

Recommended AASHTO Design-Build Procurement Guide

NCHRP Project 20-7/172

Presentation to the
AASHTO Subcommittee on Design

Annual Meeting
Chicago, Illinois
June 28, 2005

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Agenda

- Research Project Need
- Research Goal and Scope
- Guidebook Description



Research Project Need

**AASHTO
Design-Build
Task Force**

**AASHTO
Subcommittee
on Design**

**AASHTO
Subcommittee
on Construction**



Research Project Need

Keith R. Molenaar
University of Colorado

Douglas Gransberg
University of Oklahoma

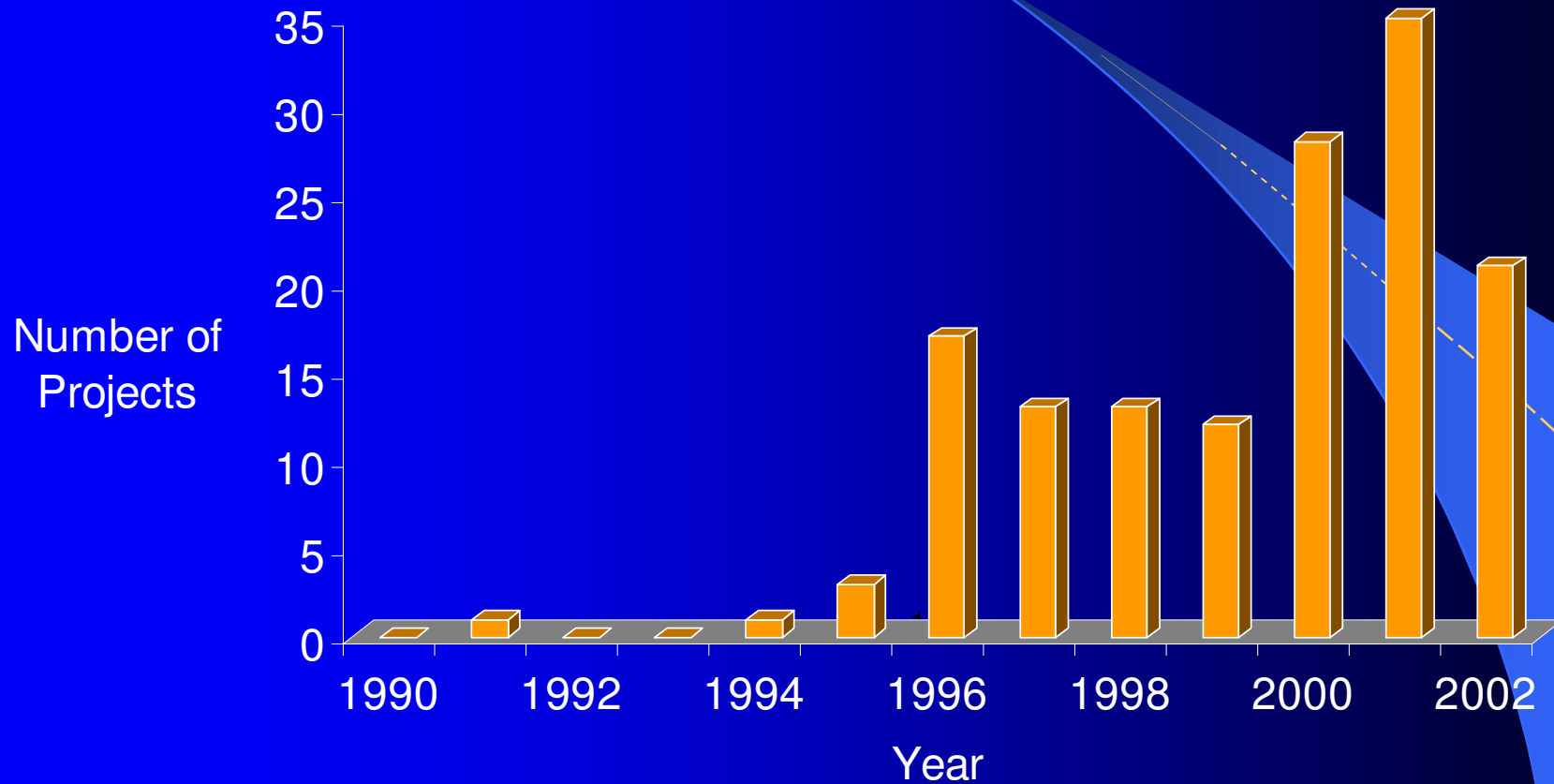
