











SHRP2 Solutions: C19 Expediting Project Delivery Session 2



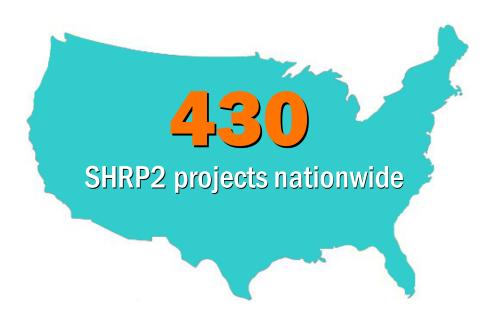






SHRP2 at a Glance

- SHRP2 Solutions 63 products
- Solution Development –
 processes, software, testing
 procedures, and specifications
- Field Testing refined in the field
- Implementation More than 430 transportation projects; adopt as standard practice
- SHRP2 Education Connection connecting next-generation professionals with next-generation innovations



Focus Areas



Safety: fostering safer driving through analysis of driver, roadway, and vehicle factors in crashes, near crashes, and ordinary driving



Reliability: reducing congestion and creating more predictable travel times through better operations



Capacity: planning and designing a highway system that offers minimum disruption and meets the environmental and economic needs of the community



Renewal: rapid maintenance and repair of the deteriorating infrastructure using already-available resources, innovations, and technologies

SHRP2 Implementation Assistance Program

- Round 7:
 - 13 products or bundles of products
 - 1 capacity; 3 reliability; 9 renewal products
- 42 recipients just announced in June 2016
 - 37 state DOTs
 - 4 MPOs
 - 1 Federal Lands Highway
- 79 projects in 37 states



SHRP2 Implementation: Moving Us Forward

As of November 2015:





Save lives, money, and time

- Bridges being built more quickly
- Smoother traffic flows and less congestion
- **Reduced construction costs**
- Safer roadways
- **Smarter environmental reviews**

TR0628161105WDC

Expediting Project Delivery

- Expediting Project Delivery identifies 24 strategies for addressing or avoiding 16 common constraints in order to speed delivery of transportation projects.
- Strategies Grouped Under Six Objectives:
 - Improve internal communication and coordination;
 - Streamline decision-making;
 - Improve resource agency involvement and collaboration;
 - Improve public involvement and support;
 - Demonstrate real commitment to the project; and
 - Coordinate work across phases of project delivery.

Expediting Project Delivery

		Stage of Project Planning or Delivery				
	Early Planning	Corridor	NEPA	Design/ROW/	Construction	
Strategy		Planning		Permitting		
1. Change-control practices			•	•	•	
2. Consolidated decision council		0	•	•		
3. Context-sensitive design and solutions	0	0	•	•	0	
4. Coordinated and responsive agency involvement	0	•	•	•	•	
5. Dispute-resolution process		0	•	•	0	
6. DOT-funded resource agency liaisons		0	•	•		
7. Early commitment of construction funding	•	•	•			
8. Expedited internal review and decision-making	•	•	•	•		
9. Facilitation to align expectations up front	0	•	•			
10. Highly responsive public engagement	•	•	•	•	0	
11. Incentive payments to expedite relocations				•		
12. Media relations manager		•	•	•	0	
13. Performance standards	0	•	•	•		
14. Planning and environmental linkages	•	•	•			
15. Planning-level environmental screening criteria	•	•				
16. Programmatic agreement for Section 106			•	•		
17. Programmatic or batched permitting			•	•		
18. Real-time collaborative interagency reviews	0	0	•	0		
19. Regional environmental analysis framework	0	•	•	•		
20. Risk management	•	•	•	•	•	
21. Strategic oversight and readiness assessment	0	•	•			
22. Team co-location		0	•	•		
23. Tiered NEPA process	0	•	•			
24. Up-front environmental commitments		•	•	•		

For More Information

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Additional Resources:

GoSHRP2

fhwa.dot.gov/GoSHRP2

Website:

AASHTO SHRP2 http://shrp2.transportation.org

Website:

GoSHRP2 <u>fhwa.dot.gov/goshrp2/contact</u>

Alert Sign Up:

Email: GoSHRP2@dot.gov

Session 2 Presentations

- <u>Massachusetts DOT</u> Jose Simo: MassDOT's Roads & Highways GIS system
- Arkansas State Highway and Transportation Department -Elisha Wright-Kehner: Development of an improved process for project delivery
- Florida DOT Steve Braun: Implementing streamlining recommendations to improve project delivery process
- Panel: Question and Answers

Mapps Tool What is it?

MassDOT Project Planning System is a planning phase tool with environmental and safety screening function, to improve agency project coordination and expedite project delivery

