



Nebraska Department of Roads

Innovation Task Force

February 11, 2016

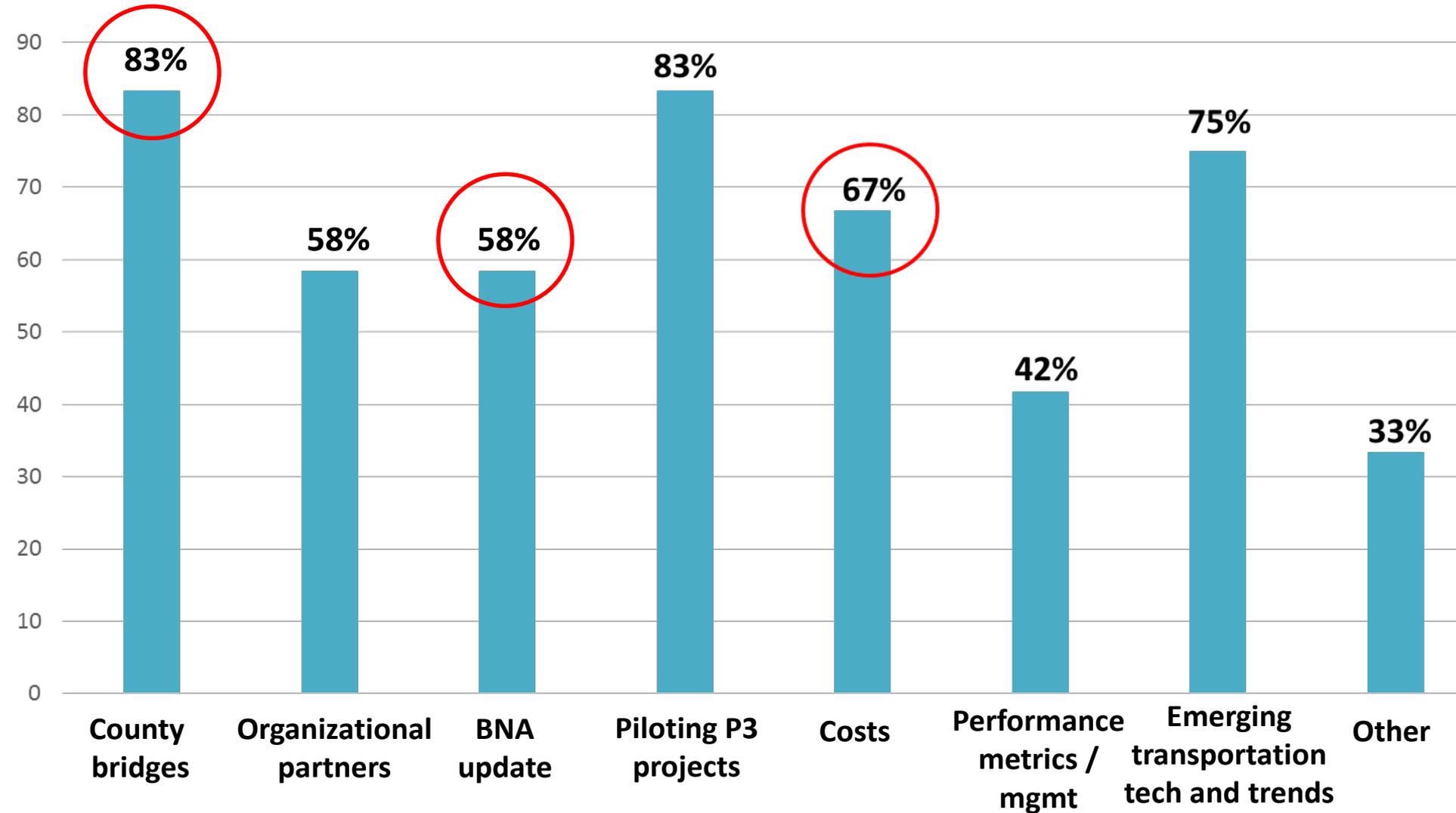
WELCOME & OVERVIEW



Task Force Charge

1. Explore ways to innovate and improve business practices at NDOR
2. Look at national trends to examine how transportation investments can help grow Nebraska

Agenda reflects survey results and current topics



Legislative Update



Press Conference Update

January 7, 2016





COUNTY BRIDGE MATCH

Your Bridge. Your Way.

The Transportation Innovation Act is an opportunity to deliver roads projects **faster** through **innovative** methods that are proven in other states and **right-sized** for Nebraska. This legislative initiative honors Nebraska's commitment to **pay-as-we-go**, industry **partnerships**, and strengthens state, county, municipal and industry **partnerships**.

The Transportation Infrastructure Bank Fund creates the County Bridge Match which will promote innovative solutions to help repair or replace critical bridges on county road systems. County participation is voluntary.

NDOR will administer the program working in collaboration with bridge authorities and county officials to develop criteria for the program. The program will terminate on June 30, 2019.

◆ Why is this program needed?

Rural transportation provides essential mobility and connectivity for many Nebraskans who rely on safe and efficient roads to deliver agricultural, energy, manufactured and other industry goods to market. The current condition of Nebraska's rural bridges is impeding personal and commercial travel that is critical to the safety and prosperity of our citizens.

Age of the system

Built between the 1930s and 1960s, many of these bridges are naturally at the end of their life cycle.



ACCELERATED PROJECT DELIVERY METHODS

Transportation Innovation Act

The Transportation Innovation Act is an opportunity to deliver roads projects **faster** through **innovative** methods that are proven in other states and **right-sized** for Nebraska. This legislative initiative honors Nebraska's commitment to **pay-as-we-go** and strengthens state, county, municipal and industry **partnerships**.

With the right contracting tools in place, NDOR can deliver roads projects faster than the estimated 7-12 years it takes to complete a major transportation project in Nebraska. Currently, NDOR is only authorized to use Design-Bid-Build, a contracting process which occurs sequentially. In order to provide the earliest possible mobility, freight, safety and economic benefits to the public, NDOR needs alternative contracting tools that help accelerate the largest and most complex road projects.

The Transportation Innovation Act authorizes NDOR to use the Construction Manager/General Contractor and the Design-Build methods for contracting. These two additional project delivery tools could save 2-4 years on project delivery time.

◆ Construction Manager/General Contractor (CM/GC)

The CM/GC method involves hiring a construction manager at the beginning of the project where during design, the contractor provides the agency valuable time and cost-saving input regarding scheduling, pricing, phasing and constructability of the project. Streamlining the process and hiring a construction manager during the preliminary phase of the project accelerates project delivery.

Accelerated Project Delivery Methods

- ◆ Build projects faster with the right tools
- ◆ Provide the earliest possible mobility, freight, safety and economic benefits to the public
- ◆ Does not replace Design-Bid-Build
- ◆ Used on the largest and most complex projects
- ◆ Committed to working with our Industry Partners



TRANSPORTATION INFRASTRUCTURE BANK

Transportation Innovation Act

ility to deliver roads projects **faster** through **innovative** methods that are proven in other states and **right-sized** for Nebraska. This legislative initiative honors Nebraska's commitment to **pay-as-we-go**, industry **partnerships**, and strengthens state, county, municipal and industry **partnerships**.

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Transportation Innovation Act

- ◆ Faster project delivery
- ◆ Innovative and proven methods
- ◆ Right-sized for Nebraska
- ◆ Pay-as-we-go
- ◆ Strengthening partnerships

**How should transportation change
and adapt
to serve our citizens and economy,
today and tomorrow?**



Demographic shifts

- 2010 – 2030 ages 65 + expected to grow by 75%
- Since 1960s population shifting

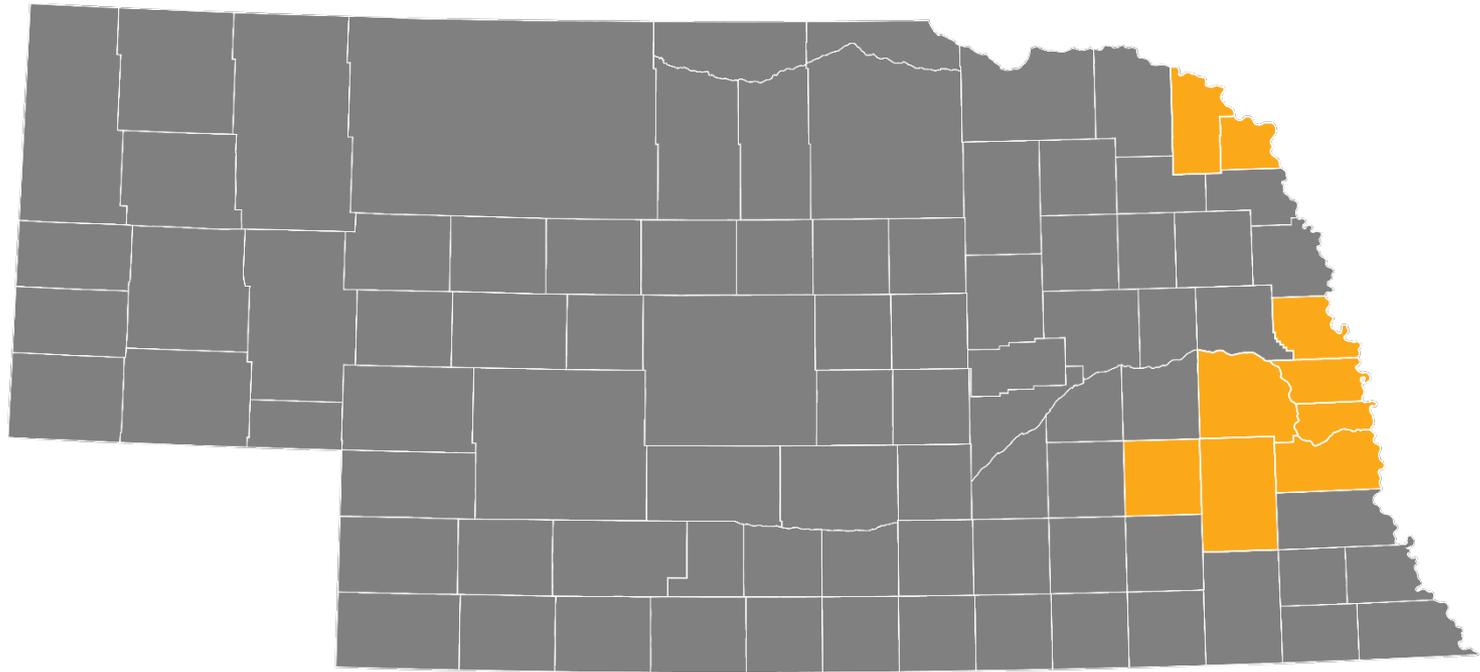


Nebraska's Top 5 Industries

- Food manufacturing
- Finance and insurance
- Health care and social assistance
- Military and defense contractors
- Transportation



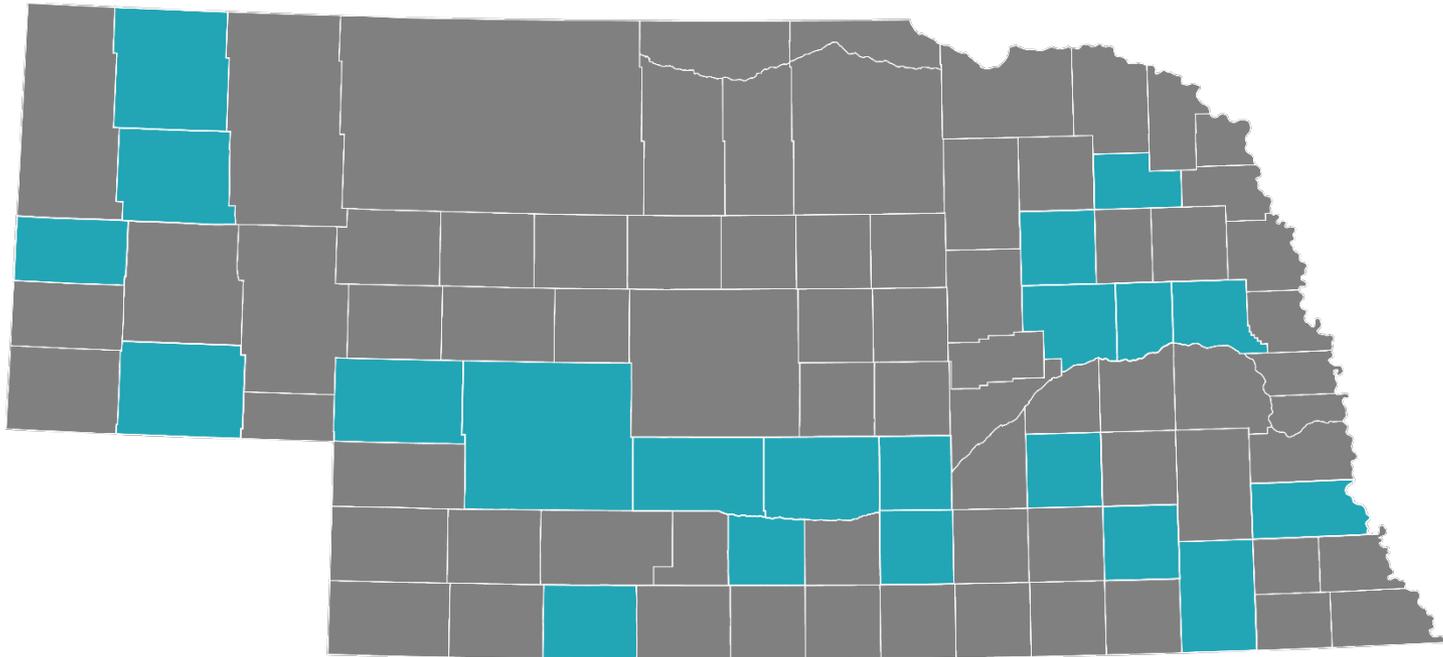
High-Growth Clusters in Metro Areas



**High-Growth Clusters
in Metro Areas**

Biosciences, Financial Services, Health Services,
Hospitality/Tourism, Precision Metals, R&D/Eng.
Services, Transportation/Warehousing
Distribution Logistics