Sidney Scott
Trauner Consulting

David Downs
Downs Consulting

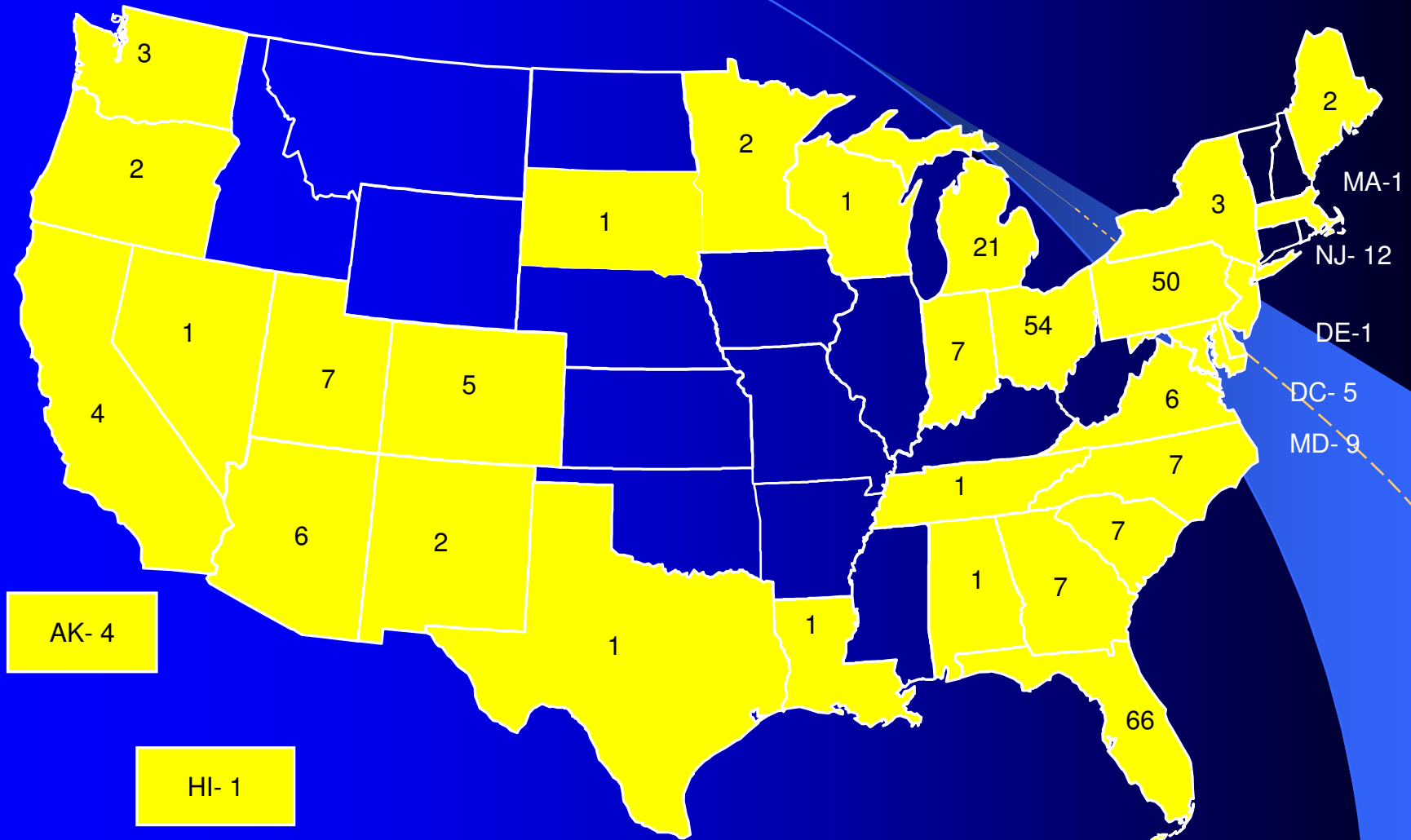
Ralph Ellis
University of Florida



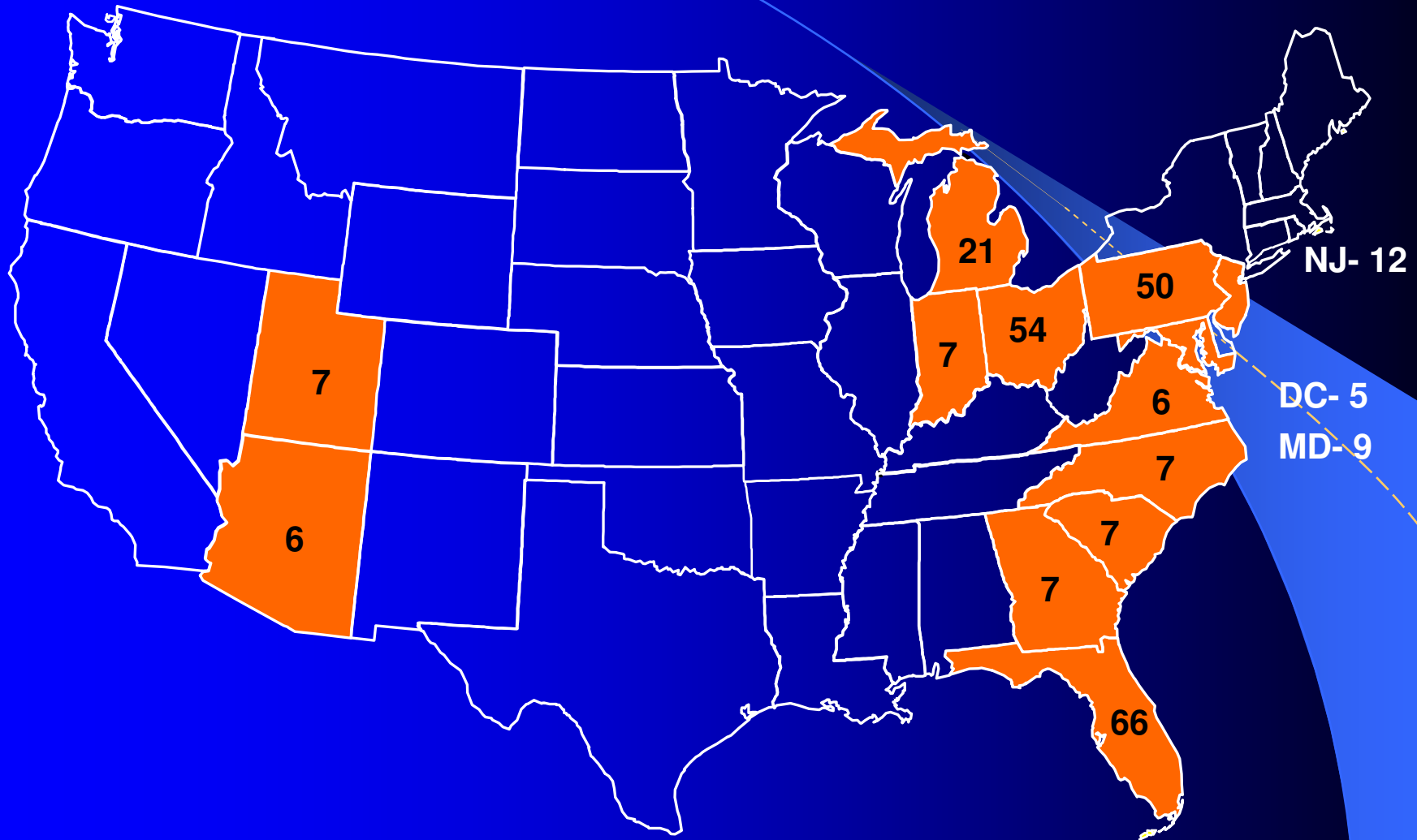
Approved DB SEP-14 Projects



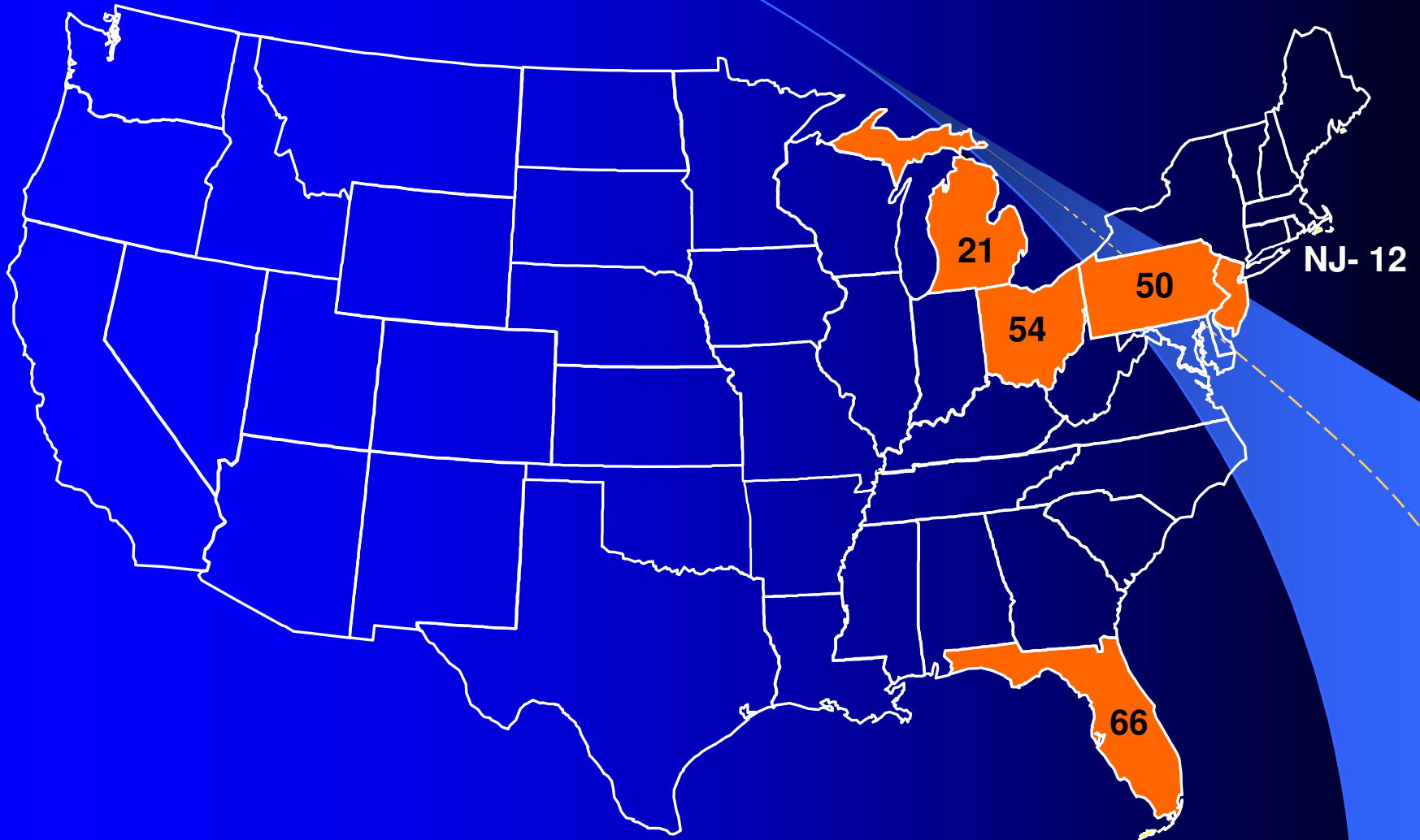
Approved DB SEP-14 Projects



