Bridge Bundling Industry Webinar

Illinois Department of Transportation

Thank you for joining us! The meeting will begin shortly.

This meeting will be recorded and available online after the meeting

For Questions

- At the bottom of the window, click **Q&A.**
- When you click on Q&A, a window will appear where you can type a question and see others' questions.
- DOT.InnovativeProjectDelivery@Illinois.gov

Bridge Bundling Industry Webinar

More Projects * Faster Investment * Saves Money * Additional DBE Opportunities

Omer Osman

Holly Bieneman

Royce Meredith

Tony Hunley

08/24/2021

Illinois Department of Transportation

Opening Remarks

Omer Osman

- Secretary of Transportation, Illinois Department of Transportation

Agenda

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- Welcome and Webinar Overview
- Illinois Bridge Bundling Overview
- Guest Speakers: Kentucky Transportation Cabinet Experiences with Bridge Bundling
- Polling Questions
- Open Discussion Q&A
- Wrap Up and Next Steps

The purpose of today's meeting is to introduce IDOT's bridge bundling program, as well as engage with industry to solicit and gather feedback and input on how to best structure the program.

Bureau of Innovative Project Delivery

Illinois Department of Transportation

- IDOT continually seeks innovative solutions to meet the growing transportation needs of Illinois.
- Bureau of Innovative Project Delivery or IPD
  - Established in 2016
  - Identifies, evaluates, and develops projects that may benefit from innovative approaches, including the use of various forms of public-private partnerships ("P3"), and other contracting methods allowable under law.

Innovative Delivery Methods

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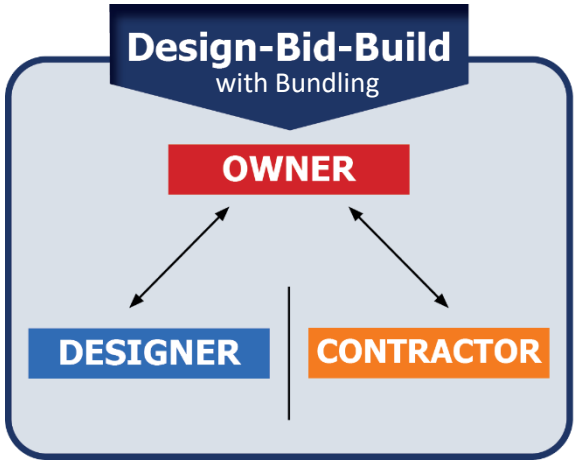

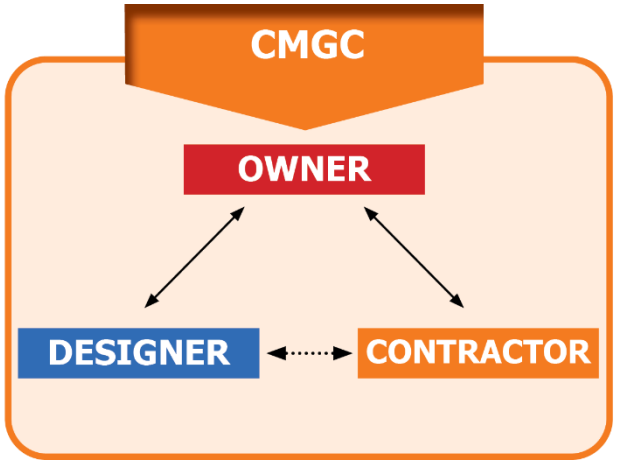

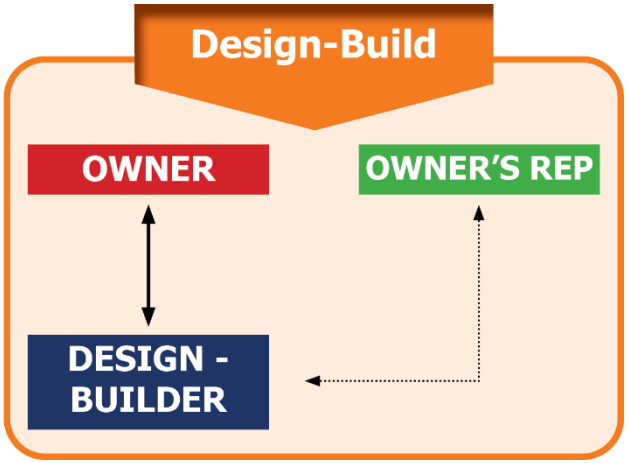

Traditional delivery (design-bid-build) with bundling will **not** require legislation, also reduces time and cost savings, flexibility for DBE innovations