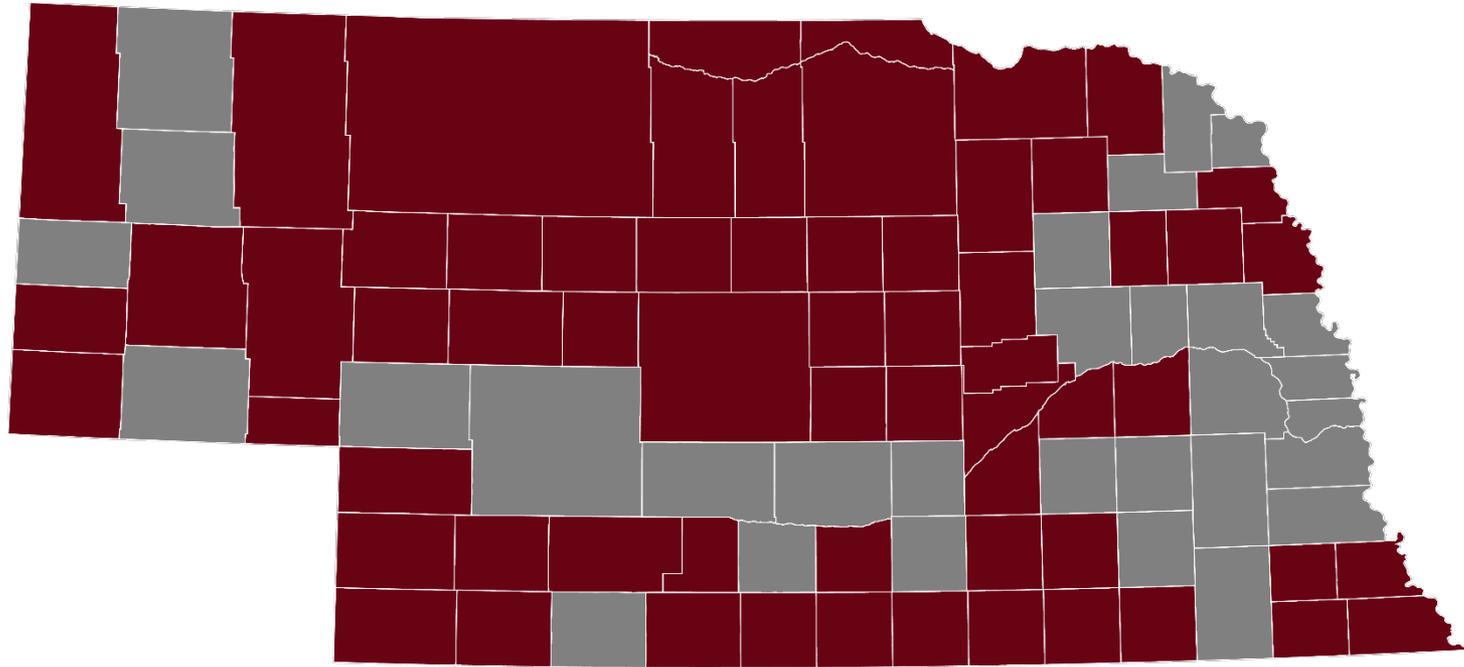
High-Growth Clusters in Counties with First Class Cities



**High-Growth Clusters
in Counties with First
Class Cities**

Ag Machinery, Business Mgmt. & Admin.
Services, Hospitality/Tourism, R&D Eng.
Services, Software & Computer Services

High-Growth Clusters in Other Counties

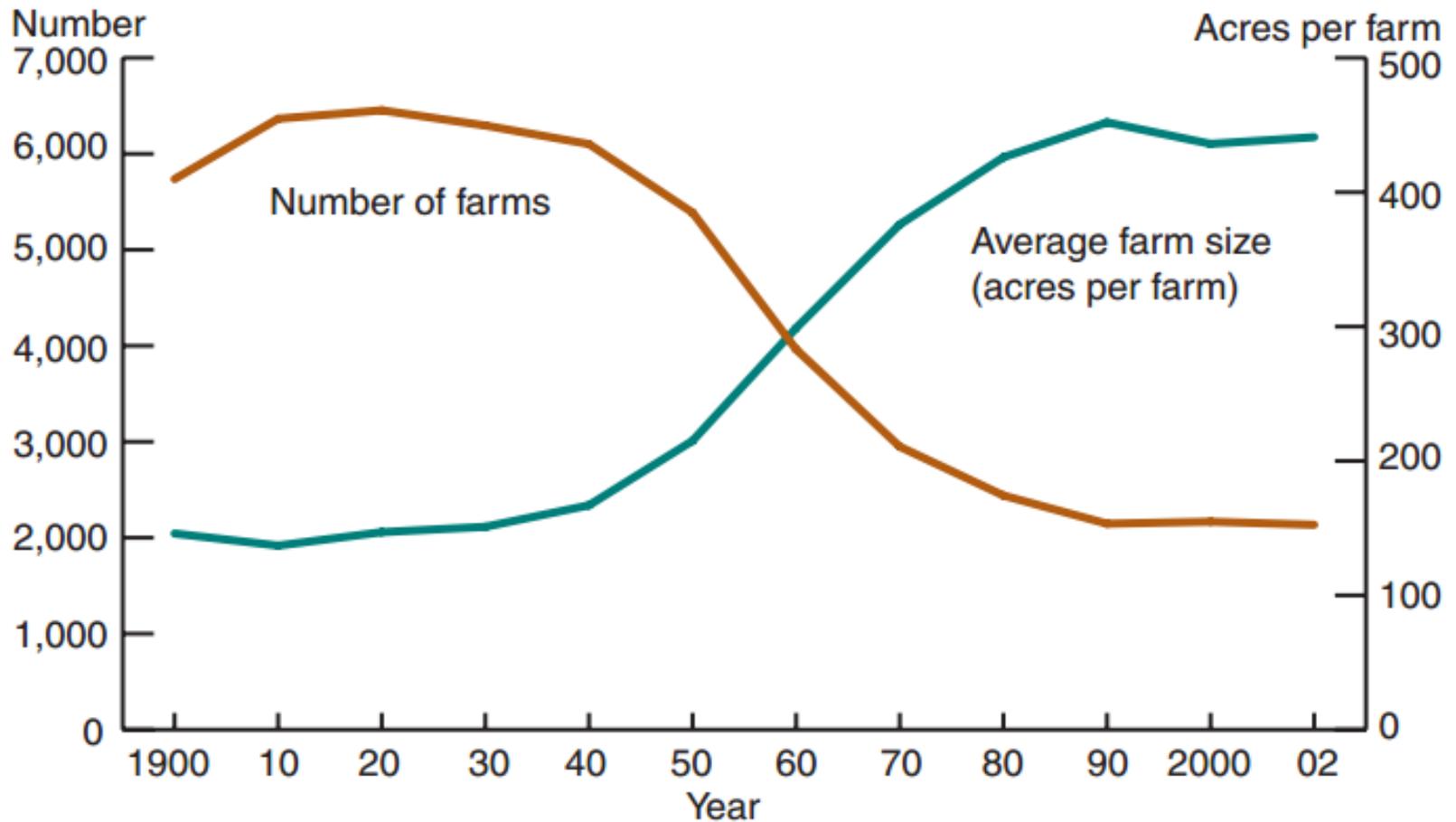


**High-Growth Clusters
in Other Counties**

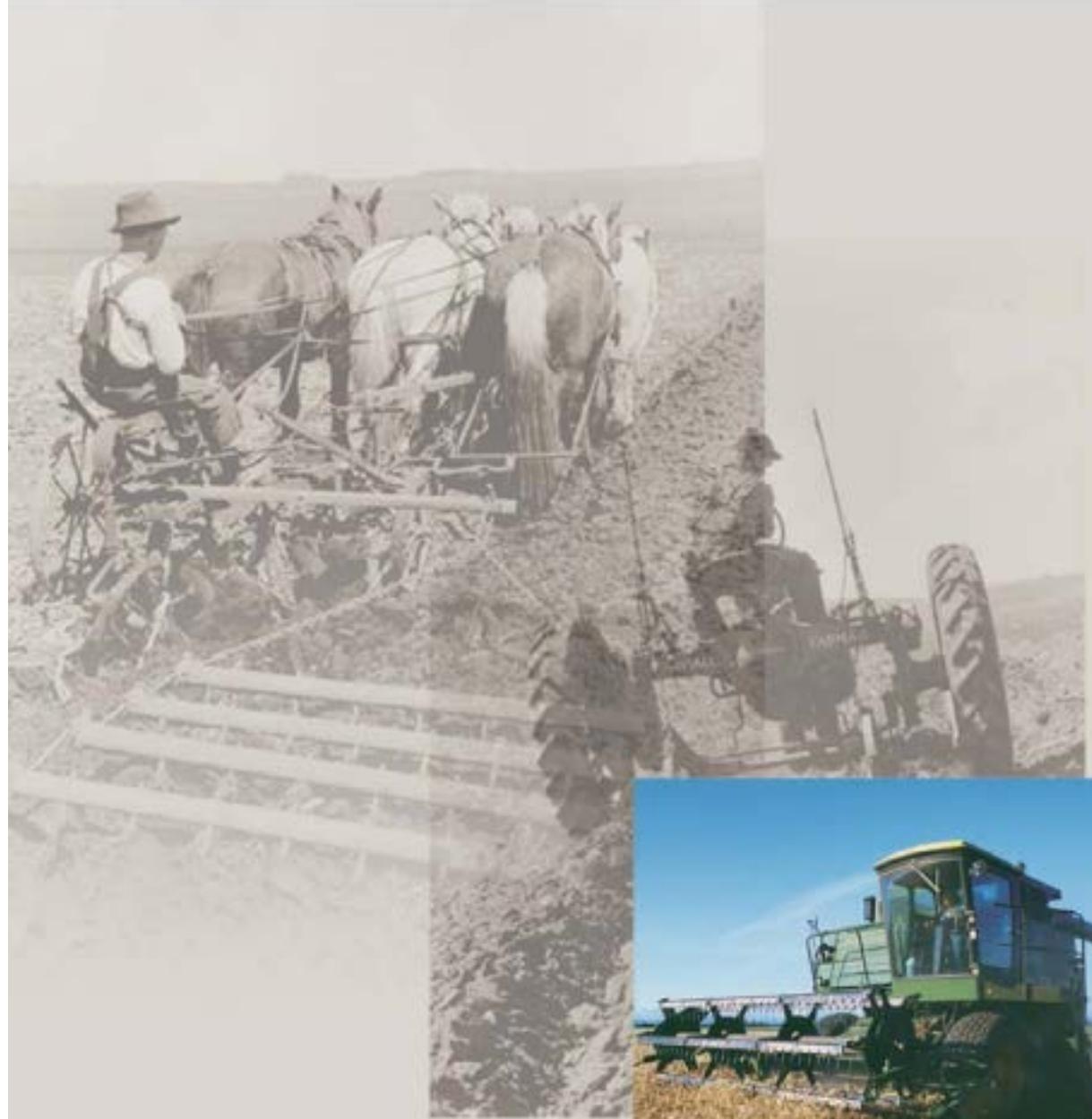
Agriculture/Food Proc., biosciences, Business Mgmt. & Admin. Services, Hospitality/Tourism, Precision Metals, R&D/Eng. Services, Software & Computer Services, Transportation/Warehousing Distribution Logistics

Changes in Agriculture

As the number of farms declined, their average size increased



Changes in agriculture drive changes in transportation



**Iowa is starting to think about the size
and nature of their transportation
system in the 21st century**





On-going Challenge

How do we get strategic?

