



# ***Project Delivery Performance Improvement***

Report to the  
Oregon Transportation Commission

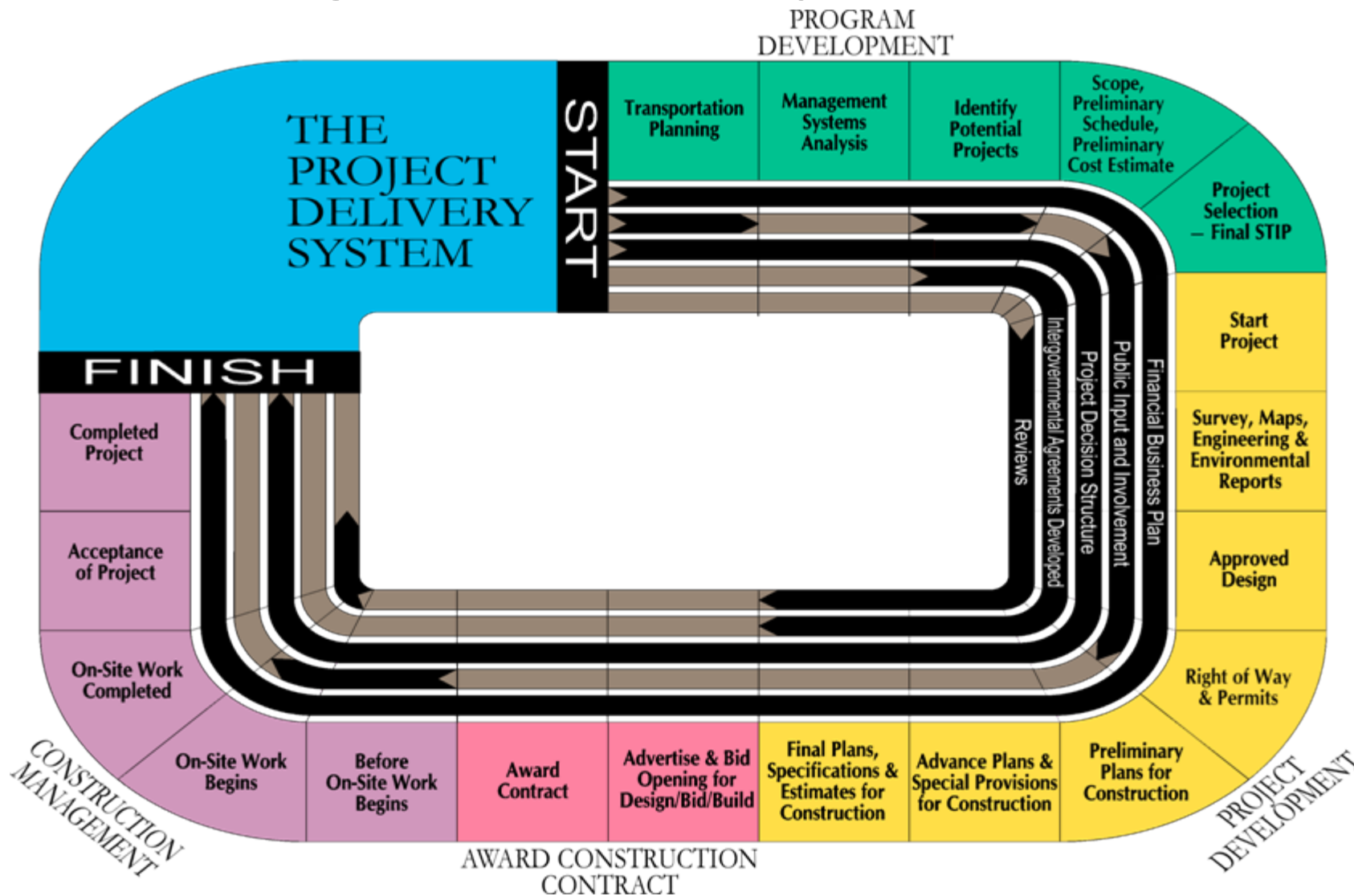
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October 21, 2008

