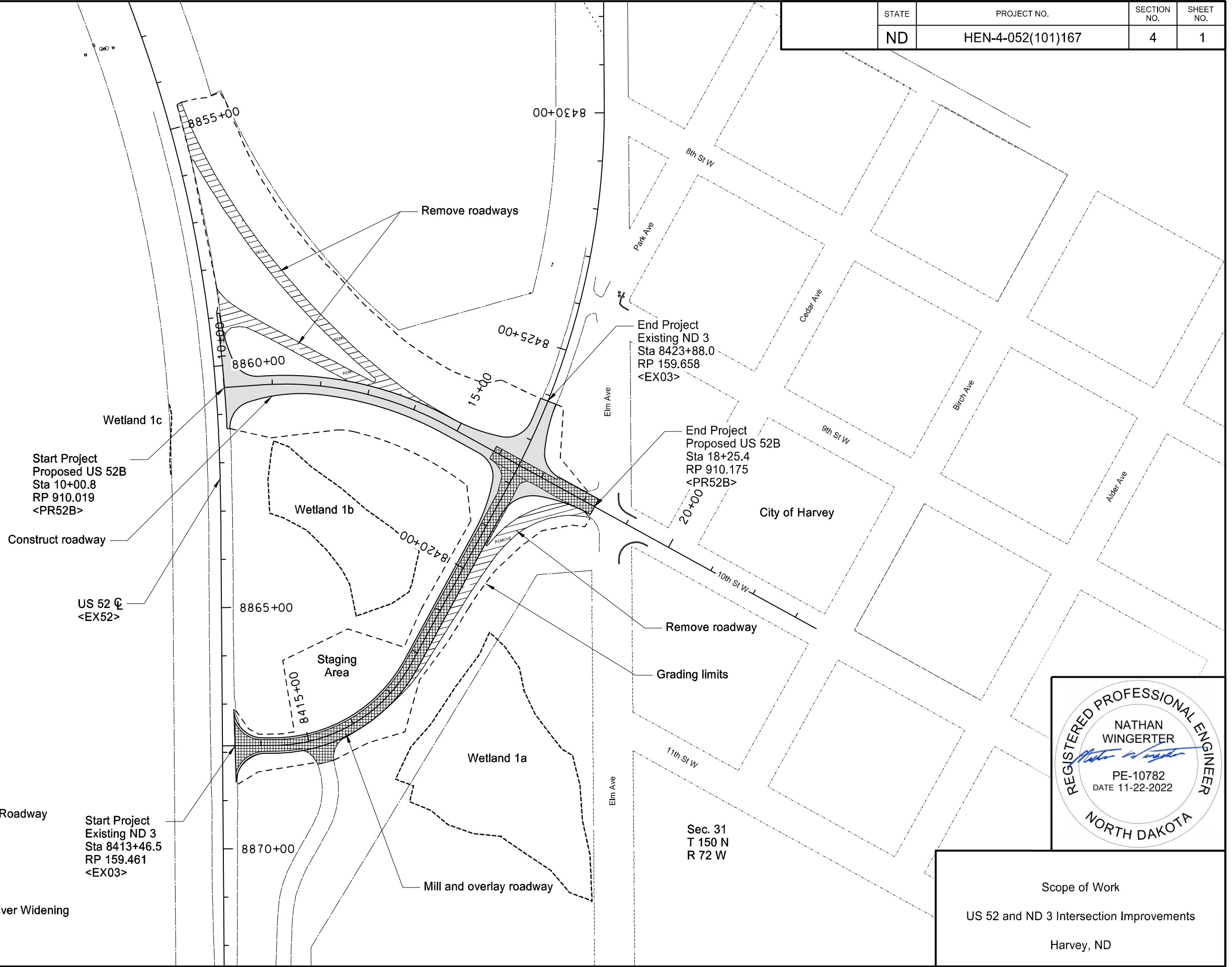

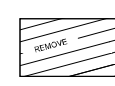
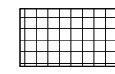


STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-4-052(101)167	4	1



**LEGEND**

-  Construct/Reconstruct Roadway
-  Remove Roadway
-  Mill, HMA Overlay & Sliver Widening

Start Project  
Existing ND 3  
Sta 8413+46.5  
RP 159.461  
<EX03>

Start Project  
Proposed US 52B  
Sta 10+00.8  
RP 910.019  
<PR52B>

End Project  
Existing ND 3  
Sta 8423+88.0  
RP 159.658  
<EX03>

End Project  
Proposed US 52B  
Sta 18+25.4  
RP 910.175  
<PR52B>



Scope of Work  
US 52 and ND 3 Intersection Improvements  
Harvey, ND

**Project No.**

**PCN**

**Minot to Carrington – Passing Lanes**



---

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

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

**DIRECTOR**  
William T. Panos

**OFFICE OF TRANSPORTATION PROGRAMS**  
Steve Salwei, P.E.

Principal Author:  
Macy Merkel, E.I.T.  
January 2021

## SCOPING REPORT

### A. GENERAL INFORMATION

**Project Number:**

**District:** Minot and Devils Lake

**Highway:** 52

**Location:** Minot to Carrington

**Reference Point:** RP 101.683 to RP 221.698 – 120.015 miles

**Counties:** Ward, McHenry, Pierce, Sheridan, Wells, and Foster

**Functional and Funding Roadway Classification:** Interregional Corridor

**National Highway System:** Yes

**Freight Level:** 1

**Speed Limit:** 65 mph

**Project Schedule:** Proposed to be added to the STIP as a future passing lane project.

### B. PURPOSE, NEED, AND IMPROVEMENT

**Purpose and Need of Project:**

US 52 is an interregional corridor that supports international commerce with traffic exiting and entering Canada through the border crossing at the city of Portal. The roadway carries a high percentage of truck traffic. Traffic is over 20% trucks from RP 101.683 to RP 116.858 and over 33% trucks for the remainder of the corridor. The average truck percentage for North Dakota's interregional highways is 21.2%. High truck numbers can create speed differentials, platooning, and delays. There is a lack of passing opportunities with adequate sight distance on the corridor. Passing lanes have been found to be effective in improving overall traffic operations on two-lane highways.

**Proposed Improvements:**

It is proposed to add passing lanes. The passing lanes are proposed to be 2 miles long unless known impacts or constraints prevent the full length and spaced approximately every 10 miles in each direction. There are 23 total passing lane locations proposed in the 120.015-mile corridor, with 12 in the westbound direction and 11 in the eastbound direction. The passing lanes are proposed to have 12-foot lanes with 4-foot shoulders with an option being provided for 5' shoulders on the passing lanes to meet the ND Moves State Bicycling Network minimum infrastructure expectation. Throughout the 120.015-mile corridor, 83.9 miles (~70%) have existing shoulder widths of 6' or more, and 36.115 miles (~30%) have shoulders widths of 4' or less, which does not meet the infrastructure expectation of 5' outlined in the ND Moves plan.

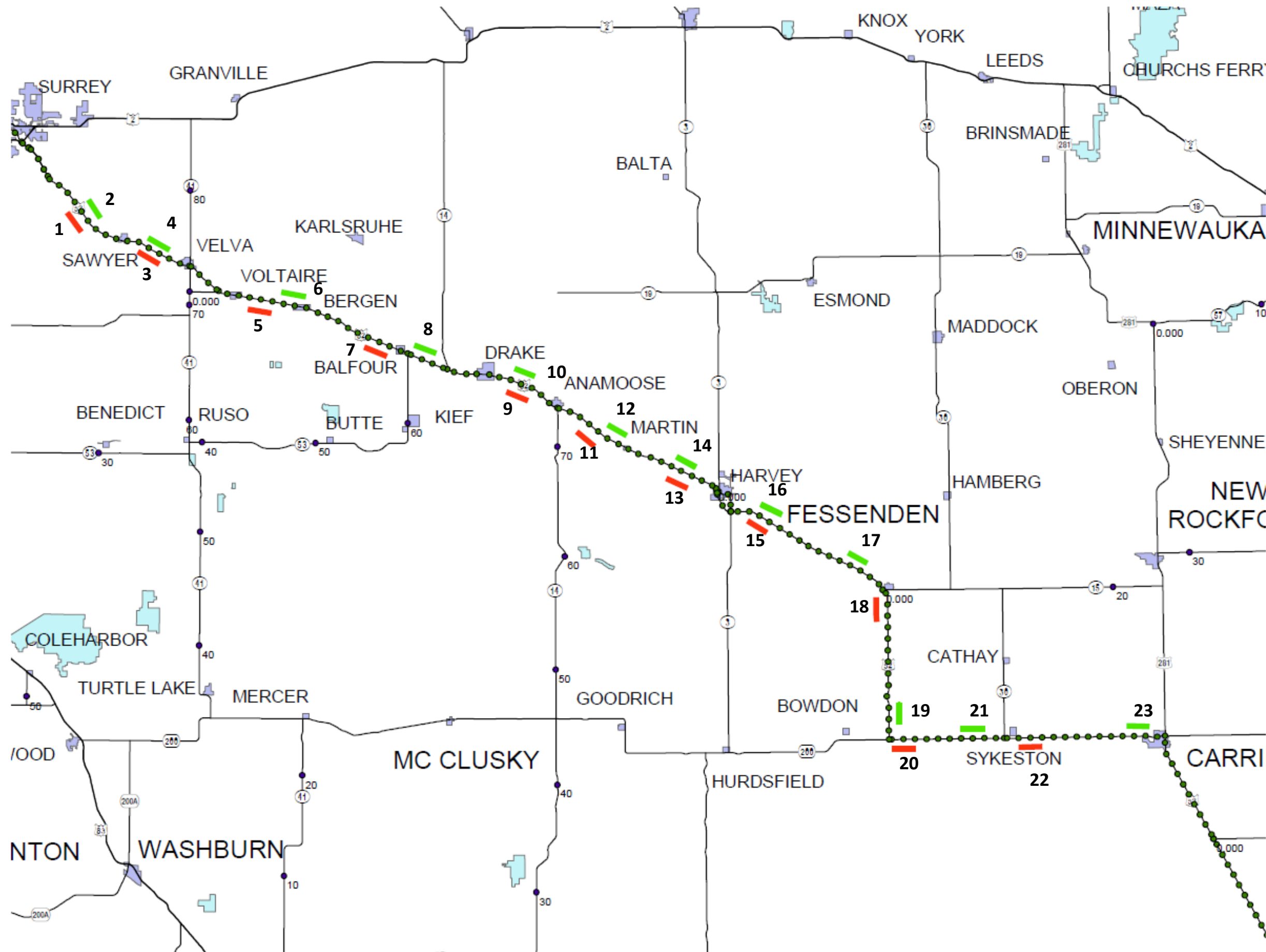
A team consisting of representatives from ETS, Design, Programming, Materials and Research, and the Minot and Devils Lake Districts conducted a review to determine appropriate locations for the proposed passing lanes. The team determined the best spacing and locations based on possible impacts to known cultural areas (new inventories are needed), wetlands, slide areas, environmental sensitive areas, right of way, and approach roadways. Below are the locations determined by the passing lane team.

**EB Passing Lane Locations:**

Map Key	Start RP	to	End RP	Length (Miles)	ROW	Notes
1	105.5	to	107.5	2.0	170-260'	Box Culvert @ 106.382
Spacing = 5.0 Miles						
3	112.5	to	114.5	2.0	200'	
Spacing = 8.5 Miles						
5	123.0	to	125.0	2.0	100-210'	USFWS Wetland Easement ~RP 123.4-125, USFWS Grassland Easement from ~RP 124.3-124.8
Spacing = 9.0 Miles						
7	134.0	to	136.0	2.0	150'	USFWS Wetland Easements ~RP 134-134.5 & 135-136
Spacing = 11.0 Miles						
9	147.0	to	149.0	2.0	134'	USFWS Wetland Easement ~RP 148.2-149. ESS at RP 149.0.
Spacing = 5.5 Miles						
11	154.5	to	156.5	2.0	125'	USFWS Wetland Easement ~RP 154.5-154.6 & 155.1-155.2
Spacing = 6.5 Miles						
13	163.0	to	165.0	2.0	125'	
Spacing = 7.4 Miles						
15	172.4	to	174.4	2.0	110'	Wildlife Management Area ~RP 174.2-174.4
Spacing = 12.0 Miles						
18	186.4	to	188.4	2.0	100'	Farmstead near RP 187.85. Passing lane may be shortened to avoid issues with owner if needed. ATR, ESS, and Camera Site at RP 188.0.
Spacing = 5.6 Miles						
20	199.0	to	201.0	2.0	100'	
Spacing = 9.0 Miles						
22	210.0	to	212.0	2.0	100'	

## WB Passing Lane Locations:

Map Key	Start RP	to	End RP	Length (Miles)	ROW	Notes
2	105.5	to	107.5	2.0	150-175'	Box Culvert @ 106.382
Spacing = 5.0 Miles						
4	112.5	To	114.5	2.0	100-125'	
Spacing = 11.2 Miles						
6	125.7	to	127.7	2.0	100'	
Spacing = 10.3 Miles						
8	138.0	to	140.0	2.0	100'	USFWS Wetland Easement ~RP 138-139.3
Spacing = 7.0 Miles						
10	147.0	To	149.0	2.0	120'	USFWS Wetland Easement ~RP 148.2-149. ESS at 149.0.
Spacing = 7.5 Miles						
12	156.5	To	158.5	2.0	100'	
Spacing = 4.5 Miles						
14	163.0	To	165.0	2.0	100'	
Spacing = 7.6 Miles						
16	172.6	to	174.6	2.0	50-100'	Widening will be done above structure 0052-174.438 but will not impact it. ROW from 174.438 to RP 174.6 is 50'. If unable to obtain additional ROW within time frame, passing lane may be shortened to avoid 50' ROW. Wildlife Management area ~ RP 174.2-174.6
Spacing = 6.8 Miles						
17	181.4	To	183.3	1.9	95-150'	
Spacing = 12.6 Miles						
19	195.9	to	197.5	1.6	95-110'	
Spacing = 7.5 Miles						
21	205.0	To	207.0	2.0	100'	
Spacing = 12.5 Miles						
23	219.5	to	221.4	1.9	75'	USFWS Wetland Easement ~RP 219.7-220.2



## US 52 Passing Lanes Minot to Carrington

- WB Passing Lanes
- EB Passing Lanes
- National Wildlife Refuges
- Corporate Boundaries

### Passing Lane Locations

- 1 - RP 105.5 to RP 107.5 (EB)
- 2 - RP 105.5 to RP 107.5 (WB)
- 3 - RP 112.5 to RP 114.5 (EB)
- 4 - RP 112.5 to RP 114.5 (WB)
- 5 - RP 123.0 to RP 125.0 (EB)
- 6 - RP 125.7 to RP 127.7 (WB)
- 7 - RP 134.0 to RP 136.0 (EB)
- 8 - RP 138.0 to RP 140.0 (WB)
- 9 - RP 147.0 to RP 149.0 (EB)
- 10 - RP 147.0 to RP 149.0 (WB)
- 11 - RP 154.5 to RP 156.5 (EB)
- 12 - RP 156.5 to RP 158.5 (WB)
- 13 - RP 163.0 to RP 165.0 (EB)
- 14 - RP 163.0 to RP 165.0 (WB)
- 15 - RP 172.4 to RP 174.4 (EB)
- 16 - RP 172.6 to RP 174.6 (WB)
- 17 - RP 181.4 to RP 183.3 (WB)
- 18 - RP 186.4 to RP 188.4 (EB)
- 19 - RP 195.9 to RP 197.5 (WB)
- 20 - RP 199.0 to RP 201.0 (EB)
- 21 - RP 205.0 to RP 207.0 (WB)
- 22 - RP 210.0 to RP 212.0 (EB)
- 23 - RP 219.5 to RP 221.4 (WB)

STATE OF  
NORTH DAKOTA

PREPARED BY THE  
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
PROGRAMMING DIVISION



**Additional Improvements:****1. Turn Lane Improvements**

Install or extend the following warranted turn lanes to meet current standards:

RP	Intersection	Improvement	Install/Extend
108.0	US 52 & 135 <sup>th</sup> Ave SE (Ward 18)	NB Left Turn Lane	Install (630')
109.8	US 52 & Central Ave (Ward 23)	EB Left Turn Lane	Extend 330'
111.6	US 52 & 1 <sup>st</sup> St E (Ward 25)	WB Right Turn Lane	Install (530')
119.6	US 52 & 14 <sup>th</sup> Ave N	EB Right Turn Lane	Extend 210'
137.7	US 52 & ND 53	WB Left Turn Lane	Install (630')
141.4	US 52 & ND 14 (W Jct)	EB Left Turn Lane	Install (630')
151.9	US 52 & ND 14 (E Jct)	EB Left Turn Lane	Extend 560'
151.9	US 52 & ND 14 (E Jct)	WB Left Turn Lane	Extend 560'
167.2	US 52 & ND 91	SB Left Turn Lane	*Extend 155'
167.2	US 52 & ND 91	NB Left Turn Lane	Extend 150'
167.2	US 52 & ND 91	NB Right Turn Lane	Install (335')
167.7	US 52 & US 52B	SB Left Turn Lane	Extend 140'
168.5	US 52 & 30 <sup>th</sup> Ave N	SB Left Turn Lane	Install (435')
168.5	US 52 & 30 <sup>th</sup> Ave N	NB Right Turn Lane	Install (335')
185.6	US 52 & ND 15	SB Left Turn Lane	Extend

\*SB to EB left turn lane at the intersection of US 52 & ND 91 (RP 167.2) is recommended to be extended 155'. It cannot be extended without shortening existing NB to WB left turn lane that borders it.

**2. Lighting Improvements**

Upgrade all lighting along corridor to LED.

**3. District Requested Improvements**

There are additional lighting and turn lane locations that did not meet warrants that the district would still like considered for improvements. The following locations are proposed:

RP	Intersection	Improvement	Traffic Volume AADT/Trucks	Reasoning
104.3	US 52 & Ward 19S	WB Right Turn Lane	4 / 3	Unable to see EB traffic when passing WB right turner due to traveling uphill.
108.0	US 52 & 13 <sup>th</sup> Ave SE (Ward 18)	EB Right Turn Lane	14 / 3	A lot of housing in area.
141.4	US 52 & ND 14 (W Jct)	Destination Lighting	-	-
151.0	US 52 & H Ave W	EB Left Turn Lane	48 / 0	-

#### 4. Harvey Access Management

Area on the west side of Harvey was studied by traffic operations and determined a good candidate for consolidation or closure of some access points. Consolidating or closing access points improves safety by removing conflict points.

The WB to NB right turn slip lane (US 52B) requires the driver to look almost directly backwards to look for gaps in approaching traffic. There has been one crash at the slip ramp. A driver tried to make a left turn onto US 52 from the right-turn slip ramp and was struck by a NB vehicle on US 52. There are 2 alternatives discussed and shown below. There were 2 additional options that were not carried forward due to cost, channel impacts, and a terminal skewed intersection.

##### Alternative A:

The intersection of US 52 / US 52B would be removed. This includes the slip ramp and US 52 eastbound lane that connects to ND 3. Remove another slip ramp for northbound ND 3 to US 52B.



Figure 1: Access Management Alternative A



**Alternative B:**

This concept alternative includes everything with Alternative A and adds in a new roadway of US 52B that would connect to US 52 at a right angle. This roadway would be aligned north of what is shown in Figure 2 below to avoid impacting a structural plate pipe that crosses US 52 at the realigned location shown. The existing US 52 / ND 3 intersection would be closed, and the frontage road would be realigned to connect up with ND 3.



**Figure 2: Access Management Alternative B**

**C. TRAFFIC AND CRASH ANALYSIS**

RP 101.683 to RP 116.858	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2018	3,270	880	4,150	830	1,490
Forecast Traffic	2038	4,415	1,315	5,730	1,240	2,225

RP 116.858 to RP 120.210	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	1,510	765	2,275	735	1,210
Forecast Traffic	2040	2,040	1,095	3,135	1,055	1,730

RP 120.210 to RP 151.884	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	1,225	655	1,880	630	1,035
Forecast Traffic	2040	1,655	980	2,635	945	1,550

RP 151.884 to RP 169.979	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	1,245	720	1,965	695	1,140
Forecast Traffic	2040	1,685	1,030	2,715	990	1,630

RP 169.979 to RP 185.548	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	1,250	760	2,010	730	1,220
Forecast Traffic	2040	1,690	1,090	2,780	1,050	1,745

RP 185.548 to RP 208.720	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	990	630	1,620	605	1,010
Forecast Traffic	2040	1,340	905	2,245	870	1,450

RP 208.720 to RP 221.698	Year	Pass	Trucks	Total AADT	Flex ESALs	Rigid ESALs
Current Traffic	2020	1,470	765	2,235	735	1,225
Forecast Traffic	2040	1,985	1,095	3,080	1,055	1,755

**Crash Analysis:**

From 1/1/2013 to 12/31/2017, there were a total of 262 crashes from RP 101.683 to RP 221.700.

Crash Severity	
Fatal	5
Incapacitating Injury	11
Non-incapacitating Injury	43
Possible Injury	27
Property Damage Only	176
<b>Total</b>	<b>262</b>

- Contributing factors in fatal crashes were crossing the centerline, failure to yield and loss of control. One fatal crash involved a pedestrian who was in a single vehicle accident and was trying to flag down help.
- Contributing factors for injury crashes were typically: weather, speed too fast for conditions, improper overtaking, failure to yield, following too close, failure to stay in proper lane, careless/reckless driving, and attention distracted.
- There were a couple of crashes that occurred at the Sykeston Rest Area turnoff (RP 208.83) that involved vehicles slowing to make an EB left. These crashes occurred in 2013 and 2014. This would meet the crash criteria for installation of a left turn lane. However, this rest area was closed in 2016. There have been no reported crashes at this location since then. If this rest area is re-opened, it is recommended to evaluate the need for an EB left turn lane here.
- There were 4 reported crashes at the intersection of US 52 & ND 200.
- Out of all the crashes, 43% occurred during wet or ice/snow surface conditions.

**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"

**RP 101.683 to RP 112.521**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
22	58	Excellent	1	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
18	97	Good	0.16	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1960	GRADE	-	48	-
1960	AGGREGATE BASE	4.0	46	-
1998	MILLING	-7.0	44	-
1998	EXISTING BASE	6.0	48	-
1998	BLENDED BASE	12.0	48	-
1998	HOT BIT PAVEMENT	6.0	6, 24, 6	120-150
2003	FEDERAL AID CHIP SEAL	-	6, 24, 6	CRS-2
2015	HBP-SUPERPAVE-FAA 45	2.0	6, 24, 6	PG 58-28
2019	FEDERAL AID CHIP SEAL	-	25.0	CRS2P

**RP 112.521 to 116.411**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
19	37	Excellent	0	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	98	Excellent	0.09	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1947	AGGREGATE BASE	5.0	34	-
2001	GRADE	-	62	-
2001	BLENDED BASE	16.0	44	-
2001	HBP-SUPERPAVE-FAA 45	3.0	8, 24, 8	PG 58-28
2001	HBP-SUPERPAVE-FAA 45	1.5	8, 24, 8	PG 58-34
2003	FEDERAL AID CHIP SEAL	-	9, 24, 9	CRS-2
2018	HBP-SUPERPAVE-FAA 45	2.0	6, 24, 6	PG 58-28

**RP 117.102 to RP 126.829**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
19	34	Excellent	0	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	98	Excellent	0.07	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1947	AGGREGATE BASE	5.0	34	-
2001	GRADE	-	62	-
2001	BLENDED BASE	16.0	44	-
2001	HBP-SUPERPAVE-FAA 45	3.0	8, 24, 8	PG 58-28
2001	HBP-SUPERPAVE-FAA 45	1.5	8, 24, 8	PG 58-34
2003	FEDERAL AID CHIP SEAL	-	9, 24, 9	CRS-2
2018	HBP-SUPERPAVE-FAA 45	2.0	6, 24, 6	PG 58-28

**RP 126.829 to RP 145.107**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	67	Good	7	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
20	89	Good	0.24	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1936	GRADE	-	47	-
1947	AGGREGATE BASE	5.0	34	-
1947	STABILIZED BASE	2.0	32	-
1947	HOT BIT PAVEMENT	2.5	22	120-150
1968	WIDENING	-	48	-
1968	BITUMINOUS BASE	1.5	40	-
1968	HOT BIT PAVEMENT	2.0	24	-
1968	BITUMINOUS BASE	5.5	6, 0, 6	-
1981	HOT BIT PAVEMENT	1.5	27	-
1981	AGGREGATE BASE	3.0	5.5, 0, 5.5	-
1985	DRIVE SLOPE FLATTENING	-	-	-
1990	MILLING	-5.0	27	-
1990	RECYCLED HOT BIT PAVEMENT	5.0	36	200-300
1993	CONTRACT CHIP SEAL	-	36	HFMS-2
1998	RIPRAP	-	-	-
1999	GRADE RAISE	15.0	6, 24, 6	-
1999	HOT BIT PAVEMENT	4.5	6, 24, 6	PG 58-28
2005	MICROSURFACING	-	-	-
2013	HBP-SUPERPAVE-FAA 43	2.0	6, 24, 6	PG 58-28
2018	FEDERAL AID CHIP SEAL	-	24	CRS2P

**RP 145.107 to RP 151.884**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
20	79	Good	5	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
20	90	Good	0.20	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1947	GRADE	-	36	-
1947	AGGREGATE BASE	2.0	33	-
1985	DRIVE SLOPE FLATTENING	-	-	-
1999	WIDENING	-	56	-
1999	EXISTING BASE	2.0	36	-
1999	BLENDED BASE	13.0	36	-
1999	AGGREGATE BASE	14.0	3.5, 0, 3.5	-
2000	HOT BIT PAVEMENT	5.0	8, 24, 8	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	8, 24, 8	CHFRS-2P
2010	INT CONT PATCH-1.5"	-	40	PG 58-28
2013	HBP-SUPERPAVE-FAA 43	2.0	8, 24, 8	PG 58-28
2018	FEDERAL AID CHIP SEAL	-	24	CRS2P

**RP 151.884 to RP 167.711**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
20	69	Good	5	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
20	91	Good	0.19	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1941	GRADE	-	36	-
1942	STABILIZED BASE	2.0	32	-
1985	DRIVE SLOPE FLATTENING	-	-	-
1999	WIDENING	-	56	-
1999	EXISTING BASE	2.0	36	-
1999	BLENDED BASE	13.0	36	-
1999	AGGREGATE BASE	16.0	3.5, 0, 3.5	-
2000	HOT BIT PAVEMENT	5.0	8, 24, 8	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	8, 24, 8	CHFRS-2P
2010	INT CONT PATCH-1.5"	-	40	PG 58-28
2013	HBP-SUPERPAVE-FAA 43	2.0	8, 24, 8	PG 58-28
2018	FEDERAL AID CHIP SEAL	-	24	CRS2P

**RP 167.711 to RP 169.979**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	49	Excellent	2	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	96	Good	0.11	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1962	GRADE	-	44	-
1963	AGGREGATE BASE	4.5	42	-
1963	STABILIZED BASE	4.5	40	SS-1
1971	HOT BIT PAVEMENT	1.5	24	150-200
1985	DRIVE SLOPE FLATTENING	-	-	-
1985	HOT BIT PAVEMENT	2.0	27	120-150
1986	CONTRACT SAND SEAL	-	24	AE-200S
1999	HOT BIT PAVEMENT	3.5	6, 24, 6	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	8, 24, 8	CHFRS-2P
2011	HBP-SUPERPAVE-FAA 43	2.0	6, 24, 6	PG 58-28
2014	CONTRACT CHIP SEAL	-	24	CRS2P
2018	HBP-SUPERPAVE-FAA 45	2.0	28	PG 58-28
2019	CONTRACT CHIP SEAL	-	25	CRS2P

**RP 169.979 to RP 184.000**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	41	Excellent	0	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	98	Excellent	0.10	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1962	GRADE	-	44	-
1963	AGGREGATE BASE	4.5	42	-
1963	EMULSIFIED BASE	4.5	40	SS-1
1971	HOT BIT PAVEMENT	1.5	24	120-150
1985	HOT BIT PAVEMENT	2.0	27	120-150
1992	CONTRACT CHIP SEAL	-	24	MC-3000
1999	HOT BIT PAVEMENT	3.5	6, 24, 6	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	8, 24, 8	CHFRS-2P
2011	HBP-SUPERPAVE-FAA 43	2.0	6, 24, 6	PG 58-28
2014	CONTRACT CHIP SEAL	-	24	CRS2P
2018	HBP-SUPERPAVE-FAA 45	2.0	28	PG 58-28
2019	CONTRACT CHIP SEAL	-	25	CRS2P

**RP 184.000 to RP 185.548**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	45	Excellent	2	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
15	94	Good	0.09	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1962	GRADE	-	44	-
1963	AGGREGATE BASE	4.5	42	-
1963	EMULSIFIED BASE	4.5	40	SS-1
1971	HOT BIT PAVEMENT	1.5	24	120-150
1985	HOT BIT PAVEMENT	3.0	38	120-150
1992	CONTRACT CHIP SEAL	-	24	AE-150S
1999	HOT BIT PAVEMENT	3.5	6, 24, 6	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	8, 24, 8	CHFRS-2P
2011	HBP-SUPERPAVE-FAA 43	2.0	6, 24, 6	PG 58-28
2014	CONTRACT CHIP SEAL	-	24	CRS2P
2018	HBP-SUPERPAVE-FAA 45	2.0	28	PG 58-28
2019	CONTRACT CHIP SEAL	-	25	CRS2P

**RP 185.548 to RP 186.417**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	80	Good	5	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
21	87	Fair	0.16	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1962	GRADE	-	44	-
1963	AGGREGATE BASE	4.5	42	-
1963	EMULSIFIED BASE	4.5	40	SS-1
1971	HOT BIT PAVEMENT	1.5	24	120-150
1983	HOT BIT PAVEMENT	3.0	38	120-150
1985	CONTRACT CHIP SEAL	-	24	AE-150S
1999	HOT BIT PAVEMENT	2.5	6, 24, 6	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	24	CHFRS-2P
2009	HBP-SUPERPAVE-FAA 44	2.0	24	PG 58-28
2013	SLURRY SEAL	-	24	-
2016	HBP-SUPERPAVE-FAA 43	2.0	6, 0, 6	PG 58-28

**RP 186.417 to RP 198.717**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
21	87	Good	6	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
21	87	Fair	0.16	Excellent

CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1950	GRADE	-	69	-
1969	BITUMINOUS BASE	4.0	46	SM-K
1970	BITUMINOUS BASE	2.0	44	CMS-2
1970	HOT BIT PAVEMENT	1.5	24	120-150
1983	HOT BIT PAVEMENT	3.0	42	120-150
1985	CONTRACT CHIP SEAL	-	24	AE-150S
1995	INT CONT PATCH-2.0"	-	24	120-150
1997	CONTRACT CHIP SEAL	-	26	HFMS-2
1999	HOT BIT PAVEMENT	2.5	6, 24, 6	PG 58-28
2002	FEDERAL AID CHIP SEAL	-	24	CHFRS-2P
2009	HBP-SUPERPAVE-FAA 44	2.0	24	PG 58-28
2013	SLURRY SEAL	-	24	
2016	HBP SUPERPAVE-FAA 43	2.0	6, 0, 6	PG 58-28

**RP 198.717 to RP 210.718**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
4	49	Excellent	0	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
4	97	Good	0.14	Excellent



CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1941	GRADE	-	36	-
1941	TRAFFIC SERVICE GRAVEL	1.0	34	-
1941	STABILIZED BASE	5.0	32	-
1951	HOT BIT PAVEMENT	2.5	22	120-150
1979	WIDENING	12.0	54	-
1980	RECYCLED HOT BIT PAVEMENT	1.5	27	200-300
1980	AGGREGATE BASE	5.0	9, 0, 9	-
1988	CONTRACT CHIP SEAL	-	27	MC-3000
1996	BLENDED BASE	15.0	35	-
1996	HOT BIT PAVEMENT	4.5	24	120-150
1999	FEDERAL AID CHIP SEAL	-	26	HFMS-2
2007	FEDERAL AID CHIP SEAL	-	25	CRS2P
2016	BLENDED BASE	9.0	10, 0, 10	-
2016	HBP-SUPERPAVE-FAA 45	4.0	8, 24, 8	PG 64-28
2018	FEDERAL AID CHIP SEAL	-	24	CRS2P
2018	FEDERAL AID SAND SEAL	-	8, 0, 8	CRS-2

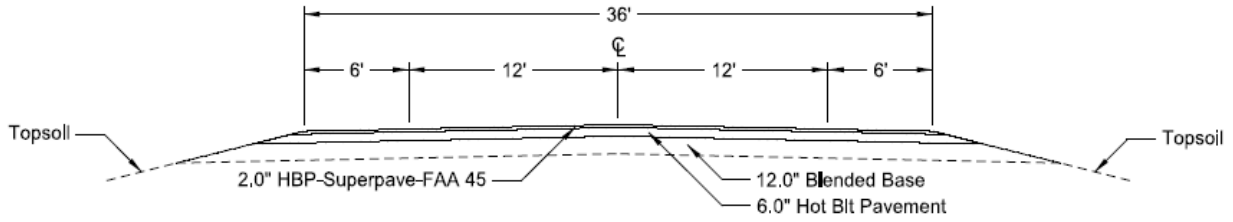
**RP 210.718 to RP 221.700**

Actual Age	IRI	IRI Rating	SI or SCI	Faulting
4	49	Excellent	2	N/A
Effective Age	Distress	Distress Score	Rutting	Rutting Score
4	97	Good	0.13	Excellent

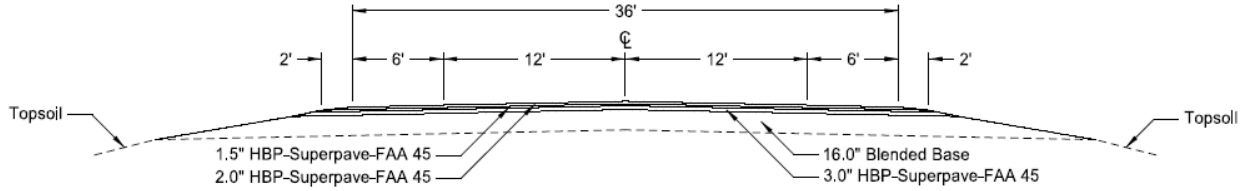
CONSTRUCTION HISTORY				
Year	Construction	Depth (in)	Width (ft)	Oil
1980	AGGREGATE BASE	6.0	40	-
1980	RECYCLED HOT BIT PAVEMENT	1.5	27	200-300
1980	HOT BIT PAVEMENT	2.0	24	120-150
1988	CONTRACT CHIP SEAL	-	27	MC-3000
1996	BLENDED BASE	15.0	35	-
1996	HOT BIT PAVEMENT	4.5	24	120-150
1999	FEDERAL AID CHIP SEAL	-	26	HFMS-2
2007	FEDERAL AID CHIP SEAL	-	25	CRS2P
2016	BLENDED BASE	9.0	10, 0, 10	-
2016	HBP-SUPERPAVE-FAA 45	4.0	8, 24, 8	PG 64-28
2018	FEDERAL AID CHIP SEAL	-	24	CRS2P
2018	FEDERAL AID CHIP SEAL	-	8, 0, 8	CRS-2

**Existing Foreslopes: 6:1**

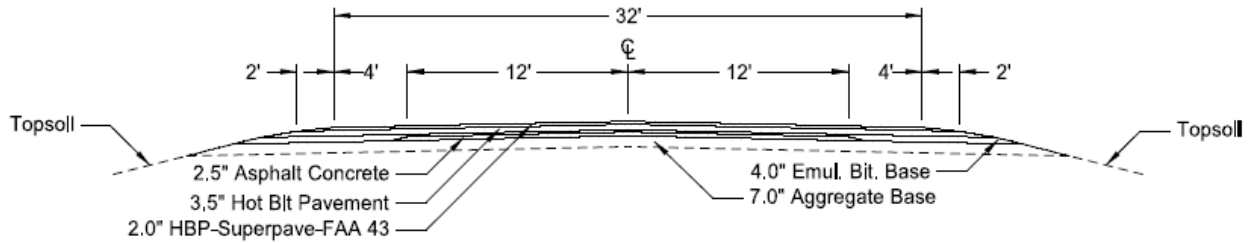
**Existing Typical Sections:**  
 RP 101.683 to RP 112.521



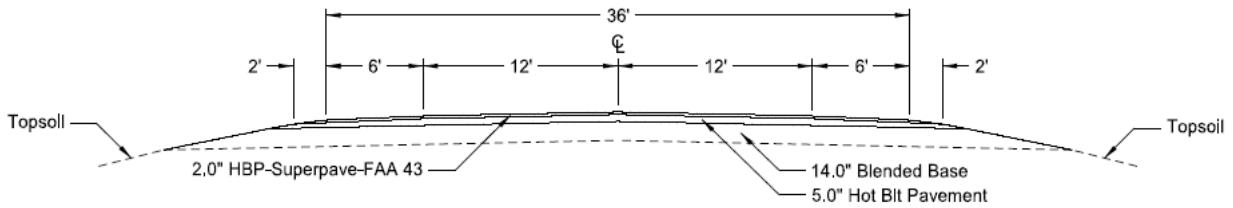
RP 112.521 to RP 126.829



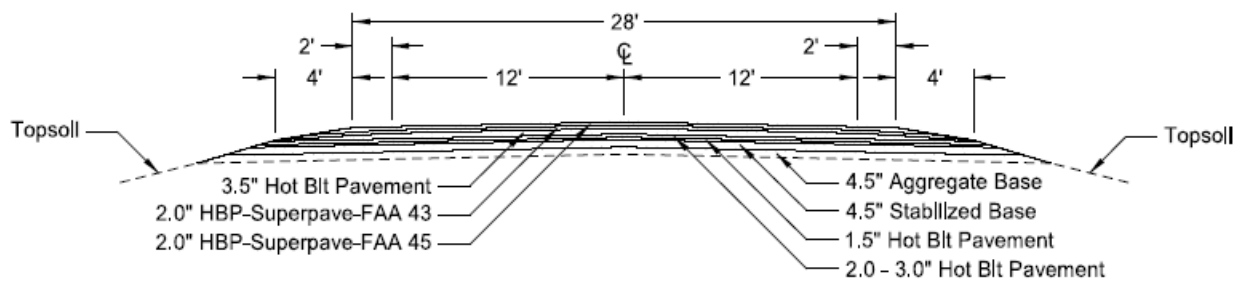
RP 126.829 to RP 145.107



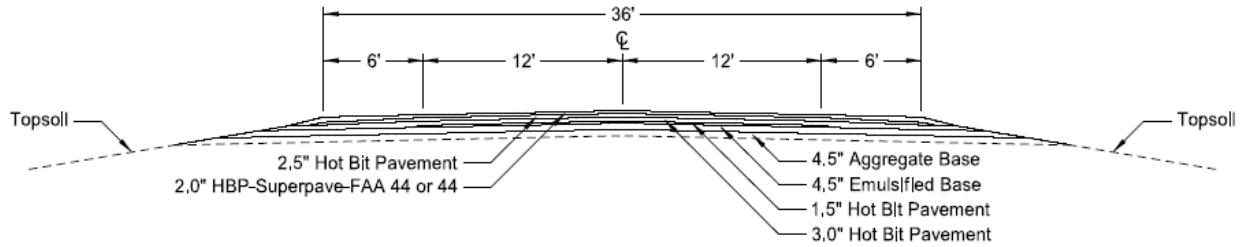
RP 145.107 to RP 167.711



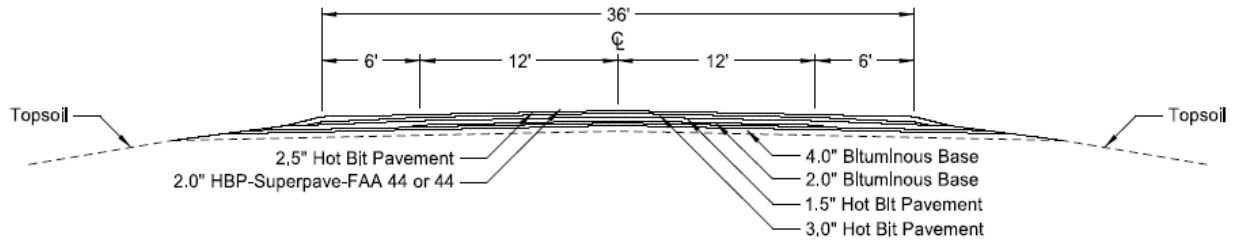
RP 167.711 to RP 185.548



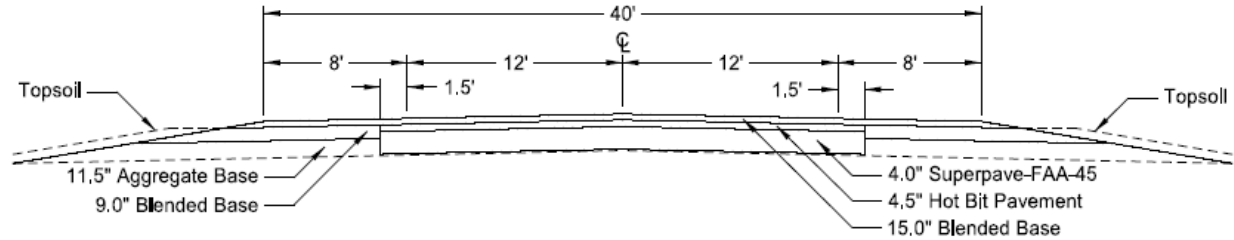
RP 185.548 to RP 186.417



RP 186.417 to RP 198.717



RP 198.717 to RP 221.700



**E. EXISTING GEOMETRY**

**Horizontal Curves:** No proposed improvements to horizontal geometry.

**Vertical Curves:** No proposed improvements to vertical geometry.

**F. EXISTING STRUCTURES**

**Bridges:**

The following structures are located within the limits of a proposed passing lane:

Bridge No.	Name	Vertical Clearance	Length (ft)	Width (ft)	Rating			
					Deck	Super-Structure	Sub-Structure	Culvert
0052-106.382	Double, 8X10X75' RCB	-	17	-	N/A	N/A	N/A	7
<b>Recommendations:</b> Ok to extend. \$350,000								
0052-174.438	Triple, 7-6X7 – 6X262' RCB	-	17	-	N/A	N/A	N/A	8
<b>Recommendations:</b> N/A								

**Centerline Pipes:** Centerline pipes in the proposed passing lane locations will require extension.

**G. LAND INTERESTS**

**Communities:**

- Logan – RP 103.0 to RP 104.3 (Population = 194)
- Sawyer – RP 109.2 to RP 111.6 (Population = 357)
- Velva – RP 116.0 at RP 117.6 (Population = 1,204)
- Voltaire – RP 121.2 to RP 122.2 (Population = 40)
- Bergen – RP 126.9 to RP 128.3 (Population = 35)
- Balfour – RP 136.6 to RP 137.4 (Population = 26)
- Drake – RP 144.0 to RP 145.4 (Population = 275)
- Anamoose – RP 151.2 to RP 152.1 (Population = 227)
- Martin – RP 158.4 to RP 158.8 (Population = 78)
- Harvey – RP 167.0 to RP 168.7 (Population = 1,783)
- Fessenden – RP 184.4 TO RP 186.0 (Population = 479)
- Sykeston – RP 209.2 to RP 209.7 (Population = 117)
- Carrington – RP 220.7 to RP 224.0 (Population = 2,065)

**Reservation:** None

- Surface Trust Lands:** RP 130.0 to RP 131.0  
 RP 180.6 to RP 181.3  
 RP 193.0 to RP 193.2  
 RP 202.3 to RP 203.2  
 RP 217.8 to RP 218.2

- Waterfowl Production Areas:** RP 128.9 to RP 130.0 (Eidem-Gustafson)  
 RP 131.0 to RP 132.2 (Connia Slough)  
 RP 188.2 to RP 189.8 (Schindler)

**Wildlife Management Areas:** RP 174.2 to RP 174.6 (Tree Belt)

**H. ISSUES AND APPURTENANCES CHECKLIST**

- 1. Curb and Gutter? Yes  No
- 2. Sidewalk? Yes  No
- 3. Multi-Use Path? Yes  No
- 4. ADA Ramps? Yes  No
- 5. State Bicycling Network? Yes  No   
 Proposed Tier 3 Bike Corridor with minimum infrastructure expectation of 5' shoulder. An option has been provided to provide 5' in lieu of the proposed 4' shoulders.
- 6. Lighting? Yes  No   
 It is proposed to upgrade all lighting to LED. Minot district also requested to install destination lighting at the intersection of US 52 & ND 14 W Jct (RP 141.4). See additional options 2 & 3.
- 7. Signals? Yes  No
- 8. Storm Sewer? Yes  No

9. Manholes? Yes  No
10. Other Underground Work? Yes  No
11. Parking Facilities? Yes  No
12. Frontage Roads? Yes  No
13. Utility Issues? Yes  No   
 Utilities might be affected with widening for passing lanes. Utilities within the project corridor include buried telephone, television, electric, public and private water, and natural gas transmission lines along with overhead electric lines.
14. Landscaping? Yes  No
15. Approach or Ditch Block Flattening? Yes  No
16. T Intersection Recovery Approaches? Yes  No
17. Fence? Yes  No
18. Railroad Crossings? Yes  No
19. Detours/Bypasses? Yes  No
20. Automatic Traffic Recorder Locations? Yes  No   
 There is an ATR at RP 188.0 that may be impacted.
21. Weigh-In-Motion Sites? Yes  No
22. ITS (Deicing, Snow Gates, VMS, RWIS, etc.)? Yes  No   
 Proposed Environmental Sensor Sites at RP 149.0 and RP 188.0 and a camera Site at RP 188.0 that may be impacted.
23. Highway Patrol/Truck Pullouts or Rest Areas? Yes  No   
 Highway Patrol Truck Inspection Site at RP 136.0 that may be impacted.
24. Additional Right of Way? Yes  No   
 Additional right of way might be required with the proposed widening and extending the structure. US 52 is paralleled by Railroad ROW for most of the corridor.
25. Drainage Issues? Yes  No
26. Snow Impact Areas? Yes  No
27. Subgrade Issues? Yes  No
28. Noise Analysis: Type I Project? Yes  No  Maybe   
 A noise analysis will need to be completed for this project.
29. Maintenance Issues? Yes  No

30. Guardrail? Yes  X  No  \_\_\_\_\_   
 There is existing guardrail near structure 0052-106.382 that may be impacted.

31. Milling? Yes  \_\_\_\_\_  No  X

**I. Load Restrictions**

**Travel Information Map Proposed Load Restriction:** Legal Weight  
**HPCS Load Restrictions:** Legal Weight  
**Freight Level Required Minimum Load Restriction:** > 8-Ton  
**Projected Load Restrictions after project is complete:** Legal Weight

**J. Roadway Widths**

Passing lanes are proposed to be installed with 12' lanes and 4' shoulders.

**K. PERFORMANCE GUIDELINES**

**Design Speed:** 65 mph  
**Clear Zone:** AASHTO  
**Foreslopes:** 6:1 desirable on Interregional system with ADT > 2000. Both districts requested 6:1 slopes be used unless significant impacts or constraints would require use of 4:1 slopes.

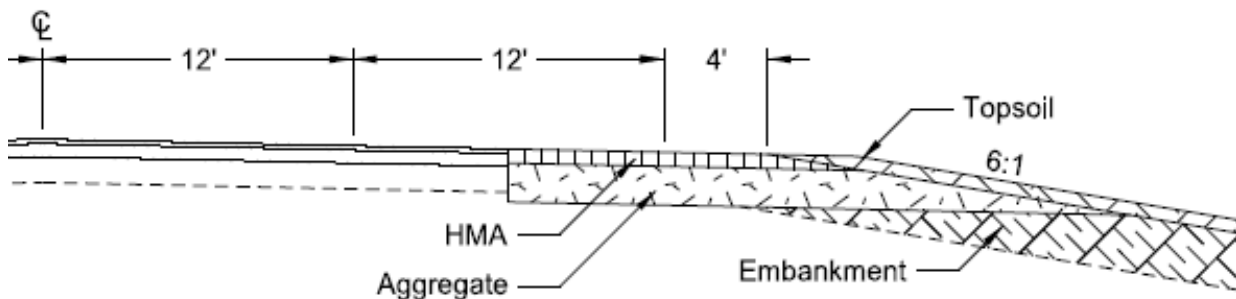
**L. PROPOSED IMPROVEMENTS**

It is proposed to add passing lanes. The passing lanes are proposed to be 2 miles long unless known impacts or constraints prevent the full length and spaced approximately every 10 miles in each direction. There are 23 total passing lane locations are proposed in the 120.017-mile corridor, with 12 in the westbound direction and 11 in the eastbound direction. The passing lanes are proposed to have 12-foot lanes with 4-foot shoulders with an option being provided for 5' shoulders to meet the ND Moves State Bicycling Network minimum infrastructure expectation.

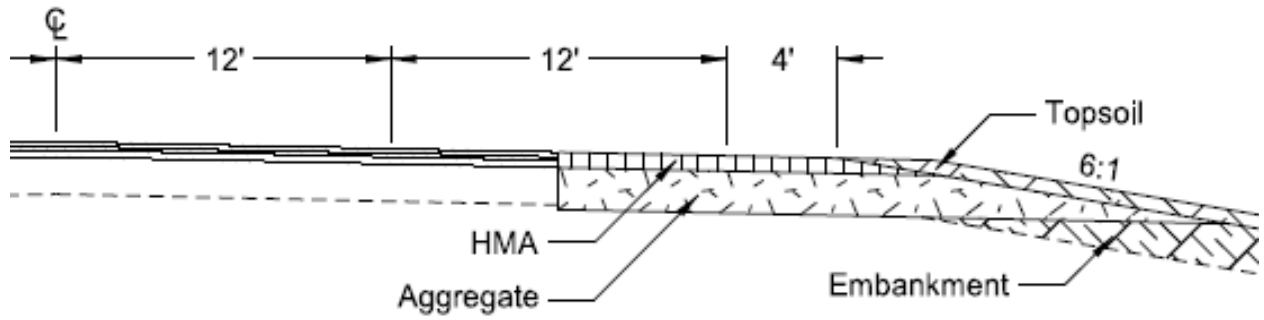
**Proposed Typical Sections:** Proposed typical sections shown are for estimating purposes only. Actual typical section details such as thicknesses, slopes, and tie to existing pavement (i.e vertical cut vs. slough remains) should be determined in the design phase. These typicals show being cut vertically where the pavement section changes thickness or at the edge of the shoulder, removing the slough.

Typical sections below are for passing lanes located within the listed reference point ranges. Only westbound passing lane typicals are shown, the eastbound passing lanes would be identical. Proposed typical sections show 4' shoulder, but an option for 5' shoulders on the passing lanes is provided to meet ND Moves minimum infrastructure expectation.

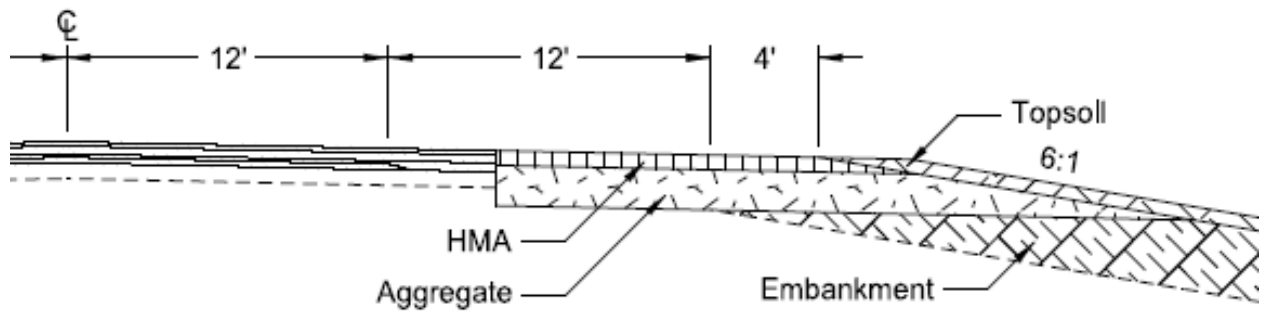
RP 101.683 to RP 112.521 Passing Lanes:



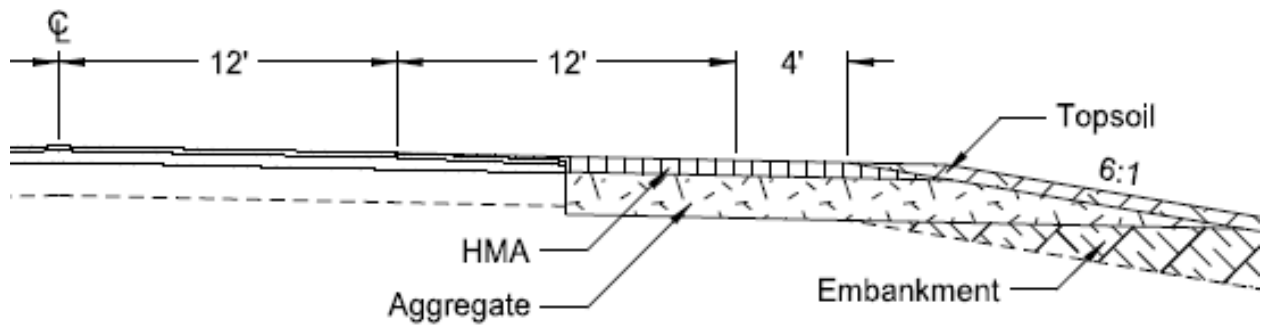
RP 112.521 to RP 126.829 Passing Lanes:



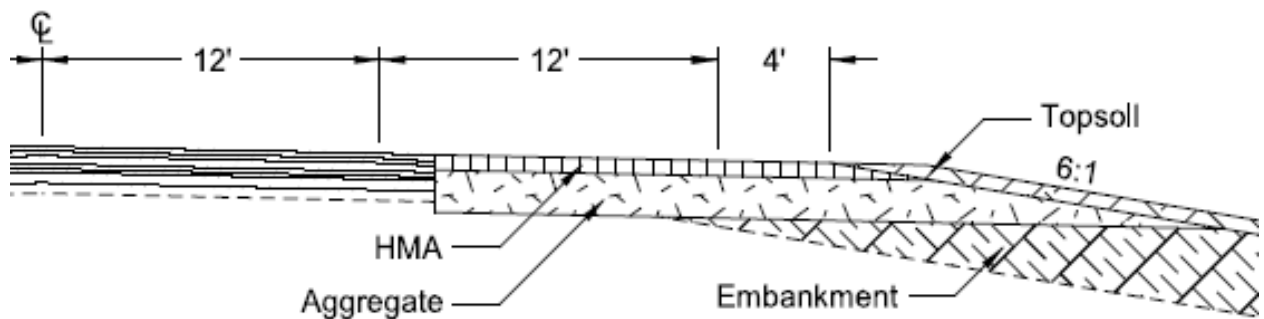
RP 126.829 to RP 145.107 Passing Lanes:



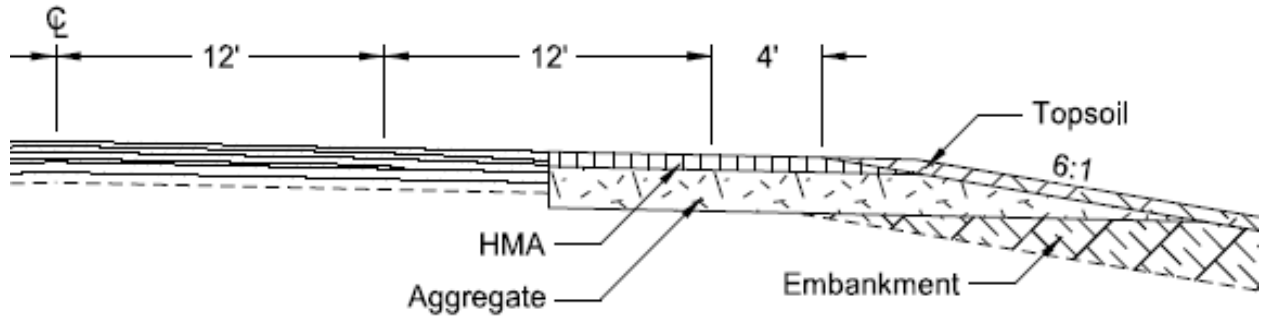
RP 145.107 to RP 167.711 Passing Lanes:



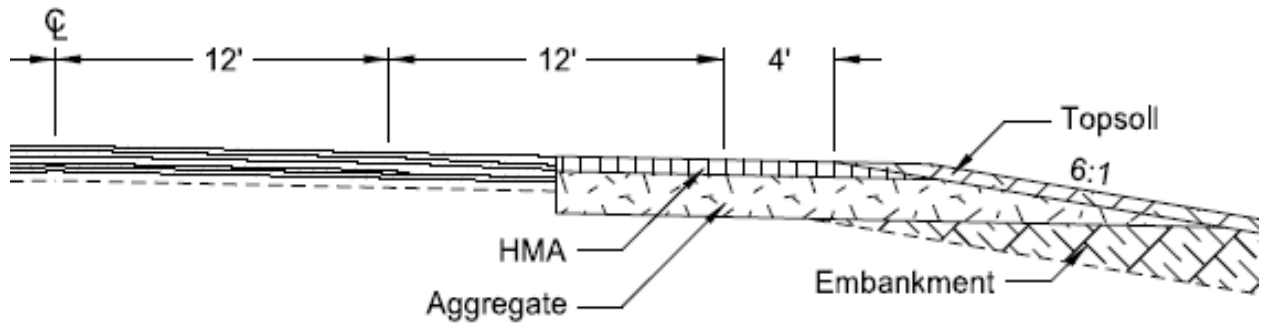
RP 167.711 to RP 185.548 Passing Lanes:



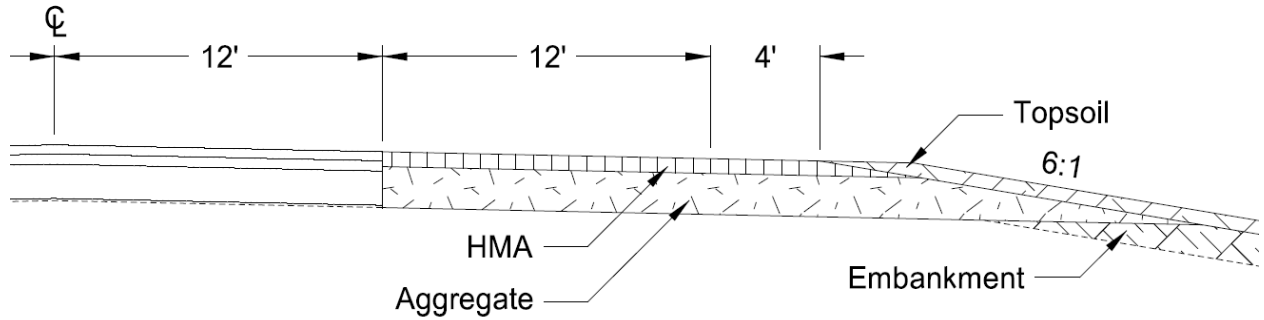
RP 185.548 to RP 186.417 Passing Lanes:



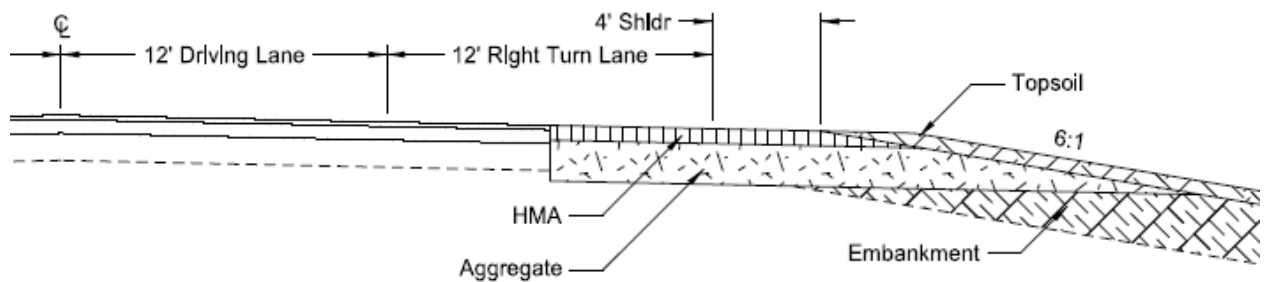
RP 186.417 to RP 198.717 Passing Lanes:



RP 198.717 to RP 221.700 Passing Lanes:

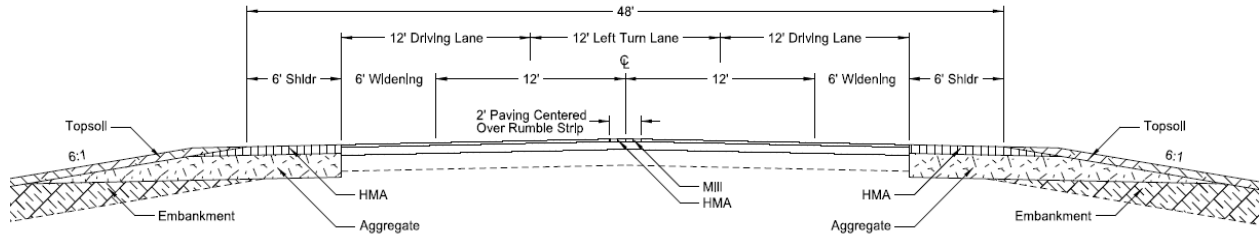


Right Turn Lanes:





Left Turn Lanes:



**M. ADDITIONAL COMMENTS**

**Minot District:** Possibly swap locations for WB #4 and EB #4 passing lanes to avoid passing lane finishing right before Jct ND 53.