What should the network look like in 20 years?



Nebraska Department of Roads

**Innovation
Task Force**

Local Bridge Perspective

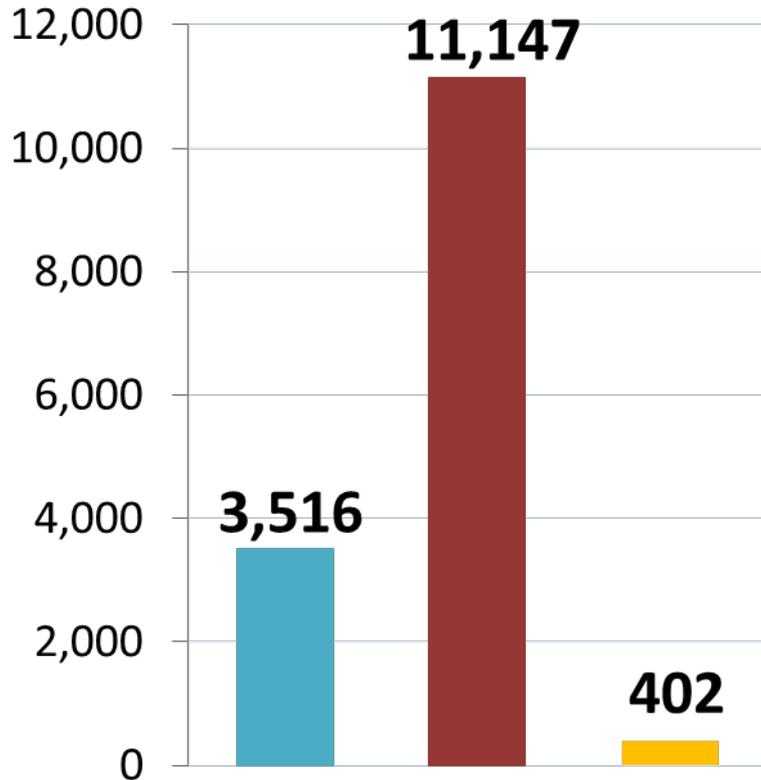
Steve Riehle



County Bridge Background and Challenges

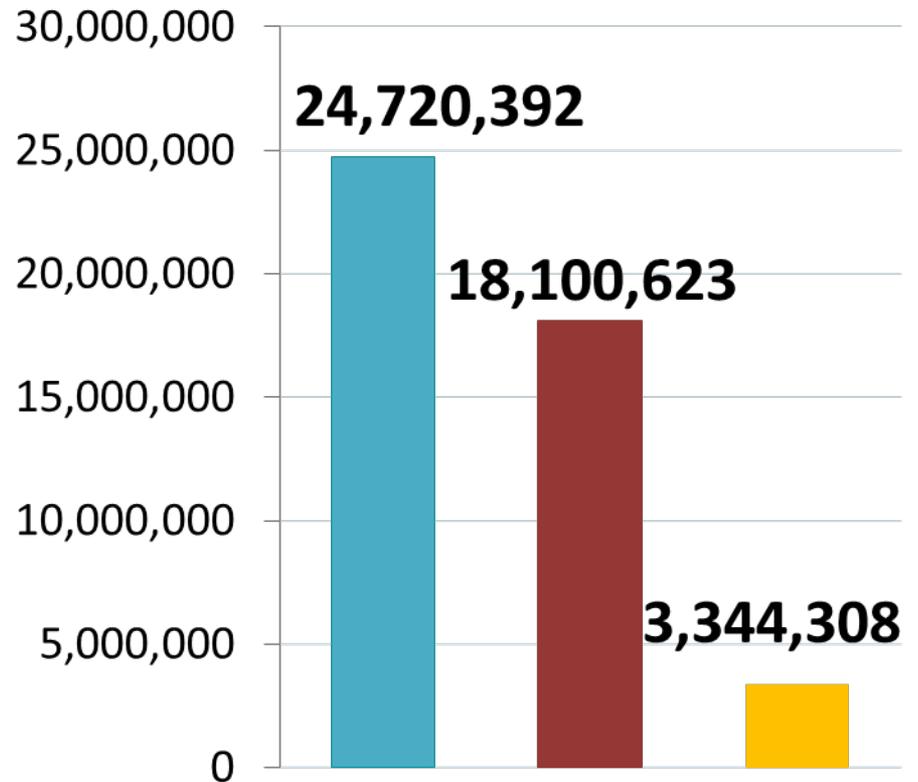


Number of Bridges by Jurisdiction*



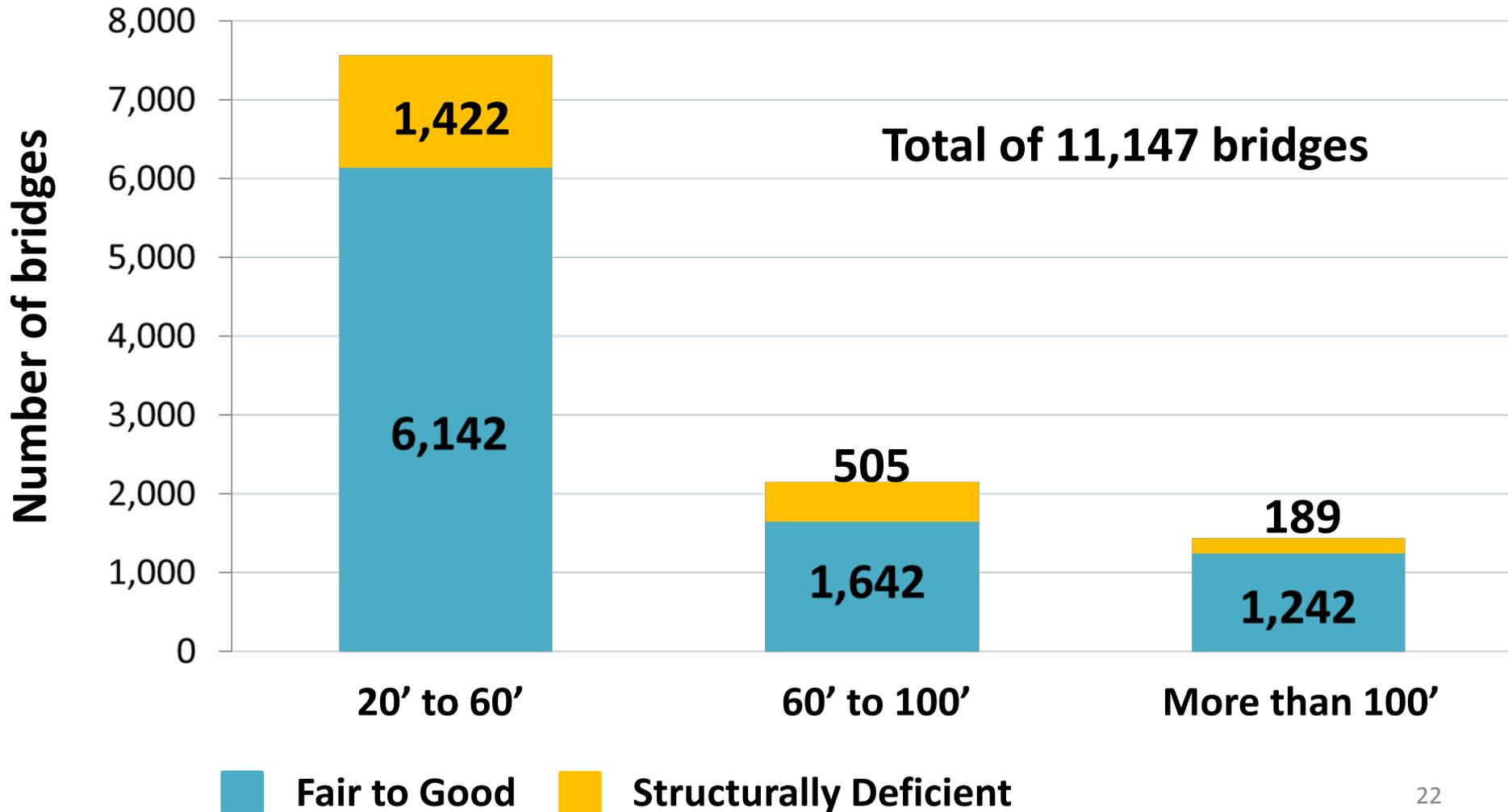
NDOR **Counties** **Municipalities**

Square Feet of Bridge Deck by Jurisdiction*

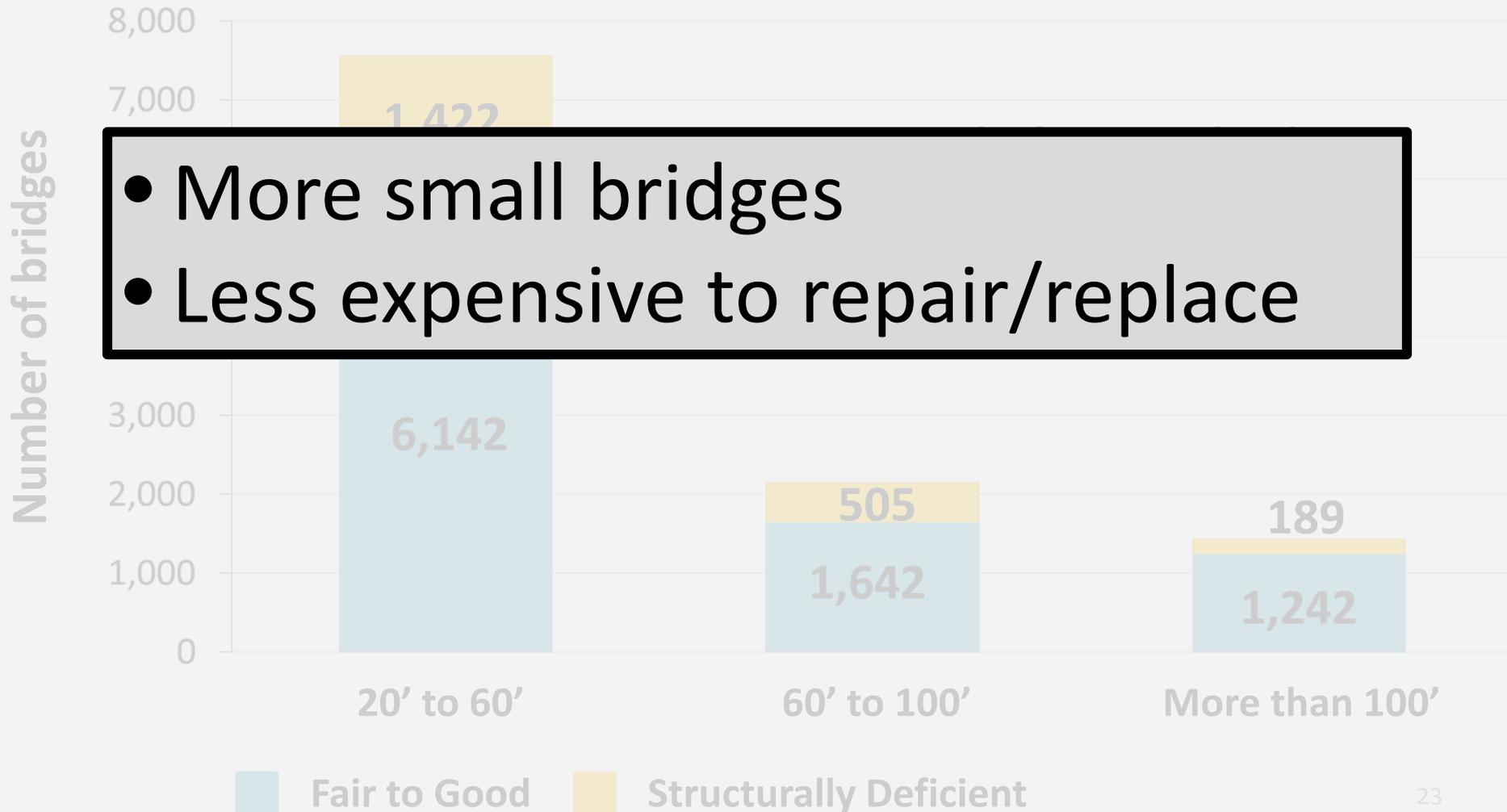


* does not include bridges $\leq 20'$

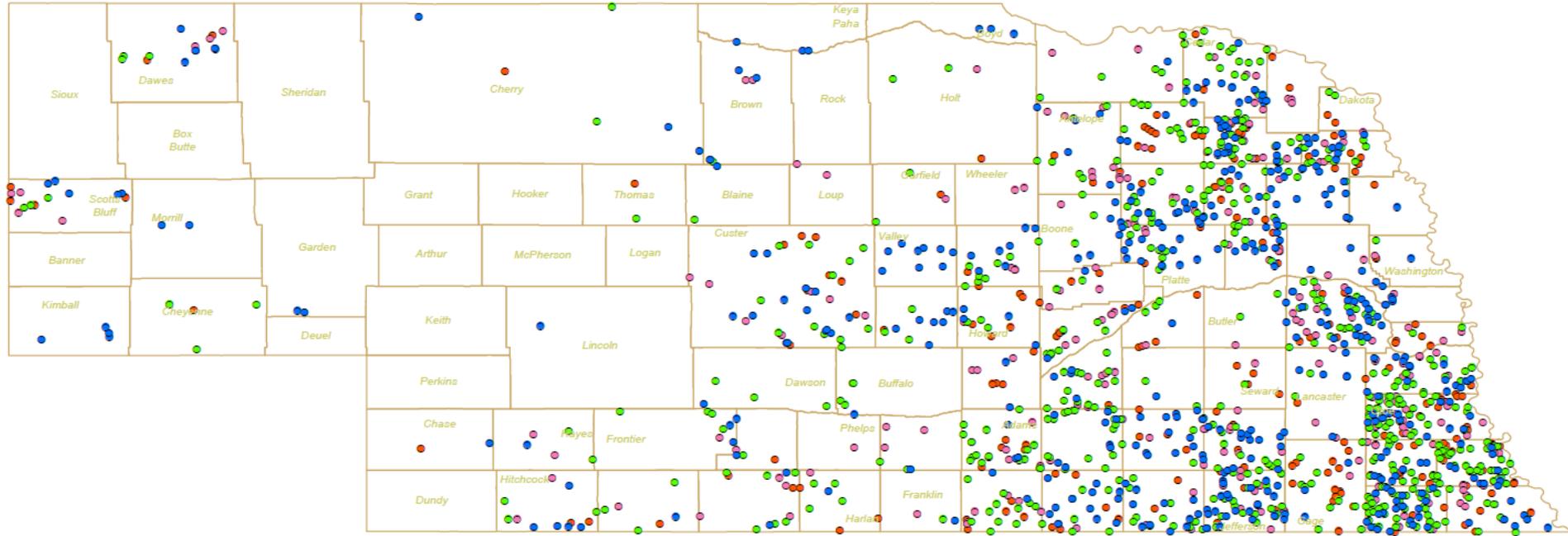
Structurally Deficient County Bridges



Structurally Deficient County Bridges



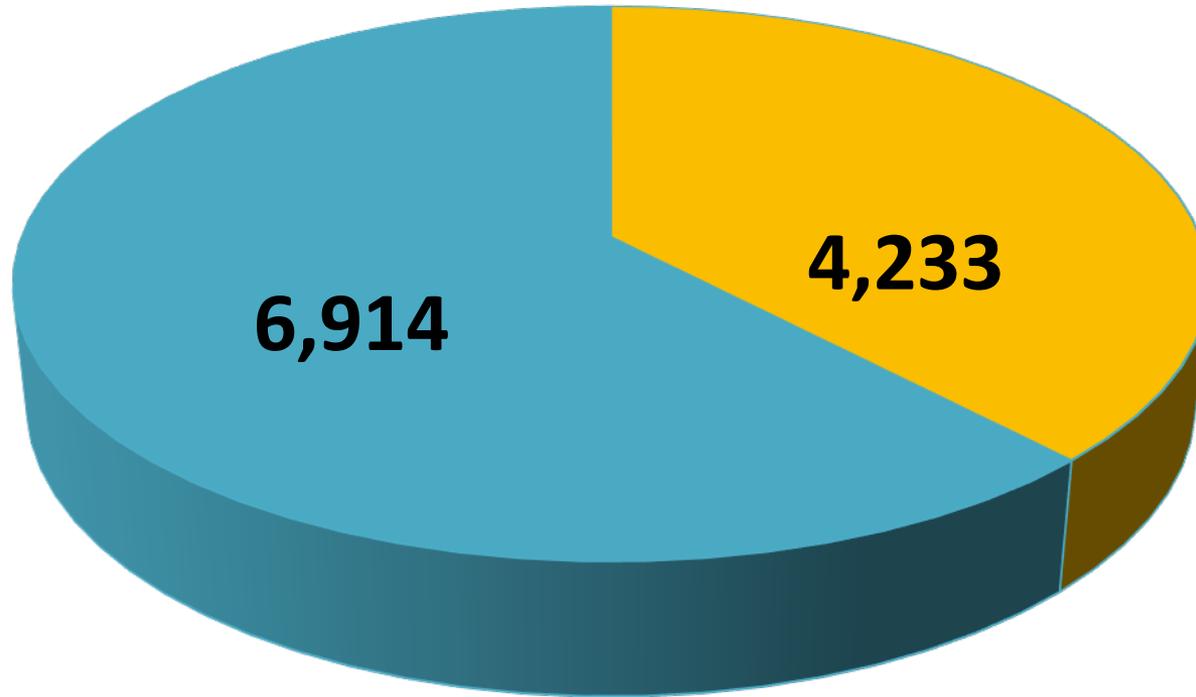
Structurally Deficient – Concentrate on Short Bridges First?



