

Project No.

PCN

**East Jct of ND 13 and ND 32  
Turn Lanes**



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Prepared by

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
BISMARCK, NORTH DAKOTA**

<http://www.dot.nd.gov/>

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# SCOPING REPORT

**Report Completed By:** Logan Beise

## A. GENERAL INFORMATION

**Project Number:**

**District:** Fargo

**Location:** East Jct of ND 13 and ND 32

**Reference Point:** RP 340.325

**Counties:** Sargent

**Legal Description:** T132N, R56W, Sec 25

**Functional and Funding Roadway Classification:** State Corridor (ND 13 and ND 32)

**National Highway System:** Yes (ND 13 only)

**Project Schedule:** Proposed to be added to the STIP as a 2017 safety project.

## B. PURPOSE, NEED, AND IMPROVEMENT

### **Purpose and Need of Project:**

From District submitted SFN 59959, "HSIP Project Application":

Due to high traffic volumes at shift change at the Gwinner Bobcat plant, an eastbound to southbound right turn lane is proposed. County commissioners, city of Milnor councilmen, and the local public have all requested a turn lane at this location. Through traffic tries to pass right turning cars without ensuring adequate gap is available to safely pass. Eastbound speeds are significantly lower than westbound at this intersection, which may give the perception of more time to pass than actual.

### **Proposed Improvement:**

The Traffic Operations section of Programming Division did a Turn Lane Study (HSIP #2831401) dated October 2014 and recommended to install an EB to SB right turn lane and a WB to SB left turn. It was also recommended to move an existing guide sign that is in the sight triangle.

A safety project is proposed to improve the safety of the roadway by adding the recommended right and left turn lanes for eastbound and westbound traffic on ND 13 to turn south onto ND 32. It is also proposed to move an existing guide sign out of the sight triangle and update the intersection signing and striping to current standards.

## C. TRAFFIC AND CRASH ANALYSIS

### ND 13, East of the East Jct of ND 13 & ND 32

RP 341.00	Year	Pass	Trucks	Total AADT	Flex ESALS
Current Traffic	2015	1,805	350	2,155	280
Forecast Traffic	2035	2,440	525	2,965	420

### ND 32, South of the East Jct of ND 13 & ND 32

RP 341.00	Year	Pass	Trucks	Total AADT	Flex ESALS
Current Traffic	2015	960	190	1,150	150
Forecast Traffic	2035	1,240	285	1,525	225

### ND 32, West of the East Jct of ND 13 & ND 32

RP 341.00	Year	Pass	Trucks	Total AADT	Flex ESALS
Current Traffic	2015	2,335	660	2,995	575
Forecast Traffic	2035	3,155	985	4,140	860

#### EB to SB right turn lane

Criteria 1.A (Volume Criteria) is met.

#### WB to SB left turn lane

Criteria 1.A (Volume Criteria) is met.

This left turn lane should have a storage length (L4) of 100 ft.

#### Speed Limit:

ND 13 = 65 MPH

ND 32 = 65 MPH

#### Crash Analysis:

During the 5 year study period there were no crashes reported.

