



Welcome to the NSBA Steel Bridge Forum!

North Dakota Department of Transportation, Bismarck, ND

Jason Thorenson, PE
North Dakota State Bridge Engineer
Wednesday, April 23, 2025

NORTH
Dakota
Be Legendary.

SAFETY FIRST!

You are on the Third Floor

EMERGENCY
911

NDDOT FIRST
RESPONDER

328-2140

CAPITOL SECURITY/
HIGHWAY PATROL

328-2464

NORTH
Dakota | Transportation
Be Legendary.

THIRD FLOOR PLAN FIRE EVACUATION AND TORNADO WARNING EAST



During fire evacuation, make your way to the closest stairway "EXIT" and descend to your designated gathering area outside. Do not use the elevators! Leave doors open.

During tornado warning, make your way to the blue shaded area on plan or to the basement. Do not use the elevators! Do not venture outside! Close all doors to prevent injury from flying debris

- + First aid
- Flashlight
- Fire extinguisher
- Defibrillator

YOU ARE ON THE THIRD FLOOR

THIRD FLOOR PLAN FIRE EVACUATION AND TORNADO WARNING EAST



EVACUATION PLAN

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EVACUATION PLAN

You are on the Second Floor

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911

NDDOT FIRST
RESPONDER

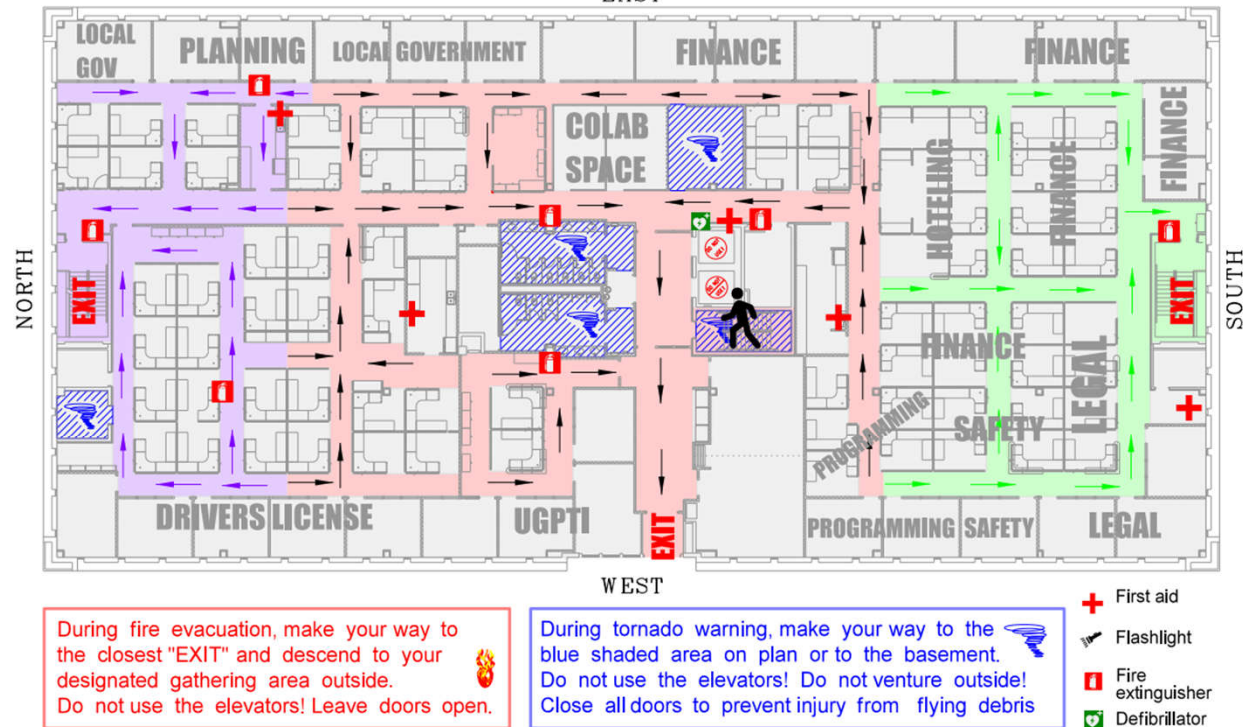
328-2140

CAPITOL SECURITY/
HIGHWAY PATROL

328-2464

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SECOND FLOOR PLAN FIRE EVACUATION AND TORNADO WARNING



PROFESSIONAL DEVELOPMENT HOURS

- PDHs are available
- Please fill out the sign-in sheet!
- Electronic certificate sent by email

