STATE OF WASHINGTON | JOINT TRANSPORTATION COMMITTEE

Review of WSDOT's Implementation of Design-Build Project Delivery
July 21, 2016|Legislative Briefing

Sid Scott, Project Manager

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Introductions

Study Overview/Background

Evaluation/Findings

Recommendations (Task 4)

Implementation (Task 5)

Next Steps (Task 8 – Final Reporting)

- Examine WSDOT implementation of DB delivery to date

- Evaluate whether WSDOT's use of DB can be improved (maximizing effectiveness and efficiency)

- Examine whether WSDOT's current project selection criteria determines optimal delivery method

- Educate legislators and other stakeholders on appropriate use of DB

- Develop recommendations for DB program improvement

- Suggest strategies for WSDOT and industry to adopt study recommendations

- Bob Adams, Atkinson Construction, representing Washington Association of General Contractors (AGC)

- John Ferguson, CH2M Hill, representing American Council of Engineering Companies of Washington (ACEC)

- Vince Oliveri, Legislative Director of Local 17 for State Employees, representing Professional and Technical Employees, Local 17

- Linea Laird, WSDOT Chief Engineer and Assistant Secretary for Engineering and Regional Operations, representing WSDOT

- Michael Loulakis, Capital Projects Strategies, Inc., national design-build expert and member of consultant team, Design Build Institute of America

- Gregory Henk, Henk Associates, national design-build expert and member of consultant team

Approach

1. Compare DOT/DBIA Best Practices for DB with WSDOT current practices

2. Evaluate DOT vs. Industry interview responses, and identify alignment or gaps with DOT/DBIA best practices

3. Evaluate project performance outcomes (extent that WSDOT projects were in alignment with stated advantages of DB)

4. Make recommendations - potential changes in law, organization or policy necessary to implement best practices

Approach

- Identify steps WSDOT needs to take to effectively implement the recommended changes concerning staff organization, training, guidance, etc.

- Consider evaluation or performance assessments needed in the future to review design-build implementation at WSDOT and their adoption of the recommended changes?

- Preliminary roadmap for implementing recommended improvements

Best Practice DOT participants

Owners	Industry

• 11 state transportation agencies in the United States and 1 agency in Canada, selected based on:
 	
   - Maturity of DB program
 	
   - Geographic location
 	
   - Differences in legislation and design-build implementation strategies
	• DB Contractors (subcontractors)
	• Design firms

- Design Build Institute of America (DBIA) "Design-Build Done Right" best practices for transportation projects

Interviewed agencies classified by Size Range of DB projects

Agency	First Design-Build Project	Total Approximate Number of Design-Build Projects	Size Range of Projects
Colorado	1995	20	$3M to $300M
Florida	1987	500+	$<0.5M to $200M
Maryland	1998	35	$20M to $500M
Minnesota	1996	33	$1M to $200M
Missouri	2005	<10	$18M to $535M
North Carolina	1999	111	$2M to $460M
Ohio	1995	247	<$0.5M to $430M
Oregon	1999	16	$2M to $130M
Texas	2003	15	$80M to $1B+
Utah	1999	50	$30M to $1B+
Virginia	2001	78	$0.5M to $100M+
Ontario Ministry of Transportation	1998	60	$5M to $55M

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Project	Region	Final Contract Value	Sub. Completion Year
US 2/Rice Road Intersection Safety Improvement	Northwest	$2,410,519	2012
I-5 Skagit River Bridge Permanent Bridge Replacement	Northwest	$7,139,139	2013
SR 167 Puyallup River Bridge Bridge Replacement Project	Olympic	$27,331,648	2015
I-5 et al., Active Traffic Management System	Urban Corridors (NW)	$37,021,000	2011
I-405/I-5 to SR 169 Stage 2 Widening and SR 515 Interchange Project	Northwest	$84, 650,000	2011
SR 520 Eastside Transit and HOV Project	Urban Corridors (NW)	$364,131,001	2015

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- We reached out to a number of designers and builders with WSDOT and local agency DB experience to provide additional input on WSDOT'S use of Design-Build
  - AGC Representatives
    - Max J. Kuney Co
    - KLB Construction
    - Novito Construction
    - Lakeside Industries
    - Flatiron
  - ACEC Reps
    - SDA Engineers
    - ARUP Engineers
    - KPFF Engineers
    - Jacobs

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- **Organization and Culture**