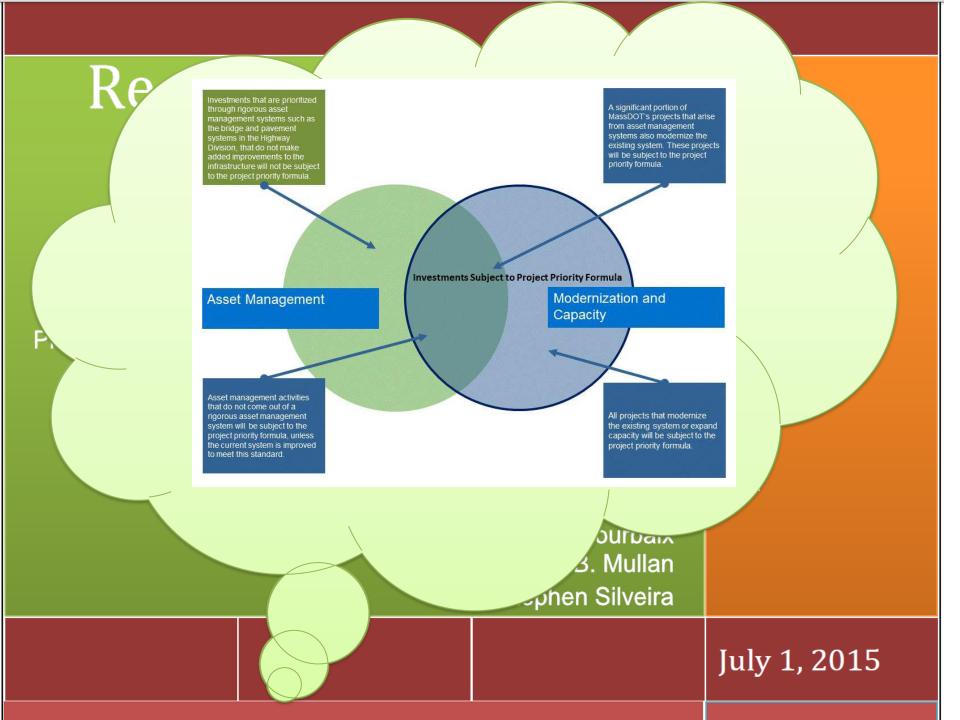
Every Day Counts 2

Agency & Business Process Implementation Teams

Strategic Highway Research Program 2

Funding & FHWA Implementation Assistance

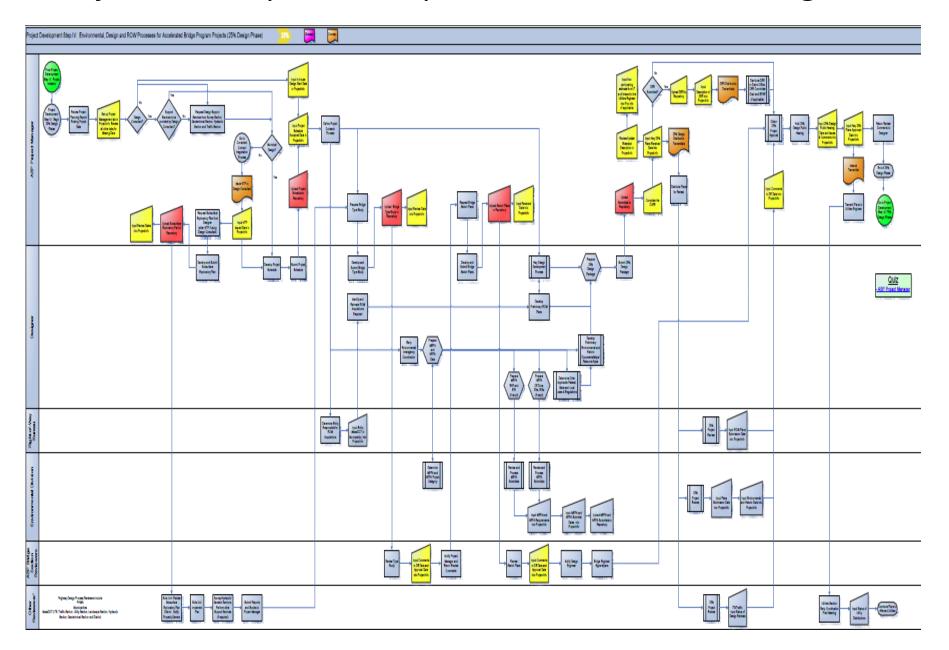




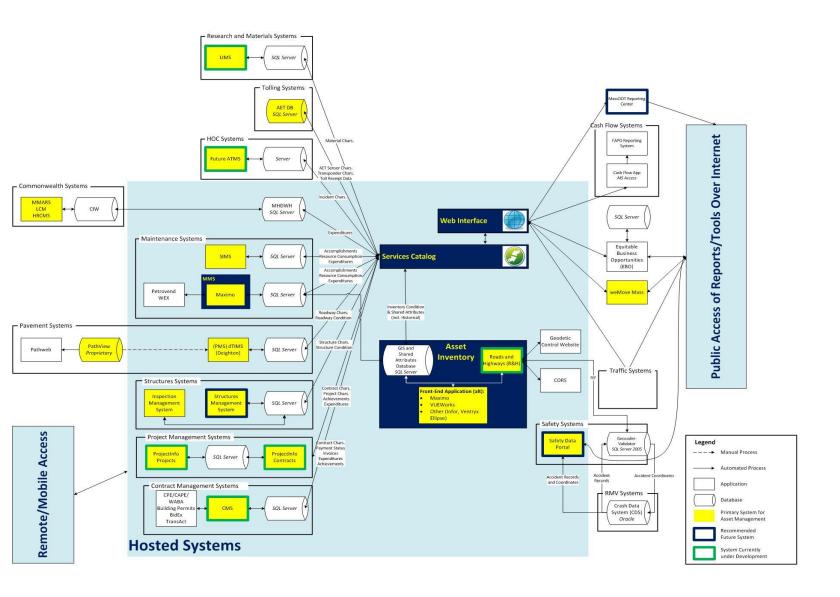
Complex Processes



Project Development Step IV: Environmental, Design ...



Why a New Approach?