National Steel Bridge Alliance Steel Bridge Forum

Hosted by the NDDOT

April 23, 2025

8:00 am to 5:00 pm

No.	Name	Agency	Email	Phone Number	Check for Morning PDHs	Check if Attending Lunch	Check for Afternoon PDHs
1	Jason Thorenson	NDDOT	jthorens@nd.gov	701.328.4760	X	X	X
2							
3							
4							
5							

LUNCH PROVIDED

- Variety of Regular Original Sandwiches
- Chips
- Cookies

VARIETY THAT *Satisfies*



Originals

LITTLE JOHN ★ REGULAR ★ GIANT

- #1 THE PEPE[®] ham & provolone 300/600/1190 cal
 - #2 BIG JOHN[®] roast beef 250/500/1000 cal
 - #3 TOTALLY TUNA[®] tuna salad & cucumber 250/510/1020 cal
 - #4 TURKEY TOM[®] turkey 240/480/950 cal
 - #5 VITO[®] salami, capocollo, provolone, onion, oil & vinegar & oregano-basil (no mayo) 290/570/1150 cal
 - #6 THE VEGGIE double provolone, avocado spread & cucumber 340/670/1340 cal
- J.J.B.L.T.[®]
bacon 300/590/1190 cal

MAKE ANY *Original*
A Slim (only meat and/or provolone)
REGULAR ★ GIANT

THANK YOU TO OUR SPONSORS!

- Lunch provided by National Steel Bridge Alliance (NSBA)
- Breakfast and beverages provided by AECOM & Bolton & Menk

AECOM



**BOLTON
& MENK**



NDDOT BRIDGE OVERVIEW

North Dakota Department of Transportation, Bismarck, ND

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WHY A STEEL BRIDGE FORUM?

- ✓ Basics of steel bridge design
- ✓ Design tools & resources
- ✓ AASHTO LRFD bridge design spec updates
- ✓ Steelmaking process
- ✓ Steel fabrication and erection
- ✓ Hear about real world projects
- ✓ Make new connections



