



**WRITTEN STATEMENT FOR THE RECORD**

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**On behalf of Cass County, North Dakota, North Dakota Association of  
County Engineers and the National Association of County Engineers**

**Implementing IIJA: Opportunities for Local Jurisdictions to Address  
Transportation Challenges**

**Before the Senate Environment and Public Works Subcommittee on  
Transportation and Infrastructure**

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Chairman Cardin, Ranking Member Cramer, and members of the Senate Environment and Public Works Subcommittee on Transportation and Infrastructure, thank you for the opportunity to testify before you today. I am Jason Benson, the County Engineer for Cass County, North Dakota. I also serve as Chair of the Legislative Committee for the ND Association of County Engineers and am an active member of the National Association of County Engineers, consisting of over 3,000 fellow County Engineers, Highway Superintendents, and public works officials across the country. Additionally, I've also proudly served in the U.S. Army and Army National Guard for the last 33 years.

Cass County is the most populous county in North Dakota and has a population of over 180,000, which is roughly 24% of the state's population. Cass County is the sixth largest county in land size in North Dakota. The Cass County highway system consists of 637 miles of roadway covering more than 1,768 square miles. In North Dakota, counties convey to cities the roads within the city limits of those municipalities over 5000 in population. In general, Cass Counties roads and bridges are on the urban fringe or in rural areas of the county. Counties in North Dakota are responsible for all bridges greater than 20 feet on both county and township roads resulting in Cass County maintaining 564 bridges, of which 231 span 20 feet in length or greater. These 231 bridges make up 8% of the spans in the State over 20 feet in length, spans that North Dakota considers for its purposes to be "major structures".

The Cass County Highway Department's mission is to provide and maintain an efficient, safe, environmentally responsible, and cost-effective county road system that effectively meets the citizen's needs for personal mobility and the movement of freight consistent with the importance of the economy. Safe, efficient, and responsive transportation infrastructure is necessary to the incidents of commerce, public safety, recreation, and education. The Infrastructure Investment and Jobs Act (IIJA) will provide additional funding to help County highway departments accomplish their missions.

We are grateful to the Administration and Congress for passing this landmark legislation. This legislation provides needed funding to help improve our road and bridge infrastructure. In the balance of my testimony, I will describe some key highway issues from the county perspective and note that our ability to make progress is also related to our excellent working relationship with the North Dakota Department of Transportation (NDDOT).

### **Critical Infrastructure and Funding Needs for North Dakota Counties:**

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, North Dakota 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 agriculture 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.

## **Current Cass County Highway and Bridge Funding:**

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 funding. Cass County also continually pursues federal and state grant funding opportunities as they become available.

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. Since 2000 we have continued to receive around \$400 to \$700k in Federal Aid Bridge Funds every year on average. This is in addition to the \$1.3 million referenced above. 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.

## **Infrastructure Investment and Jobs Act (IIJA) Funding Opportunities for Counties:**

### **Bridges Funding and Grants:**

With the passing of the IIJA, North Dakota Counties can leverage funding from the Bridge Investment Program (BIP) and the Bridge Formula Program (BFP). 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.

With the focus Cass County has placed on bridge replacement, we still face significant challenges. One case is the three interstate bridges over the Red River between North Dakota and Minnesota. We recently worked with Polk County, Norman County, and Clay County in Minnesota and Traill County North Dakota to submit a Minnesota (MN) – North Dakota (ND) Interstate Bundled Bridge Project through the Bridge Investment Program (BIP) to replace the three bridges known as Nielsville, Hendrum and Georgetown, along the North Dakota and Minnesota border. According to the BIP grant application, these bridges serve the purpose of connecting the County State Aid Highway transportation system in both states. They are major collectors that lead to Interstate 29, an important economic connection that runs north to south through seven states from Canada to Kansas City, Missouri.

The bridges are between 70 and 83 years old and are deficient in design and size and have deteriorated due to repeated flood events. These three bridges are in dire states of disrepair and can no longer safely accommodate large trucks or agricultural vehicles that need to cross the river. These closed or load restricted bridges significantly impact the farmers, truck drivers, business owners, employees, families, schoolteachers, and children that have relied on these bridges.

The bundled bridges included in this project were selected for application as priority candidates for replacement due to their poor conditions, severe deterioration, and impact on the interstate transportation system and the economy. Bundling of this project is most economical, as they will have standardized designs and environmental agreements. These three bridges will be designed with similar style abutments, piers, beams, and deck to make the design, fabrication, and construction of the bridges more efficient and economical. The two main bridge spans can be the same on all the bridges and the approach span lengths can be adjusted to meet the overall required bridge length at each location. The contract can be delivered as one single contract award as the bridges are within a span of thirty miles. Estimating a cost savings of 20% for bundling will result in a fiscal savings of \$5,855,000.

The Federal Funds requested from the BIP grant is \$23,420,000. The Non-Federal funds will come from each of the co applicant counties. Each county will contribute ten percent of the funding. Support for this BIP grant to replace these three bridges will have a significant benefit to the Red River Valley region of Minnesota and North Dakota.