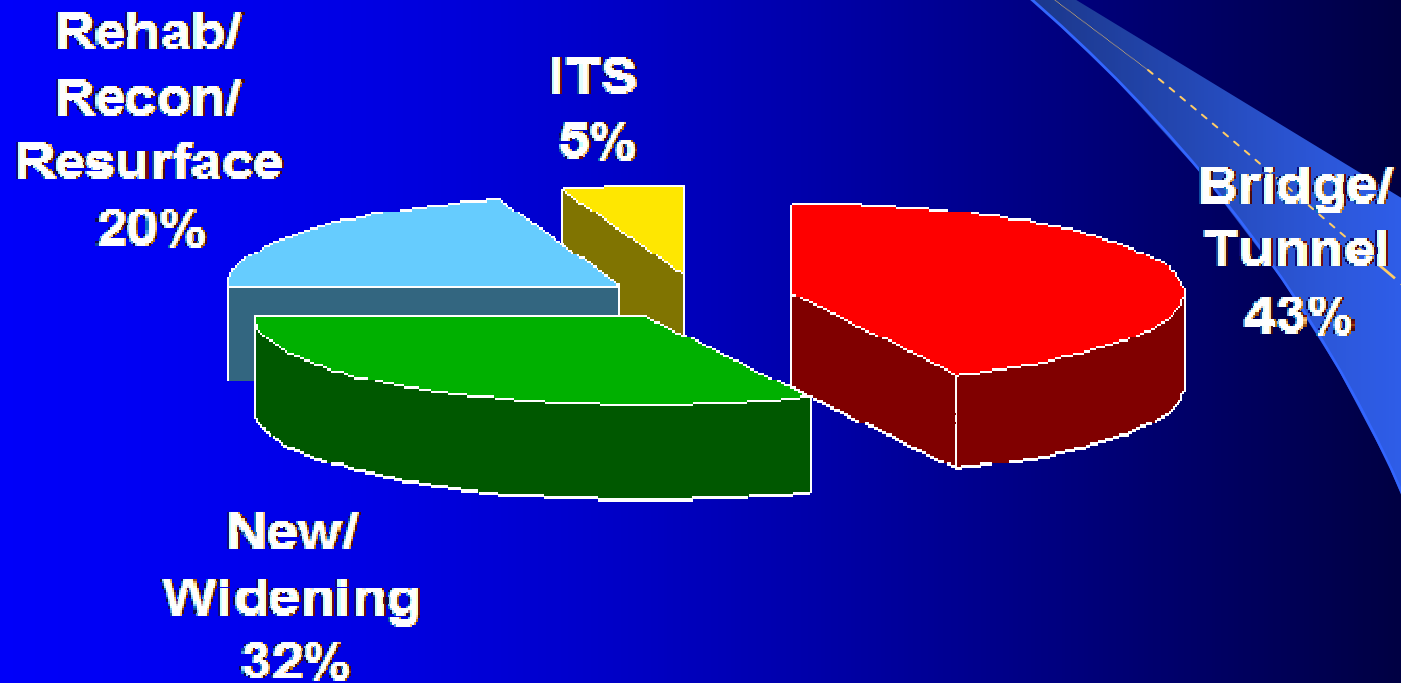
>5 Approved DB SEP-14 Projects



>10 Approved DB SEP-14 Projects

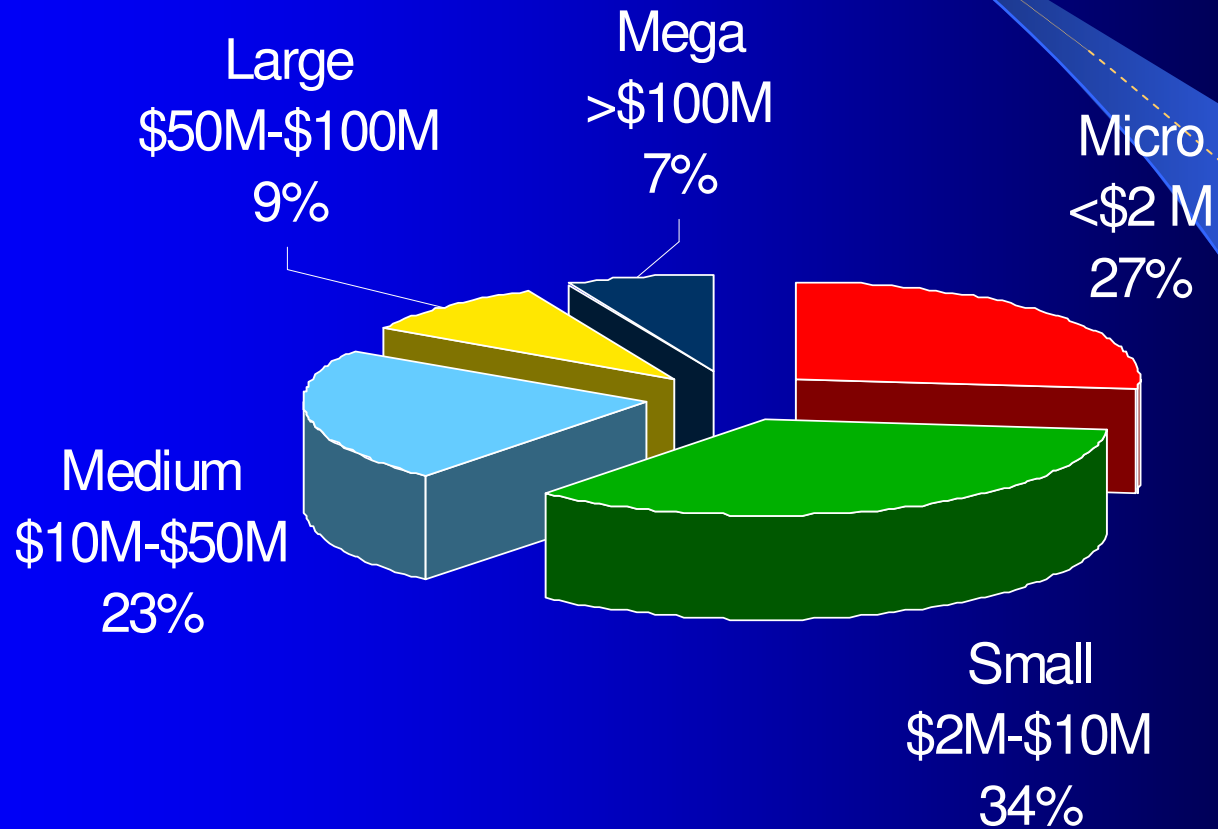


Project Type



Based on 248 approved SEP-14 design-build projects

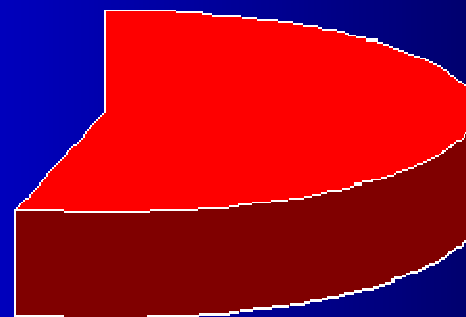
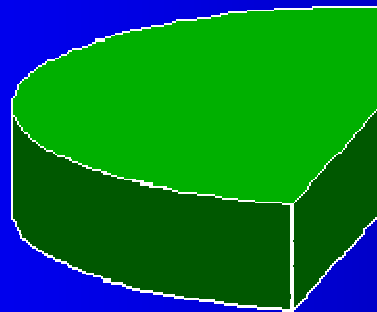
Project Size