**Design (Design Acceptance Package (DAP)  
through  
Plans, Specifications & Estimates (PS&E))**

**PROJECT DEVELOPMENT – PHASE 3**



# Project Delivery Process

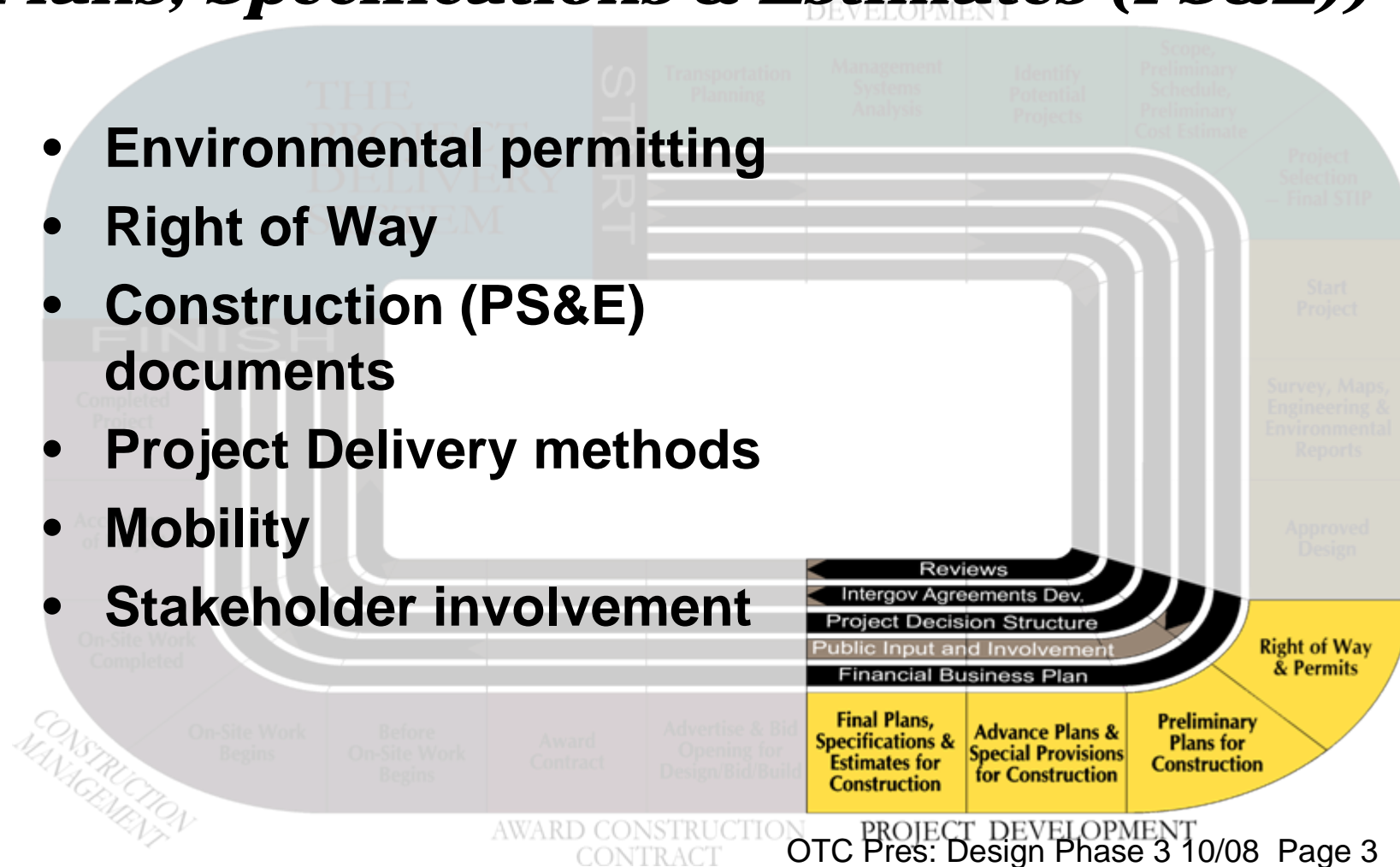




# Design

## *(Design Acceptance Package (DAP) through Plans, Specifications & Estimates (PS&E))*

- Environmental permitting
- Right of Way
- Construction (PS&E) documents
- Project Delivery methods
- Mobility
- Stakeholder involvement