BRIDGE INFORMATION

Long X Bridge
Hwy 85 & Little Missouri River

NORTH DAKOTA BRIDGES INSPECTED

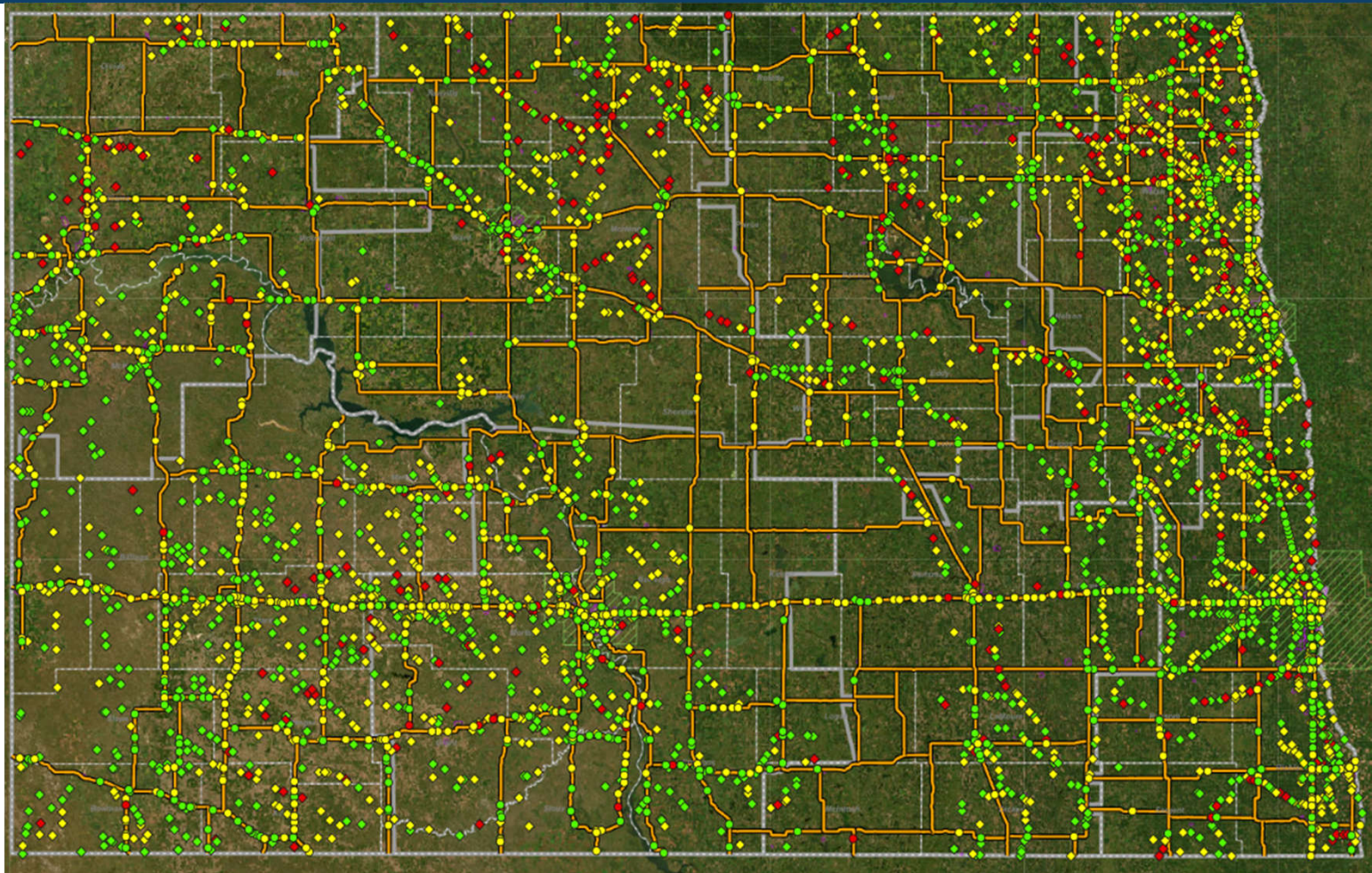
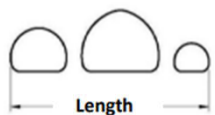
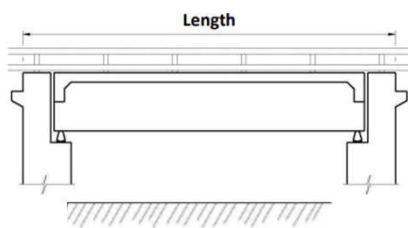
*Inspect (state,
county, city, etc.)*

4,820

NBI Length (>20')

