

Public Meeting Handout November 16, 2017

IM 0292(50)63 PCN 1241 LINCOLN COUNTY

Structure 42-065-130 over I-29 @ 281st Street



Background Information

Structure is located over I-29 at MRM 63.34 in Lincoln County.

Structure was built in 1958 and is 254' in length with a 24' roadway width.

Latest Sufficiency Rating of 53.1 (1 to 100 scale).

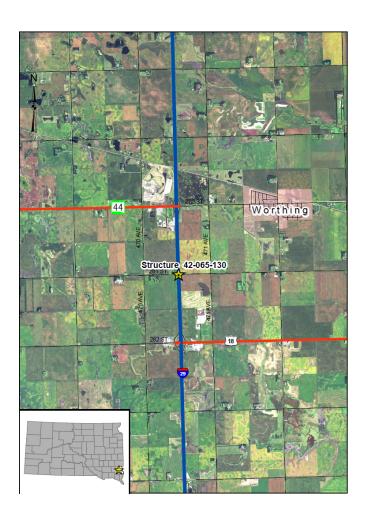
Latest NBI Deck Rating = 4 (1 to 9 scale).

Latest NBI Superstructure Rating = 4 (1 to 9 scale).

Bridge is classified structurally deficient.

Average Daily Traffic over structure: 25 (inventory), 22 (2016 Traffic Counts)

Vertical Clearance over I-29: 16.333'



Current Issues



Curb spalling



Deck overlay starting to crack and deteriorate

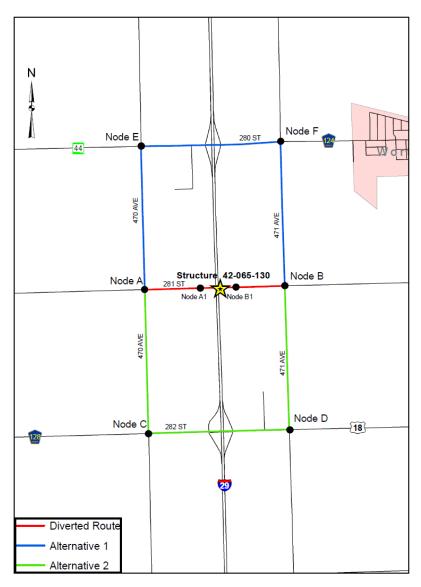


Leakage through the abutment back wall

Cost Estimate of Options

- 1. Replace Structure* @ \$ 2,009,000
 - * Does not include reoccurring, annual maintenance costs or future bridge preservation costs.
- 2. Remove Structure @ \$ 312,000

Route Diversion Alternatives



	Origin – Destination Pair					
Route Alternative	A-B via C-D (Green)	A - B via $E - F$ (Blue)	A – D	A – F	В-С	В - Е
1	100 %	0 %	0 %	0 %	0 %	0 %
2	0 %	100 %	0 %	0 %	0 %	0 %
3	16%	16 %	16%	22%	0%	30%
4	4%	4%	22%	28%	6%	36%

User Cost Analysis

Removal with 55 mph on Gravel Roads

Alter native	Net Present Value of Increase in User Costs (75 years)	Benefit / Cost
1	\$1,085,757.29	1.56
2	\$1,312,030.02	1.29
3	\$1,201,929.53	1.41
4	\$1,031,233.64	1.65

Removal with 45 mph on Gravel Roads

Alter native	Net Present Value of Increase in User Costs (75 years)	Benefit / Cost
1	\$1,059,648.11	1.60
2	\$1,285,920.84	1.32
3	\$1,157,597.90	1.47
4	\$980,463.71	1.73

User Cost Analysis Summary

Assuming that the bridge provides the shortest & quickest trip for all 25 vehicles currently using it each day and that all 25 vehicles would follow Route Alternative 2 (which provides the shortest detour by 42 feet) in its entirety.*

It will take 43,490 days (119+ years) for the increase in user costs to exceed the \$1,697,000 savings to the Department to remove versus replace assuming a travel speed of 55mph on the township gravel roads and 10% Trucks.

The estimated life for the replacement bridge is 75 years.

*Origin-Destination Data obtained in May and October of 2016 suggests less than half of the vehicles would actually make the full detour.

WRITTEN TESTIMONY

IM 0292(50)63 PCN 1241 LYNN TOWNSHIP, LINCOLN COUNTY

Structure 42-065-130 over I-29 at 281st Street

3tructure 42-003-130 0ver 1-29 at 281 3tr	reet			
Name:				
Address:				
Email Address:				
I would like to be notified when this project will be presented to the Transportation Commission (If Yes, you must provide your name and address or email a	Ye	es	No	

Written testimony received by November 30, 2017, will be included in the meeting transcript.

Please submit testimony by **November 30, 2017** to:

Steve Gramm, Planning Engineer SDDOT – Project Development Office 700 East Broadway Avenue Pierre, SD 57501-2586