# ***Design Acceptance Package (DAP) Milestone***

- Establishes the project “footprint” for:
  - “Pens down” (avoid rework)
  - Environmental permitting (if needed)
  - Right-of-way acquisition (if needed)
- Confirms readiness to develop construction contract documents
- Concurrence of project stakeholders



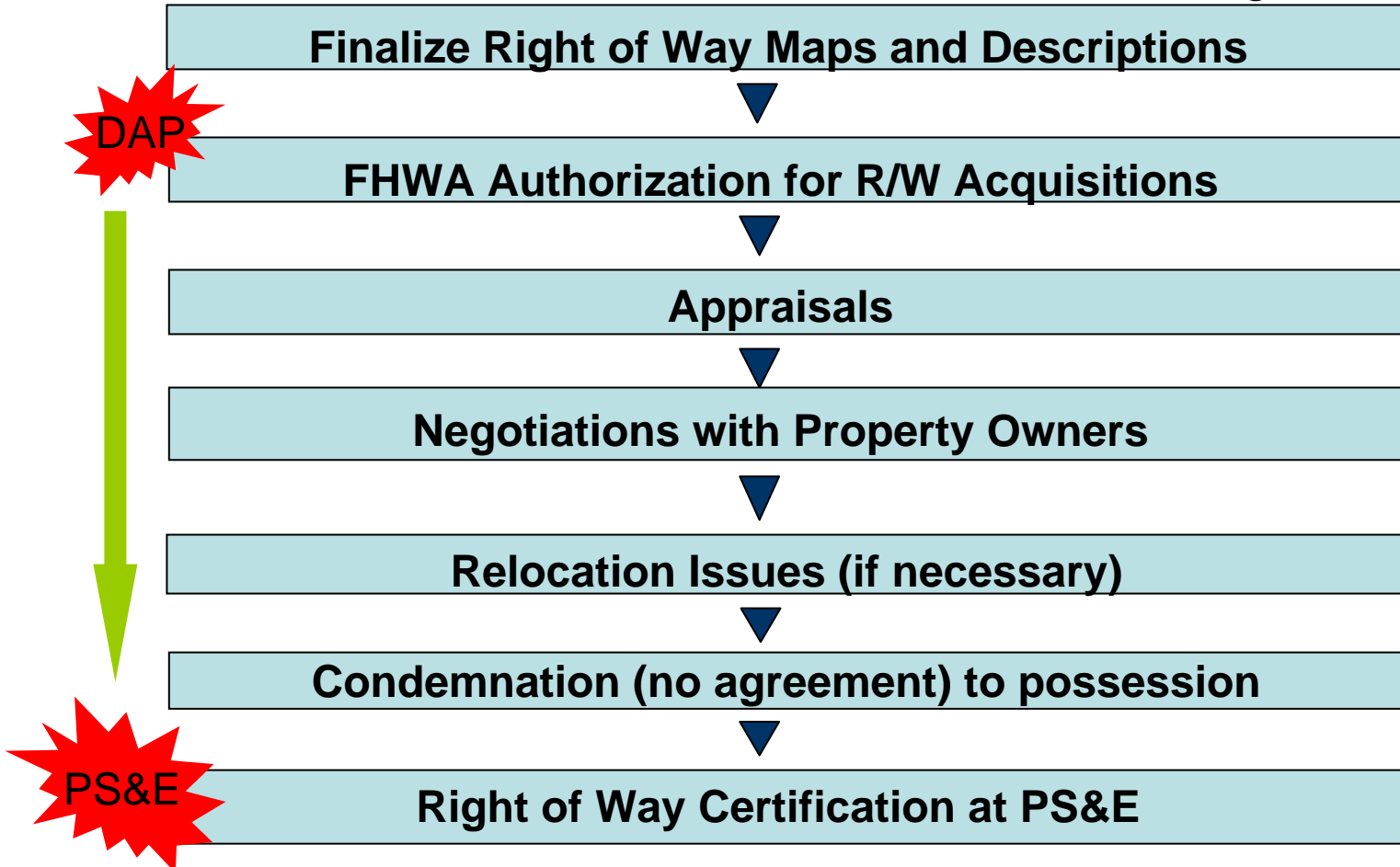
# ***Design (DAP – PS&E) Processes—Overview***

