



Surviving Major Project Requirements

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What Is a Major Project?

- A project that has received or will receive federal funding for construction
- Over \$500 million in total project cost OR has a high level of public or congressional interest; are unusually complex; or has extraordinary implications for the national transportation system
- · Based on NEPA scope

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FDOT'S Major Projects

District	Major Project							
2	First Coast Expressway							
2	I-95 JTB Boulevard to Atlantic Boulevard Project							
2	I-95 from International Golf Parkway to I-295							
3	Pensacola Bay Bridge							
3	SR 75 (US 231) from SR 30A (US 98) 15 th Street to SR 368 23 rd Street							
4/6	I-75/Palmetto Express Lanes							
4	I-95 Express III							
4	SW 10 th Street							
4	SR-9/I-95 from S of Linton Blvd./SR-782 to 6 th South Avenue							
4	SR-9/I-95 from 6 th Avenue to North of SR-704/Okeechobee Blvd.							
4	SR-9/I-95 from M-D/Broward CL to N of Griffin Rd							
5	Wekiva Parkway							
5	I-4 Ultimate							
5	I-4 Beyond the Ultimate (BtU)							

PortMiami Tunnel, I-595, I-4 Connector, Miami Intermodal Center, and Palmetto 5 are completed major projects.

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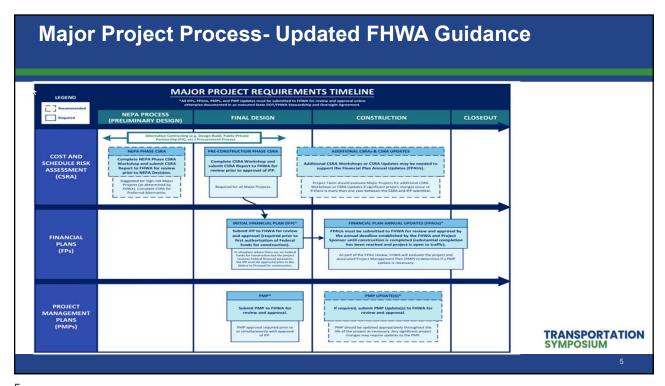
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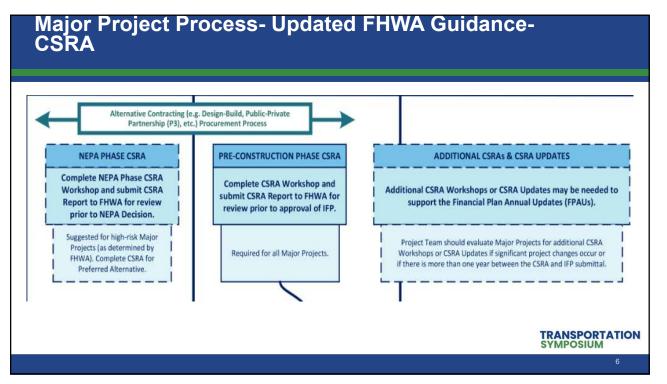
FDOT'S Major Projects continued

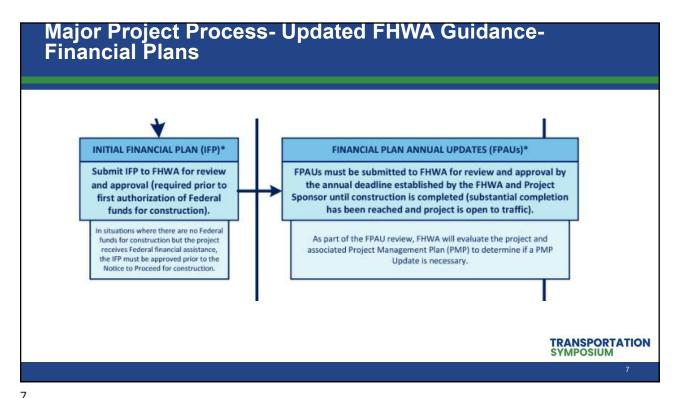
District	Major Project
5	I-75 Auxiliary Lanes from SR 44 to SR 326
6	I-395
6	"Interim" Palmetto/Golden Glades
6	Okeechobee/SR 25
6	"Ultimate" Palmetto E-W & Palmetto Golden Glades (has an OINCC waiver)
6	I-195/SR 112 from NW 12 Ave to SR 907/Alton Rd
6	SR 9A/I-95 from US-1/South Dixie Hwy to N of NW 143rd
6	SR 9/I-95 from S of Miami Gardens Dr to Broward CL (I-95 "Northern Segment")
6	SR 9A/I-95 from US-1/South Dixie Hwy to N of NW 143rd St.
6	Palmetto South
7	Gateway Expressway (Segments 1 and 2 TBNext)
7	Howard Frankland Bridge (Segment 3 TBNext)
7	Westshore (Segments 4/5/6 TBNext)
7	Buckman Bridge Widening
7	Gandy Bridge