Legislation will be required for **innovative, alternative** delivery options; more opportunities to reduce time and cost savings, flexibility for DBE innovations

TRADITIONAL DELIVERY → INNOVATIVE DELIVERY

Bridge Bundling Feasibility Study - Background

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Over 3,400 of IDOT's Bridges (43%) were built over 50 years ago.

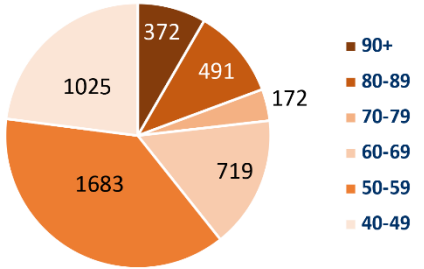
- IDOT currently **non-compliant with Federal law** with >10% of National Highway System bridge deck "structurally deficient"
- Increased Rebuild Illinois revenues and traditional delivery approaches **remain insufficient** to meet federal requirements
- **Freight movement is constrained** due to load-posted bridges

Over 1,000 bridges "load posted" in Illinois

Nearly 2,500 structurally deficient bridges in Illinois

- **13%** of the deck area on structures maintained by IDOT are classified as structurally deficient

# of IDOT Maintained Structures over 40 years old

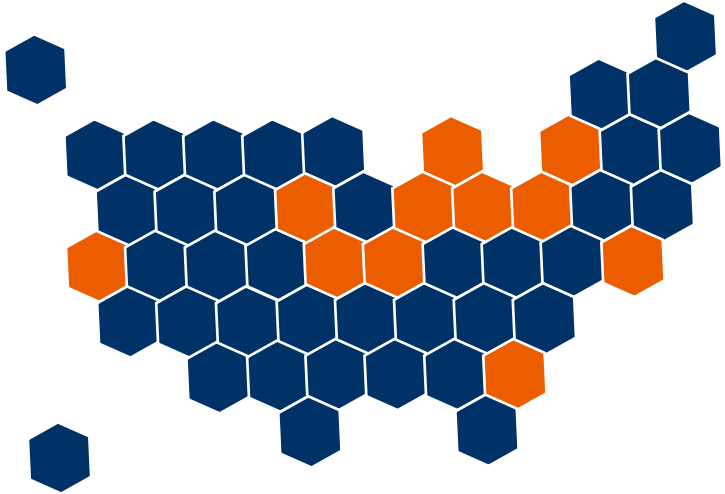


- **43%** of structures maintained by IDOT are over 50 years old
- **7,859** state bridges have an average age of **44**
- **18,972** local bridges have an average age of **41**

Bridge Bundling Feasibility Study - Overview

Illinois Department of Transportation

- Evaluate bundling for state-owned bridges and culverts throughout Illinois to assist IDOT with understanding the benefits and considerations of establishing a bundling demonstration project and ongoing program.



Bundling Works!

Bridge bundling in Illinois could:

- Complete **more projects** in **less time** at **lower costs**
- **Leverage increased revenues** to deliver *more* projects
- Create new, innovative opportunities for **DBE engagement and growth**

How Bundling Works

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1 **Structures (bridges and culverts) in poor condition are screened to identify and that:**

- **Need replacement**
- Technically **straight forward**
- Have **similar replacement structure characteristics** (pier, columns beam, guardrail types)

2 **Structures will be prepared for procurements:**

- Level of effort by IDOT will **depend on the delivery model selected:**
  - DBB: 100% design
  - CMGC: 1-5% design
  - DB & P3: 35% design to secure permits and estimate costs

