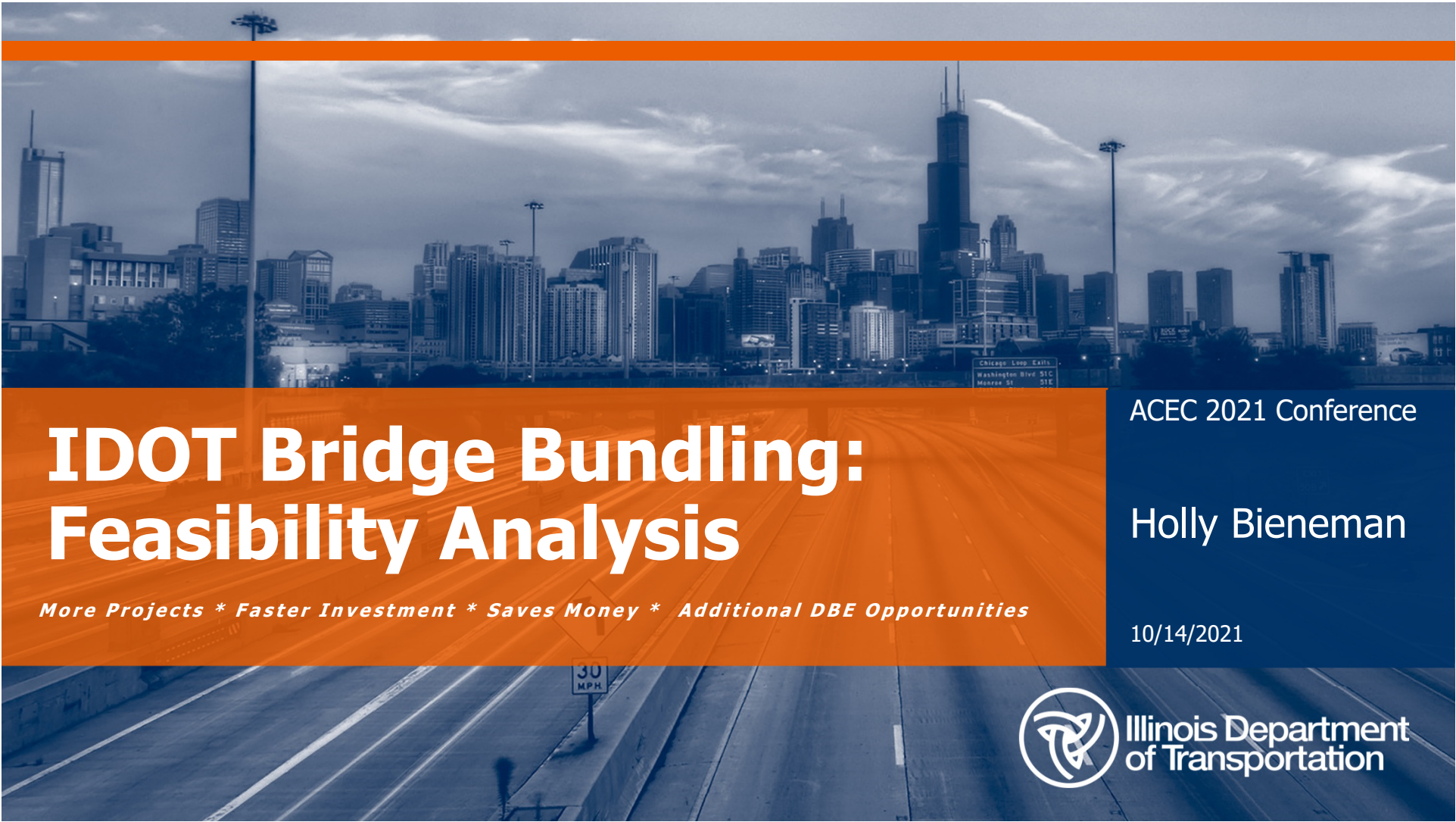


The background of the slide is a composite image. The top half shows a wide-angle view of the Chicago skyline, including the Willis Tower, under a cloudy sky. The bottom half shows a multi-lane highway with a 30 MPH speed limit sign. An orange horizontal bar is positioned above the title text.