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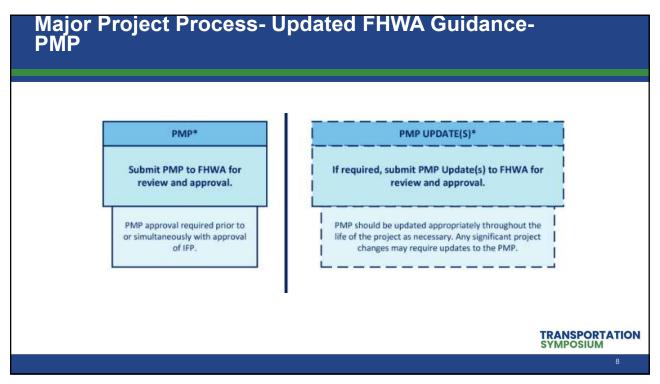
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What Is Risk-Based Estimating?

Traditional Estimating

- Contingency is intended to include all risk known/unknown
- · Little control of cost and schedule
- Reactive



Risk-Based Estimating

- Risk are clearly identified and quantified in cost estimate
- Reasonable control of cost and schedule
- **Proactive**



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Why Risk Analysis?

- Stabilize & Support Work Program with better cost estimates and schedules
 - Validate cost & schedule for accurate project delivery
 - Replace general project contingency with risk-based contingency
- Enhance Project Management activities by including risk assessment and mitigation
- Support FHWA requirement for financial plans on major projects by providing risk-based cost estimates

Maximizes the Likelihood of Meeting Time & Budget Goals

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What Is the Difference between FHWA's CSRAs and FDOT's CSRAs for Major Projects?

FHWA CSRA

- · Led by FHWA DC Office
- Required for projects with total cost \$500M+ or complex projects
- Analysis of future and expended costs
- 3 days for workshop; includes base cost & schedule review and preliminary results
- Emphasis on identifying & mitigating risk (pre-NEPA) and programming & funding 70% percentile cost value (pre-Construction)

FDOT CSRA

- Led by Independent Consultant
- Required for \$500M+ or complex projects
- · Analysis of future cost and expended costs
- 2-3 days for workshop; base cost & schedule completed in advance
- Emphasis on cost & schedule management by risk mitigation

*CSRAs are recommended for all projects over \$100M. For non-major projects, prior costs are not included.

FDOT CSRA can substitute for FHWA CSRA if approved by FHWA

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Risk Analysis Workshops

- 2 to 3 day structured event
- Identify and quantify threats and opportunities
- Identify risk management strategies
- Collaborative team approach!