3 **Bundles could be procured based on:**

- **Proximity** of the structure to one another
- **Capacity** of the market to deliver the structures
- **Priorities** based on feedback

4 **Selection of Best Proposals:**

- Bundles will **depend on structure similarity**
- Goal: **Contractors quickly deliver** multiple projects by **minimizing the number of designs** and **optimizing the ability to apply economies of scale** to efficiently construct all of the structures
- Compared to the traditional delivery (one structure at a time), **lower costs should be realized, and the cost savings should be able to grow overtime** as the process is repeated

Economic Benefits of Bundling

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- Increased **investment in disadvantaged communities** and across the state via additional projects
- Improved **safety and connectivity** of the transportation network
- Bundled delivery **reduces costs** due to economies of scale, reducing deferred maintenance, and avoiding cost escalation and inflation; also provides opportunities for reduced staff time
- Delivering bundled structures means **additional projects** can be built *now* through Rebuild Illinois

Current pace of bridge construction:

- **Hurts economic activity** by limiting freight movements
- **Inconveniences** the traveling public
- Leads to **increased costs** from deferred maintenance and inflation

Timeline

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Qualitative Analysis

COMPLETE

Findings: State structures identified as good candidates for bundling; bundling program could result in significant savings

Quantitative Analysis

ON-GOING ★

Screen bridges and culverts in poor condition to identify potential structures

Prepare state structures for delivery

Develop bundles across the state in ways that encourage DBE participation

Procurement

As soon as Summer 2022

On-Going stakeholder engagement, including with DBEs, to build awareness of bridge bundling program and solicit input to ensure robust participation

Bridge Bundling Program Goals

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- Create new opportunities and work experiences for **DBEs to grow and thrive**
- Improve the **safety** of the traveling public
- Improve **condition** of the overall bridge inventory
- **Expedite** the delivery of bridges and culverts
- Ensure **financial stewardship** of public funds
- Improve the **connectivity** of the transportation network

Kentucky Transportation Cabinet: Bridge Bundling Program

Illinois Department of Transportation

Guest Speakers:

- **Royce Meredith, P.E.**
  - Bridging Kentucky Program Manager, State Highway Engineer's Office Kentucky Transportation Cabinet

- **Tony Hunley, P.E., Ph.D.**
  - Bridging Kentucky Consultant Team Manager
  - Vice President, Bridge Sector Lead, Stantec