Length of Local SD Bridges



Age of County Bridges



 < 50 years

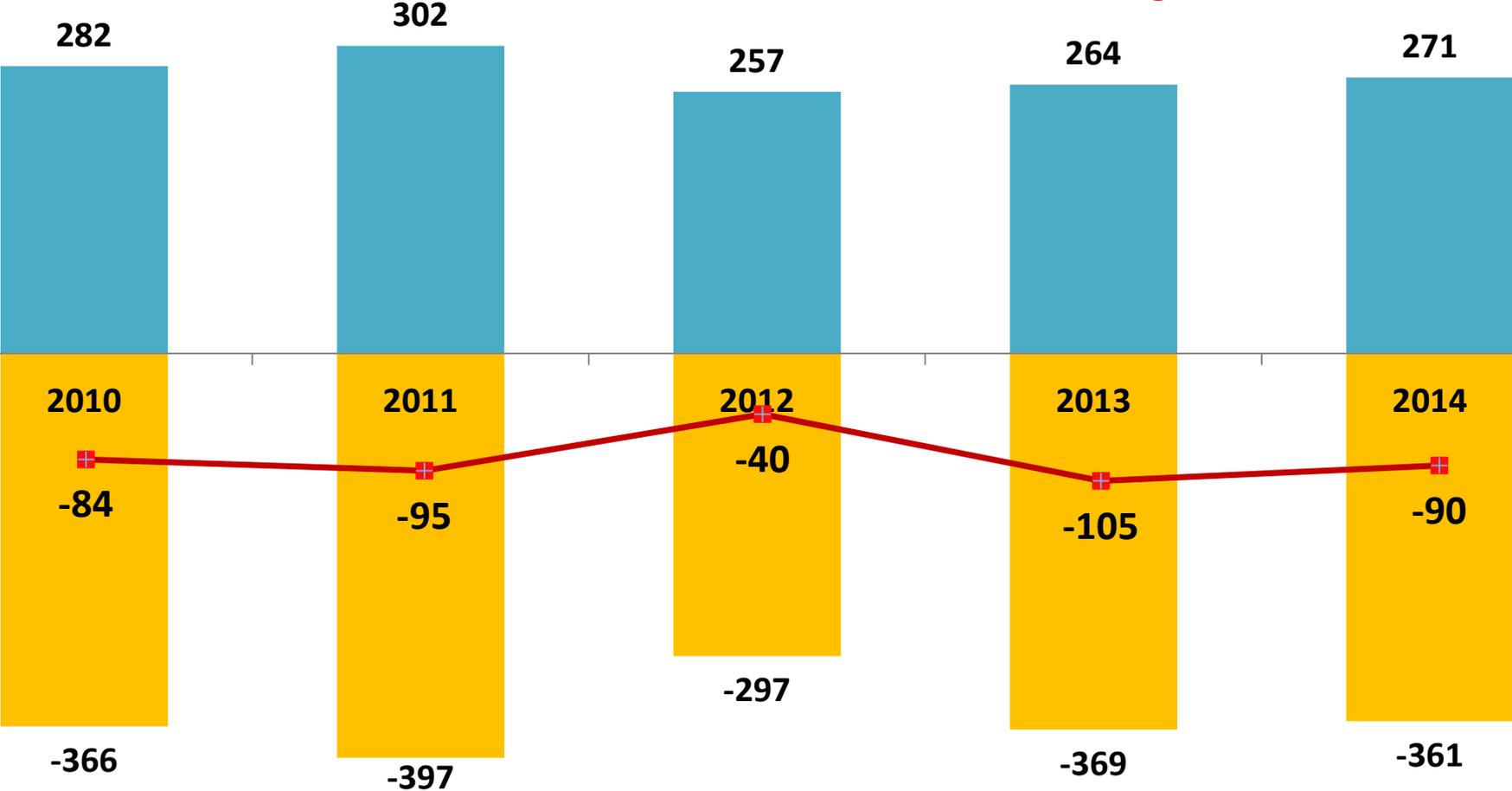
 > 50 years

Change in County Bridge Condition

■ downward changes

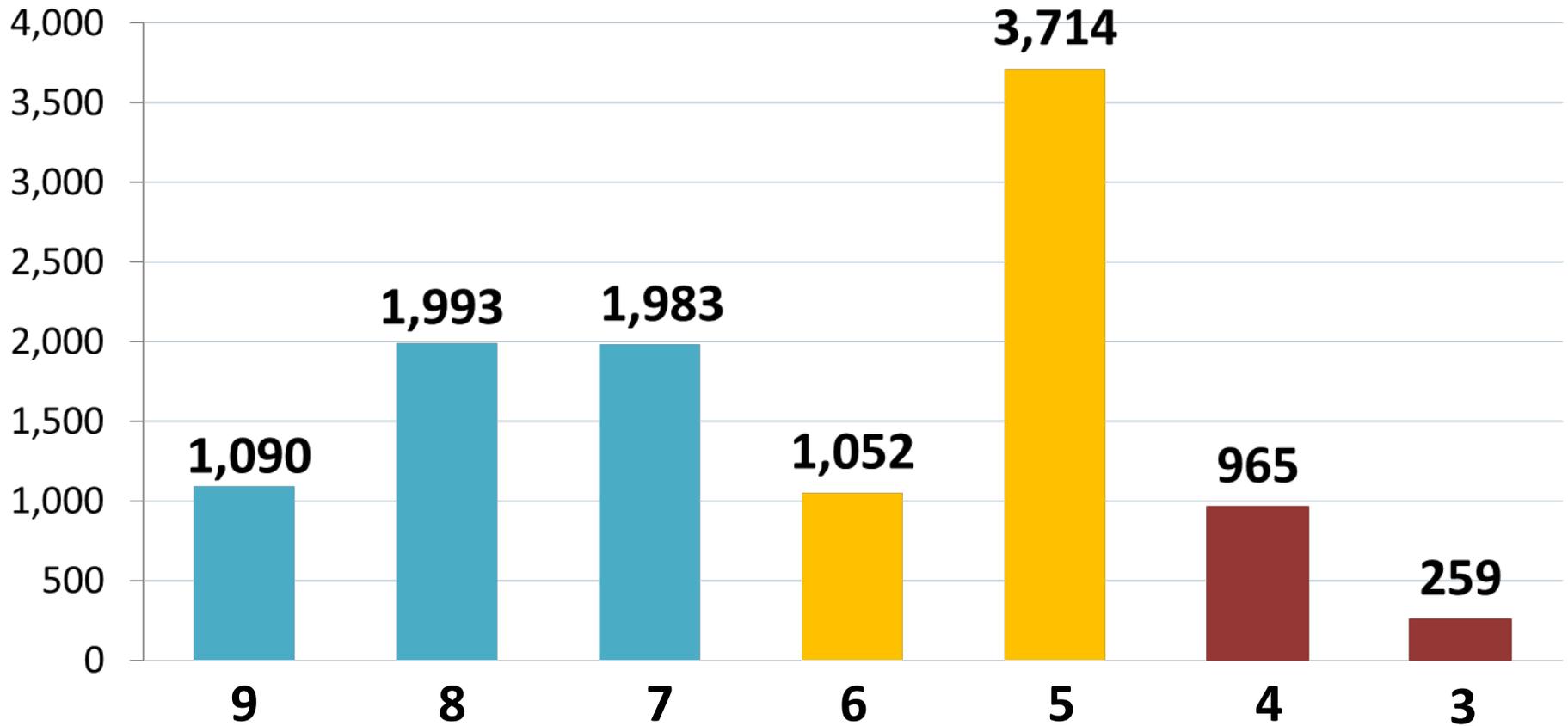
■ upward changes

—■ net change



5s Represent an Incoming Problem

Number of county bridges by condition



Minimum condition: deck, superstructure, substructure

\$25M

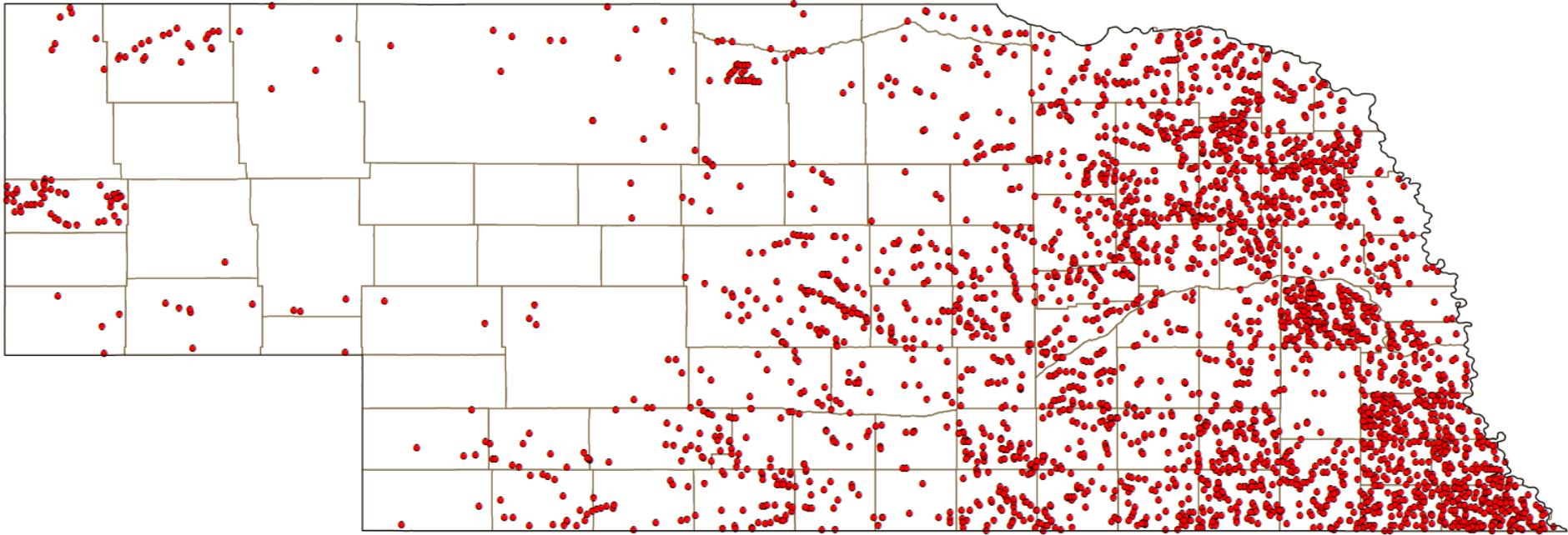
**to replace 100 declining bridges
per year**

@ only \$250,000 per bridge

- **1,400 posted bridges**
- **185 closed bridges**
- **Bridges not built for modern farm equipment**



Posted Bridges



Current Efforts to Address the Challenges



Practical Designs – Multiple Pipes

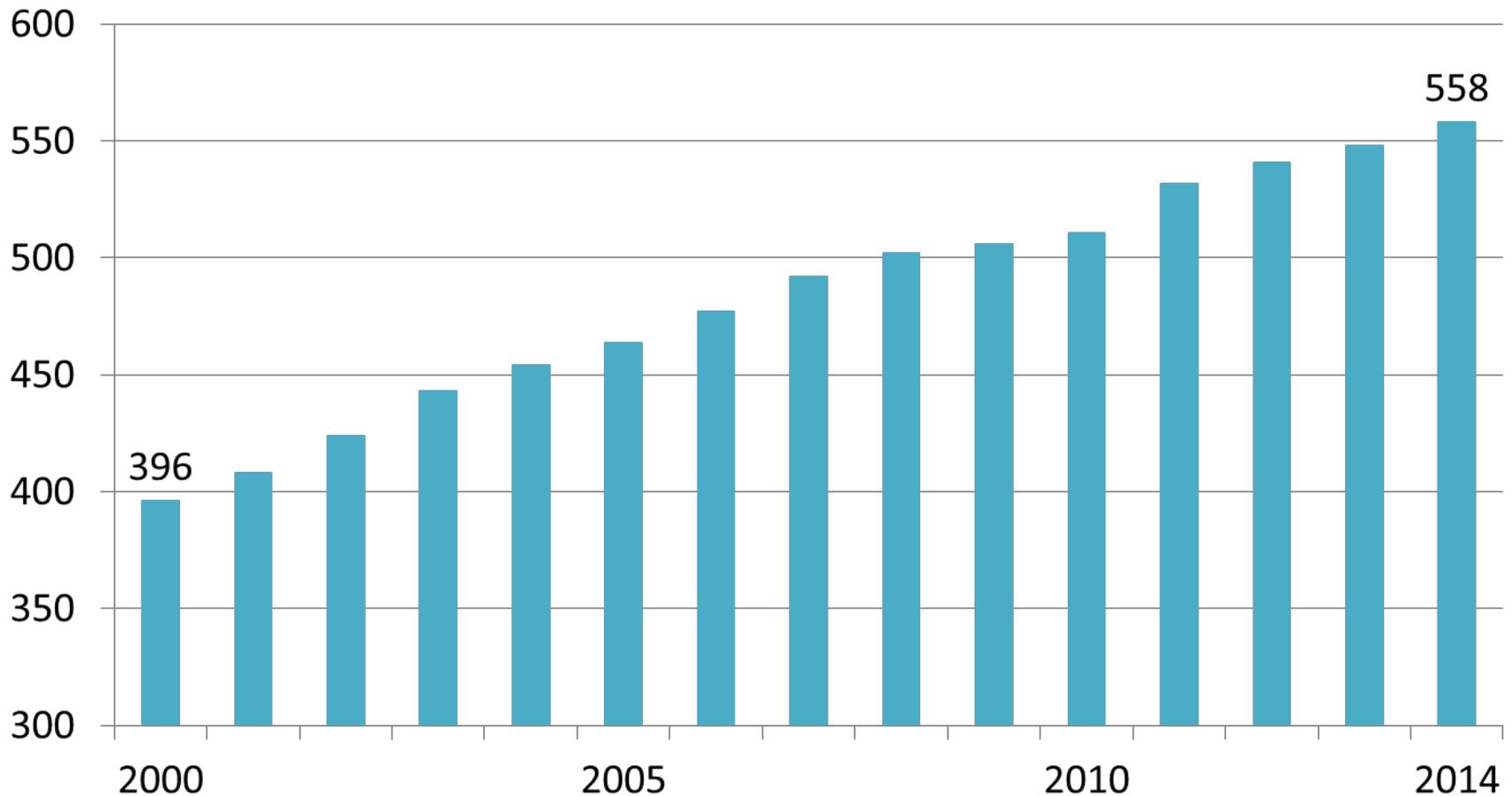


County Crews Building Bridges



Total Number of County Concrete Precast Panel Bridges

Simple and cost effective



Geosynthetic Reinforced Soil Integrated Bridge System Need a Small Pilot



- **Closing bridges is a hard and local decision, but it's happening.**
 - 185 closed
- **Bonding**



We Could Always Have More Tools in the Toolkit



A New Effort to Address County Bridge Challenge Needs to Include:

- Significant involvement by County Highway Superintendents
- Simple projects
 - Straightforward
 - Common sense
- Perhaps more similar to the old soft match bridge program

State and National Bridge Perspective Mark Traynowicz