Complex Processes

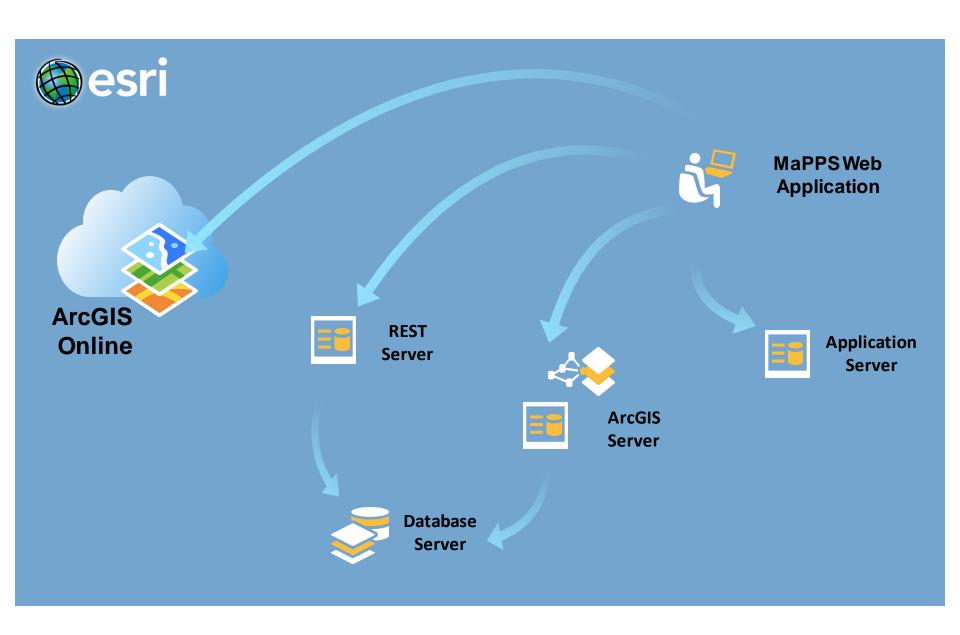


Location Aware Apps

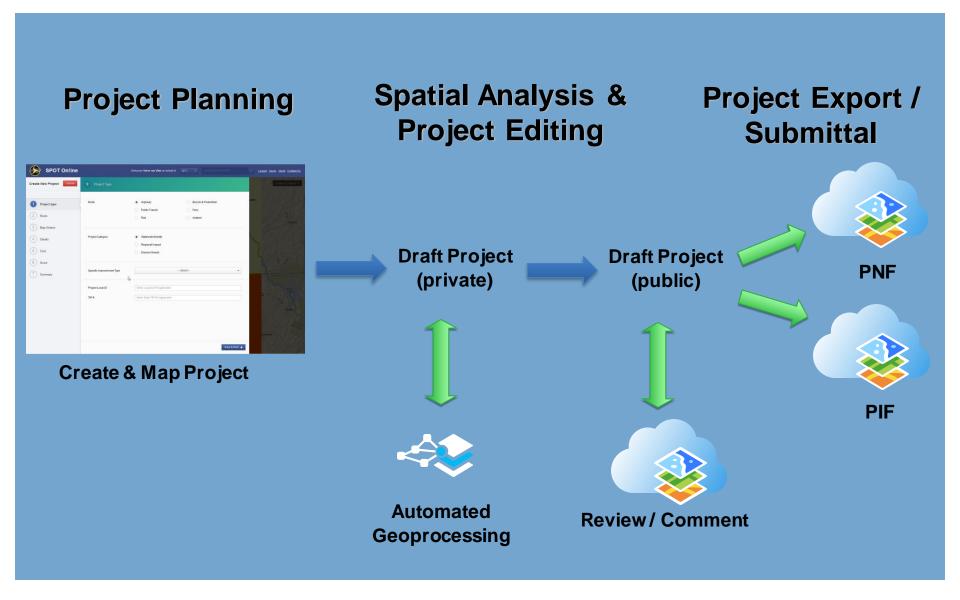
Tightly integrated and designed to work together



