



Goodhue County

Minnesota

COMMITTEE OF THE WHOLE AGENDA

COUNTY BOARD ROOM
GOVERNMENT CENTER
RED WING, MN

FEBRUARY 7, 2022
8:30 A.M.

VIRTUAL MEETING LINK:

[HTTPS://MEET.GOTO.COM/874691757](https://meet.goto.com/874691757)

YOU CAN ALSO DIAL IN USING YOUR PHONE.

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Public Works

1. Preventing future Bridge Closures.

Documents:

[Avoiding Future Bridge Closures.pdf](#)

2. Consultant Costs.

Documents:

[Consultant Costs.pdf](#)



Greg Isakson, P.E.
Public Works Director/County Engineer
Goodhue County Public Works Department

2140 Pioneer Road
Red Wing, MN 55066
Office (651) 385-3025

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



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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
Consultants and Staff

Date: 01 Feb 23

As requested, staff has prepared this presentation to discuss why Public Works uses Consultants to augment staff.



Consultants and Staff

07 Feb 23 COW

Increased Program with a Lack of Staff

- There were 5 engineering technicians 20 years ago
- There are 3 engineering technicians today (40% reduction)
- Have been trying to hire an engineering technician **since June 2020**
 - ARPA tuition free program at Southeast Vo-Tec has zero applicants
- LOST funds have increase annually
- Construction program has increased significantly
 - \$5.4 M in 2018 and \$10.1 M in 2023
 - 87 % increase in funding 6 years
 - Using 35% construction cost inflation there is a 38% increase in projects
- The Federal Bipartisan Infrastructure Law increases federal \$ to the state by 33.7%
- Potential state funding expected with the large surplus from last year



Bridge and Hydraulic Design

- Specialty expertise, need to do all the time or don't do it at all
- Few counties have this expertise in-house
- Unknown if Goodhue County every had this expertise in-house

Highway Design

- There is one full time design technician on staff
 - Mainly works on grading plans for road and bridge grading projects, and
 - Other small designs for annual maintenance projects, overlay projects, box culvert replacements, etc.
- County did this work in-house when there were more staff and fewer projects.
- WSB design for the 2 miles of 100th Ave: \$117,800
 - Over 40 staff (Geotech, Survey, Roadway, Structures, Drainage, Traffic)
- WSB design for the 4.7 miles of CSAH 2: \$236,774
- Using only existing county staff today would result in delaying future projects by years.

Right of Way Tasks

- Hire and manage appraisers
- Meet with owners of each parcel to explain the project and the R/W process
- Make offers to owners of each parcel
- Negotiate with those landowners
- Prepare easements and acquisition documents
- If needed: prepare for condemnation

Purchase Right of Way

- Cost to hire WSB on 100th Ave. with 15 parcels = \$75,844
- Just received a proposal from WSB for CSAH 2 (CSAH 5 to TH 61) with 50 parcels at \$265,276
- We do not have the capacity & expertise 'in-house' to acquire right of way on CSAH 2
- Need their services for this work if we want to deliver the project in 2024
- The County did this work in-house until we lost staff with this expertise
- Right of way duties included in the new 'Design Manager' job description
- We work with our survey office to help write right of way descriptions and help with recording easements, depending on their staff availability

Specialty Projects

- Transportation Plan
 - Gather public input by talking with various groups
 - Study changes in land use, traffic trends, volumes, highway classifications
 - Last plan was completed in 2004
- Bank Stabilization (CR 46)
- Concrete Base Stabilization for Gravel Roads (CR 23)
 - Could create a program for upgrading our gravel road system that would include this stabilization
- Problem Intersections
 - CSAH 1 (Bench St.) and 66 (Pioneer Road) in Red Wing - potential roundabout, etc.
 - CSAH 1 and CSAH 6
 - CSAH 18 and Sturgeon Lake Road - potential roundabout, traffic signal, 3rd lane, etc.
 - CSAH 11, CSAH 62 (Main St.) at the Kwik Trip in Pine Island – potential roundabout, etc.
- Other unusual issues that require specialists (who practice their specialty on a full time basis)

