2023 HOUSE APPROPRIATIONS

HB 1147

2023 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee Brynhild Haugland Room, State Capitol

> HB 1147 1/18/2023

Relating to a county and township bridge fund; to amend and reenact section 21-10-13 of the North Dakota Century Code, relating to the legacy earnings fund;

11:16 Chairman Vigessa called the meeting to order, roll call was taken:

Members present; Chairman Vigesaa Representative Kempenich Representative B. Anderson Representative Bellew Representative Brandenburg Representative Hanson Representative Kreidt Representative Martinson Representative Mitskog Representative Meier Representative Monson Representative Nathe Representative J. Nelson Representative O'Brien Representative Pyle Representative Richter Representative Sanford Representative Schatz Representative Schobinger Representative Strinden Representative G. Stemen

Members Not Present: Representative Swiontek

Discussion Topics:

- Repair needed
- Inspections
- Weight limits

Representative Thomas-Testifies in favor of HB 1147 (Testimony #13970)

Allen Dybing, Upper Great Plains Transportation Institute (UGPTI)- Testifies in favor of HB 1147 (Testimony #17439) (www.ugpti.org)

Kelly Bengston-Bridge & Pavement Engineer NDSU – Oral testimony in favor of HB 1147

Genny Dienstmann- NDACo- Testifies orally in favor of the bill.

Nick West- Grand Forks Engineer- Testifies in favor of HB 1147 (Testimony # 14010)

Dana Larsen County Engineer, Ward County- Testifies in favor of HB 1147 (Testimony #14057)

Drew Courtney- Secretary Treasure- ND Corn Growers Association- Testifies in favor of HB 1147 (Testimony #14278)

Matt Grardner- ND League of Cities- Oral testimony if favor.

Phill Murphy-ND Soybean Growers- Testifies orally in favor of HB 1147

Larry Syversen, ND Township Officers Association- Oral testimony in favor.

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Scott Meske- ND Transportation Coalition- Orally testifies in favor of HB 1147

Additional written testimony: Matt Perdue, ND Farmers Union #14020, Russ Hanson, AGC of ND #13892, & Jason Benson Cass County Highway Department #13669

12:24 PM Chairman Vigesaa- Closed the hearing for HB 1147

Risa Berube, Committee Clerk

2023 HOUSE STANDING COMMITTEE MINUTES

Appropriations Committee

Brynhild Haugland Room, State Capitol

HB 1147 2/15/2023

Relating to a county and township bridge fund; to amend and reenact section 21-10-13 of the North Dakota Century Code, relating to the legacy earnings fund; to provide a statement of legislative intent; to provide an appropriation; and to provide an expiration date.

Chairman Vigesaa- Meeting was called to order at 7:25 PM and roll call was taken:

Members present; Chairman Vigesaa, Representative Kempenich, Representative B. Anderson, Representative Bellew, Representative Brandenburg, Representative Hanson, Representative Kreidt, Representative Martinson, Representative Mitskog, Representative Meier, Representative Mock, Representative Monson, Representative Nathe, Representative J. Nelson, Representative O'Brien, Representative Pyle, Representative Richter, Representative Sanford, Representative Schatz, Representative Schobinger, Representative Strinden, Representative G. Stemen and Representative Swiontek.

Discussion Topics:

- County and Township Bridge Fund
- Duplicate Bill

Representative Brandenburg Explains how the bills overlap.

Representative Brandenburg Move for a Do Not Pass

Representative Monson Seconds the motion.

Committee discussion Roll call vote

| Representatives | Vote |
|----------------------------------|------|
| Representative Don Vigesaa | Y |
| Representative Keith Kempenich | Y |
| Representative Bert Anderson | Y |
| Representative Larry Bellew | Y |
| Representative Mike Brandenburg | Y |
| Representative Karla Rose Hanson | Y |
| Representative Gary Kreidt | Y |
| Representative Bob Martinson | Y |
| Representative Lisa Meier | Y |
| Representative Alisa Mitskog | N |
| Representative Corey Mock | Y |
| Representative David Monson | Y |

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| Representative Mike Nathe | Y |
|------------------------------------|---|
| Representative Jon O. Nelson | Y |
| Representative Emily O'Brien | Y |
| Representative Brandy Pyle | Y |
| Representative David Richter | Y |
| Representative Mark Sanford | Y |
| Representative Mike Schatz | Y |
| Representative Randy A. Schobinger | Y |
| Representative Greg Stemen | Y |
| Representative Michelle Strinden | Y |
| Representative Steve Swiontek | Y |

Motion Carries 22-1-0 Representative Brandenburg will carry the bill.

7:29 PM Chairman Vigesaa Closed the meeting for 1147

Risa Berube, Committee Clerk

REPORT OF STANDING COMMITTEE HB 1147: Appropriations Committee (Rep. Vigesaa, Chairman) recommends DO NOT PASS (22 YEAS, 1 NAY, 0 ABSENT AND NOT VOTING). HB 1147 was placed on the Eleventh order on the calendar.

TESTIMONY

HB 1147

Testimony Prepared for the House Appropriation Committee January 16, 2023 By: Jason Benson, Cass County Engineer

North Dakota Association of County Engineers

RE: Support for HB 1147 – Relating to county highways and bridges funding

Chairman Vigesaa and House Appropriations Committee members, thank you for the opportunity to provide testimony on HB 1147. I am Jason Benson, the Cass County Engineer, and I also serve on the legislative committee for the ND Association of County Engineers. I am here to support the bill as proposed.