  – Dedicated Staff

  – Collaboration with industry

  – Senior management commitment

  – Standard DB Templates and manuals

- **Training/Experience**

  – Clearly understood roles and responsibilities

  – Effective development/execution

- **Project Development**

  – Scoping

  – Performance vs prescriptive requirements

  – Optimal level of design

- **Procurement Process**
  - Qualifications oriented
  - Performance-based
  - Flexibility (based on project size/complexity)
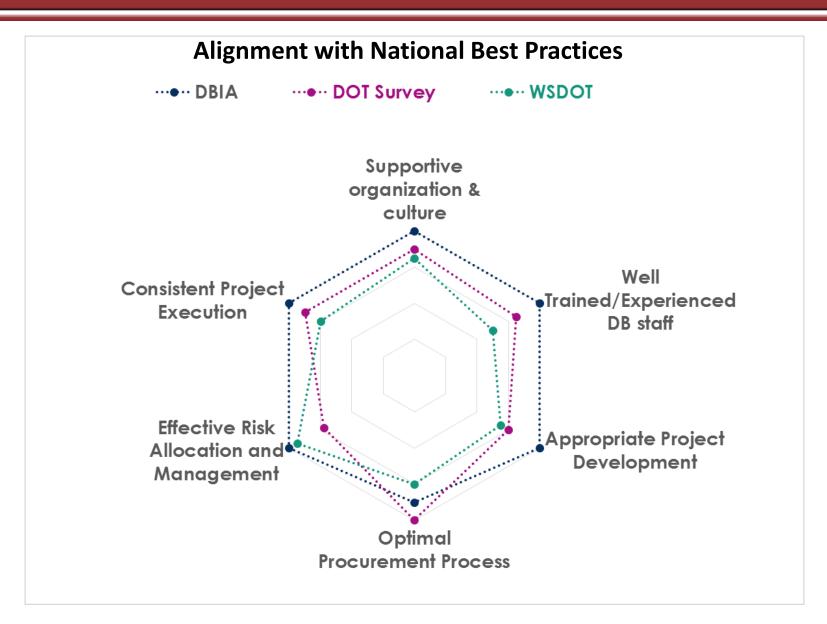 - ATCs
  - One-on-one meetings
  - Stipends

- **Risk Allocation/Management**
  - Appropriate risk allocation in contract
  - Risk assessment in procurement
  - Risk management during execution
  - Permits and third party risk management

- **Project Execution Processes**
  - Design reviews
  - Communication and collaboration
  - Scalable quality management

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Alignment with National Best Practices

- Major Topic Areas for Recommendations
  1. Staffing and Career Development
  2. Training
  3. Programmatic Documents (policies and procedures)
  4. Project Development
  5. Project Delivery and Procurement
  6. Performance Monitoring (Measurement)
  7. Budgeting
  8. Project Execution

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Element	Best Practices	Recommended WSDOT Improvements
Staffing & Career Development	• **Dedicated core staff at HQ to administer program** • **Senior leadership committed to DB**	1. **Increase HQ DB staff** 2. **Designate technical experts within DOT to support DB teams** 3. **More widely disperse DB skills and expertise across the Regions** 4. **Consider DB credentials and experience as part of career development/retention plans** 5. **Optimize use of consultants**

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Element	Best Practices	Recommended WSDOT Improvements
Training	• **Formalized HQ training and/or peer-to-peer exchanges to transfer and instill DB information throughout the organization**	1. **Develop formal statewide training materials (Basics & Advanced Topics)** 2. **Conduct DB Training** 3. **Conduct Project-specific workshops for large/complex projects** 4. **Expand mentoring, shadowing, and peer-to-peer exchanges & DB exchanges with other agencies, and attendance at national DB forums**

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Element	Best Practices	Recommended WSDOT Improvements

Policies and Programmatic Documents	• **Mature programs have a robust DB infrastructure including:**
	
	  o **Standard Templates**
	
	  o **DB Manuals**
	
	  o **Selection Guidance**
	
	  o **Policy updates**
		1. **Finalize standard procurement and contracting templates, while considering:**
		
		  a. **Introducing more flexibility**
		
		  b. **Incorporating performance requirements**
		
		2. **Develop and issue updated DB manual**
		
		3. **Develop and implement an internal and external rollout strategy for programmatic documents**

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Element	Best Practices	Recommended WSDOT Improvements
Project Development	• Develop realistic scope and budget based on information and front-end investigations that proposers can reasonably rely upon • Maximize the use of performance-based requirements	1. Perform appropriate levels of front-end investigation 2. Develop and implement performance specifications for appropriate projects 3. Consider market conditions and availability of DOT resources when determining the scope and size of contract packages