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Risk Analysis Workshop Participants

- Project Manager and Design Team
- External subject matter experts
- Internal and external stakeholders
- FHWA (for major projects)



- Disciplines
 - ✓ Construction
 - ✓ Roadway Design
 - ✓ Structures
 - Environmental
 - ✓ Right of Way
 - ✓ Geotechnical
 - ✓ Utilities
 - ✓ Railroad
 - ✓ Local agencies
 - Others depending on project scope

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Risk Analysis Workshop: 70% Reliability Cost **Estimate** 90% \$719 80% 70% 60% of Not 50% 40% Risk-Based Total Project Cost 30% -Escalated Base Cost 20% 10% \$560 · Non-Escalated Base Cost 0% \$600 \$650 \$750 TRANSPORTATION SYMPOSIUM Cost, Millions of Dollars

Risk			Pre-Mitigation (Data Date = 01-Feb-12)				Mitigation						
ID	T/0	Title	Probability	Schedule	Cost	Score	Response	Title	Total Cost				
CNS 10.01	T	Traffic Management - baseline solution does not work	L (25%)	N (0)	L (\$60,0	3	Reduce		\$0				
CNS 10.03	Т	Maintaining local access	VH (80%)	N (0)	L (\$60,0	9	Reduce		\$0				
CNS 50.01	T	Delay in obtaining temporary permit	VL (10%)	H (30)	N (\$0)	4	Reduce		\$0				
CNS 900.03	T	Removal of existing bridge	VH (80%)	N (0)	H (\$300,	36	Reduce		SO SO				
CTR 40.01 A	0	Competitive Market Results in Lower Bid Prices - Scenario 1	VH (75%)	N (0)	VH (\$5,0	72	Enhance		\$0				
CTR 40.01 B	0	Competitive Market Results in Lower Bid Prices - Scenario 2	M (50%)	N (0)	VH (\$5,0	40	Enhance	3	\$0				
DES 10.01	T	Changes in Profile	M (50%)	VH (80)	VH (\$75	40	Accept		\$0				
DES 10.02	T	Changes in Design Standards	VL (5%)	N (0)	VH (\$75	8	Reduce		\$0				
DES 20.01	T	Changes in Design - Wider Trail	VL (10%)	VH (100)	VH (\$2,2	8	Reduce		\$0				
ENV 30.02	T	New permits or new information required	L (25%)	N (0)	L (\$66,6	3	Accept		\$0				
ENV 40.02	T	Unanticipated Cultural or Archaeological Findings	VL (10%)	H (36)	N (\$0)	4	Accept		\$0				
ENV 60.02	T	Additional wetlands mitigation area needed	M (50%)	N (0)	VH (\$1,5	40	Reduce	10	\$0				
ENV 60.03 A	T	Additional wetlands mitigation area needed (Schedule)	VL (10%)	VH (60)	N (\$0)	8	Reduce		\$0				
ENV 70.01	T	Design Changes for Ponds	M (50%)	N (0)	M (\$90,	10	Reduce		\$0				
MGT 40.02 B	Т	Priorities change on existing program (Bridge Maintenance)	VH (100%)	N (0)	VH (\$1,7	72	Reduce		\$0				
MGT 900.04	T	Threat of Lawsuits	VL (10%)	VH (100)	N (\$0)	8	Reduce		\$0				
ROW 900.02	T	Coordination of the removal of the Shipyard Pedestrian Bridge	M (50%)	N (0)	M (\$126	10	Reduce		\$0				
STG 20.01	T	Encountering Unexpected Subsurface Conditions	VH (90%)	VH (90)	VH (\$1,1	72	Reduce		\$0				
UTL 20.03	T	FDOT Utilities Relocation Cost	VL (10%)	N (0)	H (\$250,	8	Reduce		\$0				

Risk Register: Risk Response Strategies Threats **Opportunities** Risk Factors that Reduce Cost or Schedule **Risk Factors that Increase Cost or Schedule** Avoid: Exploit: Change the project scope to eliminate the impact of a risk. To make a proactive decision to take action to show that an opportunity is realized. Move a risk to another party who is more capable at Assigning ownership of the opportunity to a third-party handling the risk (such as the developer or insurance who is best able to capture the benefit for the project. company). Enhance: The project team may seek to lessen the impact of a Take action to increase the probability and/or impact of specific risk item, which may involve the consumption of the opportunity for the benefit of the project; seeking to additional time and/or money. Mitigation usually requires facilitate or strengthen the cause of the opportunity, and positive action and has a cost. proactively targeting and reinforcing its trigger conditions. To take no action when a response may be too costly to be effective or when the risks are uncontrollable and no practical action may be taken to specifically address it. In active acceptance, the project team sets up a contingency reserve fund TRANSPORTATION SYMPOSIUM to account for the residual expected value of the remaining risks.