In 2019 the North Dakota Legislature requested a study of the transportation infrastructure needs of all counties, townships, and tribes in the state. The Upper Great Plains Transportation Institute (UGPTI) at the North Dakota State University recently completed this 2022 Highway and Bridge Needs Study. Counties across North Dakota assisted in a significant data collection effort providing a complete and current data on the condition of the state's county and township roadway and bridge system.

According to the UGPTI Draft 2022 study, across North Dakota counties maintain over 6,800 miles of paved highways, 17,000 miles of gravel roads, and 2,996 bridges. Counties maintain all township road bridges and many counties maintain the 47,000 miles of gravel township roads. Through this collaborative effort, the UGPTI infrastructure needs study identified critical funding needs across the State of ND on county, township, and tribal roads and bridges. Across the state from 2022-2041 it is estimated that counties, townships, and tribes will need \$10.5 billion to maintain and preserve its roads and bridges.

- \$6.5 billion in predicted statewide unpaved infrastructure needs over the next 20 years.
- \$3.25 billion in paved road investment and maintenance expenditures will be needed during the next 20 years.
- \$715 million in estimated bridge investment and maintenance needs for county, township and tribal bridges for 2022-2041.

In Cass County alone the estimated cost for county and township unpaved roads, paved highways, and bridges for 2022-2041 is \$514 million. This includes \$289 million for county gravel roads, \$157 million for county paved roads, and \$68 million for county bridges.

These significant long-term infrastructure needs are influenced by the agricultural industry across North Dakota, especially in Cass County. Higher crop yields require more trucks to haul across our county roads and bridges. Using 2017 data, ND produced 6.5 million tons of sugar beets, 7 million tons of hay, 1.6 million tons of silage, and 1.1 billion bushels of corn/soybeans/wheat (USDA 2017 data) for a total crop production that gets hauled from the field, to bins, and on to the elevator of 56 million tons of product. This requires over 1.4 million truckloads just to get the crop off the field. In addition, there are hundreds of thousands of other truckloads hauling the seed, fertilizer, equipment, and other agricultural items to keep our farms producing high quality crops.

This level of agricultural production also increases the demand for grain and ag product transportation within the state to additional destinations, especially elevators, processors, ethanol plants, and rail loading facilities. Most often, these storage and processing facilities are located along county roads. Cass County has an ethanol plant located along a county highway. This plant requires 150-250

truckloads a day to haul in about 54 million bushels of corn annually. This plant produces 150 million gallons of ethanol and about 450,000 tons of dried distiller's grain each year. In 2022 there was a groundbreaking ceremony for a soybean processing plant along another Cass County highway. This \$400 million plant will process over 82 million bushels of soybeans annually, requiring between 300-400 truckloads per day, and even more during harvest season.

This heavy agricultural traffic taxes the durability and safety of these local roads, which must be maintained to ensure continued safety as well as making sure goods get to market. These roads were designed and built for the trucks and farm equipment of the 1960's, they were not built in a way that reflects today's traffic and use. These needs are, of course, in addition to the needs the NDDOT faces for investment on the state highway system.

Cass County has invested a significant amount of funding in developing and maintaining its transportation network. Since 2000 around \$212 million was spent on both our highway and bridge projects. The current average cost to completely rebuild a paved highway is over \$1.5 million per mile. To rebuild our 311 miles of paved highway to a width of 32 feet would cost over \$467 million.

With 565 structures, our bridges and large box culverts also have a significant asset value. A total replacement cost of our highway and bridge infrastructure is nearly \$700 million.

While no local government can bear the replacement cost of this large amount of infrastructure, it emphasizes the importance of funding and sustaining an effective maintenance program. An organized and well-planned maintenance and replacement program will keep replacement costs down, efficiently spend the County's resources, extend the life of our infrastructure, and ensure the long-term viability of our highway system.



The County relies upon a combination of the 23-cent state fuel tax, state motor vehicle license fees, federal road and bridge funds, local property tax, and when available, one-time state or Prairie Dog funding. Cass County also continually pursues federal and state grant funding opportunities as they become available. As the chart above indicates, the state highway distribution tax and one-time funding used to make up 60%-70% of county transportation funding. However, in the years without one-time funding from 2018-2021, state highway distribution tax and one-time funding only made up 40%-50% of county transportation on one-time funding and the inability of the highway distribution funding to keep up with construction costs have reduced North Dakota counties ability to keep up with bridge and highway infrastructure needs.

Influencing the cost of construction is the significant rise in ND Construction Cost. Cass County's 2023 Federal Aid Highway Fund allocation is \$1.3 million. To keep up with the 9% construction cost index increase since the year 2000, Federal Aid Highway Funds received by our county would have to be approximately \$2 million a year. It is no secret to



anyone that the current inflationary environment we find ourselves in only adds to our decrease in buying power.

Federal-Aid Bridge funding to North Dakota counties is based on need as the NDDOT has \$5 million allocated statewide for county bridges and inspections. In 2000, Federal Aid made up 21% of Cass County's revenues. From 2000-2005 Federal Aid averaged 19% of our total funding and from 2006-2012 it averaged 13% of our total funding. Now Federal Aid only makes up 8% of our county road and bridge fund revenues. While our costs have increased 9% annually since 2000, our Federal-Aid buying power has decreased.