**Devils Lake District:**

**N. COST ESTIMATE**

Estimates do not include right of way or utility costs.

**Option 1: Passing Lanes**

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

Map Key	Begin		End	Bound	Type	Estimated Cost
1	RP 105.5	to	RP 107.5	EB	Proposed	\$1,183,000
2	RP 105.5	to	RP 107.5	WB	Proposed	\$1,183,000
3	RP 112.5	to	RP 114.5	EB	Proposed	\$985,000
4	RP 112.5	to	RP 114.5	WB	Proposed	\$985,000
5	RP 123.0	to	RP 125.0	EB	Proposed	\$978,000
6	RP 125.7	to	RP 127.7	WB	Proposed	\$1,057,000
7	RP 134.0	to	RP 136.0	EB	Proposed	\$1,169,000
8	RP 138.0	to	RP 140.0	WB	Proposed	\$1,176,000
9	RP 147.0	to	RP 149.0	EB	Proposed	\$1,031,000
10	RP 147.0	to	RP 149.0	WB	Proposed	\$1,030,000
11	RP 154.5	to	RP 156.5	EB	Proposed	\$1,032,000
12	RP 156.5	to	RP 158.5	WB	Proposed	\$1,035,000
13	RP 163.0	to	RP 165.0	EB	Proposed	\$1,040,000
14	RP 163.0	to	RP 165.0	WB	Proposed	\$1,040,000
15	RP 172.4	to	RP 174.4	EB	Proposed	\$1,307,000
16	RP 172.6	to	RP 174.6	WB	Proposed	\$1,307,000
17	RP 181.4	to	RP 183.3	WB	Proposed	\$1,251,000
18	RP 186.4	to	RP 188.4	EB	Proposed	\$1,009,000
19	RP 195.9	to	RP 197.5	WB	Proposed	\$798,000
20	RP 199.0	to	RP 201.0	EB	Proposed	\$1,229,000
21	RP 205.0	to	RP 207.0	WB	Proposed	\$1,229,000
22	RP 210.0	to	RP 212.0	EB	Proposed	\$1,229,000
23	RP 219.5	to	RP 221.4	WB	Proposed	\$1,165,000
<b>Cost of all Passing Lanes</b>						<b>\$25,448,000</b>
<b>20% Engineering</b>						<b>\$5,090,000</b>
<b>Total Cost</b>						<b>\$30,538,000</b>

**Option 2: Warranted Turn Lanes****(Inflation factor of 4% was used to estimate costs for bid year)**

RP	Intersection	Improvement	Install/Extend	Estimated Cost
108.0	US 52 & 135 <sup>th</sup> Ave SE (Ward 18)	NB L	Install (630')	\$331,000
109.8	US 52 & Central Ave (Ward 23)	EB L	Extend 330' (Restripe)	\$5,000
111.6	US 52 & 1 <sup>st</sup> St E (Ward 25)	WB R	Install (530')	\$144,000
119.6	US 52 & 14 <sup>th</sup> Ave N	EB R	Extend 210'	\$60,000
137.7	US 52 & ND 53	WB L	Install (630')	\$331,000
141.4	US 52 & ND 14 (W Jct)	EB L	Install (630')	\$331,000
151.9	US 52 & ND 14 (E Jct)	EB L	Extend 560'	\$170,000
151.9	US 52 & ND 14 (E Jct)	WB L	Extend 560'	\$170,000
167.2	US 52 & ND 91	NB L	Extend 150' (Restripe)	\$5,000
167.2	US 52 & ND 91	NB R	Install (335')	\$106,000
167.7	US 52 & US 52B	SB L	Extend 140' (Restripe)	\$5,000
168.5	US 52 & 30 <sup>th</sup> Ave N	SB L	Install (435')	\$278,000
168.5	US 52 & 30 <sup>th</sup> Ave N	NB R	Install (335')	\$106,000
185.6	US 52 & ND 15	SB L	Extend	\$55,000
<b>Cost of all Passing Lanes</b>				<b>\$2,097,000</b>
<b>20% Engineering</b>				<b>\$420,000</b>
<b>Total Cost</b>				<b>\$2,517,000</b>

### O. DECISIONS

1. Should the proposed passing lanes be advanced for an estimated cost of **\$30,538,000**?

Yes  No

2. Should the passing lanes shoulder width be increased to 5' to accommodate the minimum infrastructure plan outlined in the ND Moves Plan for an additional estimated cost of **\$1,950,000**?

Yes  No

3. Which additional improvements should be included in the project?

Warranted Turn Lane Improvements

**Estimated Cost: \$2,517,000**

Lighting Improvements

**Estimated Cost: \$33,000**

District Requested Improvements

WB Right Turn Lane @ US 52 & Ward 19S (RP 104.3)

**Estimated Cost: \$210,000**

EB Right Turn Lane @ US 52 & 13<sup>th</sup> Ave SE/Ward 18 (RP 108.0)

**Estimated Cost: \$210,000**

Destination Lighting @ US 52 & ND 14 W Jct (RP 141.4)

**Estimated Cost: \$22,000**

EB Left Turn Lane @ US 52 & H Ave W ( RP 151.0)

**Estimated Cost: \$334,000**

Harvey Access Management

Alternative A

**Estimated Cost: \$254,000**

Alternative B

**Estimated Cost: \$667,000**

DDE Comments: \_\_\_\_\_

\* Make separate project that presents alternatives A and B to public.

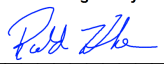
\*\* Passing Lane locations may be adjusted.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

DocuSigned by:  
  
2A3326B56844ED  
Deputy Director for Engineering

1/21/2021  
Date

## Certificate Of Completion

Envelope Id: B59DE41AD2694E4AB26946D0B726927F	Status: Completed
Subject: Please DocuSign: Scoping Report	
Contract Number:	
PCN:	
Source Envelope:	
Document Pages: 26	Signatures: 1
Certificate Pages: 2	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Enabled	Michael Wilz
Time Zone: (UTC-06:00) Central Time (US & Canada)	608 E Boulevard Ave
	Bismarck, ND 58505
	mwilz@nd.gov
	IP Address: 165.234.252.245

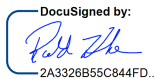
## Record Tracking

Status: Original 1/21/2021 8:58:16 AM	Holder: Michael Wilz mwilz@nd.gov	Location: DocuSign
Security Appliance Status: Connected	Pool: StateLocal	
Storage Appliance Status: Connected	Pool: Carahsoft OBO North Dakota Department of Transportation CLOUD	Location: DocuSign

## Signer Events

Ronald Henke  
rhenke@nd.gov  
ND Department of Transportation  
Security Level: Email, Account Authentication (None), Authentication

## Signature

DocuSigned by:  
  
2A3326B55C844FD...

Signature Adoption: Uploaded Signature Image  
Using IP Address: 165.234.92.2

## Timestamp

Sent: 1/21/2021 9:05:27 AM  
Viewed: 1/21/2021 1:24:53 PM  
Signed: 1/21/2021 1:25:07 PM

## Authentication Details

SMS Auth:  
Transaction: 25DC999EAF0C110491962930F27AB28A  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 1/21/2021 1:24:33 PM  
Phone: +1 701-400-8185

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps

<b>Envelope Summary Events</b>	<b>Status</b>	<b>Timestamps</b>
Envelope Sent	Hashed/Encrypted	1/21/2021 9:05:27 AM
Certified Delivered	Security Checked	1/21/2021 1:24:53 PM
Signing Complete	Security Checked	1/21/2021 1:25:07 PM
Completed	Security Checked	1/21/2021 1:25:07 PM

<b>Payment Events</b>	<b>Status</b>	<b>Timestamps</b>
-----------------------	---------------	-------------------

WEST HARVEY US 52 ACCESS  
MANAGEMENT IMPROVEMENTS

**Project No.**

**PCN**

4-052(101)167

23153

US 52 Intersections with US 52B & ND 3 – Harvey



---

Prepared by

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
BISMARCK, NORTH DAKOTA

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

**DIRECTOR**  
William T. Panos

**PROJECT DEVELOPMENT DIRECTOR**  
Chad M. Orn, P.E.

**Principal Author:** WSB & Associates (dba WSB)  
**Environmental Reviewer:** Alexis Wanek, NDDOT ETS Division  
February 2022

## TABLE OF CONTENTS

Description	Page
Table of Contents.....	i
List of Tables.....	ii
List of Figures.....	ii
I. Public Meeting Summary .....	1
A. Project Information.....	1
B. Meeting Details .....	2
C. Attendees .....	2
D. Comments Received .....	2

### Appendices

Appendix A	Notifications
Appendix B	Handouts
Appendix C	Exhibits Presented
Appendix D	Roster
Appendix E	Comments and Responses

**LIST OF TABLES**

Table 1: Summary of Comments/Responses .....3

**LIST OF FIGURES**

Figure 1: Project Location Map.....1



I. Public Meeting Summary

A. Project Information

Highway: US 52, US 52B, & ND 3

District: Minot

Limits: The intersection of US 52 and US 52B to the intersection of US 52B and ND 3, and the intersection of US 52 and ND 3 to the intersection of US 52B and ND 3

Associated Project PCN(s) and Description(s): N/A

Figure 1 – Project Location Map



## B. Meeting Details

City, State: Harvey, ND

Facility: Harvey Armory 120 8<sup>th</sup> Street

Date and Time: Monday, November 8<sup>th</sup> 2021, 5:00pm to 7:00pm

Meeting Format Used: Open House with No Formal Presentation

A public input meeting was held to inform the public of the proposed project and gather input on proposed alternatives for access and safety improvements along US 52 on the west side of Harvey at the intersection of US 52 and US 52B as well as US 52 and ND 3. The proposed alternatives included Alternative A (the removal of existing US 52B access and slip lane), Alternative B (removal of ND 3 access and turn lane), and the no build. The NDDOT, in collaboration with WSB, developed alternative C in response to comments received during the public engagement process. Alternative C maintains and realigns access to US 52B to improve sight lines and maintains access to ND 3.

An open house with formal presentation was advertised; however, only three City of Harvey employees were present with no landowners or members of the general public in attendance. Individual conversations with meeting attendees were held and no formal presentation was given. A project information handout and exhibits showing the alternatives was made available to meeting attendees. Refer to **Appendix B** for the handouts and **Appendix C** for the exhibits presented.

Email mailings regarding the meeting were made to advocacy group contacts maintained by the NDDOT as part of the Solicitation of Views process. In addition, a newspaper advertisement in The Herald-Press (Harvey, ND) was posted to notify the public about the meeting on October 23, 2021. The public comment period for the meeting ran from the date of posting (October 23<sup>rd</sup>) to November 23, 2021. Refer to **Appendix A** for meeting notifications.

## C. Attendees

Number of Attendees: 5

NDDOT – Jeff Rensch, Korby Seward

WSB – Nate Wingerter, Jay Forthun

City of Harvey – Karen Nordby, Paul Gunderson, Shelley Svoboda

Landowners and General Public – 0 Attendees

Refer to **Appendix D** for a roster of attendees.

## D. Comments Received

During the public meeting, three comments were received that were written on project area displays. Outside the meeting, one e-mail comments was received. Refer to **Appendix E** for detailed comments and responses.

**Table 1 – Summary of Comments/Responses**

Topic	Comments	Responses
Future Development	“Potential Development” identified on frontage road south of project limits.	The potential for development along the frontage road will be considered in the selection of the preferred alternative.
Option Concern	For removal of the south connection: “Considerations for south businesses.” Commentor indicated desire to maintain the southern access point	Impacts on businesses to the south of the project area. will be considered in the selection of an alternative.
Future Development	North of limits on ND 3: “Flour Mill Expansion X2 Traffic”. Commentor indicated that additional traffic can be expected with the planned expansion of the flour mill.	Traffic impacts will be considered in the selection of an alternative.
Option Concern	Representative for Mid Dakota Lumber 1300 Frontage Rd...”We like Alternative B.”	Support for Alternative B will be considered in the selection of an alternative.

## APPENDICES

## **Appendix A Notifications**



(<http://mydot.nd.gov/>)

# Administration Application

**Main Menu (MainMenu.aspx)**

**User ID: gneigum | Logout**

[» View Calendar](#)

## Event Details

<b>Name:</b>	US 52 & ND 3 - Proposed Access Improvements - Public Input Meeting
<b>Category:</b>	Event - Public Meetings
<b>Location:</b>	Harvey Armory, 120 8th Street West, Harvey, ND
<b>Room:</b>	
<b>Date:</b>	11/08/2021
<b>Time:</b>	5:00 PM - 7:00 PM Central Time
<b>URL:</b>	

<b>Description:</b>	<p>For more information: Communications Division, NDDOT at (701)328-4322 OR Nate Wingerter, WSB &amp; Associates, at (701)989-7873</p> <p>Public Input Meeting to be held on November 8, 2021, to discuss Proposed Improvements to US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, and US-52B / ND Hwy 3 in Harvey</p> <p>A Public Input Meeting will be held from 5:00 pm to 7:00 pm on Monday, November 8, 2021, at the Harvey Armory, 120 8th Street West, Harvey, ND. The Public Input Meeting will utilize an open house format with a formal presentation beginning at 5:30.</p> <p>The purpose of the Public Input Meeting is to discuss proposed access improvements at the intersections of US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, and US-52B / ND Hwy 3 in Harvey. The project will propose alternatives to modify the existing intersection geometry to consolidate existing highway access points and remove potential conflict points. The Public Input Meeting will provide opportunity for public input. Representatives from the NDDOT and WSB will be on hand to answer questions and discuss your concerns.</p> <p>If unable to attend the Public Input Meeting, written statements or comments must be mailed by November 23, 2021, to Nate Wingerter at 4501 Coleman Street, Suite 205, Bismarck, ND 58503 or emailed to <a href="mailto:nwingerter@wsbeng.com">nwingerter@wsbeng.com</a> with "Public Input Meeting" in the e-mail subject heading.</p> <p>The North Dakota Department of Transportation (NDDOT) will consider every request for reasonable accommodation to provide:</p> <ul style="list-style-type: none"> <li>- an accessible meeting facility or other accommodation for people with disabilities,</li> <li>- language interpretation for people with limited English proficiency (LEP), and</li> <li>- translations of written material necessary to access NDDOT programs and information.</li> </ul> <p>To request accommodations, contact Civil Rights Division, NDDOT, at (701) 328-2576 or <a href="mailto:civilrights@nd.gov">civilrights@nd.gov</a>. TTY users may use Relay North Dakota at 711 or 1-800-366-6888.</p>
---------------------	---

**Contact Details**

<b>Name:</b>	Nate Wingerter
<b>Telephone:</b>	701-989-7873
<b>Email:</b>	<a href="mailto:nwingerter@wsbeng.com">nwingerter@wsbeng.com</a>
<b>Display Email:</b>	<input checked="" type="checkbox"/> If selected, the email address above will display for the public to contact via that email address. If left unchecked, a generic contact form will be used with the email address hidden.
<b>Division/District:</b>	20 Design

<b>Viewed by all DOT:</b>	YES
---------------------------	-----

**Title VI and Nondiscrimination Survey Link**

	The Title VI Survey section will appear on the DOT event page if a URL is entered.
<b>Title VI Survey URL:</b>	

**Attachments**

[Return](#)

---

[Home \(/\)](#) | 
 [Divisions & Districts \(/divdist.htm\)](#) | 
 [Policies \(/policies/policies.htm\)](#) | 
 [Manuals \(/manuals.htm\)](#) | 
 [Forms \(/forms/formsbysfn.htm\)](#) | 
 [GIS \(http://gis.dot.nd.gov\)](http://gis.dot.nd.gov) | 
 [Employee Info \(/empinfo.htm\)](#) | 
 [Workplace Safety \(/workplacesafety/workplacesafety.htm\)](#)

---

[W3C AA \(http://www.w3.org/WAI/WCAG1AA-Con](http://www.w3.org/WAI/WCAG1AA-Con)  
[| W3C CSS \(http://jigsaw.w3.org/css-validator/\)](http://jigsaw.w3.org/css-validator/)  
[| W3C XHTML \(http://validator.w3.org/check/referer\)](http://validator.w3.org/check/referer)

---

Comments, Feedback on MyDOT. Direct them to: [mydot@nd.gov \(mailto:mydot@nd.gov\)](mailto:mydot@nd.gov)  
 © Copyright 2021, North Dakota Department of Transportation



# The Herald-Press

913 Lincoln Ave.  
Harvey, ND 58341

701.324.4646  
FAX 701.324.4647  
web page: [heraldpressnd.com](http://heraldpressnd.com)

Date	Invoice #
10/28/2021	21111NC1

WSB  
Attn: Nate Wingerter  
4501 Coleman St Suite 205  
Bismarck ND 58503

<b>Balance Due</b>	<b>\$125.64</b>
--------------------	-----------------

Terms	Due Date
	10/28/2021

Please, detach top portion at dotted line (below) and RETURN with your payment. Thanks!

Description	Amount
Legal Notice - 2 col x 9 inch display ad Public Input Meeting re: improvements on Hwy 52	125.64

*For your convenience, we now accept most major credit cards. Please call to make a credit card payment.  
Checks may be made to: The Herald-Press*

**NOTE: Balance is due in full unless prior arrangements have been made.  
A \$5 finance charge will apply each month after 31 days of non-payment.**

<b>TOTAL</b>	<b>\$125.64</b>
--------------	-----------------

# PUBLIC INPUT MEETING

## WHY?

To discuss proposed access improvements at the intersections of US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, & US-52B / ND Hwy 3 in Harvey. The project will propose alternatives to modify the existing intersection geometry to consolidate existing highway access points and remove potential conflict points.

## WHEN?

November 8th, 2021

Formal Presentation 5:30 p.m. to 6:00 p.m.

Open House: 5:00 p.m. to 7:00 p.m.

## WHERE?

Harvey Armory  
120 8<sup>th</sup> Street West  
Harvey, ND 58341

## OPEN HOUSE CONDUCTED BY

ND Department of Transportation (NDDOT) and  
WSB

This meeting is designed to allow for public input which is required for compliance with the National Environmental Policy Act of 1970 and National Historic Preservation Act of 1966.

Representatives from the NDDOT and WSB will be on hand to answer your questions and discuss your concerns.

WRITTEN STATEMENTS or comments about this project must be mailed by November 23rd to Nate Wingerter at 4501 Coleman Street, Suite 205 Bismarck ND 58503  
Email: [nwingerter@wsbeng.com](mailto:nwingerter@wsbeng.com)  
Note "Public Input Meeting" in email subject heading.

The North Dakota Department of Transportation (NDDOT) will consider every request for reasonable accommodation to provide:

- an accessible meeting facility or other accommodation for people with disabilities,
- language interpretation for people with limited English proficiency (LEP), and
- translations of written material necessary to access NDDOT programs and information.

Appropriate provisions will be considered when the Department is notified at least 10 days prior to the meeting date or the date the written material translation is needed.

To request accommodations, contact Atiana Beck, Civil Rights Division, NDDOT, at (701) 328-2978 or [civilrights@nd.gov](mailto:civilrights@nd.gov) TTY users may use Relay North Dakota at 711 or 1-800-366-6888.

## Neigum, Gina M.

---

**From:** Finley, David  
**Sent:** Thursday, December 9, 2021 12:14 PM  
**To:** Neigum, Gina M.  
**Subject:** FW: Public input meeting scheduled next week to discuss proposed improvements in Harvey

---

**From:** North Dakota Department of Transportation <nndot@info.nd.gov>  
**Sent:** Monday, November 1, 2021 4:35 PM  
**To:** Finley, David <drfinley@nd.gov>  
**Subject:** Public input meeting scheduled next week to discuss proposed improvements in Harvey



You are subscribed to Public Meetings and Events News Releases for North Dakota Department of Transportation. This information has recently been updated, and is now available.

### [Public input meeting scheduled next week to discuss proposed improvements in Harvey](#)

11/01/2021 04:30 PM CDT

11/1/2021 4:30 PM [Public input meeting scheduled next week to discuss proposed improvements in Harvey](#)

Contact:  
NDDOT Communication Division  
[drfinley@nd.gov](mailto:drfinley@nd.gov)

### **Public input meeting scheduled next week to discuss proposed improvements in Harvey**

BISMARCK, N.D. – A public input meeting will be held from 5 to 7 p.m. on Monday, Nov. 8, at the Harvey Armory, 120 8th St. W., Harvey, ND. The public input meeting will utilize an open house format with a formal presentation beginning at 5:30 p.m.

The purpose of the public input meeting is to discuss proposed access improvements at the intersections of U.S. Highway 52/U.S. 52 Bypass, U.S. 52/ND 3, and U.S. 52 Bypass/ND 3 in Harvey.

The project will propose alternatives to modify the existing intersections to consolidate highway access points and remove potential conflict points.

Representatives from the North Dakota Department of Transportation (NDDOT) and WSB & Associates will be on hand to answer questions and discuss your concerns.

If unable to attend the public input meeting, written statements or comments must be mailed by Nov. 23, 2021, to Nate Wingerter at 4501 Coleman St., Suite 205, Bismarck, ND 58503 or emailed to [nwingerter@wsbeng.com](mailto:nwingerter@wsbeng.com) with “Public Input Meeting” in the e-mail subject heading.

NDDOT will consider every request for reasonable accommodation to provide:

- an accessible meeting facility or other accommodation for people with disabilities,
- language interpretation for people with limited English proficiency (LEP), and
- translations of written material necessary to access NDDOT programs and information.

To request accommodations, contact Civil Rights Division, NDDOT, at 701-328-2576 or [civilrights@nd.gov](mailto:civilrights@nd.gov). TTY users may use Relay North Dakota at 711 or 1-800-366-6888.

###



[Website](#) | [Contact us](#)

SUBSCRIBER SERVICES:

[Manage Subscriptions](#) | [Unsubscribe All](#) | [Help](#)

---

This email was sent to [drfinley@nd.gov](mailto:drfinley@nd.gov) using GovDelivery Communications Cloud on behalf of: North Dakota Department of Transportation · 608 Boulevard Avenue · Bismarck, ND 58505 · 1-855-637-6237



11/2/2021 10:23

Account = North Dakota Department of Transportation

US 52 Intersection Improvements - PCN 23153

Destination Address	Delivery Status	Failure Message	Total Opens	Total Clicks	Click Summary
12024238225	Delivered		N/A	N/A	
12034302811	Delivered		N/A	N/A	
12042712918	Delivery Failure	The 'To' phone number: +12042712918, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
12055383866	Delivered		N/A	N/A	
12063272112	Delivered		N/A	N/A	
12104645095	Delivered		N/A	N/A	
12107887333	Delivered		N/A	N/A	
12108474185	Delivered		N/A	N/A	
12135370400	Delivery Failure	The 'To' phone number: +12135370400, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
12136990224	Delivery Failure	The 'To' phone number: +12136990224, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
12147362701	Delivered		N/A	N/A	
Network subscriber	Delivered		N/A	N/A	
12243233193	Delivered		N/A	N/A	
12676668315	Delivered		N/A	N/A	
12815466839	Delivered		N/A	N/A	
13073319998	Delivered		N/A	N/A	
Network subscriber	Delivered		N/A	N/A	
13103207223	Delivered		N/A	N/A	
13104151307	Delivered		N/A	N/A	
13104770325	Delivery Failure	The 'To' phone number: +13104770325, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
13105899355	Delivery Failure	The 'To' phone number: +13105899355, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
13108297981	Delivery Failure	The 'To' phone number: +13108297981, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
13125852137	Delivered		N/A	N/A	
13145023735	Delivered		N/A	N/A	
13152100079	Delivered		N/A	N/A	
13153165118	Delivered		N/A	N/A	
13153688488	Delivered		N/A	N/A	
13157902081	Delivered		N/A	N/A	
13159416251	Delivered		N/A	N/A	
13205151871	Delivered		N/A	N/A	
13252686282	Delivered		N/A	N/A	
13343843606	Delivered		N/A	N/A	
13433641085	Delivery Failure	The 'To' phone number: +13433641085, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A	
14054369952	Delivered		N/A	N/A	
Network subscriber	Delivered		N/A	N/A	
14069393756	Delivered		N/A	N/A	
14069892409	Delivered		N/A	N/A	

14084120564	Delivered		N/A	N/A
14108297975	Delivered		N/A	N/A
14109790600	Delivered		N/A	N/A
14237907244	Delivery Failure	The 'To' phone number: +14237907244, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
14247026743	Delivered		N/A	N/A
14254712660	Delivered		N/A	N/A
14802443355	Delivered		N/A	N/A
14803101534	Delivered		N/A	N/A
14806866313	Delivered		N/A	N/A
15046160710	Delivered		N/A	N/A
15057289483	Delivered		N/A	N/A
15132029269	Delivery Failure	The 'To' phone number: +15132029269, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
15146054033	Delivery Failure	The 'To' phone number: +15146054033, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
Network subscriber	Delivered		N/A	N/A
15195037720	Delivery Failure	The 'To' phone number: +15195037720, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
15206651690	Delivered		N/A	N/A
15304007174	Delivered		N/A	N/A
15412267252	Delivered		N/A	N/A
15616325802	Delivered		N/A	N/A
15616990531	Delivered		N/A	N/A
15625573956	Delivery Failure	The 'To' phone number: +15625573956, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
15629271418	Delivery Failure	The 'To' phone number: +15629271418, is not currently reachable using the 'From' phone number: 468311 via SMS. The 'To' phone number: +15857293436, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
15857293436	Delivery Failure	The 'To' phone number: +15857293436, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
15859431754	Delivered		N/A	N/A
15859438786	Delivered		N/A	N/A
15869945060	Delivered		N/A	N/A
16026842074	Delivered		N/A	N/A
16029891211	Delivered		N/A	N/A
16042260599	Delivery Failure	The 'To' phone number: +16042260599, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
16093047111	Delivered		N/A	N/A
16105873285	Delivered		N/A	N/A
16129906875	Delivered		N/A	N/A
16133168093	Delivery Failure	The 'To' phone number: +16133168093, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
16194043897	Delivered		N/A	N/A
16196479721	Delivered		N/A	N/A
16202124171	Delivered		N/A	N/A
16269699797	Delivery Failure	The 'To' phone number: +16269699797, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
16313035142	Delivered		N/A	N/A
16314282497	Delivered		N/A	N/A
16315042516	Delivered		N/A	N/A

16462066506	Delivered		N/A	N/A
16473901002	Delivery Failure	The 'To' phone number: +16473901002, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
16606243086	Delivered		N/A	N/A
16ssevlg@gmail.com	Delivered		0	0
17012024581	Delivered		N/A	N/A
17012070080	Delivered		N/A	N/A
17012401692	Delivered		N/A	N/A
17012407919	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17012602799	Delivered		N/A	N/A
17012602981	Delivered		N/A	N/A
17012697282	Delivered		N/A	N/A
17013001153	Delivered		N/A	N/A
17013150023	Delivered		N/A	N/A
17013403357	Delivered		N/A	N/A
17013405238	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17014007737	Delivered		N/A	N/A
17014008347	Delivered		N/A	N/A
17014008525	Delivered		N/A	N/A
17014043841	Delivered		N/A	N/A
17014124122	Delivered		N/A	N/A
17014264346	Delivered		N/A	N/A
17014267010	Delivered		N/A	N/A
17014952127	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17015800502	Delivered		N/A	N/A
17015801520	Delivered		N/A	N/A
17015952072	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17016101354	Delivered		N/A	N/A
17016109415	Delivered		N/A	N/A
17016109431	Delivered		N/A	N/A
17016506219	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17017207523	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17017305311	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
Network subscriber	Delivered		N/A	N/A
17027717834	Delivered		N/A	N/A
17057060089	Delivery Failure	The 'To' phone number: +17057060089, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
17146327510	Delivery Failure	The 'To' phone number: +17146327510, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A

17193298690	Delivered		N/A	N/A
17203099118	Delivered		N/A	N/A
17208035253	Delivered		N/A	N/A
17248035253	Delivered		N/A	N/A
17315068544	Delivered		N/A	N/A
17575826689	Delivered		N/A	N/A
17605057259	Delivered		N/A	N/A
17608897161	Delivered		N/A	N/A
17734504104	Delivered		N/A	N/A
17735505158	Delivered		N/A	N/A
18022894900	Delivered		N/A	N/A
18022899604	Delivered		N/A	N/A
18023760723	Delivered		N/A	N/A
18023764722	Delivered		N/A	N/A
18032106620	Delivered		N/A	N/A
18042218826	Delivered		N/A	N/A
18086341401	Delivered		N/A	N/A
18156648096	Delivered		N/A	N/A
18165068337	Delivered		N/A	N/A
18165096813	Delivered		N/A	N/A
18174057385	Delivered		N/A	N/A
18182128673	Delivered		N/A	N/A
18182220660	Delivery Failure	The 'To' phone number: +18182220660, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18182805991	Delivery Failure	The 'To' phone number: +18182805991, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18182806624	Delivery Failure	The 'To' phone number: +18182806624, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183039626	Delivery Failure	The 'To' phone number: +18183039626, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183087576	Delivery Failure	The 'To' phone number: +18183087576, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183101987	Delivered		N/A	N/A
18183139459	Delivery Failure	The 'To' phone number: +18183139459, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183215220	Delivered		N/A	N/A
18183439542	Delivery Failure	The 'To' phone number: +18183439542, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183475825	Delivery Failure	The 'To' phone number: +18183475825, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18183876371	Delivery Failure	The 'To' phone number: +18183876371, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18184303467	Delivered		N/A	N/A
18184307530	Delivered		N/A	N/A
18185016645	Delivery Failure	The 'To' phone number: +18185016645, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18185017347	Delivery Failure	The 'To' phone number: +18185017347, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18185017382	Delivery Failure	The 'To' phone number: +18185017382, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A



18185017675	Delivery Failure	The 'To' phone number: +18185017675, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18185146053	Delivery Failure	The 'To' phone number: +18185146053, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18186184902	Delivered		N/A	N/A
18186672270	Delivered		N/A	N/A
18187087928	Delivery Failure	The 'To' phone number: +18187087928, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18187790163	Delivery Failure	The 'To' phone number: +18187790163, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18187808492	Delivery Failure	The 'To' phone number: +18187808492, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18187809101	Delivery Failure	The 'To' phone number: +18187809101, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
Network subscriber	Delivery Failure	The 'To' phone number: +18187869012, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18187953785	Delivered		N/A	N/A
18188597999	Delivery Failure	The 'To' phone number: +18188597999, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18189078921	Delivery Failure	The 'To' phone number: +18189078921, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18189863622	Delivery Failure	The 'To' phone number: +18189863622, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18389451847	Delivery Failure	The 'To' phone number: +18389451847, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
18474459601	Delivered		N/A	N/A
18478509094	Delivered		N/A	N/A
18608036706	Delivered		N/A	N/A
18623680247	Delivered		N/A	N/A
18783132945	Delivered		N/A	N/A
19029195930	Delivery Failure	The 'To' phone number: +19029195930, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
19037245260	Delivered		N/A	N/A
19082510153	Delivered		N/A	N/A
19094663984	Delivered		N/A	N/A
19135473346	Delivered		N/A	N/A
19135937379	Delivered		N/A	N/A
19142699209	Delivery Failure	The 'To' phone number: +19142699209, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
19175975551	Delivered		N/A	N/A
19176874376	Delivered		N/A	N/A
19204756379	Delivered		N/A	N/A
19206160461	Delivery Failure	The 'To' phone number: +19206160461, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
19252458788	Delivery Failure	The 'To' phone number: +19252458788, is not currently reachable using the 'From' phone number: 468311 via SMS.	N/A	N/A
19282015701	Delivered		N/A	N/A
19492334589	Delivered		N/A	N/A
19542323444	Delivered		N/A	N/A
19547980346	Delivered		N/A	N/A
19564376308	Delivered		N/A	N/A
Network subscriber	Delivered		0	0

2506449806@SMS.telus.com	Delivered	0	0	
411tanker@gmail.com	Delivered	0	0	
49ers5588@gmail.com	Delivered	0	0	
a.k.bungitak247@gmail.com	Delivered	0	0	
aaronbrown1955@yahoo.com	Delivered	0	0	
aayash@nd.gov	Delivered	1	0	
Abdullahi.ali911@live.com	Delivered	0	0	
abobakr.tamy@gmail.com	Delivered	0	0	
abreen88@gmail.com	Delivered	0	0	
admin@crowelltrucking.com	Delivered	1	0	
agentoffre@gmail.com	Delivered	0	0	
Agrim@selectenergyservices.com	Delivered	0	0	
akainz@chemplex.net	Delivered	0	0	
Network subscriber	Delivered	0	0	
alasekn@gci.net	Delivery Failure	1004 - 554 5.7.1 [VI-1] Message blocked due to spam content in the message.	0	0
albparts@commutair.com	Delivered	0	0	
alessiafigari@gmail.com	Delivered	0	0	
amy.acquard@flint-group.com	Delivered	0	0	
anelson@fargond.gov	Delivered	0	0	
ang122164@yahoo.com	Delivered	0	0	
angie.miller@kljeng.com	Delivered	0	0	
angkurtpatrick@yahoo.com	Delivered	0	0	
animikeekaw@gmail.com	Delivered	0	0	
anmund@nd.gov	Delivered	0	0	
ANNA.LARSON@FLINT-GROUP.COM	Delivered	0	0	
anna05mae@gmail.com	Delivered	0	0	
Anthony.Ween@defence.gov.au	Delivered	0	0	
apbismarck@ap.org	Delivered	1	0	
arscommunications@gmail.com	Delivered	0	0	
ashley.abraham@anheuser-busch.com	Delivered	0	0	
awatt93@gmail.com	Delivered	0	0	
azouzeothmane8@gmail.com	Delivered	0	0	
bamoore@nd.gov	Delivered	1	0	
bankofamerica9@iname.com	Delivered	0	0	
barbara_siordia@bmc.com	Delivered	0	0	
bbeise@nd.gov	Delivered	0	0	
bcharmayne23@gmail.com	Delivered	0	0	
bchwydep@gondtc.com	Delivered	0	0	
Bcsmit909@gmail.com	Delivered	0	0	
bdarr@nd.gov	Delivered	0	0	
becky.rude@jacobs.com	Delivered	0	0	
bgguth@daktel.com	Delivered	1	0	
bgollnik@olssonassociates.com	Delivered	0	0	
bigsafety4u@gmail.com	Delivered	0	0	
bismarckbuckley@gmail.com	Delivered	0	0	
bkinnischtzke@nd.gov	Delivered	1	0	
bpanos@nd.gov	Delivered	3	0	

bpfeifer@houstoneng.com	Delivered		0	0
brandonwerre420@gmail.com	Delivered		0	0
brenleehamre@hotmail.com	Delivered		0	0
brent.muscha@apexenggroup.com	Delivered		1	0
bruce.kollmann@gmail.com	Delivered		0	0
bryan.christensen@state.mn.us	Delivered		0	0
bwallner@nd.gov	Delivered		0	0
bwalton@nd.gov	Delivered		1	0
careers@amwestambulance.com	Delivered		0	0
carlos@landscapeelementsnd.com	Delivered		4	0
Network subscriber	Delivered		0	0
carrie.fraser@mooreengineeringinc.com	Delivered		0	0
cbsolberg@nd.gov	Delivered		1	0
cddemo@hotmail.com	Delivered		0	0
cgraff@nicnd.com	Delivered		0	0
chadwolfhsec01@gmail.com	Delivered		0	0
charleswismer@gmail.com	Delivered		0	0
charmed33@ndsupernet.com	Delivered		0	0
chenmitao69@hotmail.com	Delivered	Soft Bounce - Mailbox Full	0	0
chrisgboyle@hotmail.co.uk	Delivered		0	0
christianw.strehl@t-online.de	Delivered		0	0
Network subscriber	Delivered		0	0
christinazuraw@gmail.com	Delivered		0	0
Network subscriber	Delivery Failure	Soft Bounce - Mailbox Full	0	0
cielo.com.br@gmail.com	Delivered		0	0
cjangula@hotmail.com	Delivered		0	0
cjmccrory81@gmail.com	Delivered		0	0
cjohnson6995@gmail.com	Delivered		2	0
clayton@sundregrave1.com	Delivered		0	0
clearoutukltd@outlook.com	Delivered		0	0
cloudwatch@amazon.com	Delivered		0	0
cmables@civilsience.com	Delivered		0	0
cmartin@h-2e.com	Delivered		0	0
cmohl@nicnd.com	Delivered		0	0
Cody.Telgheder@NicholsonConstruction.com	Delivered		1	0
cody@runninghorsetrucking.com	Delivered		0	0
controllerhead1@gmail.com	Delivered		0	0
corinajundt@gmail.com	Delivered		0	0
corn@nd.gov	Delivered		0	0
coswald@nd.gov	Delivered		0	0
cpavlicek@nd.gov	Delivered		0	0
creativdesign390@gmail.com	Delivered		0	0
creditcardprocess.merchant@gmail.com	Delivered		0	0
crrichmond28@gmail.com	Delivered		0	0
cschreiner@nd.gov	Delivered		0	0
csmith28@socal.rr.com	Delivered		0	0
csmith@crowleyfleck.com	Delivered		1	0

cthurn@nd.gov	Delivered		0	0
customerservice@amazon.com	Delivered		0	0
cvijeta.g.2015@gmail.com	Delivered		0	0
damon.devillers@interstateeng.com	Delivered		0	0
dan.bergerson@hdrinc.com	Delivered		0	0
danh@kleconstruction.net	Delivered		0	0
daniel.m.murphy7.mil@mail.mil	Delivered		0	0
danielackerman@meadowlarkenv.com	Delivered		0	0
danii.montii01@gmail.com	Delivered		0	0
darpete@nd.gov	Delivery Failure	2001 - 550 5.4.1 Recipient address rejected: Access denied. AS(201806281) [BLOGGCC02FT008.eop-gcc02.prod.protection.outlook.com]	0	0
Network subscriber	Delivered		0	0
dave@kostmaterials.com	Delivered		0	0
Davidnjessicaburke@gmail.com	Delivered		0	0
dbrandt@restel.net	Delivered		0	0
db Bruins@nd.gov	Delivered		0	0
dcarpenter@nd.gov	Delivered		0	0
dchristenson@nd.gov	Delivered		0	0
debdeep.nath9@gmail.com	Delivered		0	0
debdeep@oo-mail.net	Delivered		0	0
delgadomerrill993@gmail.com	Delivered		0	0
dena@dixoninsurance.com	Delivered		0	0
denae.johnson@projectsolutionsinc.com	Delivered		1	0
denese.mcleish@hdrinc.com	Delivered	Soft Bounce - DNS Failure	0	0
dengel@metcalfarchaeology.com	Delivered		1	0
dennisn@co.williams.nd.us	Delivered		0	0
depewjosef945@gmail.com	Delivered		0	0
derek.anderson@apexenggroup.com	Delivered		2	0
derikw@kleconstruction.net	Delivered		0	0
dhoopman@nd.gov	Delivered		1	0
dhruvkumar.ptt@gmail.com	Delivered		1	0
dirk.mcgregor@datamanusa.com	Delivered		0	0
dispatch@torquetransportation.com	Delivered		2	0
djpatt46@live.com	Delivered		0	0
dkautzmann@nd.gov	Delivered		0	0
dkolpack@ap.org	Delivered		0	0
dmmoen@nd.gov	Delivered		0	0
dneurohr1980@gmail.com	Delivery Failure	3001 - 552 5.2.2 5.2.2 The email account that you tried to reach is over quota and inactive. 5.2.2 Please direct the recipient to <a href="https://support.google.com/mail/?p=3DOverQuotaPerm_az33si3951702qkb.78">https://support.google.com/mail/?p=3DOverQuotaPerm_az33si3951702qkb.78</a>	0	0
dodonlin@nd.gov	Delivered		1	0
donald.nosbisch@state.mn.us	Delivered		0	0
doug.bergquist@state.mn.us	Delivered		0	0
doug.lenz@c-a-m.com	Delivered		0	0
dpeterso@nd.gov	Delivered		1	0
drfinley@nd.gov	Delivered		5	0
dsoper@hess.com	Delivered		0	0

dustin.kulseth@hdrinc.com	Delivered		0	0
dvansyckle@wbsupply.com	Delivered		0	0
dwawrzyniak@houstoneng.com	Delivered		0	0
ed.levy@airportlightingcompany.com	Delivered		0	0
eguerra@ambulnz.com	Delivered		0	0
eliscz8@yahoo.com	Delivered		0	0
ellen.heaney@hotmail.co.uk	Delivered		0	0
emery@engwlayton.com	Delivered		0	0
emilioterranova168@gmail.com	Delivered		0	0
emma.olson@state.mn.us	Delivered		0	0
emmadoody44@gmail.com	Delivered		0	0
epavlish@nd.gov	Delivered		0	0
ericbaloun34@gmail.com	Delivered		0	0
ericjensen@nd.gov	Delivered		2	0
EricMLemnitz@cox.net	Delivered		0	0
ernie8270@gmail.com	Delivered		0	0
escribenos@telefonica.es	Delivered		0	0
eshew@calstart.org	Delivered		0	0
ez@midco.net	Delivered		0	0
f.05@hotmail.fr	Delivered		0	0
far.rellva.n92@gmail.com	Delivered		0	0
farnsworth@fmmetrocog.org	Delivered		0	0
fhe.rr.era85@gmail.com	Delivered		0	0
fhern@oo-mail.net	Delivered		0	0
fhern@donottrackplus.net	Delivered		0	0
fherrrrrrrr@beconfidential.co	Delivered		0	0
figarinestor@aol.com	Delivered		0	0
fin.a.e.dvige@gmail.com	Delivered		0	0
flannigandaniel62@gmail.com	Delivered		0	0
flaviazuccolillo192@gmail.com	Delivered		0	0
flor.novaes@vanameyde.com	Delivered		0	0
for1offre@gmail.com	Delivered		0	0
forward.fema@outlook.com	Delivery Failure	Soft Bounce - Mailbox Full	0	0
franklinschneider2@aol.com	Delivered		0	0
fronczak.david@epa.gov	Delivered		0	0
g541532@addprivacy.net	Delivered		0	0
g8orgirl519@gmail.com	Delivered		0	0
garry@dhesient.com	Delivered		0	0
gasdasd@abine.us	Delivered		0	0
gasfsdg@blurnow.com	Delivered		0	0
gem.ma.benito23@gmail.com	Delivered		0	0
Geniece.Kizima@ApexEngGroup.com	Delivered		1	0
genije71@gmail.com	Delivered		0	0
gglass@nd.gov	Delivered		3	0
Ghostlightmater@yahoo.com	Delivered		0	0
gigal226@hotmail.com	Delivered		0	0
gilliscyriil41@gmail.com	Delivered		0	0

gkautzma@nd.gov	Delivered		1	0
Gladys.palasi@parkwaypantai.com	Delivered		0	0
Network subscriber	Delivered		0	0
glind@eliminater.com	Delivered		0	0
glinds@maskmemail.com	Delivered		0	0
glindsaay@disengage.info	Delivered		0	0
glindsay100002@blurfamily.com	Delivered		0	0
glindsay100002@blurtoday.com	Delivered		0	0
glindsay10002@abine.us	Delivered		0	0
glindsay1002@gmail.com	Delivered		0	0
glindsay1002@ipriva.net	Delivered		0	0
glindsay1@dontrackme.com	Delivered		0	0
glindsay@moremobileprivacy.com	Delivered		0	0
glindsayy@blurcompany.com	Delivered		0	0
glindsayyy@disguisemail.com	Delivered		0	0
gmartin@nd.gov	Delivery Failure	3001 - 550 5.4.1 Recipient address rejected: Access denied. AS(201806281) [BLOGCC02FT010.eop-gcc02.prod.protection.outlook.com]	0	0
gnestorovic@gmail.com	Delivered		0	0
goran@speedgauge.net	Delivered		0	0
GovDelivery-NDDOT-20210809@BreakingNewsHQ.com	Delivered		0	0
greatspamtest@gmail.com	Delivery Failure	3001 - 552 5.2.2 5.2.2 The email account that you tried to reach is over quota and inactive. 5.2.2 Please direct the recipient to https://support.google.com/mail/?p=3DOverQuotaPerm m20si3169368qkp.312 - gsmtpt	0	0
greg.boppre@wsn.us.com	Delivered		0	0
gus.dach.1488ea36@nicoric.com	Delivered		0	0
hank.hauge@stratacorporation.com	Delivered		2	0
harriseichner797@gmail.com	Delivered		0	0
heartofamerica@hotmail.com	Delivered		1	0
heather@myoptions.info	Delivered		0	0
hollybeck@hollybecksurveying.com	Delivered		0	1
hsubka@yahoo.com	Delivered		0	0
iamgreatiam6@gmail.com	Delivered		0	0
Info@amwestambulance.com	Delivered		0	0
Info@montreygourmetfoods.com	Delivered		0	0
Network subscriber	Delivered		0	0
j27ingram@gmail.com	Delivered		0	0
jack.binch@hotmail.com	Delivered		0	0
jamiemeagher3@yahoo.com	Delivered		0	0
japutala@laneconstruct.com	Delivered		0	0
jaschmid@nd.gov	Delivered		0	0
jason.kraft@gondtc.com	Delivered		0	0
jason.lotzer@flint-group.com	Delivered		0	0
jasper.d4cc2b56@nicoric.com	Delivered		0	0
jblumhagen@nd.gov	Delivered		0	0
jcarlsen@nd.gov	Delivered		0	0
jconway@alliancehospitality.com	Delivered		0	0
jdenning@gmail.com	Delivered		0	0

<https://www.dot.nd.gov/dotnet/news/public/view/9033> (1)

jdschulz@bis.midco.net	Delivered		0	0
jeberger@nd.gov	Delivered		1	0
jed.schoon@state.mn.us	Delivered		0	0
jeffkahler2@gmail.com	Delivered		0	0
jeffwhitehead966@hotmail.com	Delivered		0	0
jen.turnbow@kljeng.com	Delivered		0	0
jennifer.conklin@yahoo.com	Delivered		0	0
jenschapp@yahoo.com	Delivered		0	0
		1006 - [Message Expired] Exceeded MaxAttempts - 450 4.2.1 4.2.1 The user you are trying to contact is receiving mail at a rate that 4.2.1 prevents additional messages from being delivered. Please resend your 4.2.1 message at a later time. If the user is able to receive mail at that 4.2.1 time, your message will be delivered. For more information, please 4.2.1 visit		
jeredbfleetwood1@gmail.com	Delivery Failure		0	0
		1006 - [Message Expired] Exceeded MaxAttempts - 450 4.2.1 4.2.1 The user you are trying to contact is receiving mail at a rate that 4.2.1 prevents additional messages from being delivered. Please resend your 4.2.1 message at a later time. If the user is able to receive mail at that 4.2.1 time, your message will be delivered. For more information, please 4.2.1 visit		
Network subscriber	Delivery Failure		0	0
jeremiahquesada@yahoo.com	Delivered		0	0
		2001 - 550 5.4.1 Recipient address rejected: Access denied. AS(201806281) [MW2NAM04FT032.eop-NAM04.prod.protection.outlook.com]		
jeremy.smerage@horrocks.com	Delivery Failure		0	0
jempiritu@hotmail.com	Delivered		0	0
jessica.karls@kljeng.com	Delivered		0	0
jessica.keller@ulteig.com	Delivered		0	0
jewell.ef5fe23d@nicoric.com	Delivered		0	0
jholen@gratechnd.com	Delivered		0	0
jhurst29@students.kennesaw.edu	Delivered		1	0
jimy@mebep.com	Delivered		0	0
jketterl@nd.gov	Delivered		1	0
jkohn1@wm.com	Delivered		0	0
jleinrem@nd.gov	Delivered		0	0
jmacpherson@ap.org	Delivered		0	0
jmeier@nd.gov	Delivered		1	0
jmworoniecki@nd.gov	Delivered		2	0
johnames85@gmail.com	Delivered		0	0
jon.markusen@kljeng.com	Delivered		0	0
jonathanrohr25@yahoo.com	Delivered		0	0
jonathanrohr95@gmail.com	Delivered		0	0
jonrohr990@gmail.com	Delivered		0	0
joseph.updike@forterrabp.com	Delivered		0	0
josh.kueber@ulteig.com	Delivered		0	0
Network subscriber	Delivered		0	0
joshg@rightchoicellectric.net	Delivered		0	0
josilu62@outlook.com	Delivered		0	0
journal@crosbynd.com	Delivered		1	0
jpeyerl@nd.gov	Delivered		1	0
jrhr979@gmail.com	Delivered		0	0
justin.hyndman@kljeng.com	Delivered		0	0
jwest@nugenit.com	Delivered		0	0

jwilt@nd.gov	Delivered	0	0
Network subscriber	Delivered	0	0
kahaarsager@nd.gov	Delivered	0	0
kamongeon@nd.gov	Delivered	3	0
kbeach@nd.gov	Delivered	0	0
kctransportdispatch@gmail.com	Delivered	0	0
keith.johnson@commutair.com	Delivered	0	0
kevin.michel@dot.gov	Delivered	0	0
keya@utma.com	Delivered	0	0
kfyr@iheartmedia.com	Delivered	1	0
kgorder@fargond.gov	Delivered	0	0
khoff@nd.gov	Delivered	1	0
kinggoldroger.10@gmail.com	Delivered	0	0
klaxdal@houstoneng.com	Delivered	0	0
kleysring@nd.gov	Delivered	0	0
kohl.skalin@state.mn.us	Delivered	0	0
kpark@iaai.com	Delivered	0	0
krisa@smartsign.com	Delivered	0	0
kswedeen@dakota-asphalt.org	Delivered	0	0
kurt@dakotaunderground.net	Delivered	0	0
kyleeggen@aol.com	Delivered	1	0
lally@replicahq.com	Delivered	1	0
lara00165@gmail.com	Delivered	0	0
	3001 - 552 5.2.2 Requested mail action aborted: exceeded storage allocation Quota exceeded. For explanation visit <a href="https://postmaster.mail.com/en/error-messages?p=3D69.5.86.176&amp;c=3Dquot">https://postmaster.mail.com/en/error- messages?p=3D69.5.86.176&amp;c=3Dquot</a>		
larrysanders022@mail.com	Delivery Failure	0	0
lbjork@nd.gov	Delivered	0	0
leckroth@nd.gov	Delivered	1	0
lee.kaffar@hdrinc.com	Delivered	0	0
leilagordon0@gmail.com	Delivered	0	0
leings@hotmail.com	Delivered	1	0
lgangl@nd.gov	Delivered	1	0
libby.bahr@flint-group.com	Delivered	0	0
lin.vincent098@gmail.com	Delivered	0	0
lizarb71@hotmail.com	Delivered	0	0
lklawrence@nd.gov	Delivered	1	0
lkutz453@hotmail.com	Delivered	0	0
lkutz453@yahoo.com	Delivered	0	0
llcwolelmqj@outlook.com	Delivered	0	0
lin.marc1.ie@gmail.com	Delivered	0	0
lmartin@nd.gov	Delivered	2	0
lmeier@ndsupernet.com	Delivered	0	0
loudlabs@loudlabsnews.com	Delivered	0	0
Network subscriber	Delivered	1	0
LUCI.SNOWDEN@KNIFERIVER.COM	Delivered	1	0
lukepitzer@hotmail.com	Delivered	0	0
lynette.bushaw@dot.gov	Delivered	0	0
	Soft Bounce - Mailbox Full		



maaconstruction7@gmail.com	Delivered		0	0
MADISON.HAUSAUER@FLINT-GROUP.COM	Delivered		0	0
maghsoudid@yahoo.com	Delivered		0	0
Network subscriber	Delivered		0	0
Network subscriber	Delivery Failure	48fc78)	0	0
manager@goldclubsf.com	Delivered		0	0
marilynbohlman@hotmail.com	Delivered		0	0
mark.milstone@dickinsongov.com	Delivered		0	0
matt.clevenger@bolton-menk.com	Delivered		0	0
matthew.huettl@hdrinc.com	Delivered		1	0
mccasteel@nd.gov	Delivered		1	0
mdenman36@gmail.com	Delivered		0	0
Network subscriber	Delivered		0	0
melissah@ryanfds.com	Delivered		0	0
		3001 - [Message Expired] Exceeded MaxAttempts - 452 4.2.2 4.2.2 The email account that you tried to reach is over quota. Please direct 4.2.2 the recipient to <a href="https://support.google.com/mail/?p=3D3DOverQuotaTemp_g9si13716410qtb.294">https://support.google.com/mail/?p=3D3DOverQuotaTemp_g9si13716410qtb.294</a>		
mememaker4000@gmail.com	Delivery Failure	- gsmtp	0	0
merissa@peckstitlebook.us	Delivered		2	0
metrocollectiblesmn@gmail.com	Delivered		0	0
mglowcheski@3dspecialties.com	Delivered		0	0
michael@mitigation.org	Delivered		1	0
michael@woldengr.com	Delivered		0	0
Michaelg@jmacresources.com	Delivered		0	0
michelle@blogline.net	Delivered		0	0
michelle@condemnation-law.com	Delivered		0	0
mike.huffington@kljeng.com	Delivered		0	0
mike.huffington@ulteig.com	Delivered		0	0
Mikescott1502@gmail.com	Delivered		0	0
miljojkobazic@gmail.com	Delivered		0	0
milotrucking99@hotmail.com	Delivered		0	0
mirjanadentic@gmail.com	Delivered		0	0
mjwalstad@nd.gov	Delivered		0	0
mkisse@nd.gov	Delivered		0	0
mmbailey@nd.gov	Delivered		2	0
		2001 - 550 5.4.1 Recipient address rejected: Access denied. AS(201806281) [MW2NAM10FT019.eop-nam10.prod.protection.outlook.com]		
mmessina@sachem.edu	Delivery Failure		0	0
mnenow@daktel.com	Delivered		0	0
Network subscriber	Delivered		0	0
mnrobviking2@gmail.com	Delivered		0	0
molly.herrington@kljeng.com	Delivered		0	0
monkeydazeinc@gmail.com	Delivered		0	0
mrt0429@hotmail.com	Delivered		0	0
Multimagnum@gmail.com	Delivered		0	0
mvegi@mooreengineeringinc.com	Delivered		0	0
nahaaland@nd.gov	Delivered		0	0
nancyamundson8@gmail.com	Delivered		0	0
nasserbaker97@gmail.com	Delivered		0	0

nathanhemsworth@live.com	Delivered	0	0
nathanialkong38@gmail.com	Delivered	0	0
nddes@nd.gov	Delivered	1	0
Network subscriber	Delivered	0	0
nerwin703@gmail.com	Delivered	0	0
nestorfigari339@gmail.com	Delivered	0	0
nicholasjoslin44@gmail.com	Delivered	0	0
nish00000000@blurmail.net	Delivered	0	0
nish00006@ipriva.net	Delivered	0	0
nish00666@mevacy.com	Delivered	0	0
nish0066@privacyphoenix.com	Delivered	0	0
nish006@addprivacy.net	Delivered	0	0
nish006@oo-mail.net	Delivered	0	0
nish00@opayq.co	Delivered	0	0
nisha@moremobileprivacy.org	Delivered	0	0
nishhh@ipriva.com	Delivered	0	0
nishhhh006@mymaskedmail.com	Delivered	0	0
nishhhhh0066@blurmail.net	Delivered	0	0
nishhhhhhhhhhhhh@maskedmails.com	Delivered	0	0
nmbcentral@gmail.com	Delivered	0	0
nurfahmie86.76.na.na1@gmail.com	Delivered	0	0
omeltes.t5@gmail.com	Delivered	0	0
osentoskilogan@gmail.com	Delivered	0	0
osentoskilogan@iCloud.com	Delivered	0	0
osentoskilogan@waylandunion.org	Delivered	0	0
osol@greenmillsgroup.com	Delivered	0	0
owhite@som.umaryland.edu	Delivered	0	0
p.aulanthonyneira@disengage.info	Delivered	0	0
Network subscriber	Delivered	0	0
pantherip@msn.com	Delivered	0	0
paradiseresortbar16@yahoo.com	Delivered	0	0
patshis3107@gmail.com	Delivered	0	0
paulant@moremobileprivacy.org	Delivered	0	0
PAULANTHONYNEIRA@GMAIL.COM	Delivered	0	0
paulanthonyneira@maskme.mobi	Delivered	0	0
paulanthonyneira@maskmemail.com	Delivered	0	0
paulanthonyneira@nowbuzzoff.com	Delivered	0	0
paulanthonyneiraaaaaaaa@maskme.us	Delivered	0	0
paulanthonynera@ipriva.net	Delivered	0	0
paulanthonyyy@blurme.net	Delivered	0	0
paulkhumalo5066@outlook.com	Delivered	0	0
pemills@nd.gov	Delivered	1	0
peyertammy@gmail.com	Delivered	3	1
philparker@iheartmedia.com	Delivered	0	0
phuc123@gmail.com	Delivered	0	0
pio@mortonnd.org	Delivered	1	0
ppolries@hotmail.com	Delivered	1	0

private1000@qq.com	Delivered		0	0
pspringer@forumcomm.com	Delivered		0	0
quigley2828@gmail.com	Delivered		0	0
rafterelectric@gmail.com	Delivered		0	0
rasheen752019@OUTLOOK.COM	Delivered	Soft Bounce - Mailbox Full	0	0
rberube10@hotmail.com	Delivered		1	0
Network subscriber	Delivered		0	0
rcrsuper@nd.gov	Delivered		6	0
rfrolek@mooreengineeringinc.com	Delivered		0	0
rgc3168k@gmail.com	Delivered		0	0
rglushon@gmail.com	Delivered		0	0
rgokey@eaglerocktimber.com	Delivered		0	0
rhenke@nd.gov	Delivered		1	0
rhokenson@genequip.com	Delivered		0	0
ricardo.pavia@gmail.com	Delivered		0	0
ricardopavia@gmail.com	Delivered		0	0
rillg@sehinc.com	Delivered		0	0
rjbuchholz@nd.gov	Delivered		0	0
rklingfus@nd.gov	Delivered		0	0
rkovach@rosscocrane.com	Delivered		0	0
Network subscriber	Delivered		1	0
roadinfo@gov.mb.ca	Delivered		0	0
robert.foster@akana.us	Delivered		0	0
rodger.burckhard@stratacorporation.com	Delivered		1	0
rogik@donotrackplus.com	Delivered		0	0
rohrj986@gmail.com	Delivered		0	0
rohrjon705@gmail.com	Delivered		0	0
rohrjonathan423@gmail.com	Delivered		0	0
rohrjonathan50@yahoo.com	Delivered		0	0
ronaldgibb400@gmail.com	Delivered		0	0
roselynnbarrett05@gmail.com	Delivered		0	0
rsuhr@kxnet.com	Delivery Failure	2001 - 550 5.4.1 Recipient address rejected: Access denied. AS(201806281) [CO1NAM11FT053.eop-nam11.prod.protection.outlook.com]	0	0
russell.henderson@olc.state.oh.us	Delivered		0	0
ryan.smith@state.mn.us	Delivered		0	0
sales@yh-biosearch.com	Delivered		0	0
sandrawilliams@nd.gov	Delivered		5	0
sarah.heimann@gmail.com	Delivered		0	0
sashunia1999@hotmail.com	Delivered		0	0
sbossie@nd.gov	Delivered		0	0
sbrown789@gmail.com	Delivered		0	0
SCARLTON@MCGEORGERV.COM	Delivered		0	0
schrank@highlandseng.com	Delivered		2	0
scott@northdaleoil.com	Delivered		0	0
scottlanesemail@hotmail.com	Delivered		0	0
scunning@nd.gov	Delivered		1	0
seahtb@gmail.com	Delivered		0	0

sean.kelly@kjeng.com	Delivered		1	0
sengmarohl@gmail.com	Delivered		0	0
Shaffique.AJoofri@defence.gov.au	Delivered		0	0
sharmstead@srfconsulting.com	Delivered		1	0
Network subscriber	Delivery Failure	1011 - [FLUSH ACTION]	0	0
shawnsoehren@boundaryeng.com	Delivered		0	0
skype.com@gmail.com	Delivered		0	0
slvrbird@westriv.com	Delivered		1	0
smhanson@nd.gov	Delivered		1	0
smooth1217@sbcglobal.net	Delivered		0	0
sndpmukherjee007@gmail.com	Delivered		0	0
snowman3833@yahoo.com	Delivered		0	0
spammebxxx@gmail.com	Delivered		0	0
srothfeld@msn.com	Delivered		1	0
ssalwei@nd.gov	Delivered		0	0
ssauer@nd.gov	Delivered		0	0
ssavenko@nd.gov	Delivered		1	0
sschmidt@srfconsulting.com	Delivered		0	0
ssweeney@nd.gov	Delivered		0	0
Network subscriber	Delivered		0	0
stevenwa@bolton-menk.com	Delivered		0	0
stroh@drtel.net	Delivered		0	0
support@usrenalcare.com	Delivered		0	0
sushil@isourceopportunities.com	Delivered		0	0
suyi.hou@karvako.com	Delivered		0	0
swiller@nd.gov	Delivered		1	0
swood@nd.gov	Delivered		1	0
szainhofsky@nd.gov	Delivered		0	0
tan_qinning@hotmail.com	Delivered		0	0
tberg@houstoneng.com	Delivered		0	0
Network subscriber	Delivered		0	0
tcloyd45@gmail.com	Delivered		0	0
tfalldorf@gmail.com	Delivered		0	0
tgilbert@nd.gov	Delivered		0	0
thomas.fakler@ulteig.com	Delivered		0	1
thomas.rooney@ci.stpaul.mn.us	Delivered		0	0
tiffany@centralspecialties.com	Delivered		0	0
tim.arens@ackerman-estvold.com	Delivered		0	0
tim.schulte@mayoconst.com	Delivered		0	0
tkruger@nd.gov	Delivered		0	0
tmesser@amberwavesinc.com	Delivered		0	0
tmiller@conteches.com	Delivered		0	0
Network subscriber	Delivered		0	0
todd.hummel@kjeng.com	Delivered		0	0
tohlhausen@mobasin.com	Delivered		0	0
tomy.abdul-razaq@us.af.mil	Delivered		0	0
traffic_nd@here.com	Delivered		0	0

<https://www.dot.nd.gov/dotnet/news/public/view/9033> (1)



zim2000@gmail.com  
zlocko83@live.com  
zzeric@nd.gov

Delivered  
Delivered  
Delivered

0	0
0	0
1	0

## Neigum, Gina M.

---

**From:** Neigum, Gina M.  
**Sent:** Tuesday, October 19, 2021 9:56 AM  
**To:** Peske, Nicole; Wilhelm, Terri L.; Finley, David; Walstad, Matt J.  
**Subject:** Press Release - Public Input Meeting - US 52  
**Attachments:** US 52 - Public Input Meeting press release PCN 23153.doc

Attached is the Public Input Meeting press release.