***4,251**

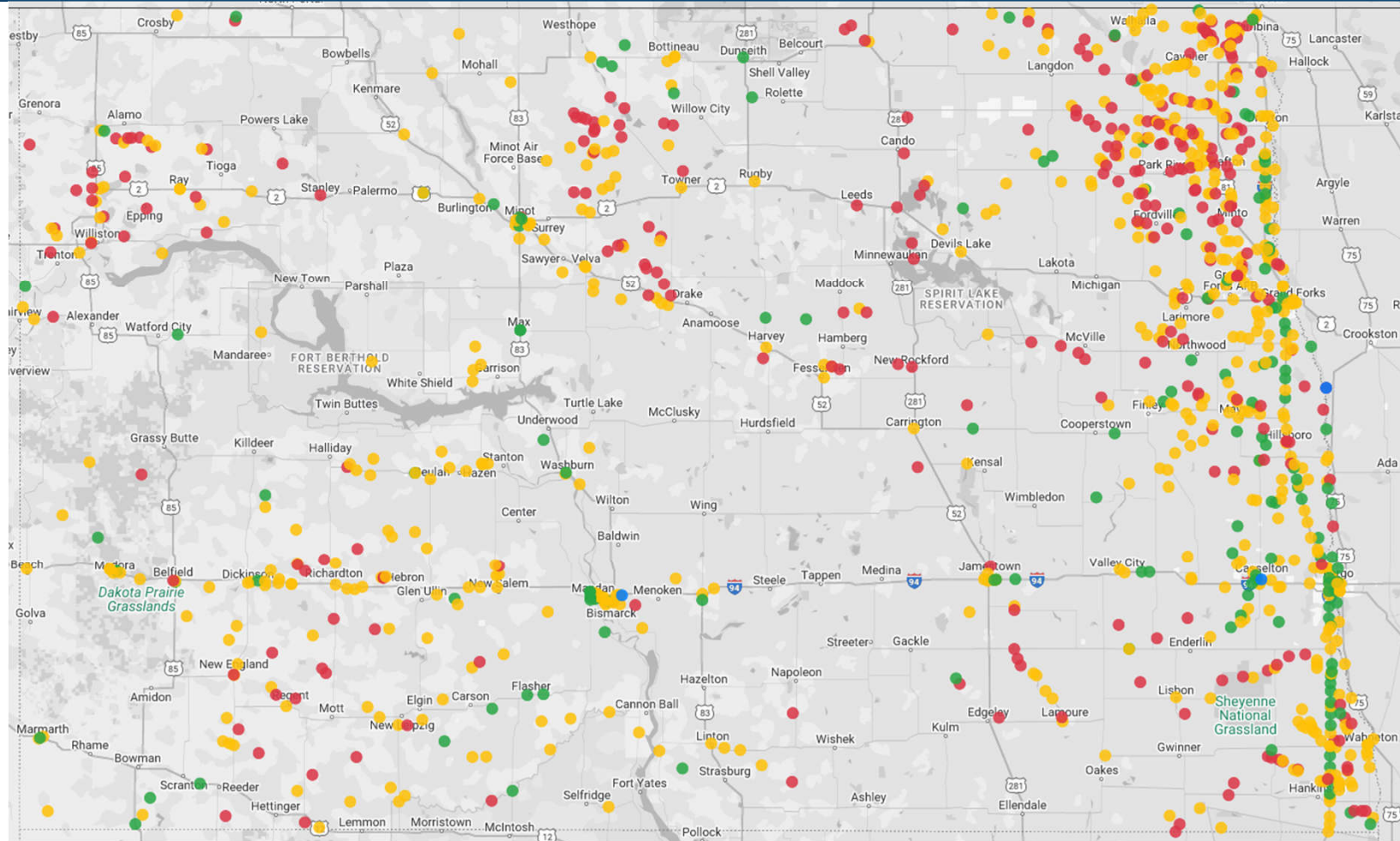
***1,283 are
culverts**



NORTH DAKOTA STEEL BRIDGES

*NBI Length
Steel Bridges*
***1,040**

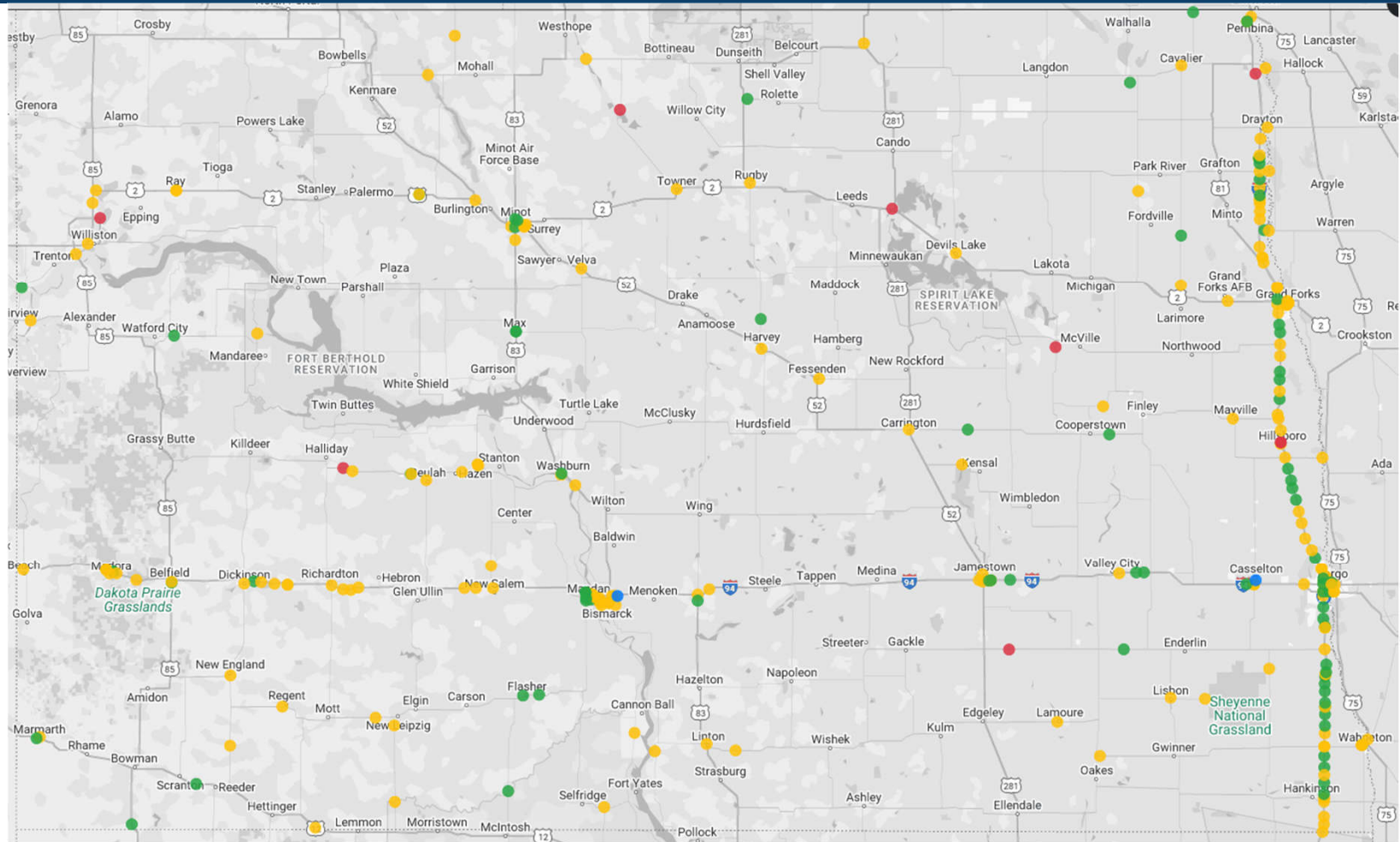
**120 are
culverts*



STATE-OWNED STEEL BRIDGES