County Bridges



- NDOR's Role
- Adjacent States
- Challenges
- County Bridge Match Program
- Wrap up and Discussion

NDOR's Role – County Bridges

- Inspections
- Designs for concrete box culverts
- Partner with county highway superintendents



Pass-Through Funds

Federal Fund Purchase Program (FFPP)

- Bridge only **\$7.3M**
- Roads or Bridges **\$9.5M**

New gas tax (LB610)

- FY-16 **\$2.0M**
- FY-17 **\$8.0M**
- FY-18 **\$20.0M**
- After **\$24.0M**

Highway allocation fund \$125.0M

Motor vehicle fees \$10.0M

NDOR Administered Programs



State aid bridge fund

\$0.7M

**Federal Bridge Replacement Off System
(BRO) \$3.7M**

Major on-system bridge program

\$2.0M

Other States' Programs: What Can We Learn?



State Funded County Bridge Programs

- South Dakota**
 - \$9.0M (2015)
 - \$15.0M (by 2019)
- Kansas**
 - \$10.6M (2014)
- Ohio**
 - \$120.0M/3yrs
 - Extended 4th year @ \$10M

State Funds Used for Local Bridges?

Iowa

No

Missouri

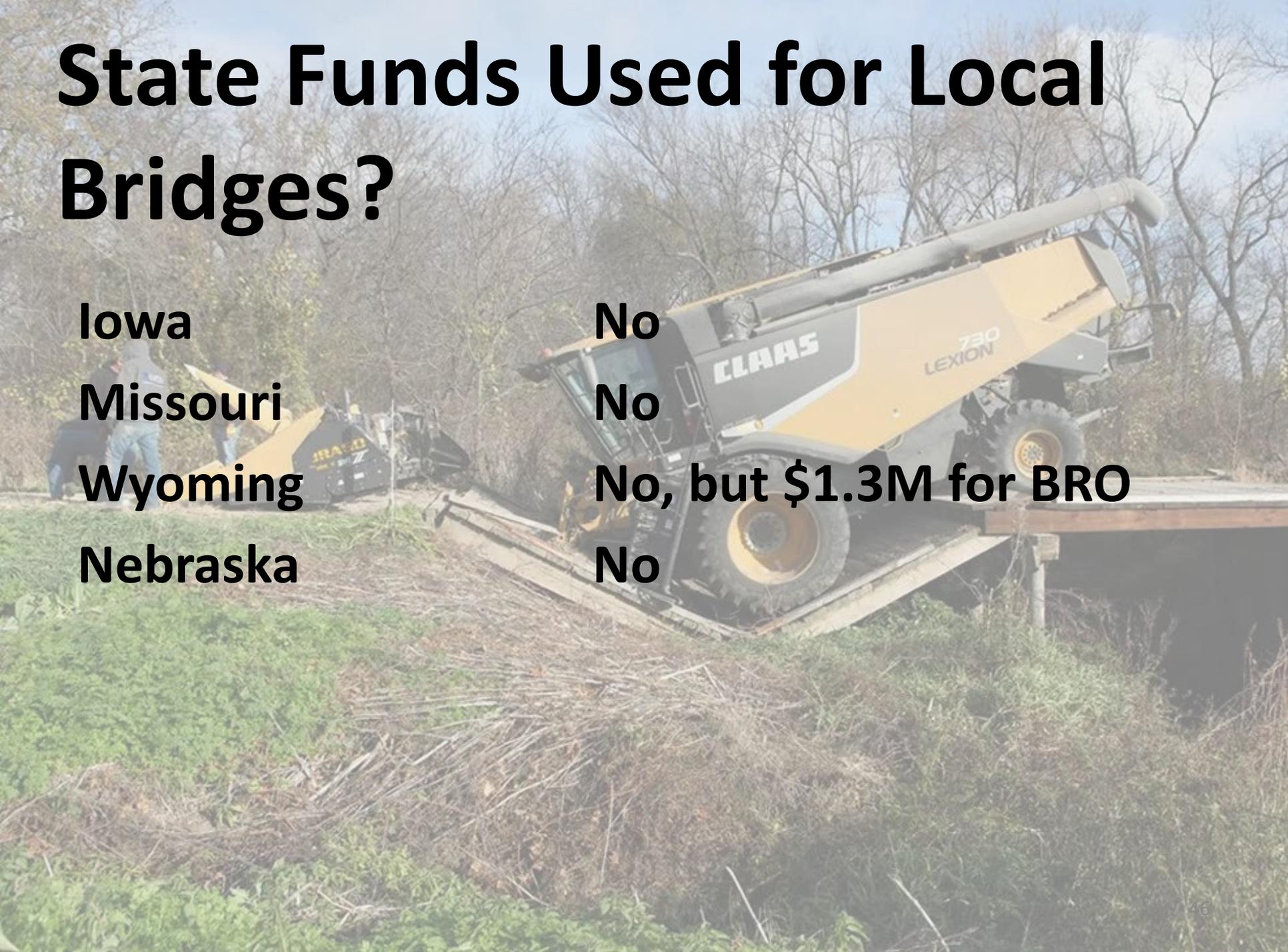
No

Wyoming

No, but \$1.3M for BRO

Nebraska

No



Large Bundling Programs

DOT	Cost	Number of Bridges
Penn DOT	\$1.2B	500 bridges (includes maintenance)
MoDOT	\$658.0M	800 bridges (250 rehab, 500 replace)
OR DOT	\$1.3B	356 bridges

Regional Bundling

Ohio

- Up to 6 bridges
- By geography – not by bridge length or type

Colorado

- Construction bundling

Standard Plans?