Bridging Kentucky Program Overview

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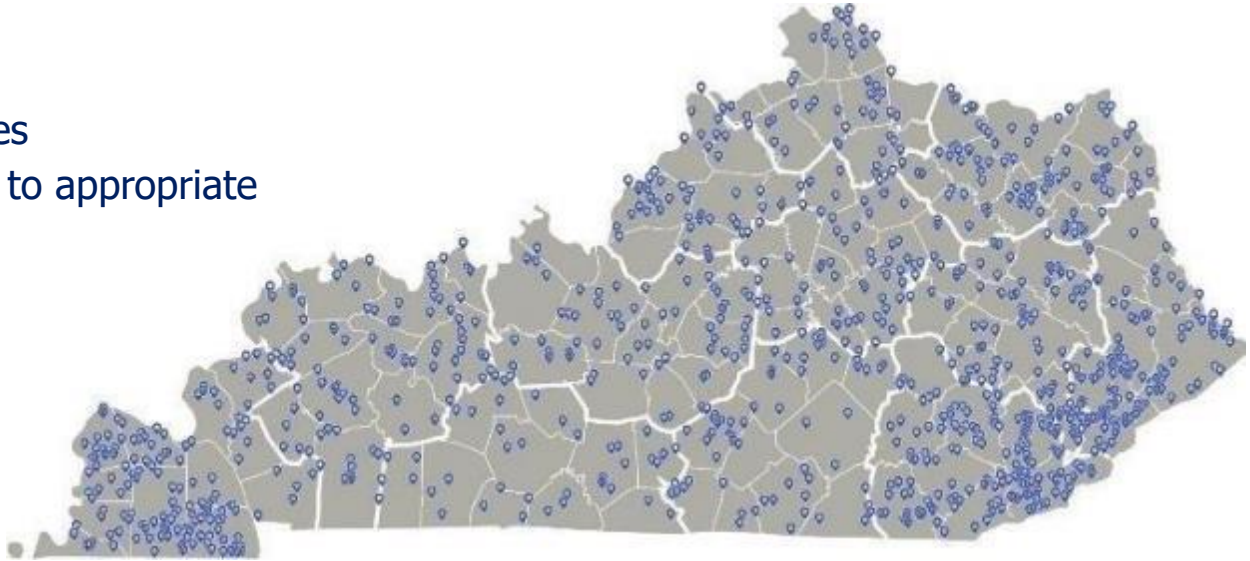
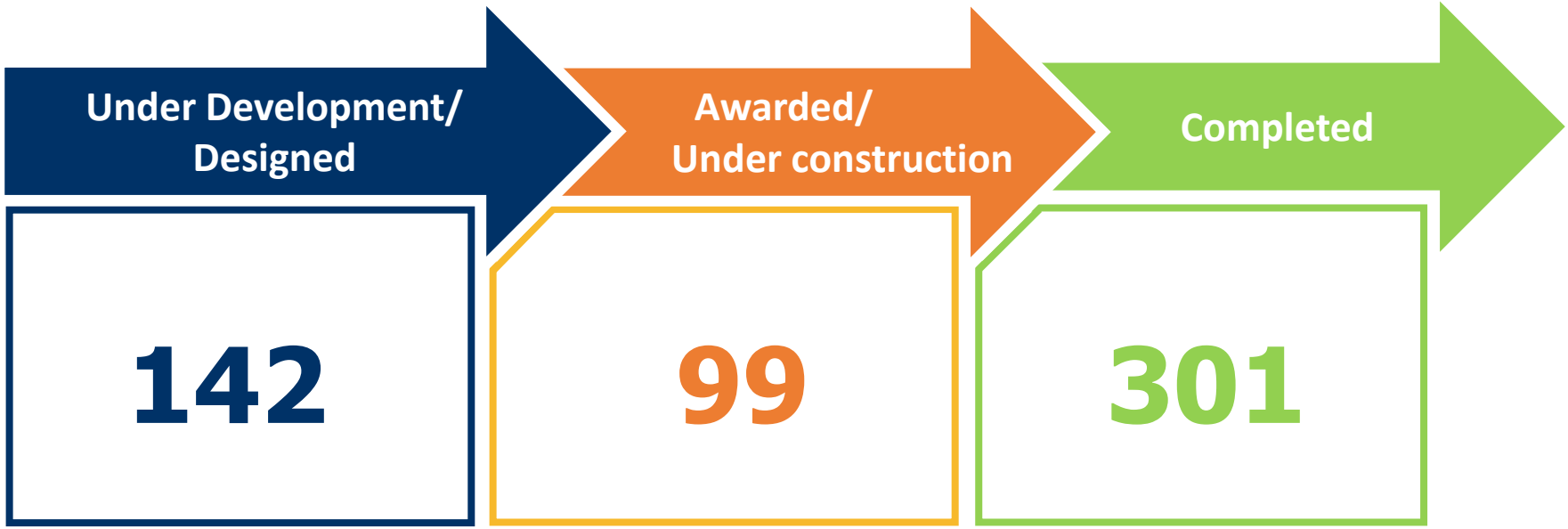
- Created in 2018
- Rehab/replace state county and local bridges
- Mandates
  - Address deficiencies
  - Restore structures to appropriate capacities
  - Expedite projects
  - Create efficiencies



Typical bridges

- Avg. 900 crossing per day
- 18.5 feet wide / 60 feet long
- 60 percent locally owned
- Weight restrictions limiting
  - School buses
  - Emergency vehicles
  - Commercial users

Progress to date



Why bundling for Kentucky?