NBI Length Steel Bridges
***282**

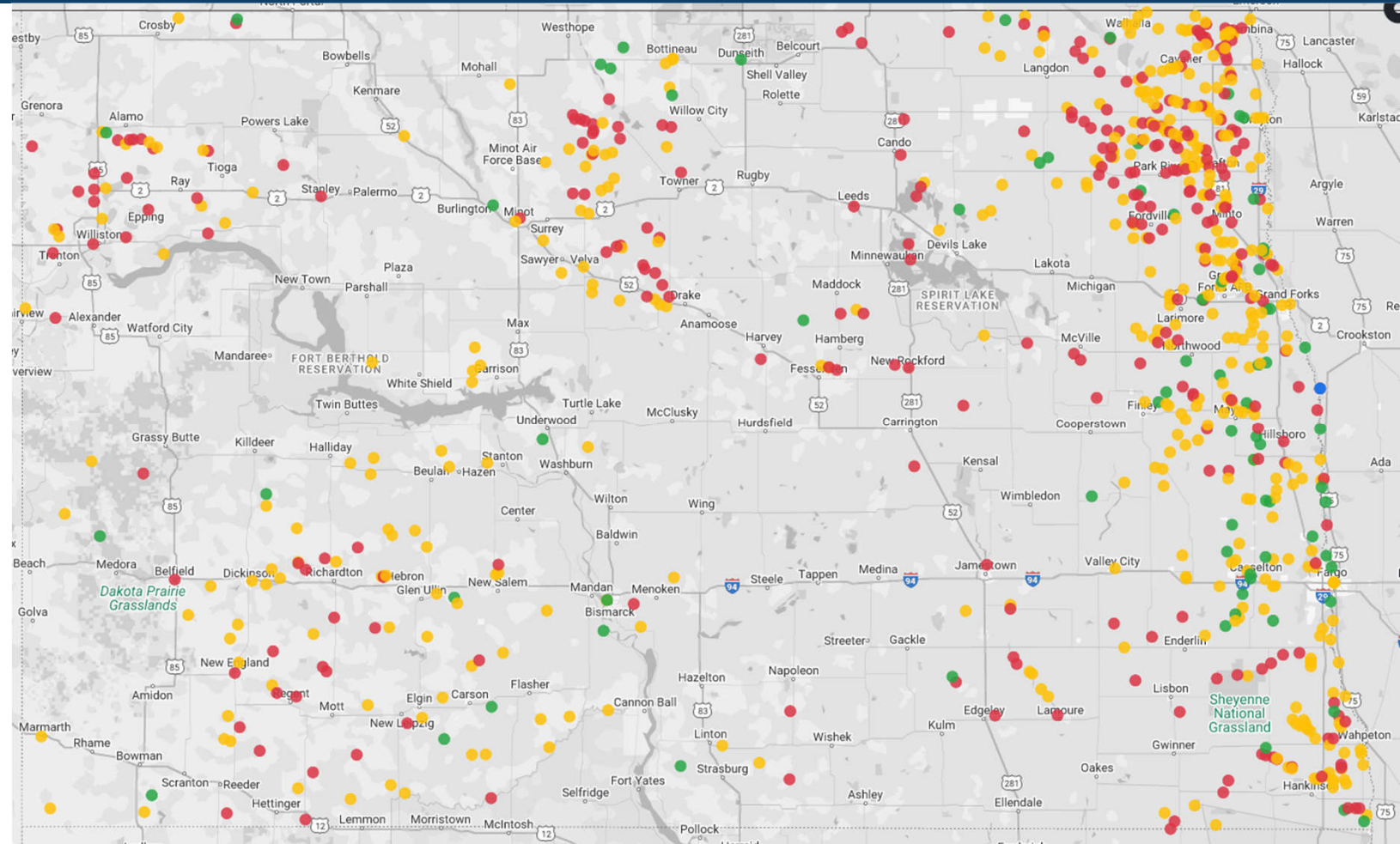
**33 are culverts*



LOCALLY-OWNED STEEL BRIDGES

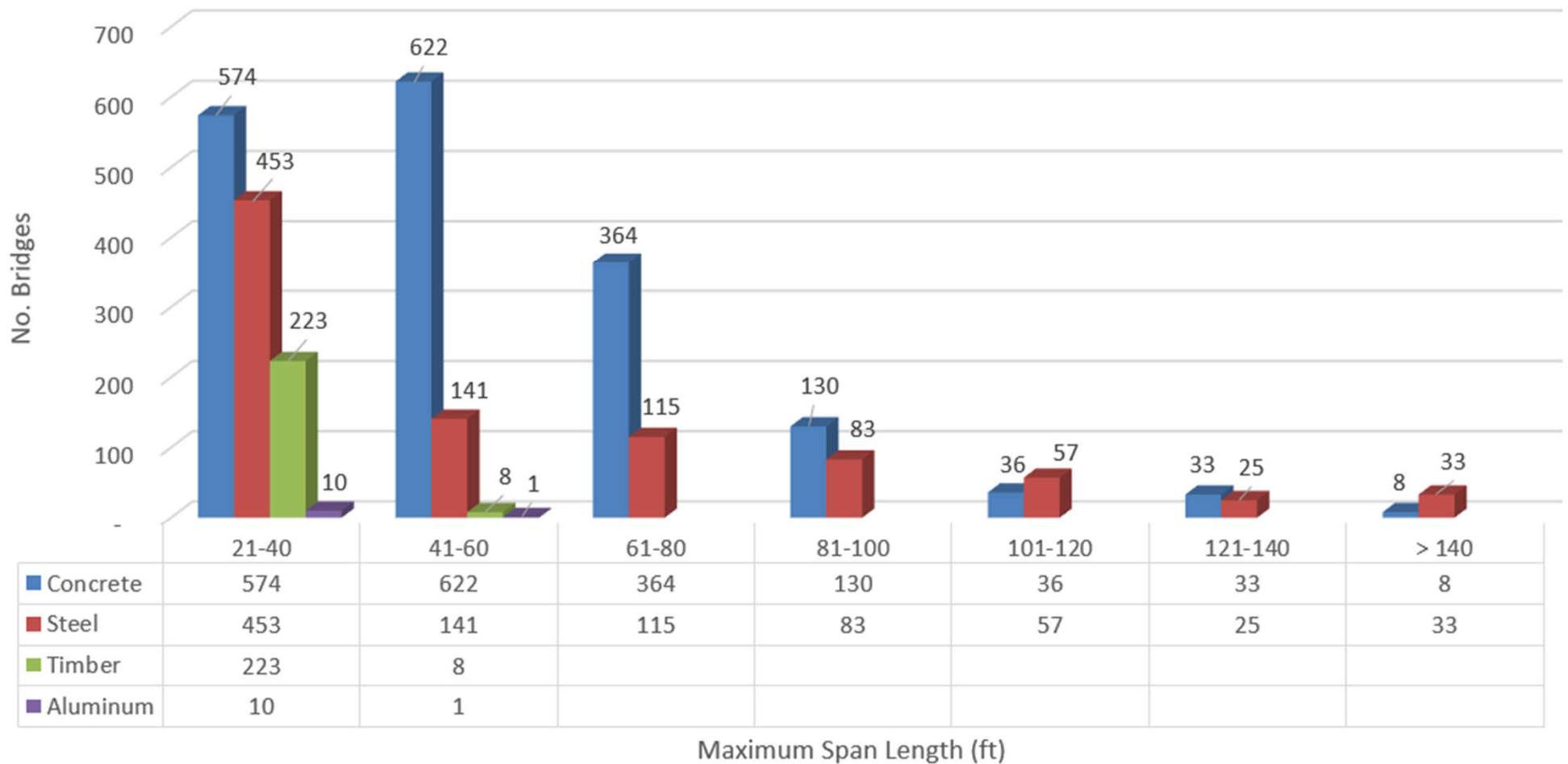
*NBI Length
Steel Bridges*
***758**

**87 are
culverts*



NORTH DAKOTA BRIDGES