The projected bridge needs of ND Counties over the next twenty years exceeds \$715 million. In Cass County we have worked with the NDDOT to construct nearly \$7.8 Million in bridges over the last 10 years and have completed \$47 million in county bridge projects since 2000. These Federal funds are in addition to funds I referenced earlier, and we appreciate the NDDOT's continuing support on such investments, notwithstanding that the State also faces cost increases from inflation.

Cass County expects to replace over 41 major bridge structures in the next twenty years at a cost of \$65 million. Cass County also has 337 minor structures that are not eligible for federal funding and we expect to spend over \$20 million in replacing or maintaining these smaller structures.

Cass County and Counties across North Dakota need long term funding solutions to better plan and prioritize future road projects. Increases in state funding through this bill are critical to maintain our highway and bridge network. Without this additional funding, we will not be able to keep up with the required maintenance and replacement of our highways and bridges. Consistent long-term funding will allow Cass County to effectively plan and construct projects that most efficiently utilizes funding to extend the life of roads and bridges now, to avoid larger costs for complete reconstruction in the future.

Chairman Vigesaa and House Appropriations Committee members, thank you for the opportunity to provide testimony and I urge you to support HB 1147.

Testimony HB 1147 House Appropriations Committee January 18, 2023

Mr. Chairman and members of the House Appropriations committee, my name is Russ Hanson of the Associated General Contractors of North Dakota. AGC of ND is a 400 member association which has been in existence since 1951. Our membership consists of all aspects of commercial construction - highway contractors, vertical contractors, civil/heavy, specialty contractors, subcontractors as well as material and equipment suppliers.

I appreciate the opportunity to present this testimony in support of HB 1147 and offer our support of legislation considering addressing infrastructure needs. The long term infrastructure funding needs have been well documented and legislation such as HB 1147 and other bills introduced during the 2023 attempt to address those needs.

Thanks for the opportunity to comment on HB 1147. We respectfully request the committee issue a Do Pass Recommendation. If the committee has questions, I am happy to try to address them.

GOAL

PRESENT AN OVERVIEW OF NEEDS AND A SUGGESTED MEANS TO MEET THESE NEEDS

BRIDGE NEEDS ARE A STAND ALONE NEED

- Bridges are a need
- Bridges are the weakest link in our County / Township infrastructure system
- We don't like washboards, potholes and poor roads but we can live with them today.
 - We can't work with low load limit or no bridges



MCHENRY COUNTY

Complete loss of access to land by vehicle over 8 ton

Paved road rated at 105,500 with a 14 ton bridge

Two bridges on each side of this one rated at 40 ton





WEIGHT LIMIT 4 TONS



BRIDGE INSPECTIONS



- Bridge inspections are mandatory
 - \$3,000 to \$5,000 / bridge
 - State spent about \$3,000,000 during last inspection

Bottineau County

- I 8 Total bridges rated in the county
- 27 bridges rated poor or less
- 31bridges not even in inventory because they have less than a 20' span

WHERE ARE THESE BRIDGES?

- Forecasted replacement needs 2022 2041
 - 5 counties with no bridge replacement needs
 - 25 counties with I to 5 bridges in need of rehabilitation or replacement
 - I2 counties with 6 to I9 bridges in need of rehabilitation or replacement
 - II counties with 20 or more
 - Highest counties in the study were Morton 66, Walsh 63, Traill 55, Grand Forks 51

WHAT ARE SOME ESTIMATED COSTS



Hydrology Study \$7,000 to \$15,000



Box Culverts to replace bridges \$400,000 to \$800,000



Bridge replacement \$1 to 1.5 million / bridge



Bridge repair variable

PAST HISTORY OF FUNDING

- Counties have been allocated Federal Funds for bridge work every three to four years
- More recently state appropriated \$25 million to counties through ARPA
- Some counties have utilized Prairie Dog Funding to meet needs

PROBLEMS WITH HISTORICAL FUNDING

- Not enough
- Cost share can be prohibitive for some counties
- One shot appropriations
 - Counties unable to do long term planning and studies

CONSIDERATIONS TO HOW MUCH FUNDING

- How much work can be done in biennium
 - Inflation concerns
 - Federal dollars have been increased nationwide to address infrastructure
 - Already employment shortages throughout the US
 - In person meetings with Counties and Engineers have supported their ability to expend \$100 million / biennium without causing hyper inflation due to lack of labor and resources
 - Limitations include
 - 3 bridge contractors currently in ND
 - Number of engineers / firms available
 - Time involved to do proper studies engineering, hydrology, easements, mitigation

WHAT DO WE WANT TO FUND?

- Bridge Replacement
 - New Bridge
 Construction
 - Replacement with culverts or other structures when possible
- Bridge Repair



COUNTY AND TOWNSHIP BRIDGE NEEDS

- Upper Great Plains Transportation Institute 20 Year Study
 - Identified \$688 million in needed bridge replacements
 - \$27 million in preventative maintenance needs
 - Total needs of \$715,572,342.40

LEGISLATIVE LANGUAGE

- State funding needs to be zero local match
- Stream over ten years to allow for long term plans and efficiency
- Allocated to each county as a percent of their identified needs in the most recent UGPTI study
 - For counties with fewer bridge needs their appropriation will need to be allocated based on a project cost rather than an annual percent
 - DOT evaluate these needs on a county-by-county basis and grant funding to individual projects