Major Project Financial Plans: Purpose

- Helps to ensure that necessary financial resources are identified, available, and managed through life of project
- Provides scope, cost estimate, schedule, funding, and reasonable assurance that there is funding to complete the project
- Developed and submitted by the project sponsor(s)

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Major Project Financial Plan Requirements

- Required for all projects over \$500 million total cost
- Presented in year-of-expenditure dollars
- Includes all phases: Planning, PD&E, Preliminary Engineering, Right-of-Way, Construction, Utilities, and CEI
- Coordinated by the Project Finance Office
- Project managers should start discussions with the Project Finance Office as PD&E nears completion, or earlier

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Major Project Financial Plan Requirements

- · Based on programming "as of" an effective date
- Ensures sufficient funds to complete the project
- Programming must be at or above the 70th percentile as reported in the Cost and Schedule Risk Assessment (CSRA)
- Initial financial plan must be approved before FHWA will authorize federal funds
- Annual financial plan updates are required until the project reaches final acceptance

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Major Project Financial Plan: CSRA Required Information

- The Financial Plan uses elements from the CSRA including:
- The 70th percentile for the Project (escalated/YOE\$ and include all prior costs).
- For phased financial plans, 70th percentiles are needed for each segment.
- Top 10 risks to cost and schedule. Districts must report their mitigation efforts in each annual financial plan and identify any new significant risks.

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Major Project Financial Plan: District Input

- All FM numbers associated with the Project (everything under NEPA)
- Map that shows both PD&E(s) limits and construction limits
- Project description project limits, features, LOS
- Environmental and ROW status
- Project schedule from procurement to final acceptance
- Local partners
- Mitigation strategies for top risks to cost and schedule
- Estimated construction payout percentages by year

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Major Project Financial Plan: Phased Plans

- If there are insufficient financial resources to complete the entire project, financial plans may identify a phasing plan that will address the purpose and need of the overall project in the short term
- Fundable phases should be presented as one individual funded phase in the financial plan
- Phasing plans will be closely coordinated with FHWA
- · Will require regular updates to the CSRA

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Major Project Financial Plan: OINCCs

An OINCC designation is a waiver to exclude certain project segments (approved under NEPA) from the Financial Plan. These segments are usually far in the future and unfunded.

Operationally Independent and Non-Concurrent Construction Projects (OINCC) have 3 criteria:

- Segment can be operated without any other portion of the overall project being completed
- End of construction to beginning of construction between segments must exceed 5 years
- ✓ Time for construction of the final portion of the overall project must exceed 20 years from the start of the project

An OINCC designation must be made by FHWA

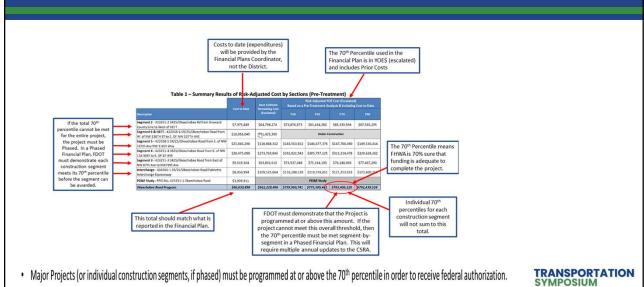


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Major Project Financial Plan: 70th Percentile



Major Project Financial Plan: Timelines

- Initial Financial Plan (IFP)
 - ✓ FWHA can grant "conditional" federal authorization for Design-Build or P3 projects. The IFP must by approved by NTP2.
 - For Design-Bid-Build projects, the IFP must be approved by Advertisement order to receive federal authorization.
- Annual Updates
 - Should be submitted no later than 90 days after the end of the reporting period ("effective date")