Based on 248 approved SEP-14 design-build projects

Procurement Type

Best-Value
46%



Low Bid
54%



Based on 69 project surveys

Agenda

- ✓ Research Project Need
- **Research Goal and Scope**
- Guidebook Description



Research Goal

“Develop a recommended
AASHTO design-build guide
that will assist contracting agencies
in design-build procurement”



Research Scope

- Assist in procurement preparation process
 - Requests for qualifications (RFQ)
 - Requests for proposals (RFP)
 - Selection of the successful proposer
- Small to medium projects (\$10-100 million)



Research Scope

- *Guidebook* rather than procedure manual
- *Flexible* for project type, size, and procurement requirements
- Based on *best practices*
- Promote a common *vocabulary*



Research Tasks

Task 1 – Review & Analysis

State-of-practice review in
RFP & RFQ development

Task 2 - Synthesis

Prepare annotated
Guide outline

Task 3 - Development

Develop and refine Guide

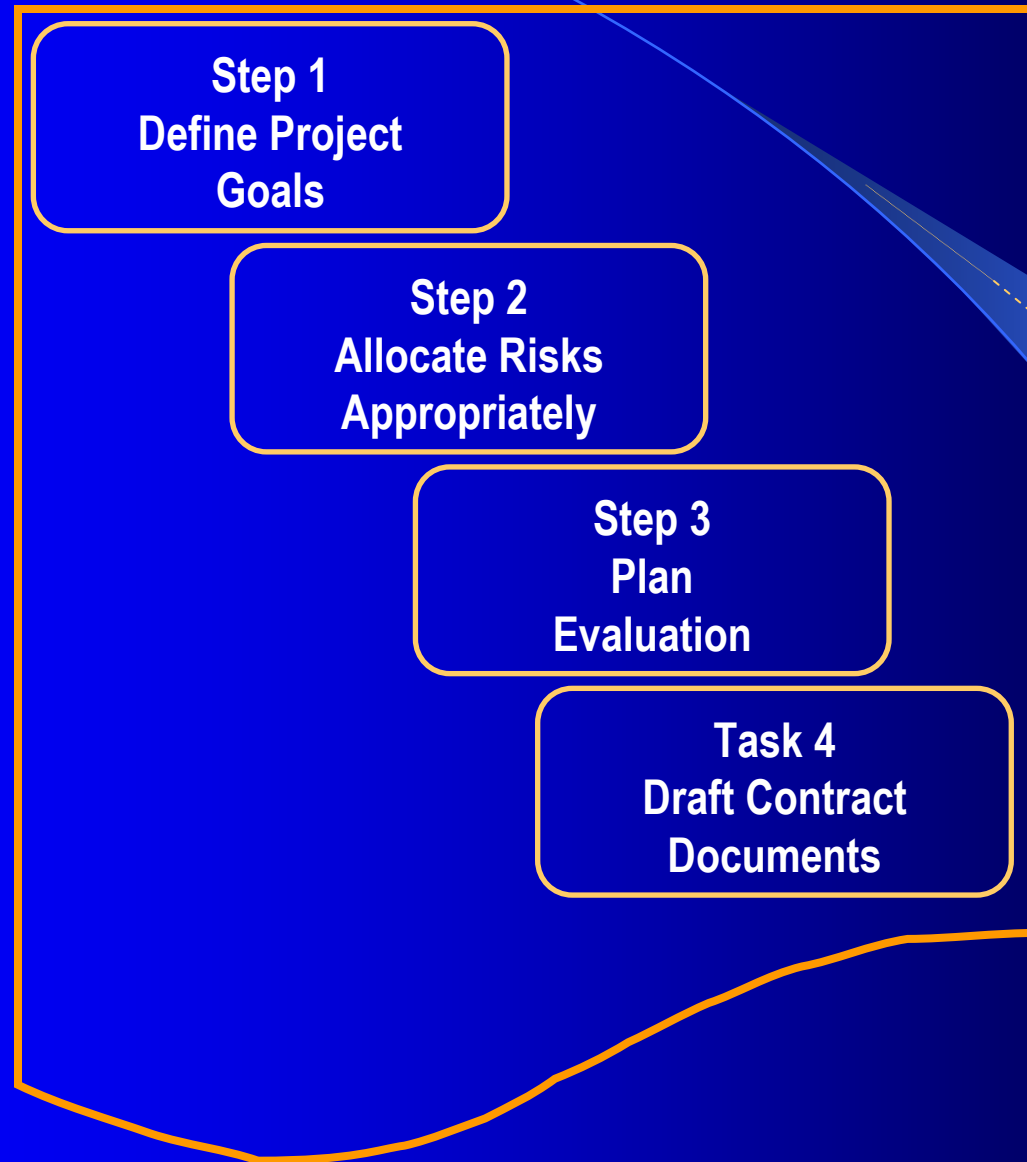


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Guide Philosophy



Guide Outline

- Chapter 1 – Introduction
- Chapter 2 – Understanding Design-Build
- Chapter 3 – Defining Project Goals and Objectives
- Chapter 4 – Allocating Project Risks
- Chapter 5 – Evaluation Planning and Award
- Chapter 6 – Drafting RFQ/RFP/Contract Documents
- Appendix – Project and Program Examples