IDOT Bridge Bundling: Feasibility Analysis

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

ACEC 2021 Conference

Holly Bieneman

10/14/2021



Illinois Department
of Transportation

Agenda



Illinois Bridge Bundling Overview

Timeline

Outreach Results

Next Steps and Feedback Opportunities





Bureau of Innovative Project Delivery



- 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.
 - Design-Bid-Build, CMGC, and Design-Bid have been evaluated; the Department does not have the authority to do CMGC or DB, at this time only innovations within Design-Bid-Build are being considered.
-



Bridge Bundling Feasibility Study - Background



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



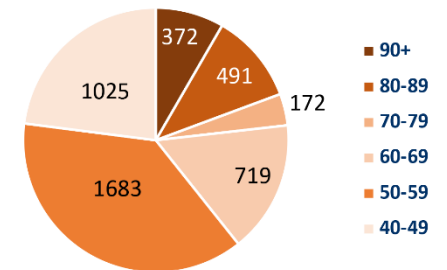
Over 1,000 bridges "load posted" in Illinois



Nearly 2,500 structurally deficient bridges in Illinois

- More than **13%** of the deck area of NHS bridges in Illinois is 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**

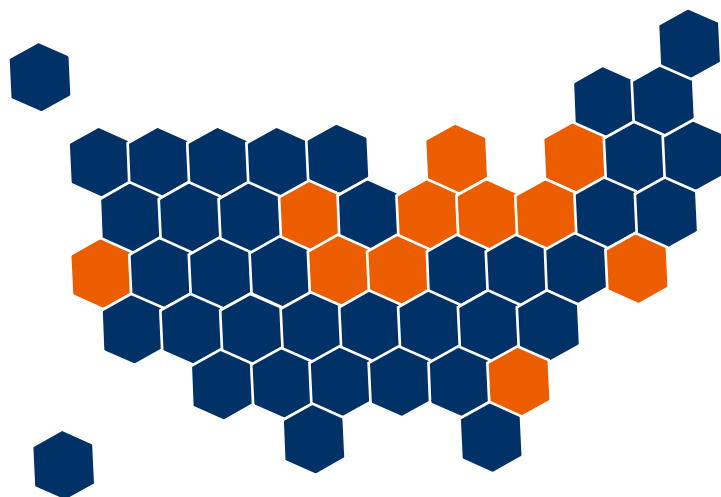


Bridge Bundling Feasibility Study - Overview



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



1



Structures (bridges and culverts) in poor condition are screened to identify which:

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

2



Structures could be bundled based on:

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

3



Bundles may be prepared for procurements:

- **DBE goals**, based on the individual bundle and structures included
- **Innovation** within Design-Bid-Build
- State vs. Federal **funding**

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



- 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



Bridge Bundling Program Goals



- 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
-



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



Outreach



- Initial Informational Webinars
 - Over 200 attendees
 - 204 Private sector companies/organizations representatives
 - 40 Public sector organizations/agencies representatives
- Survey
 - Mirrored the feedback heard in the webinars
- Informational Presentations and Meetings