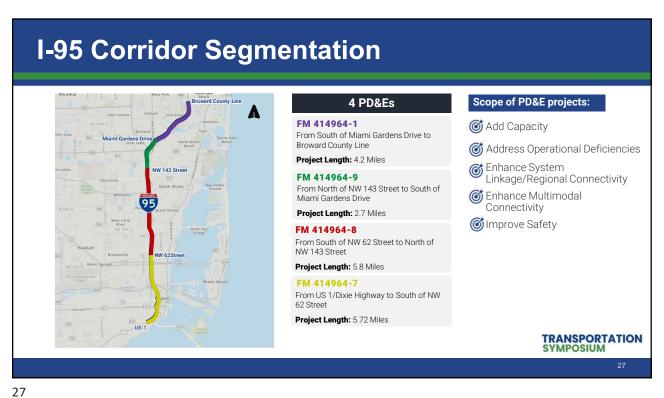


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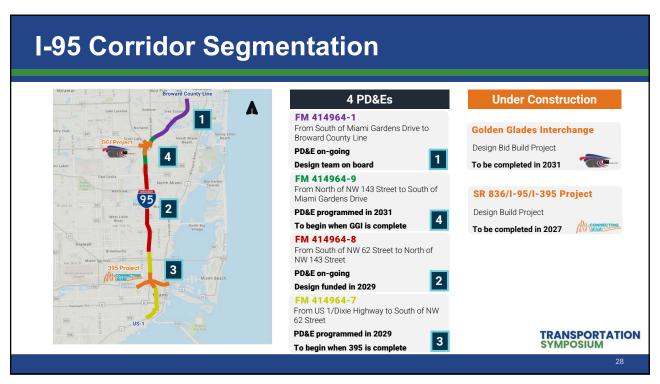
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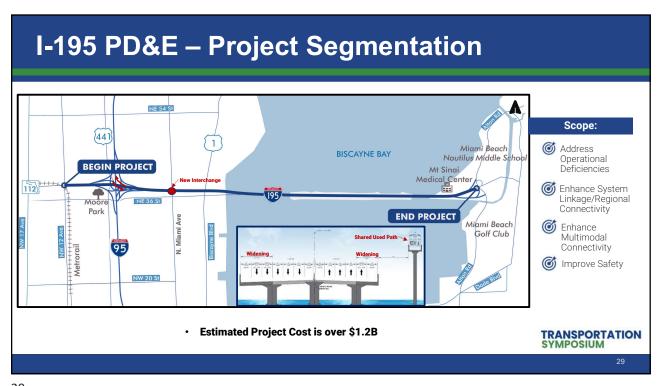
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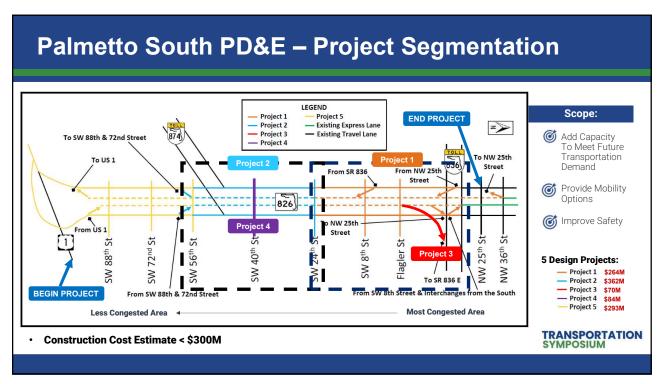
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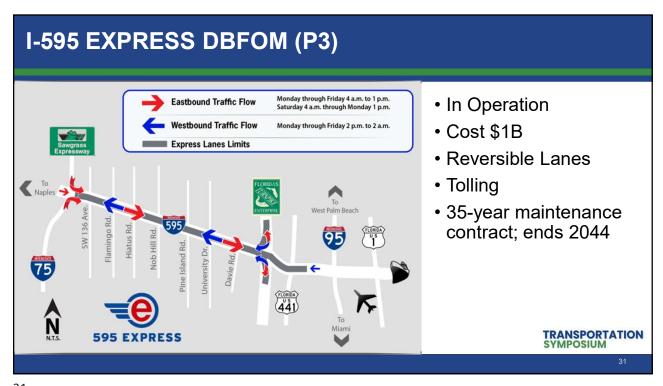


