Design-Build at Wisconsin DOT

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Presentation Overview

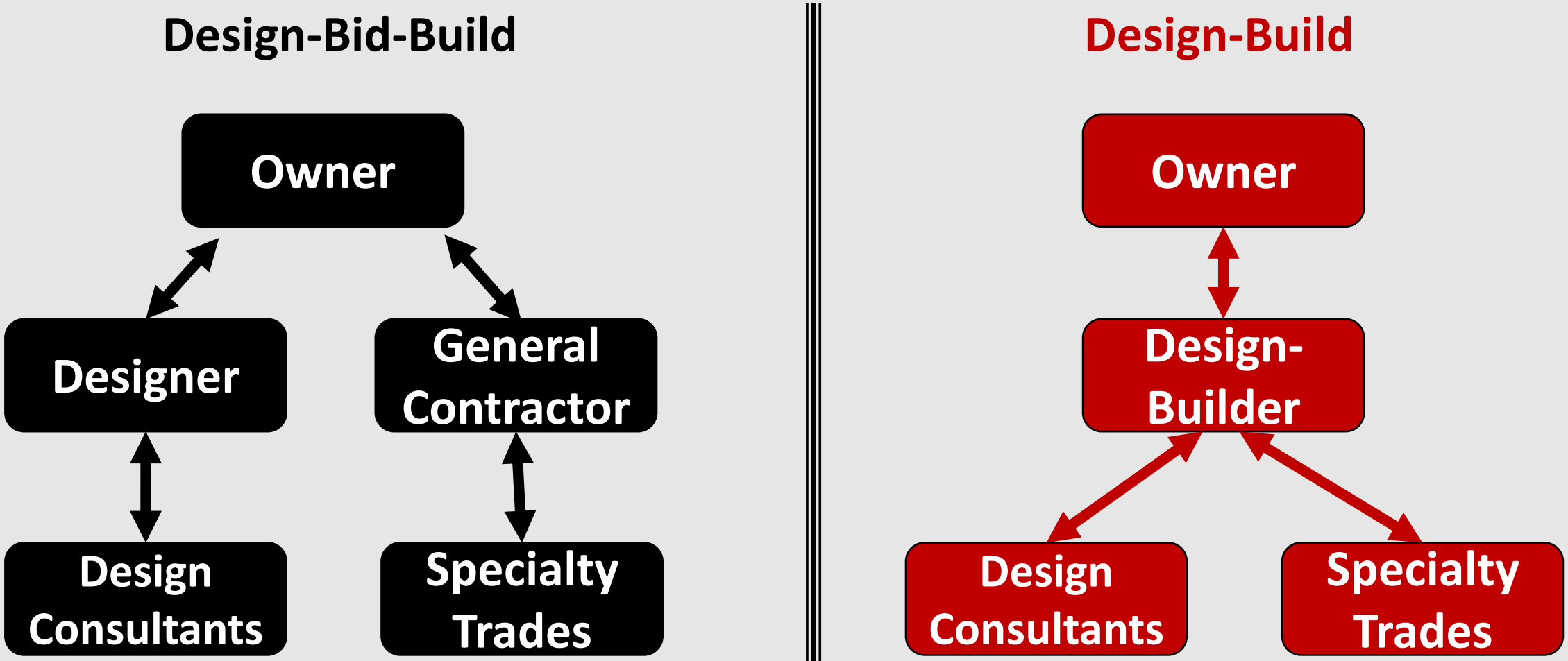
- Design-Build Background
- Design-Build Program at WisDOT
- WisDOT Design-Build Procurement Process
- First Design-Build Projects at WisDOT