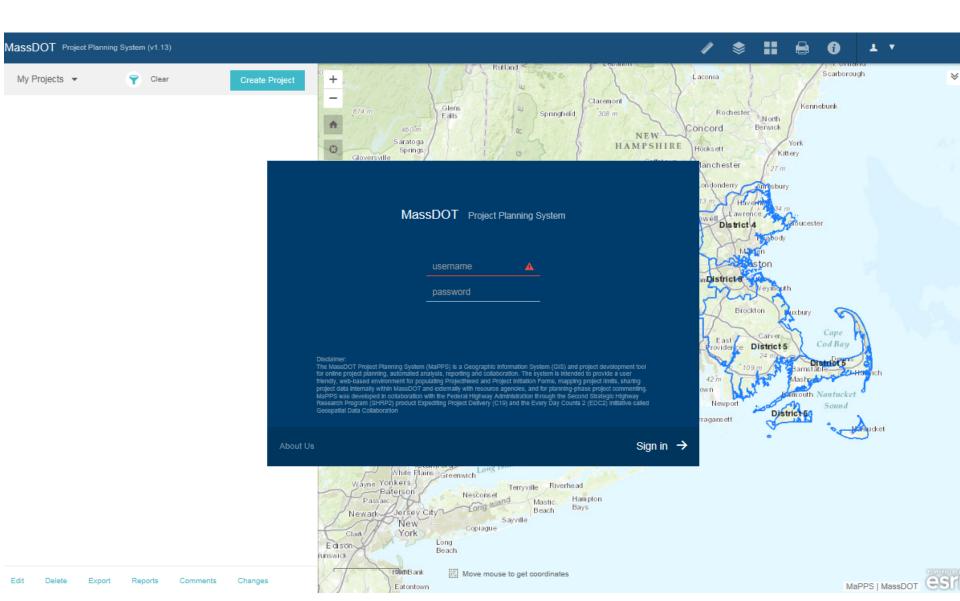
Platform Architecture



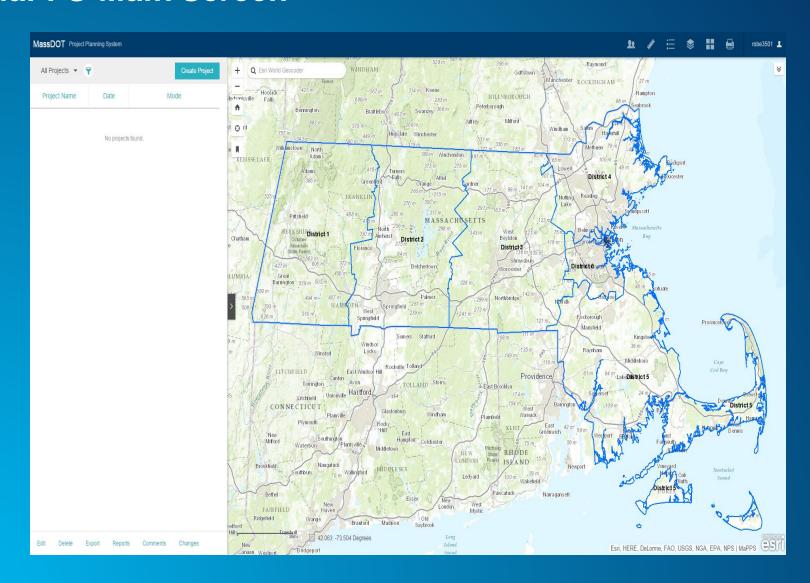
Workflow Overview



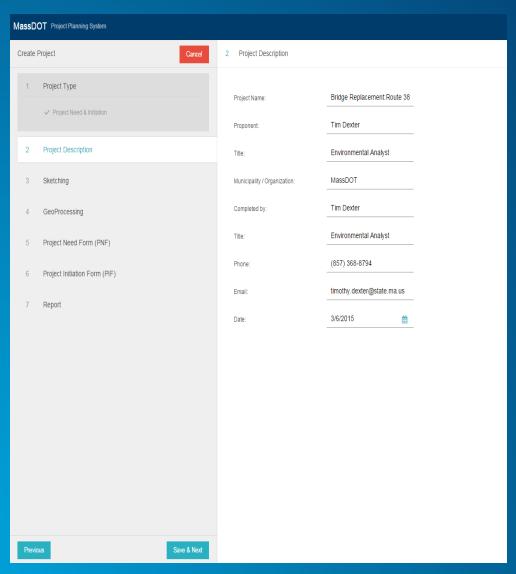
Login Page



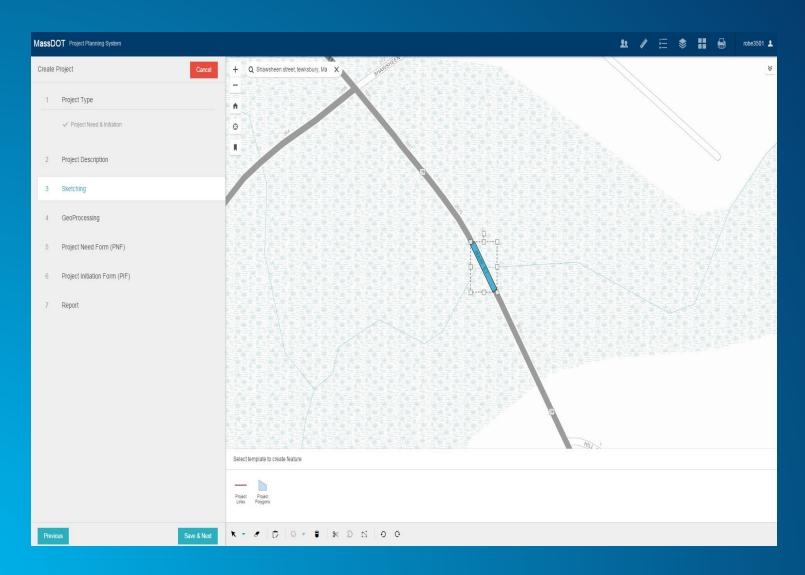
MaPPS Main Screen



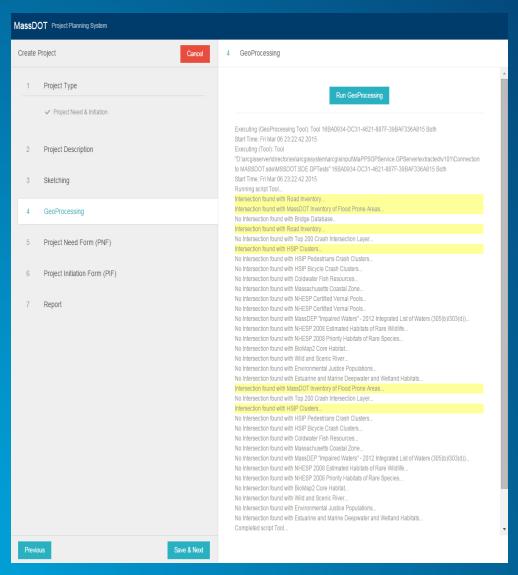
Project Description



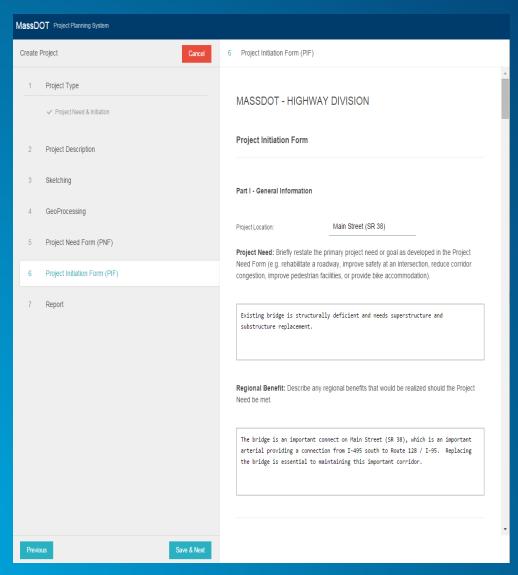
Project Sketching



Geoprocessing: Running



Project Initiation Form (PIF)