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- Large number of bridges
- Expedited project delivery
- Significant savings (owner & contractors)
- Scalable solution – not one size fits all

BRIDGING KENTUCKY

Restore | Renew | Replace

Goal was efficiency!

Preparing for Bundling

- Talked with all stakeholders
  - Agencies/partners
  - KYTC Divisions
  - Districts
- Recognized potential challenges
- Bundling considerations
- FHWA Peer Review
- Industry Forums provided insights

Questions from the industry:

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Is bundling efficient for items outside construction?

- Yes!
- KY bundled elements through program
  - Batched environmental/permitting (Archaeological, Section 106, Section 7, etc.)
  - Utility coordination
  - Railroads
  - Most bridge design

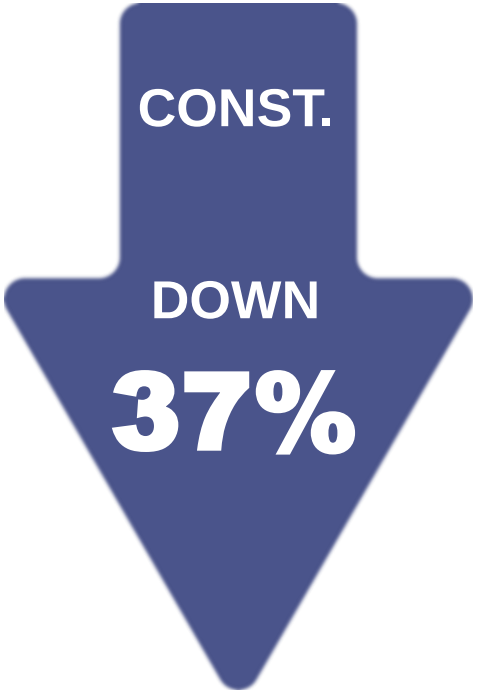
Questions from the industry:

Illinois Department of Transportation

Is bundling efficient for items outside construction?

- Bundled construction contracts
  - **Bundles awarded to date:** 35
  - **Bundled bridges:** 140
  - **Value of contracts awarded:** $80.68 million
  - **Average contract:** $2.1 million

- Significant cost savings for construction

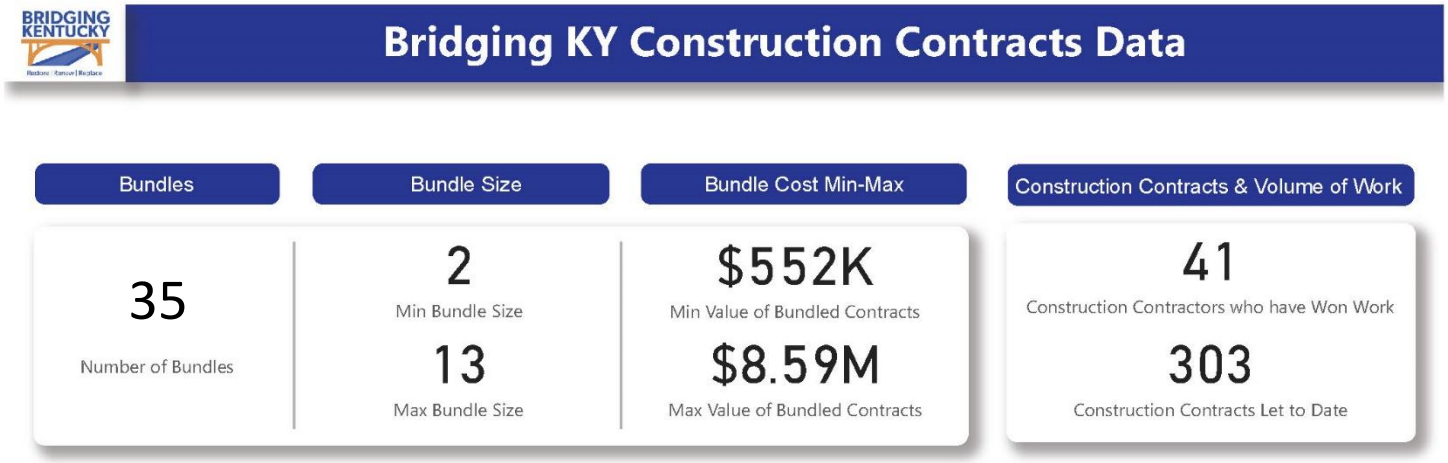


Questions from the industry:

Illinois Department of Transportation

What's an ideal bundle size?