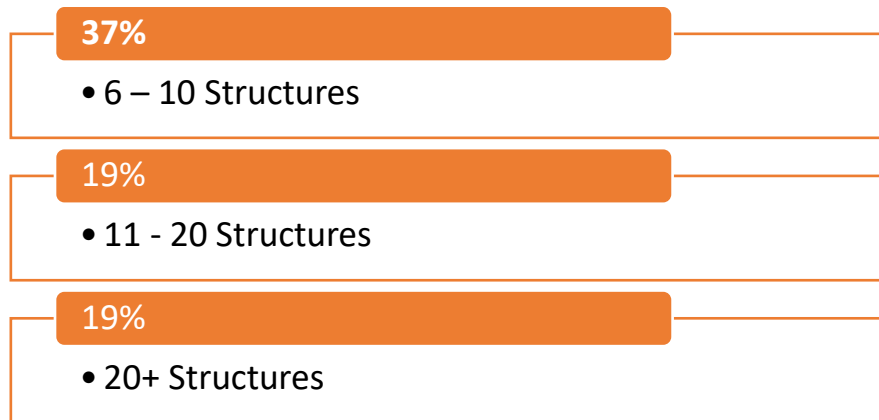




General Industry Feedback

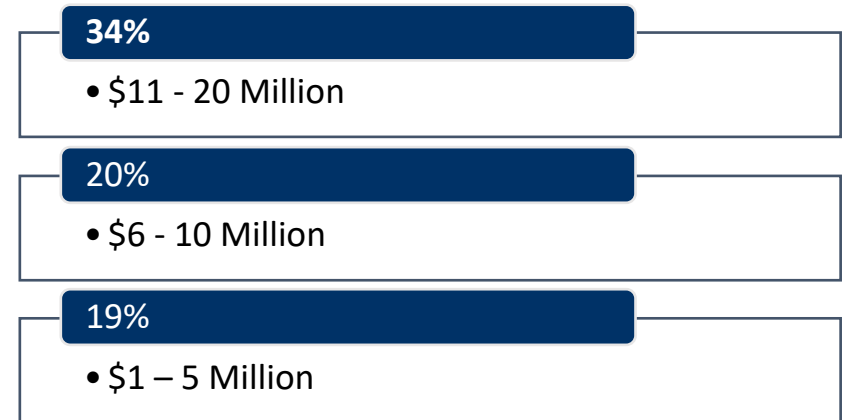


Bundle Size



Respondents noted that bundle size should also depend on the size and type of structures, complexity of structures, and/or geography

Bundle Cost



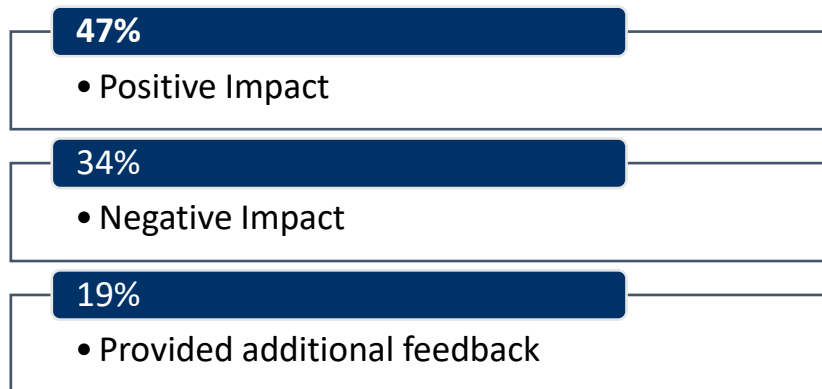
Respondents stated that schedule should be considered to allow competitive bidding



General Industry Feedback

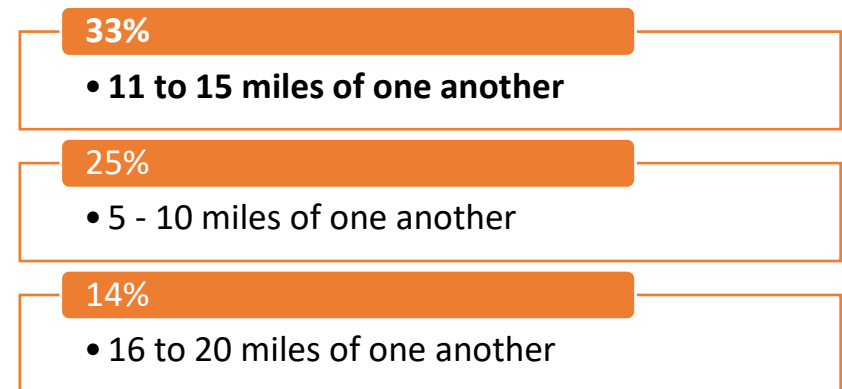


Local Hiring



Respondents highlighted the benefits to local economies as well as concerns on competition and labor capacity

Proximity



Many respondents added that greater distances will reduce economies of scale and proximity is variable based on urban vs. rural locations



DBE Industry Feedback



Incentives/ programs to assist with DBE participation

Larger DBE percentages for all contracts

MicroStation and file sharing assistance

DBE Revolving Loan Program

Constrains to participate in a bundling project

Bonding for new DBE's

Personal Credit

Obtaining proper insurance

Prequalification/ Certifications Barriers

Knowing prior which codes are a part of the RFP

Expense of audited financial statements



Industry/ DBE Feedback



- DBE/ small firm/ local participation encouragement
 - The **Mentor Protégé program, bundle-specific DBE goals,** and additional outreach were the most requested approaches
 - The most mentioned constraints were regarding **financial capacity**
- Many respondents suggested **expanding the bundling approach** beyond bridge replacement and asked about which phases would be included
- **Procurement and construction schedules** were highlighted as critical elements in the potential roll-out



Next Steps



Next Steps

- ››› Compile Results from Industry and DBE Webinars and Survey
- ››› Risk Assessment
- ››› Identify Bundle Structures
- ››› Recommend Optimal Delivery Approach



Thank You

For more information please see the

[IDOT Bureau of Innovative Project Delivery Webpage](#) or email the program team at:

DOT.InnovativeProjectDelivery@Illinois.gov