PIF Report

PIF Page 1:						
MassDOT - Highway Division Project Initiation Form						
Proponent:	Tim Dexter	Title:	Environmental Analyst			
Municipality/Organization:	MassDOT					
PIF completed by:	Tim Dexter	Title:	Environmental Analyst			
Phone:	(857) 368-8794	Email:	timothy.dexter@state.ma.us			
Date:	Fri Mar 06 2015 0	Mar 06 2015 00:00:00 GMT-0800 (Pacific Standard Time)				
Part I – General Information	n					
Project Location: Main Stre	eet (SR 38) over Sh	nawsheen River,	Tewksbury.			
Form (e.g. renabilitate a road improve pedestrian facilities, Existing bridge is structura replacement.	or provide bike ac	commodation).	ion, reduce corridor congestion, ucture and substructure			
Regional Benefit: Describe Need be met.			realized should the Project which is an important arterial			
providing a connection fro essential to maintaining th corridor.	m I-495 south to F					
Part II – Project Costs and	Responsibilities					
Estimated Costs: Provide a	vailable cost estim	ates or estimated	d cost ranges in current-year			
Estimated Construction Costs:		Esti	mated Other Costs:			
Construction Items:		Planning/Design	:			
Contigencies (10%):		Right-of-way:				
Other Constr. Costs (10%):		Environmental Mitigation:				
Total Construction Cost:		Total Other Cos	sts:			
Anticipated Funding Progr Indicate all potential sources		y apply to the pro	oject			
☐ STP	☐ CMAQ		☐ HSIP			
☐ TAP	☐ NHPP		☐ HPP			













Expediting Project Delivery (C19)

July 19, 2016

Elisha Wright-Kehner, P.E.



AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS



Bringing greater collaboration for better, faster decisions



Why Expediting Project Delivery (C19)?

Areas of interest to:

- Improve Public Involvement and Support
- Improve Resource Agency Involvement and Collaboration
- Demonstrate Real Commitment to the Project
- Improve Internal Communication and Coordination
- Streamline Decision Making
- Integrate Across all Phases of Project Delivery

History in Arkansas

- Award Date October 17, 2013
- Awarded \$50,000
- Assessment Workshop \$20,000

Expediting Project Delivery – Assessment Workshop

- Facilitated by FHWA on July 30-31, 2014
- 30 Attendees
- Topics
 - Overview of the Expediting Project Delivery and the Expediting Project Delivery Assessment Tool
 - Overview of "Current State" and "Desired State" of Project Development and Delivery Processes and Practices
 - Collaboration and Coordination Challenges and Opportunities
 - ✓ "What works well?"
 - ✓ "What needs work?"

What works well at AHTD?

- Administration Open to Change
- Recent Organizational Changes
- Creation of Preliminary Engineering Squad
- Hiring Qualified Personnel
- Open Communication
- Improved Teamwork
- Good Relationship between AHTD and FHWA
- Public Engagement

Challenges and Opportunities

- Project Development Process Documentation
 - Personnel changes and work load
 - Project Change Communication
- Early Project Decision Making:
 - Defining the Purpose and Need
 - Project Scoping
- Local Agencies Communication
 - Need for standardization and streamline process

Action Plan

- Developed an Action Plan in August 2014 to facilitate the activities identified in the Workshop
- Five Steps of Implementation:
 - Refine Scoping Procedure
 - Enhancing Purpose and Need Statements
 - Improving Information and Data
 - Improving Internal and External Communication and Coordination
 - Evaluating Resource Allocation

Action Steps - 1

Refine Scoping

- A draft project initiation form
 - Developed in coordination with internal stakeholders.
 - Expected to be complete and approved in September 2016.
- A project planning study process has been developed.
 - This documented process will help ensure consistency, accuracy, and transparency of the decision making and scoping process.
 - Planning study procedure manual. Ongoing modifications and updates.
- A data-driven, performance-based approach to better identify system needs.
 - > These documented processes are being refined and updated.
- A project prioritization system has recently been implemented to assist decision makers on which projects to prioritize.
 - The methods to quantify needs and outcomes will be refined.

Action Steps - 1

Refine Scoping – Project Development Form (*Draft*)

- Form Information Five pages
 - Project Information
 - Partnering Information
 - Project Purpose and Need
 - Scope
 - Planning Considerations/Study Findings
 - Existing Project Information
 - Existing Bridge Information
 - Proposed Improvement
 - Access/Right-of-Way/Utility
 - Environmental
 - Cost and Funding
 - Project Responsibilities
 - Map of Area

Action Steps - 2

Enhance Purpose and Need Statements

- The project planning study procedure manual will be modified and updated as needed to ensure project P&N statements are tied to the performance-based planning process.
- A data-driven, performance-based approach is being implemented to better identify system needs.
- A project prioritization system has recently been implemented to assist decision makers on which projects to prioritize.
- We conducted a NEPA and Enhanced Purpose and Need Training.
 Provide guide to consultants and starting communications with locals earlier in process.

Improve Information Exchange and Data Sharing

- Improve Communication/Coordination (Internal and External)
 - A comment documentation process has been recently created for planning studies.
 - This process will be modified to better document comment resolutions, thereby improving the transparency and documentation of the decision-making process.
- Improve Resource Allocation (Internal and Consultant Staff)
 - The Department's consultant selection process will be updated in the near future to allow for stream-lined process for nonengineering services.
 - Enterprise Data Committee to facilitate the incorporation of Department data.
 - Purchase of server to facilitate the enterprise warehouse.

Facilitate Communication & Coordination Training

- Alternative Development, Purpose and Needs
 Statements 40 Attendees
- Technical Writing 50 Attendees
- Public Involvement 18 Attendees
- NEPA and Enhanced Purpose and Need Training.

Facilitate Communication & Coordination

- Development of a Local Public Agency Manual
 - Completing Date of 2016-2017
- Increased the tracking and disbursement of project related information after all supplemental staff meetings.
- Still in the process of creating a line of communication for tribes, local public officials, and affected landowners to use throughout the project development process.

Evaluate resource allocation

- Utilize the Department's Achieving Career Excellence (ACE) to assist in training on all of these new processes and procedures.
- Still developing a plan on Managing Consultant Resources.