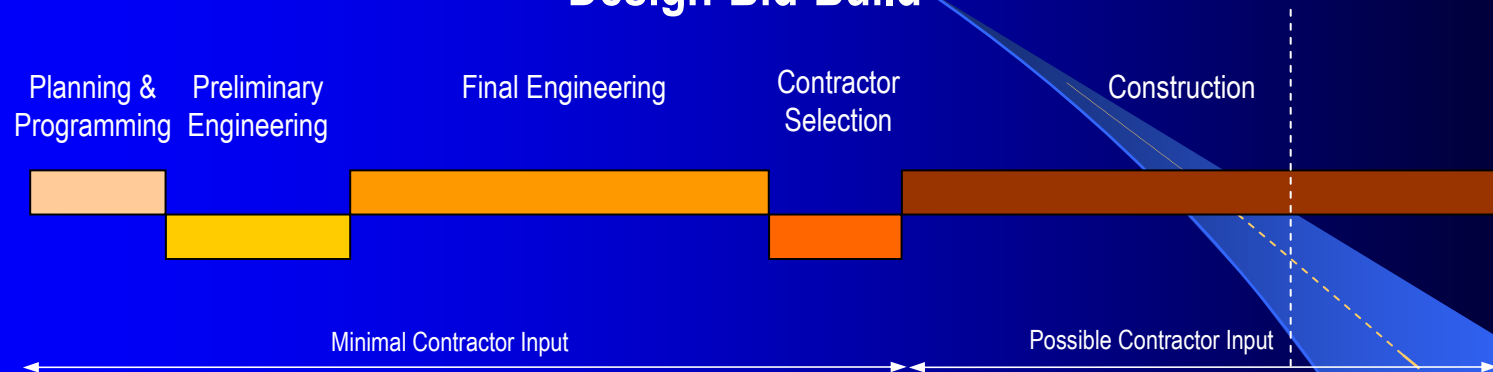
Understanding Design-Build

- Justification for design-build
 - Schedule
 - Cost
 - Quality
 - Innovation
- Design-build project selection
- Design-build procurement process overview
- Design-build programs vs. design-build projects