No

South Dakota

Missouri

Wyoming

Ohio

Nebraska

- Standard details
- Basic layouts

Yes

Kansas

Iowa

- Significant investment
- Counties have professional engineers

Incentive to Remove Bridges?

Kansas \$40K increase when 2nd bridge is closed
Ohio Not yet; may with \$10M additional funds



Bridge Match Program

	SD	KS	IA	MO	WY	OH
Special local bridge program (percent match)	20%	10%				0%
State funds for county bridges						
Use bundling						
No standard plans						
Incentive to remove						

County Bridge Match Program

- **LB960 - Adopt the Transportation Innovation Act and provide transfers from the Cash Reserve Fund**
- Sec. 5. (1) The County Bridge Match Program is created. The department shall administer the program using funds from the Transportation Infrastructure Bank Fund. The purpose of the program is to **promote innovative solutions** and provide **additional funding** to accelerate the repair and replacement of **deficient bridges on the county road system**. The department shall develop the program, including participation criteria and matching fund requirements for counties, in **consultation with a statewide association representing county officials**. Participation by counties in the program shall be **voluntary**. The details of the program shall be published by the department by **October 1, 2016**.
- (2) The County Bridge Match Program terminates on June 30, 2019.

Bridge Match Program

Your Bridge. Your Way.

- County participation in program optional
- Local Nebraska contractors and consultants
- Streamlined, easy to use process
- This is NOT design-build
- 3 year pilot program for innovation

Bridge Match Program

Your Bridge. Your Way.

- How might a new program be formed?
 - Who to include? County officials, highway superintendents, others?
 - Role of NDOR?
 - Standard bridge design; criteria; match/leveraging new fund; selection process; delivery options; incentives for removing bridges?
 - How could you measure success?



How could this program connect to more strategic, long-term transportation issues in Nebraska?

Update:

Build Nebraska Act

The First 10 Years

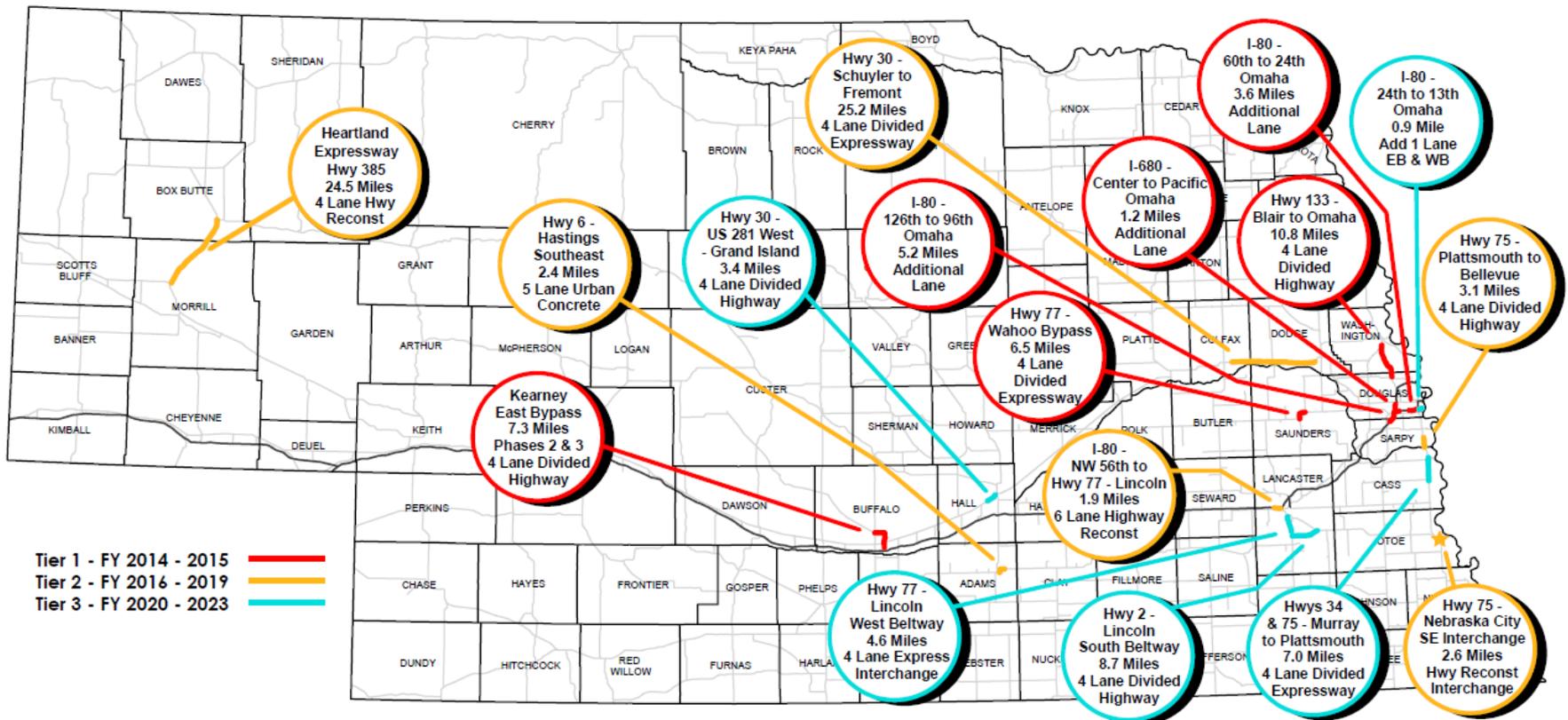
Brandie Neemann



BNA – The First 10 Years

17 segments (27 projects) totaling \$600 million

4 complete • 5 under construction • 8 under development



Updated Prioritization Process



NDOR
Nebraska
Department of Roads

WELCOME

WE WANT TO HEAR FROM
You

BUILD NEBRASKA ACT
THE NEXT 10 YEARS
#Next10

WINTER
PROPERTY

Information table with brochures and documents.

Man in suit with backpack looking at information.





January Topics:

- Capital Improvement Prioritization
- Candidate Projects

Expanding the Process

Engineering Performance



Economic Performance

- Job and income growth
- Growth in Gross State Product
- Value of job and income growth in economically distressed regions



More Stakeholder Input

WE WANT TO HEAR FROM

YOU



Public Outreach



Public Outreach



Alliance

- Stakeholders: 15
- Public: 11

Lexington

- Stakeholders: 42
- Public: 14

Columbus

- Stakeholders: 54
- Public: 33

Ashland

- Stakeholders: 83
- Public: 57

Public Outreach



Over 2,400 hits on the website

Over 425 surveys and comment cards received

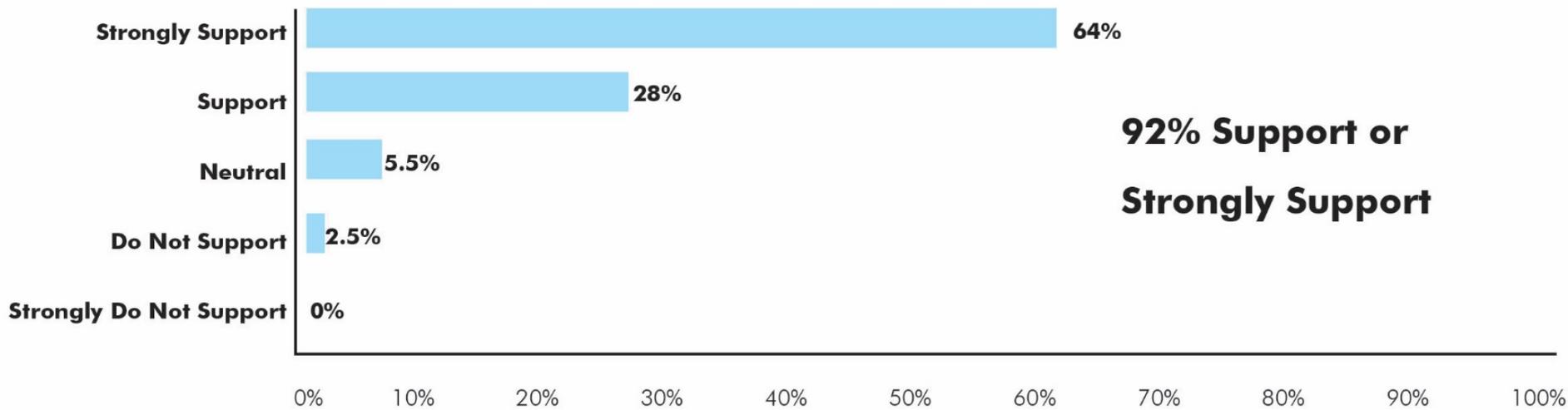
Continue to make updates



<http://roads.Nebraska.gov/projects/bna/next10>

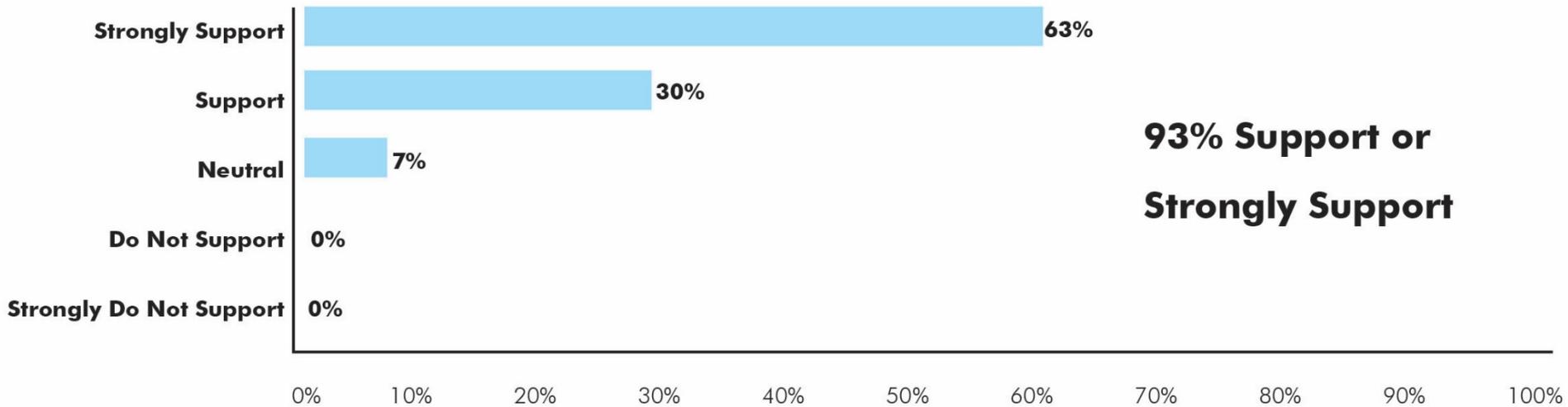
Survey Results:

Support Adding Economic Performance?



Survey Results:

Support Increasing Stakeholder Input?





Effective Facilitated Discussions

Thinking Behind the Numbers



the goats
Thing 91 - 26 Mile from Georgia -
May 33 - Norfolk - South Sea City

What Have We Heard?



- Consider the differences between urban and rural needs
- Look at community and regional impacts

What Have We Heard?



- Safety is top concern
- Transportation connects people to goods and services

What Have We Heard?



- Relationship of transportation to development
- Good investments come full circle

What Have We Heard?



- Economic distress may be important and should be considered with transparency and caution

- Long-term sustainability

What Have We Heard?



- North and south corridors are important
- Consider more project scope options

What Have We Heard?