Steps Forward

- Utilize the Project Initiation Form on a pilot project.
- Buy in from all participants.
- Develop training programs on the ACE platform.
- Update the process to allow for stream-lined process for nonengineering services.
- Create an on-line format for tribes, local public officials, and affected landowners to use throughout the project development process.
- Establish a rotational program to improve coordination between all Divisions.
- Develop and implement a plan on Managing Consultant Resources.

Value to Arkansas

Overall

- Assessment Workshop Successful
- Opportunities for Improvement Identified and started to implement these improvements
- Increased Communications
 - Internal
 - External

Lessons Learned

- The constant turnover of employees makes it difficult to complete tasks that are handed off each time a person changes positions.
- Employee workloads also have a large impact on task completion.
- Rome wasn't built in a day.







Expediting Project Delivery

Steven C. Braun, PE

Florida Department of Transportation

District 4 Planning & Environmental Engineer











Outline

- I. Existing Streamlining Processes
- II. Value Engineering PD&E Process Review
- III. SHRP-2 Project Approach and Recommendations
- IV. Statewide Initiatives
- V. Project Examples

^{*} PD&E: "Project Development & Environment" = NEPA Phase

Background

Existing System

Efficient Transportation Decision Making (ETDM)

- Established in 2006
 - MAP-21: "Environmental Streamlining"
- GIS Based Program
- Agency Coordination
 - Environmental Technical Advisory Team
- Screening Events
 - Planning
 - Programming
 - Document Reviews

The Benefits

- Early coordination with local,
 state, and federal partners
- Identify potential impacts
 within/adjacent to corridor
- Receive public comments
 early in the process
- 。 Screen alternatives
- · Focus on key issues
- Better define project scope

Background

"Value Engineering" Process Review

- Evaluate <u>processes</u> rather than projects
- Multi-disciplined team structure
- "Think Tank" with buy-in from management
- Identify recommendations for implementation
- PD&E, R/W, Pond Siting, Lane Elimination Processes

The Benefits

- Process Improvements
- Inter-office & industry input/participation/buy-in
- Identify system constraintsand develop working solutions
- PD&E Process Review: 16 recommendations developed for further consideration

D4 VE Recommendations

V.E. Recommendation No.5: Allow more preliminary engineering

Goal Objectives

Expedite PD&E and Design projects

 Conduct Pre-work activities in advance of the PD&E Study

Advance Preliminary Design to overlap PD&E

Continuity of PD&E and Design Project Manager

D4 VE Recommendations

V.E. Recommendation No.7: Early identification and consideration of environmental risks

Goal Objectives

Minimize changes during the design phase

- Objective 1- Early identification of risk (during early stages of PD&E).
- **Objective 2-** Identify and account for potential environmental impacts during the alternative selection process.
- Objective 3 Standardize the environmental element of the alternative selection matrix

 Objective 4 – Quantify environmental impacts due to design changes.

SHRP-2 Project

The motivation to apply for the SHRP-2 grant?

- Continued emphasis on accelerating Project Development & Environment (PD&E) project schedules
- Support advancement of projects in the work program
- Reduce the delay in identifying environmental issues
- Strong foundation of existing streamlining initiatives
- Assist with the implementation of VE recommendations
- Identify additional strategies

Our Approach

Awarded SHRP-2 Grant from FHWA



Determine Implementation Strategies for VE Recommendations



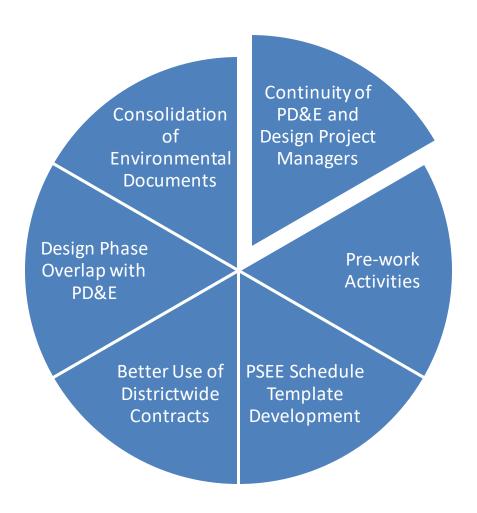
Focus on Constraints Identified by FHWA



Held Assessment Workshops (2)

(Internal and Resource Agencies)

SHRP-2 Transformation Strategies

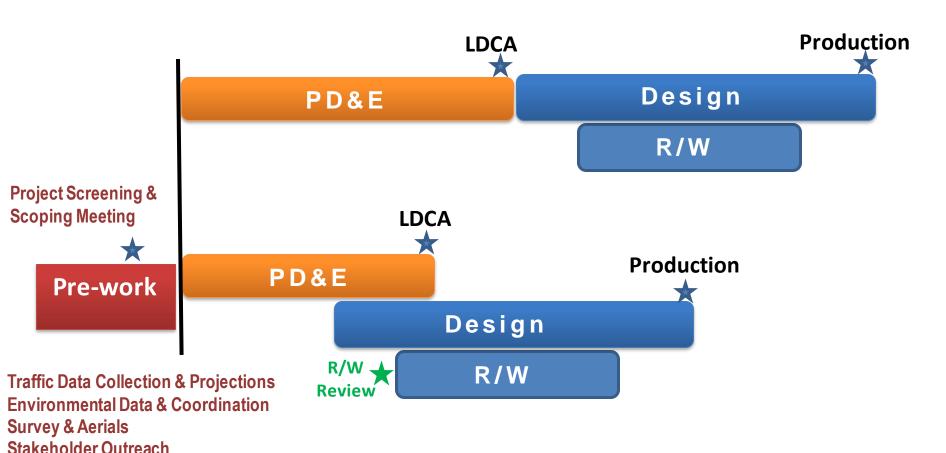


Transformation Strategies

- Advancement of "Pre-work" (Survey, Traffic, Environmental)
 - Advance key activities
 - Scope Report & Scope Development Meeting
 - Improved Scope and Purpose & Need
- Streamlined schedule templates
- Developed "check-lists" for document reviews
- Consolidation of environmental documents
- Early identification of mitigation funding needs