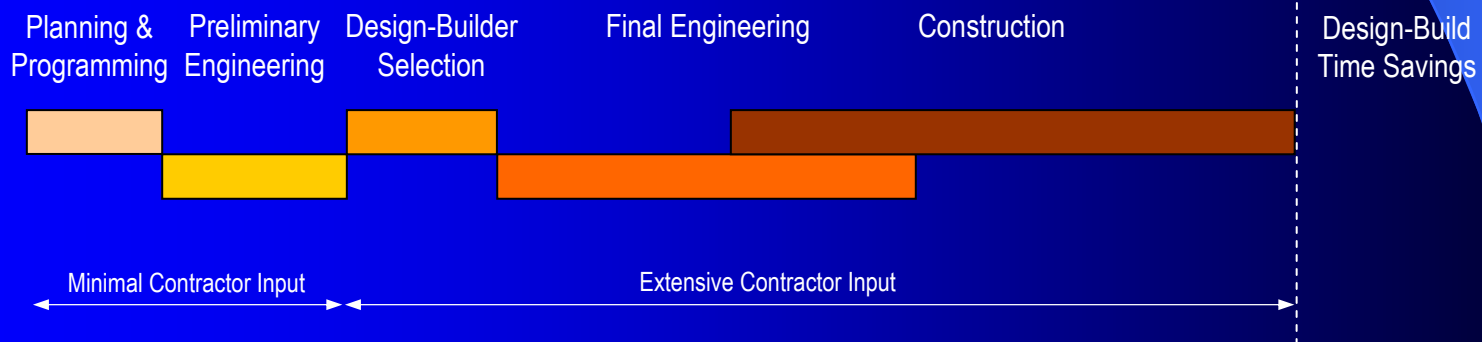


Understanding Design-Build

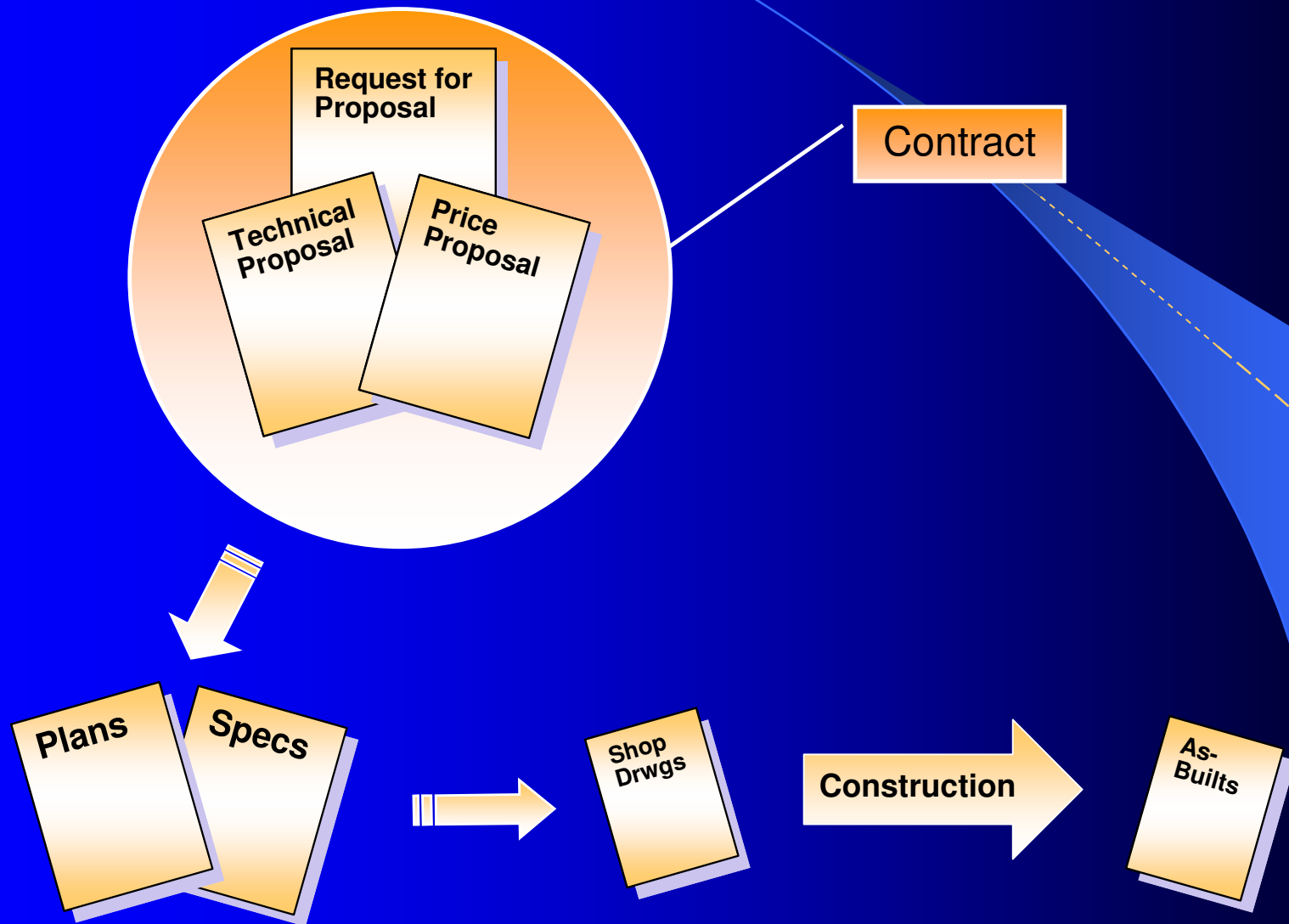
Design-Bid-Build



Design-Build



Understanding Design-Build



Defining Project Goals

- Importance of project goals
- Identification and ranking of project goals
- Communication of goals



Defining Project Goals

- **Schedule**
 - Minimize project delivery time
 - Complete the project on schedule
- **Cost**
 - Minimize project cost
 - Maximize project budget
 - Complete the project on budget
- **Quality**
 - Provide the highest quality project
 - Select the best team
- **Innovation**
 - Provide innovative solutions
 - Minimize impact on the traveling public

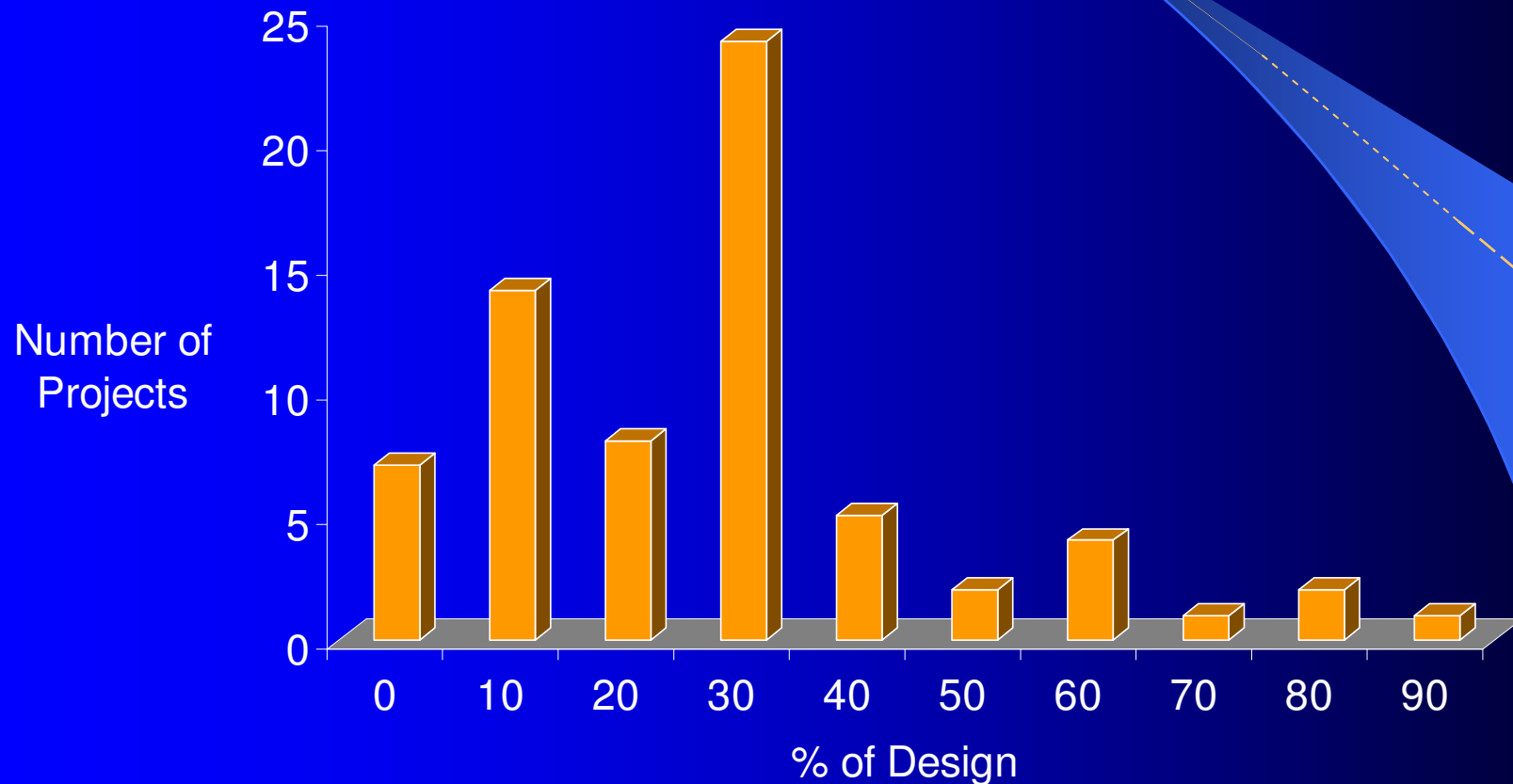


Allocating Project Risks

- Appropriate level of design in the RFP
- Risk identification
- Discussion of critical design-build risk elements
- Design-build project risk allocation matrix
- Appropriate risk-allocation strategies