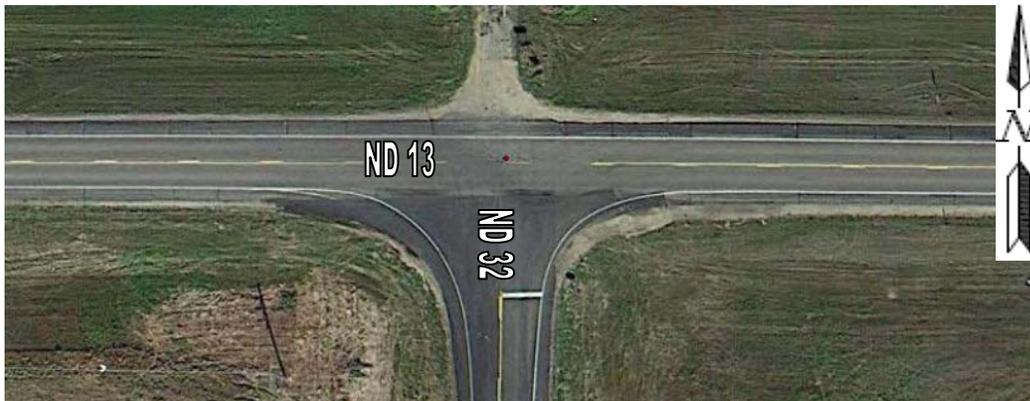
## D. EXISTING ROADWAY CHARACTERISTICS

	International Roughness Index (IRI)	Distress Score	Rut
Excellent	< =60	≥ 98	< 0.25"
Good	61 – 99	88 – 97	0.25" to 0.375"
Fair	100 – 145	77 – 87	0.376" to 0.50"
Poor	> 145	≤ 76	> 0.50"

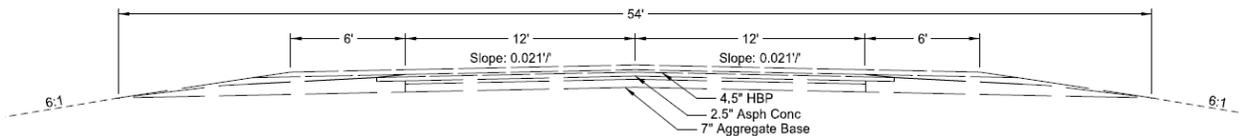
Actual Age	IRI	IRI Rating	SI or SCI	Faulting
15	92	Good	6	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	93	Good	0.19	Excellent
Load Restrictions				

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1951	GRADE	-	36	-
1951	TRAFFIC SERVICE GRAVEL	2.5	22	-
1953	AGGREGATE BASE	5.0	34	-
1953	STABILIZED BASE	2.0	32	-
1953	HOT BIT PAVEMENT	2.5	22	120-150
1965	COLD BITUMINOUS PAVEMENT	-	-	SC-4
1977	WIDENING	2.5	22	-
1978	HOT BIT PAVEMENT	2.0	24	120-150
1990	CONTRACT CHIP SEAL	-	32	HFMS-2
1998	HOT BIT PAVEMENT	3.0	36	PG 58-28
2001	FEDERAL AID CHIP SEAL	-	40	HFMS-2
2007	FEDERAL AID CHIP SEAL	-	26	HFMS-2

**Existing Intersection of ND 13 and ND 32**



**Existing Typical Section: ND 13**



**Existing Foreslopes:**

Left: 6:1      Right: 6:1

## E. EXISTING GEOMETRY

The existing intersection is a T-intersection, with no exclusive turn lanes.

## F. EXISTING STRUCTURES

**Bridges:** None

**Centerline Pipes:** None

## G. LAND INTERESTS

**Communities:** Near the Corporate Limits of Gwinner, RP 338.325 to RP 338.716; Population 781

**Reservation:** None

**Surface Trust Lands:** None

**Refuge:** None

**Adjacent Land Usage:** Agricultural

## H. ISSUES AND APPURTENANCES CHECKLIST

- |                               |                              |  |
|-------------------------------|------------------------------|--|
| 1. Curb and Gutter?           | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 2. Sidewalk?                  | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 3. Multi-Use Path?            | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 4. ADA Ramps?                 | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 5. Detectable Warning Panels? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 6. Lighting?                  | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 7. Signals?                   | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 8. Storm Sewer?               | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 9. Manholes?                  | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 10. Other Underground Work?   | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 11. Parking Facilities?       | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 12. Frontage Roads?           | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