NO. BY SPAN LENGTH AND MATERIAL TYPE



ADVANTAGES OF STEEL BRIDGES

- ✓ Lighter superstructures
- ✓ Longer spans
- ✓ Fewer substructures
- ✓ Faster construction
- ✓ Complex geometry
- ✓ Easier to strengthen, modify or repair

DISADVANTAGES OF STEEL BRIDGES

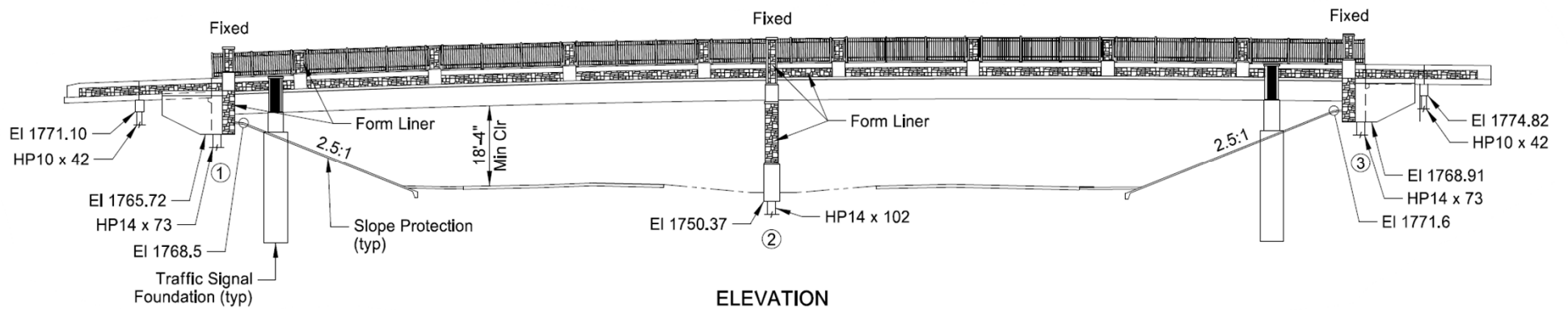
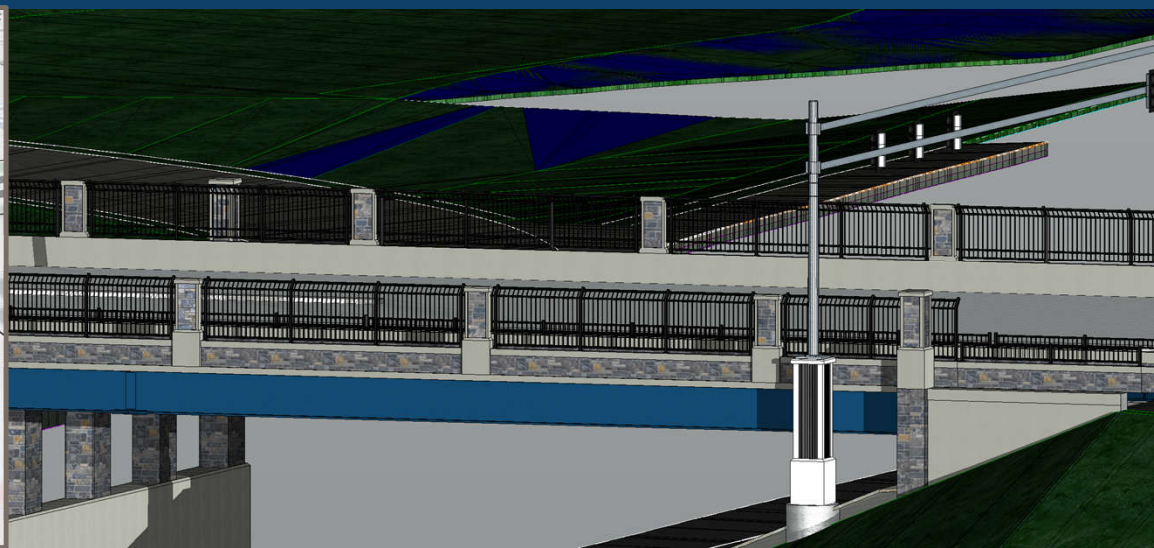
- ✓ Corrosion and maintenance concerns
- ✓ Fatigue and fracture
- ✓ NSTM inspections
- ✓ More susceptible to deck cracking
- ✓ Longer lead times
- ✓ Less fire resistance