1. When you send the FINAL COPY via GovDelivery, cc Gina Neigum. Also, send Gina the Gov Delivery EXCEL distribution list (needed for documentation).
2. Place on NDDOT social media accounts.
3. Gina will place this event on the DOT calendar (internal and external).

Gina M. Neigum  
NDDOT - Design Division  
[gneigum@nd.gov](mailto:gneigum@nd.gov)  
701-328-2555

For more information: Communications Division, NDDOT at (701)328-4322  
OR  
Nate Wingerter, WSB & Associates, at (701)989-7873

Embargo until: November 1, 2021

Public Input Meeting to be held on November 8, 2021, to discuss Proposed Improvements to US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, and US-52B / ND Hwy 3 in Harvey

A Public Input Meeting will be held from 5:00 pm to 7:00 pm on Monday, November 8, 2021, at the Harvey Armory, 120 8th Street West, Harvey, ND. The Public Input Meeting will utilize an open house format with a formal presentation beginning at 5:30.

The purpose of the Public Input Meeting is to discuss proposed access improvements at the intersections of US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, and US-52B / ND Hwy 3 in Harvey. The project will propose alternatives to modify the existing intersection geometry to consolidate existing highway access points and remove potential conflict points. The Public Input Meeting will provide opportunity for public input. Representatives from the NDDOT and WSB will be on hand to answer questions and discuss your concerns.

If unable to attend the Public Input Meeting, written statements or comments must be mailed by November 23, 2021, to Nate Wingerter at 4501 Coleman Street, Suite 205, Bismarck, ND 58503 or emailed to [nwingerter@wsbeng.com](mailto:nwingerter@wsbeng.com) with "Public Input Meeting" in the e-mail subject heading.

The North Dakota Department of Transportation (NDDOT) will consider every request for reasonable accommodation to provide:

- an accessible meeting facility or other accommodation for people with disabilities,
- language interpretation for people with limited English proficiency (LEP), and
- translations of written material necessary to access NDDOT programs and information.

To request accommodations, contact Civil Rights Division, NDDOT, at (701)328-2576 or [civilrights@nd.gov](mailto:civilrights@nd.gov).

TTY users may use Relay North Dakota at 711 or 1-800-366-6888.



# PUBLIC INPUT MEETING

## WHY?

To discuss proposed access improvements at the intersections of US Hwy 52 / US-52B, US Hwy 52 / ND Hwy 3, & US-52B / ND Hwy 3 in Harvey. The project will propose alternatives to modify the existing intersection geometry to consolidate existing highway access points and remove potential conflict points.

## WHEN?

November 8th, 2021

Formal Presentation 5:30 p.m. to 6:00 p.m.

Open House: 5:00 p.m. to 7:00 p.m.

## WHERE?

Harvey Armory  
120 8<sup>th</sup> Street West  
Harvey, ND 58341

## OPEN HOUSE CONDUCTED BY

ND Department of Transportation (NDDOT) and  
WSB

This meeting is designed to allow for public input which is required for compliance with the National Environmental Policy Act of 1970 and National Historic Preservation Act of 1966.

Representatives from the NDDOT and WSB will be on hand to answer your questions and discuss your concerns.

WRITTEN STATEMENTS or comments about this project must be mailed by November 23rd to Nate Wingerter at 4501 Coleman Street, Suite 205 Bismarck ND 58503  
Email: [nwingerter@wsbeng.com](mailto:nwingerter@wsbeng.com)  
Note "Public Input Meeting" in email subject heading.

The North Dakota Department of Transportation (NDDOT) will consider every request for reasonable accommodation to provide:

- an accessible meeting facility or other accommodation for people with disabilities,
- language interpretation for people with limited English proficiency (LEP), and
- translations of written material necessary to access NDDOT programs and information.

Appropriate provisions will be considered when the Department is notified at least 10 days prior to the meeting date or the date the written material translation is needed.

To request accommodations, contact Atiana Beck, Civil Rights Division, NDDOT, at (701) 328-2978 or [civilrights@nd.gov](mailto:civilrights@nd.gov) TTY users may use Relay North Dakota at 711 or 1-800-366-6888.



October 19, 2021

## Advocacy Group Contact

PROJECT: HEN-4-052(101)167, PCN 23153 - INTERSECTION IMPROVEMENTS

The North Dakota Department of Transportation, in cooperation with the Federal Highway Administration, is proposing roadway intersection improvements at the intersections of US Highway 52 / US-52B, US Highway 52 / ND Highway 3, and US-52B / ND Highway 3 in Harvey.

The project consists of proposing alternatives to modify the existing intersection geometry to consolidate existing highway access points and remove potential conflict points.

This project is expected to be constructed during the 2023 construction season.

The project will not require the acquisition of permanent or temporary right-of-way.

The purpose of this letter is to provide advanced notice of upcoming highway projects so you have sufficient time to share the information with your constituents and represent their interests. To ensure that all social, economic, and environmental effects are considered in the development of this project, we are soliciting your views and comments on the proposed project. We would appreciate being made aware of any social impacts we should consider for this proposed project.

Greater advanced notice will also encourage more participation of advocates and their constituents at upcoming public meetings. A public meeting for this project is scheduled for November 8, 2021.

Any information or comments relating to social or other matters that might help us in our studies would be appreciated.

It is requested that any comments or information be forwarded to our office on or before November 23, 2021. If no reply is received by this date, it will be assumed that you have no comment on this project at this time.

If further information is desired regarding the proposed roadway improvement, please contact Nate Wingarter at [nwingarter@wsbeng.com](mailto:nwingarter@wsbeng.com), or at 701.989.7873 in Bismarck, ND.

WSB & Associates

NATE WINGARTER

nw/mrc

Enclosure: Project Location Map



**Figure 1 - Project Location Aerial**

Project 4-052(101)167 PCN 23153  
Intersections of US 52 & ND 3-Harvey  
North Dakota Department of Transportation



## Neigum, Gina M.

---

**From:** North Dakota Department of Transportation <nddot@info.nd.gov>  
**Sent:** Tuesday, October 19, 2021 11:52 AM  
**To:** Buchholz, Russ J.; Neigum, Gina M.; -Adm-DOT Info; Schmidt, Joyce A.  
**Subject:** Courtesy Copy: Advocacy Letter - US 52 - PCN 23153

**This is a courtesy copy of an email bulletin sent by Gina Neigum.**

**This bulletin was sent to the following groups of people:**

Subscribers of Advocacy Group - 4 (Minot District) (9 recipients)

---



SEE ATTACHED

You are subscribed to Advocacy Group - 4 (Minot District) for North Dakota Department of Transportation. This information has recently been updated, and is now available.

- [Letter 8 - Advocacy Group - 4-052\(101\)167 PCN 23153.pdf](#)



[Website](#) | [Contact us](#)

SUBSCRIBER SERVICES:  
[Manage Subscriptions](#) | [Unsubscribe All](#) | [Help](#)

## Neigum, Gina M.

**From:** North Dakota Department of Transportation <nddot@info.nd.gov>  
**Sent:** Tuesday, October 19, 2021 3:53 PM  
**To:** Neigum, Gina M.  
**Subject:** Bulletin Detail Report: Advocacy Letter - US 52 - PCN 23153

Having trouble viewing this email? [View this report in your account.](#)



Report Generated: 10/19/2021 03:52 PM CDT

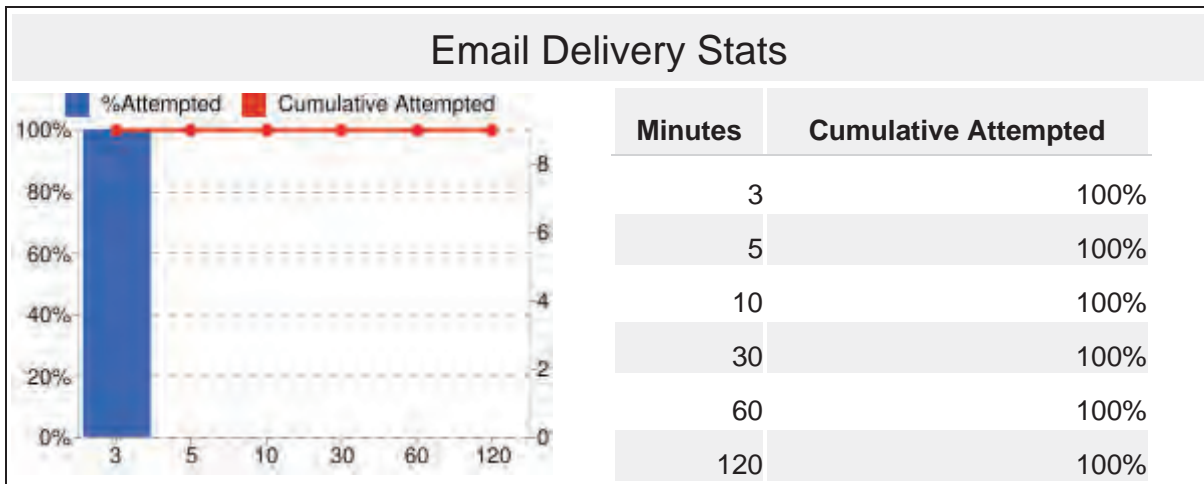
This report automatically generates after a bulletin is sent. [View the Bulletin Detail Report online](#) to see the most recent performance metrics for this bulletin.

**Subject:** Advocacy Letter - US 52 - PCN 23153

**Sent:** 10/19/2021 11:52 AM CDT

**Sent By:** gneigum@nd.gov

**Sent To:** Subscribers of Advocacy Group - 4 (Minot District)



## Delivery Metrics - Details

9 Total Sent

9 (100%) Delivered

0 (0%) Pending

0 (0%) Bounced

0 (0%) Unsubscribed

## Bulletin Analytics

5 Total Opens

4 (44%) Unique Opens

16 Total Clicks

13 (144%) Unique Clicks

15 # of Links

## Delivery and Performance

Channel	Progress	Percent Delivered	Number of Recipients	Number Delivered	Opened / Unique	Bounced / Failed	Unsubscribed
Email Bulletin	Delivered	100.0%	9	9	4 / 44.4%	0	0
SMS Message	Delivered	0.0%	0	0	n/a	0	n/a

## Bulletin Link Overview

Link URL	Unique Clicks	Total Clicks
<a href="https://www.dot.nd.gov/">https://www.dot.nd.gov/</a>	1	8
<a href="https://www.linkedin.com/company/north-dakota-department-of-transportati...">https://www.linkedin.com/company/north-dakota-department-of-transportati...</a>	1	6
<a href="http://public.govdelivery.com/accounts/NDDOT/subscribers/new?preferences...">http://public.govdelivery.com/accounts/NDDOT/subscribers/new?preferences...</a>	1	6
<a href="https://content.govdelivery.com/attachments/NDDOT/2021/10/19/file_attach...">https://content.govdelivery.com/attachments/NDDOT/2021/10/19/file_attach...</a>	1	5
<a href="https://www.dot.nd.gov/public/contacts.htm">https://www.dot.nd.gov/public/contacts.htm</a>	1	5
<a href="http://public.govdelivery.com/accounts/NDDOT/subscribers/new">http://public.govdelivery.com/accounts/NDDOT/subscribers/new</a>	1	5
<a href="https://www.flickr.com/photos/nddot/albums">https://www.flickr.com/photos/nddot/albums</a>	1	5
<a href="https://www.facebook.com/nddot">https://www.facebook.com/nddot</a>	1	5
<a href="https://subscriberhelp.govdelivery.com/">https://subscriberhelp.govdelivery.com/</a>	1	5
<a href="https://twitter.com/NorthDakotaDOT">https://twitter.com/NorthDakotaDOT</a>	1	5
<a href="https://www.instagram.com/northdakotadot/">https://www.instagram.com/northdakotadot/</a>	1	5
<a href="https://subscriberhelp.granicus.com/">https://subscriberhelp.granicus.com/</a>	1	3
<a href="https://www.youtube.com/user/NDDOTOnline">https://www.youtube.com/user/NDDOTOnline</a>	1	3
<a href="https://public.govdelivery.com/accounts/NDDOT/subscriber/one_click_unsub...">https://public.govdelivery.com/accounts/NDDOT/subscriber/one_click_unsub...</a>	0	0

Need more reports? [Additional reporting is available in your account.](#) If you want additional information on reporting, please visit the [reporting help menu.](#)

Want to learn more about these metrics and the best practices for improving results? Contact your dedicated Client Success Consultant! Not sure who that is? Send us an email at [support@granicus.com](mailto:support@granicus.com) and we'll help you find out.



STAY CONNECTED:



---

This email was sent by GovDelivery Communications Cloud · 707 17th Street, Suite 4000 · Denver, Colorado 80202

## **Appendix B Handouts**





A PROPOSAL FOR

**1-804(050)072, PCN 23223 ND 1804**

(from Signal Street to Bismarck Expressway in Bismarck)

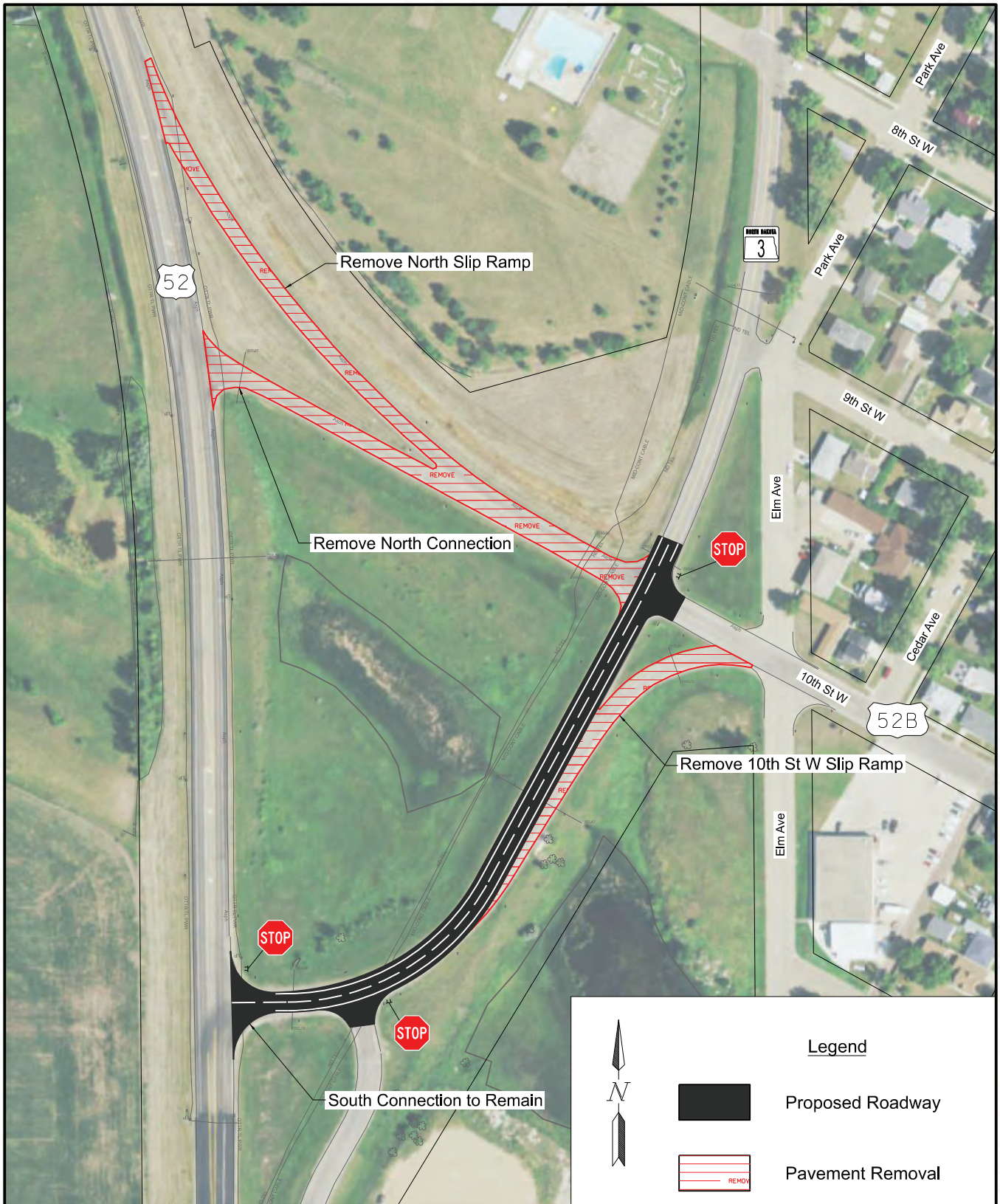
FOR THE NORTH DAKOTA DEPARTMENT OF TRANSPORTATION (NDDOT)



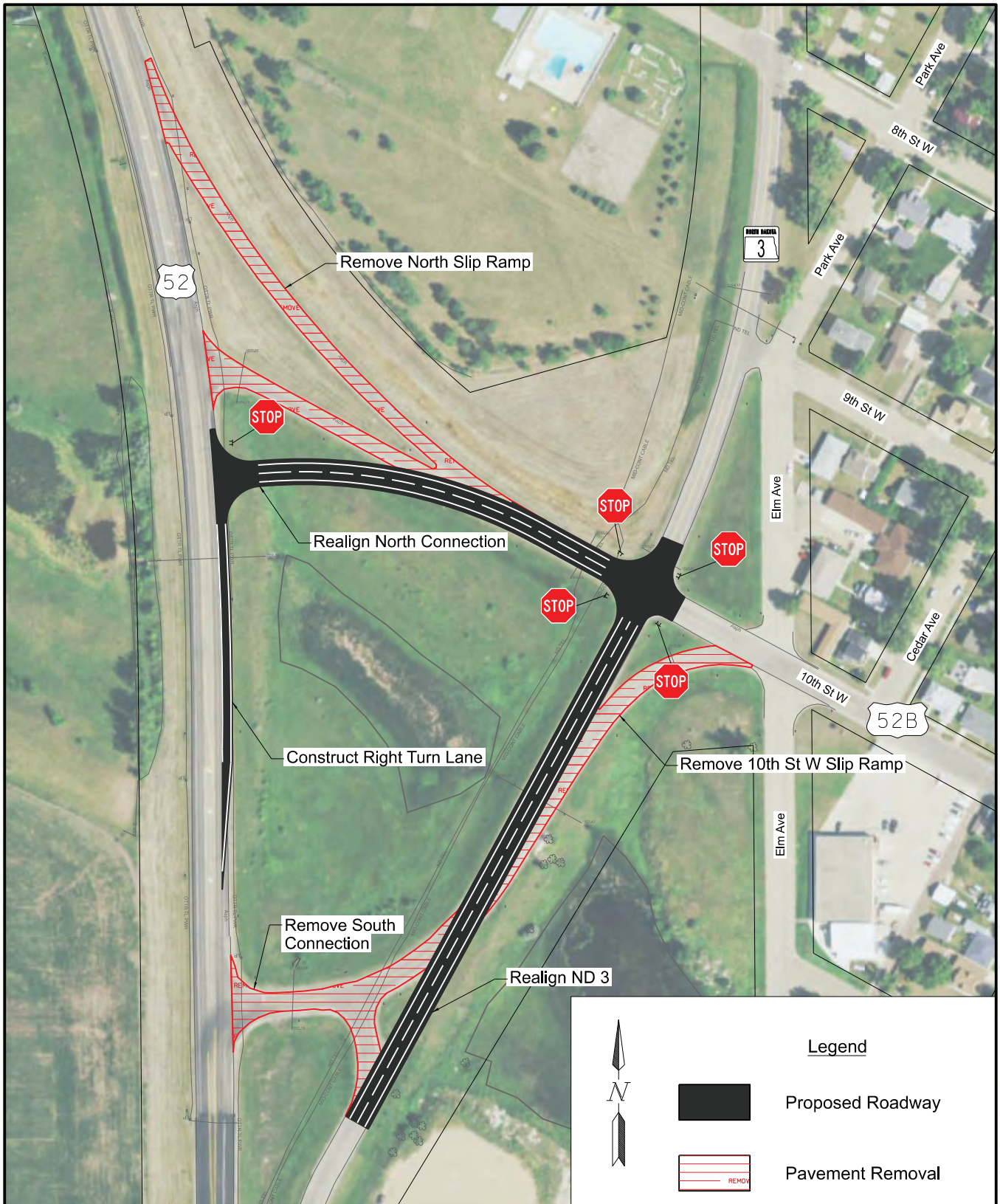
West Harvey US 52 Access Reconfiguration  
Project Area



West Harvey US 52 Access Reconfiguration  
Existing Access Configuration



West Harvey US 52 Access Reconfiguration  
 Alternative A - Removal of North 52 B Access and Slip Lane



West Harvey US 52 Access Reconfiguration  
 Alternative B - Removal of ND 3 Access and Turn Lane



West Harvey US 52 Access Reconfiguration  
Alternative A - Removal of North 52 B Access and Slip Lane  
Rendering



West Harvey US 52 Access Reconfiguration  
Alternative B - Removal of ND 3 Access and Turn Lane  
Rendering



# Understanding Stormwater A Citizen's Guide to



EPA 833-B-03-002  
January 2003  
U.S. Environmental Protection Agency  
EPA



## After the Storm

For more information contact:

**NIDDOT**

[www.state.nd.us/dot/doling.html](http://www.state.nd.us/dot/doling.html)

or visit  
[www.epa.gov/stormwater](http://www.epa.gov/stormwater)  
[www.epa.gov/nps](http://www.epa.gov/nps)



### What is stormwater runoff?



Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

### Why is stormwater runoff a problem?





Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

### The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- ◆ Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- ◆ Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- ◆ Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.
- ◆ Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- ◆ Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- ◆ Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.




# Stormwater Pollution Solutions

## Residential



Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paints, solvents, and used motor oil and other auto fluids. Don't pour them into the ground or into storm drains.

### Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.



- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

### Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies.



- Pathogens can cause public health problems and environmental concerns.
- Inspect your system every 2 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

### Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.



- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

### Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.



- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.



Education is essential to changing people's behavior. Signs and markers near storm drains, worn resistant that pollutants entering the drains will be caught, installed give a local nudge.

## Residential landscaping

**Permeable Pavement**—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

**Rain Barrels**—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.



**Rain Gardens and Grassy Swales**—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground.



**Vegetated Filter Strips**—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.



## Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.



## Construction

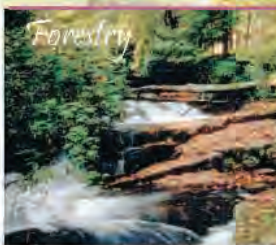
## Agriculture



Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.



- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



## Forestry

In properly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

## Automotive Facilities



Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

## Information for Highway and Street Projects



*For distribution by the  
North Dakota  
Department of Transportation  
and political subdivisions of  
North Dakota.*

**NDDOT**  
North Dakota  
Department of Transportation

## Steps in Highway Planning, Design, and Construction

### TRAFFIC SURVEYS

Traffic surveys are studies of the traffic flow from which engineers can determine the numbers and types of vehicles using a specific length of highway on any given day or hour.

Surveys are taken by means of mechanical counters and personal interviews. This information, along with maintenance cost records and safety issues, is the basis for determining the need for a new or improved highway or street.

### PROGRAMMING

After highway or street improvement needs are established, they are presented to planning engineers and are included in a long-range highway or street program. Each proposed improvement is then considered, along with other improvements, and is given a priority and placed in the program.

### PRELIMINARY ENGINEERING

Preliminary engineering covers all studies and surveys necessary to plan and design a highway or street.

The location engineer, through the use of aerial photographs and on-site inspection, studies the terrain in the area, selects the most feasible routes, and presents them to engineers in other specialized fields for study. The engineer prepares a cost estimate and analyzes the advantages and disadvantages of each route.

The final route is selected after public meetings/hearings. Surveys are then completed including laying out a centerline and measuring elevation and drainage. The exact location of all buildings, fences, power poles, dams, wells, corrals, and other improvements is also documented.

FTSD/VR

### PUBLIC MEETINGS/HEARINGS

Public meetings/hearings provide the public an early opportunity to comment on projects. Public meetings/hearings are held in the locale of most projects. Notices of scheduled meetings/hearings are published in local newspapers and press releases are sent to media.

All available facts are gathered and presented at these meetings/hearings. The public is invited to present their views. Everyone is urged to attend and will be given the opportunity to comment and ask questions concerning the proposed route. You may be able to provide useful information that the North Dakota Department of Transportation (NDDOT) or the political subdivision can use as it makes a final decision on the proposed project.

### FINAL DESIGN

Final design of the project begins as soon as the exact project location is decided.

Design plans will describe in detail how the highway or street will be built. This includes grades, drainage, slopes, and other details, as well as the limits of the necessary right of way which must be acquired for construction.

### VALUATIONS

Highway or street construction projects will, at times, require additional right of way from adjoining properties. Depending upon a project's specific design requirements, private property may have to be acquired partially or in total; either permanently (i.e. in fee, or by easement), temporarily (e.g. temporary construction easement), or a combination thereof.

Before right of way is acquired, NDDOT will first establish and submit to the property owner a written offer of the amount believed to be just compensation. Depending upon the complexity of the acquisition, this offer will either be based upon a Waiver Valuation or an approved appraisal. Both methods employ

the Sales Comparison Approach, one of the most common methods of property valuation. Regardless of the method used, the same basic valuation principles used nationwide are employed by NDDOT to ensure that the property's market value estimate is developed objectively and impartially. This provides the best assurance that NDDOT's offer will be fair and reasonable to both the property owner and the general public.

If NDDOT or the acquiring local public agency believes the acquisition of the property is uncomplicated, and a review of available data supports a fair market value that is \$10,000 or less, a Waiver Valuation will be prepared as the basis for the agency's offer.

An appraisal will be prepared when the acquisition is complex or otherwise does not meet Waiver Valuation criteria. The appraiser will offer you, the property owner, the right to be present during the inspection of the property. If you are unable or don't wish to be present during the inspection, you may appoint a representative to be present in your place. It is to your benefit to accompany the appraiser on the inspection, as it is an opportunity to point out any features of the property that you believe may be relevant to its valuation. A thorough appraisal provides the best assurance of a satisfactory settlement.

The appraiser will personally inspect the property and will review the details of the proposed acquisition with you or your representative. If only part of the property is to be acquired, the appraiser will also explain how the acquisition will affect the remaining property. The appraiser will consider all information pertinent to the value of your property, including (but not limited to) recent sales of comparable property, construction costs, rental values, etc.

When only part of the property is acquired, the appraiser will evaluate the effects of the acquisition on the property remaining, taking into consideration any damages that accrue from the acquisition, such as a separation of the remaining property into two

or more parcels; the cost of moving or constructing new fences; or restrictions on access to and from the highway or street. Special benefits, which result in an increase in the value of the remaining property, are also considered.

After completing the investigation, the appraiser prepares a written report describing in detail the basis for the appraisal. The completed appraisal report is then submitted to NDDOT for critical review. As part of the review process, the Review Appraiser may view your property and recommend additions or corrections to the original appraisal. The review will consider whether the work provides a credible basis for the appraiser's opinion, while meeting minimum standards of professional appraisal practice. Only after a thorough review concludes that the work meets these criteria will the appraisal be approved as a basis for the Agency's offer. Should the review conclude that the work is not acceptable, a new appraisal will be obtained and the review process will begin anew. The appraisal and review processes are a system of "checks-and-balances," designed to ensure an objective, impartial, and credible valuation.

If, for some reason, you do not wish to have your property appraised, another option is available. Property owners may waive the right to an appraisal, choosing instead to donate all or part of the property interest needed for the project. Donations are a common practice when the acquisition is small in size and the value is minimal.

### NEGOTIATION

All real estate transactions are the result of discussions between two parties. These discussions are called negotiations and are essential in reaching an agreement satisfactory to both parties.

An acquisition agent, representing NDDOT or the political subdivision, will meet with you to give you a firm offer, in writing, for the necessary right of way.

The agent's primary duty is to advise and assist you in every possible way as to the process of selling

your property to NDDOT or the political subdivision.

It is the agent's obligation to be knowledgeable about the highway or street system and real estate transactions. The agent:

- Can answer many of the questions you may ask about the effect of the proposed improvement on your property.
- Can answer most questions about mortgages, liens, taxes, legal documents, and many other topics.
- Will have all the necessary documents, and will be willing to explain them to you.
- Can help you arrange a release of a mortgage or lien if necessary.
- Must inform you of your rights in eminent domain and, when applicable, your reimbursement rights for moving personal property as well as your possible eligibility for the Relocation Assistance Program.
- A voucher copy of the transaction will be provided when you receive payment.

NDDOT and the political subdivision recognize that some property owners do not care to sell, and at times there will be some inconvenience connected with the sale. It is intended, however, that when negotiations are complete, you can say that you have been treated courteously and fairly.

### ALTERNATIVE TO SETTLEMENT

When, for some reason, the necessary right of way cannot be acquired by a negotiated settlement, the representatives of NDDOT or the political subdivision have the right to take the needed right of way through the laws of eminent domain. These are laws under which NDDOT and nearly all political subdivisions, as well as certain utility companies, have the right to take private property for the benefit of the public. These laws also protect the rights of the

property owner by requiring that fair market value paid for all property acquired.

This action, more commonly known as "condemnation," is undertaken in North Dakota in accordance with pertinent statutes under Article 1, Section 16 of the North Dakota Constitution. It is used only when necessary.

When condemnation becomes necessary, NDDOT or the political subdivision place a monetary deposit with the clerk of court of your county. This deposit must be a reasonable offer for the damage incurred. NDDOT and the political subdivision have the right to immediate possession of the condemned property, depending on their specific contracts, bylaws, etc.

The property owner is notified by the clerk of court of the action and the amount deposited. At this point the property owners may either accept the offer; withdraw the total amount deposited or file an appeal with the district court for determination of damages. This appeal must be filed within 30 days of receiving the notice from the clerk of court. Property owners who withdraw the deposited payment may appeal, as may others with an interest in the property.

Although it is not legally required as part of eminent domain proceedings, NDDOT or the political subdivision also sends a notice to each party having an interest in the property. This informs the property owner of the action and advises that when condemnation is undertaken; all improvements including build-up fences, dams, wells, etc., on the condemned right of way become the property of the state, county or city. The improvements cannot be removed without written approval from NDDOT or the political subdivision.

### RELOCATION ASSISTANCE

Under state and federal laws, all persons who are required to move or relocate their family or business as a result of the taking of right of way for high

or street purposes are entitled to certain rights and compensations. These are explained in detail in another brochure given to all persons forced to relocate. In most cases, an agent from NDDOT will help with the relocation assistance process.

### CONTRACTS LET (BID)

Nearly all construction projects are let to competitive bids. Public bid lettings, at which contractors are invited to offer bids, are held periodically. Results of these bids are then considered and contracts are awarded to the lowest bidder capable of handling each project. All right of way must be acquired or condemned before construction contracts are advertised for bids.

### FREQUENTLY ASKED QUESTIONS

#### *When can I expect payment?*

Generally, payment for right of way can be expected within 30 days following transfer of title. Titles clouded by mortgages, judgements, liens, etc., will probably take somewhat longer.

#### *What about the mortgage on my property?*

Representatives from NDDOT and the political subdivision generally make arrangements with mortgagees for release of mortgaged property. Payment for mortgaged property is usually made to the owner and the mortgagee jointly, and arrangements for division of the payment must be worked out between them.

#### *What about my buildings?*

Owners of right of way involving buildings are generally given a choice of plans for consideration in negotiated settlements. First, NDDOT or the political subdivision offers to purchase the buildings outright along with the land, in which case the buildings are later sold at public auction or by sealed bids. Second, the property owner may choose to retain the improvements at a predetermined salvage value.

The salvage value will be deducted from the overall purchase price. Third, consideration will be given to payment for the cost of moving the buildings.

NDDOT and the political subdivisions have the responsibility to make sure, in all transactions involving the moving of buildings, that the cost to move the buildings does not exceed the value of the buildings in place. This would be an unwise expenditure of public funds.

#### *How soon will I have to move?*

Every effort will be made to give occupants enough time to relocate. Ordinarily at least 90 days from the date of acquisition will be allowed.

Additional comments and answers to relocation questions most often asked are covered in the relocation brochure.

#### *Must I pay income tax on the money received?*

The sale of your property for highway or street purposes is considered by the Internal Revenue Service (IRS) as an "involuntary conversion." It is not necessary to pay income tax or capital tax if the money you receive is similarly reinvested within a given time. You should, however, check with the IRS or a local tax consultant for answers to your questions.

#### *Where can I get additional information?*

The acquisition agent who contacts you to purchase your property can usually provide any information requested, or will find it and report back to you.

### FOR MORE INFORMATION ON:

#### County and City Projects

Contact the local public agency or municipality in which the project is located.

You may also contact:

- NDDOT, Local Government Division  
Office .....701-328-2540

#### State Highway Projects

- Project Design Issues, NDDOT, Design Division  
Office .....701-328-2555

#### State Highway Projects

- Right of Way and Relocation Assistance issues  
NDDOT, ETS Division  
Office .....701-328-2590  
Toll-Free: .....866-785-1596  
Fax .....701-328-0310  
TTY.....711 or 1-800-366-6888

#### Reasonable Accommodations

- NDDOT, Civil Rights Division  
Office .....701-328-2978  
Email .....[civilrights@nd.com](mailto:civilrights@nd.com)  
TTY.....711 or 1-800-366-6888

The NDDOT will consider every request for reasonable accommodation to provide:

- An accessible meeting facility or other accommodation for people with disabilities.
- Language interpretation for people with limited English proficiency (LEP).
- Translations of written material necessary to access NDDOT programs and information

To request accommodations, contact  
Civil Rights Division  
North Dakota Department of Transportation  
701-328-2978 or [civilrights@nd.gov](mailto:civilrights@nd.gov)  
TTY users may use Relay North Dakota at  
711 or 1-800-366-6888.

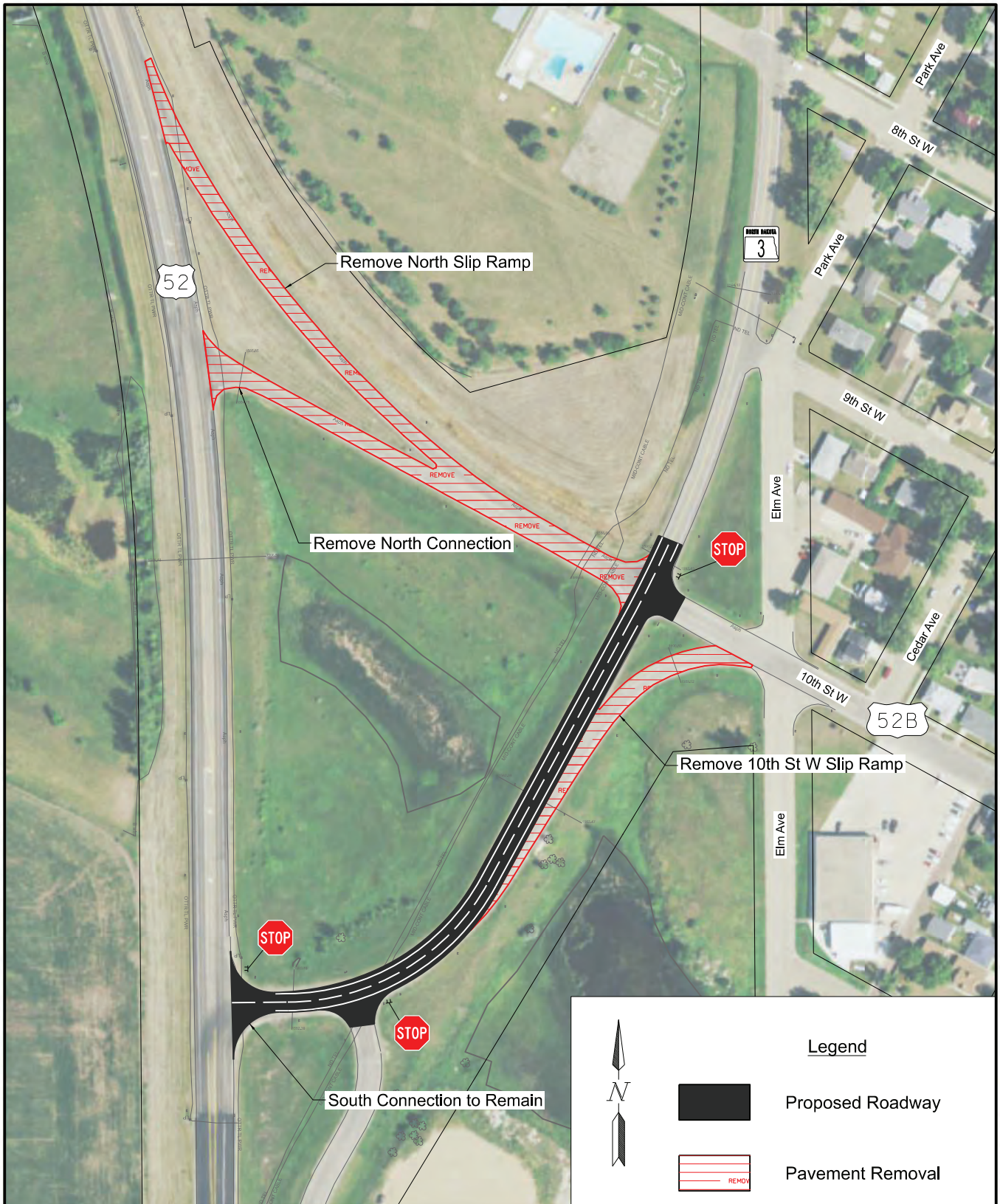
**Appendix C**  
**Exhibits Presented**



## West Harvey US 52 Access Reconfiguration Project Area

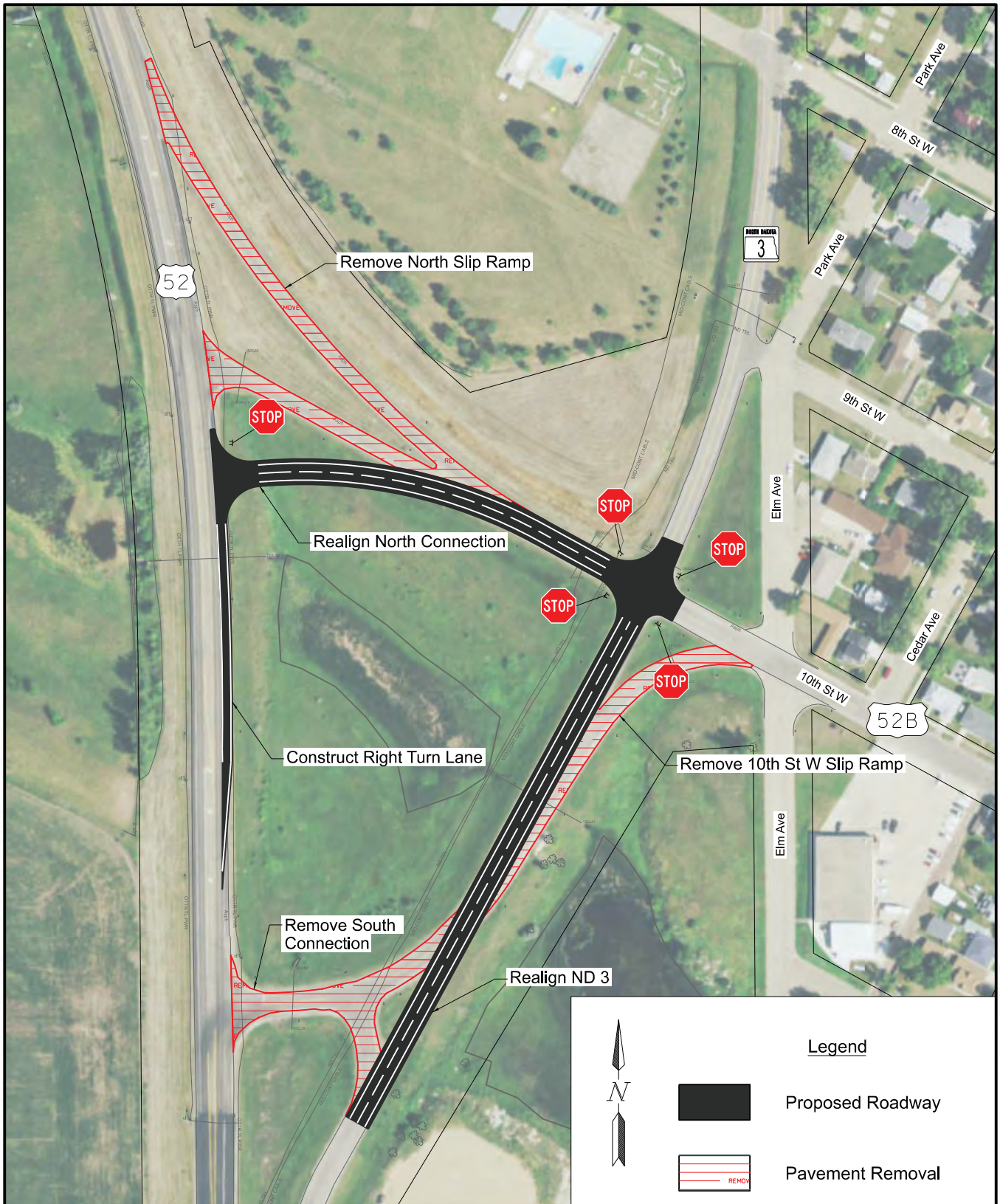


West Harvey US 52 Access Reconfiguration  
Existing Access Configuration



West Harvey US 52 Access Reconfiguration  
 Alternative A - Removal of North 52 B Access and Slip Lane





West Harvey US 52 Access Reconfiguration  
 Alternative B - Removal of ND 3 Access and Turn Lane



West Harvey US 52 Access Reconfiguration  
Alternative A - Removal of North 52 B Access and Slip Lane  
Rendering



West Harvey US 52 Access Reconfiguration  
Alternative B - Removal of ND 3 Access and Turn Lane  
Rendering

# Stormwater and the Construction Industry

### Protect Natural Features




- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wet woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

### Construction Phasing




- Reschedule construction activities so that the soil is not exposed for long periods of time.
- Restructure or fort grading to avoid erosion.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as revegetation, to be completed immediately after the soil has been graded to its final surface.

### Vegetative Buffers




- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Minimize buffers by mowing or replanting periodically to ensure their effectiveness.

## Maintain your BMPs!

[www.epa.gov/npdes/menuofbmps](http://www.epa.gov/npdes/menuofbmps)

### Silt Fencing




- Trap and maintain all silt from all areas within catch basins.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the silt fence.
- Don't place silt fences in the middle of a roadway or over them as a check dam.
- Make sure stormwater is not flowing around the silt fence.

### Construction Entrances




- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become clogged with silt.

### Slopes




- Realt grade or terrace slopes.
- Stabilize on long slopes with sediment barriers, or water drains, or short stormwater away from slopes.

### Dirt Stockpiles




- Cover or seed all dirt stockpiles.

### Storm Drain Inlet Protection




- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.

# Stormwater and the Construction Industry

## Planning and Implementing Erosion and Sediment Control Practices

The construction industry is a critical sector in the nation's economy. Stormwater runoff, sediment, and erosion from construction sites can pollute water bodies, harm wildlife, and damage property. The National Pollution Discharge Elimination System (NPDES) permit program is the primary federal program for controlling stormwater runoff from construction sites. This document provides guidance on how to develop and implement an erosion and sediment control plan (ESCP) to meet NPDES permit requirements.

**What is an ESCP?**  
An ESCP is a written plan that describes the erosion and sediment control practices to be used on a construction site. It is a key component of the NPDES permit application and is used to monitor and enforce permit conditions.

**Why is an ESCP important?**  
An ESCP helps to prevent erosion and sediment from leaving the construction site. It also helps to protect the environment and public health. By following the ESCP, you can ensure that your construction site meets all applicable laws and regulations.

**How to develop an ESCP:**  
1. **Site Assessment:** Conduct a site assessment to identify areas of erosion and sediment risk. Consider factors such as soil type, slope, and weather conditions.  
2. **Plan Development:** Develop an ESCP that describes the erosion and sediment control practices to be used on the site. The plan should include a site map, a list of BMPs, and a schedule for implementation.  
3. **Implementation:** Implement the ESCP on the construction site. Monitor the site regularly to ensure that the plan is being followed and make adjustments as needed.

### Developing and Implementing a Plan

The NPDES permit requires you to develop and implement an ESCP. The plan should include the following elements:

- Site Evaluation and Design Development**
  - Conduct site evaluation.
  - Develop site map.
  - Prepare pollution prevention site map.
- Assessment**
  - Inventory the site area.
  - Determine the drainage area.
  - Calculate the runoff coefficient.
- Control Selection and Plan Design**
  - Review and describe erosion and sediment control practices.
  - Identify erosion and sediment control practices.
  - Identify other controls.
  - Identify stormwater management controls.
  - Indicate the location of controls on the site map.
  - Prepare an inspection and maintenance plan.
  - Oversee control with construction activity.
  - Prepare a schedule of control activities.

### 4. Certification and Notification

4.1 **Notify the Plan**

4.2 **Inspection and Notification**

4.3 **Inspection and Notification**

4.4 **Inspection and Notification**

4.5 **Inspection and Notification**

4.6 **Inspection and Notification**

4.7 **Inspection and Notification**

4.8 **Inspection and Notification**

4.9 **Inspection and Notification**

4.10 **Inspection and Notification**

**ESCP Checklist:**

- Site assessment completed.
- ESCP developed and approved.
- ESCP implemented on site.
- ESCP monitored and maintained.
- ESCP updated as needed.

**Additional Resources:**

- NPDES permit application form.
- ESCP template.
- ESCP checklist.
- ESCP manual.

**ESCP Checklist:**

- Site assessment completed.
- ESCP developed and approved.
- ESCP implemented on site.
- ESCP monitored and maintained.
- ESCP updated as needed.

**Additional Resources:**

- NPDES permit application form.
- ESCP template.
- ESCP checklist.
- ESCP manual.

**ESCP Checklist:**

- Site assessment completed.
- ESCP developed and approved.
- ESCP implemented on site.
- ESCP monitored and maintained.
- ESCP updated as needed.

**Additional Resources:**

- NPDES permit application form.
- ESCP template.
- ESCP checklist.
- ESCP manual.



## Appendix D Roster

## SIGN-IN SHEET

North Dakota Department of Transportation, Civil Rights  
SFN 59531 (5-2018)

Page 1 of 1

Meeting Location Harvey Armory 120 8th Street West Harvey, ND 58341		Meeting Type Public Input Meeting		Meeting Date 11/08/2021	
Project Number 4-052(101)167				PCN 23153	
Project Description West Harvey US 52 Access Reconfiguration					
Name (Please print) Jeff Rensch			Title/Representing NDDOT		
Address 608 East Blvd. Ave.		City Bismarck	State ND	ZIP Code 58505	
Email Address jrench@nd.gov			Telephone Number 701-328-2562		
Name (Please print) Nate Wingerter			Title/Representing WSB		
Address 4501 COLEMAN ST #205		City BISMARCK	State ND	ZIP Code 58503	
Email Address nwingerter@wsbeng.com			Telephone Number 701-226-5910		
Name (Please print) Karen Nordby			Title/Representing Auditor		
Address 1208th St W		City Harvey	State ND	ZIP Code 58341	
Email Address karencharveynd.com			Telephone Number 701-324-2006		
Name (Please print) PAUL GUNDERSON			Title/Representing ECONOMIC DEVELOPMENT		
Address 120 8th St. W.		City HARVEY	State ND	ZIP Code 58341	
Email Address JDA@harveynd.com			Telephone Number 701-324-2000		
Name (Please print) Shelley Svoboda			Title/Representing City Council President		
Address 701 Judy Blvd		City Harvey	State ND	ZIP Code 58341	
Email Address npmechanical@gmail.com			Telephone Number 701-399-9910		
Name (Please print) KORBY SEWARD			Title/Representing DISTRICT ENGINEER/NDDOT		
Address 1305 HURZ BYPASS E		City MINOT	State ND	ZIP Code 58701	
Email Address kseward@nd.gov			Telephone Number 701-391-8969		
Name (Please print) Jay Forthun			Title/Representing WSB		
Address 4501 Coleman St #205		City Bismarck	State ND	ZIP Code 58503	
Email Address jforthun@wsbeng.com			Telephone Number 701-425-4850		

**Appendix E**  
**Comments and Responses**

Comment Number	Entity	Date of Comment	Comments	Responses
1	Unknown	Meeting 11/18/21	"Potential Development" identified on frontage road south of project limits.	The potential for development along the frontage road will be considered in the selection of the preferred alternative.
2	Unknown	Meeting 11/18/21	For removal of the south connection: "Considerations for south businesses." Commentor indicated desire to maintain the southern access point	Impacts on businesses to the south of the project area. will be considered in the selection of an alternative.
3	Unknown	Meeting 11/18/21	North of limits on ND 3: "Flour Mill Expansion X2 Traffic". Commentor indicated that additional traffic can be expected with the planned expansion of the flour mill.	Traffic impacts will be considered in the selection of an alternative.
4	Lucas Hysjulien (Impacted Business Representative)	Email 11-24-21	Representative for Mid Dakota Lumber 1300 Frontage Rd..."We like Alternative B."	Support for Alternative B will be considered in the selection of an alternative.



Comment 1



Comment 2



Comment 3



## Comment 4

### Mike Chavez

---

**To:** Nate Wingerter  
**Subject:** RE: Harvey project

---

**From:** [lucasmiddak@midconetwork.com](mailto:lucasmiddak@midconetwork.com) <[lucasmiddak@midconetwork.com](mailto:lucasmiddak@midconetwork.com)>  
**Sent:** Wednesday, November 24, 2021 8:33 AM  
**To:** Nate Wingerter <[NWingerter@wsbeng.com](mailto:NWingerter@wsbeng.com)>  
**Subject:** Harvey project

**EXTERNAL EMAIL**

Hi, this is Lucas with Mid Dakota Lumber 1300 Frontage Rd... We like Alternative B.

Thanks

Lucas Hysjulien  
Mid Dakota Lumber  
[lucasmiddak@midconetwork.com](mailto:lucasmiddak@midconetwork.com)  
701-324-4676

**MEMO TO:** Ronald J. Henke, Deputy Director for Engineering

**FROM:** Kirk Hoff, Design Engineer

<sup>DS</sup>  
KH

**DATE:** September 22, 2021

**SUBJECT:** Decision Document on Deceleration/Acceleration Lanes at Railroad Crossings on US 52  
HEN-7-052(034)000 - PCN 22484  
HEN-4-052(093)036 - PCN 22483  
HEN-4-052(099)101 - PCN 23149  
HEN-4-052(100)140 - PCN 23150  
HEN-3-052(053)185 - PCN 23151

### **Background**

Design Division is preparing the environmental document and plans for two passing lane projects from Portal to Minot. The projects are PCN's 22484 and 22483. Ulteig is working on the environmental document and plans for three passing lane projects from Minot to Carrington. The projects are PCN's 23149, 23150 and 23151.

The projects include passing lanes typically 2 miles in length that are spaced approximately every 6-10 miles in each direction. 18 total passing lane locations are proposed in the 81-mile corridor north of Minot. 23 total passing lanes are proposed in the 120-mile corridor south of Minot. The passing lanes will consist of 12-foot lanes with 5-foot shoulders.

During the solicitation of views and the public input meeting, comments were received from a local resident north of Kenmare that expressed the need for additional lanes for trucks hauling hazardous material and passenger buses to safely stop at the railroad crossing south of his residence adjacent to US 52. The Minot District Engineer also provided comments that we should consider adding truck deceleration/acceleration lanes at this railroad crossing identified by the local resident.