13. Utility Issues? Yes  X  No  \_\_\_\_\_   
 There is an overhead power line that runs along the right of way and the corner pole in the SE quadrant has guy wires that extend to within 50 feet of the existing edgeline.
14. Landscaping? Yes  \_\_\_\_\_  No  X
15. Approach or Ditch Block Flattening? Yes  \_\_\_\_\_  No  X
16. T Intersection Recovery Approaches? Yes  \_\_\_\_\_  No  X
17. Fence? Yes  \_\_\_\_\_  No  X
18. Railroad Crossings? Yes  \_\_\_\_\_  No  X
19. Detours? Yes  \_\_\_\_\_  No  X
20. Automatic Traffic Recorder Locations? Yes  \_\_\_\_\_  No  X
21. Weigh-In-Motion Sites? Yes  \_\_\_\_\_  No  X
22. ITS (Deicing, Snow Gates, VMS, RWIS, etc.)? Yes  \_\_\_\_\_  No  X
23. Highway Patrol/Truck Pullouts or Rest Areas? Yes  \_\_\_\_\_  No  X
24. Additional Right of Way? Yes  X  No  \_\_\_\_\_   
 Additional right of way might be needed to accommodate the additional width.
25. Drainage Issues? Yes  \_\_\_\_\_  No  X
26. Snow Impact Areas? Yes  \_\_\_\_\_  No  X
27. Subgrade Issues? Yes  \_\_\_\_\_  No  X
28. Noise Analysis: Type I Project? Yes  \_\_\_\_\_  No  X  Maybe  \_\_\_\_\_
29. Maintenance Issues? Yes  \_\_\_\_\_  No  X
30. Guardrail? Yes  \_\_\_\_\_  No  X

## I. PERFORMANCE GUIDELINES (PROPOSED)

**Design Speed:** 65 MPH

**Clear Zone (from edge of driving lane):** 32'

**Shoulder Surface:** Paved or Aggregate

**Ride/Distress Goal:** Good to Excellent

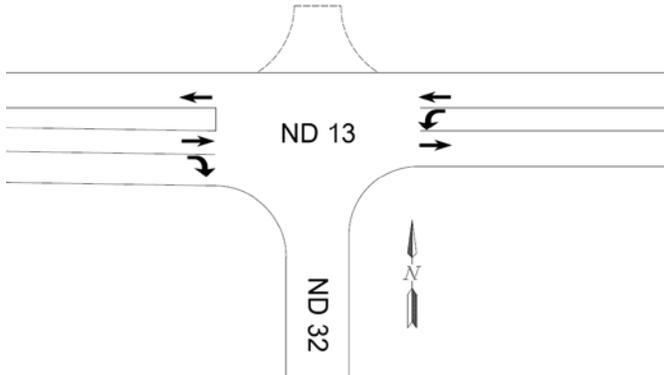
**Operational Reliability:** Moderately High

**Load Restrictions:** By Legal Weight

## J. PROPOSED IMPROVEMENTS

It is proposed to install an EB to SB right turn lane and a WB to SB left turn. It is also proposed to move an existing guide sign that is in the sight triangle and update the intersection signing and striping to current standards.

### Proposed Intersection of ND 13 and ND 32



## K. ADDITIONAL COMMENTS

### District Engineer:

Fargo District Recommends that the project be advanced as a safety project. We continue to get comments and questions from the area's city and county officials about this improvement's status. They see an urgent need.

### Safety Division Director:

No questions or concerns from Safety.

## L. COST ESTIMATE

(Inflation factor of 4% was used to estimate costs for bid year)

ITEM	ESTIMATED COST
Contract Bond	\$6,000
Mobilization	\$11,000
Hot Bit Pavement (HBP, Includes AC, Tack, Prime and cores)	\$120,000
Borrow	\$50,000
Topsoil	\$8,000
Aggregate	\$37,000
Seeding, Mulching, Sediment and Erosion Control	\$3,000
Sawing and Removal of Pavement	\$10,000
Traffic Control	\$30,000
Pavement Markings (Short Term and Permanent)	\$3,000
Remove and Replace Signs	\$2,000
Subtotal	\$280,000
20% Engineering	\$21,000
Total Cost	\$301,000

## M. DECISIONS

1. Should this project be advanced as a Safety Project? Estimated cost: **\$301,000**  
 Yes  No

*RH* DDE Comments: Include a design that will accommodate a  
WB ~~EB~~ right and ~~EB~~ left. Work with the county on an  
agreement. Should be constructed in 2016. Developer to  
the North has agreed to fund WB turn lanes.

*Rand yll*  
 Deputy Director for Engineering

3/18/15  
 Date