Design-Build Background

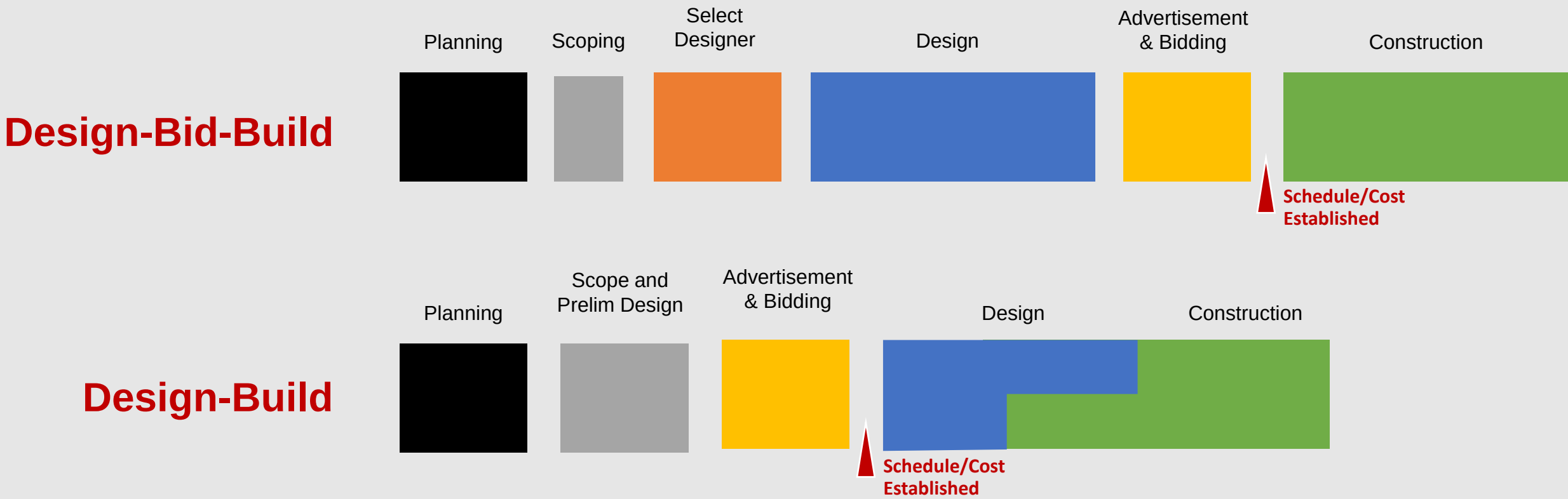
Design-Build Definition

- Design-Build – “an agreement that provides for design and construction of improvements by a contractor or private developer.” from *23 CFR Part 636*
  - WisDOT will enter into a single contract with the design-builder

Delivery Method Comparison – Contract Structure



Design-Build Method vs Design-Bid-Build



Design-Build Benefits

- Expedited Schedule
- Earlier Schedule and Identification of Project Cost
- Reduce Conflict/Litigation in Project Delivery
- Early Contractor Input/ Enhanced Constructability
- Built-in Opportunities for Value Engineering
- Innovation
- Risks and costs associated with design errors and omissions transferred from owner to the D-B team