Transformation Strategies (Pre-work)

More Efficient Work Processes



Transformation Strategies

Project Continuity

- Continuity of Project Manager
- Overlap PD&E and Design Schedules
- Options for single consultant contract for PD&E and Design

Contributed to Statewide Initiatives

State-wide Acceleration Transformation (SWAT)

Statewide Initiatives

State-wide Acceleration Transformation (SWAT)

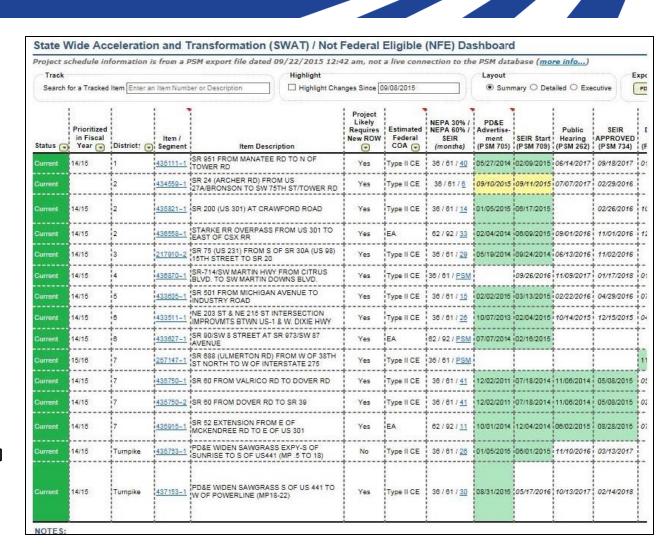
- Formed Statewide & District SWAT Teams
- SWAT Planning Meeting
 - Scopes / Schedules / Strategies / Funding
- Standard practice of conducting "pre-work"
- Standard staff hour estimates
- Interagency Agreements
 - Interchange Access Process (FHWA)
 - NEPA Assignment (FHWA)
 - Historic Resources (SHPD)
 - ETDM Updated Agreement



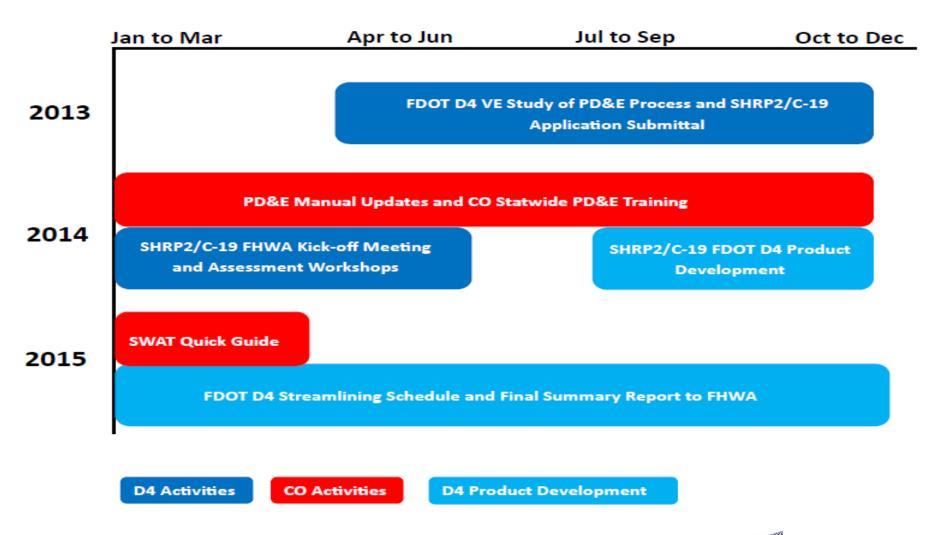
Statewide Initiatives

SWAT Dashboard

- Statewide Schedule Milestones
- Executive Dashboard Tracking
- The dashboard is updated and reviewed regularly at Executive Meetings
- The dashboard tracks time from PD&E Advertisement to Production Date



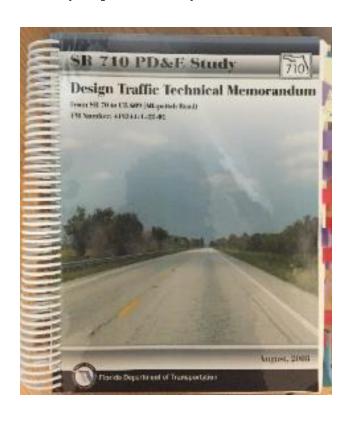
FDOT Expedited Project Delivery Timeline

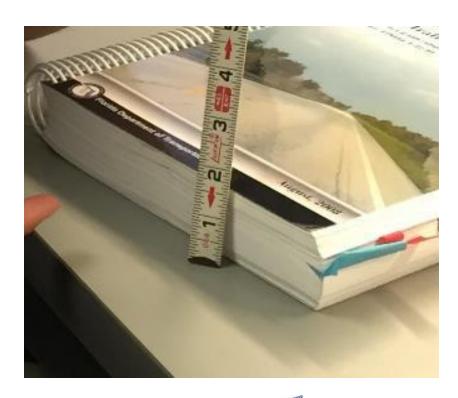


SR 710: Project Traffic

The Problem:

Lengthy PD&E duration led to needing to re-do traffic using updated model which caused project delays.





Project Traffic

The SR 710 Result:

A lot of time and effort



New SWAT Strategies:

- Model validation & traffic done in "pre-work"
- Remove traffic projections from the critical path
- Shortened PD&E schedule
- Eliminate re-work!