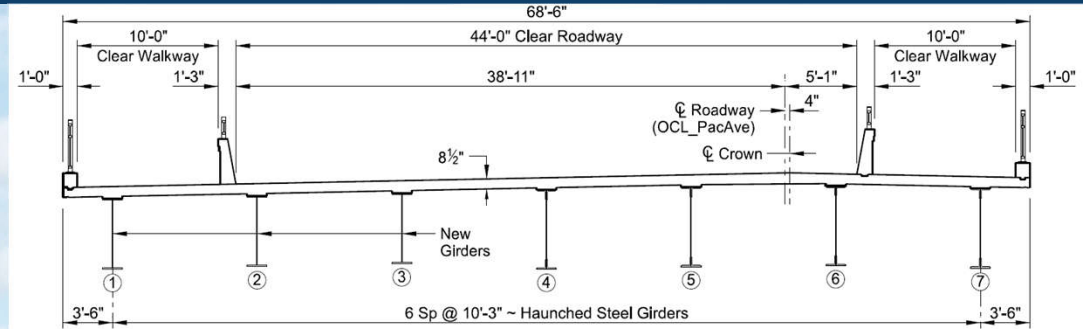
STEEL BRIDGE PROJECTS

Long X Bridge
Hwy 85 & Little Missouri River

0094-161.400 – EXIT 161 INTERCHANGE '25



0094-901.376 – MEDORA BRIDGE BUILT IN '42



TYPICAL SECTION



0094-328.713 - LYNCHBURG INTERCHANGE BUILT IN '24



0083-200.649 – MINOT VIADUCT BUILT IN '18



0020-103.403 B – DEVILS LAKE BNSF UNDERPASS BUILT IN '18



0085-181.526 – LEWIS AND CLARK BRIDGE BUILT IN '17



0002-911.409 – SORLIE BRIDGE BUILT IN '29



0002-911.409 – SORLIE BRIDGE BUILT IN '29



49-104-11 – BUILT IN 1885



0066-138.720 - DRAYTON RED RIVER BRIDGE BUILT IN '10



0094-920.914 – LIBERTY MEMORIAL OVER MISSOURI RIVER IN '08



0094-920.914 – LIBERTY MEMORIAL OVER MISSOURI RIVER IN '08





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THANK YOU
Questions?