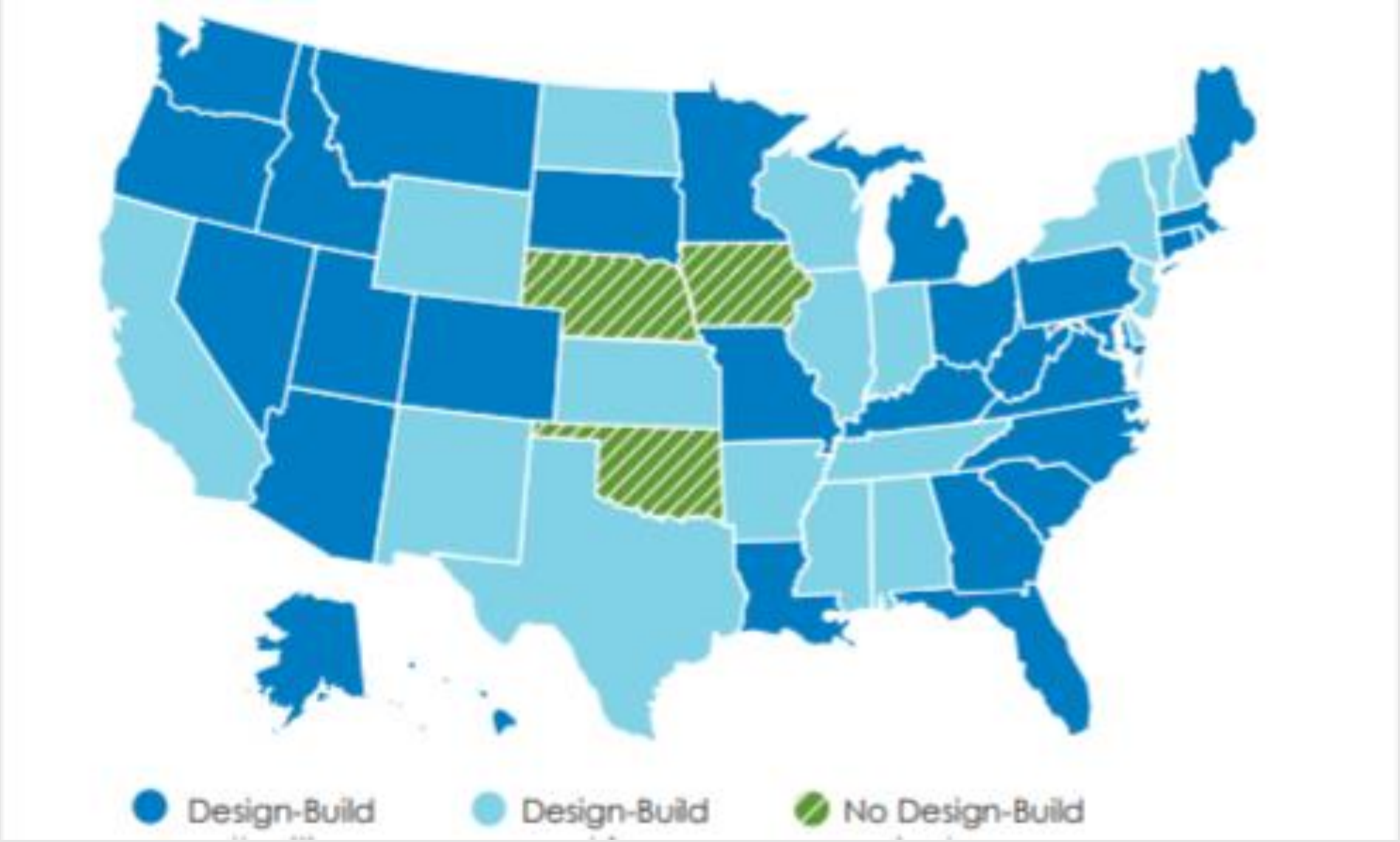
Design-Build Challenges

- Less WisDOT control over final product
- Requires a different way of thinking about a project
- Increases preliminary design efforts for WisDOT
- Increases proposal development efforts for design-builders
- Process development requires a high level of effort
- Learning curve for WisDOT and industry
- Funding (encumbrance) challenges

Types of Design-Build Procurement

- Best Value
  - Points assigned to the technical proposal and the cost proposal
  - Contract awarded to the proposer whose proposal has the best combined score on these two items.
- Low Bid
  - Contract awarded to proposer that submits the lowest price and has a responsive technical proposal.
  - To be responsive, the technical proposal must meet or exceed requirements specified in RFP
- Fixed-price variable scope
  - Contract awarded to proposer that submits the lowest price and the best qualitative scope of work
  - Price must not exceed a fixed price set by WisDOT

States Utilizing Design-Build



Source: Federal Highway Administration
https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/pdfs/edc_design.pdf

Design-Build at WisDOT

WisDOT Design-Build Program Background

Statute 84.062 Alternative Project Delivery

- 2019 legislation
  - "The department shall administer a program for design-build projects"
    - 2-Phase Procurement
      - Request for Qualifications
      - Request for Proposals
- 2021 legislation
  - Pilot program
  - 6 projects- one of each type, 3 TBD
  - $250 million dollar cap on program

WisDOT Design-Build Program Development Project

- Implementing design-build contracting of transportation projects in the State of Wisconsin
  - Contracting with AECOM as a consultant to develop WisDOT's program
  - Set up template documents for procurement
    - Using Nearby States' documents as a starting point (MN, MI)
  - Develop internal Design-Build Manual to document WisDOT procedures and requirements for design-build
  - Create system for facilitating and tracking design-build submittals
  - Create methodology for selecting appropriate projects for design-build

Document Development

- Develop manuals, tools, and forms to support design-build implementation
  - Request For Qualifications (RFQ) Template
  - Request for Proposals (RFP) Template
    - Instructions to Proposers (ITP) Template
    - Book 1 (Terms and Conditions) Template
    - Book 2 (Project Requirements) Template
    - Book 3 (Applicable Standards) Template
  - Design-Build Manual

WisDOT Design-Build Process

- WisDOT (or design consultant) Preliminary Engineering
  - Develops preliminary plans
    - Design to approximately 30% complete
  - Completes an accepted environmental document
  - Preferable to have Real Estate obtained by RFP release
  - Preferable to have utility coordination underway by RFP release

- 2-Phase procurement process for design-builder
  - Request for Qualifications (RFQ)
  - Request for Proposals (RFP)