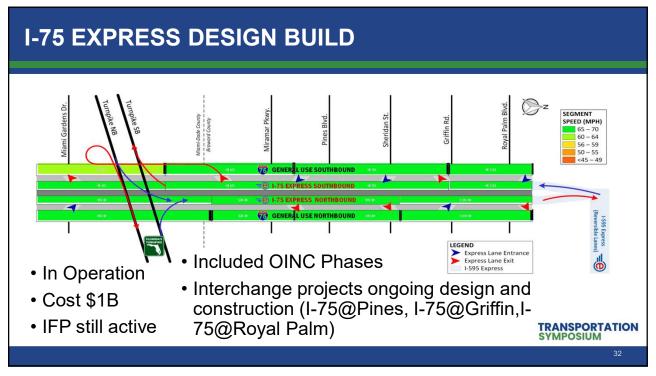
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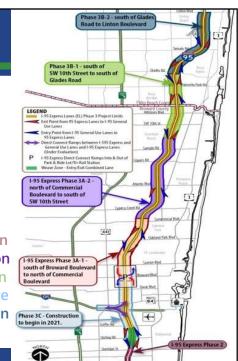






I-95 EXPRESS PHASE 3 DESIGN BUILD

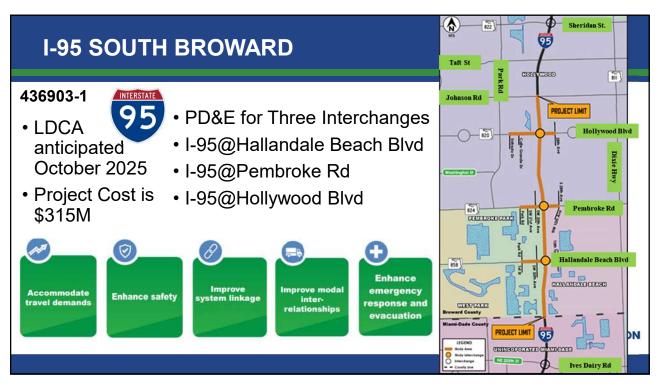
- 5 segments
- Cost \$1B-Funding in multiple years
- Segments 3A-1/3A-2/3B-1/3B-2 completed and operational
- Multiple CSRA conducted in different years
- Phased implementation to express lanes opening and tolling
- Segment 3C estimated completion: spring 2026 Phase 3B-1: in operation
- Phase 3A-1: in operation
 - Phase 3A-2: in operation
 - Phase 3C: 80% complete
 - Phase 3B-2: in operation