A discussion between Office of Project Development, Design Division and the Minot District led to reviewing all the railroad crossings within this US 52 passing lane corridor, including the projects assigned to Ulteig on US 52 south of Minot. Railroad crossings are located at the following RPs along US 52:

- **RP 6.9** - HEN-7-052(034)000 - SOO Line Railroad Company dba Canadian Pacific Railway – DOT 699046W MP 547.360
- **RP 20.6** - HEN-7-052(034)000 - BNSF Railway Company – DOT 093216L MP 14.147
- **RP 40.4** - HEN-4-052(093)036 Northern Plains Railroad – DOT 697835N MP 602.82
- **RP 120.5** - HEN-4-052(099)101 ADM (CPR services) – DOT 694781A MP 443.370
- **RP 143.5** - HEN-4-052(100)140 SOO Line Railroad Company dba Canadian Pacific Railway – DOT 693130J MP 419.940

### **Proposed Improvements**

Five railroad crossings are within the project limits of the five passing lane projects on US 52. The option being presented would require additional roadway widening at each railroad crossing, alterations of the railroad track surfacing, warning arms, and flashing signals.

## Decision Document – US 52 Deceleration/Acceleration Lanes

Page 2

September 22, 2021

The roadway will be widened with an additional lane and shoulder for trucks hauling hazardous material and passenger buses to pull out of the main lane(s) of traffic, stop at the RR crossing, accelerate, and merge back into traffic. A deceleration and acceleration lane will be constructed in each direction at each crossing. The length of the deceleration and acceleration lanes will be in accordance with Chapter III of the NDDOT Design Manual. For roadways with a 65-mph posted speed limit, the additional lane will have a 180' exit taper, 530' deceleration length, 1410' acceleration length and 300' entrance taper. This is approximately 0.45 miles of widening per bound per railroad crossing.

Secondly, coordination will be required with each railroad that crosses US 52 to modify or replace the crossing surface and railroad crossing warning systems. The railroad crossing surface (consisting of concrete or rubber) would require extensions or replacement depending on condition. This work typically includes installation of surface panels with supporting track ties (8-ft panels). It would also include replacement of the railroad crossing arms, warning signals and bungalow. Currently, the lowered crossing arm prevents a single lane of vehicle traffic from entering the railroad crossing. This would be replaced with longer crossing arms to prevent two-lanes of vehicle traffic from entering the crossing when a train is present.

### **Funding and Schedule**

Recently, the NDDOT was awarded an INFRA Grant in the amount of \$16,750,000 to construct passing lanes and turn lanes on US 52 between Kenmare and Carrington. The INFRA Grant will be used on four of the five programmed passing lane projects. The northern most passing lane project from the State Line (Portal) to the east Junction of ND 5 was not included in the INFRA Grant. It is assumed that federal aid highway funding may be used to fund this project not included as part of the INFRA Grant.

The passing lanes projects are scheduled for construction with two projects in 2022, two in 2023 and one in 2024 as follows:

<b>Project</b>	<b>PCN</b>	<b>Location</b>	<b>Project complete date</b>	<b>Funding Source</b>
7-052(034)000	22484	State Line to E Jct ND 5	12/17/2021	Federal aid highway funds
4-052(093)036	22483	E Jct ND 5 to Brooks Jct	9/1/2022	INFRA Grant
4-052(099)101	23149	Minot to East of Balfour	4/1/2023	INFRA Grant
4-052(100)140	23150	East of Balfour to Fessenden	12/1/2022	INFRA Grant
3-052(053)185	23151	Fessenden to Carrington	3/15/2022	INFRA Grant

The crossing improvements would be done as a stand-alone project using the Section 130 Federal Funding that Planning/Rail administers and would be constructed as the contractor does his road work.

### **Issues**

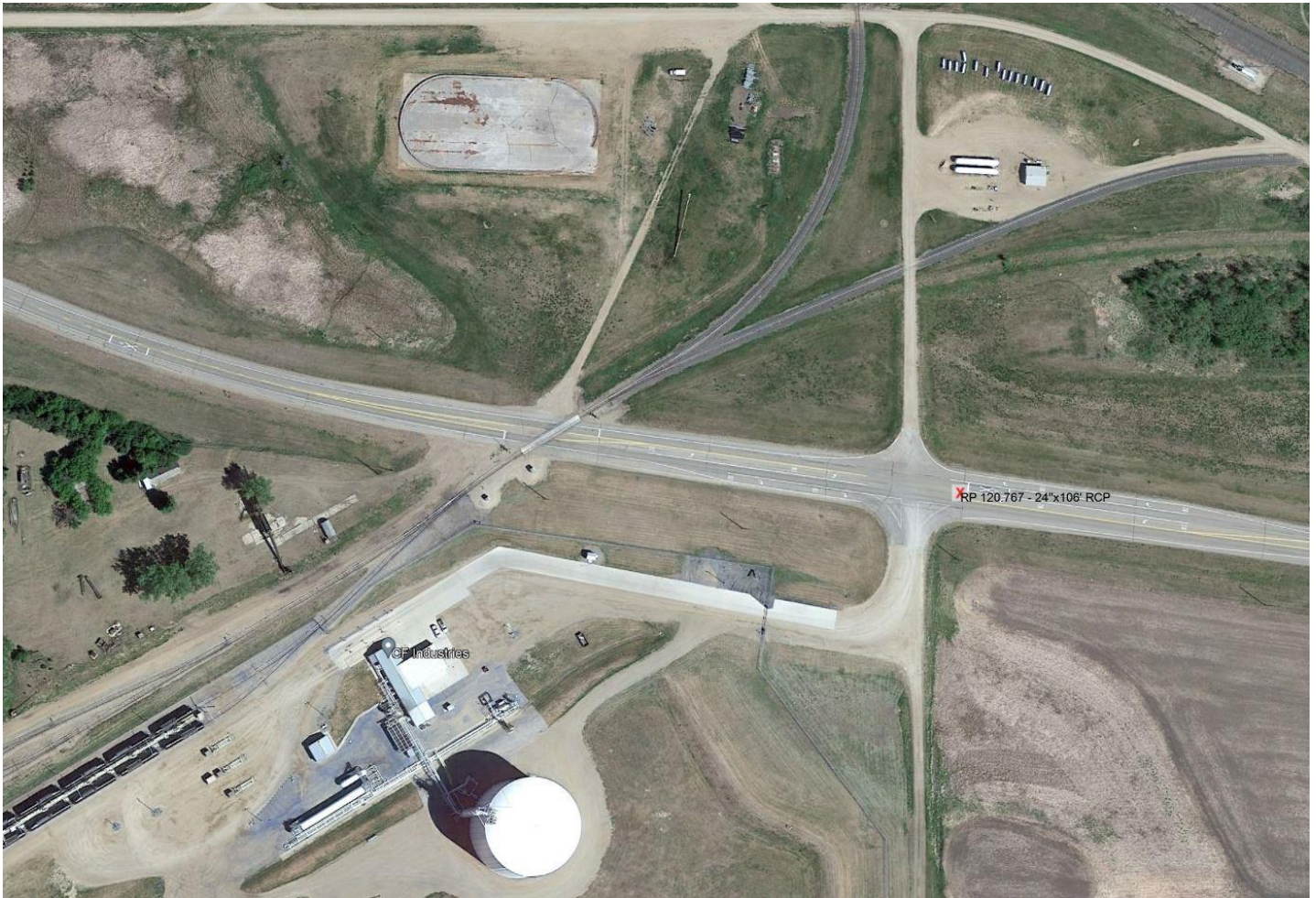
The five railroad crossings on US 52 will require coordination and agreements with numerous different railroads to complete work within the railroad right of way. Typically, these agreements take approximately 3 to 6 months to complete. The project from the State Line (Portal) to the east Junction of ND 5 has a plan completion date of 12/17/2021. Due to the winter completion date, it may not be possible to have the agreement completed to include the two railroad crossings at RP 6.9 and RP 20.6 as part of this first project. The additional survey, cultural investigation, and wetland delineation is planned to be completed this Fall in case this optional work is selected.

Decision Document – US 52 Deceleration/Acceleration Lanes

Page 3

September 22, 2021

At RR crossing near RP 120.6, it will be a challenge to add the acceleration and deceleration lanes due to the existing turn lanes at the adjacent intersection. There are two switches here, one on each side of the road. We may have problems extending the crossing material any closer to them. The skew of the crossing will also require some very long gate arms to maintain the required distances from the tracks and still close the lanes.



Decision Document – US 52 Deceleration/Acceleration Lanes

Page 4

September 22, 2021

The RR crossing near RP 143.5 crossing has adjacent wetlands present.



The funding for four of the five passing lane projects is a \$16,750,000 INFRA Grant. This grant did not include the additional railroad crossing work being proposed. Each crossing will cost an additional \$573,000 as described in the table shown below.

Project	PCN	RP	Additional Project Cost
7-052(034)000	22484	6.9	\$ 573,000
4-052(093)036	22483	20.6	\$ 573,000
4-052(099)101	23149	40.4	\$ 573,000
4-052(100)140	23150	120.5	\$ 573,000
3-052(053)185	23151	143.5	\$ 573,000
ALL PROJECTS		TOTAL	\$ 2,865,000

**Recommendation*****Recommendations Table***

\* See overall comment below table

	<b>Should Deceleration/Acceleration lanes be added at the Railroad crossing at RP 6.9?</b>	<b>Should Deceleration/Acceleration lanes be added at the Railroad crossing at RP 20.6?</b>	<b>Should Deceleration/Acceleration lanes be added at the Railroad crossing at RP 40.4?</b>	<b>Should Deceleration/Acceleration lanes be added at the Railroad crossing at RP 120.5?</b>	<b>Should Deceleration/Acceleration lanes be added at the Railroad crossing at RP 143.5?</b>
*Office of Project Development	Yes	Yes	Yes	Yes	Yes
*Office of Transportation Programs	No	No	No	No	No
*Office of Operations	Yes	Yes	Yes	Yes	Yes
*Planning/Asset Management					
*Design Division	Yes	Yes	Yes	Yes	Yes
Minot District	Yes	Yes	Yes	Yes	Yes
*Williston District	Yes	Yes			

**\* Office of Project Development:** For RP 6.9 & 20.6, not enough time to get this location included in the plans for the 12/17/21 project completion date. See my overall comment.

We should complete this work. The timing with the INFRA Grant and money available to complete it seems to be the main issues. I would recommend that we complete all of these under one separate project with separate funding for a 12/1/2022 project completion date and look to tie them to one of the last 2 projects, if we can get through the design, permits, agreements with RR, ROW, etc. No matter what, we need to get the project developed and figure out where the construction staging and funding makes sense, get it on the shelf. We need to look at what options exist at RP 120.5, too early to eliminate proceeding at this location.



Decision Document – US 52 Deceleration/Acceleration Lanes

Page 6

September 22, 2021

**\* Office of Transportation Programs:** Since this is a grant funded project, I do not recommend including these with this project. I would recommend setting up a separate project for this work and fund it with other Federal Funds.

**\*Office of Operations:** It would be best if these were included in their passing lane project. Steve brings up a point and if they can't be included with the Grant projects, they should be a separate project but can we supplement with other federal funds? Also, if we can't get the agreements with the railroads or other permits in time, they may need to be a separate project.

**\* Planning/Asset Management:** P/AM agrees with Steve Salwei's comments. The Division also adds that the INFRA grant funding was reduced by USDOT from the application amount. Despite this \$3.75M reduction, NDDOT is required to complete the full scope of the original grant application. The rail-crossing programs do have funding available to complete the necessary upgrades (over a couple years), if that is the decision. However, the crossing at RP 20.6 is a BNSF crossing and we have been unable to develop a crossing-improvement standard agreement with BNSF that accounts for detour route restoration. Therefore, all crossing work with BNSF is on a soft hold until this issue can be resolved; we are continuing to work on it. Finally, as Mr. Salwei noted, it would be best if the acceleration/deceleration lanes could be done under separate projects, because using other federal funds to complete the INFRA grant scope is not allowed. Therefore, we would need to convince USDOT these lanes were never contemplated as part of the original grant scope, if they were constructed with the of the grant-funded passing lanes. While this may seem obvious to us, USDOT has a track record of requiring things like this on previous grants.

**\*Design Division:** As long as it does not affect INFRA Grant, recommend these first three improvements at RP 6.9, 20.6, and 40.4 be done individually as separate projects tied to PCN 22483 (Kenmare to Minot). Recommend this improvement at RP 120.5 be done individually as separate project tied to PCN 23149 (Minot to East of Balfour). Recommend improvement at RP 143.5 be done individually as separate project tied to PCN 23150 (East of Balfour to Fessenden).

**\*Williston District:** It appears that this crossing is not an INFRA grant funded project.

**Decisions**

**Should Deceleration/Acceleration lanes be added at the Railroad Crossing at RP 6.9 for \$573,000?**

Yes       No

**A.) If yes, should it be included as part of the project from the E Jct of ND 5 to Brooks Jct (PCN 22483)?**

Yes       No

**B.) If yes, should a separate project be programmed for construction?**

Yes       No

**Comments:**

None

**Should Deceleration/Acceleration lanes be added at the Railroad Crossing at RP 20.6 for \$573,000?**

Yes       No

**A.) If yes, should it be included as part of the project from the E Jct of ND 5 to Brooks Jct (PCN 22483)?**

Yes       No

**B.) If yes, should a separate project be programmed for construction?**

Yes       No

**Comments:**

None

**Should Deceleration/Acceleration lanes be added at the Railroad Crossing at RP 40.4 for \$573,000?**

Yes       No

**A.) If yes, should it be included as part of the project from the E Jct of ND 5 to Brooks Jct (PCN 22483)?**

Yes       No

**B.) If yes, should a separate project be programmed for construction?**

Yes       No

**Comments:**

None

Decision Document – US 52 Deceleration/Acceleration Lanes

Page 8

September 22, 2021

**Should Deceleration/Acceleration lanes be added at the Railroad Crossing at RP 120.5 for \$573,000?**

Yes  No

**A.) If yes, should it be included as part of the project from the Minot to East of Balfour (PCN 23149)?**

Yes  No

**B.) If yes, should a separate project be programmed for construction?**

Yes  No

**Comments:**

None

**Should Deceleration/Acceleration lanes be added at the Railroad Crossing at RP 143.5 for \$573,000?**

Yes  No

**A.) If yes, should it be included as part of the project from the East of Balfour to Fessenden (PCN 23150)?**

Yes  No

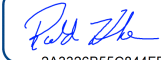
**B.) If yes, should a separate project be programmed for construction?**

Yes  No

**Comments:**

None

DocuSigned by:



2A3326B55C844FD

Ronald J. Henke, Deputy Director for Engineering

9/28/2021

Date

**Certificate Of Completion**

Envelope Id: B3DC3AC1046B40E99E2EA15441C8D22F	Status: Completed
Subject: Please DocuSign: Decision Document - US 52 Deceleration/Acceleration Lanes	
Contract Number:	
PCN:	
Source Envelope:	
Document Pages: 8	Signatures: 1
Certificate Pages: 2	Initials: 1
AutoNav: Enabled	
Enveloped Stamping: Enabled	
Time Zone: (UTC-06:00) Central Time (US & Canada)	
	Envelope Originator: Gina M. Neigum 608 E Boulevard Ave Bismarck, ND 58505 gneigum@nd.gov IP Address: 165.234.253.7


**Record Tracking**

Status: Original 9/22/2021 10:56:20 AM	Holder: Gina M. Neigum gneigum@nd.gov	Location: DocuSign
Security Appliance Status: Connected	Pool: StateLocal	
Storage Appliance Status: Connected	Pool: Carahsoft OBO North Dakota Department of Transportation CLOUD	Location: DocuSign

**Signer Events**

Kirk Hoff  
khoff@nd.gov  
Carahsoft OBO North Dakota Department of Transportation CLOUD  
Security Level: Email, Account Authentication (None), Authentication

**Signature**



Signature Adoption: Pre-selected Style  
Using IP Address: 165.234.253.7

**Timestamp**

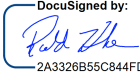
Sent: 9/22/2021 11:55:39 AM  
Viewed: 9/22/2021 1:26:10 PM  
Signed: 9/22/2021 1:30:02 PM

**Authentication Details**

SMS Auth:  
Transaction: 65F03B06B6080A049190C5B2280A1ED8  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 9/22/2021 1:25:57 PM  
Phone: +1 701-214-0968

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

Ronald J. Henke  
rhenke@nd.gov  
ND Department of Transportation  
Security Level: Email, Account Authentication (None), Authentication

DocuSigned by:  
  
2A3326B55C844FD...  
Signature Adoption: Uploaded Signature Image  
Using IP Address: 165.234.92.2

Sent: 9/23/2021 10:21:43 AM  
Viewed: 9/23/2021 10:38:41 AM  
Signed: 9/28/2021 7:46:37 AM

**Authentication Details**

SMS Auth:  
Transaction: 65F04D3AA3780C04919048F873CA3553  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 9/23/2021 10:38:27 AM  
Phone: +1 701-400-8185

SMS Auth:  
Transaction: 65F0B1BA9DF00704919365642A7A126C  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 9/28/2021 7:43:49 AM  
Phone: +1 701-400-8185

Signer Events	Signature	Timestamp
---------------	-----------	-----------

Electronic Record and Signature Disclosure:  
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
-------------------------	-----------	-----------

Editor Delivery Events	Status	Timestamp
------------------------	--------	-----------

Agent Delivery Events	Status	Timestamp
-----------------------	--------	-----------

Intermediary Delivery Events	Status	Timestamp
------------------------------	--------	-----------

Certified Delivery Events	Status	Timestamp
---------------------------	--------	-----------

Chad Orn  
corn@nd.gov  
Carahsoft OBO North Dakota Department of  
Transportation CLOUD  
Security Level: Email, Account Authentication  
(None), Authentication

**VIEWED**  
  
Using IP Address: 165.234.253.7

Sent: 9/22/2021 1:30:04 PM  
Viewed: 9/23/2021 10:21:42 AM

**Authentication Details**

SMS Auth:  
Transaction: 65F04CFD07C811049190DE6E4FCA37A2  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 9/23/2021 10:21:34 AM  
Phone: +1 701-400-7968

Electronic Record and Signature Disclosure:  
Not Offered via DocuSign

Carbon Copy Events	Status	Timestamp
--------------------	--------	-----------

Witness Events	Signature	Timestamp
----------------	-----------	-----------

Notary Events	Signature	Timestamp
---------------	-----------	-----------

Envelope Summary Events	Status	Timestamps
-------------------------	--------	------------

Envelope Sent	Hashed/Encrypted	9/22/2021 11:55:39 AM
Certified Delivered	Security Checked	9/23/2021 10:38:41 AM
Signing Complete	Security Checked	9/28/2021 7:46:37 AM
Completed	Security Checked	9/28/2021 7:46:37 AM

Payment Events	Status	Timestamps
----------------	--------	------------

# TURN LANE REQUESTS

**Project No.**

X-HEN-4-052(099)101

X-HEN-4-052(100)140

X-HEN-3-052(053)185

**PCN**

23149

23150

23151

From Minot to Carrington



**DECISION DOCUMENT**

---

Prepared by

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

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

**DIRECTOR  
William T. Panos**

**PROJECT DEVELOPMENT DIRECTOR  
Chad M. Orn, P.E.**

**Principal Author: Ulteig Engineers, Inc.  
November 17, 2021**

A. Project Description

<i>Highway:</i>	US Highway 52	<i>District:</i>	Minot & Devil's Lake
<i>Projects:</i>	X-HEN-4-052(099)101, PCN 23149	<i>From:</i>	Minot to E of Balfour
	X-HEN-4-052(100)140, PCN 23150	<i>From:</i>	E of Balfour to Fessenden
	X-HEN-4-052(053)185, PCN 23151	<i>From:</i>	Fessenden to Carrington

B. Purpose of Document

During the public comment period, numerous comments were provided requesting additional turn lanes be incorporated into the project design. The purpose of this document is to determine which, if any, of these requested turn lanes should move forward as separate project(s).

C. Background Information

A series of four public input meetings for PCNs 23149, 23150, and 23151 were held August 2-5, 2021. All three projects were presented at each meeting. During the public comment period, 14 additional turn lane locations were requested by members of the public.

NDDOT was awarded an INFRA Grant in the amount of \$16,750,00 to construct passing lanes and turn lanes on US Highway 52 from Kenmare to Carrington, including PCNs 23149, 23150, and 23151. The requested turn lanes were not part of the INFRA Grant awarded to the NDDOT and therefore are not eligible for inclusion in these projects. If a decision is made to install any of the requested turn lanes, they would need to be designed and constructed as part of a separate project(s).

D. Comments from document distribution

**Comment (Jane Berger):** A potential turn lane project would need to be programmed through District priorities or HSIP submission.

**Response:** Noted

**Comment (Scott Zainhofsky):** This document should be presented to Jen Turnbow for her input, as well.

**Response:** The Draft Decision Document was provided to Jen Turnbow for Review and Comment.

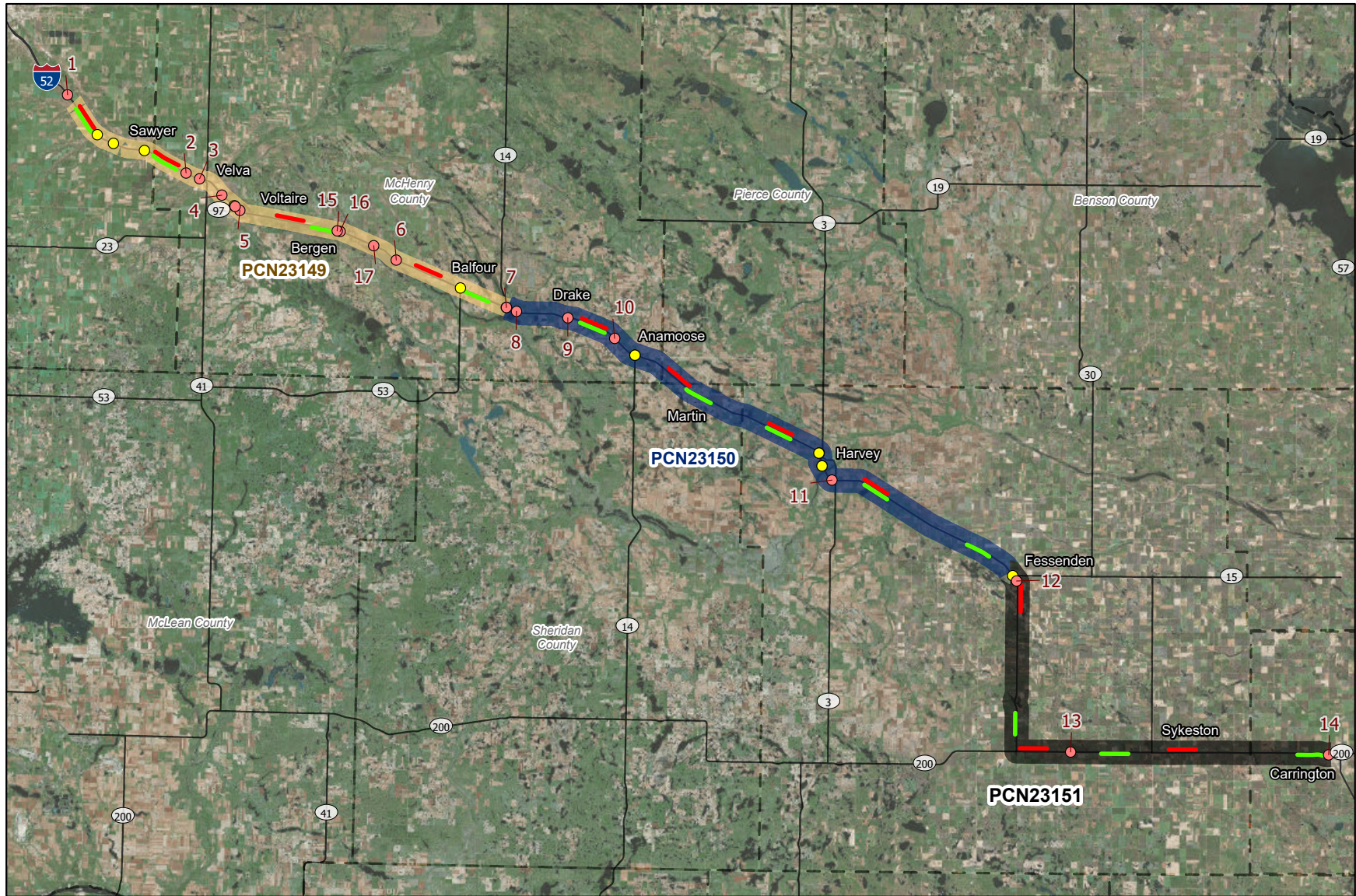
**Comment (Scott Zainhofsky):** I struggle with private development along a rural highway meant to carry long-distance and heavy traffic requiring public investment specifically for the benefit of that development. If these turn lanes are appropriate, they should have been made a requirement of the developer, upfront. While that ship has sailed, it would be very appropriate to request cost sharing, at this time.


**Response:** Noted

**Comment (Scott Zainhofsky):** I think it is important to remember we are responsible for an entire system, not just individual corridors. Our standards and warrants were established to manage the system as a whole. Additionally, every needs study we have done for many years has indicated we need roughly a 150% increase in funding just to maintain the system and services we currently provide. Therefore, every dollar we spend exceeding our standards is a dollar we can't apply to a location somewhere else on the system that doesn't meet current standards.


**Response:** Noted







**Highway 52 Turning Lane Locations**  
Date Exported: 11/1/2021

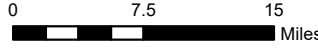


N

- Requested Turning Lane Locations
- Proposed Turning Lane Locations
- Proposed Eastbound Passing Lane Location

- Proposed Westbound Passing Lane Location
- PCN 23149
- PCN 23150
- PCN 23151

NORTH  
**Dakota** | Transportation  
Be Legendary.



Path: \\uel.com\Storage\GISDatabases\2021\21.00378\_NDDOT\_PassingLanes\APRX\Hwy52\_PublicMeeting\Hwy52\_PublicMeeting.aprx

## Turn Lane Request #1

**Location:** Intersection of Ward County Road 19 east of Logan (RP 104.3)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

**Turn lane requestor(s) comment:**

Carol Moldenhauer	"They should make a turn lane at the Logan east entrance exit on CO. Rd 19."
-------------------	--

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:

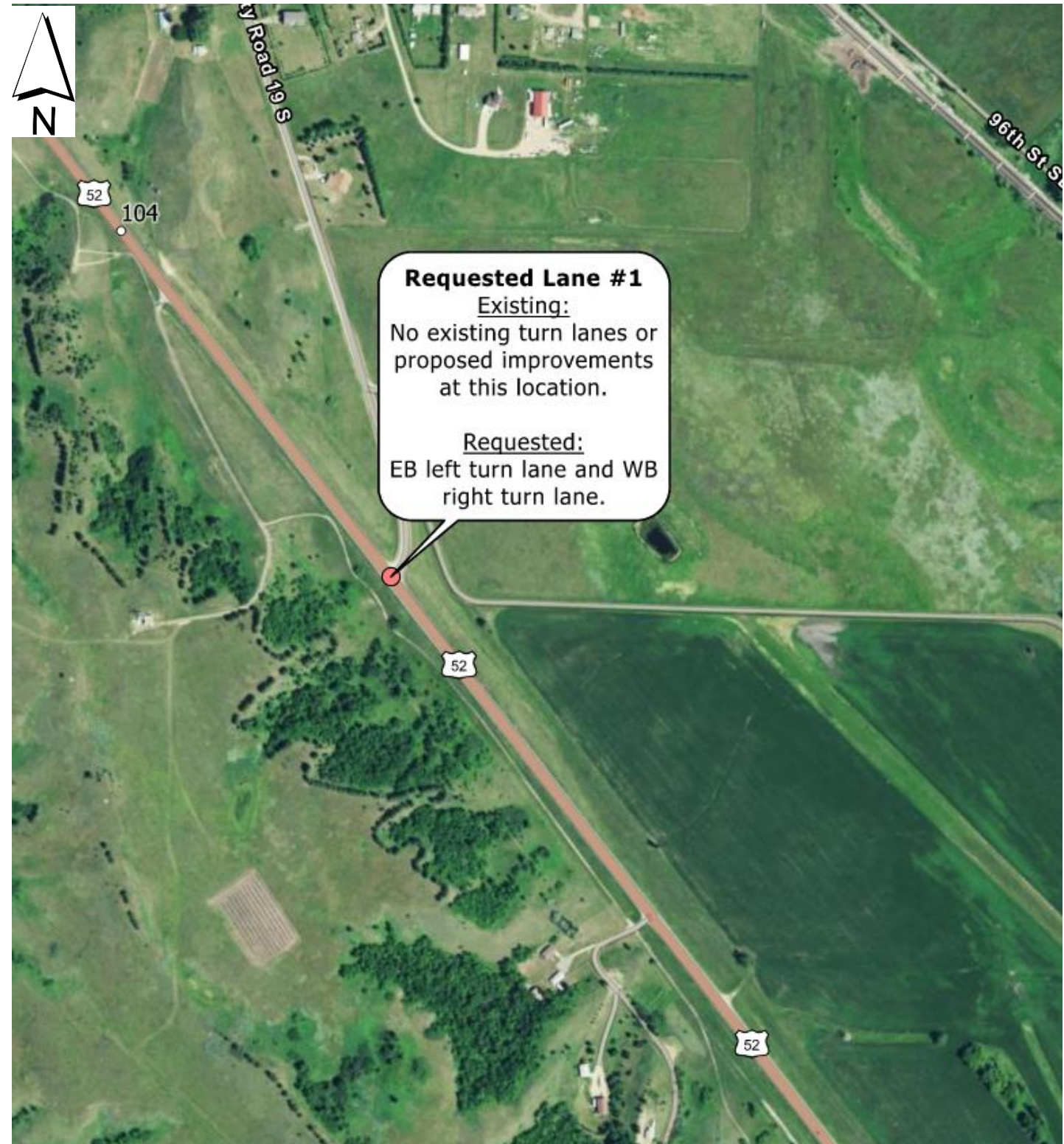
(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)

EB Left PCE = 44 (50 required to meet warrants)

WB Right PCE = 6 (50 required to meet warrants)

Zero crashes reported at this intersection.

There is an existing left turn lane for EB traffic to enter Logan at the intersection of US 52 / CR 16, located one mile to the west of this location. This turn lane was constructed in 2018 as part of PCN 21685.



## Turn Lane Request #1

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No to both turn lanes
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	
Bridge Division		
Construction Services Division		
Design Division	No (Jeff Rensch)	Neither the EB Left nor the WB Right is recommended by Design Division.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No to both turn lanes.

### Executive Decisions

1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

X  No

Amendments/Comments:

None

DocuSigned by:



Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

Date

## Turn Lane Request #2

**Location:** Oak Creek Ranch approach west of Velva (RP 115.3)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

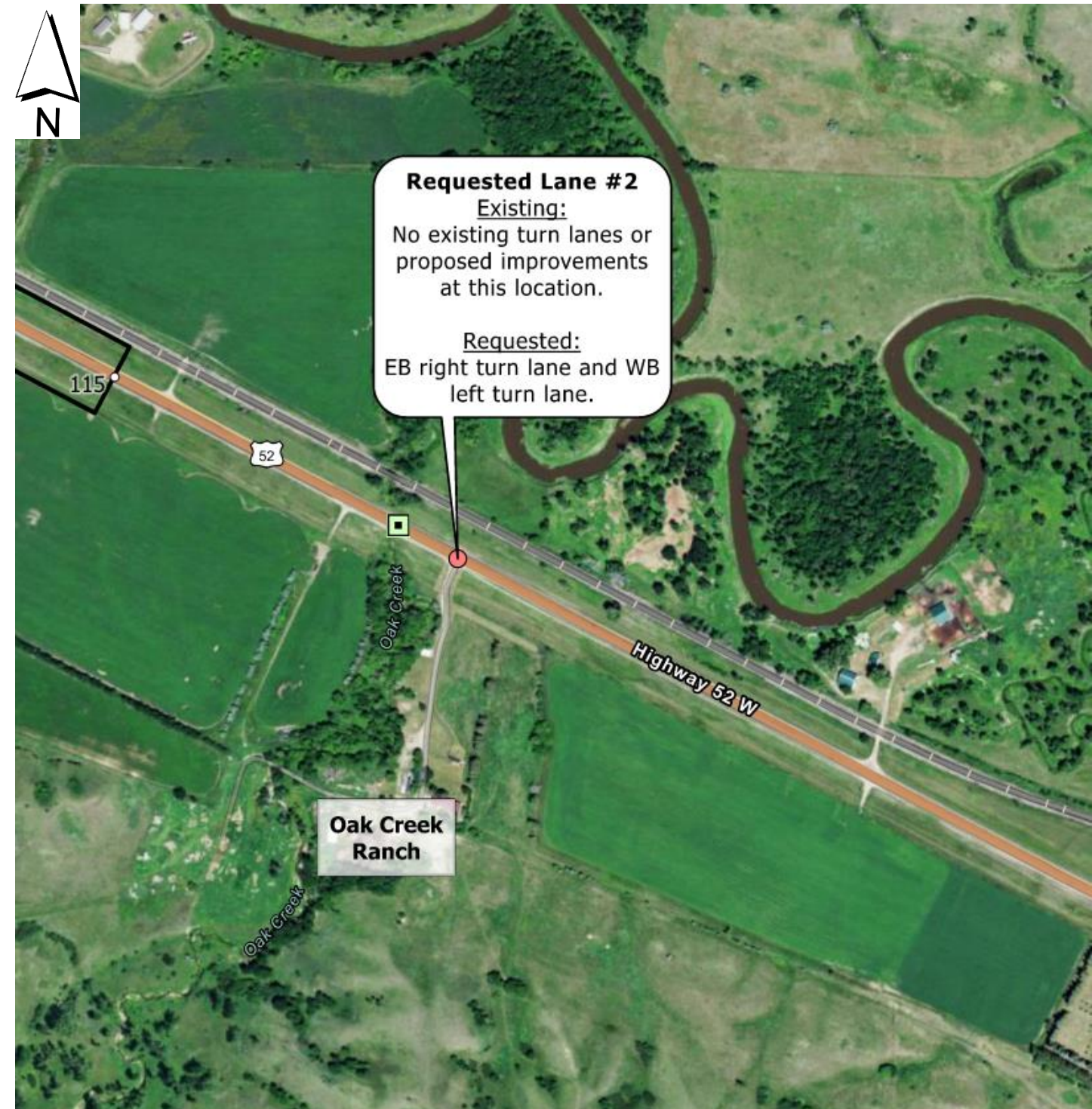
**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

Kacy, Kristie and Tate Abrahamson (Abrahamson Cattle Company)	"We live at 1752 Hwy 52 W; which is 1 mile west of Velva on the south side of the road (Oakcreek Ranch). We propose turning lanes at our approach for east and west bound lanes to make this highway a safer choice."
--	---

**Additional Notes:**

A double box culvert structure is located approximately 220 feet west of this location that would likely need to be extended if a turn lane were installed. This is a private ranch access, so there is no traffic data available at this location.



## Turn Lane Request #2

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Neither the EB Right nor the WB Left is recommended by Design Division.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No to both.

### Executive Decisions

- Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

**None**

DocuSigned by:  
  
 2A3328B5C844FD

\_\_\_\_\_  
 Ronald J. Henke, P.E., Deputy Director for Engineering

\_\_\_\_\_  
 11/29/2021

\_\_\_\_\_  
 Date

### Turn Lane Request #3

**Location:** Velva Cenex Access (RP 116.3)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

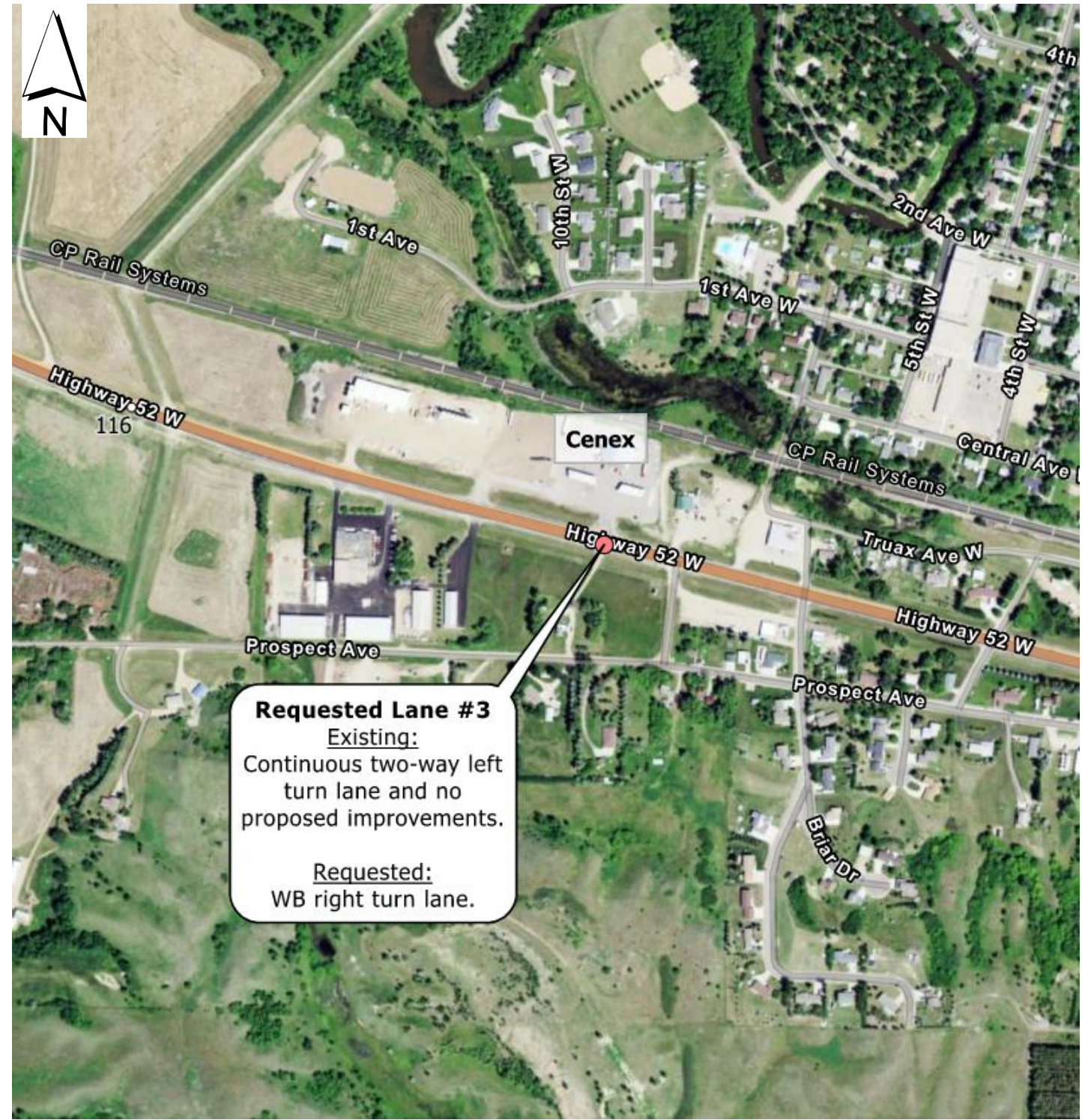
**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

William Christen	"Expanded turn lane at Cenex truck stop just west of Velva?"
Randy Hauck (Verendrye Electric Cooperative)	"You missed the two most dangerous right hand turning lanes, into the Velva C-Store ... If you [sic] engineering design is based on traffic count, the Velva C-store will have a higher daily traffic count than any other turning lane that you are planning to install between Carrington and Velva."

**Additional Notes:**

This location is in Velva in a 40-mph speed zone. The existing roadway cross section has a 12-foot wide center-left turn lane, 12-foot wide driving lanes, and 8-foot wide paved shoulders. A right turn lane to the main Cenex approach would overlap with the approach to Velva Glass and Auto located 200 feet to the east.



## Turn Lane Request #3

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	
Bridge Division	No (Jon Ketterling)	No due to speed limit of 40.
Construction Services Division		
Design Division	No (Jeff Rensch)	The WB right turn lane is not recommended by Design Division.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No - with the existing paved shoulder, moderate speed limit, and remaining wide geometrics, a right turn lane is unnecessary.

### Executive Decisions

- Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

Please study

DocuSigned by:  
  
 263328858C684FD0

Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

Date

## Turn Lane Request #4

**Location:** Approach to Gooseneck Implement east of Velva (RP 118.5)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

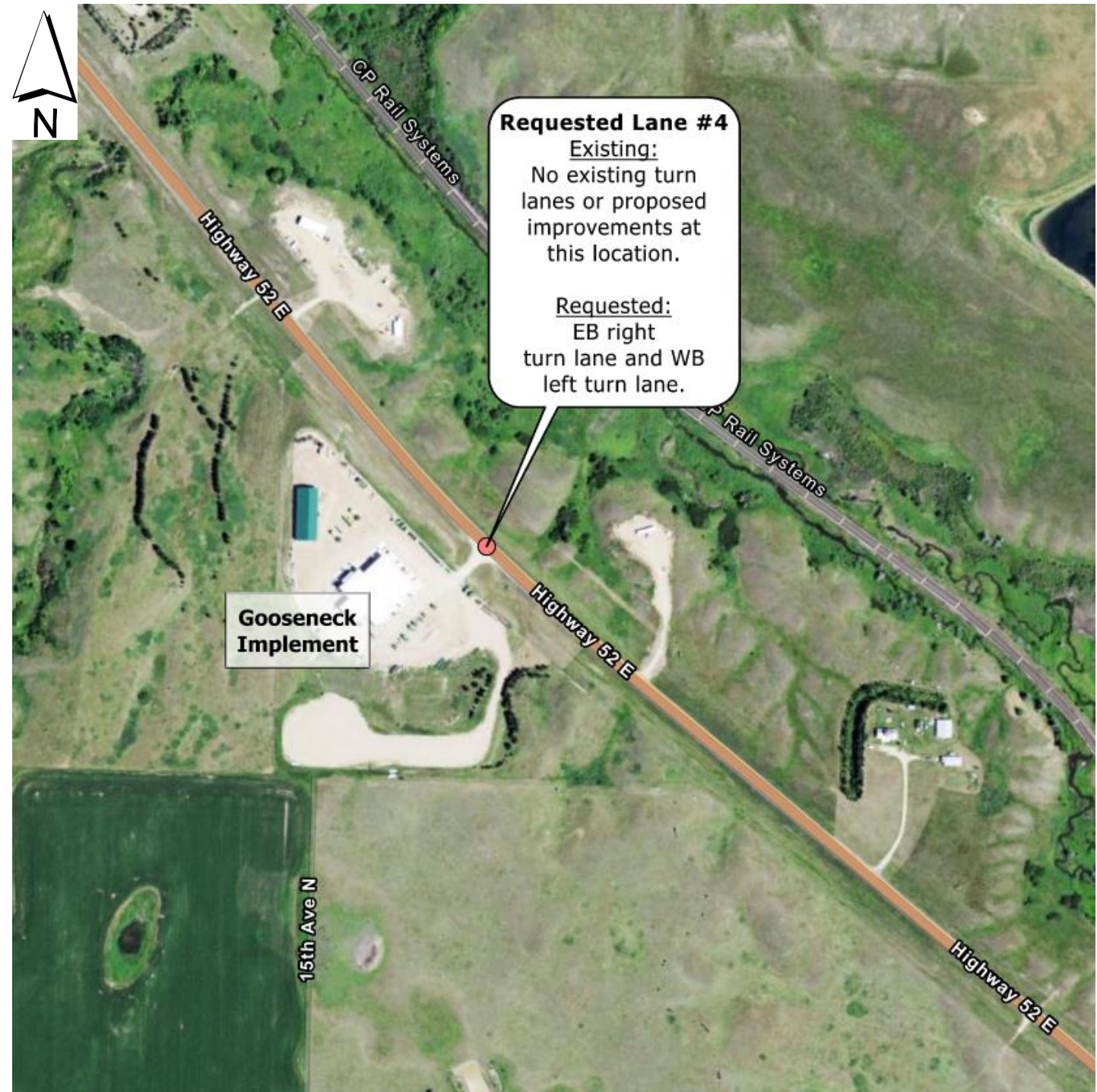
**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

Paul duToit (Gooseneck Implement)	<i>"The entry and exit from Highway 52 to our business is very dangerous and there have been several incidents where truck traffic almost took out the vehicle turning into our property. From the east, traffic is coming over a hill and when traffic builds because of oncoming traffic, it makes it very dangerous. Often it is larger farm equipment coming in or out of the property. Equipment is also slower moving and sometimes fairly long that makes this turn lane even more essential."</i>
William Christen	<i>"How about turn lane near John Deere dealership east of Velva?"</i>
Gerald Holte	<i>Is hard with large equipment to turn left into John Deere Dealership near Velva.</i>
Randy Hauck (Verendrye Electric Cooperative)	<i>"You missed the two most dangerous right hand turning lanes, ... and into Gooseneck Implement east of Velva. If you [sic] engineering design is based on ... large machinery the Gooseneck Implement turn will be at the top of the list."</i>
Sandee Michalenko (City Auditor of Bergen via of a petition signed by 41 individuals.)	<i>Right hand and left hand turning lanes going south at Gooseneck Implement east of Velva, ND. This turn has a hill just to the east of it. Because of that it is dangerous when coming from the east and there are trucks and vehicles coming behind you and there is traffic both ways.</i>

**Additional Notes:**

No Traffic data is available at this location





## Turn Lane Request #4

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	Yes (Chad Orn)	Yes to both
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	
Bridge Division	Yes (Jon Ketterling)	
Construction Services Division		
Design Division	Yes (Jeff Rensch)	Design Division recommends adding the EB right turn lane and the WB left turn lane at this location.
Minot District	Yes (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	Maybe (Jane Berger)	Maybe just because of the type of traffic, not because of volumes.
Planning/Asset Management Division	Maybe (Scott Zainhofsky)	I recommend this location be studied.  However, I struggle with private development along a rural highway meant to carry long-distance and heavy traffic requiring public investment specifically for the benefit of that development. If these turn lanes are appropriate, they should have been made a requirement of the developer, upfront. While that ship has sailed, it would be very appropriate to request cost sharing, at this time.

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

**Please study**

DocuSigned by:



2A3328B55C844FD  
\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #5

**Location:** Approach to ADM Grain Elevator east of Velva (RP 120.2)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

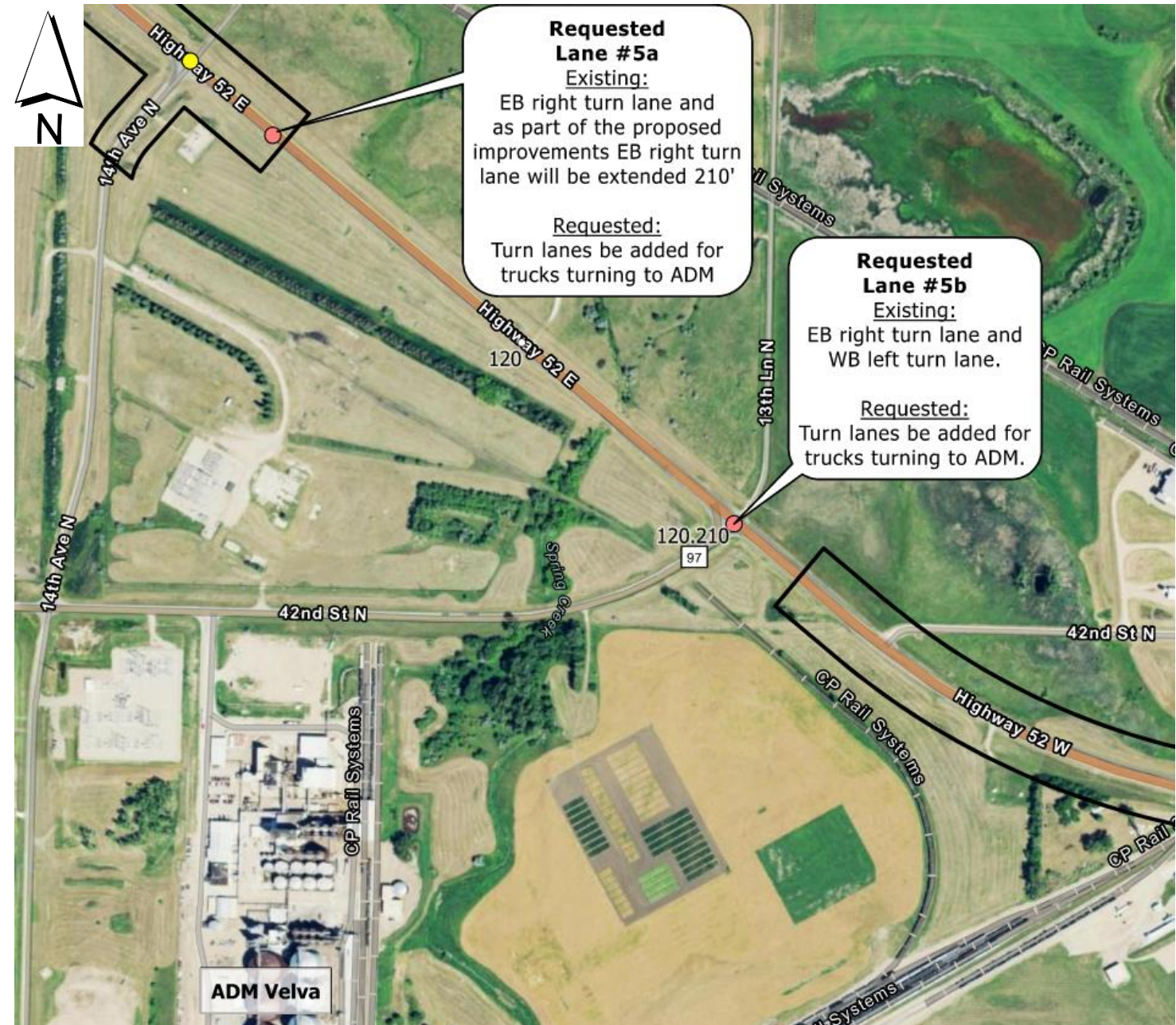
**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

William Christen	"How about ADM – Velva turn lane?"
---------------------	------------------------------------

### Additional Notes:

This location already has a designated left-turn lane for westbound traffic and a right-turn lane for eastbound traffic. There is an alternate access point for this facility to the north at the intersection with 14th Ave N. that has an existing right-turn lane for eastbound traffic. As part of this project, this right-turn lane at 14th Ave N. will be extended 210 feet. No Traffic data is available at this location



## Turn Lane Request #5

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No, agree with Design Divisions Reasoning.
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	Agree with not adding any new turn lanes.
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	The existing turn lanes at the two intersections appear to be adequate for the anticipated traffic movements. The extension of the existing EB right turn lane will be completed as part of PCN 23149 as described in the document. Design Division does not recommend installation of any new turn lanes at this location.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No to anything more than the proposed extension already planned, for the reasoning indicated by Design Division.

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

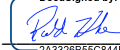
\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

Please study

DocuSigned by:



\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #6

**Location:** Intersection at 2<sup>nd</sup> Ave N towards Karlsruhe (RP 132.5)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

**Turn lane requestor(s) comment:**

William Christen	"Karlsruhe town needs a turning lane due to trucks coming over the hill while farmers from Karlsruhe area turn onto highway."
Arlen Schiele	"I'm writing to you concerning the 2 <sup>nd</sup> Ave N and highway 52 intersection. I really believe a turning lane should be considered going east and west, but especially going east it is a very dangerous intersection because of the curve and the hill when traveling east."
Bryan Bruder (Chairman of McHenry County commissioners)	"I would just like to say ... west of Balfour a couple miles, there were our County Road goes north to Karlsruhe, it's coming up a hill and right by that big lake, and there's a curve there, there's been a number of accidents there through the years they've almost got to put turning lanes there."
Sandee Michalenko (City Auditor of Bergen via of a petition signed by 41 individuals.)	"Left and right hand turning lanes at Highway 52 at the turn to Karlsruhe, ND. This turn has a hill to the west of it. Because of that it is dangerous when coming from the west and there are trucks and vehicles coming behind you and there is traffic both ways."

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:

(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)

EB Left PCE = 13 (80 required to meet warrants)

WB Right PCE =17 (160 required to meet warrants)

No crash history at this location.

Passing sight distance provided by US 52 roadway profile = 1105'

Exceeds required sight distance of 1100' for 65 mph speed and provides adequate intersection sight distance for left turn from stop and right turn from stop movements from 2<sup>nd</sup> Ave. North onto US 52.



## Turn Lane Request #6

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No to all turn lanes based on counts and review of sight distances.
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	Yes, to accommodate the City of Karlsruhe.
Bridge Division	Maybe (Jon Ketterling)	Maybe based on poor sight distance and accident history
Construction Services Division		
Design Division	No (Jeff Rensch)	Neither the EB Left nor the WB Right is recommended by Design Division.
Minot District	Yes (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No to all, based on Traffic Operations analysis, adequate sight distance, and lack of crash history or risk factors.

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

None

DocuSigned by:  


\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

Date



## Turn Lane Request #7

**Location:** Intersection of Highway 14 (RP 141.4)

**Location is within project limits of PCN:** 23150

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** Yes  
As part of the proposed improvements, an EB left turn lane will be installed.

**Was location part of original traffic operations study?** Yes  
Intersection was studied by the NDDOT as part of the Traffic Operations Study. An EB left turn lane is warranted based on current Traffic Volume.

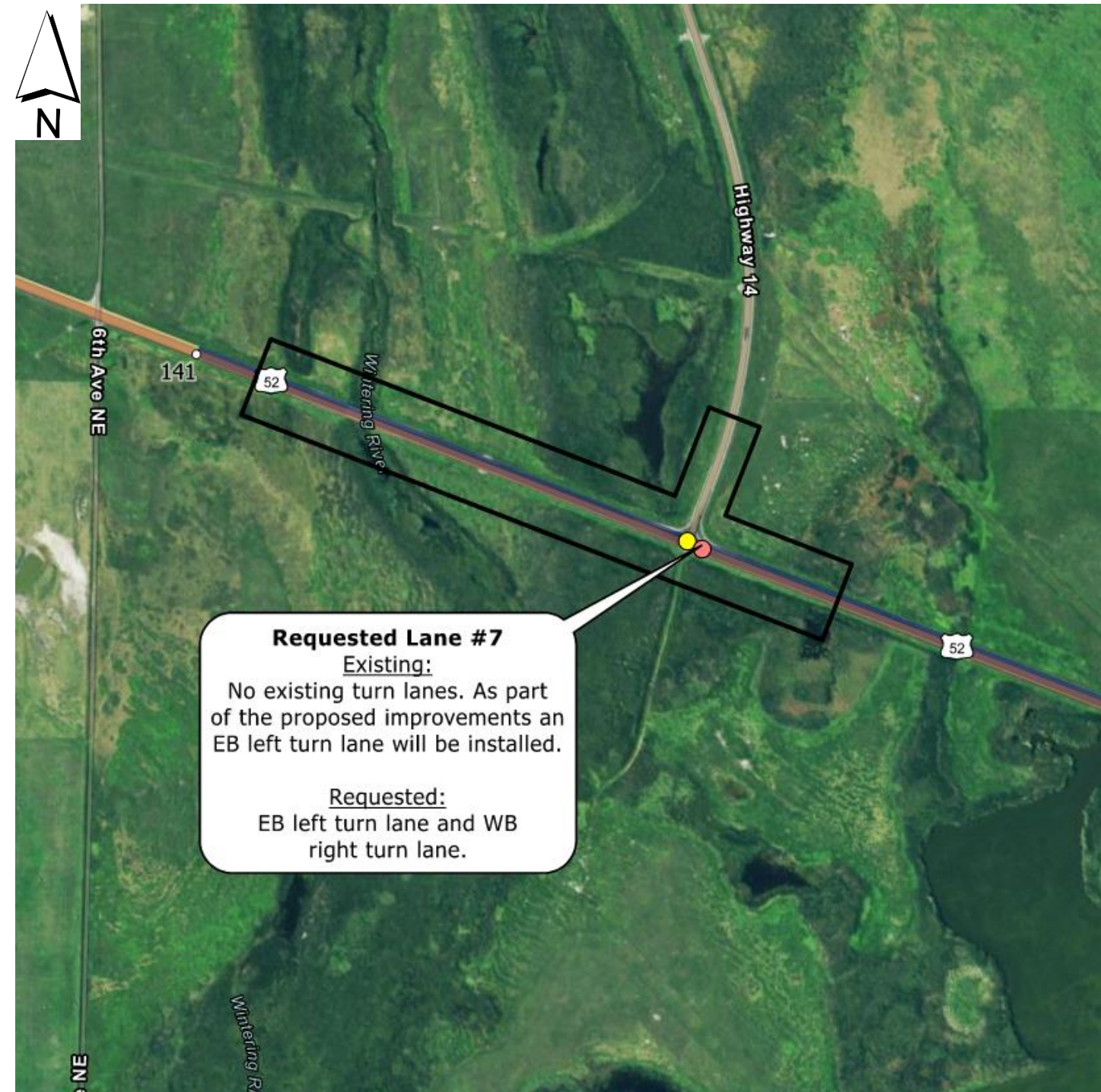
**Turn lane requestor(s) comment:**

Kayla Burkhart (Dakota Midland Grain)	<i>Our company has a location north of 52 on Highway 14 with thousands of semi-trucks a year that take a left off of 52 onto 14, and a turning lane there would be favorable for public safety.</i>
Shannon Dieterle (Sheridan County Commissioner)	<i>Another issue with this intersection is truck traffic northbound on 7<sup>th</sup> making a left turn onto 52 and then turning right onto Hwy 14 just past camp Bentley. Since Dakota Miland Grain opened for a terminal on Hwy 14. This causes westbound traffic on 52 to slow down significantly waiting for the trucks to turn off onto Hwy 14."</i>

**Additional Notes:**

EB left turn lane is warranted at this location and is already part of project.  
WB right turn lane is not warranted at this location per Traffic Operations Report:  
(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)  
EB Left PCE = 80 (80 required to meet warrants)  
WB Right PCE = 57 (160 Required to meet warrants)  
Three crashes were reported at this location, none were attributed to turning vehicles.

The EB turn lane is warranted and will be installed at this location as part of project PCN 23150. The decision is whether or not to install the WB right turn lane at this location.



## Turn Lane Request #7

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	Yes (Chad Orn)	Yes, but only if it can be added into the Grant project since a left turn is already being added. Doesn't make sense to come back to the same spot a few years later.
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	
Bridge Division	Yes (Jon Ketterling)	
Construction Services Division		
Design Division	Yes (Jeff Rensch)	The EB left turn lane will be installed with passing lane project PCN 23150. Design Division recommends installing the WB right turn lane at this location.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No, due to lack of funding and the right-turn lane not meeting warrants. The grant award was lower than requested and it isn't clear if we'll be able to use regular federal funds to cover the gap, at this time.