Element	Best Practices	Recommended WSDOT Improvements

Project Delivery and Procurement	• **Develop flexible procurement practices for delivery of DB projects**
	
	• **Two-step best-value procurement processes and ATCs with one-on-one meetings for innovation**
	
	• **Streamlined procurements for small projects**
		1. **Streamline procurement process for small DB projects**
		
		2. **Experiment with alternative DB delivery and procurement methods (e.g., bundling, low bid, single step)**
		
		3. **Refine evaluation criteria**
		    1. **Assign greater weight to qualifications/ technical evaluation criteria when seeking innovation**
		    2. **Include prior working relationship of DB team**
		
		4. **Address Practical Design for DB projects (including how process ties to scoping and project development)**

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Element	Best Practices	Recommended WSDOT Improvements
Performance Monitoring	• DB owners have developed lessons-learned and periodic performance assessments to justify the continued use of DB or other alternative delivery methods	1. Conduct a systematic comparison of DB, design-bid-build, and GC/CM performance and refine manual and PDMSG as appropriate 2. Establish a database of DB lessons-learned 3. Examine if Engineer Estimates are resulting in an over-allocation of funds and refine estimating process as necessary 4. Establish a database of ATCs

Element	Best Practices	Recommended WSDOT Improvements
Budgeting/ Appropriations for DB	• **Fully appropriate funding for DB projects**	1. **Work with legislative staff to consider adjustments in funding appropriations for DB projects. Based on discussions, propose changes to be formalized in an official budget request**

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Element	Best Practices	Recommended WSDOT Improvements
Project Execution for DB	- Use of dedicated staff, - Co-location, - Formal communication plans, - Clear understanding of roles and responsibilities for design reviews, inspection, quality management, and acceptance	1. Dedicate staff as necessary to the full project-lifecycle (design and construction phases) 2. Dedicate experienced staff to design oversight function and develop standard design review templates 3. Optimize quality management for smaller projects

Action

WSDOT = Internal WSDOT policy development or initiative

Legislative = Legislative or policy change needed

Timing

Short-term (discrete) = 1 – 6 months

Intermediate Term = 6 – 18 months

Long-term (ongoing) = > 18 months

Cost

$ = 0 – 100K

$$ = 100K – 500K

$$$ = > 500K

Difficulty

L – low, M – Medium, H – High

Action

- Of 27 recommendations, 25 were strictly policy-related initiatives that WSDOT could implement without legislative changes
- Three (3) recommendations <u>may</u> require legislative action
  - o Accelerated procurement process
  - o Alternative DB delivery (bundling, low bid, progressive or task order)
  - o Practical design (scoping/preliminary design)

Cost/Difficulty

- Three recommendations will involve more significant costs for implementation and difficulty
  - o More widely disperse DB skills and expertise across Regions
  - o Develop DB credentials/experience as part of overall career development and compensation
  - o Performance monitoring (i.e. develop and maintain database and lessons-learned for comparison of DB with other delivery methods)

Benefits

❶ Reduce errors and conflicts

❷ Improve DB program consistency

❸ Improve efficiency of DB execution

❹ Increase and retain staff competency

❺ Accelerate project delivery

❻ Save project cost

❼ Reduce change orders/cost growth

❾ Increase competition

❿ Improved budgeting

⓫ Improve quality/evaluation of proposals

⓬ Improve communication & collaboration

Timing/Status

- Staffing (underway)
- Policies and Procedures (underway)
  - Finalize standard templates
  - Develop/issue updated manual
- Training (develop/deliver)
  - Develop training
  - Rollout strategy
  - Conduct training

- ➢ 6 months
- ➢ 9 – 12 months
  - ▪ 6 months
  - ▪ 9-12 months
- ➢ 2 – 3 years
  - ▪ 6 months
  - ▪ 2 months
  - ▪ 2-3 years

Timing/Status

- Project Delivery & Procurement
  - Streamline procurement
  - Refine evaluation criteria
  - Alternative delivery
- Performance Monitoring
  - Database development
  - Maintenance and ongoing monitoring

➢ 6 – 9 months
  - 6 – 9 months
  - 6 – 9 months
  - 9 months

➢ Long-term
  - 3 – 6 months
  - Long-term

- Task 5: Finalize Implementation Strategies

- Task 8: Draft and Final Report

  – All study findings

  – Deliverables from prior tasks

  – Final recommendations

  – Final implementation strategies

- Final presentation(s)

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Best Practices in DB Delivery
July 21, 2016 | Legislative Briefing

Thank you

Questions?

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