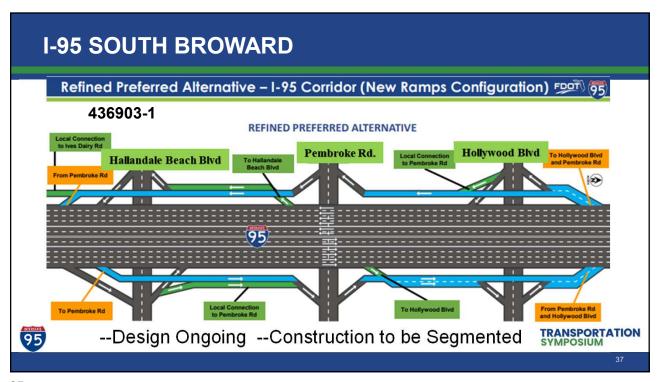


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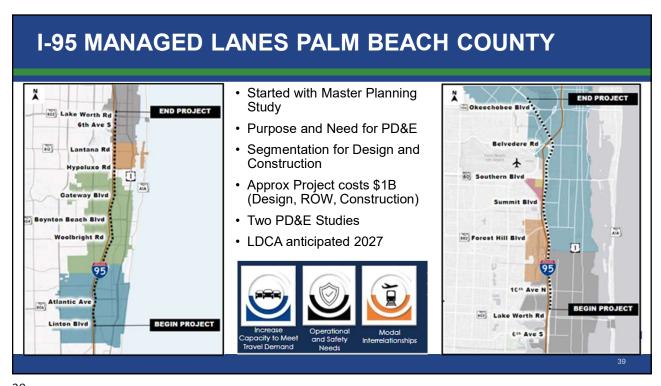


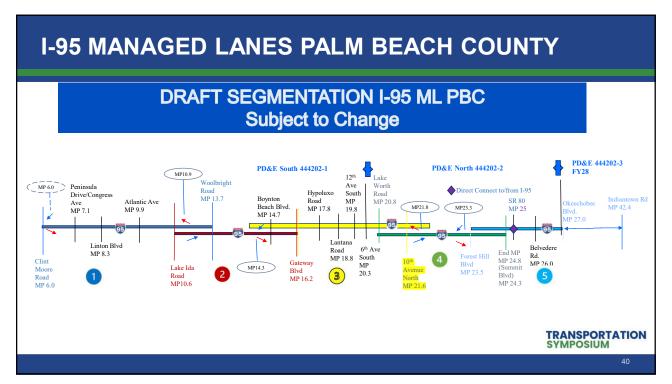












CONSIDERATIONS FOR SEGMENTATION

- SIS funding priorities
- Procurement method (DBB, DB, PDB)
- Design schedule
- ROW acquisition
- Estimated construction duration and cost
- Industry resources for design consultants and contractors

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CONSIDERATIONS FOR SEGMENTATION

- ITS/signing for segment transitions ingress/egress to managed lanes
- Contractor overlap limits
- Interchange projects construction time overlaps
- Existing/future landscape projects for interchanges and I-95 mainline

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BEST PRACTICES

- Have a good project management plan
- Perform early segmentation plan to align funding for different phases
- Program ALL phases needed in the correct fiscal year and project cost. Capture the risk contingency (70 percentile) cost on project funding before letting
- Keep construction costs updated (quantities, pay items, price), perform review twice a year
- Be Flexible

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BEST PRACTICES

- Avoid TIP/STIPS: Any material changes to project limits such as the length changing by more than 20% and 1/2 mile as determined by the milepoint limits; or cost increase is more than 20% of the total project cost of all the phases on the federal authorization and \$2 million
- Make sure CSRA is conducted 1 year before construction contract execution
- Turnpike/Toll coordination for managed lanes within existing or proposed impacts
- Keep in mind overlap areas between Districts

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Major Project Financial Plan: Test Time!

70th percentiles are determined for the major project overall and if phased, for each construction segment.

The project can receive federal authorization even if the Initial Financial Plan has not been approved.

Costs incurred 10 or more years ago may be excluded from the major project.

A "phased" financial plan is used when the project cannot meet its overall 70th percentile threshold.

When discussing potential risks during the CSRA, it is best to use "worst case scenarios" to determine potential risks just to play it safe.

The Project Management Plan (PMP) is finished when it is signed by FDOT and FHWA.

Annual Financial Plans are required until the entire project reaches final acceptance.

Major projects include all phases except operations and maintenance.

The 70th percentile used in the Financial Plan excludes all prior costs and is in present day cost (PDC).

If a segment of a major project has been "OINCC'd" it is automatically "de-OINCC'd" if it no longer meets waiver requirements.

FHWA is copied on major project documents as a courtesy only.

Parts of a Project that will not be built for another 12 or more years can be excluded from the major project.

FM numbers covered by the CSRA should also be used in the Financial Plan.

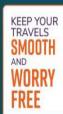
The major project includes everything under the NEPA, all FM numbers, all costs (past, present, future), and all phases (except O&M).

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Safety Message















Give yourself plenty of time to reach your destination.





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