**Executive Decisions**

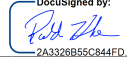
1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

None

DocuSigned by:  
  
2A3326B55C84FD...

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #8

**Location:** Intersection of 7<sup>th</sup> Ave NE (McHenry Co Rd 9) west of Drake (RP 142.2)

**Location is within project limits of PCN:** 23150

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

**Turn lane requestor(s) comment:**

Comment Card – No Name	<i>"Please take a look at constructing turning lanes at 7<sup>th</sup> Ave NE between Drake and Belfour on the east side of Camp Bentley. Blind curve downhill to the east of the intersection makes it very dangerous to make left hand turns south onto 7<sup>th</sup>."</i>
Shannon Dieterle (Sheridan County Commissioner)	<i>"The first issue is traffic coming from the east on 52 making a left turn to go south on 7<sup>th</sup> Ave is dangerous due to the terrain of 52. If you are coming from the east, 52 drops in elevation and curves slightly to the NW. There are also shelterbelts on the north side making it difficult to see around the curve any distance for trucks. If you try to make a left turn onto 7<sup>th</sup> and must yield to eastbound traffic, trucks must brake hard on a downhill slope by the time they see you. This is especially dangerous in the spring of the year as there are many farmers pulling anhydrous from Enerbase in Drake @ 25mph making the left turn onto 7<sup>th</sup>."</i>

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:

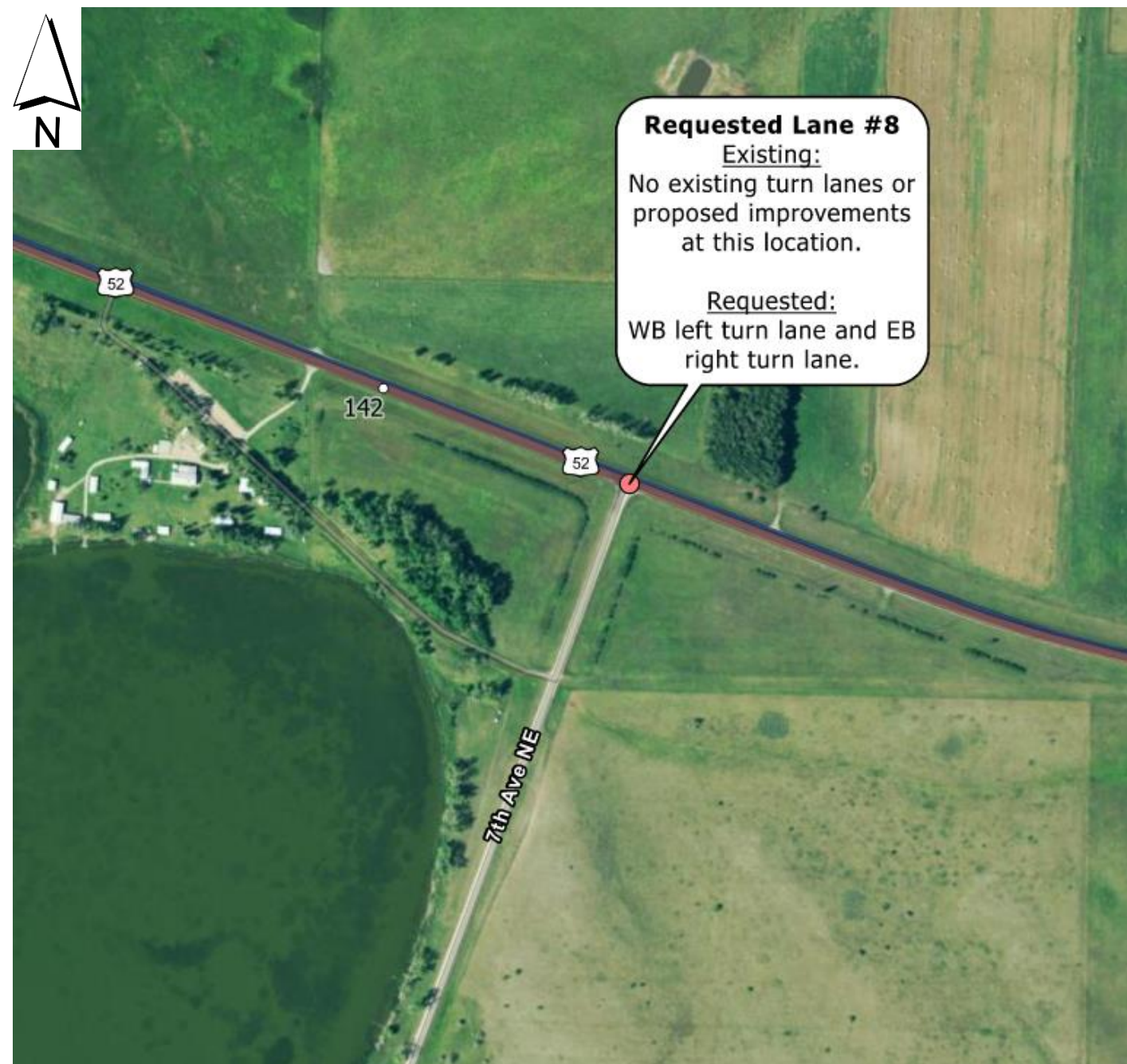
(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)

EB Right PCE = 11 (160 required to meet warrants)

WB Left PCE = 21 (80 required to meet warrants)

Two crashes were reported at this intersection. One crash involved a rear end collision with a vehicle slowing to make an EB right turn.

Passing sight distance, provided by US 52 roadway profile, exceeds the required sight distance of 1100 feet for 65 mph speed and provides adequate intersection sight distance for left turn from stop and right turn from stop movements from 7th Ave. NE onto US 52.



## **Turn Lane Request #8**

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### **Recommendations**

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No to all turn lanes
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	I would say yes because of crash history.
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Neither the EB Right nor the WB Left is recommended by Design Division.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No. However, if other locations are reviewed along the corridor, it may be worth reviewing this location, since two public comments suggest a potential issue that occurred in the crash history.

**Executive Decisions**


1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

No

Amendments/Comments:

**None**

DocuSigned by:  
  
2A3326B55C844FD...

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #9

**Location:** Intersection of 11<sup>th</sup> Ave NE east of Drake (RP 146.0)

**Location is within project limits of PCN:** 23150

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** No

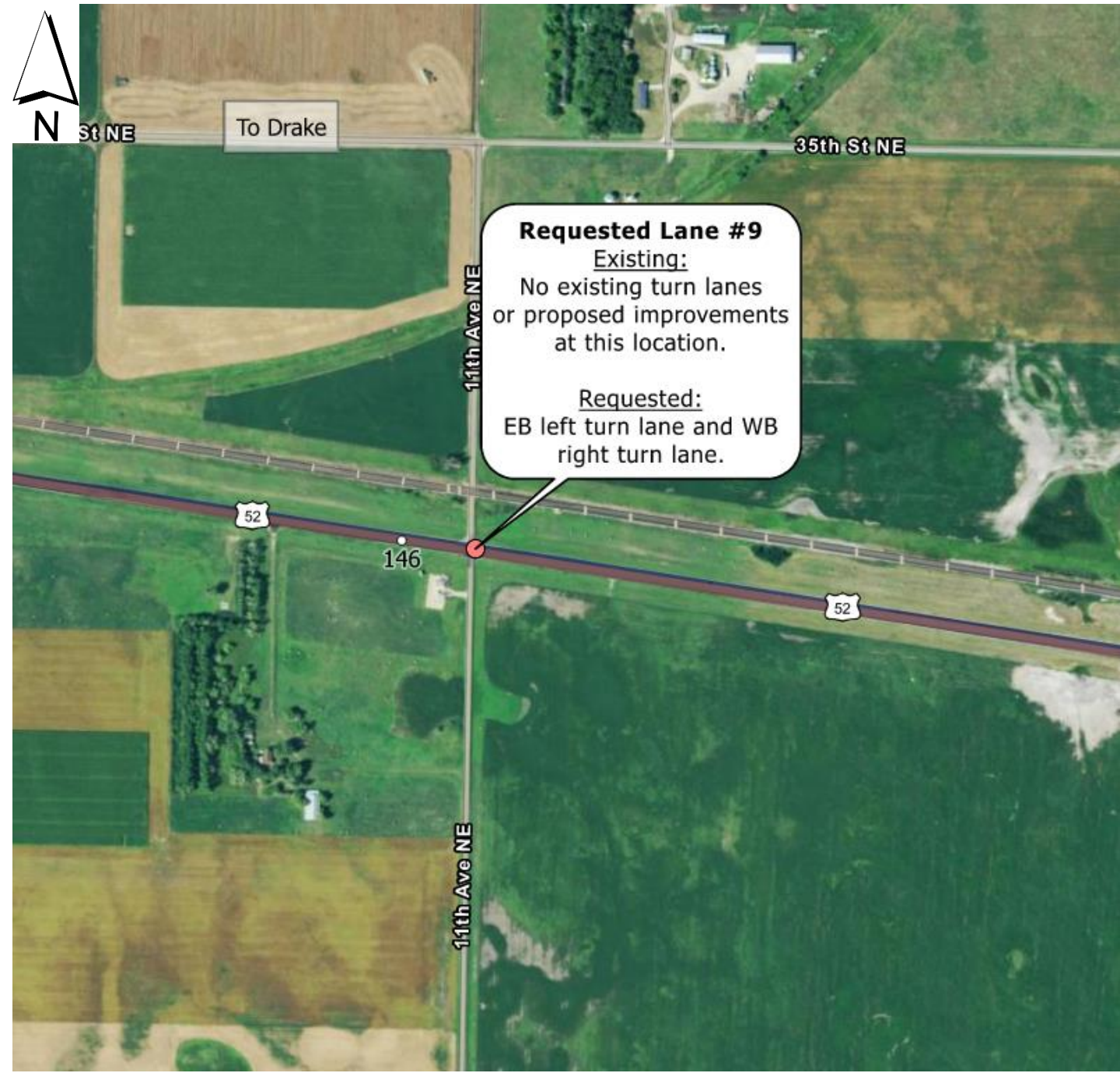
**Turn lane requestor(s) comment:**

<p>Robert Isaak (Mayor of Drake)</p>	<p><i>The City is requesting the construction of a turn lane one mile east on the north side of Highway 52 at 11<sup>th</sup> Avenue NE. We have two entrances into Drake. The main entrance to Drake is frequently blocked by long trains and school buses, delivery trucks, emergency vehicles, and residents have to go one mile east to 11<sup>th</sup> Avenue, since there is no turn lane there.</i></p>
--	--

**Additional Notes:**

No traffic data is available at this location.

The main access into Drake is located one mile west of this location at the intersection of US 52 and Lake Street. To enter Drake via Lake Street, vehicles must cross five railroad tracks on Lake Street. In 2013, Design Division studied alternatives to construct a grade separation crossing from US Hwy 52 into Drake due to concerns raised by the City of Drake about trains blocking access to the City at Lake Street.



## Turn Lane Request #9

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No, turn lanes are provided at the main entrance into Drake.
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	I would say Yes to accommodate the city's request. Looking at Pathweb a train was blocking the main entrance to the city and 11th Ave NE, not sure the turn lanes at 11th will help their issue if trains block both entrances.
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	Yes/No (Jeff Rensch)	Design Division recommends constructing an EB Left turn lane at this location due to the history of access problems noted on the previous page. Do not recommend installing a WB right turn lane at this location.
Minot District	Yes (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	FYI - There is very little uniform data regarding blocked train crossings, nationally. In Dec. 2019, FRA created a blocked crossing reporting portal for public and emergency responder use. However, very few incidents get reported to it.



**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

**Please study**

DocuSigned by:  
  
243326855C844ED

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #10

**Location:** Approach to Arthur Companies west of Anamoose (RP 149.9)

**Location is within project limits of PCN:** 23150

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

Paul Thomas (State Representative District 6)	"Arthur companies on the west side of Anamoose has a [sic] agronomy center that handles anhydrous. Anhydrous tanks are pulled at slow speeds and in the spring of the year the traffic at this facility is heavy. Turning lanes for this location would be beneficial."
Gerald Holte	A lot of large machinery activity at the grain elevator east of Balfour by ND 14.

**Additional Notes:**

No traffic data is available at this location.



## Turn Lane Request #10

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	Yes (Chad Orn)	
Office of Transportation Programs		
Office of Operations	Yes (Wade Swenson)	Yes. I know of three or four (and there maybe more) of these anhydrous/fertilizer terminals along US 52 and they should all get turn lanes.
Bridge Division		
Construction Services Division		
Design Division	Yes (Jeff Rensch)	Design Division recommends adding the EB right turn lane and the WB left turn lane at this location.
Minot District	Yes (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	Maybe (Jane Berger)	Maybe just because of the type of traffic, not because of volumes.
Planning/Asset Management Division	Maybe (Scott Zainhofsky)	Maybe - I recommend this location be analyzed, similar to the Gooseneck Implement location, and with the same comments.

**Executive Decisions**


1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

**Please study**

DocuSigned by:  
  
2A3326B55C844FD

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #11

**Location:** Intersection of 23<sup>rd</sup> St NE near Harvey (RP 169.7)

**Location is within project limits of PCN:** 23150

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** No

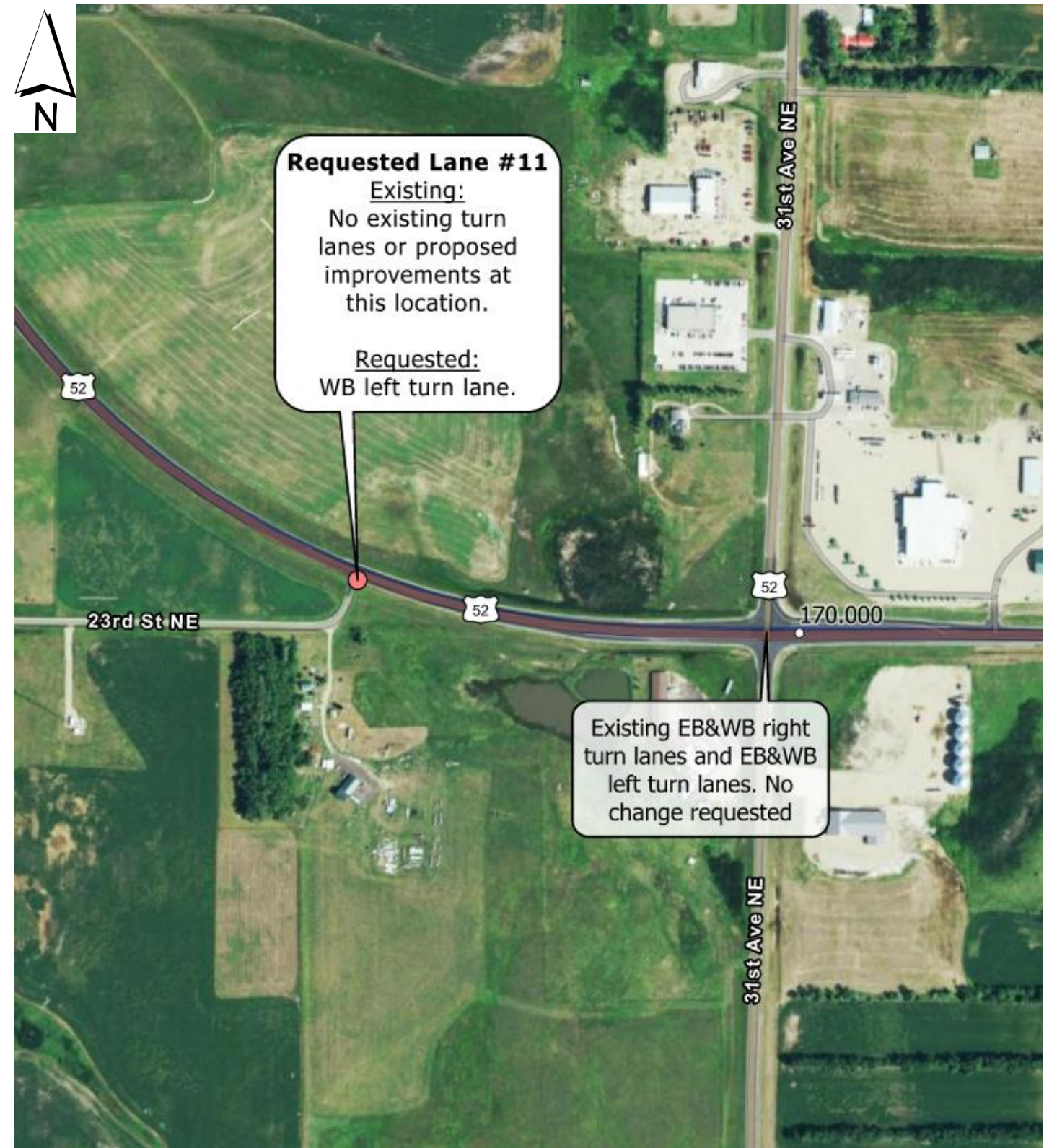
**Turn lane requestor(s) comment:**

Mike Seibel	"Consider adding WB turning lane (left turn) ¼ mile east of intersections of Highway 52 and 3 – south of Harvey."
-------------	---

**Additional Notes:**

No traffic data is available for this location.

A large intersection with right and left turn lanes for both travel directions is in place at 31st Ave. NE, located 1500 feet east of this location. A review of aerial photos shows only two residences that may benefit from turning onto 23rd St. NE instead of using the intersection with 31st Ave to the east. This location is adjacent to the City of Harvey where the roadway speed is posted at 55 mph.



## Turn Lane Request #11

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No to all turn lanes
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Design Division does not recommend installing any turn lanes at this location.
Minot District	Yes (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No - based aerial imagery, it appears these turn lanes would serve one farmstead and a communications tower site. Therefore, it is highly unlikely that turn lane warrants would be met.

**Executive Decisions**


1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

None

DocuSigned by:  
  
2A922B66C844FD...

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #12

**Location:** Intersection of 2<sup>nd</sup> St near Fessenden (RP 186.1)

**Location is within project limits of PCN:** 23151

**PCN Bid Ready Date:** 3/15/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

**Turn lane requestor(s) comment:**

Larry Fandrich "Truck route turn lane would be nice at Fessenden. For school bus and slow traffic."

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:

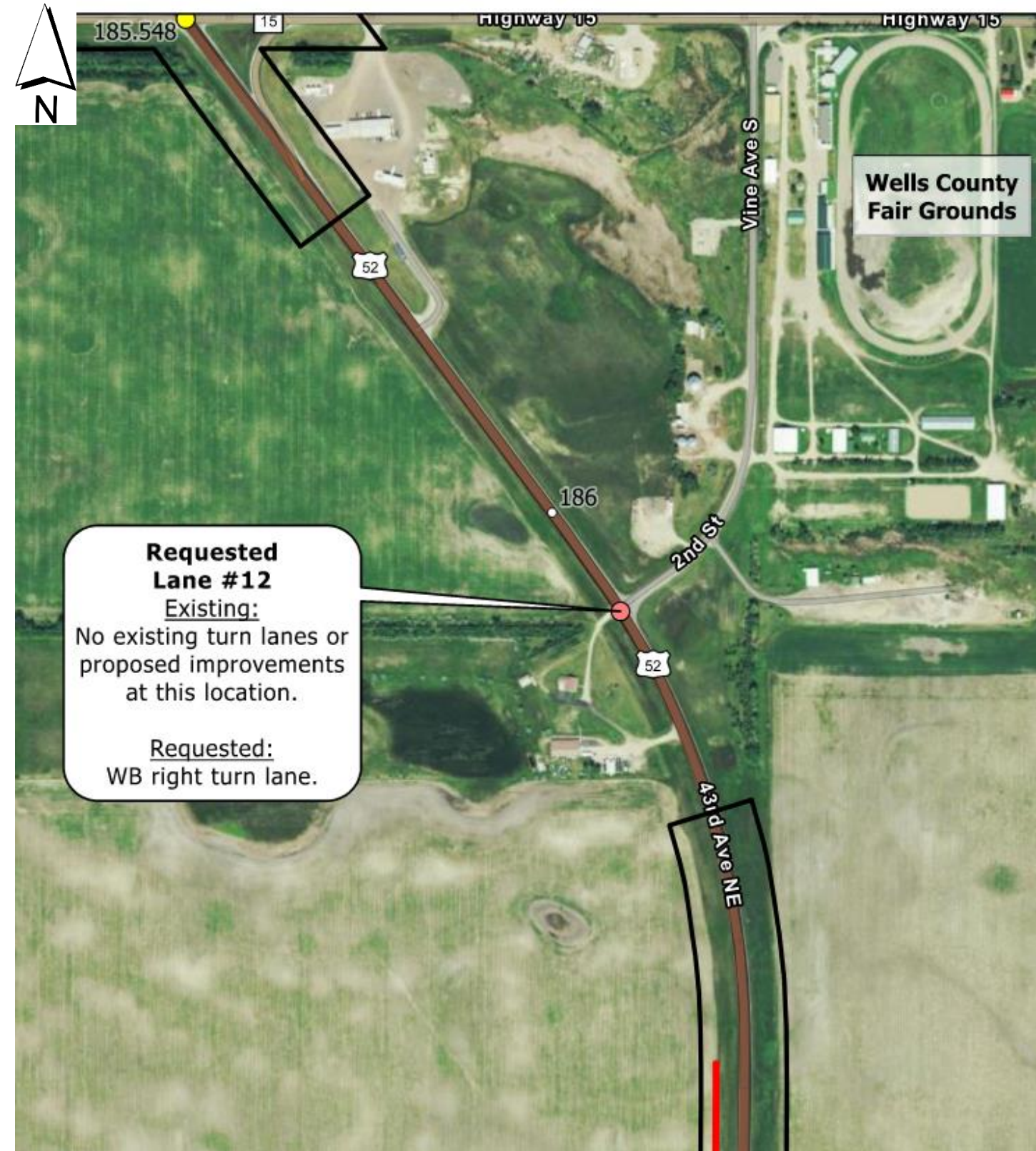
(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)

EB Left PCE = 18 (90 required to meet warrants)

WB Right PCE = 53 (175 required to meet warrants)

No crash history at this location.

The main access into Fessenden at ND Hwy 15 is located 1/2-mile NW of this location and provides a slip ramp for the northbound right turn movement into Fessenden.





## Turn Lane Request #12

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No to all turn lanes
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	No, (Side note: we own this stretch of road from US 52 to ND 15.)
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Design Division does not recommend installing any turn lanes at this location.
Minot District		
Devils Lake District	Yes (Wyatt Hanson)	Yes to a WB right. This truck route is used heavily in the harvest season as well as being our turn for our satellite section in Fessenden. Wells County fair grounds gets used a lot during the summer also.
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

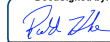
\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

None

DocuSigned by:



\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

## Turn Lane Request #13

**Location:** Intersection of 47<sup>th</sup> Ave NE (Wells Co Rd 8) south of Heaton (RP 202.7)

**Location is within project limits of PCN:** 23151

**PCN Bid Ready Date:** 3/15/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

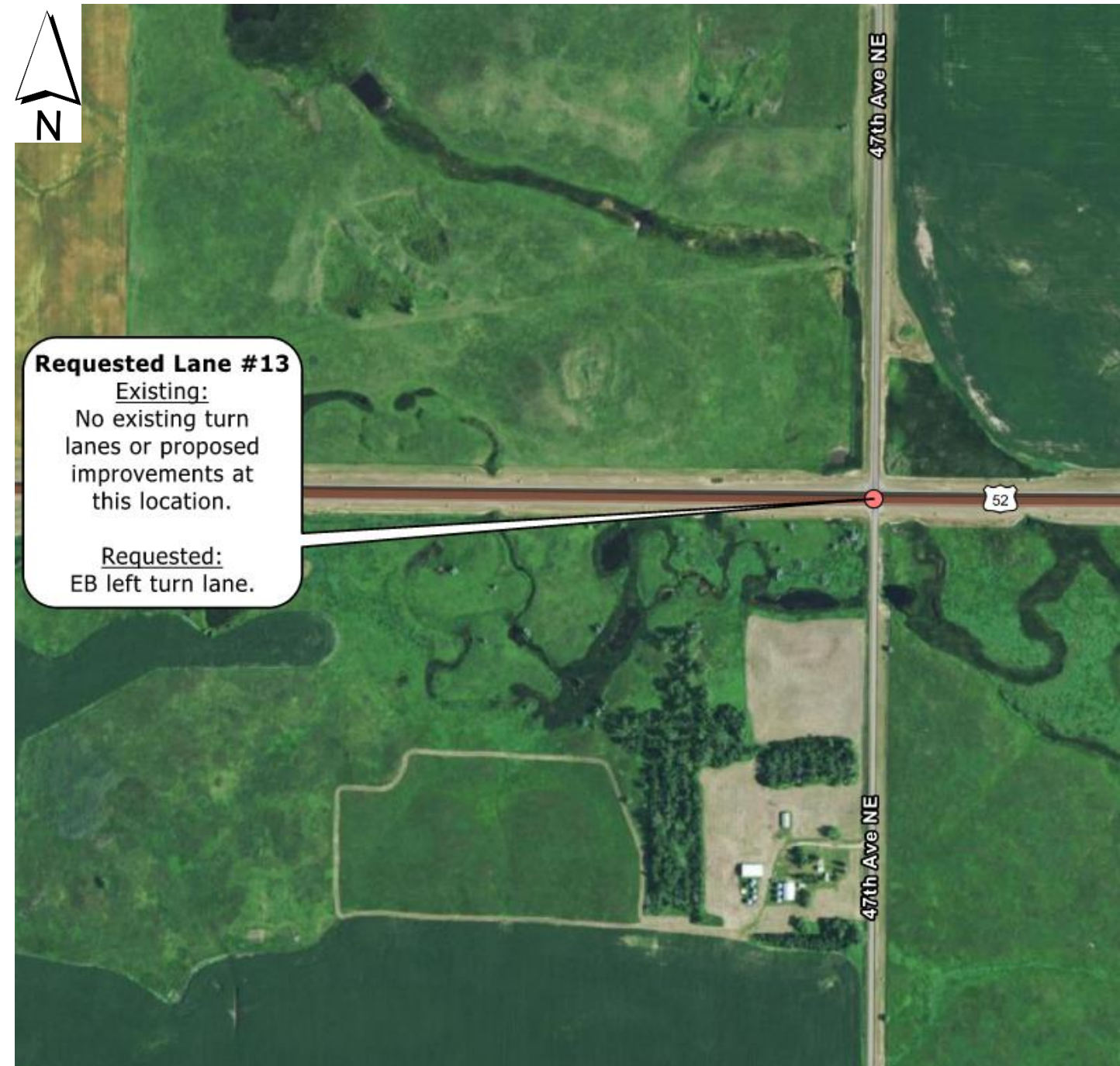
**Turn lane requestor(s) comment:**

Verbal comment provided during Harvey public input meeting – no name provided	<i>That visibility in the valley when you're trying to turn to Heaton is bad, you can't see if anyone is coming. There should really be a turn lane there.</i>
---	--

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:  
 (Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)  
 EB Right PCE = 10 (160 required to meet warrants)  
 EB Left PCE = 11 (80 required to meet warrants)  
 No crash history at this location.

Passing sight distance provided by US 52 roadway profile exceeds required sight distance of 1100 feet for 65 mph speed and provides adequate intersection sight distance for left turn from stop and right turn from stop movements from 47th Ave. NE onto US 52.



## Turn Lane Request #13

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Design Division does not recommend installing any turn lanes at this location.
Minot District		
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	

### Executive Decisions

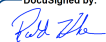
- Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

**None**

DocuSigned by:  
  
2A3326B55C844FD

\_\_\_\_\_  
 Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
 Date

## Turn Lane Request #14

**Location:** Approach to High Plains Equipment west of Carrington (RP 221.9)

**Location is within project limits of PCN:** 23151

**PCN Bid Ready Date:** 3/15/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

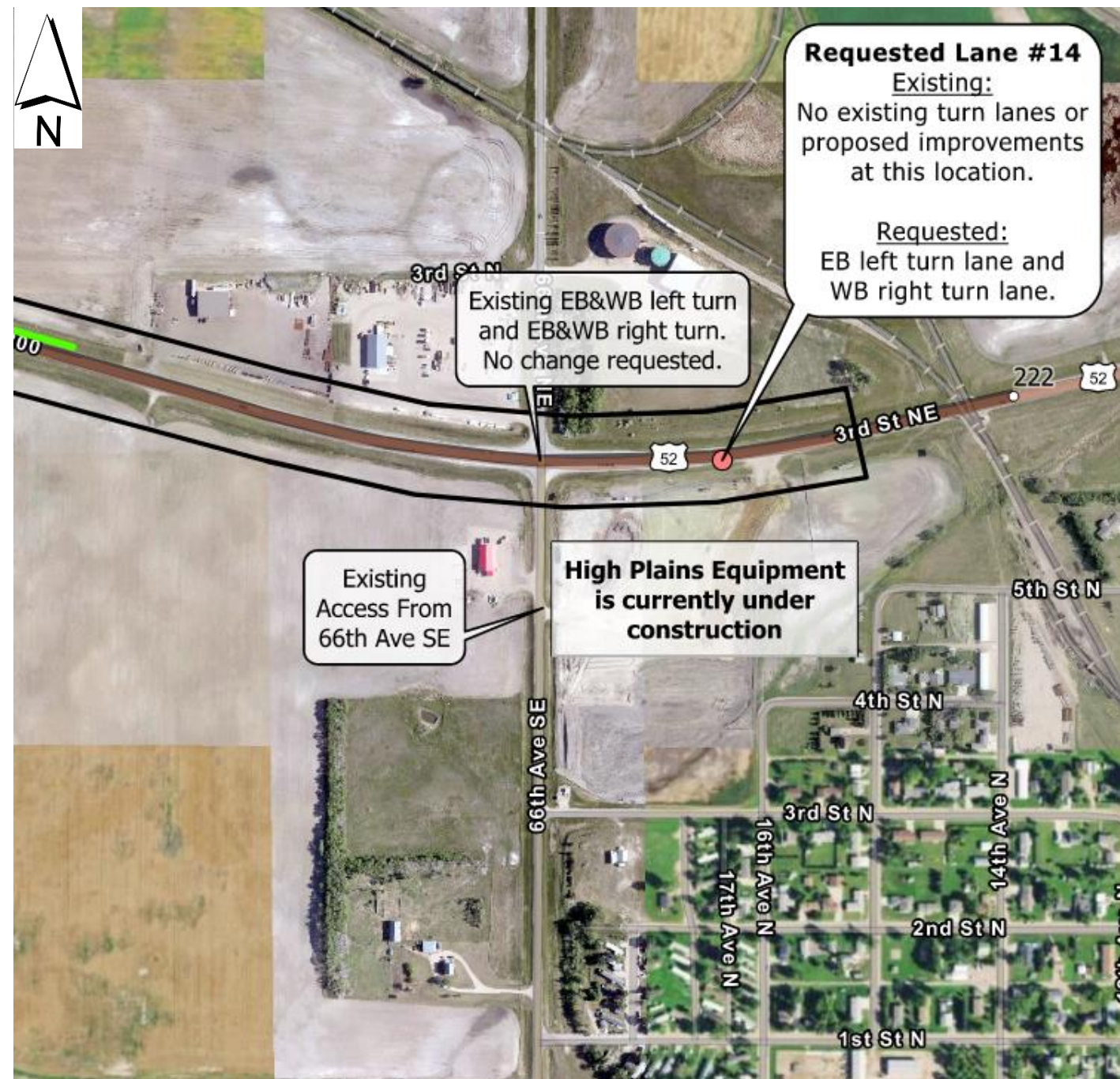
**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

John Swenseth (High Plains Equipment)	"We would like to see a turn lane for entry to the lot on the approach off of highway 52 from the east and also a turn lane into that same approach from the west would be appropriate."
Tom Erdmann (Mayor of Carrington)	"Due to recent development we need some additional turning lanes from the roundabout to the first one mile west of Carrington on Highway 52-200."
David Nelson (High Plains Equipment)	"We spoke about potentially adding turning lanes for the north entrance, south side of Hwy 52 & 200, to High Plains Equipment's new location in Carrington. Specifically in the area between 66 <sup>th</sup> Ave NE and continuing east to the railroad tracks, a distance of about 1500 feet. I believe that a left hand turn lane for westbound traffic and a right hand turn lane for east bound traffic is necessary to provide safe travel for everyone who passes through this area of fast moving, high volume traffic."

**Additional Notes:**

Obstacles/concern identified at this location include the following:  
 Taper would require crossing the CP rail line.  
 Turn lanes would overlap existing turn lanes at 66th Ave.  
 The speed for this portion of roadway is posted at 45 mph.  
 There is no traffic data available for this location.



## **Turn Lane Request #14**

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### **Recommendations**

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No, agree with Design's comments.
Office of Transportation Programs		
Office of Operations	No (Wade Swenson)	No, their entrance should be on 66th.
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	Neither the EB Right nor the WB Left is recommended by Design Division due to overlap with RR grade crossing and presence of existing turn lanes at County Road intersection to the west.
Minot District		
Devils Lake District	Yes (Wyatt Hanson)	Yes to the WB left, the EB traffic should turn on 66th. While the location noted on the aerial view does land on the turn lane for 66th Ave., where the actual approach is does not land on the turnlane. With the posted speed limit being 40 the total distance would be 294', the approach is approximately 678' from the at grade crossing.
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No. In fact, consideration could be given to removing this access to US 52, given the property's access from 66th Ave. SE.

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

None

DocuSigned by:  
  
2A3328B55C844FD  
\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
Date

### Turn Lane Request #15

**Location:** Intersection of Viking Ave to Bergen (RP 127.6)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

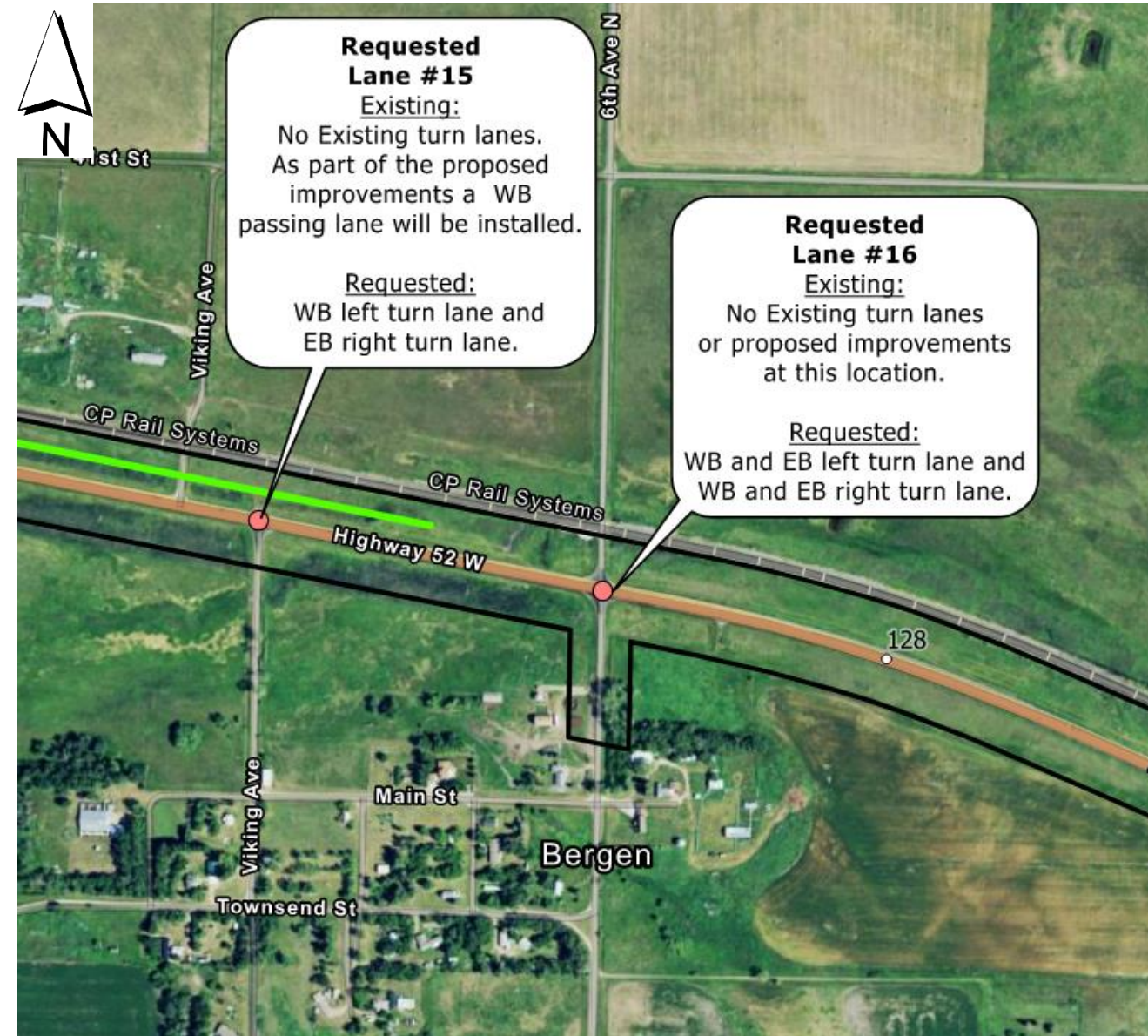
**Is requested turn lane within existing project study area?** Yes  
A westbound passing lane will begin at approximately this intersection.

**Was location part of original traffic operations study?** No

**Turn lane requestor(s) comment:**

Sande Michalenko (City Auditor of Bergen via of a petition signed by 41 individuals.)	"Right hand and left hand turning lane at Viking Avenue going into Bergen, ND. This turn has open highway but is dangerous when turning into Bergen because there are many trucks and vehicles that have to slow way down when there is traffic both ways."
--	---

**Additional Notes:**  
No Traffic data is available at this location





## Turn Lane Request #15

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	
Office of Transportation Programs	No (Steve Salwei)	
Office of Operations	No (Wade Swenson)	
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	No. The requested location is a small gravel road into Bergen and unlikely to carry significant traffic volume.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	

### Executive Decisions

- Should the requested turn lane be installed as part of a separate project?


\_\_\_\_\_ Yes

\_\_\_\_\_ No

Amendments/Comments:

**Please study**

DocuSigned by:



Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

Date

## Turn Lane Request #16

**Location:** Intersection of 6<sup>th</sup> Ave. to Bergen (RP 127.8)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** Yes  
A westbound passing lane will begin at approximately this intersection.

**Was location part of original traffic operations study?** Yes  
Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

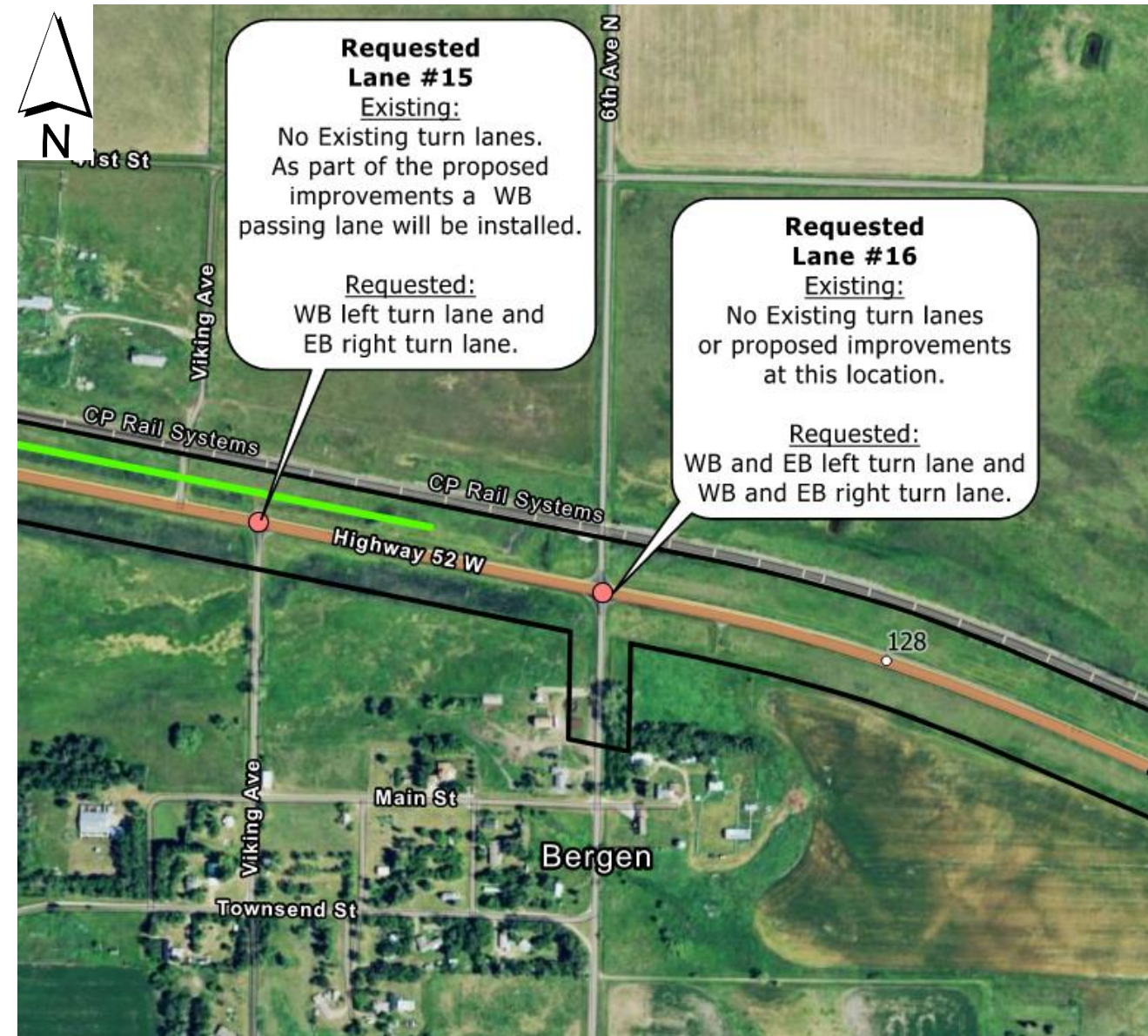
**Turn lane requestor(s) comment:**

Sandee Michalenko (City Auditor of Bergen via a petition signed by 41 individuals.)	"Right hand and left hand turning lanes going both north and south on 6 <sup>th</sup> avenue at Bergen, ND. This turn has a curve and small hill just to the east of it. Because of that it is dangerous when coming from the east or west and there are trucks and vehicles coming behind you and there is traffic both ways"
--	--

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:  
(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)  
EB Left PCE = 8 (80 required to meet warrants)  
WB Left PCE = 7 (80 required to meet warrants)  
EB Right PCE = 10 (160 required to meet warrants)  
WB Right PCE = 2 (160 required to meet warrants)

Zero crashes reported at this intersection.



## **Turn Lane Request #16**

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### **Recommendations**

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	No, not warranted
Office of Transportation Programs	No (Steve Salwei)	
Office of Operations	Yes (Wade Swenson)	I would give the city turn lanes on one of their requests. I chose this one because it is on a section line.
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	No, due to no crash history and low turning volumes for all turn movements.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	No, due to warrant not being met. We don't have enough funding to meet our established service-level standards, much less exceed them.

**Executive Decisions**

1. Should the requested turn lane be installed as part of a separate project?


\_\_\_\_\_ Yes

  X   No

Amendments/Comments:

**None**

DocuSigned by:



2A3320956844FD...

\_\_\_\_\_  
Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

Date

## Turn Lane Request #17

**Location:** Intersection of 4<sup>th</sup> Ave. to Butte (RP 130.5)

**Location is within project limits of PCN:** 23149

**PCN Bid Ready Date:** 12/01/2022

**Is requested turn lane within existing project study area?** No

No work is currently proposed for this location. No survey work or environmental studies have been completed at the requested location.

**Was location part of original traffic operations study?** Yes

Intersection was studied by the NDDOT as part of the Traffic Operations Study. Turn lanes are not warranted based on current Traffic Volume.

**Turn lane requestor(s) comment:**

Sandee Michalenko (City Auditor of Bergen via of a petition signed by 41 individuals.)	<i>“Right hand and left hand turning lanes on 4<sup>th</sup> avenue turn to Butte, ND. This turn has a hill and curve to the east of it. Because of that it is dangerous when coming from the east or west and there are trucks and vehicles coming behind you and there is traffic both ways.”</i>
--	---

**Additional Notes:**

Turn lanes not warranted at this location per Traffic Operations Report:

(Note: PCE = Passenger Car Equivalent, based on 2018 traffic counts)

WB Left PCE = 1 (80 required to meet warrants)

EB Right PCE = 20 (160 required to meet warrants)

Zero crashes reported at this intersection.



## Turn Lane Request #17

Note: The requested turn lane is not part of the INFRA Grant awarded to the NDDOT for this project. If a decision is made to install the requested turn lane, the turn lane will be designed and constructed as part of a separate project.

### Recommendations

	Install the Requested Turn Lane Yes/No	Comment
Office of Project Development	No (Chad Orn)	
Office of Transportation Programs	No (Steve Salwei)	
Office of Operations	No(Wade Swenson)	
Bridge Division	No (Jon Ketterling)	
Construction Services Division		
Design Division	No (Jeff Rensch)	No, due to no crash history and low turning volumes for all turn movements.
Minot District	No (Korby Seward)	
Devils Lake District		
Environmental and Transportation Services Division		
Maintenance Division		
Materials and Research Division		
Programming Division	No (Jane Berger)	
Planning/Asset Management Division	No (Scott Zainhofsky)	

### Executive Decisions

- Should the requested turn lane be installed as part of a separate project?

\_\_\_\_\_ Yes

X  No

Amendments/Comments:

None

DocuSigned by:  
  
 2A3326B55C844FD

\_\_\_\_\_  
 Ronald J. Henke, P.E., Deputy Director for Engineering

11/29/2021

\_\_\_\_\_  
 Date

**Certificate Of Completion**

Envelope Id: 650E45F6E2E04D9FA0D956A46C67D600	Status: Completed
Subject: Please DocuSign: US 52 Turn Lane Decision Document 23149 23150 23151	
Contract Number:	
PCN: 23149 23150 23151	
Source Envelope:	
Document Pages: 49	Signatures: 17
Certificate Pages: 3	Initials: 0
AutoNav: Enabled	Envelope Originator:
Enveloped Stamping: Enabled	Gina M. Neigum
Time Zone: (UTC-06:00) Central Time (US & Canada)	608 E Boulevard Ave
	Bismarck, ND 58505
	gneigum@nd.gov
	IP Address: 165.234.253.7

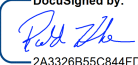
**Record Tracking**

Status: Original	Holder: Gina M. Neigum	Location: DocuSign
11/18/2021 2:08:57 PM	gneigum@nd.gov	
Security Appliance Status: Connected	Pool: StateLocal	
Storage Appliance Status: Connected	Pool: Carahsoft OBO North Dakota Department of Transportation CLOUD	Location: DocuSign

**Signer Events**

Ronald J. Henke  
rhenke@nd.gov  
ND Department of Transportation  
Security Level: Email, Account Authentication (None), Authentication

**Signature**

DocuSigned by:  
  
2A3326B55C844FD...  
Signature Adoption: Uploaded Signature Image  
Using IP Address: 165.234.92.2

**Timestamp**

Sent: 11/19/2021 7:53:32 AM  
Viewed: 11/29/2021 7:39:56 AM  
Signed: 11/29/2021 2:09:17 PM

**Authentication Details**

SMS Auth:  
Transaction: 65F5AFAFD2080B049197DBF502DA06D6  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/29/2021 7:39:34 AM  
Phone: +1 701-400-8185

SMS Auth:  
Transaction: 65F5B4AE96AC040491928315029A2118  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/29/2021 1:28:45 PM  
Phone: +1 701-400-8185

SMS Auth:  
Transaction: 65F5B52DBCD003049192AF9E7A3A3102  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/29/2021 2:03:27 PM  
Phone: +1 701-400-8185

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp
------------------------------	--------	-----------

Certified Delivery Events	Status	Timestamp
---------------------------	--------	-----------

Kirk Hoff  
khoff@nd.gov  
Carahsoft OBO North Dakota Department of  
Transportation CLOUD  
Security Level: Email, Account Authentication  
(None), Authentication  
**Authentication Details**  
SMS Auth:  
Transaction: 65F4E1D9240005049197BA758CCA0994  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/19/2021 7:50:31 AM  
Phone: +1 701-214-0968

SMS Auth:  
Transaction: 65F5B58297FC0904919252CAB10A3D6A  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/29/2021 2:26:46 PM  
Phone: +1 701-214-0968

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign



Sent: 11/18/2021 4:30:13 PM  
Viewed: 11/19/2021 7:50:38 AM

Using IP Address: 165.234.252.245

Chad Orn  
corn@nd.gov  
Carahsoft OBO North Dakota Department of  
Transportation CLOUD  
Security Level: Email, Account Authentication  
(None), Authentication  
**Authentication Details**  
SMS Auth:  
Transaction: 65F4E1E3FCA406049197D402D9FA0B89  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/19/2021 7:53:25 AM  
Phone: +1 701-400-7968



Sent: 11/19/2021 7:50:39 AM  
Viewed: 11/19/2021 7:53:32 AM

Using IP Address: 165.234.253.7

SMS Auth:  
Transaction: 65F51FA7013C0C04919176A9E83AC2A7  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/22/2021 7:50:53 AM  
Phone: +1 701-400-7968

SMS Auth:  
Transaction: 65F5B583313C120491927A895A0A3E9D  
Result: passed  
Vendor ID: TeleSign  
Type: SMSAuth  
Performed: 11/29/2021 2:26:51 PM  
Phone: +1 701-400-7968

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

Carbon Copy Events	Status	Timestamp
--------------------	--------	-----------

Witness Events	Signature	Timestamp
----------------	-----------	-----------

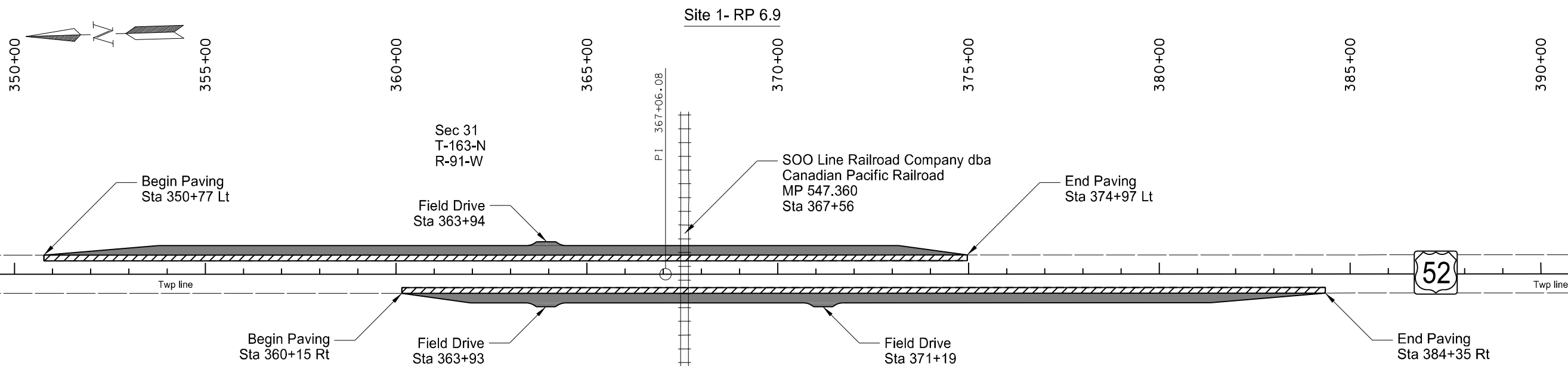
Notary Events	Signature	Timestamp
---------------	-----------	-----------





<b>Envelope Summary Events</b>	<b>Status</b>	<b>Timestamps</b>
Envelope Sent	Hashed/Encrypted	11/18/2021 4:30:13 PM
Certified Delivered	Security Checked	11/29/2021 7:39:56 AM
Signing Complete	Security Checked	11/29/2021 2:09:17 PM
Completed	Security Checked	11/29/2021 2:09:17 PM

<b>Payment Events</b>	<b>Status</b>	<b>Timestamps</b>
-----------------------	---------------	-------------------

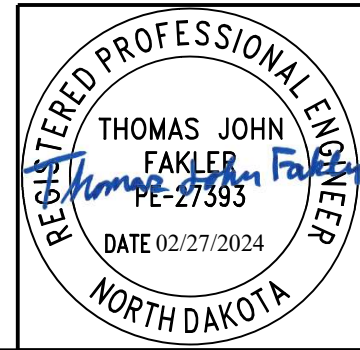
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	1



Legend

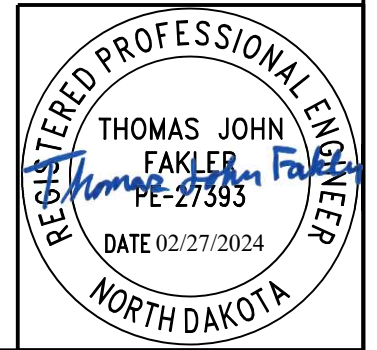
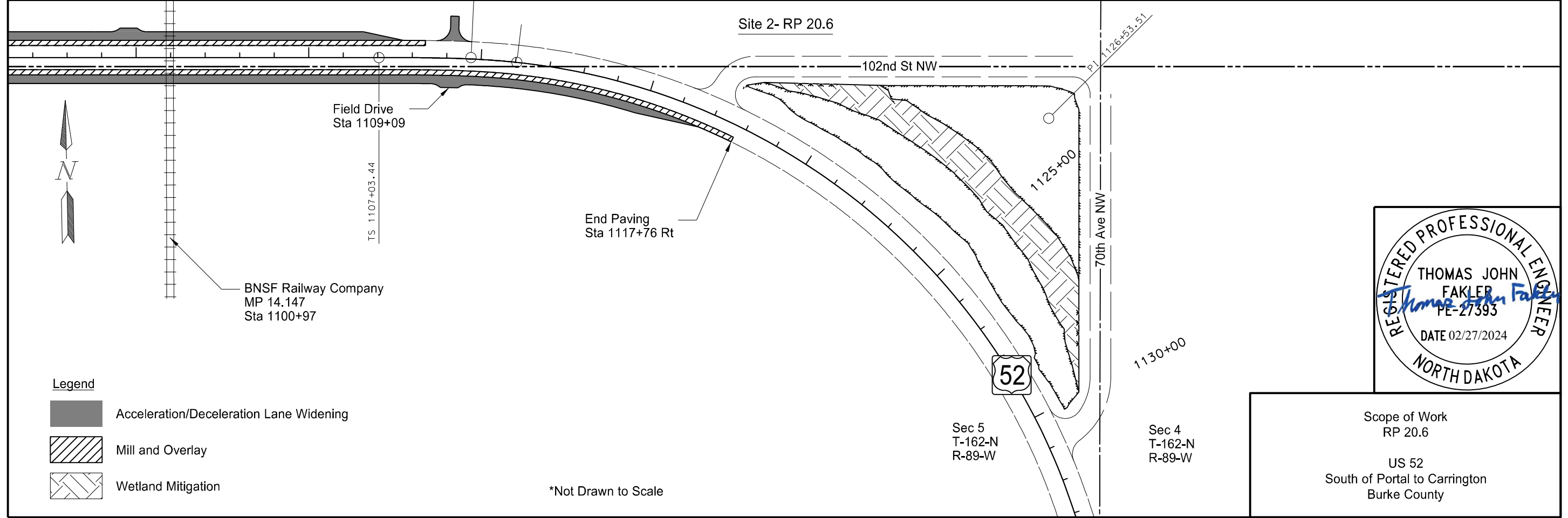
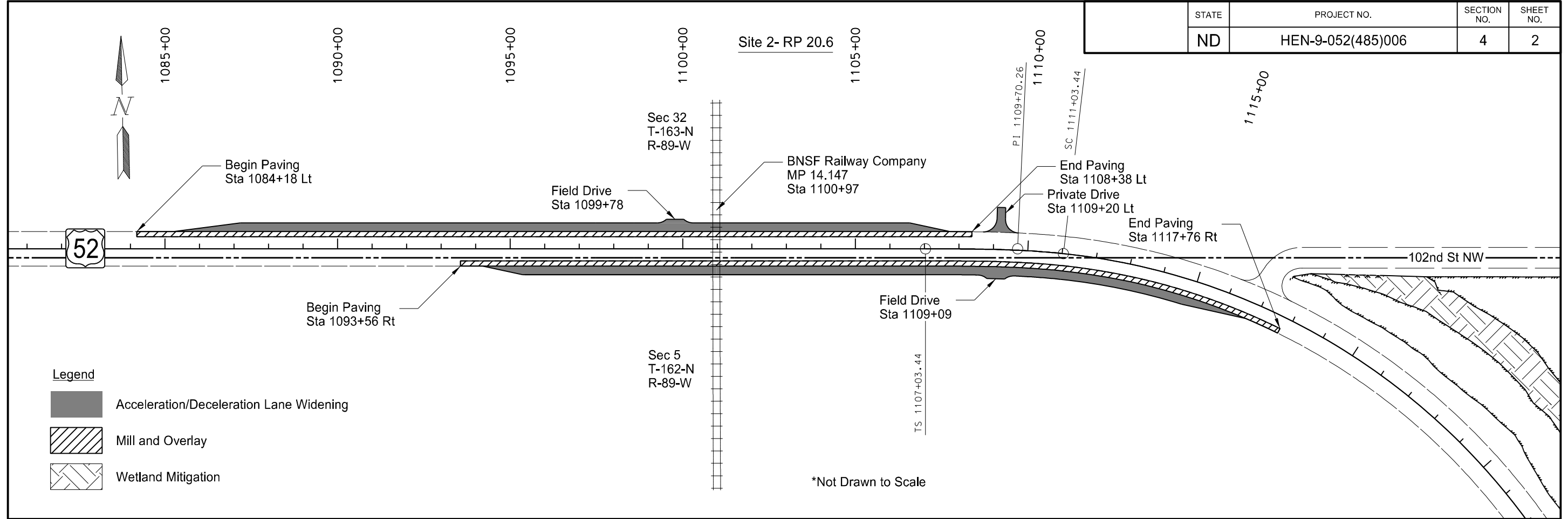
-  Acceleration/Deceleration Lane Widening
-  Mill and Overlay

\*Not Drawn to Scale



Scope of Work  
 RP 6.9  
 US 52  
 South of Portal to Carrington  
 Burke County

