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TO: Honorable County Commissioners
Scott Arneson, County Administrator

FROM: Greg Isakson, Public Works Director

RE: 07 Feb 23 Committee of the Whole Meeting
Avoiding Another Bridge 25501

Date: 01 Feb 23

As requested, staff has prepared this presentation to discuss options to prevent having another bridge closed on the County's highway system.

Avoiding Another Br 25501

07 FEB 23 COW

Bridges in Goodhue County

County State Aid Bridges:	169
County Road Bridges:	41
Township Bridges:	200
City Bridges:	14
Cannon Valley Trail Bridges:	<u>19</u>
Total Bridges:	443

Depending on their design, age, and condition, bridges have inspection frequencies of one, two, or 4 years.

In 2022, 193 bridges were inspected.

Bridge Inspector Qualifications

Classes required:

- Introduction to Safety Inspection of In-Service Bridges (14 hours)
- Safety Inspection of In-Service Bridges (10 day course)
- In-Service Bridge refresher course - annually

Years required:

- Five years of bridge inspection experience with a certified team leader and then pass a field proficiency exam.

What led up to Closing Br. 25501

Hired MnDot to inspect bridges for 2022 and 2023

- A current lack of staff has created a void in the work the department typically completes
- **A new set of eyes inspecting our bridges**

Their staff are full time bridge inspectors

Fine tuned their expertise

Have advanced inspection equipment

They were attempting to see how much solid metal was under the rust on the piling and broke through the rust leaving a hole

That amount of deterioration created a 'Critical Finding'

Which triggered closing the bridge until a structural engineer could evaluate the ability of the bridge to carry traffic.

Which resulted in closing the bridge to one lane of traffic

Increase Inspection

Create **expert** inspectors

- The MnDot model – year round inspection experts
- Requires additional staff time to attend additional training and to complete the annual inspections
- Requires additional equipment: dive gear, snooper, penetrating radar, and education: structural engineer

Inspect bridges **sooner** than required

- Inspect all two year cycle bridges on an annual basis
- For many structures, this is overkill and then some
- Not recommended

Hire MnDot or consultants with expertise to inspect our bridges on a regular basis

- Annually
- Bi-annually
- Once every four years
- **Once every 10 years**

Increase Bridge Replacements

Local Planning Index (LPI) is a score of the bridge's condition based on inspections

Bridges with LPI under 60 are eligible for State and/or Federal funding

All bridges with an LPI under 60 are in the five year replacement plan

- Except L0693 on Broadway St in Goodhue (minimum maintenance road)
- Set a goal to replace all of them in 3 years or 4 years instead of 5 years.
- Would increase design, construction, and inspection costs for 3 or 4 years and a potentially a lack of bridges in the following years.

Set a goal to replace all bridges with an LPI under 70 within a certain timeframe

- 7 Additional County Bridges
- 11 Additional Township Bridges (if they are interested)
- **100% Local \$ only for those with LPI 60 and over.**
- Not recommended

Replace all bridges with same design as 25501 within a specified time frame.

- Not recommended – would replace a bridge with a LPI of 60 or over

Replace all bridges when they hit 50 years old requires replacing 9 bridges / year.

- Would increase design, construction, and inspection costs.
- Not recommended – would replace a bridge with a LPI of 60 or over

Increase \$ or shift \$ from roads to bridges

Replacement program has been based on funding availability

Could pick an LPI (EI: <65, <70, etc.) and include all of them in the five year program

Local, LOST, CSAH, State Grant, Federal funds can all be used on bridge replacements

- Only bridges with an LPI <60 are eligible for State and Federal \$
- Only Local or LOST could be used on bridges with an LPI of 60 or greater

Require an increase in funding or a reduction in road construction for bridge construction

Not recommended – would replace a bridge with a LPI of 60 or over