STATE DOT INVOLVEMENT

WEIGHT

LIMIT

- Allocate funds to DOT and have them distribute to counties based on formula
 - Advantages
 - Clearing house for allocating to counties with fewer needs
 - Oversight of a statewide benefit
 - Leverage with federal funds to decrease the amount needed from state
 - Potential disadvantages of Federal match
 - Perception of loss of local control
 - Time delay in funds being allocated while waiting for federal match
 - Potential need for local match if Federal funds are used
 - Potential for Federal guidelines being used in allocation formula
 - Ex. 6 mile recommendation





County Highway Department

Testimony Prepared for the House Appropriation Committee January 18, 2023 By: Nick West, Grand Forks County Engineer

RE: Support for HB 1147 – Relating to County and Township Bridge Fund

Chairman Vigesaa and House Appropriations Committee members, thank you for the opportunity to provide testimony on HB 1147. I'm excited by the potential impact this bill could have, if passed it certainly would be historic. I am Nick West, the Grand Forks County Engineer, and I also serve on the legislative committee for the ND Association of County Engineers (NDACE). I am here to support the bill as proposed.

First off, I would offer support for the written testimony of Mr. Jason Benson, Cass County Engineer. His reference to the UGPTI Road Needs study, statewide road and bridge needs, agricultural impacts, reference to existing funding mechanisms, inflation, and local needs would be accurate and valid. Grand Forks County would have proportionate needs shown in that study as well.

I'm going to focus my testimony on inflation and major bridges in Grand Forks County. The Federal Highway Administration (FHWA), recently changed the way bridge inspections are done. In a nut shell, the inspections are more thorough and the ratings are most conservative.

Here's the stats for Grand Forks County bridges for the past year.

- 1. Grand Forks County has 268-major bridges as defined by FHWA
- 2. 90%+ of all the Bridges in the County were inspected and re-rated
- 3. Prior to 2022 47 bridges had a ton limit
- 4. In 2022 Posted 71 bridges (26% of entire inventory)
- 5. In 2022 Posted 24 new bridges (many are on actively traveled roads)
- 6. Every bridge that previously had a ton limit, now has a lower limit
- 7. Of the 71 the average rating went from 35-tons to 15-tons (57% reduction)

Inflation is taking a huge chunk of our buying capability. For example, in 2020 we replaced a bridge with a double 14'x10'x44' concrete box culvert. The material only price was \$137,967. Just last week we got bids for the exact same sized culvert, one-mile away, the material price jumped to \$366,000, that is a 2.66-times fold increase in a two/three-year period. Revenue simply isn't keeping up with inflation.

Its worth noting that other items are feeling the financial stress too: minor structures, culverts and equipment, for example, although not technically covered under this bill could potentially benefit too by the redistribution of other more flexible funding sources.

Grand Forks County and Counties across North Dakota need long term funding solutions to better plan and prioritize future road projects. Increases in state funding through this bill are critical to maintaining our highway and bridge network. Without this additional funding, we will not be able to keep up with the required maintenance and replacement of our bridges and our system will deteriorate. Consistent long-term funding would allow all County's to effectively plan and construct projects.

Chairman Vigesaa and members of the House Appropriations Committee, thank you for the opportunity to provide testimony and I ask you to support HB 1147.



Contact: Matt Perdue, Lobbyist mperdue@ndfu.org | 701.641.3303

Testimony of Matt Perdue North Dakota Farmers Union Before the House Appropriations Committee January 18, 2023

Chairman Vigesaa and members of the committee,

Thank you for the opportunity to testify in support of House Bill No. 1147. My name is Matt Perdue, and I am testifying on behalf of North Dakota Farmers Union's members.

During NDFU's most recent annual convention, our members adopted a special order of business outlining our priorities for this legislative session. Included in that list of priorities is funding for rural roads and bridges. Having a strong rural transportation network is critical to farmers' and ranchers' ability to access the market.

According to the Upper Great Plains Transportation Institute (UGPTI), 698 county, township and tribal bridges need to be replaced in the next 20 years. The cost of those replacements and additional bridge maintenance totals \$716 million over the 20-year period. Because many of those projects are urgent needs, UGPTI's analysis calls for \$139 million per biennium for each of the next five biennia.¹

NDFU appreciates the important steps the legislature took to address our rural infrastructure challenges during the 2021 legislative session and special session. However, without significant, routine investments in bridges, we will continue to fall behind. Despite the legislature's generous support in recent years, our estimated bridge needs grew by \$216 million over the last biennium.² HB 1147 is the solution we need to get ahead of the growing backlog of county and township bridge improvements.

HB 1147 will provide significant benefits to all rural road users, including farmers and ranchers. We respectfully request a "Do Pass" recommendation. I look forward to answering any questions.

¹ Dybing, A., et. al. (2022, Sep. 1). *Infrastructure Needs: North Dakota's County, Township, and Tribal Roads and Bridges: 2022-2041.* NDSU Upper Great Plains Transportation Institute. Retrieved from https://www.ugpti.org/downloads/road_needs/2021-2023-legislative-study-report.pdf.

² Dybing, A., et. al. (2020, Nov.) *Infrastructure Needs: North Dakota's County, Township and Tribal Roads and Bridges, 2021-2040.* NDSU Upper Great Plains Transportation Institute. Retrieved from https://www.ugpti.org/resources/reports/downloads/2020-11-infrastructure-needs.pdf.