## **Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program –**

When combined with Moorhead, Minnesota and Clay County, Minnesota, the metropolitan area of Fargo-Moorhead-West Fargo area has a population of more than 250,000. Due to the regional growth and latest 2020 Census data, Metro COG is slated to become a Transportation Management Area (TMA).

For more than a decade, the communities of Fargo-Moorhead have planned and strategized for an independent Traffic Operations Center (TOC). This TOC concept has been championed by the UGPTI. The TOC would serve as a focal point for coordinating and supporting transportation system operations by bringing together various jurisdictions and agencies to focus on the common goal of optimizing the performance of the system and maximizing its safety and service to the traveling public. A TOC provides the infrastructure, mechanism, and agreements for sharing and directing information related to traffic control, traffic management, traveler information, and traffic incident/emergency management.

The visions have yet to advance due to several barriers, including disparate systems, culture, funding, ownership, and workforce. That is all changing. Our region currently has several multi-agency, multi-city, multi-county, and multi-state organizations to include the Red River Valley SWAT Team, Red River Regional Dispatch 911 Center, and the \$3.1 billion Fargo-Moorhead Area Flood Diversion Project. The North Dakota Department of Transportation (NDDOT) is advancing efforts to build an innovative statewide Transportation Management Center (TMC) in North Dakota that incorporates a SMART Corridor along I-29 to better manage the state's network of Intelligent Transportation Systems (ITS) devices and sensors, expand roadway monitoring and condition reporting to a 24/7/365 schedule, and streamline the deployment of advanced technologies.

While NDDOT's vision is expected to have transformative impacts through FM Metro COG area, the project scope is limited to the State's Interstate system. We are now applying for a \$750,000 SMART grant to leverage the planning work ongoing by NDDOT for the TMC to advance the TOC and expand the I-29 SMART Corridor vision into a I-29 Integrated Corridor that considers the entire transportation system beyond the Interstates, to city and county road infrastructure. It is expected that a >25% economy of scale benefit can be achieved during planning by combining efforts related to needs assessment, alternatives analysis, concept of operations, facility planning, workforce and culture assessment, and many others.

## **Carbon Reduction Program (CRP) -**

We are hopeful that several Cass County projects may be eligible for CRP funding. Cass County has implemented the use of a cement treated clay subgrade to stabilize 12 inches of the subgrade on 70 miles of gravel roads and 28 miles of paved roads. This stabilization is the equivalent to 12-18 inches of gravel. Using recycled aggregate base methods on top of the stabilized subgrade and then paving with a recycled asphalt surface we significantly reduce the amount of trucks, fuel, and damage to haul roads.

From 2017-2018 Cass County completed a 17-mile reconstruction at a dramatic cost savings, reduction in carbon and a reduced construction time. This project also had a massive environmental benefit by using 180,000 tons of recycled asphalt and significantly reduced the need for new aggregate and natural resources by utilizing these construction methods. This project reduced the total truck loads of aggregate by 8,000 loads, reduced the truck haul miles by nearly 500,000 miles, and saved nearly 85,000 gallons of diesel fuel.

At the end of this 17-mile project, Cass County had saved \$500,000 per mile for a total savings of \$8.5 million. By using these construction methods, the County also improved the structural capacity of the roadway by 17% over the previous construction method. Cass County is hopeful that this type of innovative project will be eligible for grant funding. The current eligible project list for CRP funds does not specifically address carbon reduction through recycling of construction materials or other carbon reducing construction methods. Adding this type of project eligibility would provide greater incentive to recycle materials and implement construction processes that reduce carbon during project construction.

### **Safety Funding through the Safe Streets and Roads for All (SS4A), Highway Safety Improvement Program (HSIP), Transportation Alternatives (TA), and Safe Routes to School Programs (SRTS)**

The IIJA provides federal safety funding through the Safe Streets and Roads for All (SS4A) program, the Highway Safety Improvement Program (HSIP), and the Transportation Alternatives (TA) program, which includes Safe Routes to School Programs (SRTS). These programs provide an opportunity for counties to leverage funding for critical safety projects. This federal funding in combination with local funding has allowed Cass County to complete \$5.3 million in safety related projects since 2011.

Much of this funding is the result of the 2014 NDDOT sponsored statewide Local Road Safety Plan (LRSP) for counties. The purpose of this plan was to identify safety emphasis areas, high priority safety strategies, at-risk locations, and develop safety investment options. One of the critical issues identified was the higher crash rate on rural paved roads. While gravel roads make up approximately 93% of North Dakota's 97,600 miles of rural local road system, approximately half of the severe crashes are on the paved roads that make up 7% of the rural system.

The LRSP therefore focused on the Cass County paved road network and a Risk Rating Criteria was developed for the paved roads based on: Density of Road Departure Crashes; Traffic Volume; Curve (Critical Radius) Density; Access Density; and Road Edge Risk Assessment. Cass County initially focused on safety strategies including rumble strips, pavement markings, pavement safety edges, and improved signing. The LRSP identified as the biggest safety recommendation action to improve streetlights, signage, pavement markings, and dynamic warning signs.