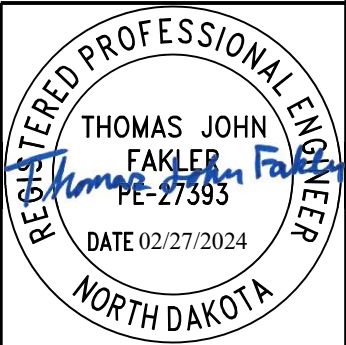
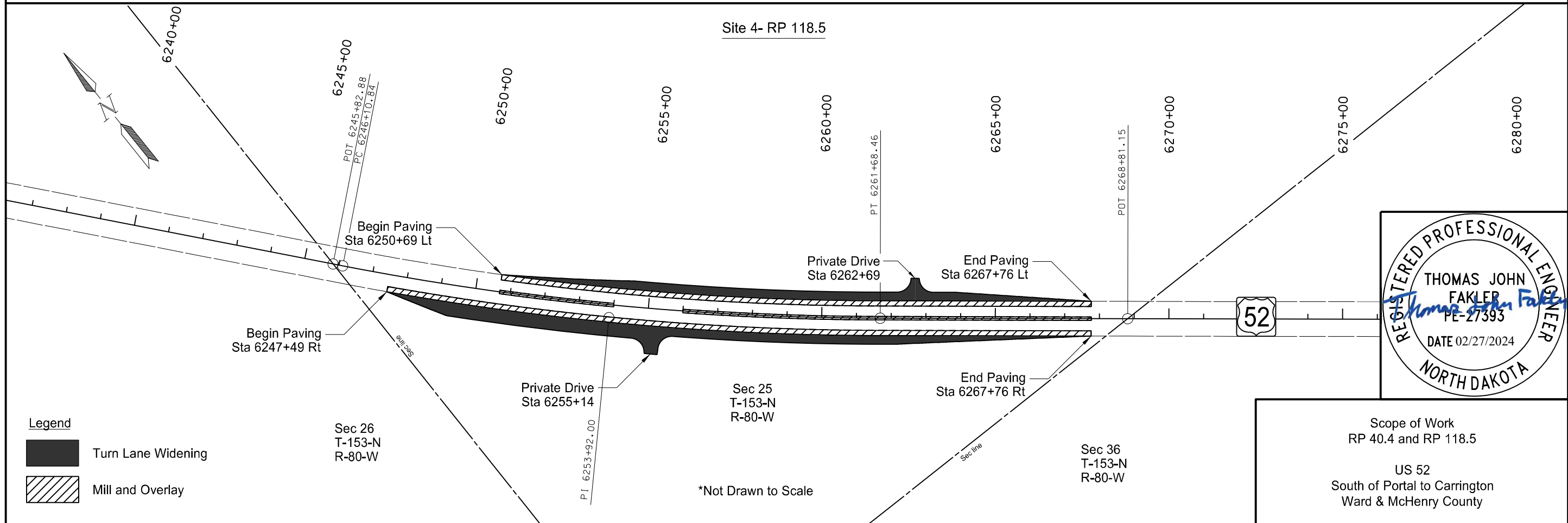
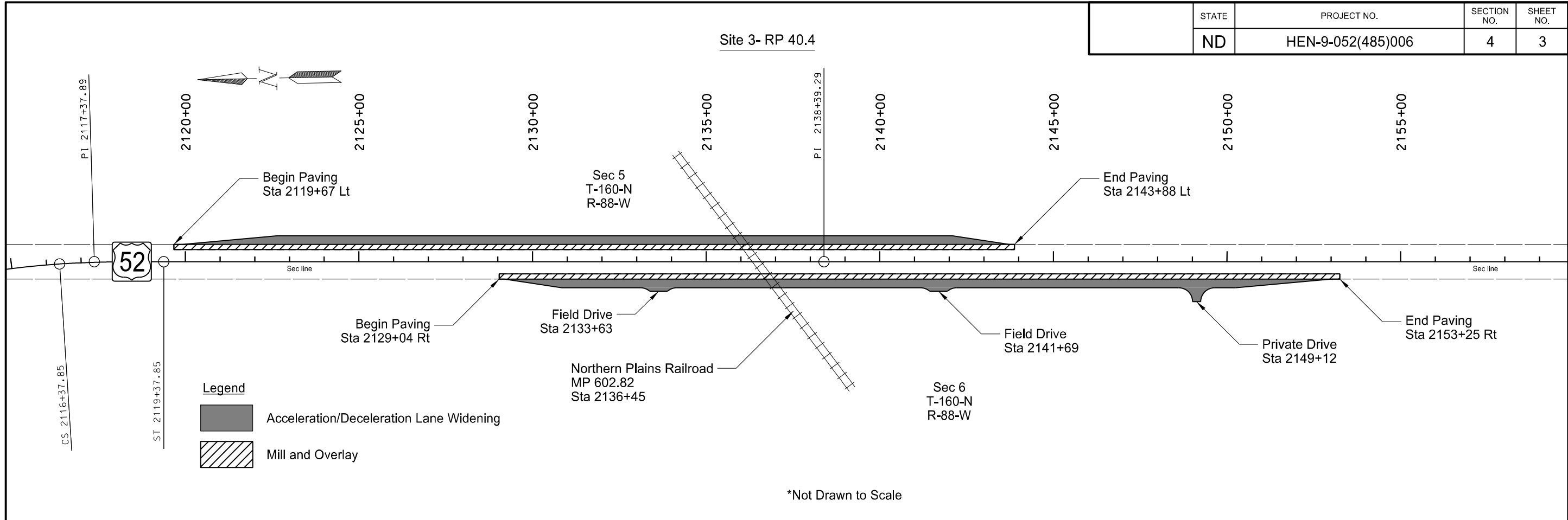
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	2



Scope of Work  
 RP 20.6

US 52  
 South of Portal to Carrington  
 Burke County

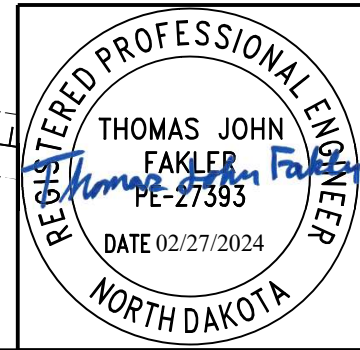
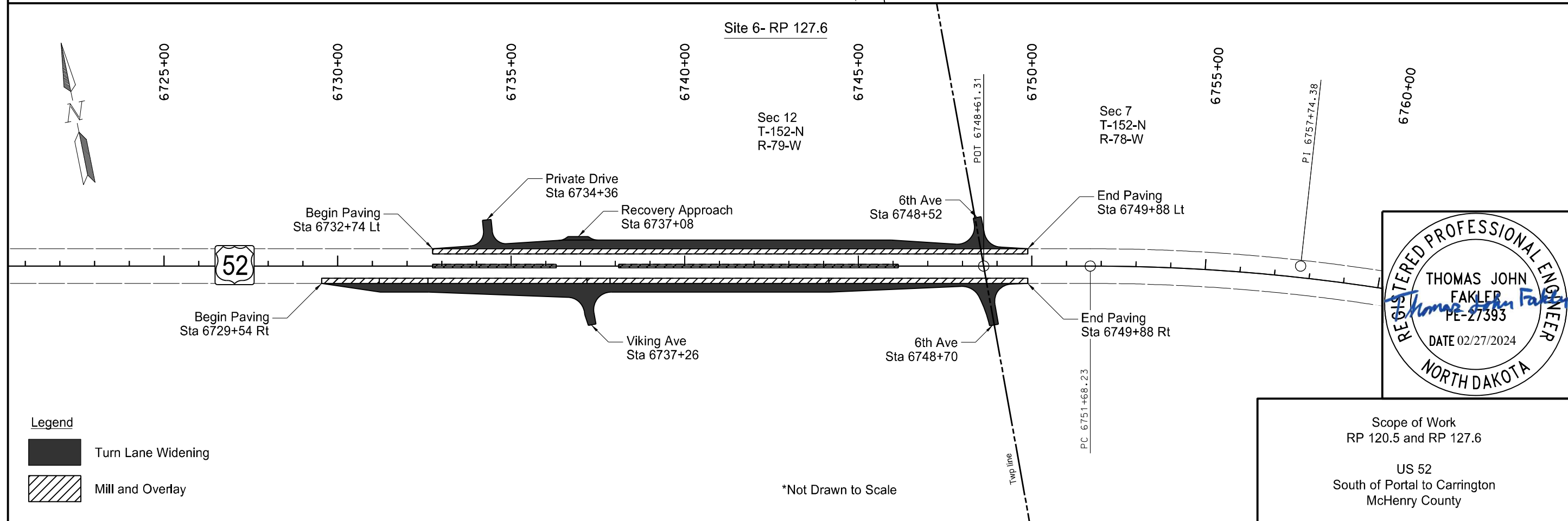
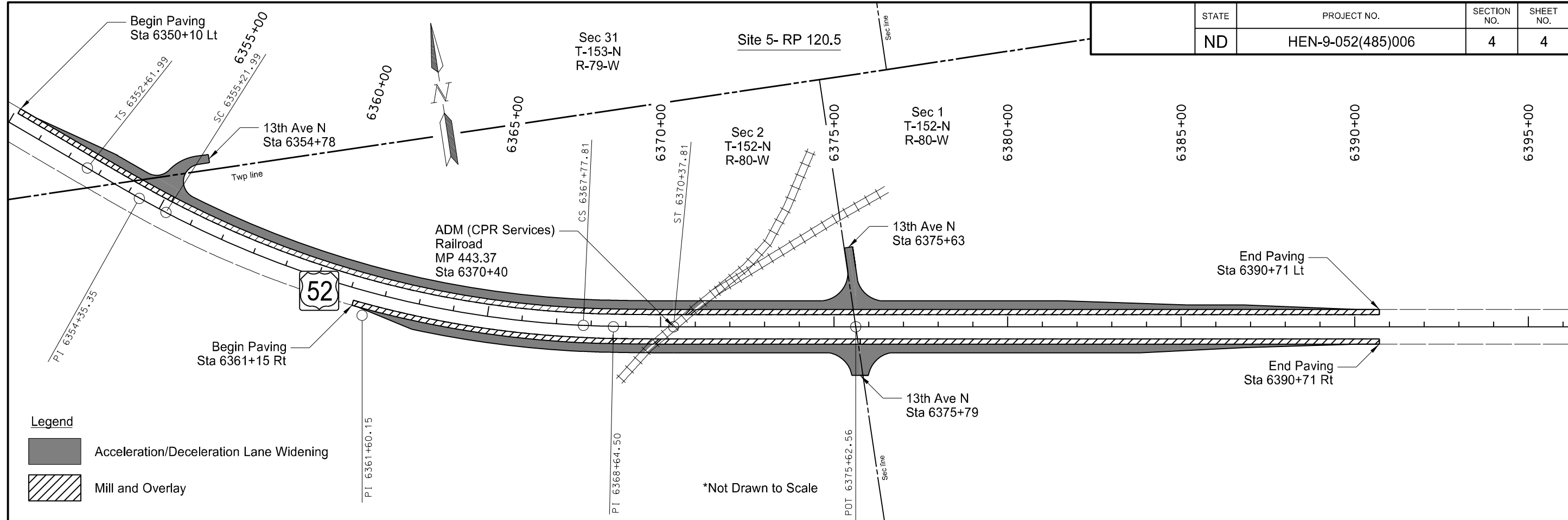
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	3



Scope of Work  
RP 40.4 and RP 118.5

US 52  
South of Portal to Carrington  
Ward & McHenry County

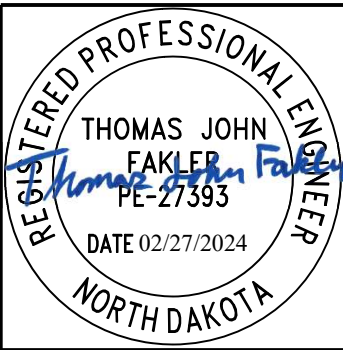
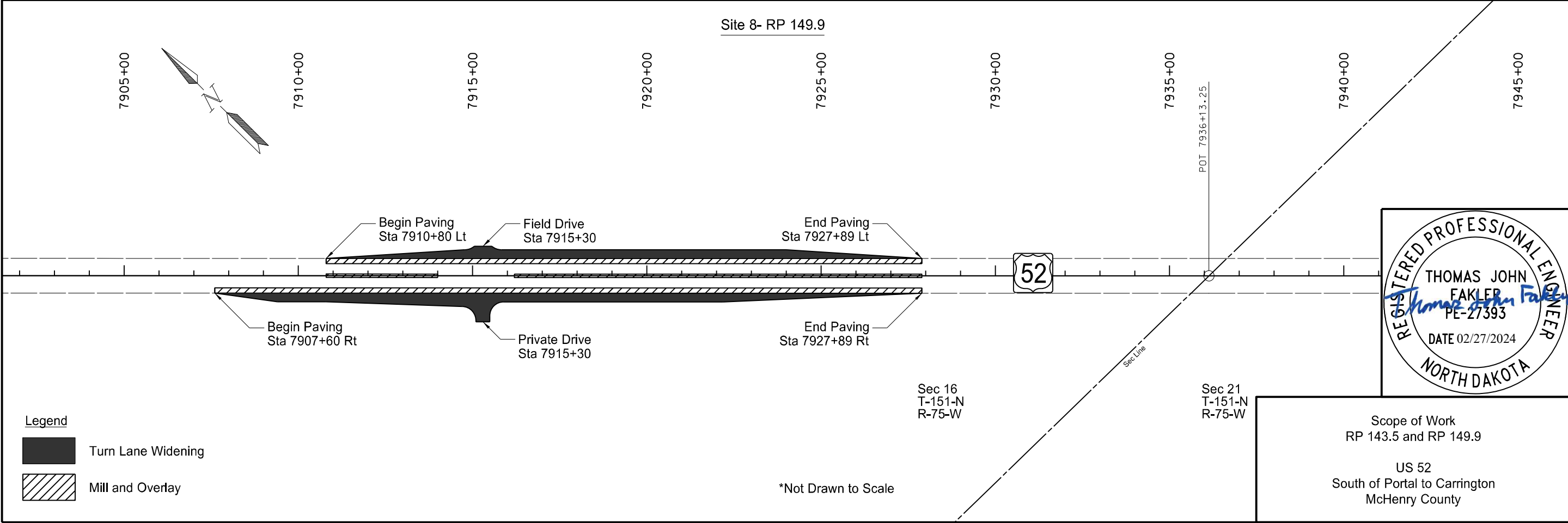
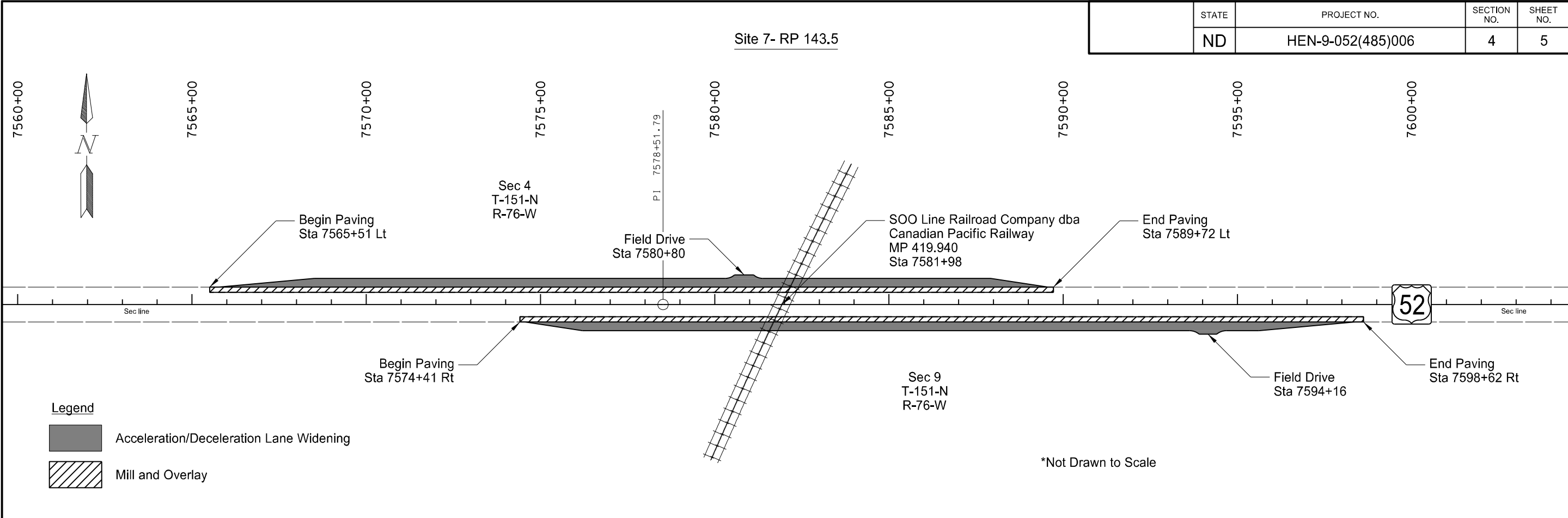
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	4



Scope of Work  
 RP 120.5 and RP 127.6

US 52  
 South of Portal to Carrington  
 McHenry County

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	5

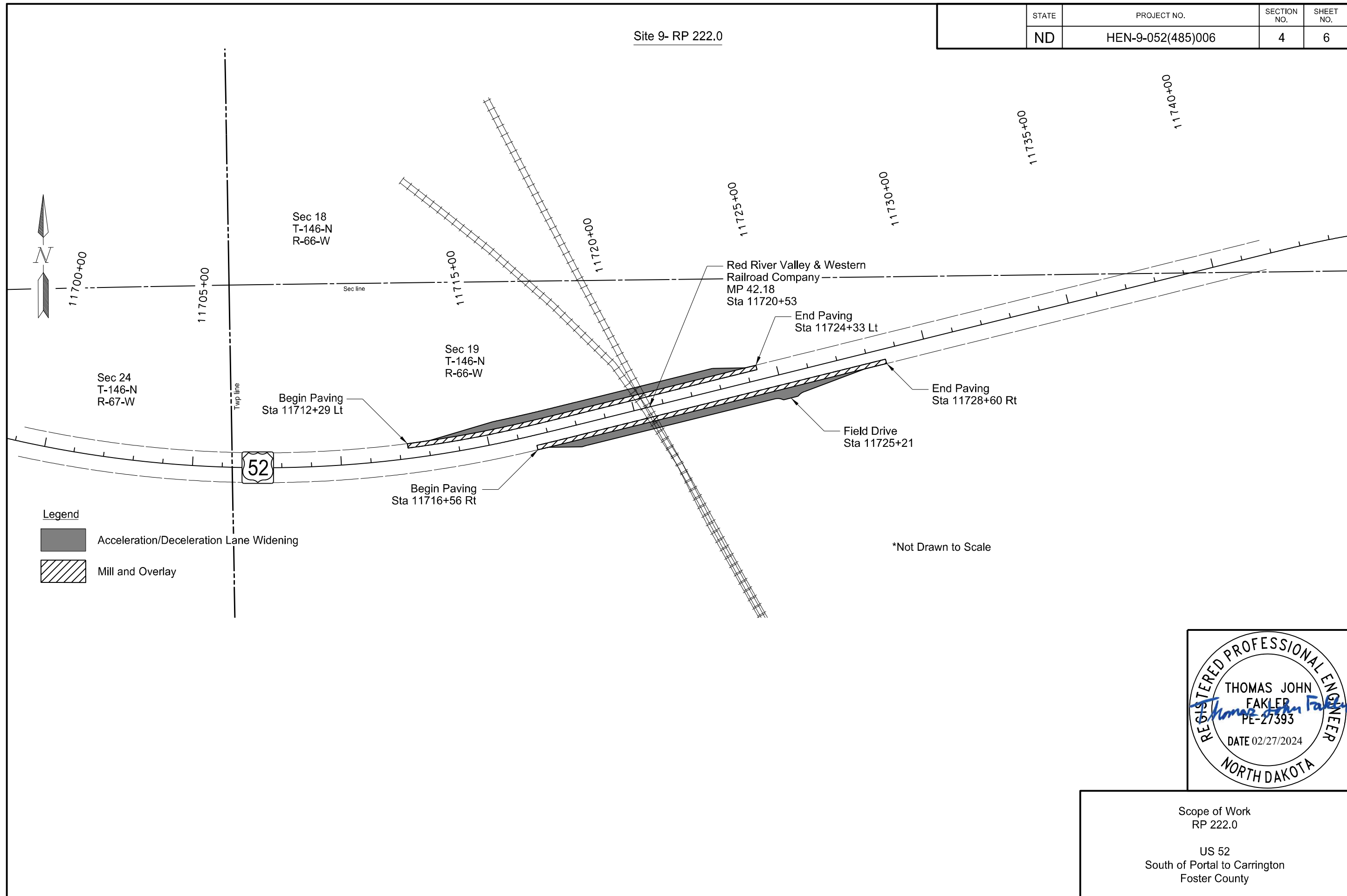


Scope of Work  
 RP 143.5 and RP 149.9



US 52  
 South of Portal to Carrington  
 McHenry County

Site 9- RP 222.0

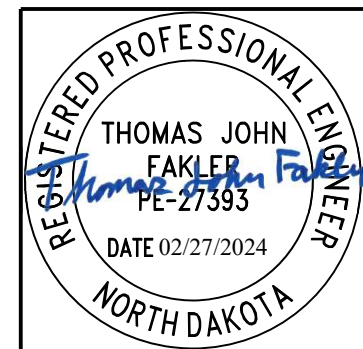
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	HEN-9-052(485)006	4	6



Legend

-  Acceleration/Deceleration Lane Widening
-  Mill and Overlay

\*Not Drawn to Scale



Scope of Work  
RP 222.0

US 52  
South of Portal to Carrington  
Foster County

#4347

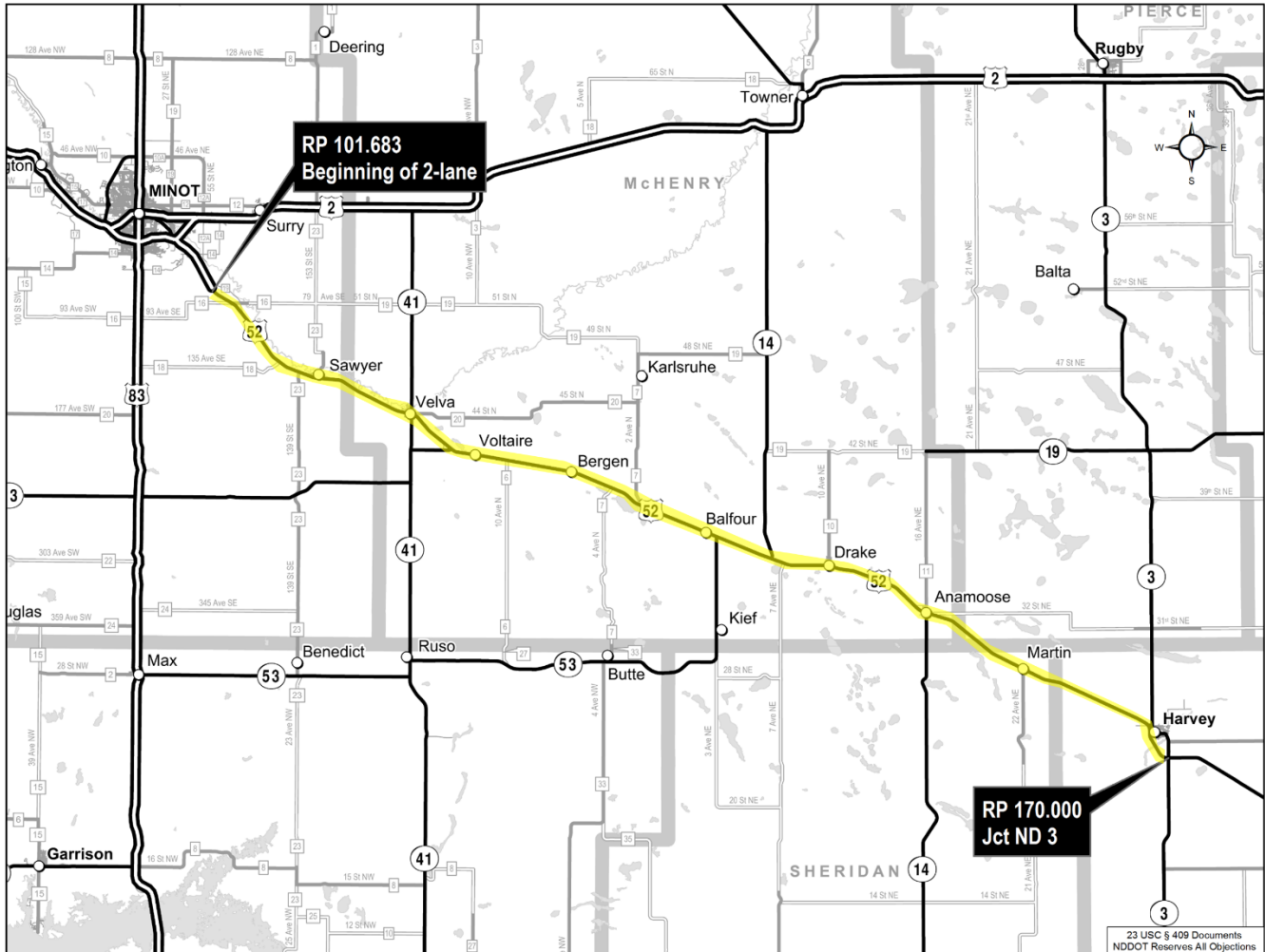
# TRAFFIC OPERATIONS STUDY

## US 52

### Beginning of 2-lane to Harvey (ND 3)

### RP 101.683 to RP 170.000

This document was originally issued and sealed by DONOVAN M SLAG Registration Number PE 5647 on 4/1/2019 and the original document is stored at the North Dakota Department of Transportation



Prepared By:  
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
PROGRAMMING DIVISION  
TRAFFIC OPERATIONS SECTION

April 2019



# TABLE OF CONTENTS

Introduction.....	3
Background .....	3
Traffic Data / Segment Capacity .....	4
Crash History .....	5
Intersections	
US 52 / Ward 19 S.....	6
US 52 / 135 Ave SE.....	7
US 52 / Central Ave.....	8
US 52 / 153 St SE.....	9
US 52 / 1 St E.....	10
US 52 / 14 Ave N.....	11
US 52 / 10 Ave N.....	12
US 52 / 6 Ave N.....	13
US 52 / 4 Ave N.....	14
US 52 / 2 Ave N.....	15
US 52 / Main St.....	16
US 52 / ND 53.....	17
US 52 / ND 14.....	18
US 52 / 7 Ave N.....	19
US 52 / H Ave W.....	20
US 52 / 32 St NE.....	21
US 52 / ND 14.....	22
US 52 / 32 St SE.....	23
US 52 / ND 91.....	24
US 52 / US 52B.....	25
US 52 / 30 Ave N.....	26
Access Management Near Harvey .....	27
Summary .....	31
Appendix A – Traffic Volumes .....	32
Appendix B – Capacity Analysis Reports.....	64
Appendix C – Crash Summary Reports .....	77
Appendix D – Turn Lane Warrant Calculations.....	97
Appendix E – US 52 / US 52B Exhibits .....	118
Appendix F – Exhibits from 1976 Study.....	120

**TRAFFIC OPERATIONS STUDY**  
 US 52  
 Beginning of 2-lane to Harvey (ND 3)

**INTRODUCTION**

The traffic control recommendations in this study are based on:

- The 2009 Manual on Uniform Traffic Control Devices (MUTCD), FHWA
- A Policy on Geometric Design of Highways and Streets, AASHTO, 2018
- The Highway Capacity Manual 6<sup>th</sup> Edition, TRB, 2016
- Highway Safety Manual, 1<sup>st</sup> Edition, AASHTO, 2010
- Lighting Warrant Policy, NDDOT, 2015
- NDDOT Traffic Operations Manual, November 2018
- Harvey Bypass, Memo to Wilfred Wolf, October 11, 1976

**BACKGROUND**

The study area is US 52 from the beginning point of the 2-lane section (east of Minot) to Harvey at ND 3. The purpose of this study is to evaluate the need for turn lanes at the study intersections and to evaluate the two-lane highway segment capacity to determine the possible need for passing-lanes.

The study intersections were determined based on:

- US 52 intersections where the minor road is paved and there are no existing turn lanes
- Where US 52 posted speed is greater than 50 mph
- Input from the Minot District Engineer.

For this study, the intersection capacity analysis was done only at US 52 / ND 91. This intersection had the highest traffic volume with a calculated LOS A (see page 24), therefore it is assumed the remaining study intersections can also expect LOS A.

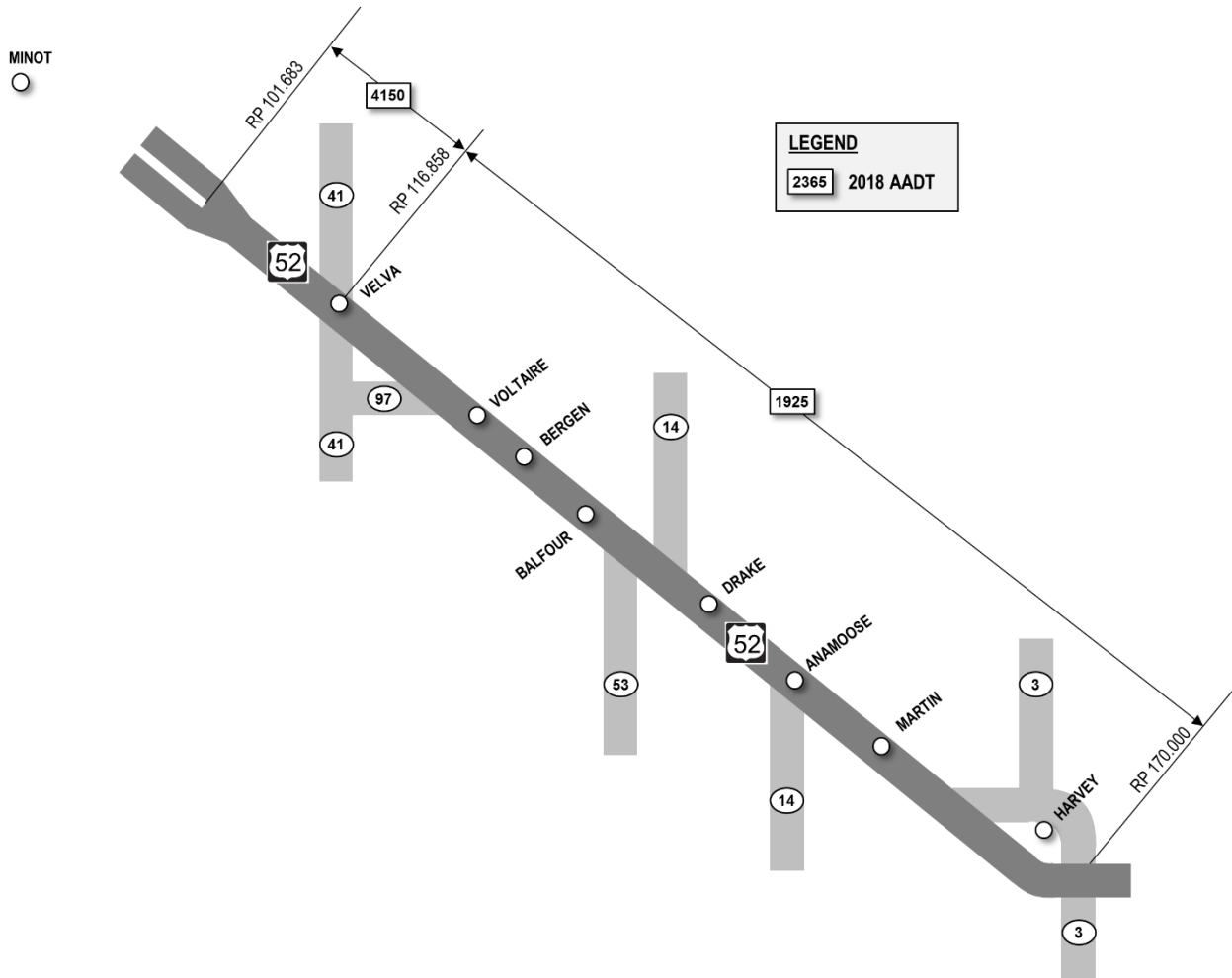
Study Intersections	Traffic Control	Lighting
#1107 US 52 / Ward 19 S	Two-way Stop	None
#1108 US 52 / 135 Ave SE (Ward 18)	Two-way Stop	None
#1110 US 52 / Central Ave (Ward 23)	Two-way Stop	Destination
#1111 US 52 / 153 St SE (2 St SE)	Two-way Stop	Destination
#1112 US 52 / 1 St E (Ward 25)	Two-way Stop	None
#1114 US 52 / 14 Ave N	Two-way Stop	Destination
#1117 US 52 / 10 Ave N (McHenry 6)	Two-way Stop	None
#1118 US 52 / 6 Ave N	Two-way Stop	None
#1119 US 52 / 4 Ave N	Two-way Stop	None
#631 US 52 / 2 Ave N (McHenry 7)	Two-way Stop	None
#1120 US 52 / Main St	Two-way Stop	Destination
#60 US 52 / ND 53	Two-way Stop	None
#61 US 52 / ND 14 (W Jct)	Two-way Stop	None
#1121 US 52 / 7 Ave NE	Two-way Stop	None
#1122 US 52 / H Ave W	Two-way Stop	None
#1123 US 52 / 32 St NE	Two-way Stop	None
#62 US 52 / ND 14 (E Jct)	Two-way Stop	None
#1124 US 52 / 32 St SE	Two-way Stop	None
#1048 US 52 / ND 91	Two-way Stop	Illumination
#1050 US 52 / US 52B	Two-way Stop	Illumination
#1125 US 52 / 30 Ave N	Two-way Stop	None

Highway	Functional Classification	Performance Classification	Speed Limit
US 52	Principal Arterial Rural	Rural Interregional Corridor	65 mph



Figure 1 – View WB at RP 122.98 (from NDDOT Pathweb)

**TRAFFIC DATA**



Traffic data was acquired from the Roadway Data Section in June 2018. The current and projected AADTs are summarized below. Note the high percentage of trucks, especially in the second segment. This is due to the low volume of passenger vehicles. Traffic volume details are in appendix A. The peak hour is assumed to be 10% of the total AADT with a 50/50 directional distribution. Segment capacity worksheets are in appendix B.

<b>RP 101.683 to RP 116.858</b>				
<b>Year</b>	<b>Passenger</b>	<b>Trucks</b>	<b>Total AADT</b>	<b>LOS</b>
2018	3270	880 (21.2%)	<b>4150</b>	<b>B</b>
2038	4415	1315 (23.0%)	<b>5730</b>	<b>C</b>

<b>RP 116.858 to RP 169.979</b>				
<b>Year</b>	<b>Passenger</b>	<b>Trucks</b>	<b>Total AADT</b>	<b>LOS</b>
2018	1270	655 (59.0%)	<b>1925</b>	<b>A</b>
2038	1715	980 (59.0%)	<b>2695</b>	<b>A</b>

NDDOT guidance is to meet or exceed an overall LOS D for under 20-year projected automobile traffic<sup>1</sup>. The existing roadway cross section meets LOS guidelines for all 4 segments. Therefore, passing-lanes are not needed based on this capacity analysis.

### **CRASH HISTORY**

Location Description US 52 – RP 101.683 to RP 170.000  
 Crash Time Period January 1, 2013 through December 31, 2017

<b>Crash Severity</b>	
Fatal	5
Incapacitating Injury	7
Non-incapacitating Injury	30
Possible Injury	20
Property Damage Only	112
<b>Total</b>	<b>174</b>

<b>Manner of Collision</b>	
Angle	22
Rear End	26
Left Turn	5
Sideswipe	10
Single Vehicle	89
Ped/Bike	1
Other	21
<b>Total</b>	<b>174</b>

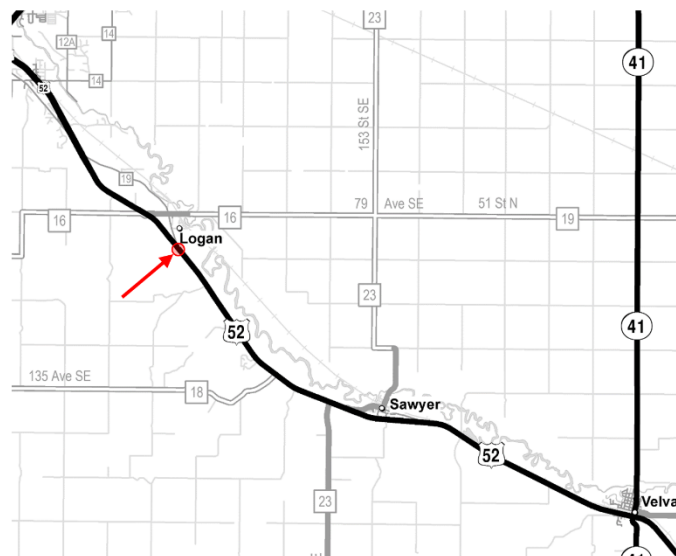
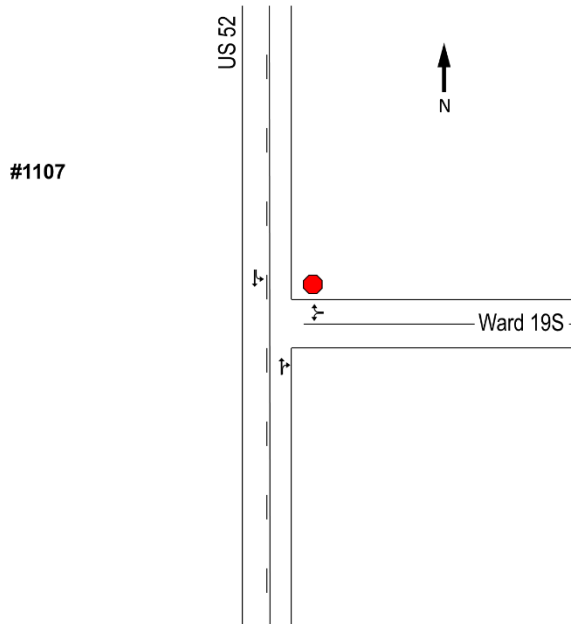
<b>Surface Conditions</b>	
Dry	102
Wet, ice, snow, frost, other	72
<b>Total</b>	<b>174</b>

- Factors in the fatal crashes include: crossing the centerline, failure to yield, loss of control. One fatal crash involved a pedestrian—the pedestrian had been in a single vehicle crash and was trying to flag down a passing vehicle for help.
- Contributing factors for fatal & injury crashes (K,A,B,C) were typically: failure to yield, following too close, failing to keep in proper lane, speed/too fast for conditions.
- Study intersections with 3 or more crashes:
  - #61: US 52 / ND 14 – 3 crashes
  - #62: US 52 / ND 14 – 4 crashes
  - #1048: US 52 / ND 91 – 4 crashes

See appendix C for details on the crash data. A crash modification factor (CMF) for a passing-lane is 0.75<sup>2</sup>.

Reference:

1. NDDOT, "[Traffic Operations Manual](#)", November 2018. Page 11
2. AASHTO, "[Highway Safety Manual](#)", 2010. Table 16-7



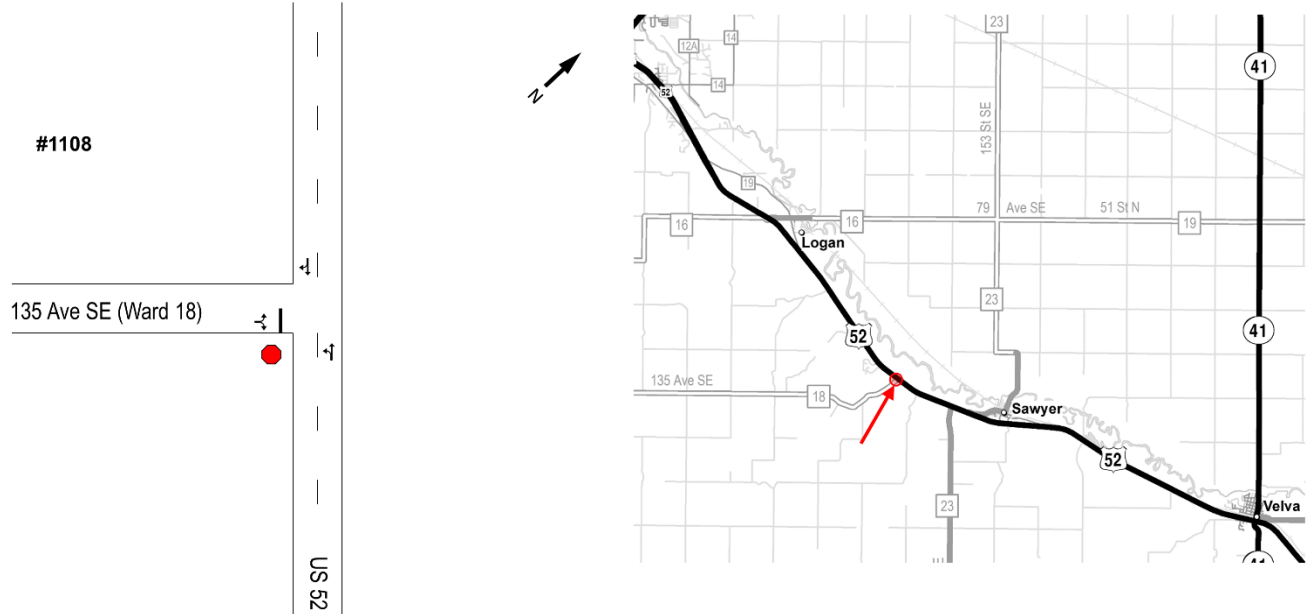
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.4 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

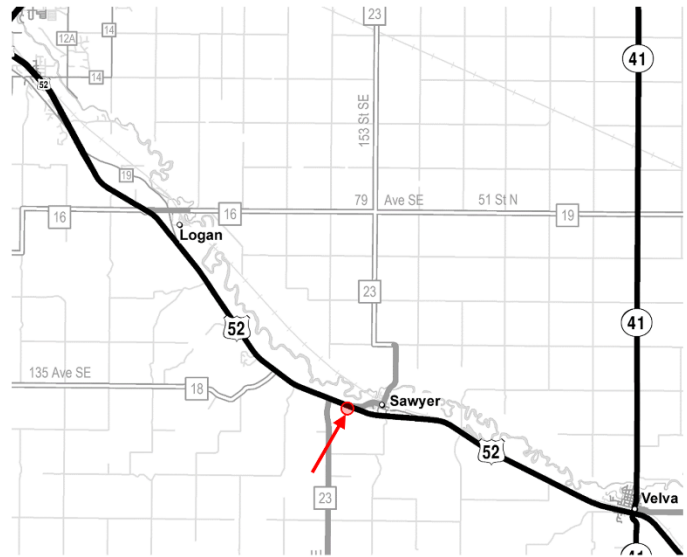
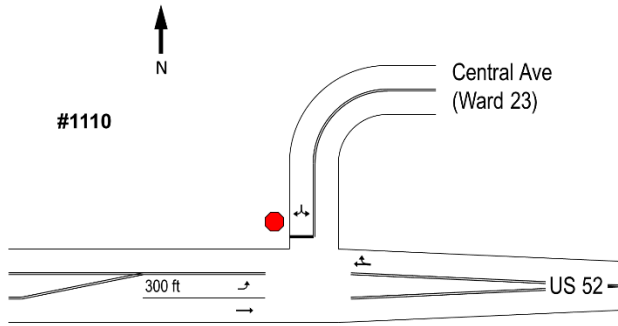
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	Yes	N/A – should be 630 ft
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

**A NB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.6 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

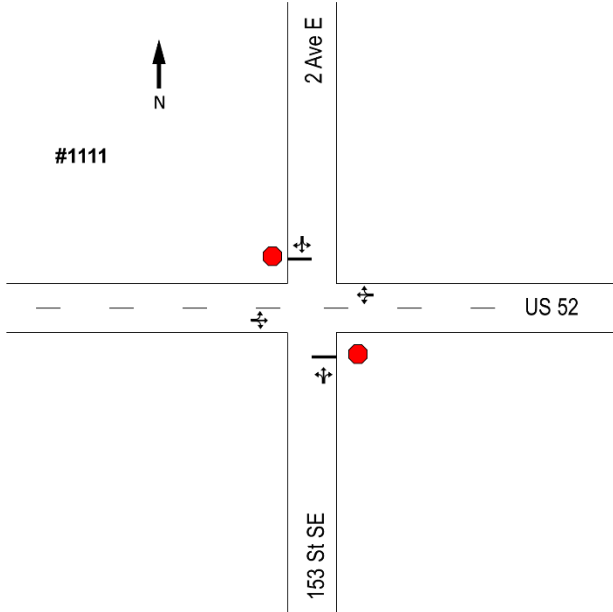
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	Yes	Yes	No – ex. 300 ft, should be 630 ft
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

**An EB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	Yes – cross product is 2.0 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**



**Intersection-related Crashes**

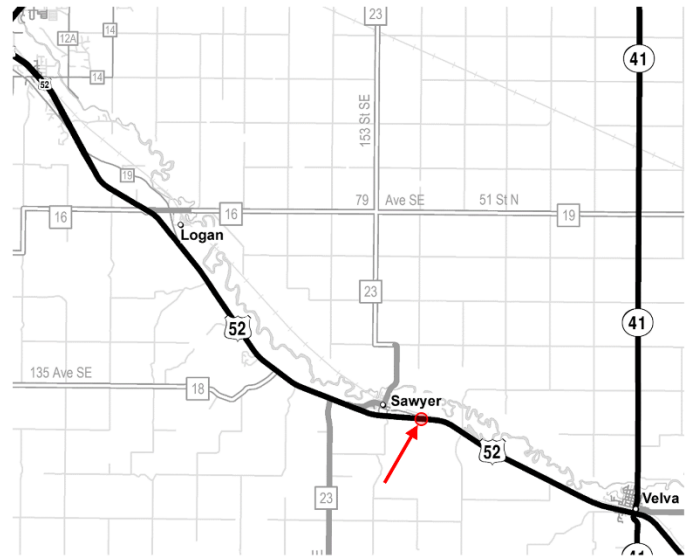
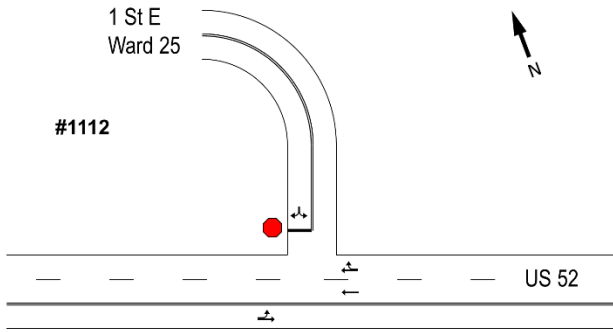
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.4 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**





**Intersection-related Crashes**

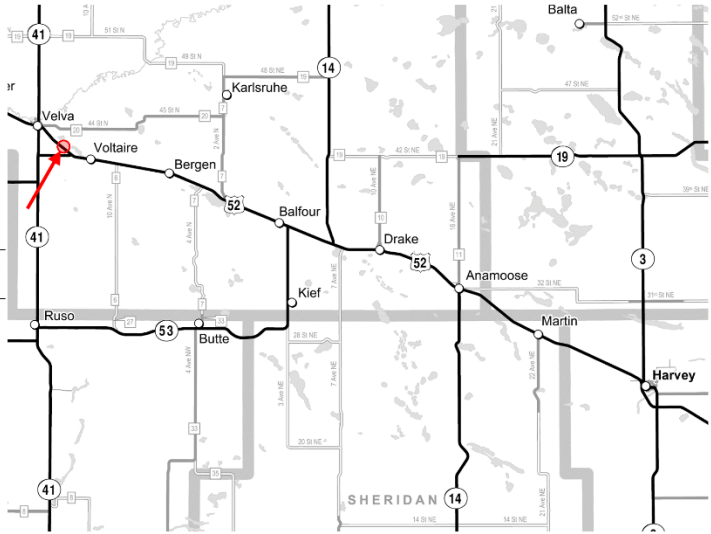
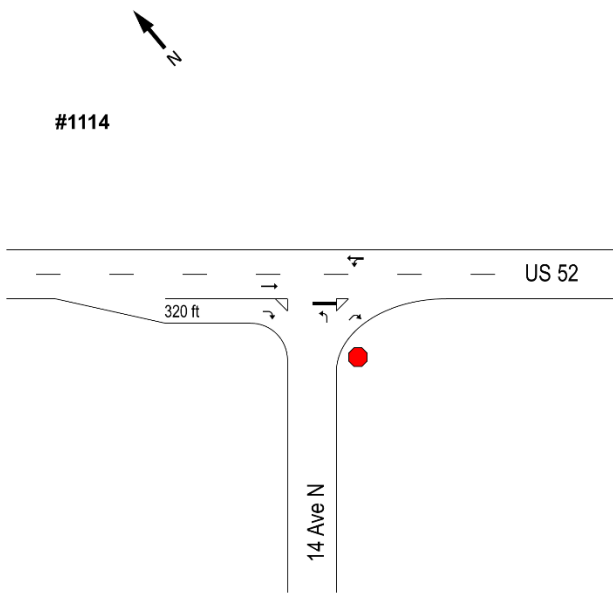
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	Yes	N/A -- should be 530 ft

**A WB right turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.7 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

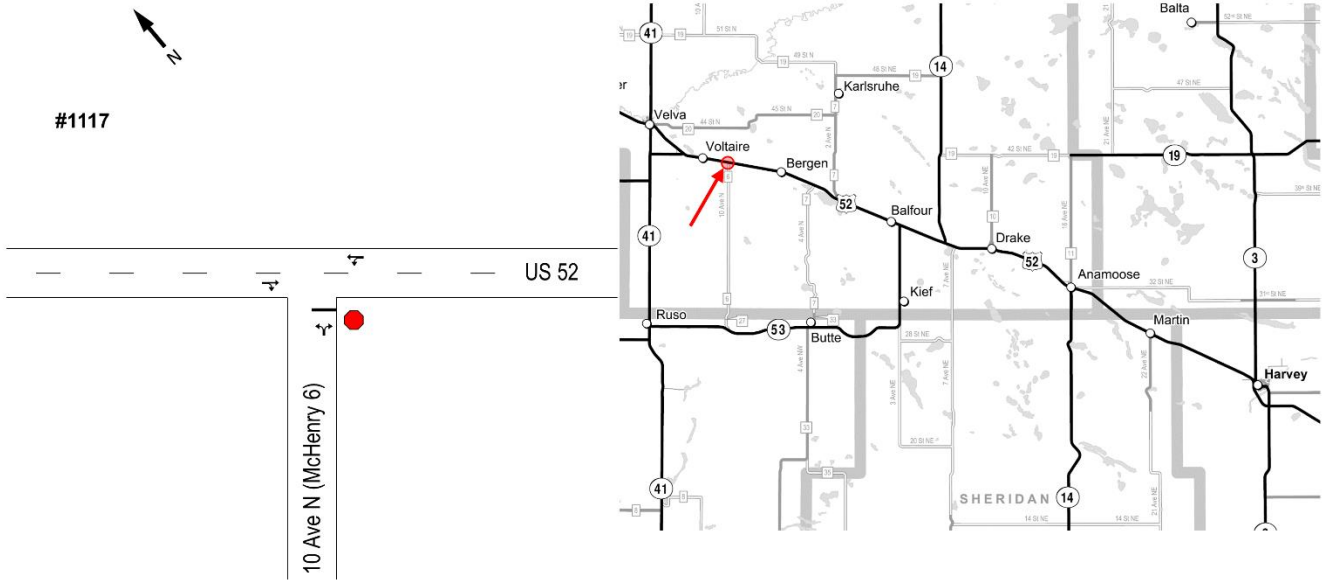
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	Yes	Yes	No— ex. 320 ft, should be 530 ft
WB to NB Right	No	No	N/A

**An EB right turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.5 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**



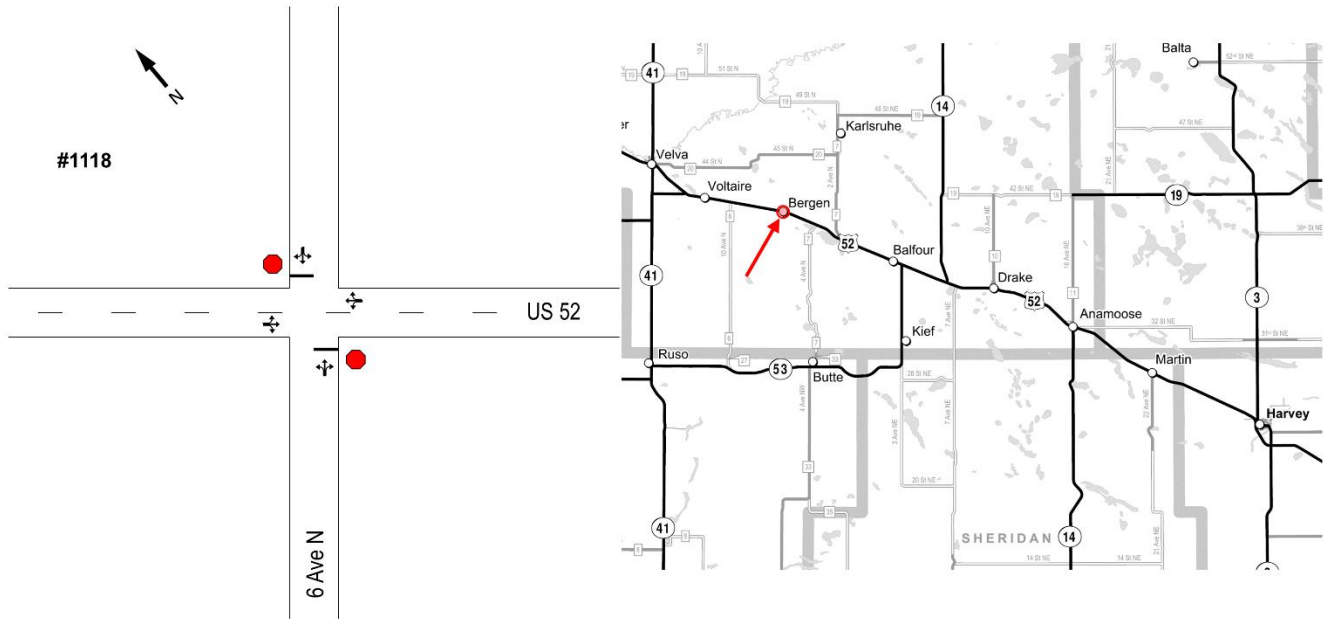
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



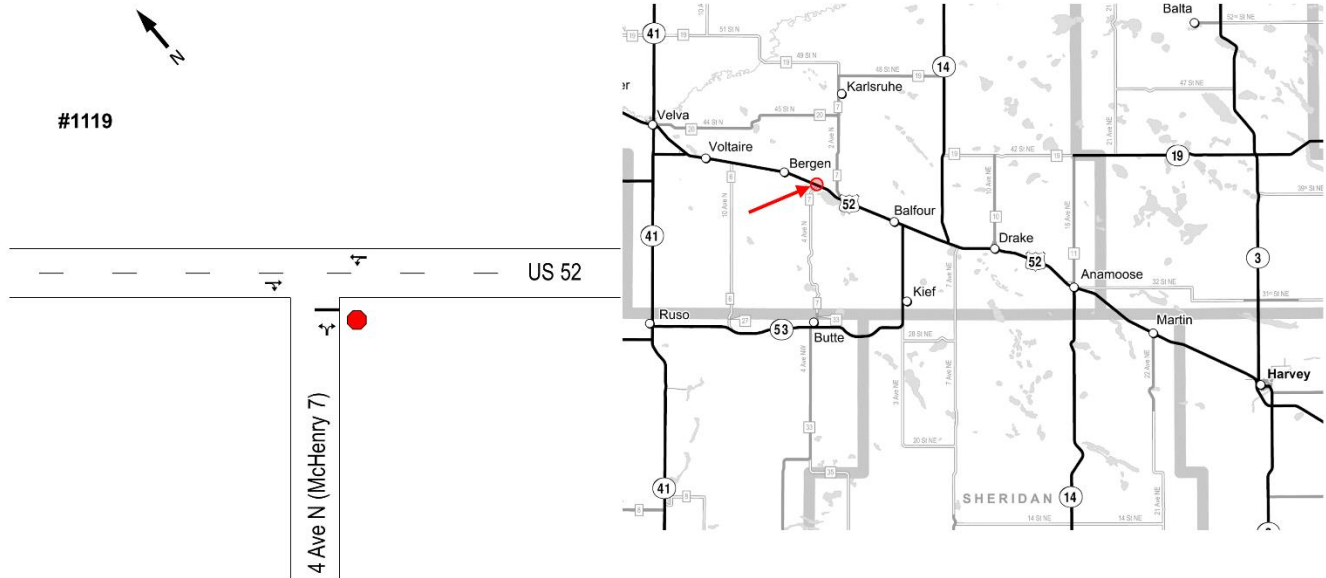
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



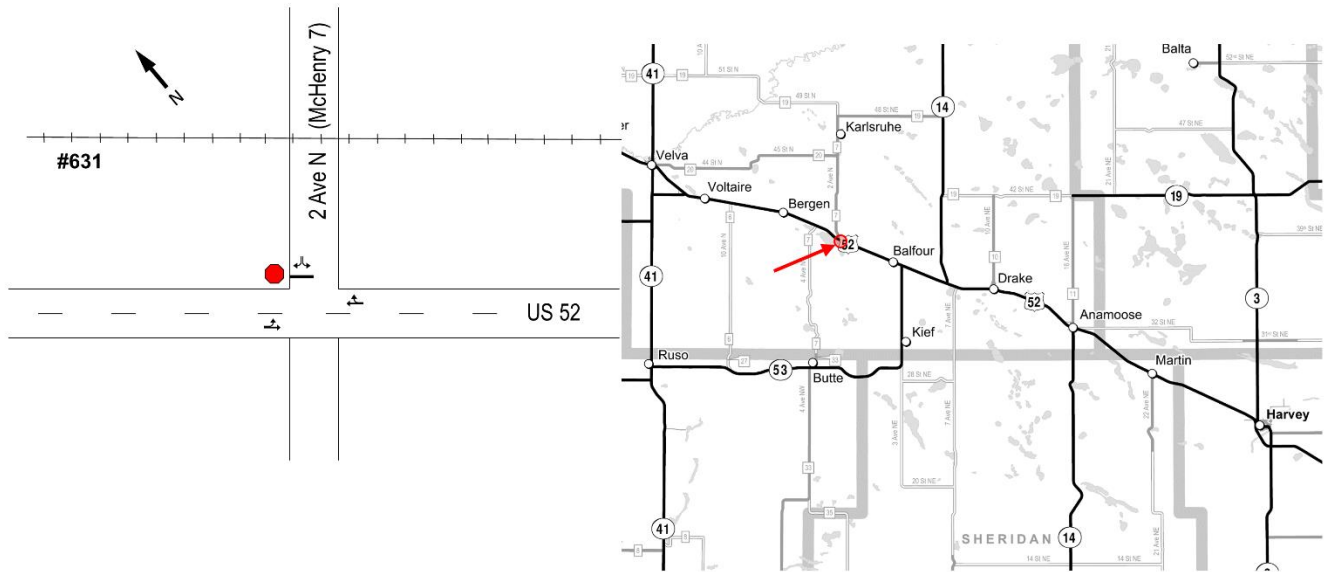
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



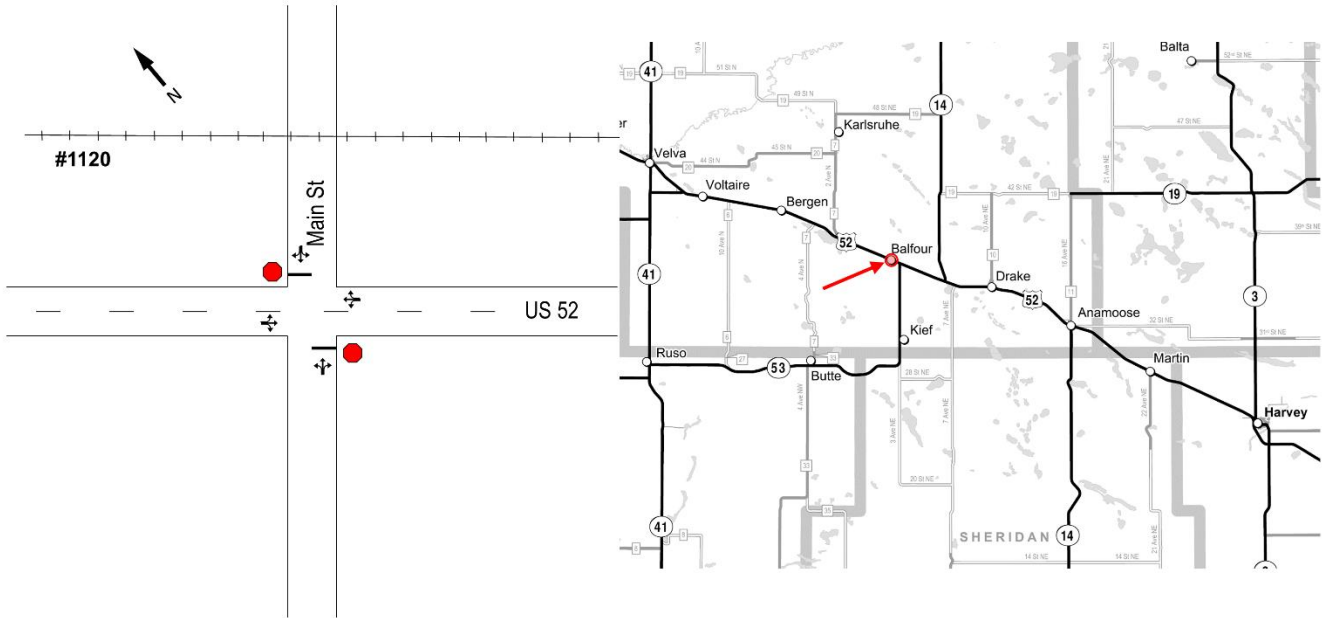
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



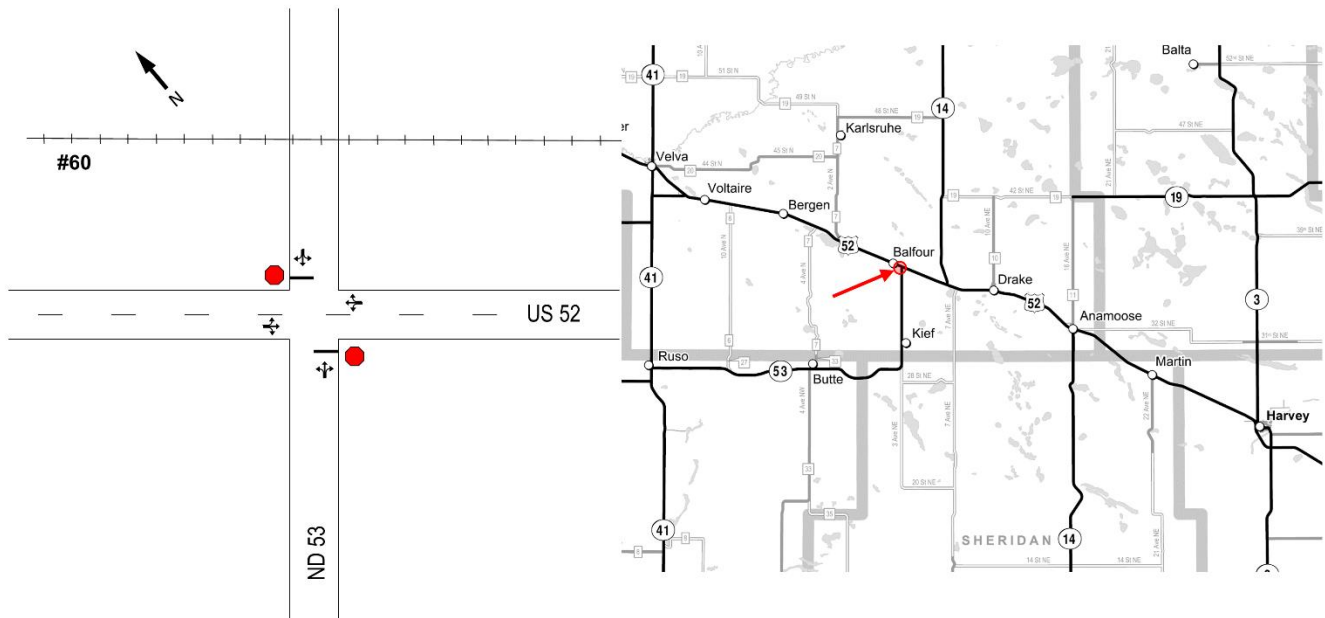
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**



**Intersection-related Crashes**

There were two reported crashes at this intersection. The first crash occurred when a vehicle was slowing to make a WB left turn and was rear ended. The front vehicle was pushed across the centerline and collided head on with an EB vehicle. The other crash occurred when a vehicle had slowed to make a WB left turn and was rear ended by another WB vehicle. These two crashes are susceptible to correction by a turn lane. The crashes occurred within a 3 year period on a roadway with a posted speed of 65 mph. Based on this crash history, criteria 1.B is met to install a WB left turn lane.

