

Environmental Look Around

5.3 Environmental Look Arouns (ELA)

After project stormwater management requirements are determined and before stormwater management design decisions are planned, convene a meeting with regional stakeholders to explore watershed wide stormwater needs and alternative permitting approaches. The following opportunities should be evaluated for application on the project:

1. WMD / DEP issues: wetland rehydration, water supply needs, minimum flows and levels, flooding, TMDL needs, acquisition of fill from DEP/WMD lands, etc.
2. City / County issues: stormwater re-use, flooding, discharge to golf courses or parks, NPDES needs, water supply needs
3. DOT project permitting: regional treatment, stormwater re-use, joint use facilities

Appropriate personnel are as follows:

WMD / Regional DEP: ERP, water quality, water supply, wetland, and MFL personnel, BMAP coordinator(s)

DOT: DDrE, PD&E Planning, or Design PMS, Permit coordinator, NPDES representative

City / County: (as decided by the city/county) City Engineer, Public Works Director, Stormwater Engineer

Areas of potential cooperation shall be documented in the project reports for future follow up as the design moves forward.

The best time for holding these ELA meetings is before identification of right-of-way acquisition in the PD&E phase. If no right-of-way acquisition or PD&E phase is scheduled, then target early as feasible within the design phase.

Highway Safety Manual

- ◆ Nominal vs Substantive Safety
- ◆ HSM provides a predictive method to estimate expected crash frequency for alternatives
- ◆ Quantifies and evaluates the safety effectiveness of a proposed countermeasure/alternative
- ◆ Benefit Cost Analysis
- ◆ Matrix

Questions



FOR MORE INFORMATION

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