Since the 2014 LRSP, Cass County has applied for and received over \$1.75 million in HSIP and \$1.1 million in SRTS funding for critical intersections improvements and school zone safety projects. The HSIP funding, provided through the NDDOT, is over and above federal highway and bridge funds referenced earlier. Cass County is now looking to apply for a SS4A grant for planning

funding to complete an update to our LRSP. We feel that the success of our 2014 LRSP justifies updating our plan and identifying future safety projects.

Our focus on roadway safety has reduced the number of crashes on our county roads. From 2006 to 2012 we averaged 71 crashes per year on our roadways. From 2013 to 2020 we averaged 54 crashes per year, for a reduction of 23%. Since implementing these safety projects, it is encouraging to see the decrease in crashes these two periods before and after the implementation of these systemic safety improvements.

In addition, within Metro COG's planning area in Cass County there have been \$2,426,594 TA funds awarded between the funding years of 2016 to 2023. Of this, \$553,504 fall in the rural category were awarded. A total of \$4,055,225 in projects have been requested for nearly \$2 million in available TA funds in Cass County within Metro COG's planning area for years 2024 and 2025.

### **FM Area Flood Diversion Project**

As the County Engineer I have significant experience with flood fighting around the City of Fargo and rural Cass County. Following the historic 2009 flood of record on the Red River, Cass County along with Fargo, ND, Moorhead, MN, and Clay County, MN moved forward to develop a long-term flood solution. This resulted in the Fargo-Moorhead Area Flood Diversion Project.

I have been fortunate to serve as a senior technical advisor on this \$3.1 billion flood control project. Key to the project is that it includes the U.S. Army Corps of Engineer's first Private-Public-Partnership (P3) which has been awarded in a \$1.1 billion contract to build 30 miles of diversion channel, 12 county road bridges, four interstate bridges, four railroad bridges, and two aqueducts.

I want to thank this Subcommittee and the Senate for its support of this historic project. As part of the IJA, the Fargo-Moorhead Area Diversion project received an appropriation of \$437 million in the U.S. Army Corps of Engineers 2022 workplan. The awarded funds are intended to finish the construction of the Southern Embankment and its associated infrastructure, which tie into the diversion channel and is key to providing the region with permanent flood protection by 2027.

### **State Role and Support:**

Before closing I want to note that our efforts at the county level are not fully independent of our excellent working relationship with the NDDOT or of Federal funding to the NDDOT. In North Dakota, like most other states, there is a jurisdictional division as to the type of roads and bridges generally or exclusively to be addressed by the State and to be addressed generally or exclusively by the counties or other local jurisdictions. But the major roads through any county that are the responsibility of the State, especially Interstate System and other National Highway System roads, are very important to county residents. We want the State to do a great job on those roads. If funding for the State were not adequate, it might not be able to meet those needs on Interstate



and other roads that are important to the State as a whole, or thoughtfully assist us on county roads in the various ways I have described.

So, while I appear here today proudly focusing on issues of concern counties across North Dakota, it is important to note that context assumes strong Federal support for the NDDOT. North Dakota is a large state with low population density – there are few people to support long stretches of highway. The national interest arterial roads across North Dakota enable people and goods to move between major metropolitan areas of this country and help ensure that agricultural and other products can move from rural origin to national and world markets. So, we also appreciate strong Federal funding for the State, which helps address those circumstances as well as enables the State to provide periodic assistance to meet our needs in Cass County.

### **Challenges Ahead:**

The IJA provides a revenue stream that is needed across the counties of ND and across the U.S. Unfortunately, this funding does come with some challenges. I am blessed to have a larger staff of engineers and construction managers that I rely on for designing and constructing our roads, as well as researching grant opportunities. Regrettably, most counties in ND do not have any engineering staff and their senior staff member is often a road superintendent that is focused on road maintenance. This makes it difficult for smaller counties to identify grant opportunities, navigate application processes, complete a benefit-cost analysis, and comply with the various other application requirements.

Since most counties do not have available technical knowledge to apply for and leverage these grant funding opportunities, I fear many counties will not even try to apply. This could lead to many ND counties missing out on funding from the IJA. Therefore, it is important to streamline grant application processes and ease the administrative burden within the IJA. Reducing the application and administrative process will allow for the IJA funds to be more equitably distributed throughout our counties, no matter what the size or expertise of their staff.

### **Conclusion:**

Cass County and Counties across North Dakota need long term funding solutions to better plan and prioritize future road projects. Increases in federal funding through the IJA are critical to maintain our highway and bridge network. However, opportunities to lessen the administrative burden that comes with these IJA grant applications should be taken. It is important that these funds are accessible to counties both big and small, regardless of their expertise in maneuvering through the grant process. 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.

Thank you again for the opportunity to appear today. I look forward to continuing this discussion and answering any questions you may have.