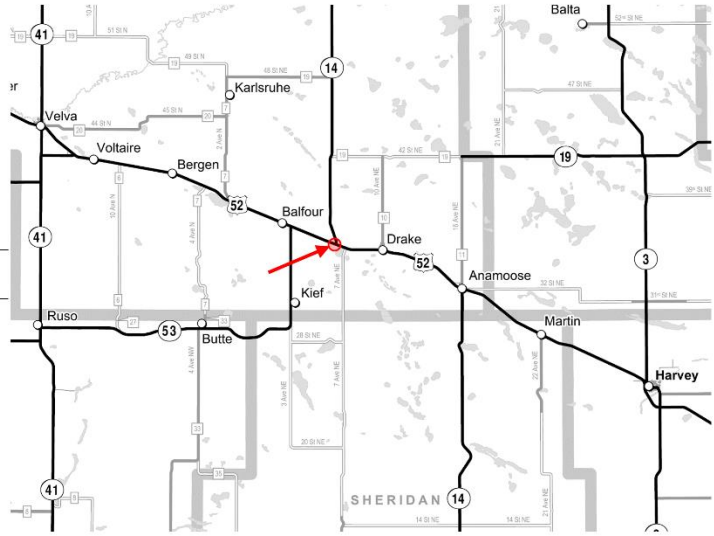
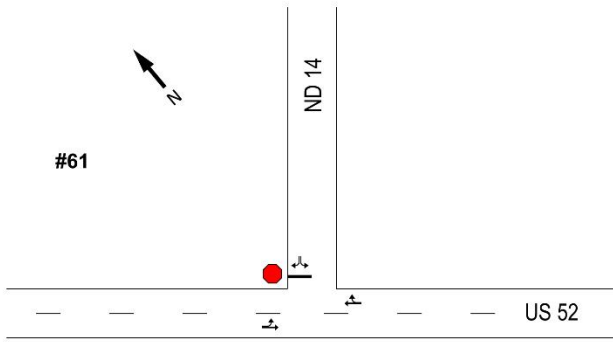
Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No (Yes for 1.B)	N/A – should be 630 ft
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

**A WB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product ≥ 2,000,000	No – cross product is 0.4 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**





**Intersection-related Crashes**

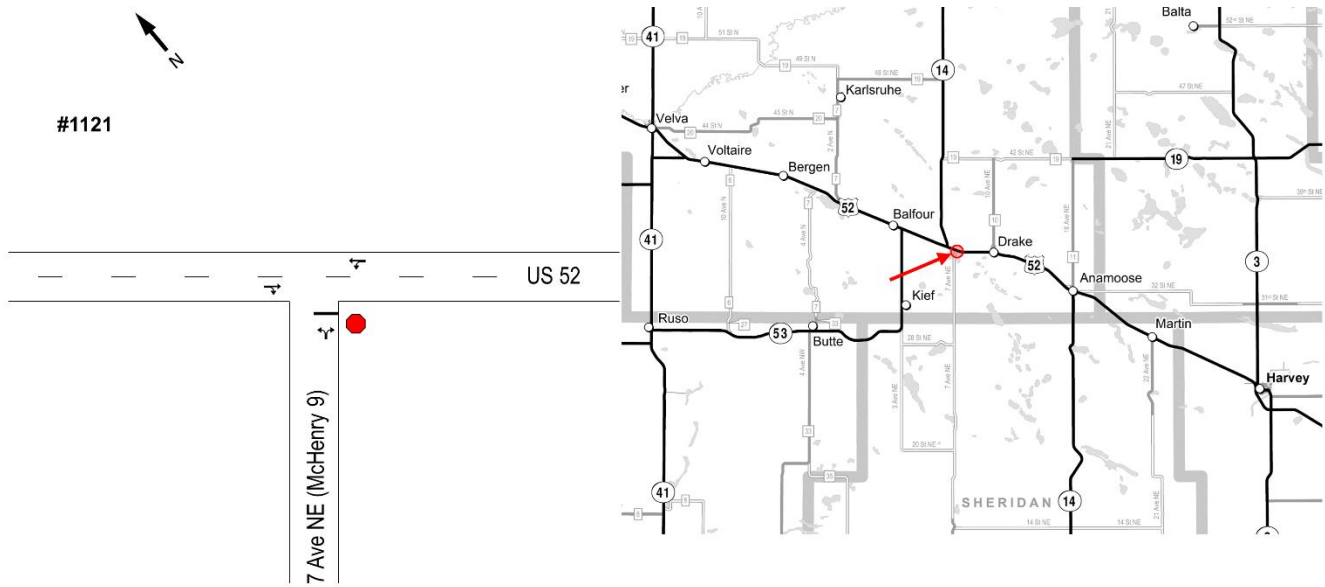
There were three reported crashes at this intersection. A driver backing up on ND 14 went into the path of a WB truck on US 52. The two other crashes occurred within minutes of each other where a SB vehicle failed to stop and landed in water in the south ditch. The driver then went onto the north side of the road to flag down a vehicle to get help. This individual was struck by a WB truck resulting in fatal injuries.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	Yes	N/A – should be 630 ft
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

**An EB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product ≥ 2,000,000	No – cross product is 0.4 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



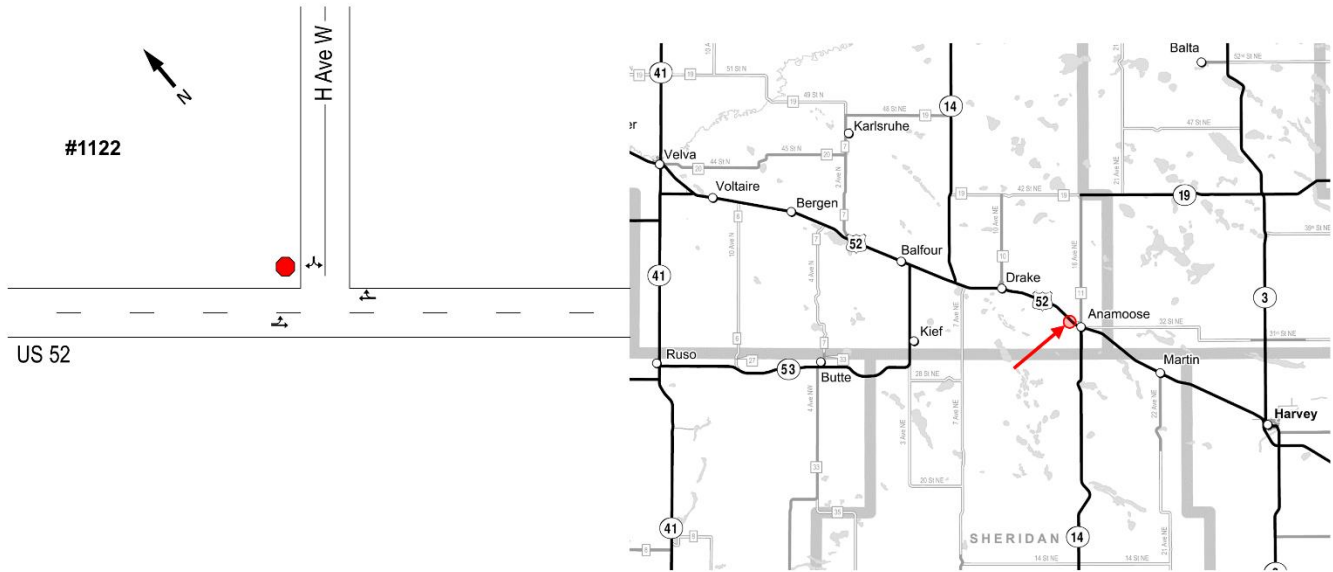
**Intersection-related Crashes**

There were two reported crashes at this intersection. One crash occurred when a vehicle was slowing to make an EB right and was rear ended by another EB vehicle. The other crash was an angle collision due to a vehicle making a WB left turn from the right shoulder.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



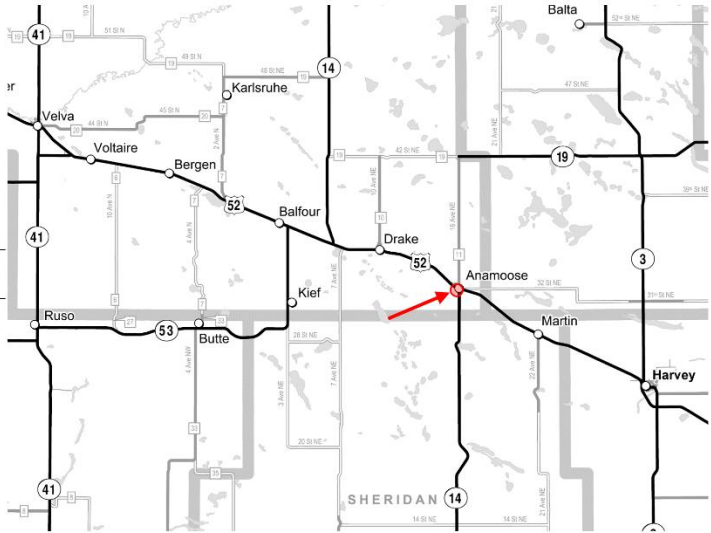
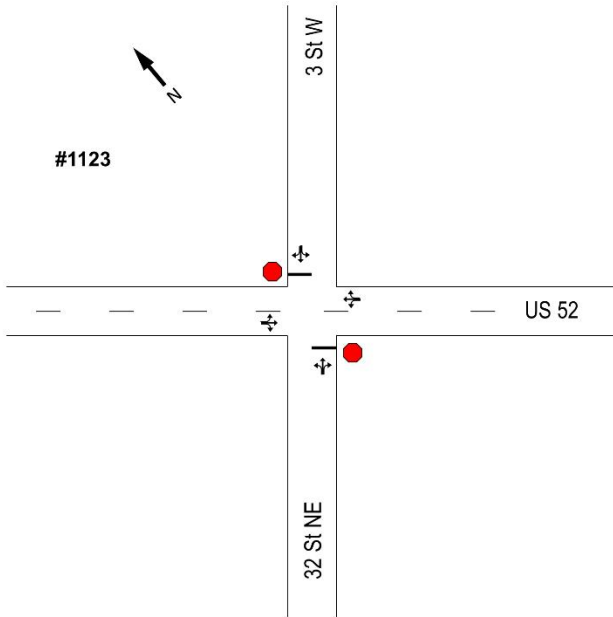
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.2 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



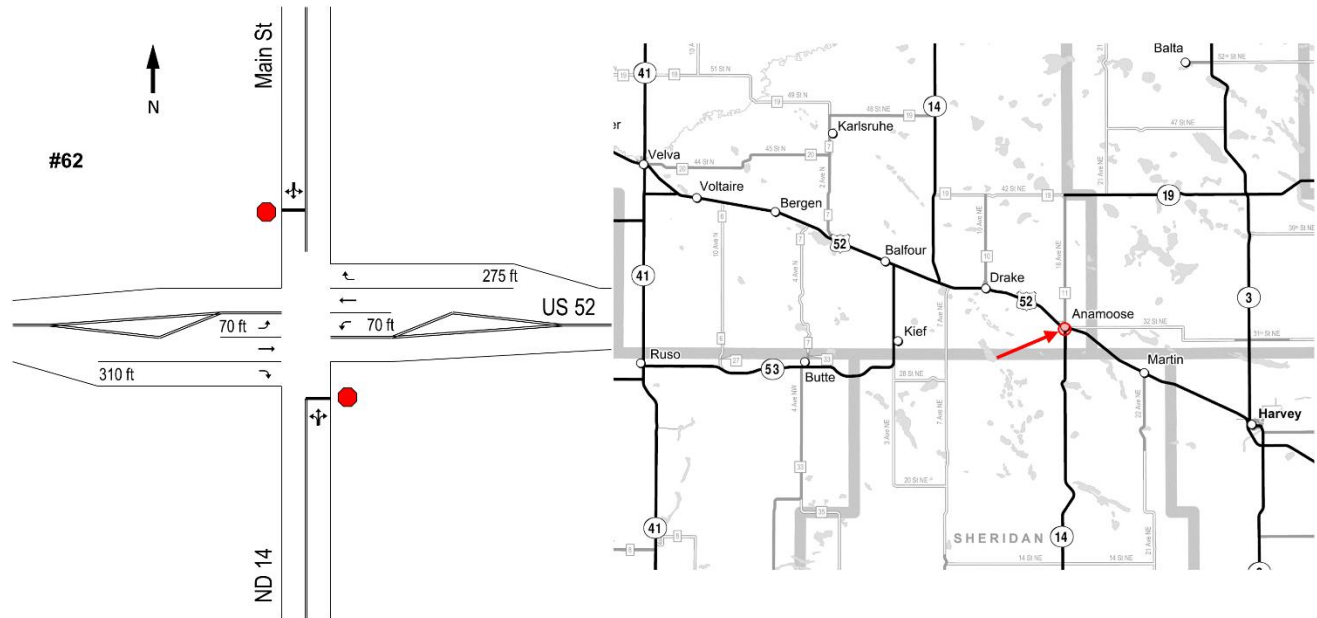
**Intersection-related Crashes**

There were two reported crashes at this intersection. One was an angle crash where a vehicle made an improper turn (motorist tried to make a WB left turn from the right shoulder of the road and struck an EB vehicle). The other crash was a single vehicle where a motorist made an EB left too fast and slid off the roadway.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

There were four reported crashes at this intersection. There were two angle crashes where a vehicle failed to yield. One crash involved improper backing/turning. The other crash was a single vehicle that overturned at the intersection.

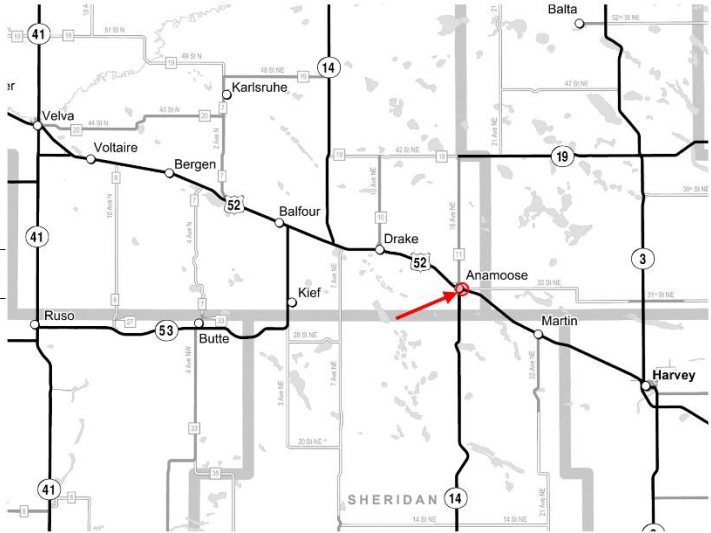
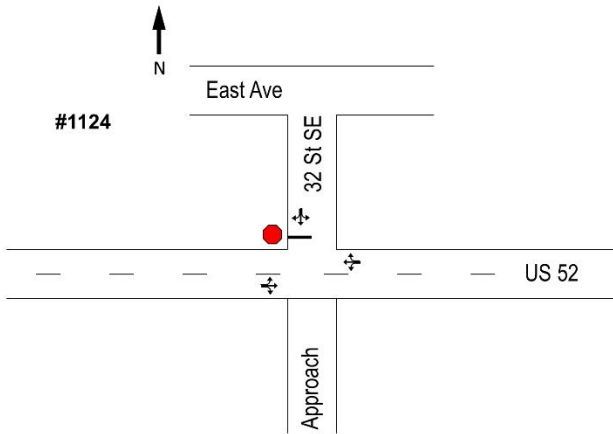
Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	Yes	Yes	No— ex. 70 ft, should be 630 ft
WB to SB Left	Yes	Yes	No— ex. 70 ft, should be 630 ft
EB to SB Right	Yes	No	No— ex. 275 ft, should be 530 ft
WB to NB Right	Yes	No	No— ex. 275 ft, should be 530 ft

**An EB left turn lane is warranted. A WB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product ≥ 2,000,000	No – cross product is 1.0 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No*
6F Local government pays 50% and maintains	No

\*On the northwest quadrant of the intersection, there is an existing light standard set back approximately 130 feet from the centerline of US 52.

**Destination lighting is not warranted.**



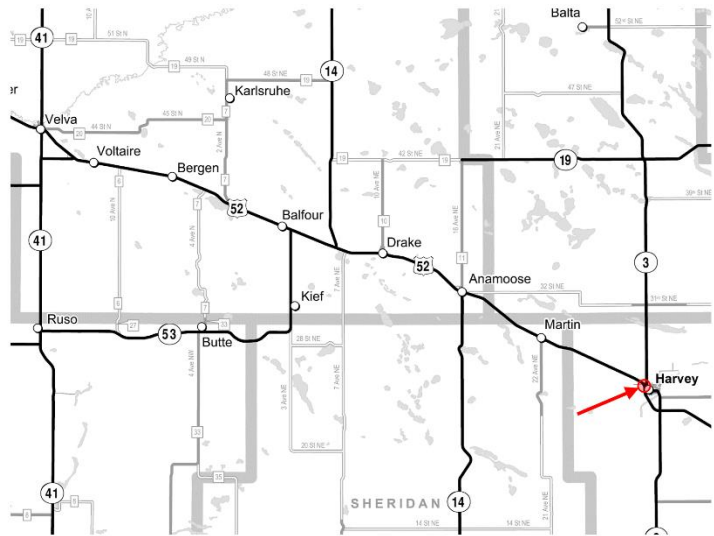
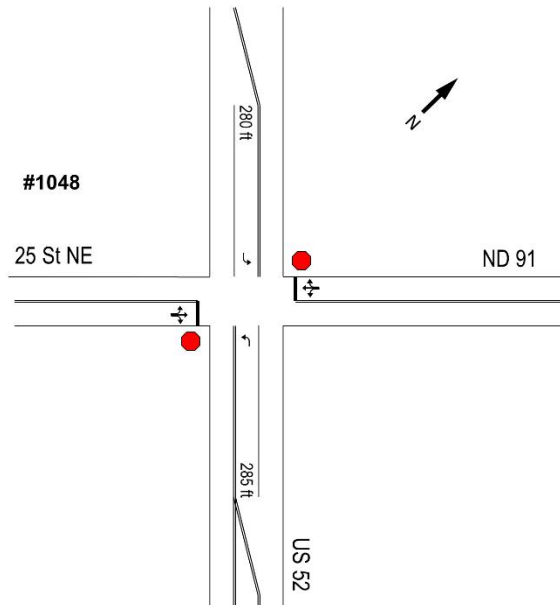
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.2 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

There were four reported crashes at this intersection. Three of these were angle crashes where a vehicle failed to yield, pulled out into the intersection and was struck by a mainline vehicle. One crash was a single vehicle where a trailer tipped over while the vehicle was turning.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	Yes	Yes	No— ex. 280 ft, should be 435 ft
NB to WB Left	Yes	Yes	No— ex. 285 ft, should be 435 ft
SB to WB Right	No	No	N/A
NB to EB Right	No	Yes	N/A – should be 335 ft

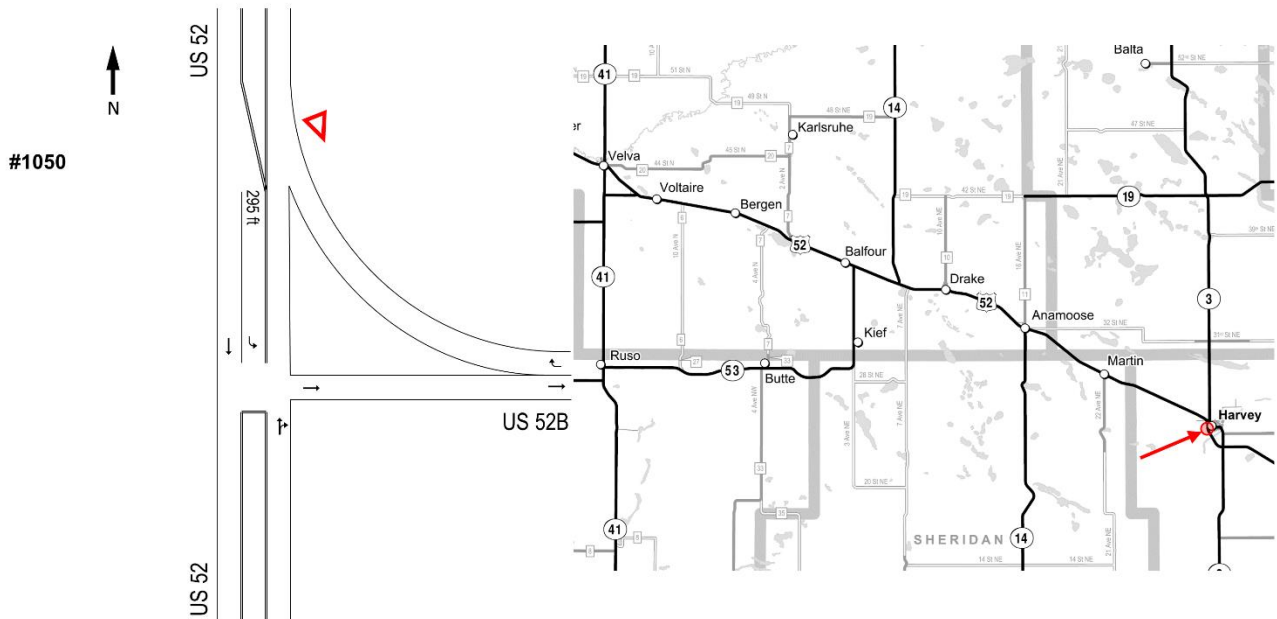
**A SB left turn lane is warranted. A NB left turn lane is warranted. A NB right turn lane is warranted.**

Illumination Lighting Warrant	Met?
5A All signalized intersections	No
5B All roundabout and J-turn intersections	No
5C Raised channelization/medians present	No
5D Roadway segment lighting	Yes
5E AADT cross product $\geq 10,000,000$	No – cross product is 2.1 million
5F Engineering judgment	No
5G Existing illumination lighting present	Yes
5H Local government pays 50% and maintains	No

**Illumination lighting is warranted.**

Capacity analysis – EXISTING GEOMETRY Peak Hour		
Approach	2018 LOS	2018 Delay (sec)
Eastbound:	A	10
Westbound:	B	10
Northbound:	A*	1
Southbound:	A*	1
<b>Intersection</b>	<b>A*</b>	<b>3</b>

\*Equivalent LOS shown, mainline approaches and the overall intersection LOS are not calculated for TWSC intersections.



The WB to NB right-turn slip lane has a skew of 10 degrees. This requires the driver to look almost directly backwards to look for gaps in approaching traffic. To re-design this to a proper acceleration ramp per current Green Book, a 320 ft full-width lane of acceleration plus another 300 ft of taper would be needed (see appendix E) Doing this would only complicate the driving environment on US 52 since the taper would overlap with the functional area of the intersection to the north (ND 91).

If the right-turn slip lane were removed, thus creating a typical “T” type intersection adjacent to the existing EB lane, the resulting intersection would have a skew of 53 degrees. The Green Book states that an intersection shouldn't have a skew angle of less than 75 degrees. Squaring up the intersection and getting rid of the right-turn slip lane was proposed back in 1976 (see appendix F).

Removing this entire intersection is an option here since there are alternate routes to access Harvey from US 52. A distance of about 2300 ft separates US 52/ND 91 from US 52/ND 3 (the slip ramp is about halfway between). Further discussion on this option is shown on page 27.

**Intersection-related Crashes**

There was one crash at the slip ramp: a driver tried to make a left turn onto US 52 from the right-turn slip ramp and was struck by a NB vehicle on US 52.

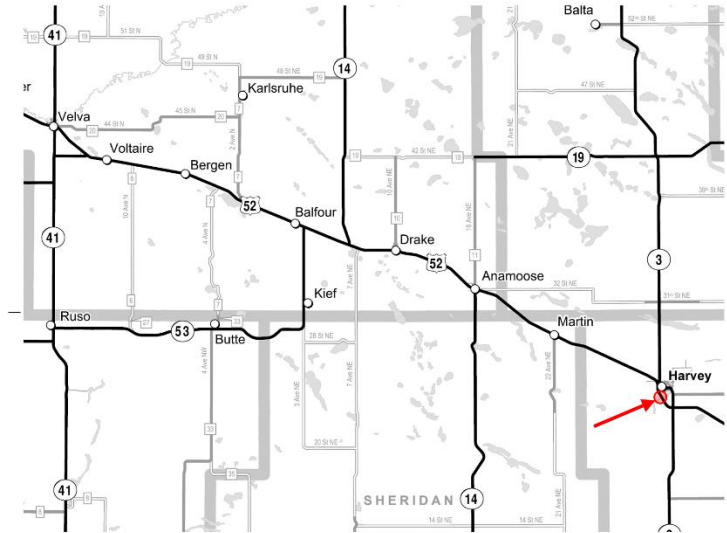
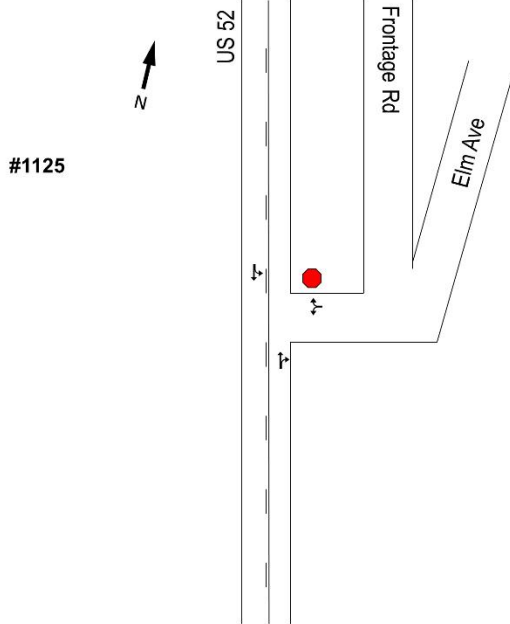
Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	Yes	Yes	No— ex. 295 ft, should be 435 ft
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

**A SB left turn lane is warranted.**

Illumination Lighting Warrant	Met?
5A All signalized intersections	No
5B All roundabout and J-turn intersections	No
5C Raised channelization/medians present	No
5D Roadway segment lighting	Yes
5E AADT cross product ≥ 10,000,000	No – cross product is 1.8 million
5F Engineering judgment	No
5G Existing illumination lighting present	Yes
5H Local government pays 50% and maintains	No

**Illumination lighting is warranted.**





**Intersection-related Crashes**

There was one reported crash at this intersection. A vehicle at the stop sign made a left turn and was struck by a vehicle heading northbound on US 52.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	Yes	N/A – should be 435 ft
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	Yes	N/A – should be 335 ft

**A SB left turn lane is warranted. A NB right turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.9 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**

## ACCESS MANAGEMENT NEAR HARVEY

Access management is a proven safety countermeasure<sup>1</sup>. The area on the west side of Harvey may be a good candidate for consolidation or closure of some access points. Although detailed recommendations are outside of the scope of this study, conceptual access control options are described below.

### Concept #1

The intersection of US 52 / US 52B would be removed. This includes the slip ramp and US 52B eastbound lane that connects to ND 3. Remove another slip ramp for northbound ND 3 to US 52B. This concept is shown below in figure 2.



Figure 2 – Access management concept #1

### Reference:

3. FHWA, [“Proven Safety Countermeasures”](#), November 2018.

Concept #2

Concept #2 would include everything with concept #1 and add in a new roadway of US 52B that would connect to US 52 at a right angle. The existing US 52 / ND 3 intersection would be closed and the frontage road would be realigned to connect up with ND 3. This concept is shown below in figure 3.



**Figure 3 – Access management concept #2**

**Concept #3**

The existing intersection of US 52 / ND 3 would remain. However a portion of what is currently ND 3 would be reassigned as US 52B. ND 3 would terminate further north at the intersection of ND 91.



**Figure 4 – Access management concept #3**

**Concept #4**

The existing intersections of US 52 / US 52B and US 52 / ND 3 would be removed. A new roadway for US 52B would serve as a perpendicular connection between US 52 and Elm Ave. ND 3 would terminate at ND 91. See figure 5.



**Figure 5 – Access management concept #4**

## SUMMARY

Turn Lane Warrants	Page reference
○ US 52 / 135 Ave SE: NB left	7
○ US 52 / Central Ave: an EB left*	8
○ US 52 / 1 St E: WB right	10
○ US 52 / 14 Ave N: EB right*	11
○ US 52 / ND 53: WB left	17
○ US 52 / ND 14 (W Jct): EB left*	18
○ US 52 / ND 14 (E Jct): EB left*, WB left*	22
○ US 52 / ND 91: SB left*, NB left*, NB right	24
○ US 52 / US 52B: SB left*	25
○ US 52 / 30 Ave N: SB left, NB right	26

\*Existing turn lane in place—may not meet current standards.

Lighting Warrants:	Page reference
○ US 52 / Central Ave: destination*	8
○ US 52 / 153 St SE: destination*	9
○ US 52 / 14 Ave N: destination*	11
○ US 52 / Main St: destination*	16
○ US 52 / ND 91: illumination*	24
○ US 52 / US 52B: illumination*	25

\*Existing lighting already in place.

- Consider access revisions on the west side of Harvey (see pages 27-30)

ESTIMATE OF CURRENT AND FUTURE TRAFFIC  
 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
 (PLANNING DIV. TRAFFIC INFO. SECTION)

RECNO: 11400

DATE PRINTED OR REPRINTED: 11/27/2018 PROJECT NO:

DATE PREPARED: 11/26/2018 COUNTY: WARD ROUTE ID: 0

HIGHWAY NO: 52 HWY SUFFIX: HWY DIRECTION: E

REF PT: 101.000 OFFSET: .6830 LENGTH: 150.2832

PASSENGER EXPANSION FACTOR: 1.35 TRUCK EXPANSION FACTOR: 1.49

TRAFFIC'S ANNUAL % OF GROWTH: 1.5 ESAL'S ANNUAL % OF GROWTH: 2.0

LOCATION: RP 101.683 TO RP 116.858

\* \* \* \* \*  
 \* ALL AADT'S & ESALS, ARE AT THE HIGHEST POINT OF THE PROJECT SEGMENT \*

	YEAR	PASS	TRUCKS	TOTAL	30TH MAX HR	E.S.A.L.'S	
						FLEX	RIGID
CURRENT	2018	3,270	880	4,150	415	830	1,490
FORECAST	2038	4,415	1,315	5,730	575	1,240	2,225

\* \* \* \* \*

PAVEMENT EQUIVALENCY FACTORS: FLEXIBLE AT SN4 RIGID AT 9 INCHES

WAS CLASS WIM DATA AVAILABLE FOR THIS PARTICULAR LOCATION? N

IS THIS A REVISED ESTIMATE? N SUPERCEDES EST. OF

REQUESTED BY: DONOVAN SLAG- PROGRAMMING

\* \* \* \* \* REMARKS! \* \* \* \* \*

TRAFFIC FORECAST ESTIMATE IS BASED ON 2018 TRAFFIC COUNTS.  
 TRAFFIC FOR BOTH DIRECTIONS.  
 COMPLETED BY NR.

ESTIMATE OF CURRENT AND FUTURE TRAFFIC  
 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
 (PLANNING DIV. TRAFFIC INFO. SECTION)

RECNO: 11401

DATE PRINTED OR REPRINTED: 11/27/2018 PROJECT NO:

DATE PREPARED: 11/26/2018 COUNTY: WARD ROUTE ID: 0

HIGHWAY NO: 52 HWY SUFFIX: HWY DIRECTION: E

REF PT: 101.000 OFFSET: .6830 LENGTH: 150.2832

PASSENGER EXPANSION FACTOR: 1.35 TRUCK EXPANSION FACTOR: 1.49

TRAFFIC'S ANNUAL % OF GROWTH: 1.5 ESAL'S ANNUAL % OF GROWTH: 2.0

LOCATION: RP 116.858 TO RP 169.979

\* \* \* \* \*  
 \* ALL AADT'S & ESALS, ARE AT THE HIGHEST POINT OF THE PROJECT SEGMENT \*

	YEAR	PASS	TRUCKS	TOTAL	30TH MAX HR	E.S.A.L.'S	
						FLEX	RIGID
CURRENT	2018	1,270	655	1,925	195	620	1,110
FORECAST	2038	1,715	980	2,695	270	925	1,660

\* \* \* \* \*

PAVEMENT EQUIVALENCY FACTORS: FLEXIBLE AT SN4 RIGID AT 9 INCHES

WAS CLASS WIM DATA AVAILABLE FOR THIS PARTICULAR LOCATION? N

IS THIS A REVISED ESTIMATE? N SUPERCEDES EST. OF

REQUESTED BY: DONOVAN SLAG- PROGRAMMING

\* \* \* \* \* REMARKS! \* \* \* \* \*

TRAFFIC FORECAST ESTIMATE IS BASED ON 2018 TRAFFIC COUNTS.  
 TRAFFIC FOR BOTH DIRECTIONS.  
 COMPLETED BY NR.





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1107

Intersection No. 15

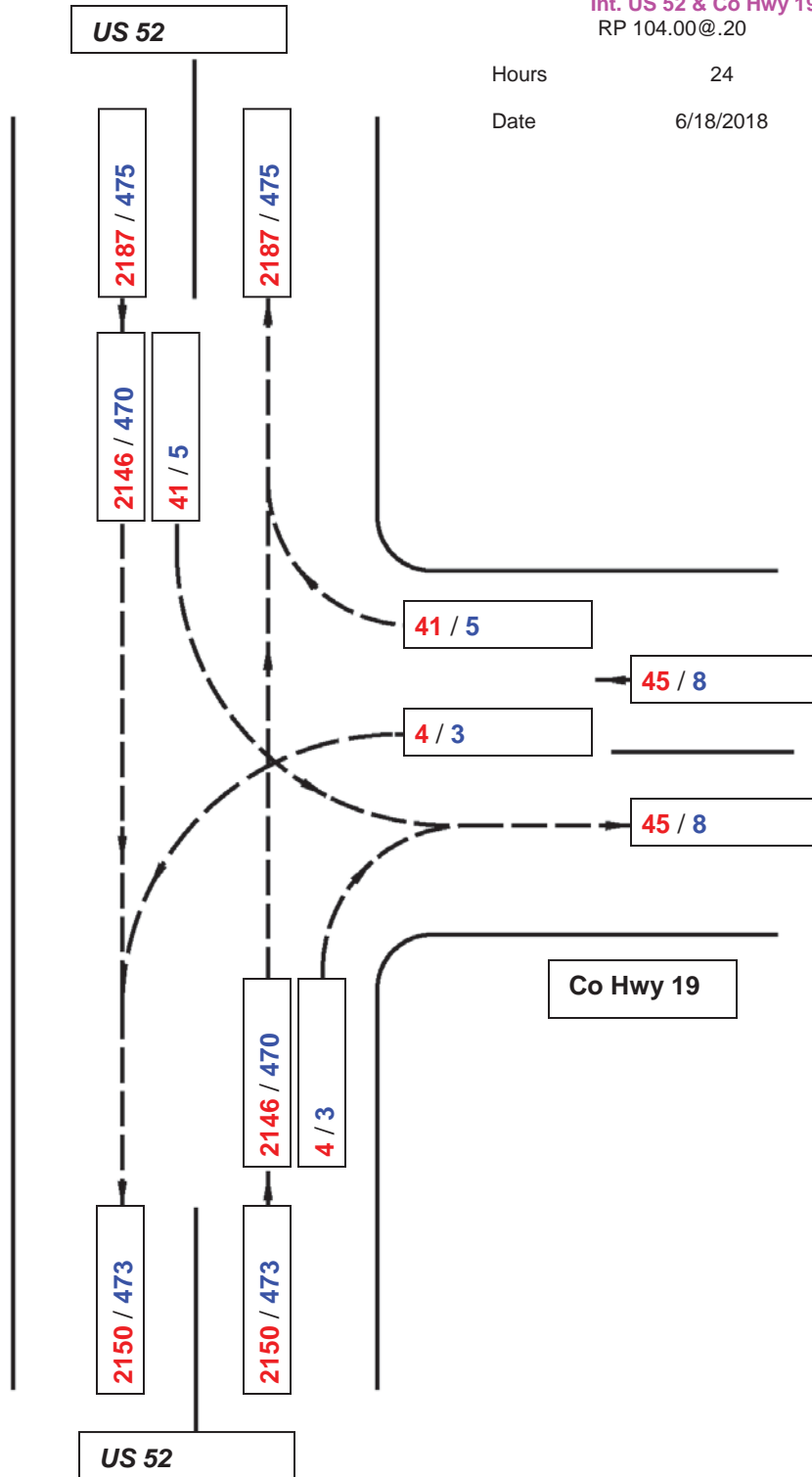
Description  
**Int. US 52 & Co Hwy 19**  
 RP 104.00@.20

Hours 24

Date 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1108

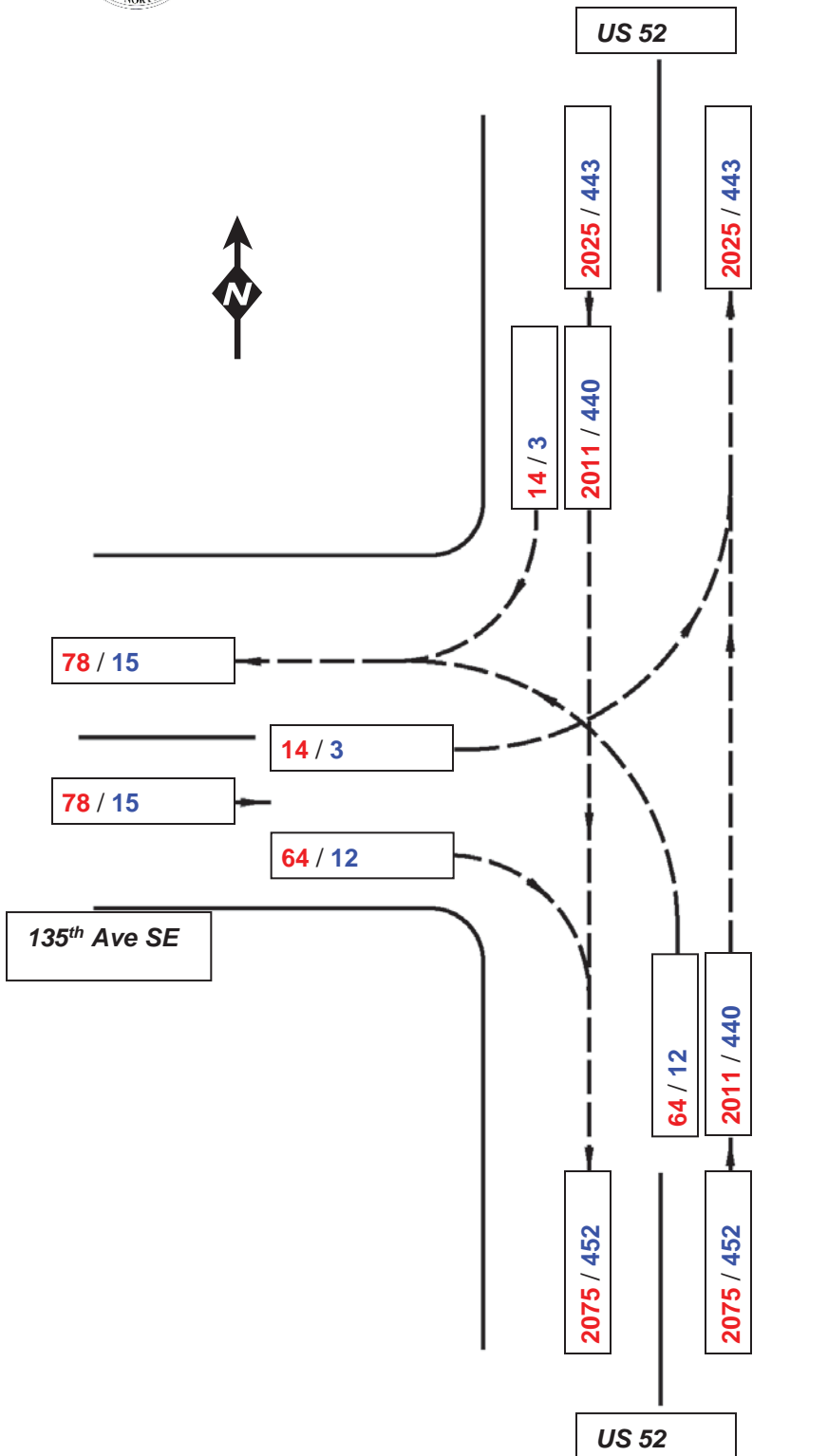
Intersection No. 16

Description:  
**Int US 52 & 135<sup>th</sup> Ave SE**  
 RP 108.00@.00

Hours 24

Date 6/18/2018

Note: Traffic estimate is based on 2018 traffic counts.



LEGEND: **AAADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1110

Intersection No. 17

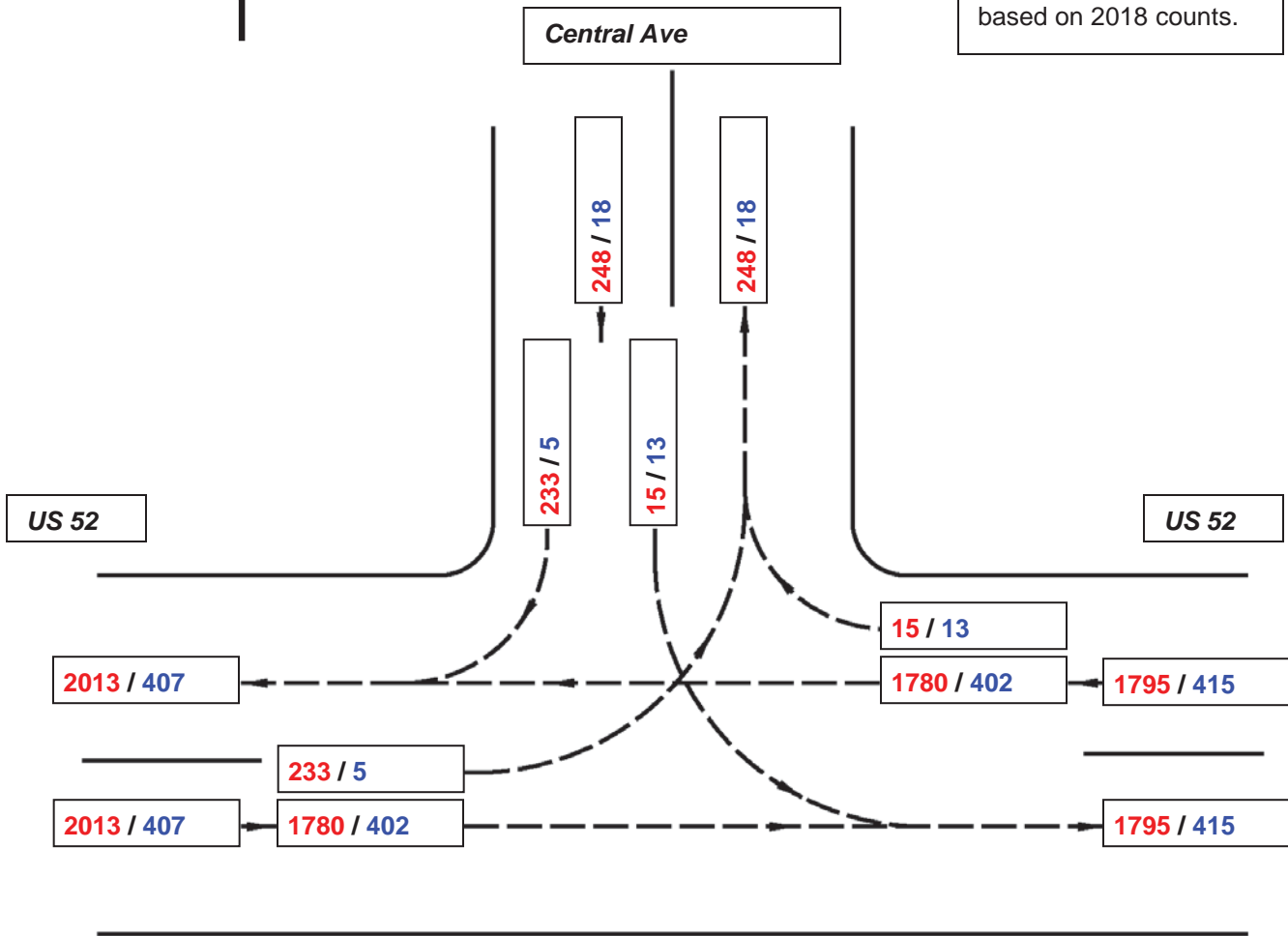
Description  
**Int. US 52 & Central Ave**  
 RP 109.00@.788 (US 52)

Hours: 24

Date: 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1111

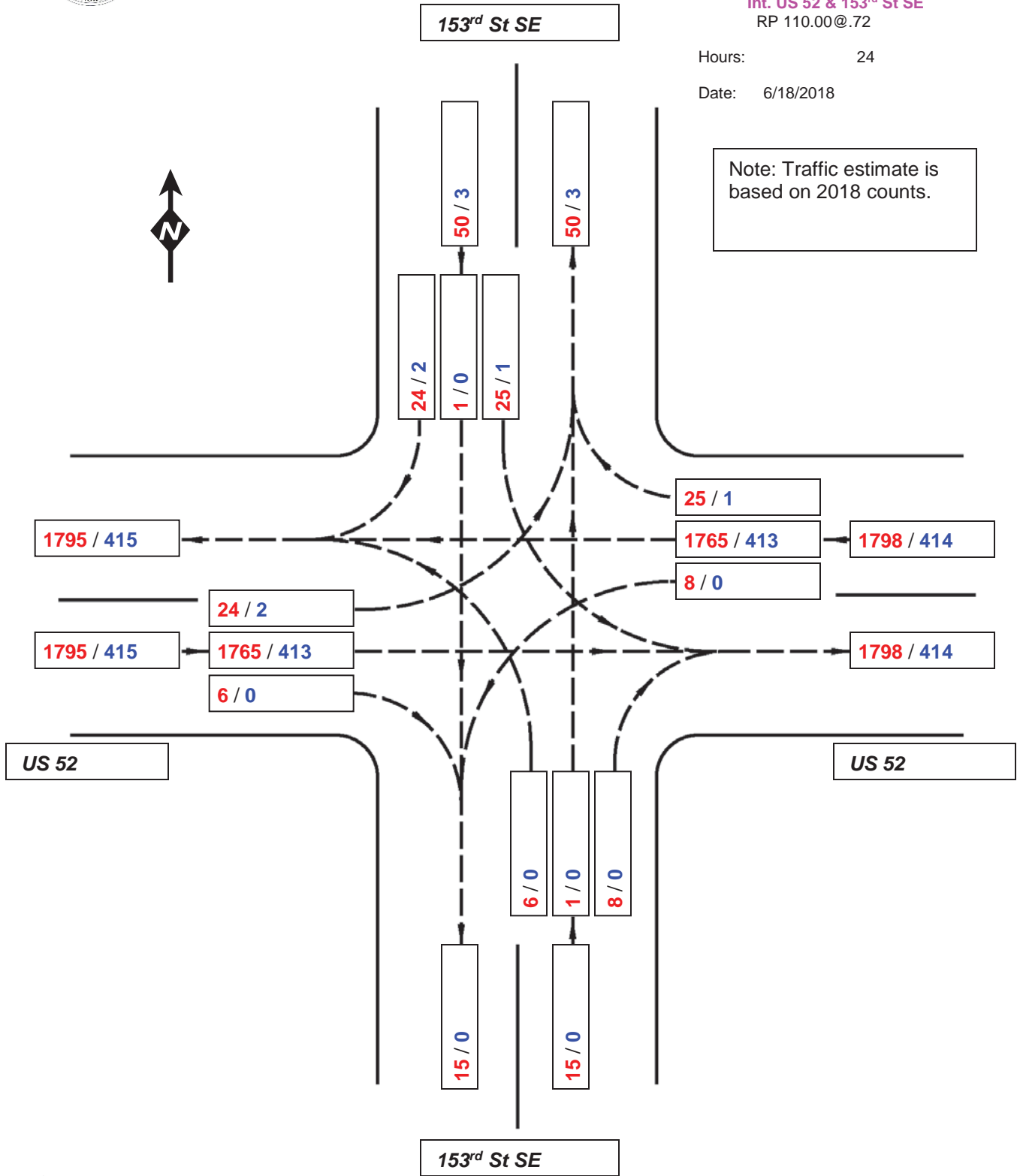
Intersection No: 18

Description  
**Int. US 52 & 153<sup>rd</sup> St SE**  
 RP 110.00@.72

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1112

Intersection No. 19

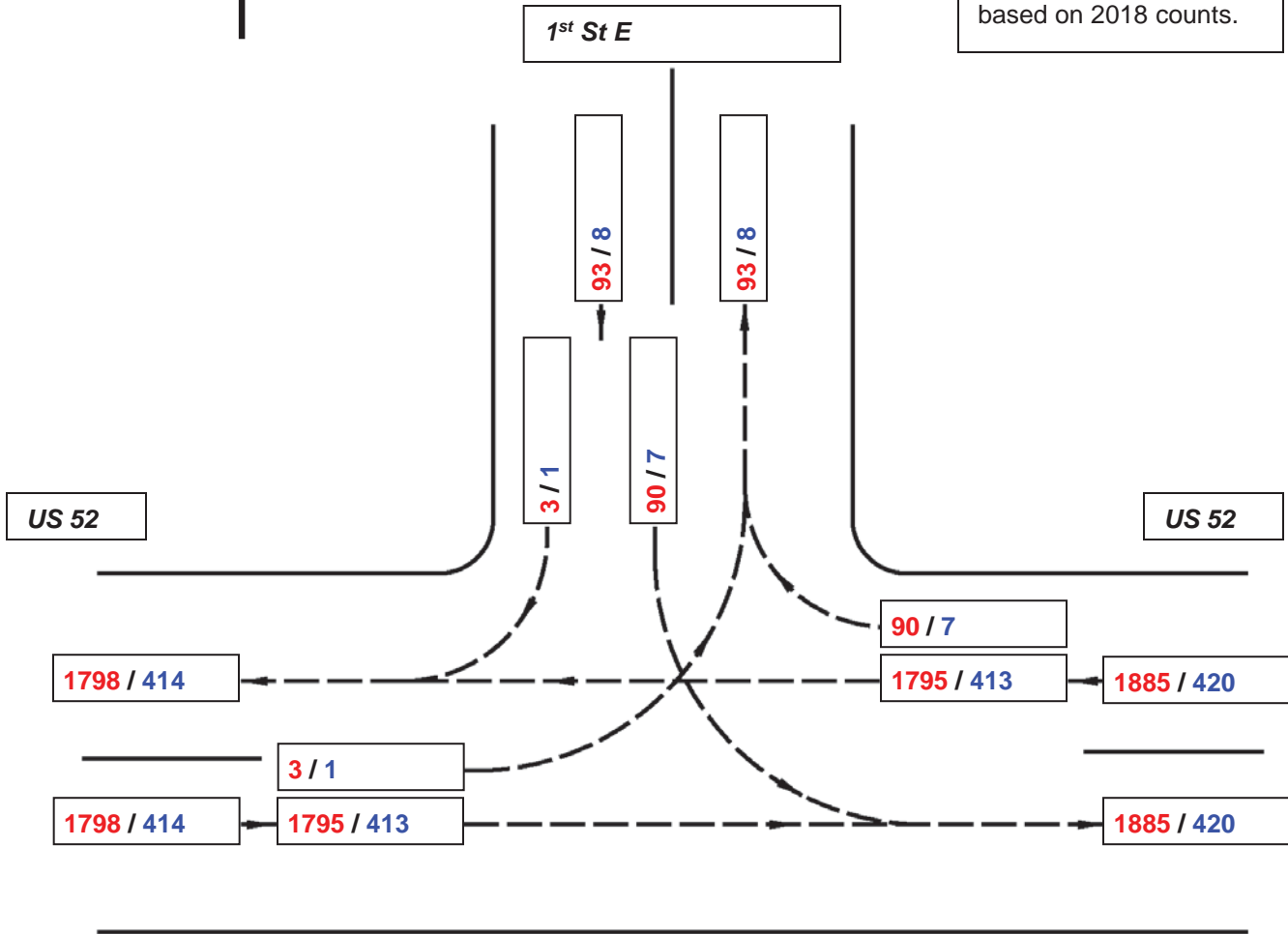
Description  
**Int. US 52 & 1<sup>st</sup> St E**  
 RP 111.00@.60 (US 52)