Construction Inspection

- Typically we have County staff available to inspect our highway and bridge projects.
 - Lost an Engr Tech just prior to construction, no other staff was available to inspect the CR 57 **federally funded** bridge
- Asked other Counties to 'borrow' an inspector – none available
- Asked MnDot to 'borrow' an inspector – none available
- Contacted Widseth (the firm that designed the bridge) – none available
- Contacted SRF (the consultant we hired for the Historic 3rd St. Bridge in Cannon Falls). – Available
- Original Cost Estimate = \$ 89,731
- Total Cost to date = \$ 43,482

County Road 57 Federal Bridge Costs and Funding

Goodhue County Public Works					
598-022 CR 57 Bridge Rplmt Project					
Design	Cost		Fed	State	County
Consultant	54,483				54,483
County	23,049				23,049
Construction Inspection					
Consultant	43,482				43,482
County	12,530				12,530
<u>Contractor</u>	<u>672,625</u>		<u>538,100</u>	<u>134,525</u>	<u>-</u>
Totals	806,169		538,100	134,525	133,544
% of Funding			67%	17%	17%
County Paid \$133,544 of an \$808,169 project to build a \$672,625 bridge					


Bridge Safety Inspection/Evaluation

- Hired MnDot to inspect bridges for 2022 and 2023 (~\$21,000 / year)
 - 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
- Hire consultants to evaluate bridges where the inspections find an issue
 - Such as 25501

Consulting services for 2023

CONSULTANT CONTRACTS						
PROJECT DESCRIPTION	CONSULTANT	CONTRACT SCOPE	CONTRACT AMOUNT	AMOUNT EXPENDED		
				PRIOR TO 2023	2023	BEYOND 2023
SLOPE REPAIR ON CR 46 FROM COLLISCHAN RD TO MT CARMEL RD	GALE-TEC	DESIGN	\$18,200.00	\$16,342.75	\$1,857.25	
GRADING ON 100TH AVE FROM CSAH 9 TO CSAH 1	WSB	DESIGN AND RIGHT OF WAY	\$193,644.00	\$193,644.00		
GRADING ON CSAH 2 FROM CSAH 5 TO TH 61	WSB	DESIGN	\$236,774.00	\$22,606.00	\$95,000.00	\$119,168.00
GRADING ON CSAH 2 FROM CSAH 5 TO TH 62	WSB	RIGHT OF WAY	\$265,276.00		\$107,460.66	\$157,815.34
REPLACE BR 25501 ON CSAH 2	STONEBROOKE	DESIGN	\$57,885.00	\$25,948.91	\$31,936.09	
REPLACE BR 25502 ON CR 45	ERICKSON	DESIGN	\$49,300.00		\$49,300.00	
REPLACE BR 25516 ON CSAH 8	ERICKSON	DESIGN	\$66,600.00	\$17,214.00	\$49,386.00	
REPLACE BR L0546 ON CR 57	SRF	CONSTRUCTION INSPECTION	\$89,731.50	\$40,586.84	\$2,560.00	
INTERSECTION CONTROL EVALUATIONS	TBD	TRAFFIC COUNTS AND STUDIES	\$100,000.00		\$30,000.00	\$70,000.00
MATERIALS INSPECTION AND TESTING FOR 2023	VARIOUS	CONSTRUCTION TESTING	\$50,000.00		\$40,000.00	\$10,000.00
TRANSPORTATION PLAN	TBD	STUDIES	\$120,000.00		\$20,000.00	\$100,000.00
GRADING AND PAVING ON JEFFERSON ST IN ZUMBROTA (CITY)	WHKS	DESIGN AND CONSTRUCTION INSP.	\$750,000.00	\$475,000.00	\$275,000.00	
		TOTAL	\$1,997,410.50	\$791,342.50	\$702,500.00	\$456,983.34

\$XXXXX DENOTES ESTIMATED AMOUNT



Options Other than Consultants

Plan B – Work with Other Public Entities

- Contact MnDot or other counties to see if they have staff we could borrow
 - Highway design expertise
 - Right of way acquisition
 - Construction inspection (as we tried on the CR 57 bridge)
 - Bridge Inspections

Options Other than Consultants

Plan C – Hire Staff

- First: Fill existing engineering technician opening (been looking since June 2020).
- Engineering technician with highway design experience
- Right of way acquisition expertise
 - Included in Design Manager Job Description
- ~~Specialists~~
 - ~~Bridge Design~~
 - ~~Transportation and Intersection Studies~~
 - ~~Cement Stabilization, Inslope Stabilization, etc.~~

Even with additional staff, there are special areas where will need to hire consultants