- No one size fits all
- Needs required entire industry
  - Large and small firms involved



Questions from the industry:

Illinois Department of Transportation

How do you decide which bridges to bundle?

- 3 ways to think about bundling
  - Project development
  - Design
  - Construction

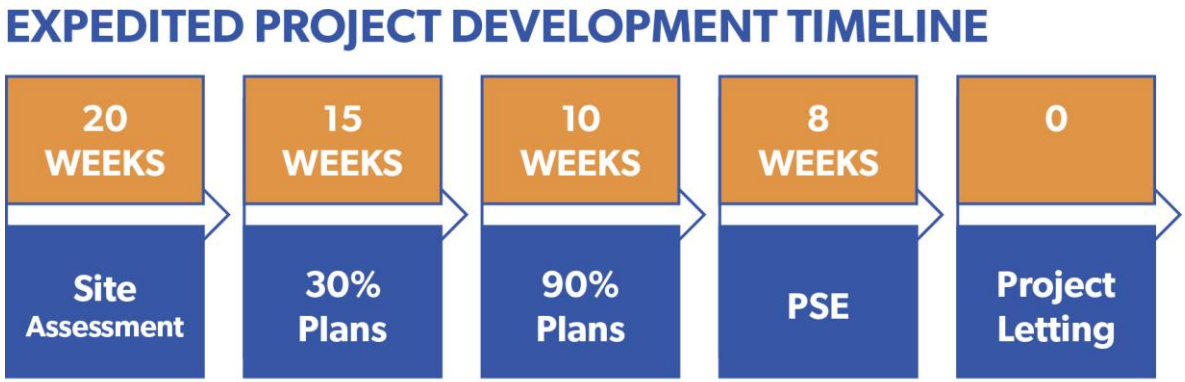
Questions from the industry:

Illinois Department of Transportation

How do you decide which bridges to bundle?

Project development/ design

- Agency collaboration
- Timeline/priority
- Efficiency in design process



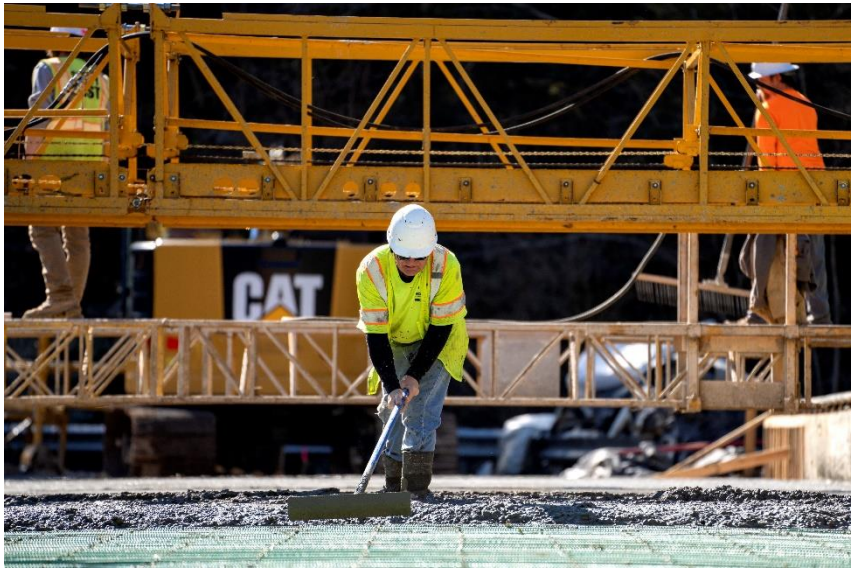
Questions from the industry:

Illinois Department of Transportation

How do you decide which bridges to bundle?

