



# IDOT Bridge Bundling: Feasibility Analysis

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

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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.
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# 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



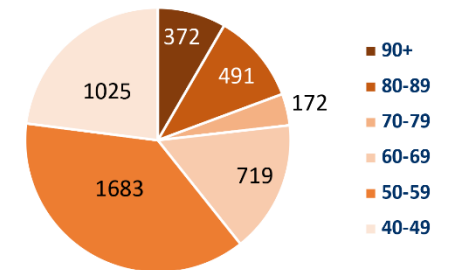
Over 1,000 bridges "load posted" in Illinois



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**



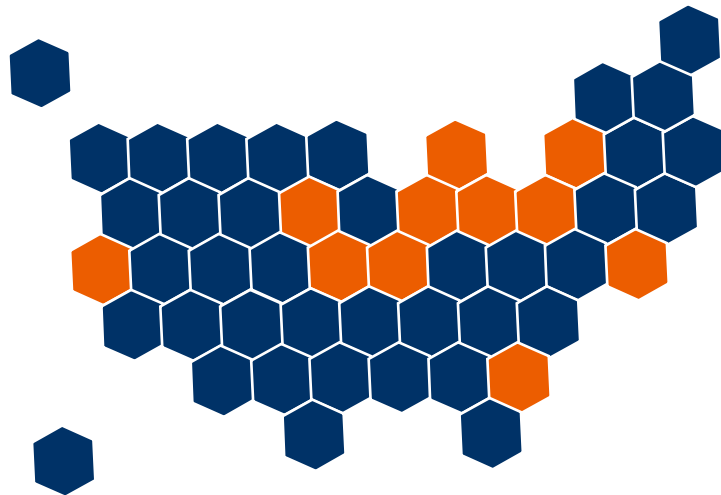
- > **43%** of structures maintained by IDOT are over 50 years old
- > **7,859** state bridges have an average age of **44**
- > **18,972** local bridges have an average age of **41**



## Bridge Bundling Feasibility Study - Overview



- 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

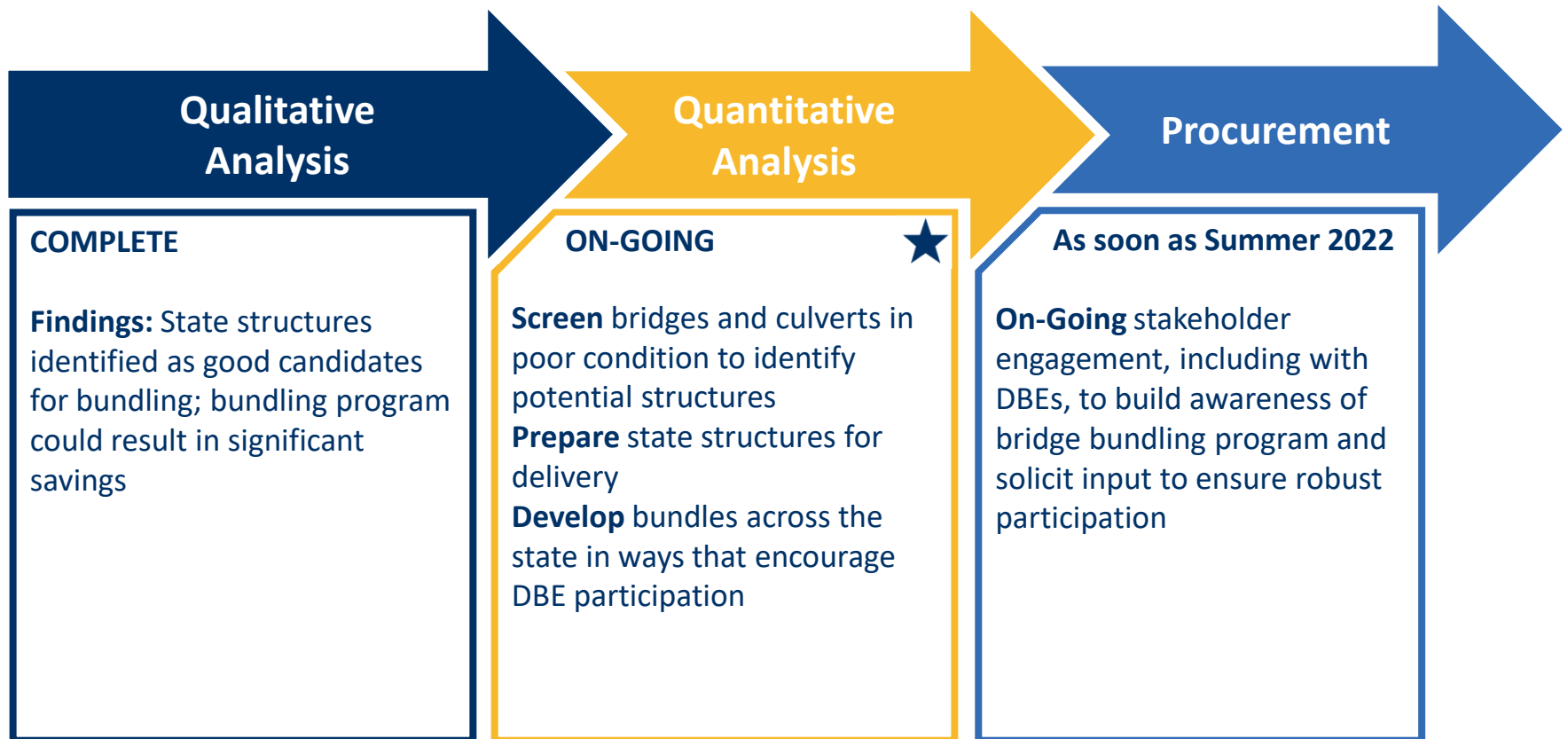


- Create new opportunities and work experiences for **DBEs to grow and thrive**
  - Improve the **safety** of the traveling public
  - Improve **condition** of the overall bridge inventory
  - **Expedite** the delivery of bridges and culverts
  - Ensure **financial stewardship** of public funds
  - Improve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