- Environmental (EIS/EA) complete, obtain permits
  - Critical Path (6-18 months)
- Right-of-Way
  - Critical path (1-2+ Years)
- Design Phase
  - Timeline 1-2 Years (Class 2, DAP-PS&E)
- Permits and Right of Way are now sequential, preliminary design is concurrent



# ***Design (DAP – PS&E)***

## ***RIGHT-OF-WAY Timeline (1-2 years)***



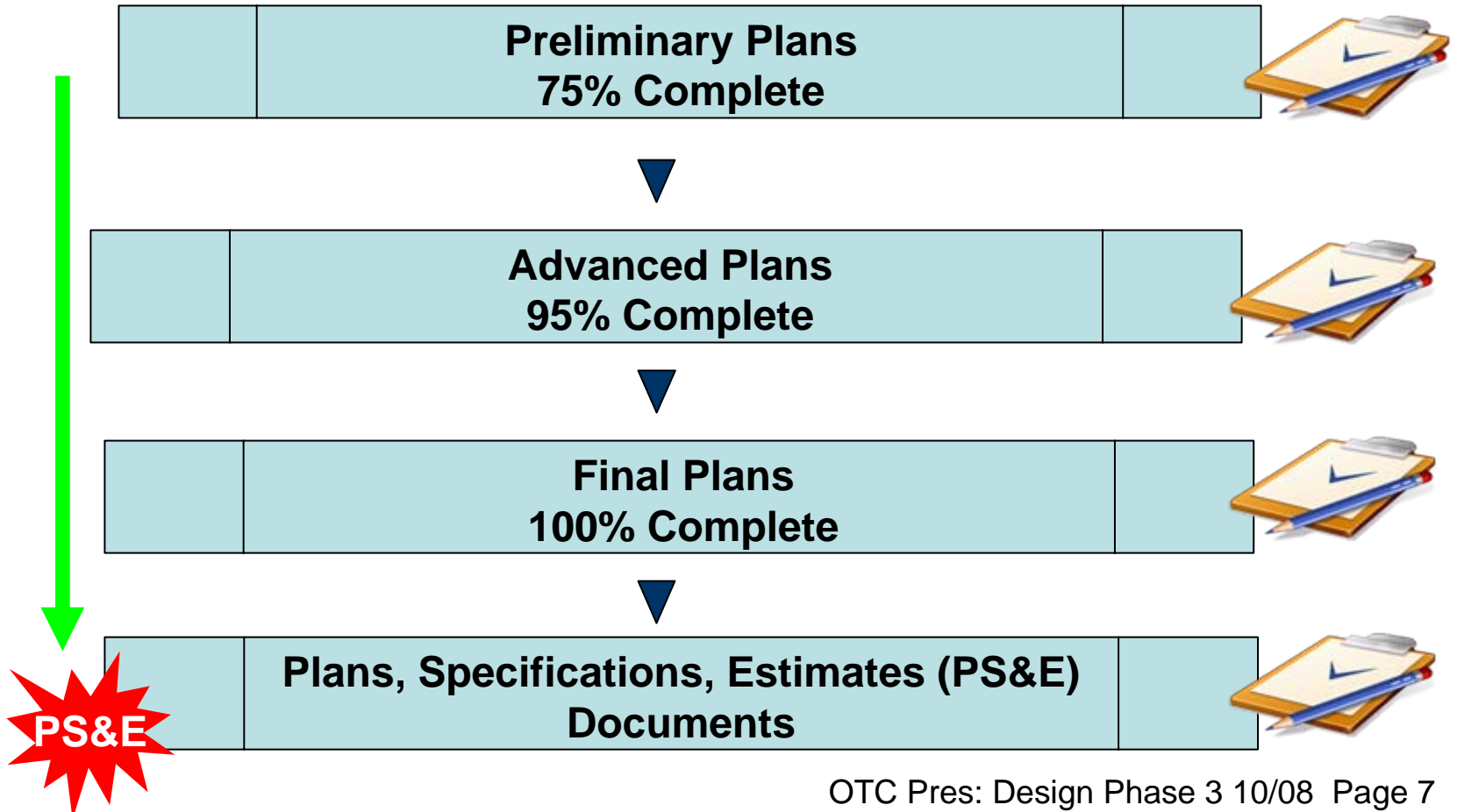


# ***Design (DAP – PS&E)***

## ***DESIGN Timeline (typically 1-2 yrs after DAP)***

***after DAP***

Quality Control





# ***Design (DAP – PS&E) Plans for Construction***

- Roadway Plans
- Bridge Plans
- Traffic Structures Plans
- Retaining Wall Plans
- Soundwall Plans
- Material Source and Disposal Site Plans
- Roadside Development Plans
- Geotechnical Plans
- Hazardous Materials Plans
- Wetland Mitigation Plans
- Erosion Control Plans
- Hydraulic Plans
- Water Quality and Detention Plans
- Traffic Control Plans
- Sign Plans
- Striping Plans
- Signal Plans
- Illumination Plans
- Construction Cost Estimate
- Construction Schedule
- Special Provisions
- Utility Conflict List
- Constructability Review
- Value Engineering Study
- Insurance Risk Assessment
- Access Management
- PS&E Submittal Plan Review
- Assemble and Submit Final PS&E to Office of Pre-Letting
- Bidding Package



# ***Design (DAP – PS&E) Project Team Approach***

- Before project development teams, design was more sequential, requiring considerable rework
- Now project teams include all engineering and other disciplines working concurrently
- Construction and maintenance included in project teams



# ***Design (DAP – PS&E)***

## ***Right of Way Complexities***

- 'Critical path' (can take 1-2+ years)
- Sensitive relationships with property owners & public
- Property owner rights





# ***Design (DAP – PS&E)*** ***Environmental Permitting*** ***Complexities***

- **20+**  
Environmental  
disciplines
- **10+** Regulatory &  
local agencies
- Continual  
stakeholder  
involvement





# Costs

Phase	Modernization	Bridge	Preservation	Safety/ Ops
Planning	9.1%	5.2%	0.4%	3.0%
Design	9.1%	5.4%	6.7%	13.0%
RoW / Utility Relocation	3.4%	1.3%	1.6%	4.5%
Bid & Award				
Construction Engineering				