Construction bundles driven by

- Priority/timeline
- Scope of work
- Locations



Questions from the industry:

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Is it good to mix work types in bundles?

- Not in construction
  - Different capabilities/specialties
  - Rehabs/replacements separated
  - Full and superstructure replacements combined

- Design bundling
  - Seek similarities
  - Rehab/replacement teams
  - Standardized design elements

Questions from the industry:

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Is bridge location a major factor in bundling?

- Some efficiency for concurrent schedules
- More flexibility - less location matters
- KY adapted – Longer contract lengths
  - Increased flexibility
  - Focused on reducing impacts

Questions from the industry:

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How do you manage across district boundaries?

- Was a concern in Kentucky
  - Previously had mowing/paving contracts cross boundaries
- Established single point of responsibility
- Utilized same resident/ inspection crews
- Communication is important

Polling Questions

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Now we will now ask a series of polling questions. Responses to these polling questions will assist IDOT with further developing the Bridge Bundling Program.

Chat Function:

- When you click on chat, a window will appear where you can also type responses to the polling questions. Responses will remain anonymous. A member of the project team will be reviewing your responses in the chat.

Polling Question #1

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Structure Types: Would you be able to achieve cost savings with bundles that include all bridges or all culverts or a mix of both?

a. All bridges
b. All culverts
c. Mix of bridges and culverts
d. All of the above
e. Additional feedback (please use chat)

Polling Question #2

Illinois Department of Transportation

Bundle Size: How many structures per bundle would create the lowest cost per bridge or culvert in the bundle? (assuming the typical DBB risk allocation between IDOT and the contractor)

a. 2 - 5
b. 6 - 10
c. 11 - 20
d. 21 +
e. Additional feedback (please use chat)

Polling Question #3

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Bundle Cost: Should IDOT keep a bundle of structures within an overall estimated cost range in order to produce good competition for the bundle and achieve cost savings? (assuming the typical DBB risk allocation between IDOT and the contractor)

a. $1-5 Million
b. $6-10 Million
c. $11-20 Million
d. $21+ Million
e. Additional feedback (please use chat)

Polling Question #4

Illinois Department of Transportation

Proximity: How close in proximity would structures in a bundle need to be in order to create cost savings for the Project?

a. 5 to 10 miles of one another
b. 11 to 15 miles of one another
c. 16 to 20 miles of one another
d. 20 to 30 miles of one another
e. Additional feedback (please use chat)

Polling Question #5

Illinois Department of Transportation

Local Hiring: Would local hiring preferences or innovative contracting approaches create positive or negative impacts to participation in the program?

a. Positive impacts (please add to the chat)
b. Negative impacts (please add to the chat)
c. Additional feedback (please use chat)

Polling Question #6

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Prioritization of Structures to be Included in Bundles: IDOT has considered several criteria to prioritize structures for bundling, including:

- Overall condition;
- On the National Highway System (NHS)
- Currently load-posted
- Located in an Environmental Justice community

Do these criteria seem appropriate for aligning IDOT's bundling program with stated goals? Any other considerations?

a. Yes
b. No
c. Additional feedback (please use chat)

Polling Question #7

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DBE/ Small/ Local Participation Encouragement: How can IDOT help support and/or encourage participation by small/local/DBE firms through a bundling program?

Please use respond using
the chat function

Open Discussion Q&A

Questions?

- Overall bridge bundling effort? Feedback on industry webinar and engagement?
- For additional feedback or thoughts please feel out the online survey before September 22nd. You can find the survey at:
- IDOT.Illinois.gov -> Doing Business -> Innovative Project Delivery or by using the following link.

Next Steps

Next Steps

- Compile Results from Industry and DBE Webinars
- Industry/DBE Survey (available until 09/22/21)
- Risk Assessment
- Identify Bundle Structures
- Recommend Optimal Delivery Approach

Thank You

For more information and for our survey please see the

IDOT Bureau of Innovative Project Delivery Webpage or email the program team at:

DOT.InnovativeProjectDelivery@Illinois.gov