US-1 Boca Raton: Public Involvement

The Problem:

Lack of public consensus and political support led to the PD&E study resulting in a **No Build** as the selected alternative







Public Involvement

US-1 in Boca Raton Result:

A lot of time and effort



New SWAT Strategies:

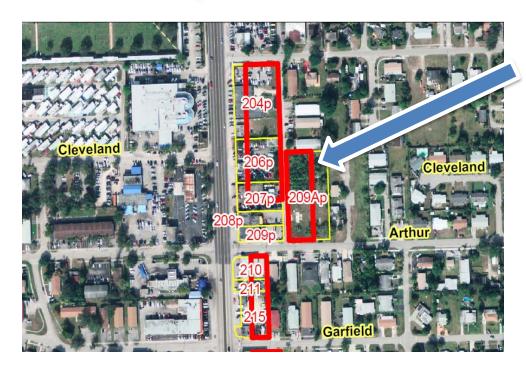
- SWAT Planning Meetings
- Earlier identification/escalation of issues
- Earlier public/stakeholder outreach
- "Consensus Building" by the MPO prior to prioritization of the PD&E study (SW 10th Street Example)

SR-7 in Hollywood: Right-of-Way

The Problem:

Pond sites were questioned by the public and design team began to consider sites outside the scope of the PD&E

Option 1-B



Parcels NOT included in original PD&E study!

Right of Way Decisions

The SR 7 Result:

A lot of time and effort



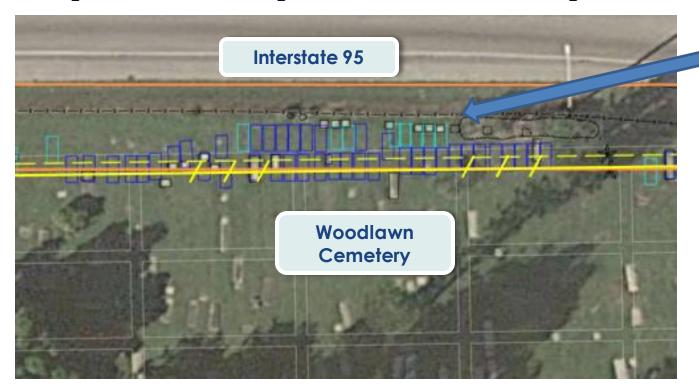
New SWAT Strategies:

- Single PM for both PD&E and Design
- Overlap Design with PD&E
- Shortened time until Design and RW acquisition
- Prepare projects for advanced Production and RW

1-95 & Sunrise Blvd.: Historic Resources

The Problem:

Gravesites from adjacent Woodlawn Cemetery encroach into the I-95 RW. Cemetery is eligible for National Register of Historic Places designation.



Gravesites within

I-95 RW

Historic Resources

Woodlawn Cemetery Result:

A lot of time and effort wasted?

No!!

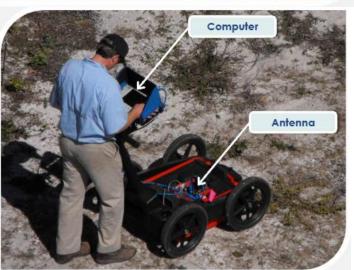


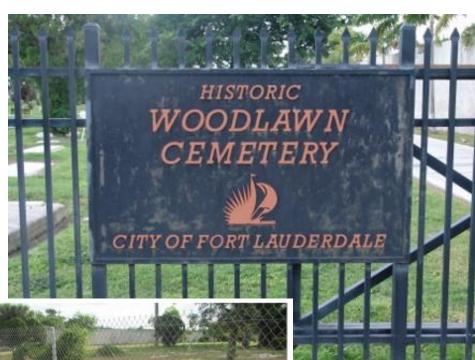
SWAT Strategies Employed:

- Funded a separate study in advance of the interchange PD&E study
- Earlier environmental analyses & coordination
- Earlier community outreach
- Established constraints for the interchange project, while addressing community's concerns

Historic Resources







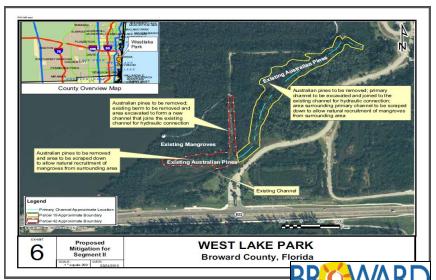


Advanced Wetland Mitigation

Developed a \$4 Million Invitation to Bid Contract Package

- 104 Mitigation Credits purchased for a variety of habitat types
- Credits serve both State and Federal Impacts
- Credits are available for future projects
- Time Savings during Environmental Permitting
- Cost Savings \$5,870,686

Advanced Wetland Mitigation













Steven C. Braun, PE

Florida Department of Transportation
District 4 Planning & Environmental Engineer
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Panel: Questions and Answers



Contact Information

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Steve Braun Florida DOT Steve.Braun@dot.state.fl.us

2017 Environmental Excellence Awards

2017 Categories

Organization and Process Innovation

- Accelerating Project Delivery
- Collaboration and Partnership
- Educational and Training Programs
- Environmental Leadership
- Environmental Research
- Programmatic Agreements

Natural Environment

- Air Quality and Greenhouse Gas Emissions
- Climate Change Adaptation and Resilience
- Ecosystems, Habitat, and Wildlife
- Environmental Leadership
- Roadside Resource Management and Maintenance
- Wetlands, Watersheds, and Water Quality

Human Environment

- Community Considerations in Transportation Improvements
- Nonmotorized and Multimodal Transportation
- Demonstrated Advances in Nondiscrimination, Including Environmental Justice
- · Cultural and Historic Resources
- · Context Sensitive Solutions

APPLICATION PERIOD OPENS AUGUST 1st, 2016!

For general questions, please email:

EEAwardsNomination@dot.gov

Organization and Process Innovation

<u>Damaris.Santiago@dot.gov</u>

Natural Environment

Connie.Hill@dot.gov

Human Environment

Brenda.Kragh@dot.gov















Session: Collaboration and Innovation for Project

Delivery

Time: 3:15pm

Date: Tuesday, July 19, 2016