Project Preliminary Design

- Region PM or consultant completes the preliminary design (RID)
  - RID stands for Reference Information Documents - included with RFP for design-builder's information (non-contractual)
    - As-built plans
    - Preliminary Plans
    - Field data (survey, geotechnical, etc.)
  - Consultant working on RID documents may be unable to participate in a D-B team due to potential conflict of interest
  - AECOM to assist PMs as owner's representative on first 3 design-build projects

WisDOT Involvement in Project Final Design and Construction

Final Design

- 60% review
- Release for Construction (RFC) documents (90%) review
- Required submittals/coordination
  - Any changes to environmental, etc. commitments
  - Design submittals (SSRs, DSR, drainage spreadsheets, etc)

Construction

- Oversight, inspection, project accounting and testing similar to current process
- WisDOT will maintain QA/QC functions as usual
- Quantity measurements and payment will work differently

Design-Build WisDOT Process Differences

- Funding differences – funds encumbered for construction when final design begins instead of at beginning of construction
- Permits need to be secured earlier in the process
- Real estate needs to be acquired earlier in the process
- Utility moves need to be coordinated earlier in the process
- Permits, real estate and utility coordination all need to move forward with less design information than on a design-bid-build project
- Construction payments – percent complete vs traditional bid item quantity measurement.

WisDOT Design-Build Procurement Process

Procurement Process Phase 1 - RFQ

Request for Qualifications Will Contain:

- Project Goals
- Scope of Work
- Project Schedule
- Qualification Requirements
- Criteria for evaluating respondents' qualifications – weights vary by project
  - Project Management Approach
  - Organization and Experience
  - Submitter Experience
  - Key Personnel Experience

Procurement Process Phase 2 - RFP

RFP details requirements and criteria for shortlisted teams to develo proposals and bids, and defines the final design requirements.

Request for Proposals Will Contain:

- Procurement Schedule
- Alternative Technical Concept (ATC) Process
- Technical Proposal Content and Delivery instructions
- Stipend information
- Instructions to Proposers
- Contract Terms and Conditions (Book 1)
- Project Requirements (Book 2)
- Applicable Standards (Book 3)
- Reference Information Documents

Alternative Technical Concepts (ATCs)

Overview

- Proposal submitted prior to letting that is a variance from the project requirements.
- Generally based on design-builder's previous experience or area of expertise.
- Promotes efficiency and cost savings while still meeting the overall goals of the project

Common ATC Responses

- Approved
- Conditionally Approved
- Not Approved in Current Form
- Not Approved
- Not an ATC