Ward County Highway Department

900 13th St. SE • P.O. Box 5005 • Minot, ND 58702-5005 • (701) 838-2810 • Fax (701) 838-3801

Testimony Regarding HB 1147 House Appropriations Committee January 18, 2023 Prepared by: Dana G. Larsen, PE, Ward County Engineer

RE: Support for HB 1147 – Relating to a county and township bridge funding

Chairman Vigesaa and House Appropriations Committee members, my name is Dana Larsen and I serve as the County Engineer for Ward County. I appreciate the opportunity to provide testimony on HB 1147 which would provide additional funding for bridges on County and Township Roads.

I want to express my support for additional funding to replace our aging structures on county and township roads. Ward County has been very active in inspecting, repairing, maintaining and replacing our bridges when needed. In 2021, Ward County spent around \$990,000 in local funds and \$2,045,000 in federal funds repairing and replacing bridges on county and township roads. Approximate 85% of those funds were spent on township bridges. In the last two years we have replace or performed major rehabilitation on 7 bridges, and currently have five additional bridges under design. Three of those structures qualify for federal aid and two of the structures do not score very well when seeking funding due to the lower traffic volumes and shorter detour length. We plan to bid the projects locally and use local funding to replace them this year. Last January, we requested funding to replace seven bridges. We were fortunate to receive funding to replace one bridge on a county road that was load restricted and it is scheduled to be bid in March. In July we submitted request to replace seven bridges, and were fortunate again to receive funding to replace one of the bridges. I say fortunate because there are a lot of counties applying for the same federal bridge funds.

In 2019, Ward County had put together a bridge plan to replace most of our load restricted or poor condition bridges by 2029. Since that time, the Federal Highway

Administration (FHWA), recently changed the way bridge inspections are done. This required much more detailed inspections and a completely new load rating for almost all of our county and township bridges in the state. Older wood bridges did not fair very well. Ward County had bridges that previously did not require a bridge posting, and now required the county to post the bridge as low as 12 tons. This had a large impact on these township roads. If a bridge rating falls to low, this does not only impact trucks and farm machinery, this means the motorgrader should not cross the bridge when it is out blading the gravel or clearing snow. Prior to the last evaluation, we only had one township bridge with a load posting low enough that a motorgrader should not cross it. Now we currently have six bridges with very low bridge ratings.

Since 2019, the number of bridges on our list to be replaced has greatly increased. We have a list of an additional 18 bridges which are either rated in poor condition, are load restricted, or both. Only one of these bridges is located on a county road, with the reaming bridges located on townships roads. Of the remain 17 bridges needing to be replaced, six are not eligible for federal funding because the bridge structures are under 20 feet in length. One example is a bridge located southwest of the City of Burlington on a maintained township road. This bridge is under 20 feet in total length, is currently load restricted to 10 tons. If this bill is approved, it would be our hope the funds could be used to help replace many of our aging bridges, including bridges like this one in Burlington Township.



Chairman and committee members, I want to thank you for your time today, and I would ask for your support on HB 1147



Testimony of Drew Courtney

HB 1147 Testimony

January 18, 2023

Thank you, Chair Vigesaa and members of the House Appropriations Committee, for the opportunity for the North Dakota Corn Growers Association to share our support of House Bill 1147 for legacy funding for local county and township bridges.

For the record, my name is Drew Courtney, and I am the Secretary Treasurer on the Board of Directors for the North Dakota Corn Growers Association (NDCGA), which serves as the voice, and represents more than 13,000 corn growers across the state. I farm near Oakes, ND with my cousin, wife and kids. I also serve on my township board.

Last month, Governor Burgum joined NDSU at the State Capitol to unveil a first of its kind comprehensive study of the economic contribution of agriculture in the state. For the year 2020, ag contributed nearly \$31 billion to the economy and more than 110,000 jobs and represented nearly 25 percent of the state economy.

Agriculture's economic success is tied in part to the availability of good, reliable, public infrastructure. As a township officer, I can speak firsthand about limited resources to maintain and repair local roads and bridges. According to a study by the upper Great Plains Transportation Institute, in 2019, 56% of local bridges in North Dakota were rated as being in good condition. In 2022, that number dropped to 51%. The number of bridges rated in poor condition remained at 8%. During that same time, the cost to replace bridges has increased by about 25%. Most of us don't even think that a bridge may not be safe when we cross it, knowing that we have little or no choice. But it's top of mind when we see that a road is closed and we can't get to our field, our property, without a lengthy detour when fuels prices are so high, and time is limited. North Dakota will need to invest more than \$10.5 billion over the next 20 years to maintain local, township, and tribal roads and bridges according to their study.

Most townships do not have the funds to repair local bridges and are not able to levy to the level needed. As you know, the Legacy Fund is the "people's fund," to be invested back into the heart of North Dakota. I cannot think of a better use for these funds than to use them for infrastructure throughout the heart of the state, for a purpose that will benefit the common good and not a narrow interest.