# 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

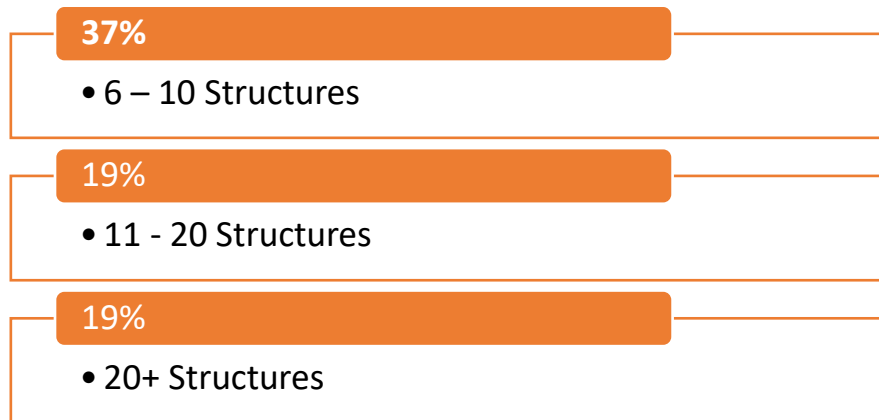




# General Industry Feedback

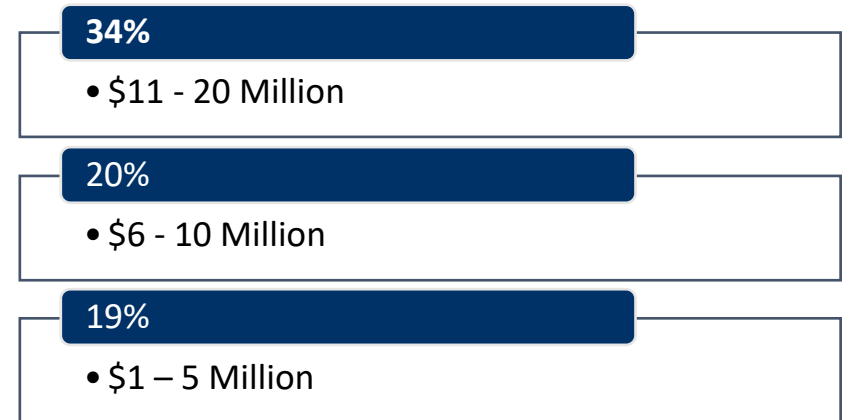


## Bundle Size



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

## Bundle Cost



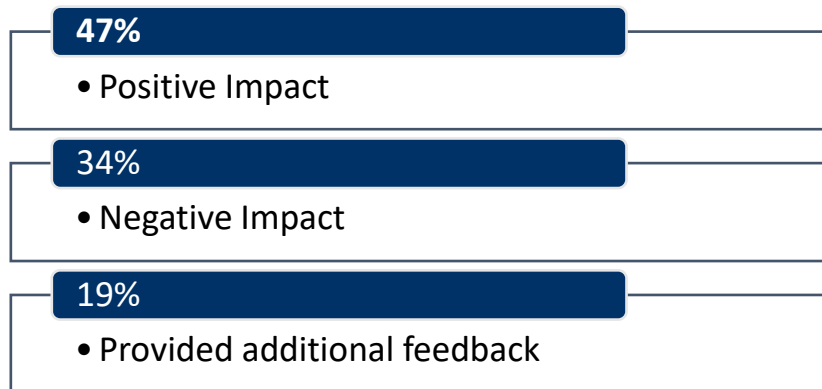
*Respondents stated that schedule should be considered to allow competitive bidding*



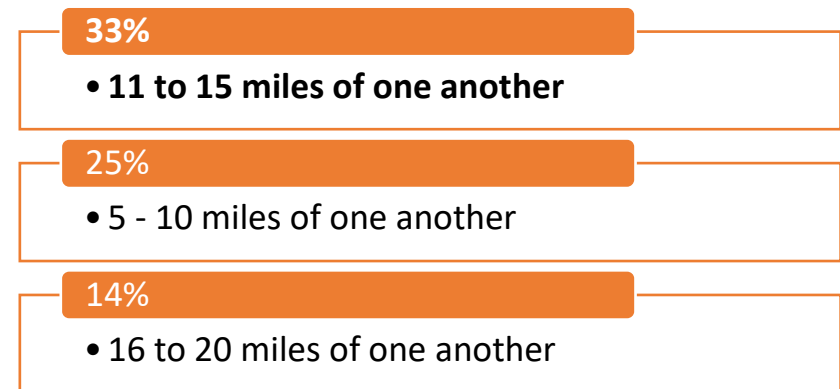
# General Industry Feedback



## Local Hiring



## Proximity



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

*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
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## 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](mailto:DOT.InnovativeProjectDelivery@Illinois.gov)**