Stipends

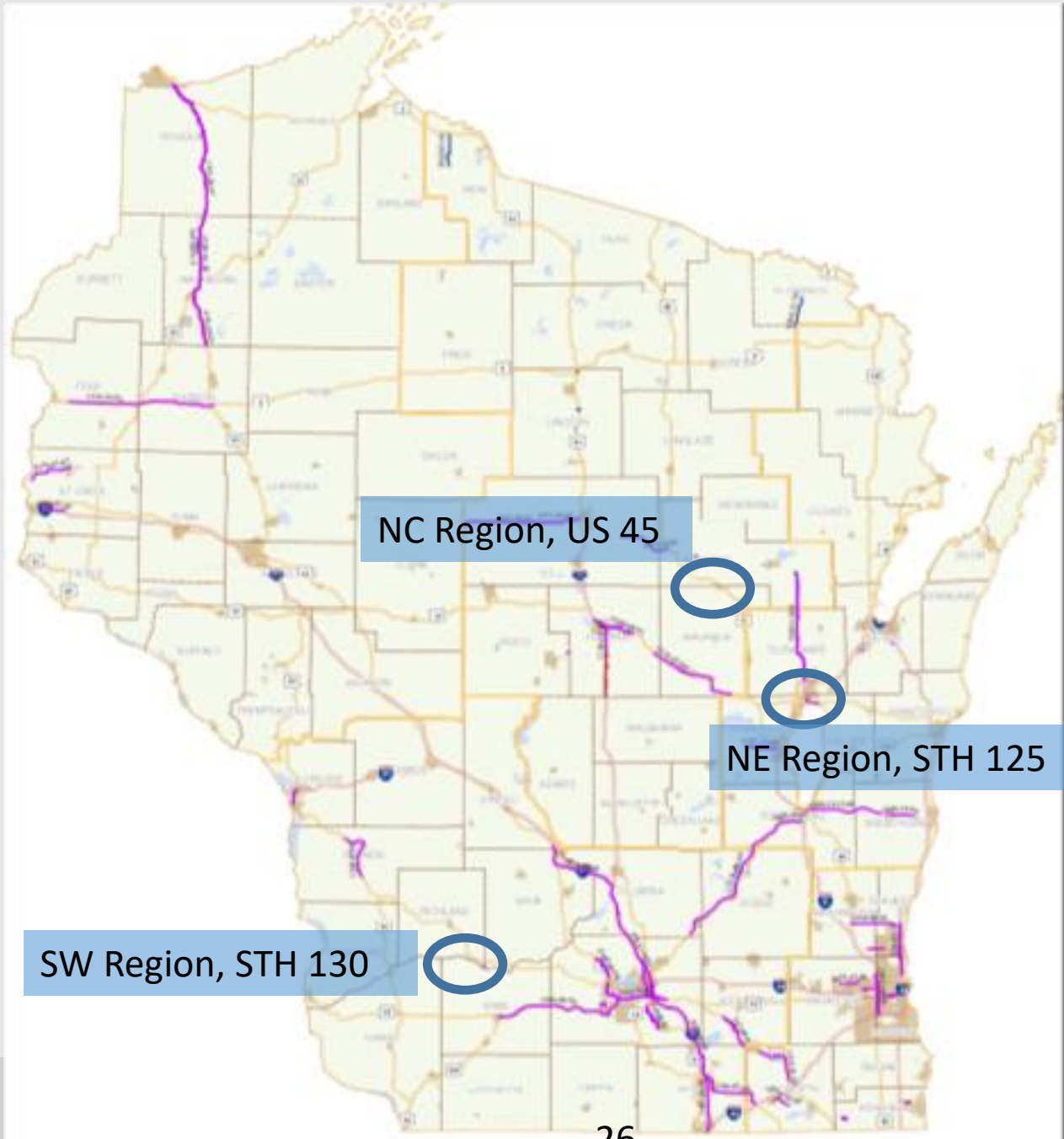
- Paid to unsuccessful proposers
- Allow use of ATCs by successful proposer
- Amount to be determined by project
- Defined in Instructions to Proposers (ITP) document

Selection of Potential WisDOT Design-Build Projects

- Limit project risks
  - Well-defined project scope
  - Limit environmental risks
  - Limit right-of-way requirements
  - Limit utility risks
- Opportunities for innovation or projected benefits from early contractor involvement
- Projects early in design process
- FHWA Alternative Contracting Evaluation Tool for risk analysis

First Design-Build Projects at WisDOT

First 3 Design-Build Projects



USH 45 - CTH C to Gollnow Rd
(Asphalt Pavement Replacement)

Design-Build Qualities

- Good size
- Potential staging alternatives (4-lane divided to be built under traffic)

Potential Risks to Mitigate

- Safety improvements at STH 110 intersection to be determined
- Potential for additional R/W needs
- Utility risks

Project ID 1600-15-70

USH 45

CTH C to Gollnow Road

Waupaca/Shawano County

PAVEMENT REPLACEMENT

NC Region

8.03 Miles

STH 130 STH 23 – Lone Rock
(Bridge Replacement)

Design-Build Qualities

- New bridges on new alignment
- Potential for accelerated schedule

Potential Risks to Mitigate

- Environmentally sensitive area
- 4(f) impacts – historical and recreational lands
- Legislative interest

Higher cost (>$20 million)

Project ID 5770-01-71

STH 130

WI River RDWY& RPL B-25-XX-XXX

Richland County

ROADWAY & STRUCTURE REPLACEMENT

SW Region

0.7 Miles

STH 125 - IH 41 to Bluemound Dr

(Bridge Replacement)

Design-Build Qualities

- Potential staging alternatives in high volume constricted area
- Bridge type design options including ABC
- Need for accelerated schedule for businesses/traffic

Potential Risks to Mitigate

- Stream crossing environmental risks
- Utility risks
- Requires coordination with nearby projects
- Staging concerns for business stakeholders

Project ID 6526-00-71

STH 125

IH 41 to Bluemound Drive

Outagamie County

BRIDGE REPLACEMENT

NE Region

Summary

- Design-build will be a new tool for WisDOT to use when appropriate project conditions arise
- Design-build will not constitute a majority of the WisDOT construction program
- Use of design-build will be highly targeted for the near-term
- WisDOT hopes that design-build procurement will improve the delivery of select projects

More information

- WisDOT Design-Build Website
  - http://wisconsindot.gov/designbuild
- Contact
  - Benjamin.Thompson@dot.wi.gov