The North Dakota Corn Growers Association mission statement is "growing a healthy, profitable business climate for northern corn," and this state investment would help the state's corn growers towards their economic success. Thank you for your time and we urge your support of HB 1147. I stand for any questions you may have.
NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

Response to Data Request for HB 1147

Kelly Bengtson – Road and Bridge Engineer Alan Dybing – Advanced Research Fellow



Overview

- Summary of overall statewide needs study
- Bridge condition ratings, analysis, and results
- Walkthrough data request from Rep. Thomas
 - County qualification and distribution under current bill language

County, Township and Tribal Road and Bridge Needs Study

Objective: estimate the 20-year needs to maintain North Dakota's County, Township, and Tribal roads and bridges

- Correct deficiencies to maintain and improve the condition
- Does not include system-wide enhancement, i.e. paving gravel roads

Bridge Condition Ratings

- Primary Data Source National Bridge Inventory System (NBIS)
 - Contained data from 2020-2021 bridge safety inspections
 - Historically, the Sufficiency Rating (SR) was used to assign a condition rating to bridges considering a multitude of factors (0-100 scale)
 - NBIS stopped tracking this metric and many states have been developing their own guidelines
 - UGPTI had developed a SR calculator which was updated to include special reduction factors
 - The Bridge Needs Target (BNT) was developed to replace SR
 - Advisory panel consisting of ND County officials

Bridge Sufficiency Rating Calculation Worksheet



Ref: 'Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges', Report No. FHWA-PD-96-001



Bridge Needs Target

- The Bridge Needs Target (BNT) was developed to replace SR
 - Advisory panel consisting of ND County officials
 - Replacement for SR
 - Special Reduction Factors
 - Classified as fracture critical
 - Posted for load
 - Timber materials
 - Susceptible to scour
 - Replacement Criteria
 - BNT<75

| NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE |
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| County | Advisor |
|-------------|----------------|
| Bottineau | Ritch Gimbel |
| Bowman | Shane Biggs |
| Cass | Jason Benson |
| Grand Forks | Nick West |
| Lamoure | Josh Loegering |
| McKenzie | Suhail Kanwar |
| Morton | John Saiki |
| Sargent | Tim Faber |
| Stark | Al Heiser |
| Ward | Dana Larsen |

ND Local Bridge Conditions

Based on 2019 NBI data

F



Based on 2021 NBI data



Analysis Logic

- BNT<75 Replacement
- Repair and Rehabilitation
 - This has been removed as local governments have moved toward replacing bridges that are in poor condition
 - Maintenance needs provide for an offset
- Preventive Maintenance
 - Deck washing, deck and crack sealing, joint maintenance, ice control costs

Results

| Period | Replacement | Maintenance | Total |
|-----------|-------------|-------------|----------|
| 2022-2023 | \$134.19 | \$5.23 | \$139.42 |
| 2024-2025 | \$134.19 | \$5.23 | \$139.42 |
| 2026-2027 | \$134.19 | \$5.23 | \$139.42 |
| 2028-2029 | \$134.19 | \$5.23 | \$139.42 |
| 2030-2031 | \$134.19 | \$5.23 | \$139.42 |
| 2032-2041 | \$17.76 | \$0.69 | \$18.45 |
| 2022-2041 | \$688.72 | \$26.85 | \$715.57 |

Projected Bridge Costs 2022 - 2041



Data Request Related to HB 1147

• Section 3: Grants to Counties

Qualification: The individual county need as a proportion of the statewide total multiplied by \$100,000,000 must exceed \$500,000 (Spreadsheet 1)