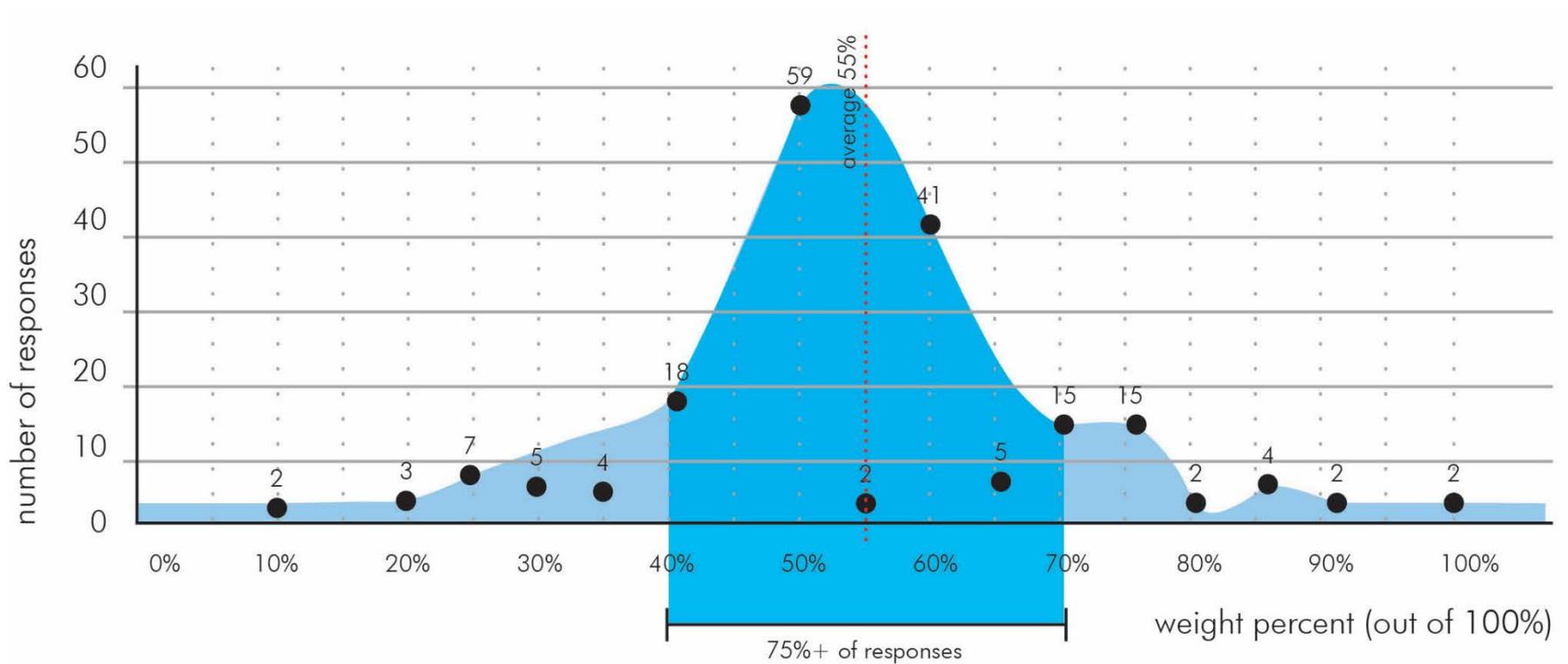


- Strategic competitiveness with surrounding states
- Not all economic growth is equal

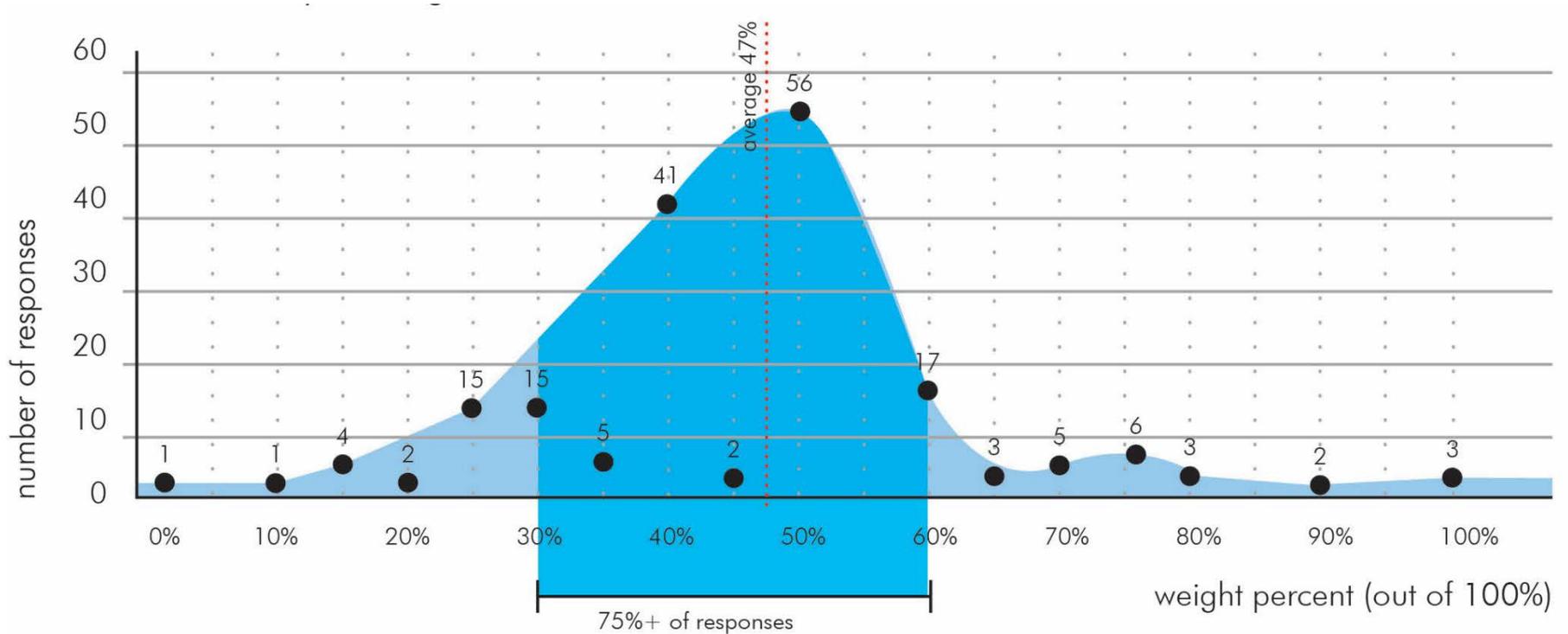
Weighting the Criteria



Weight Engineering 40 - 70%



Weight Economics 30 - 60%



Weighting the Factors



Gross State Product
20-70%

Jobs
25-50%

Wages
20-40%

Overarching Themes



“Great to see Nebraska focus on road infrastructure to set us up for long term [improvements in] safety, increasing economic growth, and making Nebraskan’s lives better.”

- **Stakeholders overwhelmingly support expanding the prioritization process**
- **Safety remains a top priority**

Overarching Themes

“Still need to use some good old common sense ... need to balance the diverse population areas in Nebraska...”

“...I did see something about passing lanes being a possibility ... 4 lanes would be ideal but I’m sure that will not happen in my lifetime ... I would recommend passing lanes every 5 miles or so...”

- **Consider the diverse needs of Nebraska**
- **Continue with transparent analysis**
- **Seek outside experts where needed**

Other Important Partners



Interagency Collaboration

Meetings in December and February

The Nebraska Experts

Prioritization **≠** ***Selection***

Other Selection Considerations



“...Sometimes objective factors will lead to decisions that don't make sense ... need to balance ... or all the improvements will be in the eastern part of the state.”

- **Public Support**
- **Geographic Inclusion**
- **Corridor Completion**
- **Supplemental Funding**

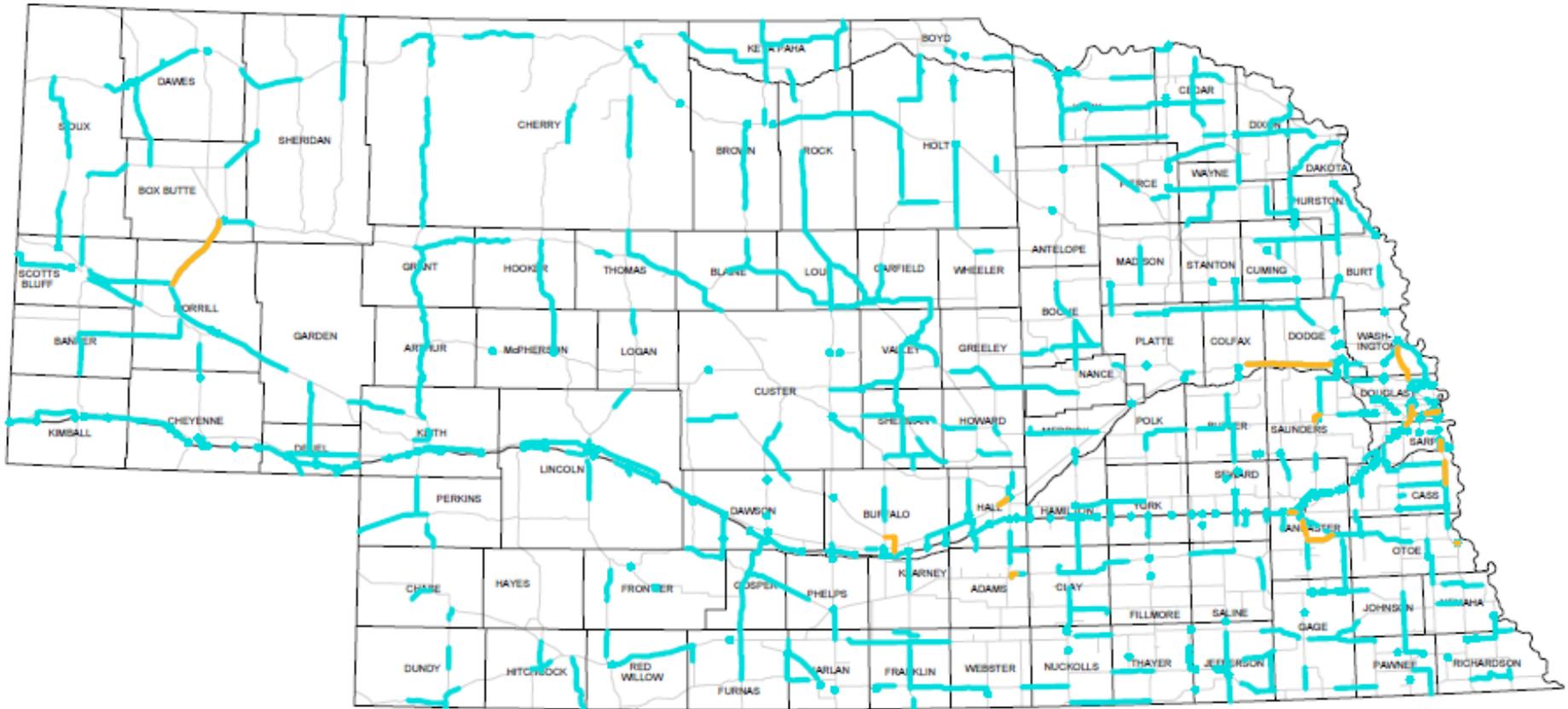
WE WANT TO HEAR FROM

You. 

CANDIDATE PROJECTS



Highway Improvements Across Nebraska

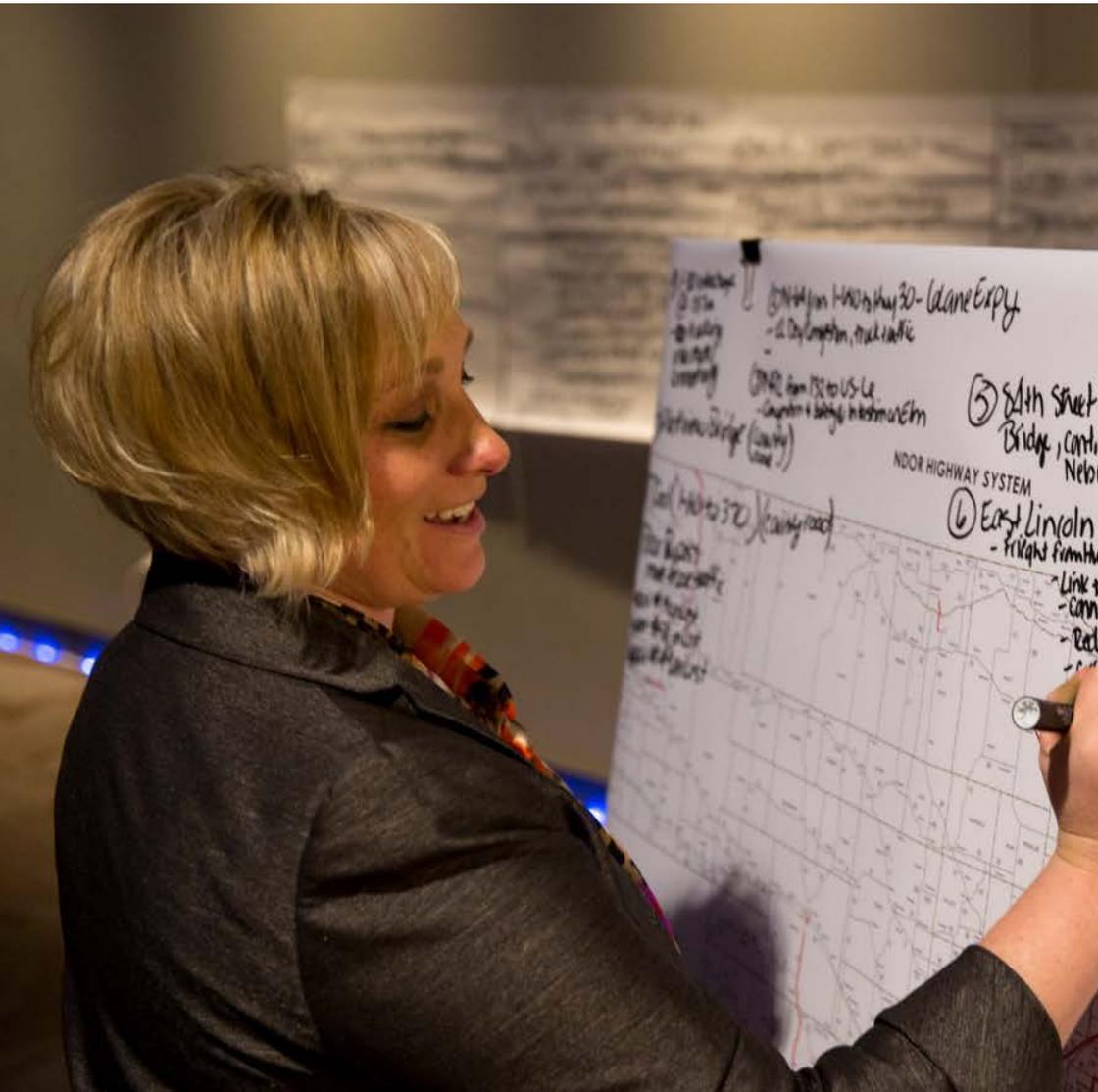


Build Nebraska Act Projects -
The First 10 Years
(2014 - 2023)