Allocating Project Risks



Based on 69 project surveys

Allocating Project Risks

Level of Design
& Risk Allocation



Schedule
& Innovation



Allocating Project Risks

- Discussion of Critical Design-Build Risk Issues
 - Design Issues
 - Environmental Approval and Permitting
 - Right of Way
 - Local Agency, Utility, and Railroad Issues
 - Construction
 - Force Majeure/Acts of God
 - Differing Site Conditions/Changed Conditions
 - Warranty



Allocating Project Risks

CATEGORY	RISK	DBB		DB	
		Agency	Contr.	Agency	Contr.
Design Issues	Project scope definition	X		X	
	Design criteria	X		X	
Environmental	NEPA/SEPA	X		X	
Right of way	Establishing ROW limits	X		X	
	Acquire ROW	X		X	
Local Agency	Establish final/actual local agency impacts	X			X
Utility	Relocation of utilities under agreement during contract		X		X
	Modified agreement with private utility based on final design	X			X

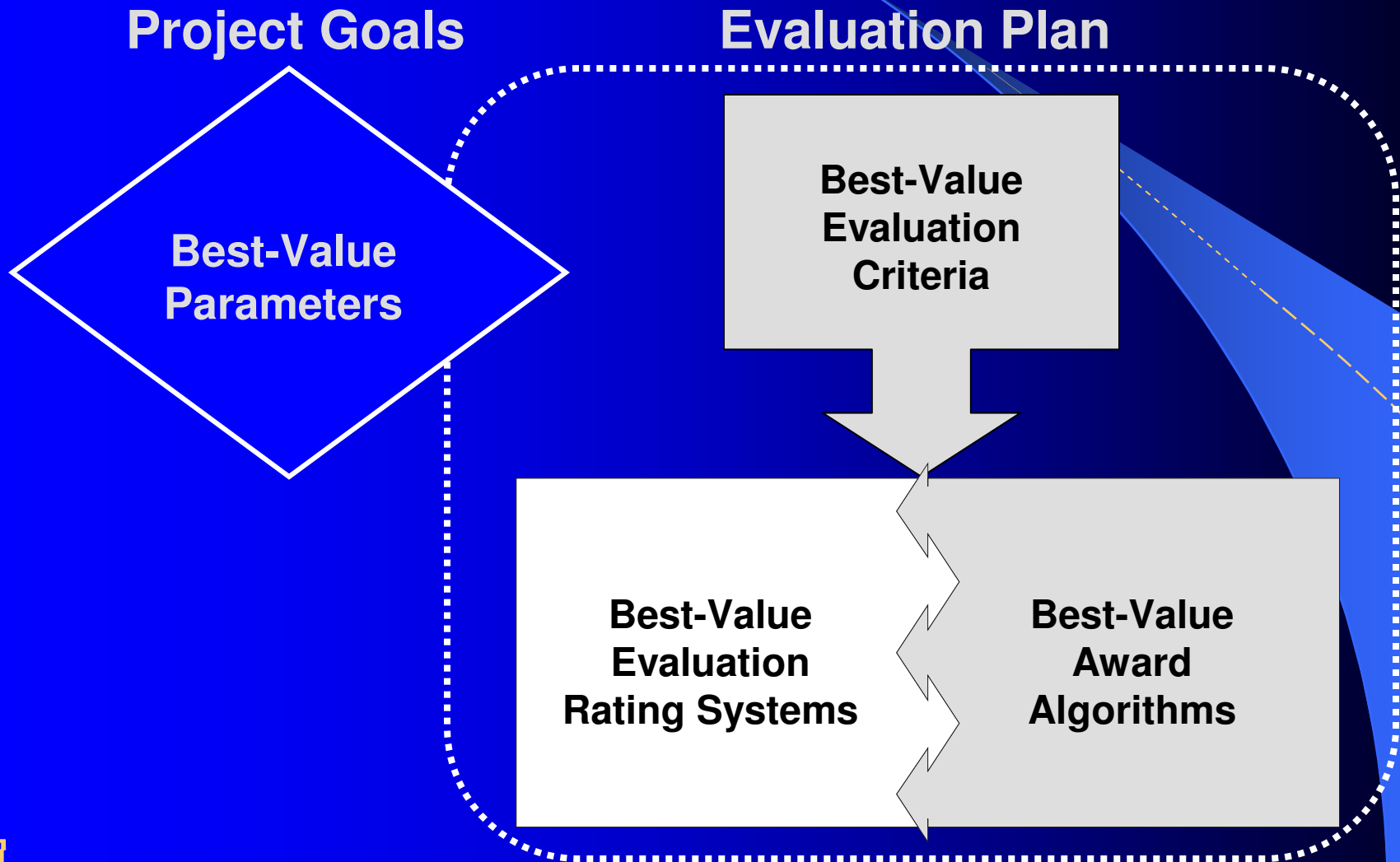


Evaluation Planning and Award

- Evaluation plan transparency
- Best-value contracting framework
- Implementing design-build best-value award systems
- Design-build evaluation and award planning summary



Evaluation Planning and Award



Drafting RFQ/RFP/Contract Documents

- Critical RFQ and RFP Contents
- Design-build concepts and contract provisions
 - 21 critical concepts and provision
 - Appendix of examples



Drafting RFQ/RFP/Contract Documents

- Basic Configuration
- Alternative Technical Concepts
- Betterments and Extra Work
- Quality Management
- Design Submittal, Review and Approval
- Design Commitment
- Engineer of Record
- Differing Site Conditions
- Environmental Permitting
- Right of way
- Utility Relocation
- Order of Document Precedence
- Design and Construction References
- Ownership of Documents
- Stipend
- Payment Method
- Progress Schedule
- Project Acceptance
- Non-Conforming Work
- Traffic Control
- Warranty



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