| Breadsheet 1 - Section 3 Qualification | | | | | | | | | | | | | | |
|--|------------------------------------|---|---|---|---|---|--|--|--|--|---|--|--|--|
| | | UGPTI Study Results Does share x \$100M > \$500,000? | | | | | | | | | | | | |
| Bridges | | 20 | D-Ye | ar Bridge Needs | s | | Replacement | Total Cost | R | eplacement % | | Total % | Meets >\$500K | |
| Replaced | Replac | cement Cost | | PM Cost | | Total Cost | County % | County % | | x \$100 M | | x \$100 M | Threshold | |
| 7 | \$ 5 | 5,368,480.61 | \$ | 312,428.51 | \$ | 5,680,909.13 | 0.78% | 0.79% | \$ | 779,488.36 | \$ | 793,897.25 | 1 | |
| 2 | \$ 6 | 5,018,876.05 | \$ | 530,210.10 | \$ | 6,549,086.14 | 0.87% | 0.92% | \$ | 873,923.95 | \$ | 915,223.49 | 1 | |
| 0 | \$ | - | \$ | 97,419.98 | \$ | 97,419.98 | 0.00% | 0.01% | \$ | - | \$ | 13,614.27 | (| |
| 3 | \$ 2 | 2,949,187.07 | \$ | 273,865.71 | \$ | 3,223,052.78 | 0.43% | 0.45% | \$ | 428,213.71 | \$ | 450,416.06 | (| |
| 41 | \$ 34 | 1,098,385.38 | \$ | 663,941.39 | \$ | 34,762,326.77 | 4.95% | 4.86% | \$ | 4,950,990.10 | \$ | 4,857,975.18 | 1 | |
| 4 | \$ 2 | 2,579,150.62 | \$ | 198,452.13 | \$ | 2,777,602.75 | 0.37% | 0.39% | \$ | 374,485.45 | \$ | 388,165.19 | 0 | |
| 5 | \$ 2 | 2,250,000.00 | \$ | 48,020.00 | \$ | 2,298,020.00 | 0.33% | 0.32% | \$ | 326,693.70 | \$ | 321,144.33 | (| |
| 7 | \$ 5 | 5,133,819.24 | \$ | 464,724.38 | \$ | 5,598,543.61 | 0.75% | 0.78% | \$ | 745,416.18 | \$ | 782,386.81 | 1 | |
| | Replaced 7 2 0 3 41 | Replaced Replaced 7 \$ 5 2 \$ 6 0 \$ 2 3 \$ 2 41 \$ 3 4 \$ 2 5 \$ 2 | Bridges 20 Replaced Replacement Cost 7 \$ 5,368,480.61 2 \$ 6,018,876.05 0 \$ - 3 \$ 2,949,187.07 41 \$ 34,098,385.38 | Bridges 20-Yet Replaced Replacement Cost \$ 7 \$ 5,368,480.61 \$ 2 \$ 6,018,876.05 \$ 0 \$ - \$ 3 \$ 2,949,187.07 \$ 41 \$ 34,098,385.38 \$ 4 \$ 2,579,150.62 \$ 5 \$ 2,250,000.00 \$ | Bridges 20-Year Bridge Needd Replaced Replacement Cost PM Cost 7 \$ 5,368,480.61 \$ 312,428.51 2 \$ 6,018,876.05 \$ 530,210.10 0 \$ - \$ 97,419.98 3 \$ 2,949,187.07 \$ 273,865.71 41 \$ 34,098,385.38 \$ 663,941.39 4 \$ 2,579,150.62 \$ 198,452.13 5 \$ 2,250,000.00 \$ 48,020.00 | Bridges Development Cost PM Cost Replaced Replacement Cost PM Cost \$ 7 \$ 5,368,480.61 \$ 312,428.51 \$ 2 \$ 6,018,876.05 \$ 530,210.10 \$ 0 \$ - \$ 97,419.98 \$ 3 \$ 2,949,187.07 \$ 273,865.71 \$ 41 \$ 34,098,385.38 \$ 663,941.39 \$ 4 \$ 2,579,150.62 \$ 198,452.13 \$ 5 \$ 2,250,000.00 \$ 48,020.00 \$ | Bridges 20-Year Bridge Needs Replaced Replacement Cost PM Cost Total Cost 7 \$ 5,368,480.61 \$ 312,428.51 \$ 5,680,909.13 2 \$ 6,018,876.05 \$ 530,210.10 \$ 6,549,086.14 0 \$ - \$ 97,419.98 \$ 97,419.98 3 \$ 2,949,187.07 \$ 273,865.71 \$ 3,223,052.78 41 \$ 34,098,385.38 \$ 663,941.39 \$ 34,762,326.77 4 \$ 2,579,150.62 \$ 198,452.13 \$ 2,277,602.75 5 \$ 2,250,000.00 \$ 48,020.00 \$ 2,298,020.00 | Bridges 2U-Vear Bridge Needs Replacement | Bridges 2U-Verr Bridge Needs Replacement Cost PM Cost Total Cost County % County % 7 \$ 5,368,480.61 \$ 312,428.51 \$ 5,680,909.13 0.78% 0.79% 2 \$ 6,018,876.05 \$ 530,210.10 \$ 6,549,086.14 0.87% 0.92% 0 \$ - \$ 97,419.98 \$ 97,419.98 0.00% 0.01% 3 \$ 2,949,187.07 \$ 273,865.71 \$ 3,223,052.78 0.43% 0.45% 41 \$ 34,098,385.38 \$ 663,941.39 \$ 2,777,602.75 0.37% 0.39% 44 \$ 2,579,150.62 \$ 198,452.13 \$ 2,298,020.00 0.33% 0.32% | Bridges 20-Year Bridge Needs Replacement Cost PM Cost Total Cost County % Replacement County % Replacement Cost PM Cost Total Cost County % County % County % County % South % | Bridges Replaced ZU-Year Bridge Needs Total Cost Replacement Cost PM Cost Total Cost County % County % Replacement % 7 \$ 5,368,480.61 \$ 312,428.51 \$ 5,680,909.13 0.78% 0.79% \$ 779,488.36 2 \$ 6,018,876.05 \$ 530,210.10 \$ 6,549,086.14 0.87% 0.92% \$ 873,923.95 0 \$ - \$ 97,419.98 \$ 97,419.98 0.00% 0.01% \$ - 3 \$ 2,949,187.07 \$ 273,865.71 \$ 3,223,052.78 0.43% 0.45% \$ 428,213.71 41 \$ 34,098,385.38 \$ 663,941.39 \$ 34,762,326.77 4.95% 4.86% \$ 4,950,990.10 4 \$ 2,579,150.62 \$ 198,452.13 \$ 2,777,602.75 0.37% 0.39% \$ 326,693.70 5 \$ 2,250,000.00 \$ 48,020.00 \$ 2,298,020.00 0.33% 0.32% \$ 326,693.70 | Bridges Replaced 2U-Year Bridge Needs Total Cost Total Cost Total Cost Replacement Cost PM Cost Total Cost County % County % Replacement % x \$100 M 7 \$ 5,368,480.61 \$ 312,428.51 \$ 5,680,909.13 0.78% 0.79% \$ 779,488.36 \$ 2 \$ 6,018,876.05 \$ 530,210.10 \$ 6,549,086.14 0.87% 0.92% \$ 873,923.95 \$ 0 \$ - \$ 97,419.98 \$ 97,419.98 0.00% 0.01% \$ - \$ 3 \$ 2,949,187.07 \$ 273,865.71 \$ 3,223,052.78 0.43% 0.45% \$ 428,213.71 \$ 41 \$ 34,098,385.38 \$ 663,941.39 \$ 34,762,326.77 4.95% 4.86% \$ 4,950,990.10 \$ 4 \$ 2,579,150.62 \$ 198,452.13 \$ 2,277,602.75 0.37% 0.39% \$ 374,485.45 \$ 5 \$ 2,250,000.00 \$ 48,020.00 \$ 2,298,020.00 0.33% 0.32% \$ 326,693.70 \$ | Bridges $2 \cup Y = x \operatorname{Bridge Needs}$ Replacement Total CostReplacement Total CostReplacement Cost $PM \operatorname{Cost}$ Total CostCounty %County %County %County % $x \le 100 M$ $x \le 100 M$ 7\$\$,368,480.61\$312,428.51\$\$,5680,909.13 0.78% 0.79% \$ $779,488.36$ \$ $793,897.25$ 2\$6,018,876.05\$ $530,210.10$ \$ $6,549,086.14$ 0.87% 0.92% \$ $873,923.95$ \$ $915,223.49$ 0\$-\$ $97,419.98$ \$ $97,419.98$ 0.00% 0.01% \$ $-$ \$ $13,614.27$ 3\$ $2,949,187.07$ \$ $273,865.71$ \$ $3,223,052.78$ 0.43% 0.45% \$ $428,213.71$ \$ $450,416.06$ 41\$ $34,098,385.38$ \$ $663,941.39$ \$ $34,762,326.77$ 4.95% 4.86% \$ $4950,909.10$ \$ $4,857,975.18$ 4\$ $2,579,150.62$ \$ $198,452.13$ \$ $2,277,602.75$ 0.37% 0.32% \$ $326,693.70$ \$ $321,144.33$ 5\$ $2,250,000.00$ \$ $48,020.00$ \$ $2,298,020.00$ 0.33% 0.32% \$ $326,693.70$ \$ $321,144.33$ | |