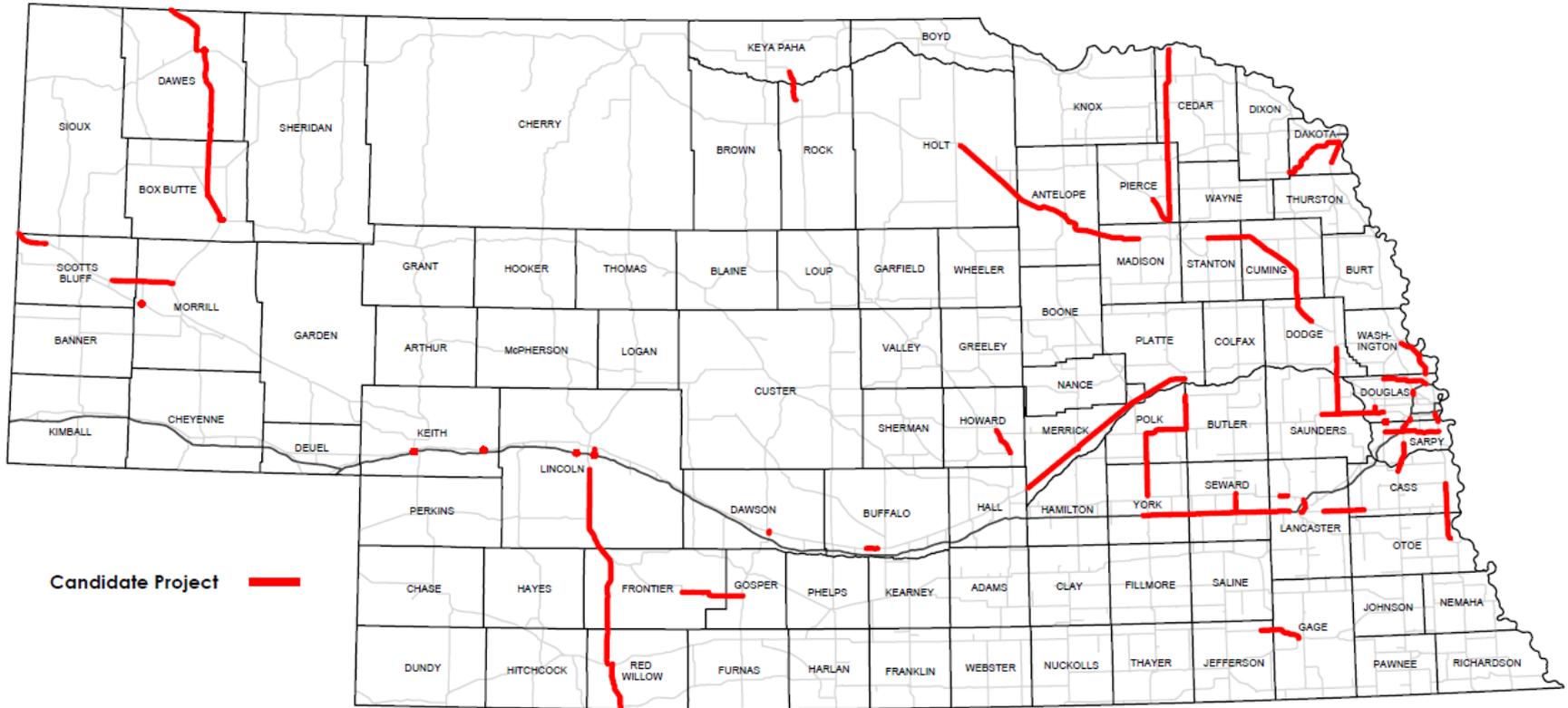
NE Surface Transportation Program -
2016 - 2021 (Asset Preservation)

Project Candidate List

- Developed from a variety of sources
- We've been listening
- Projects all address transportation challenges



Candidate Projects



<http://roads.Nebraska.gov/projects/bna/next10>

Additional Candidates



“I feel for the people who have to make the upcoming decision on the project list.”

- **More than doubled the list of project candidates**
- **Projects range from intersection improvements to new interstates**

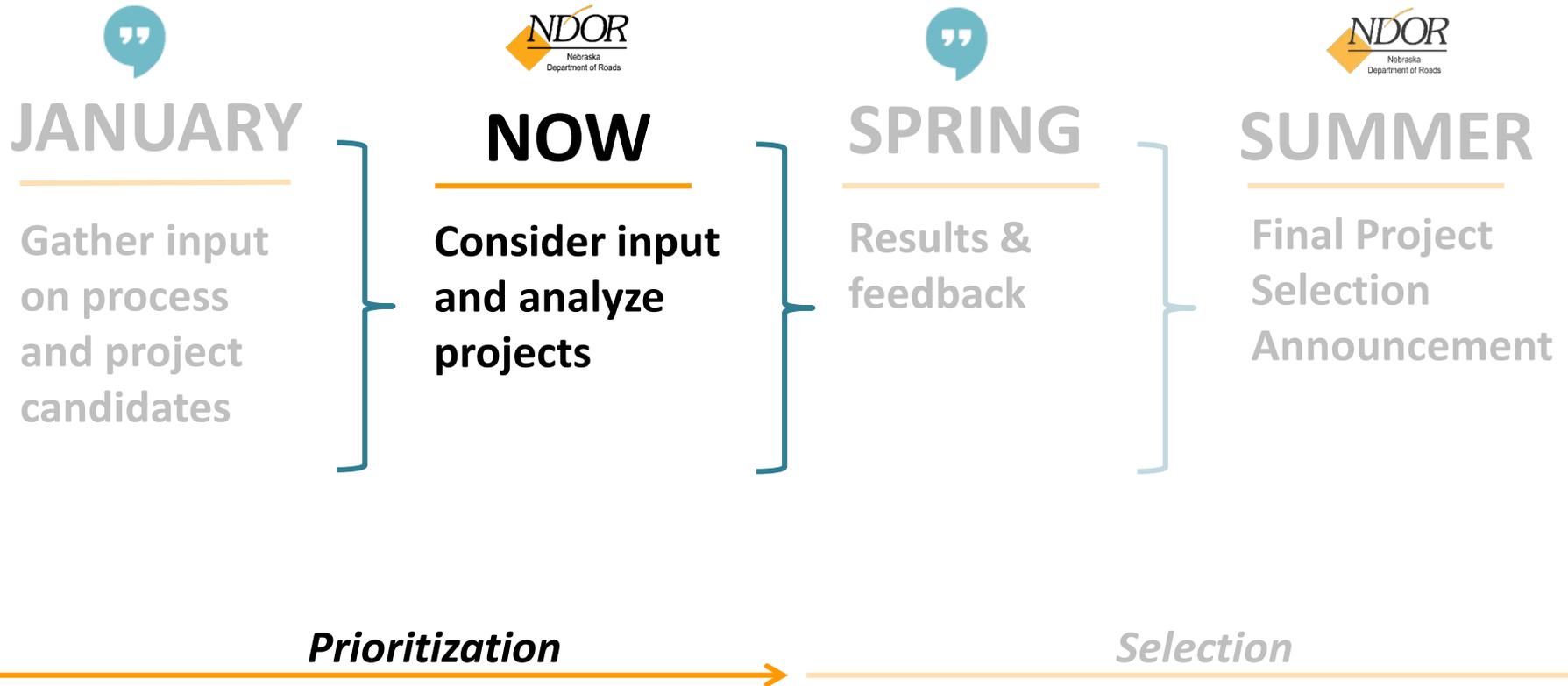
Overarching Themes



“On behalf of the Cass County Nebraska Economic Development Council, thank you ... we certainly understand your organization has a tough job ahead as you try to prioritize these projects. We appreciate being able to provide input ... will help any way we can.”

- **Candidate project list continues to grow**
- **More improvements than BNA can fund**
- **Local road and bridge projects also identified**

NOW: Refine the Process



What Are We Working On?

Considering public comments

Analyzing new project candidates

Working with local and national experts

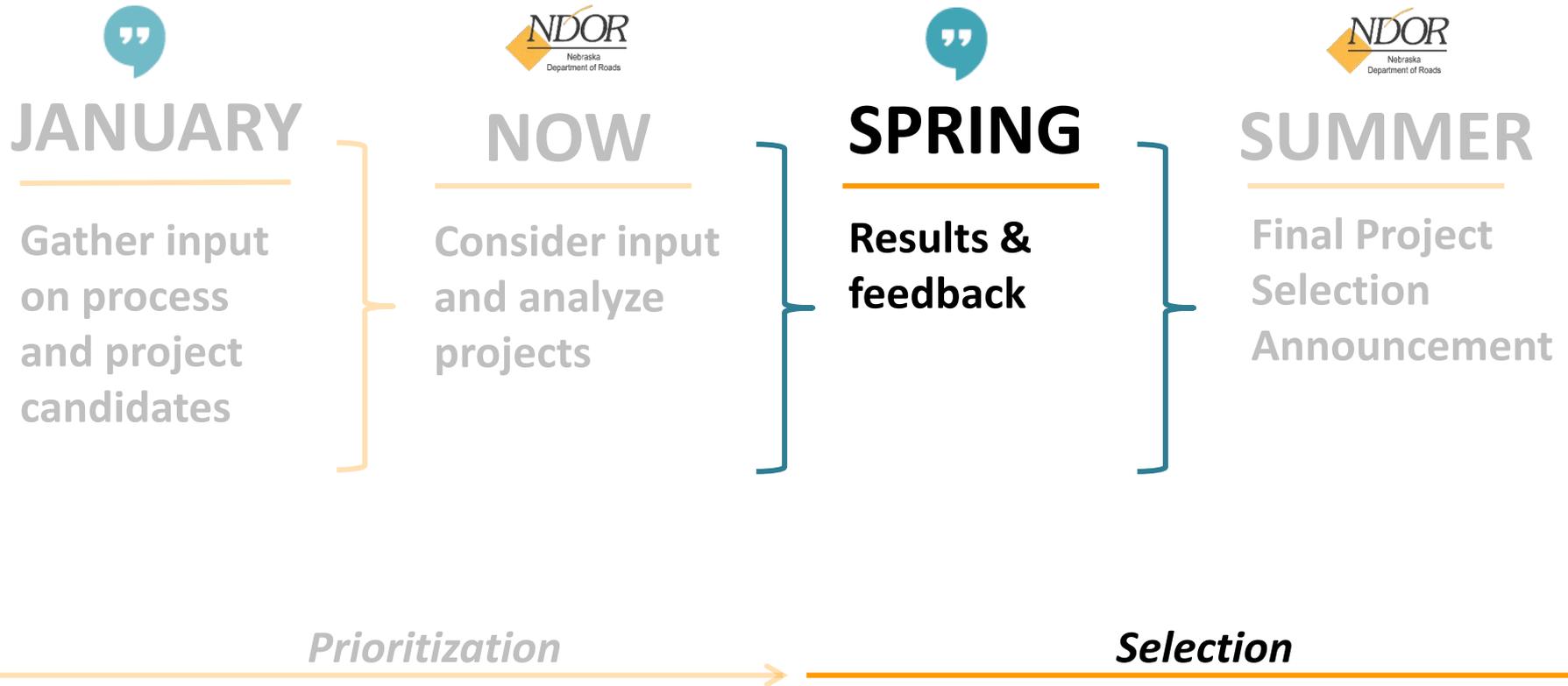
What Are We Working On?

Defining rural and urban characteristics
and criteria

 Economic Modeling

Pilot Project Analysis

SPRING: Preliminary Results



Facilitated Discussion



State Transportation Innovation Council



Lightning Round



WRAP UP & THANK YOU

<http://roads.nebraska.gov/innovation-task-force>





Nebraska Department of Roads

Innovation Task Force