Construction				
<b>Total (%)</b>	<b>21.6%</b>	<b>11.9%</b>	<b>8.7%</b>	<b>20.5%</b>

\* State projects only

\* Only primary work types included

\* Based on projects 2nd noted between 1/1/2005 and 12/31/2007 (completed projects)

\* 3 Design/Build projects excluded

\* Projects with unusual expenditure patterns excluded (17 projects)

\* Right of way expenditures uncommonly low due to specific projects included in this report (largest projects completed were in rural areas or areas that did not involve significant right of way expenses).



# ***Success for Project Delivery is:***

- Minimize contract addenda
- Plans that are
  - Permittable
  - Biddable
  - Buildable
  - Maintainable
  - Supported by the community



# ***Continuous Improvements Completed***

- Mobility is always considered at the project and corridor level, process is working well
- ROW ADR program
- RWDMS – acquisition process streamlining (phase 1)



# ***Continuous Improvements Completed***

- DAP – Reduce need for design changes
- DAP (established footprint) vs preliminary plans
- Established Liaison Program
- Alternative contracting methods and incentives are used frequently to save time
  - CMGC, D/B, incentive/disincentive specification



# ***Continuous Improvements Completed***

- New roles and responsibilities
  - Leadership Teams
  - Better, timelier communications: Operational notices, technical bulletins, documented procedures
  - Decentralization (SASC)
  - Cradle-to-grave management
  - Focus on performance measures
  - OTIA III
  - Alternative Delivery business models
  - Judicious selection of technology improvements.



# ***Continuous Improvements***

## ***Future***

- RWDMS acquisition process streamlining (Phase II)
- 9 State Peer Exchange - ROW acquisition & relocation incentive payments
- Public involvement: Systematic Development of Informed Consent, ACTs



# ***Process Challenges***

- Unforeseen issues, scope changes, new information resulting in design modification
- DAP “completeness” issues
- FHWA now requires Environmental Approval *prior to* ROW and Final Design for Class 2 projects
- Regulatory expectations are subject to change



# *Discussion*