Data Request Related to HB 1147

• Section 3: Grants to Counties

in Spreadsheet 3

 Amount: The individual county need as a proportion of the statewide total for qualifying counties multiplied by \$80,000,000 (Spreadsheet 2)

| | | | U | GPTI | Study Results | ; | | \$80M Quali | fied County | | Qualified Cour | nty | Proportion |
|-----------|----------|----|-----------------|--------|---------------|----|---------------|-------------|-------------|----|----------------|-----|--------------|
| | Bridges | | 20 |) Year | Bridge Need | s | | Replacement | Total Cost | R | eplacement % | | Total % |
| County | Replaced | Re | eplacement Cost | | PM Cost | | Total Cost | County % | County % | | x \$80 M | | x \$80 M |
| Adams | 7 | \$ | 5,368,480.61 | \$ | 312,428.51 | \$ | 5,680,909.13 | 0.82% | 0.83% | \$ | 653,379.00 | \$ | 667,121.61 |
| Barnes | 2 | \$ | 6,018,876.05 | \$ | 530,210.10 | \$ | 6,549,086.14 | 0.92% | 0.96% | \$ | 732,536.36 | \$ | 769,073.54 |
| Bottineau | 41 | \$ | 34,098,385.38 | \$ | 663,941.39 | \$ | 34,762,326.77 | 5.19% | 5.10% | \$ | 4,149,995.24 | \$ | 4,082,216.21 |
| Burleigh | 7 | \$ | 5,133,819.24 | \$ | 464,724.38 | \$ | 5,598,543.61 | 0.78% | 0.82% | \$ | 624,819.19 | \$ | 657,449.25 |
| Cass | 43 | \$ | 64,506,553.72 | \$ 3 | ,371,424.63 | \$ | 67,877,978.35 | 9.81% | 9.96% | \$ | 7,850,867.07 | \$ | 7,971,059.75 |
| Cavalier | 6 | \$ | 4,106,269.58 | \$ | 130,460.49 | \$ | 4,236,730.07 | 0.62% | 0.62% | \$ | 499,759.71 | \$ | 497,528.50 |
| 2 | | | | | | | | 0.070/ | 0.000/ | | | | 700 000 00 |

Data Request Related to HB 1147

- Section 4: County and Township Bridge Fund NDDOT
 - Needs for counties not qualified under Section 3 are presented in Spreadsheet 3

| Spreadsheet 3 - Section 4 County NeedsHB 1147 | | | | | | | | | | |
|---|----------|---------------------|----------------------|------------|------------|----|--------------|--|--|--|
| | | UGPTI Study Results | | | | | | | | |
| | Bridges | | 20-Year Bridge Needs | | | | | | | |
| County | Replaced | Re | placement Cost | Total Cost | | | | | | |
| Benson | 0 | \$ | - | \$ | 97,419.98 | \$ | 97,419.98 | | | |
| Billings | 3 | \$ | 2,949,187.07 | \$ | 273,865.71 | \$ | 3,223,052.78 | | | |
| Bowman | 4 | \$ | 2,579,150.62 | \$ | 198,452.13 | \$ | 2,777,602.75 | | | |
| Burke | 5 | \$ | 2,250,000.00 | \$ | 48,020.00 | \$ | 2,298,020.00 | | | |
| Dickey | 2 | \$ | 2,617,436.49 | \$ | 565,363.70 | \$ | 3,182,800.19 | | | |
| Divide | 1 | \$ | 450,000.00 | \$ | 78,709.49 | \$ | 528,709.49 | | | |

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

Questions?

Alan Dybing alan.dybing@ndsu.edu 701.231-5988

The full study report can be found at: www.ugpti.org