Hours: 24

Date: 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1114

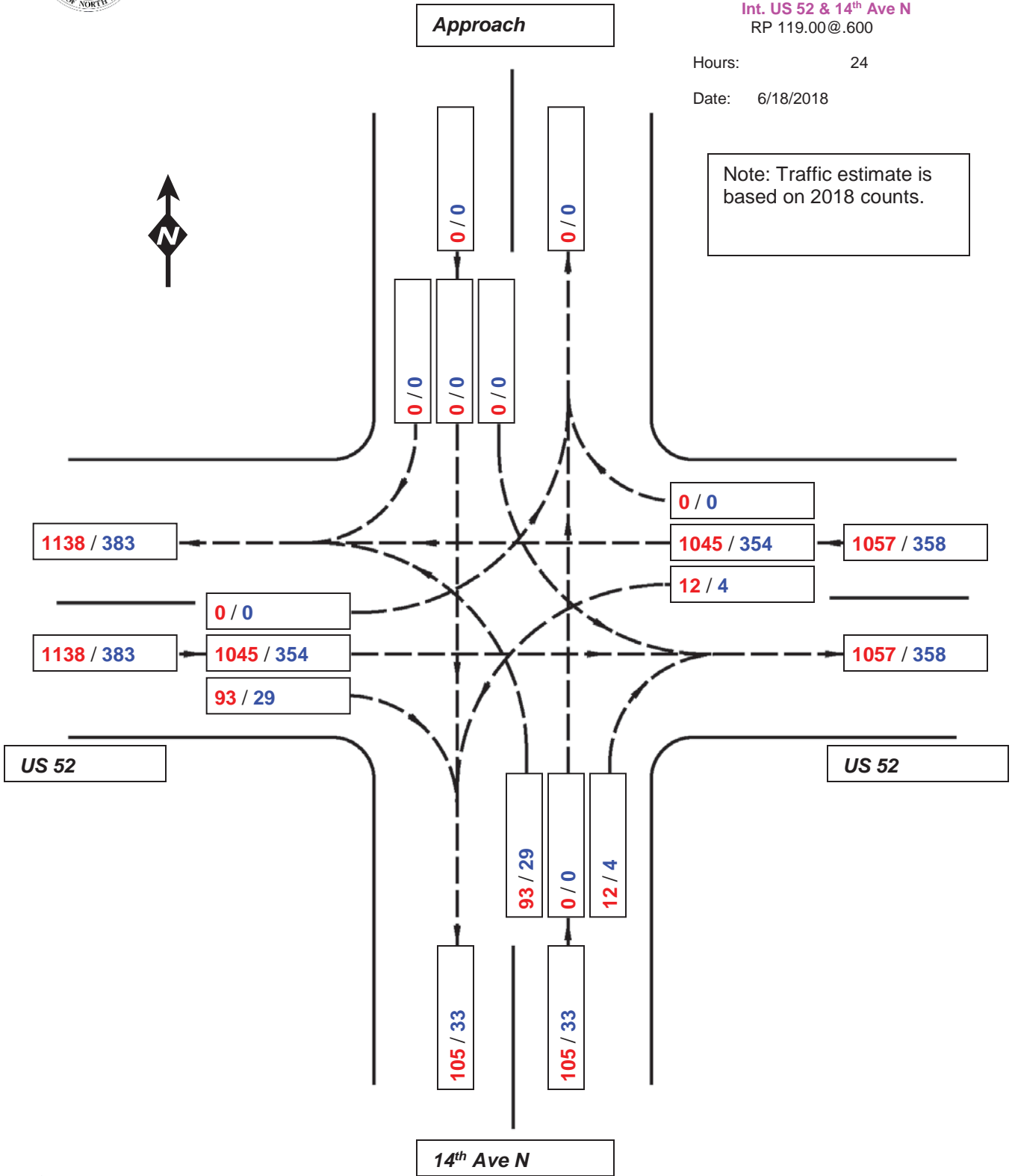
Intersection No: 20

Description  
**Int. US 52 & 14<sup>th</sup> Ave N**  
 RP 119.00@.600

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT / TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1117

Intersection No. 21

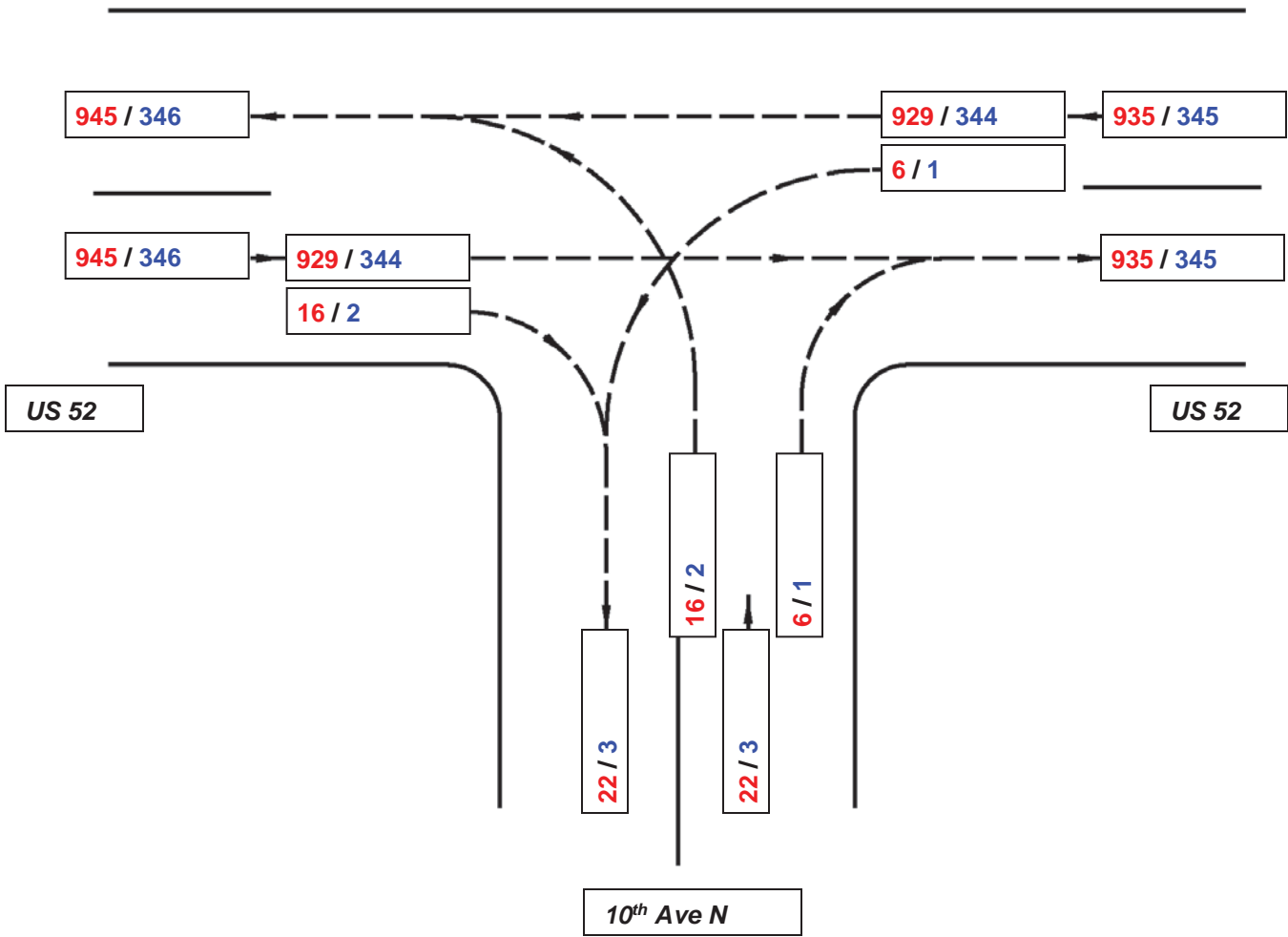
Description  
**Int. US 52 & 10<sup>th</sup> Ave N**  
 RP 123.00@.80 (US 52)

Hours 24

Date 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: AADT / TRUCKS - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1118

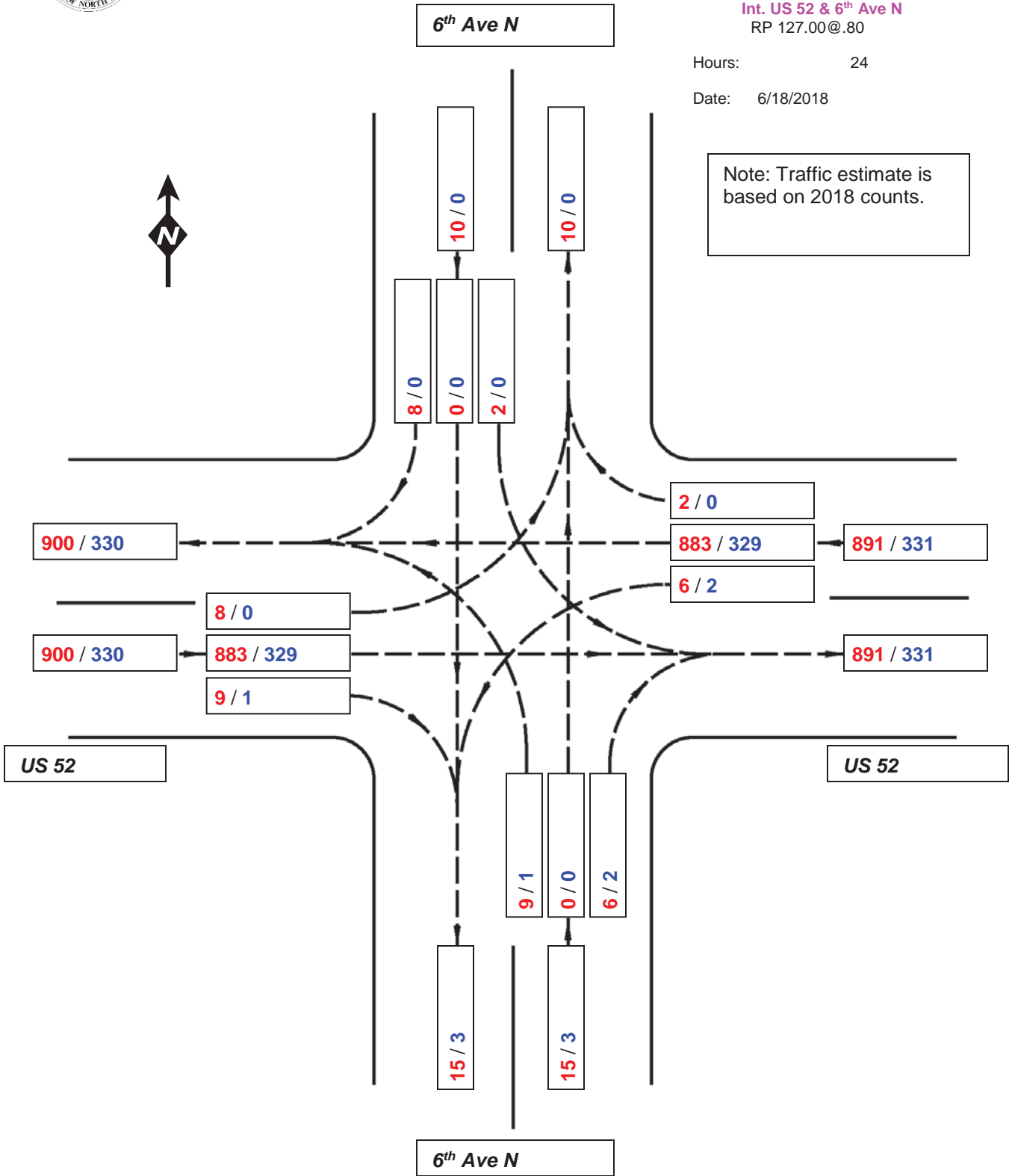
Intersection No: 22

Description  
**Int. US 52 & 6<sup>th</sup> Ave N**  
 RP 127.00@.80

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1119

Intersection No. 23

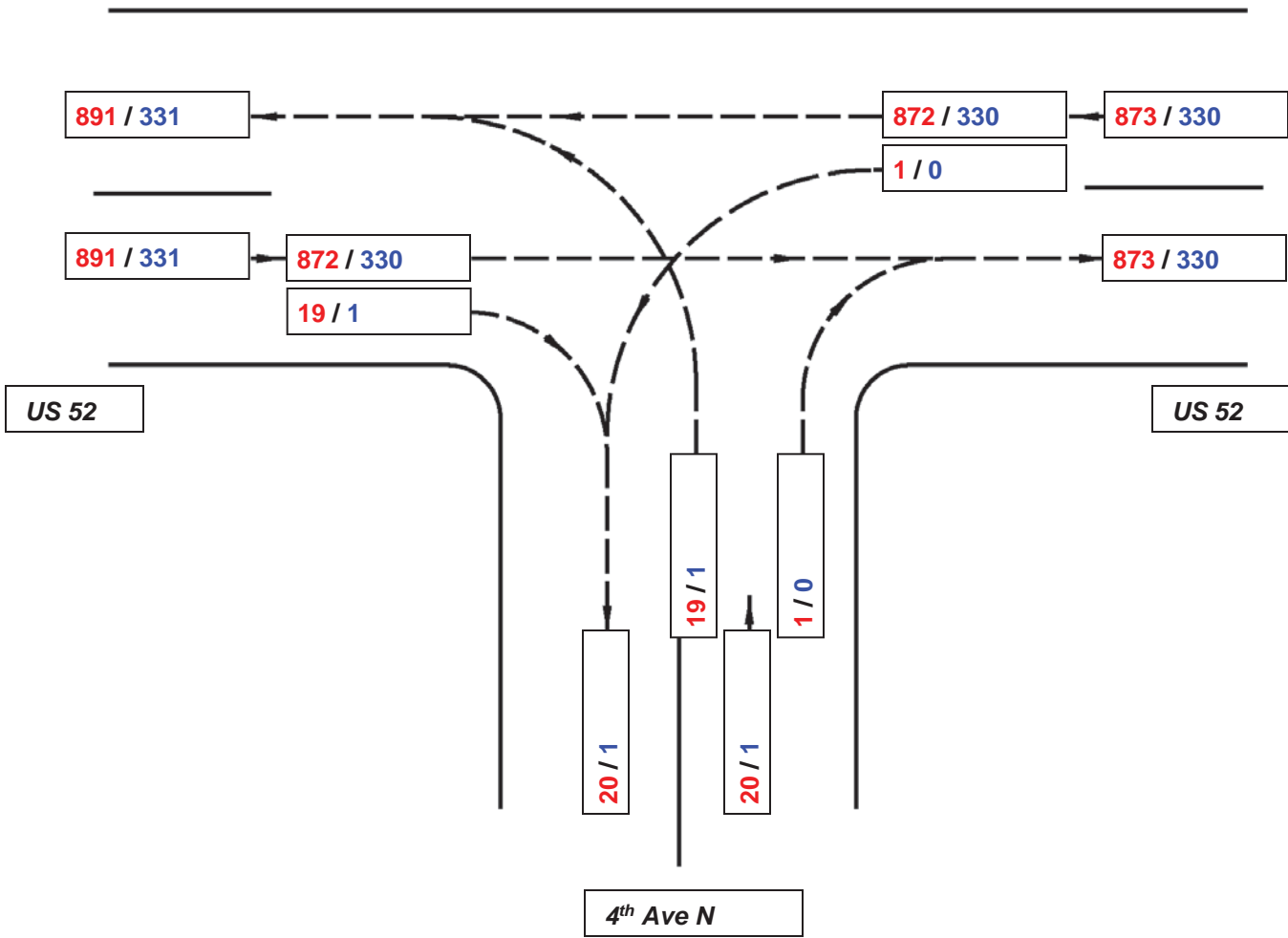
Description  
**Int. US 52 & 4<sup>th</sup> Ave N**  
 RP 130.00@.50 (US 52)

Hours 24

Date 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT / TRUCKS** - 2018

Completed by **NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

631

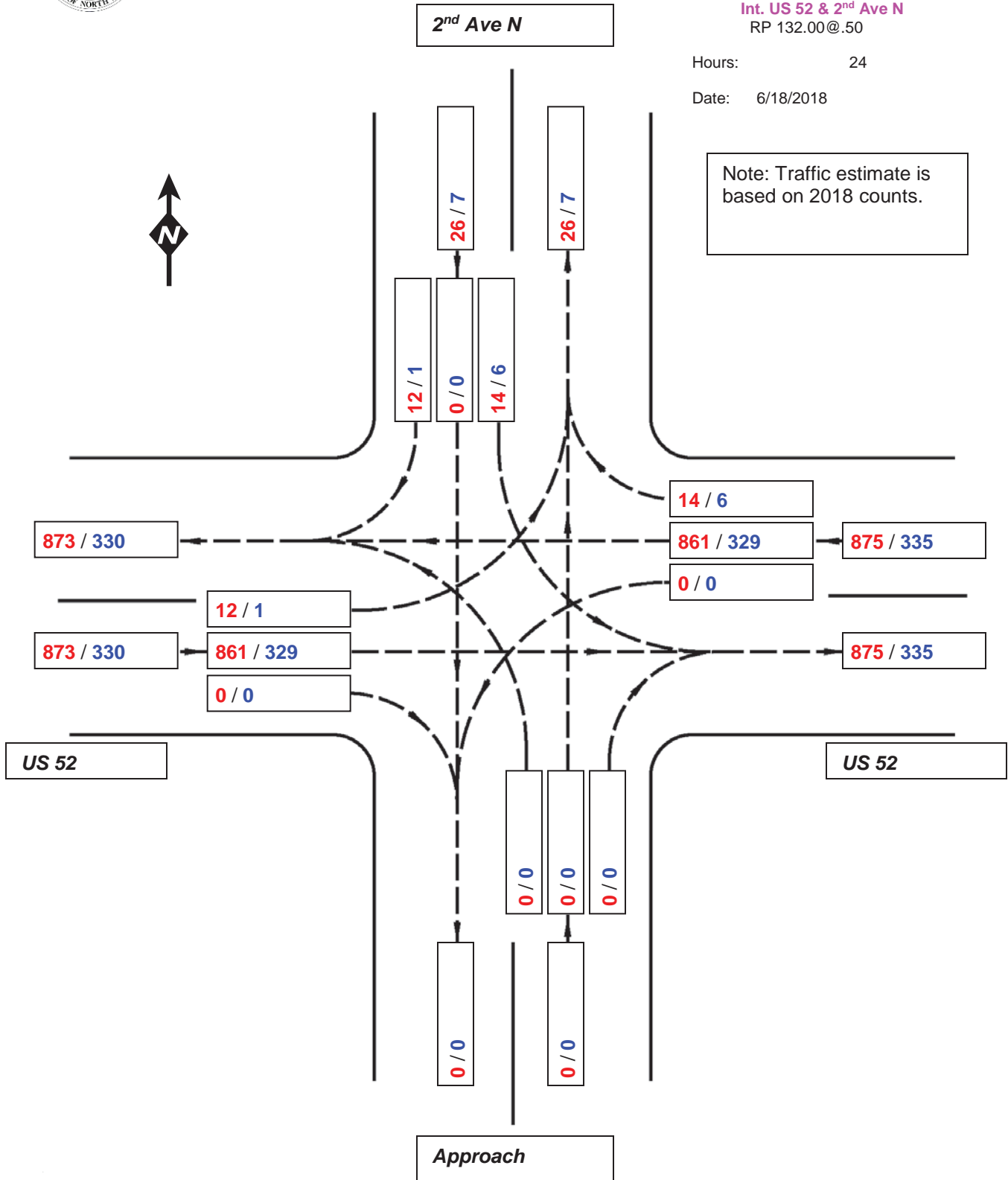
Intersection No: 24

Description  
**Int. US 52 & 2<sup>nd</sup> Ave N**  
 RP 132.00@.50

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1120

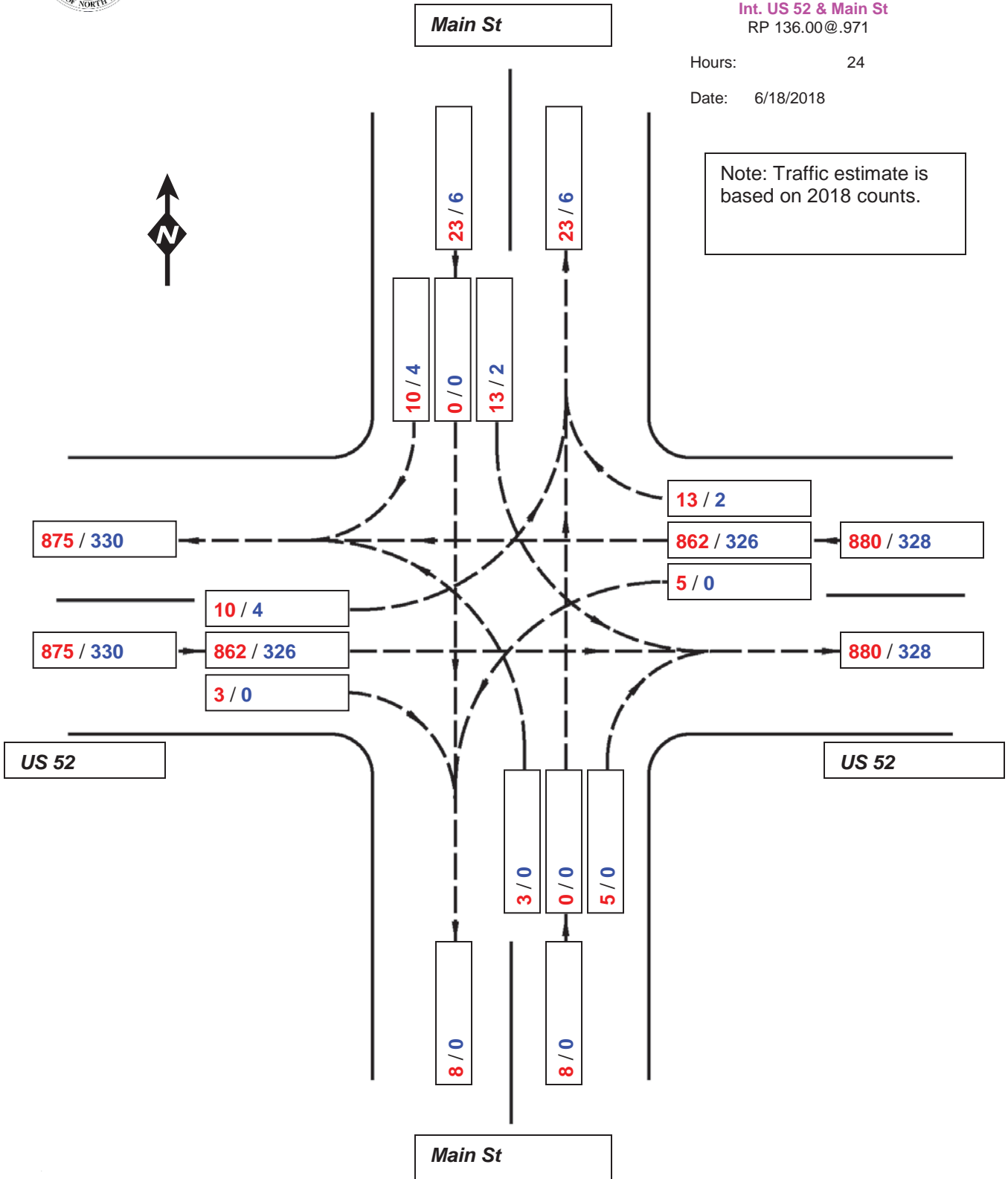
Intersection No: 25

Description  
**Int. US 52 & Main St**  
 RP 136.00@.971

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

60

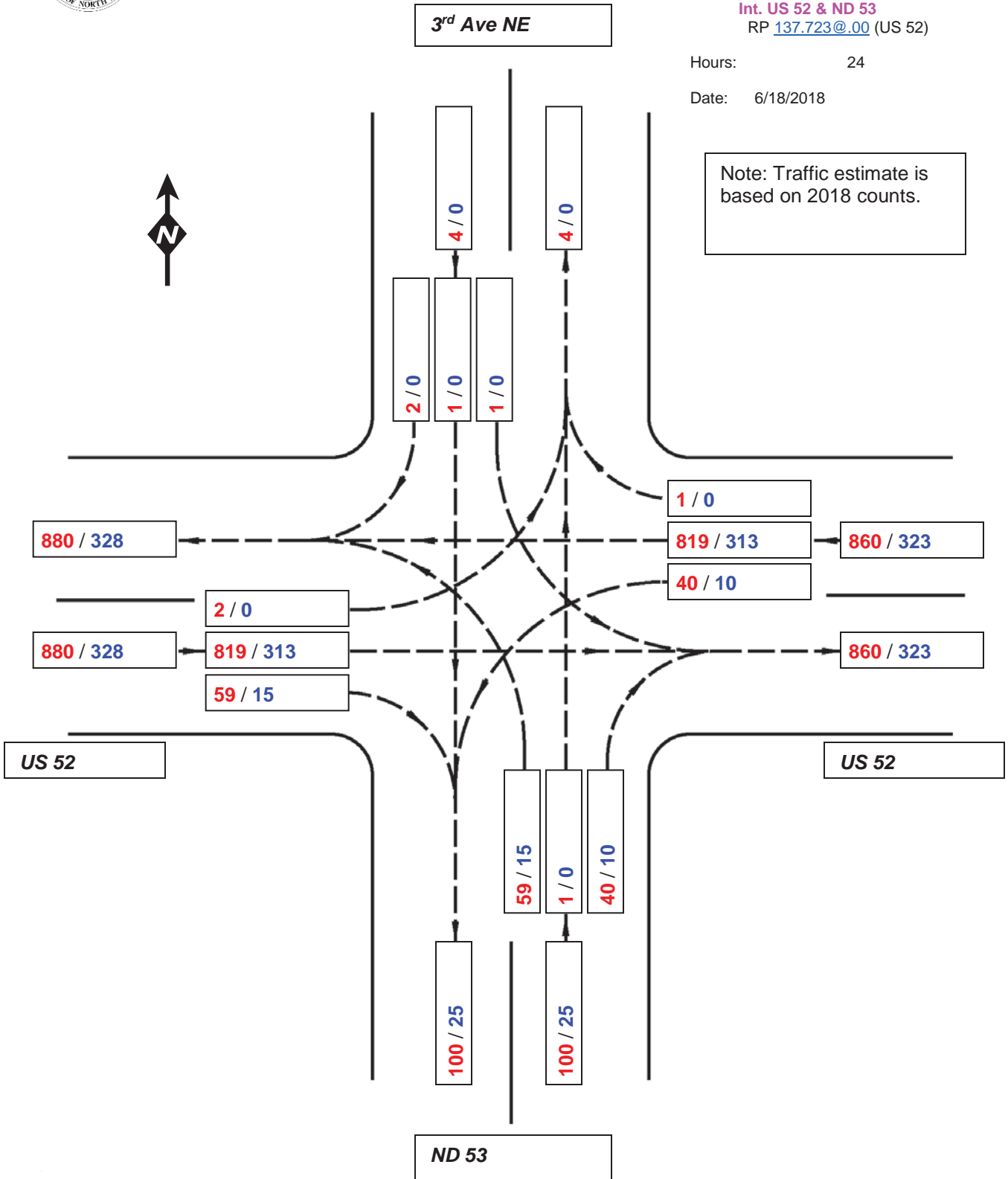
Intersection No: 26

Description  
 Int. **US 52 & ND 53**  
 RP [137.723@.00](#) (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

61

Intersection No. 27

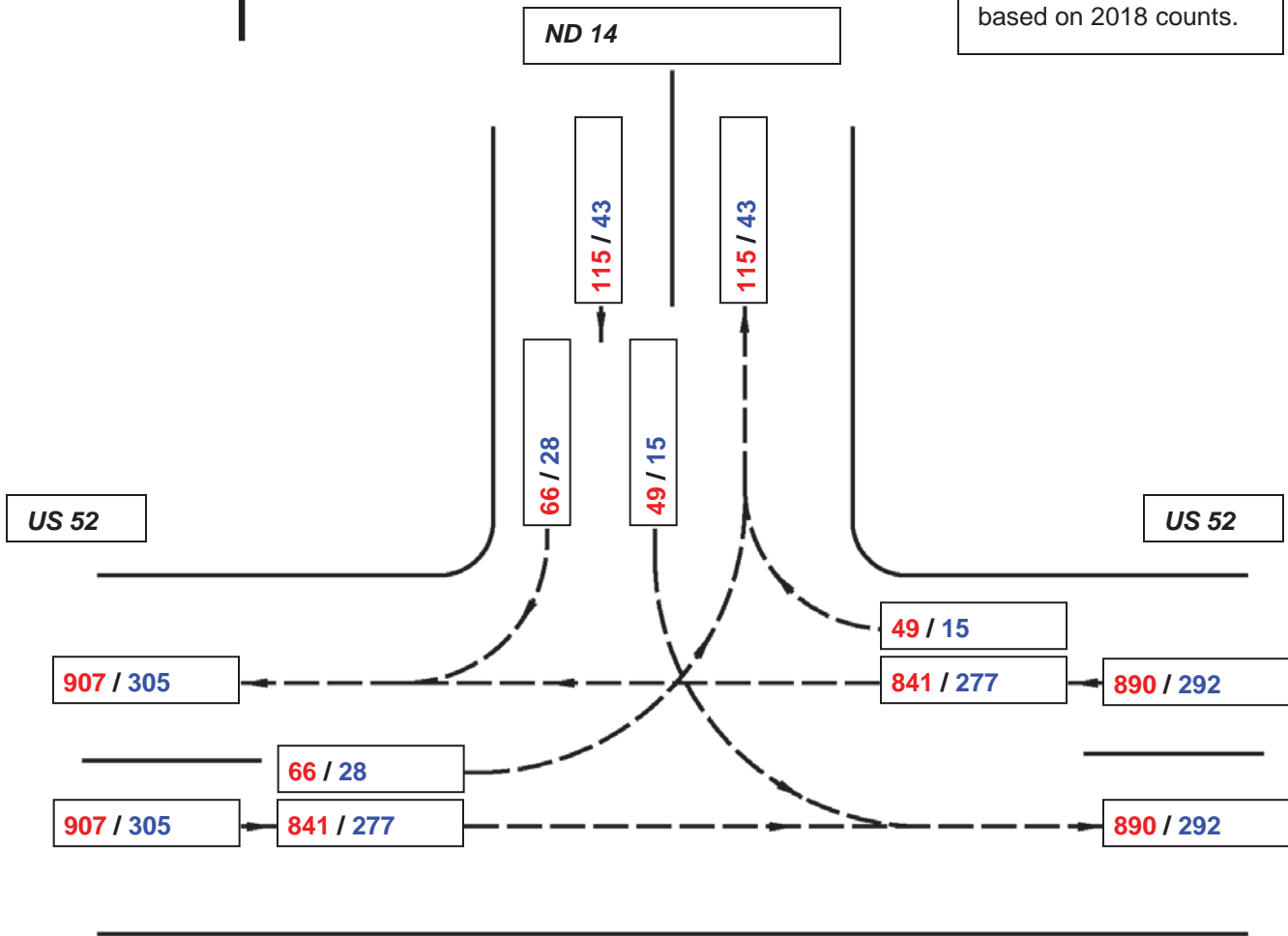
Description  
**Int. US 52 & ND 14**  
 RP 141.411@.00 (US 52)

Hours: 24

Date: 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1121

Intersection No. 28

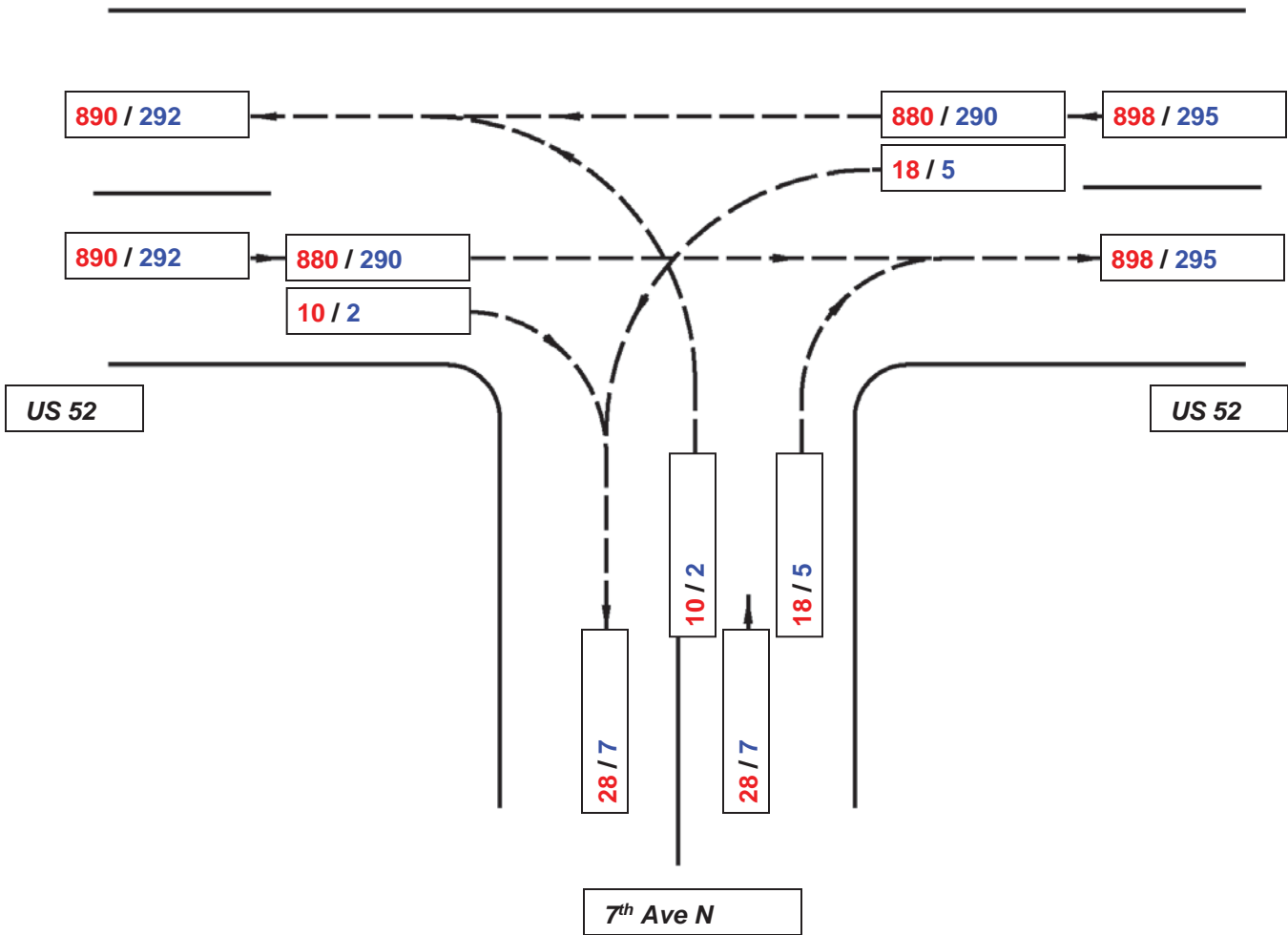
Description  
**Int. US 52 & 7<sup>th</sup> Ave N**  
 RP 142.00@.20 (US 52)

Hours 24

Date 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by **NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1122

Intersection No. 29

Description

**Int. US 52 & H Ave W**

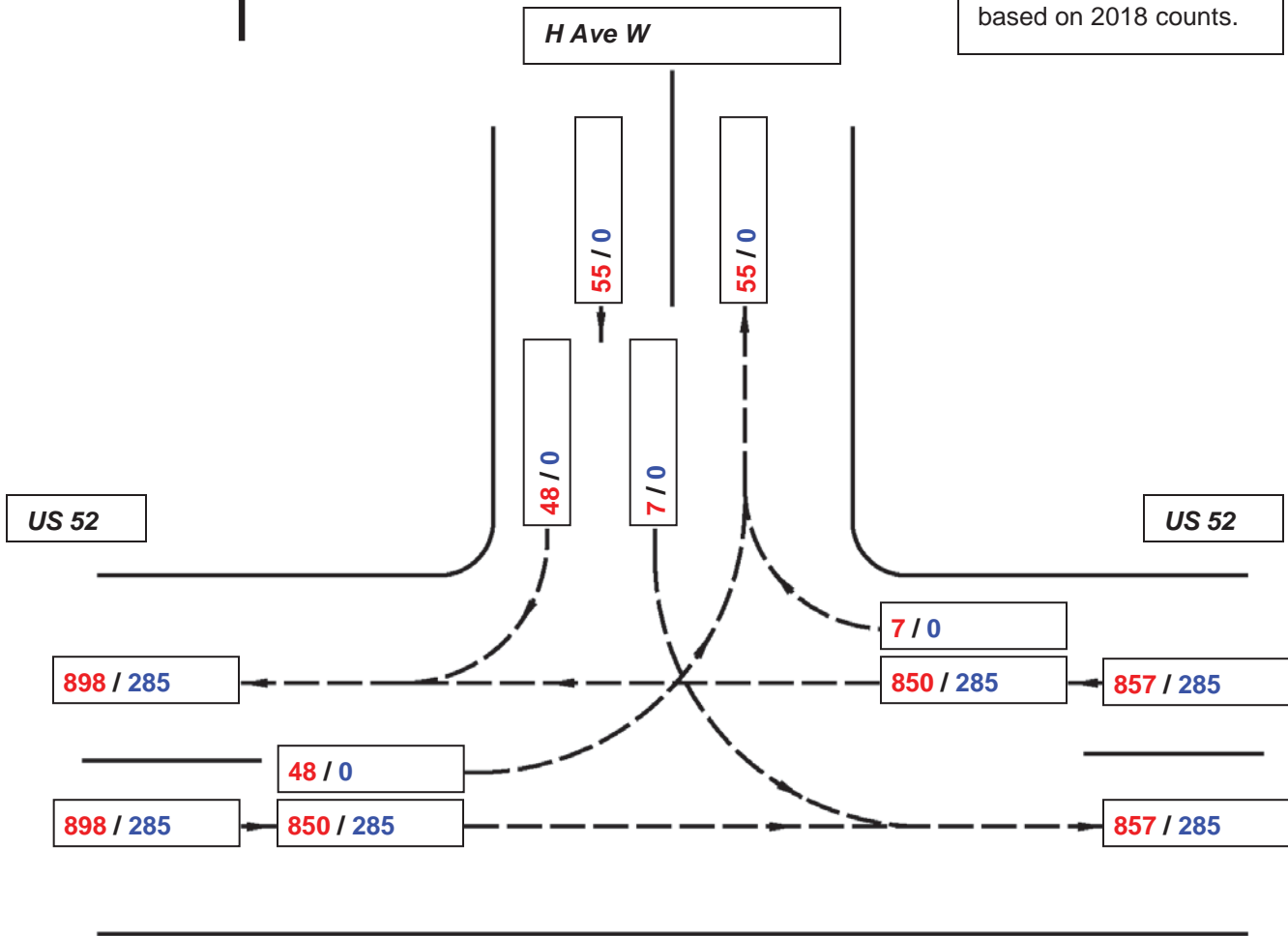
RP 150.00@.988 (US 52)

Hours: 24

Date: 6/18/2018



Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1123

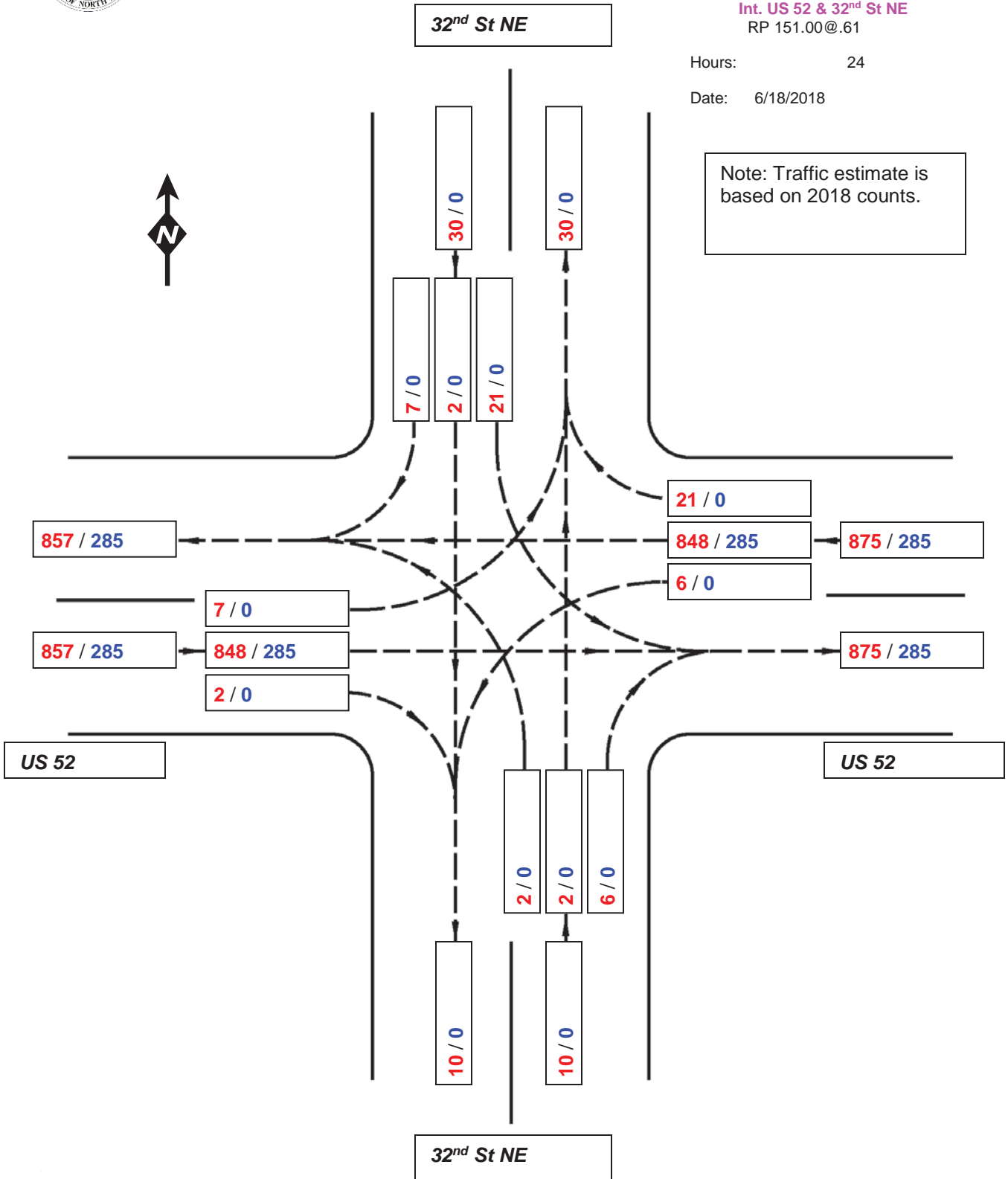
Intersection No: 30

Description  
**Int. US 52 & 32<sup>nd</sup> St NE**  
 RP 151.00@.61

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

62

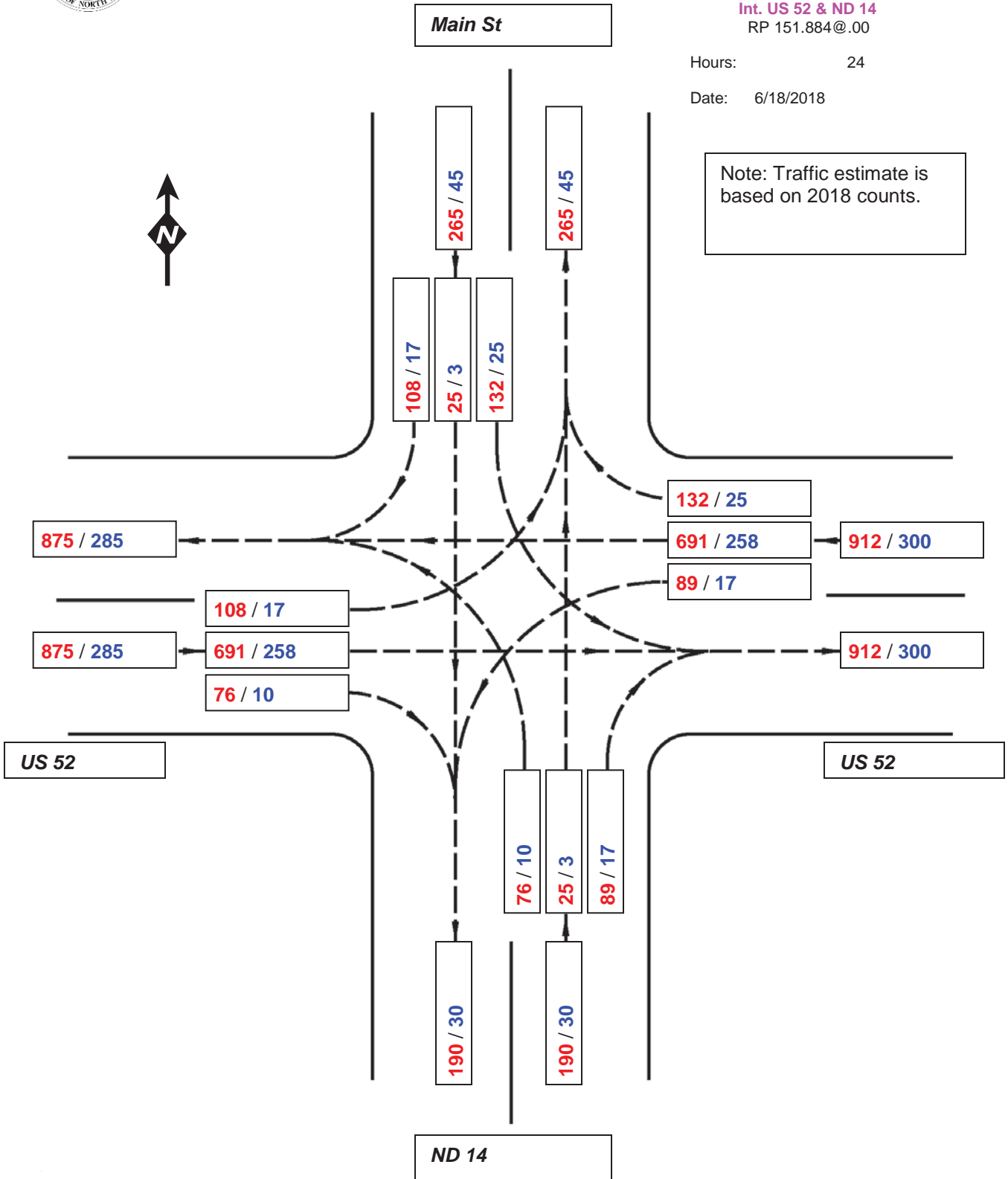
Intersection No: 31

Description  
**Int. US 52 & ND 14**  
 RP 151.884@.00

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1124

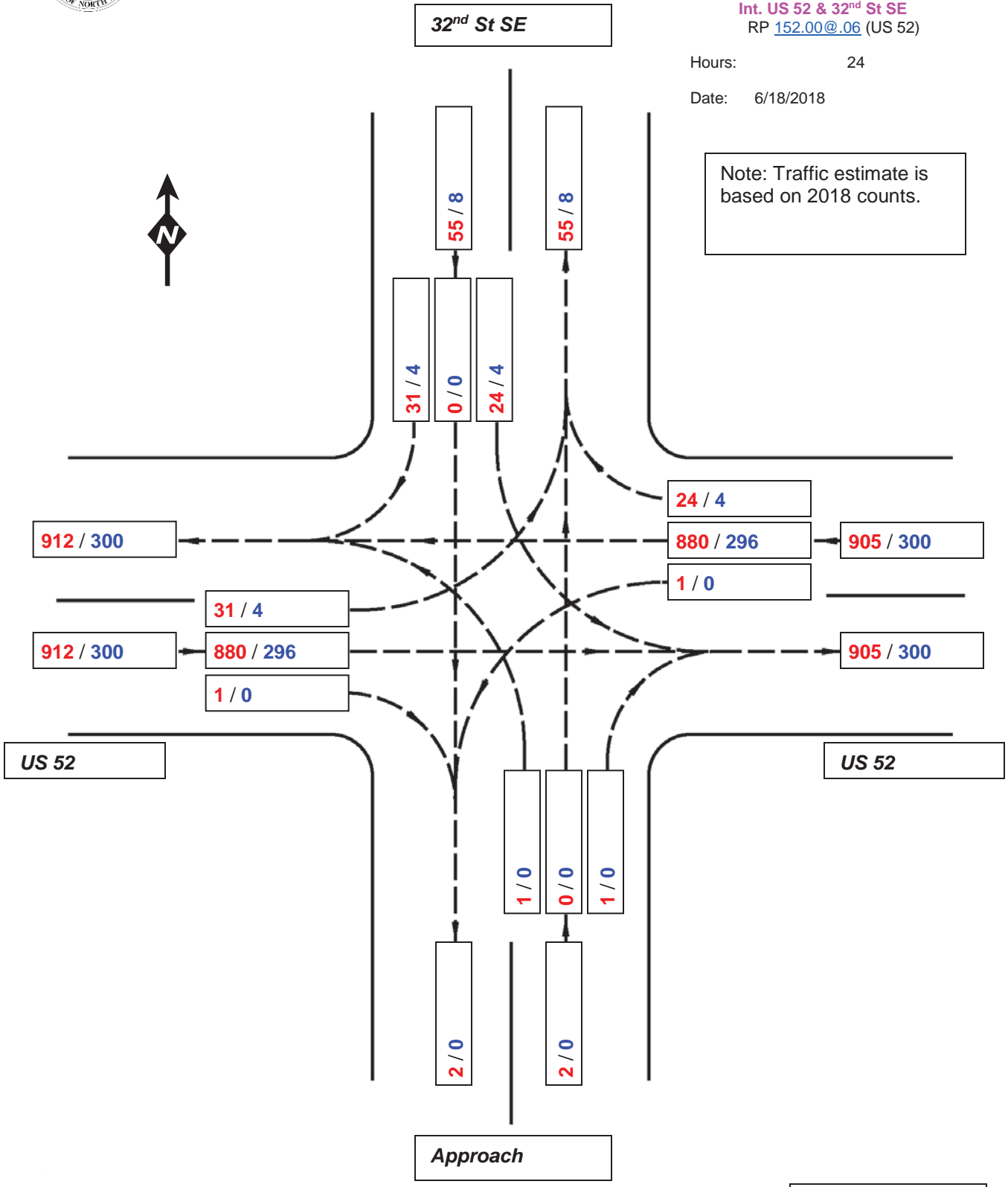
Intersection No: 32

Description  
**Int. US 52 & 32<sup>nd</sup> St SE**  
 RP 152.00@.06 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1048

Intersection No: 33

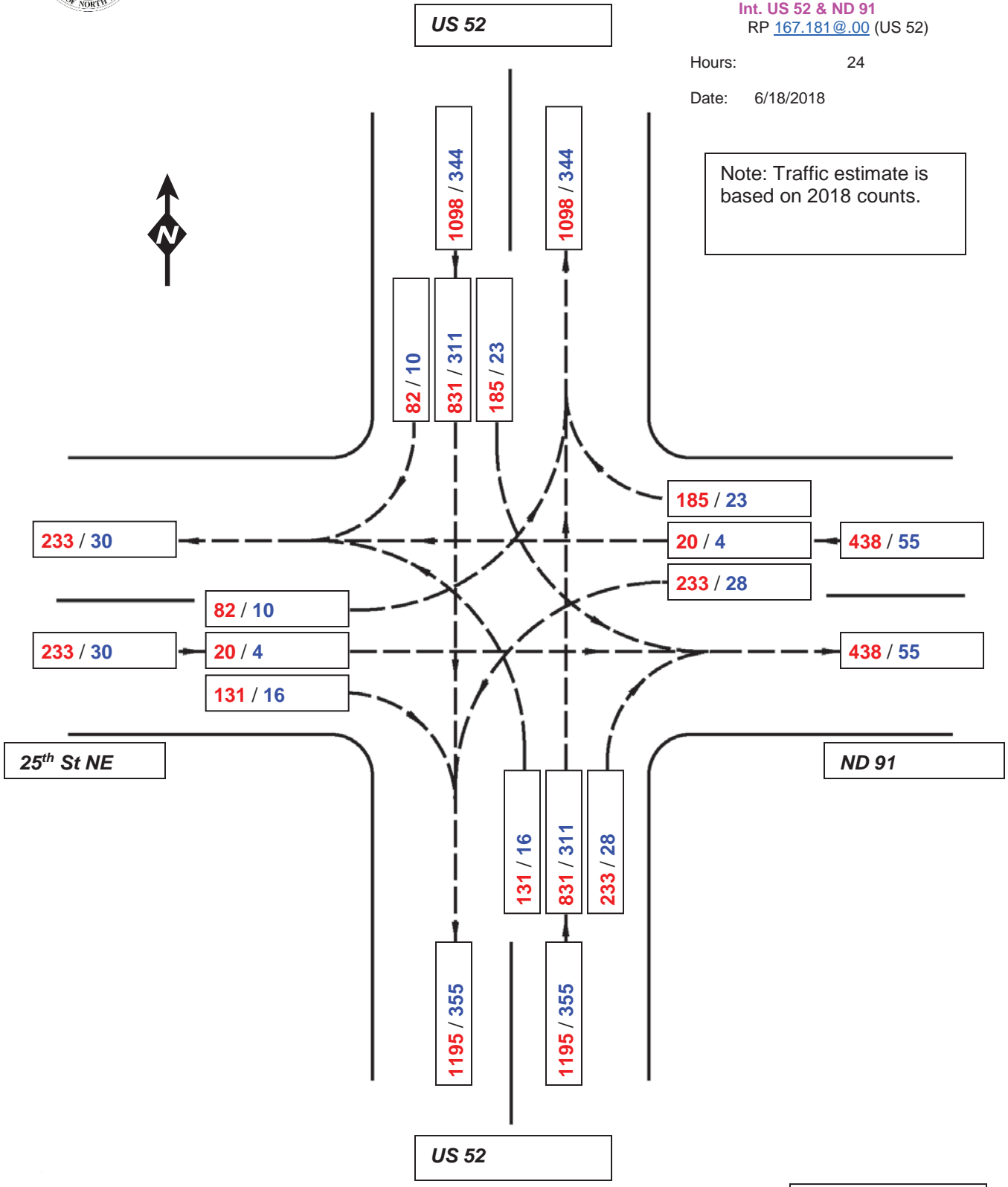
Description

Int. **US 52 & ND 91**  
 RP 167.181@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

Completed by NR



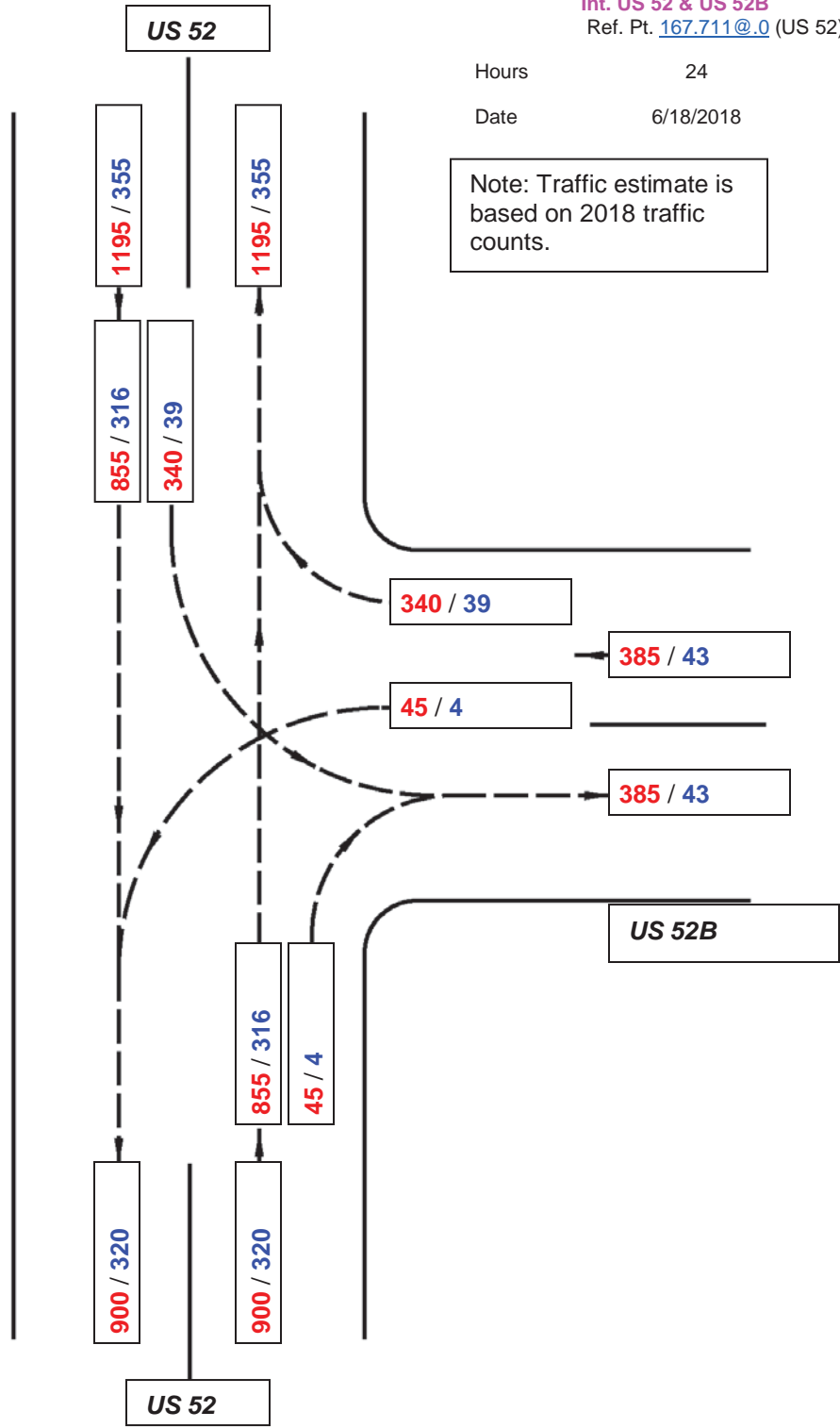
**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1050

Intersection No. 34  
 Description **Int. US 52 & US 52B**  
 Ref. Pt. [167.711@.0](#) (US 52)

Hours 24  
 Date 6/18/2018

Note: Traffic estimate is based on 2018 traffic counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1125

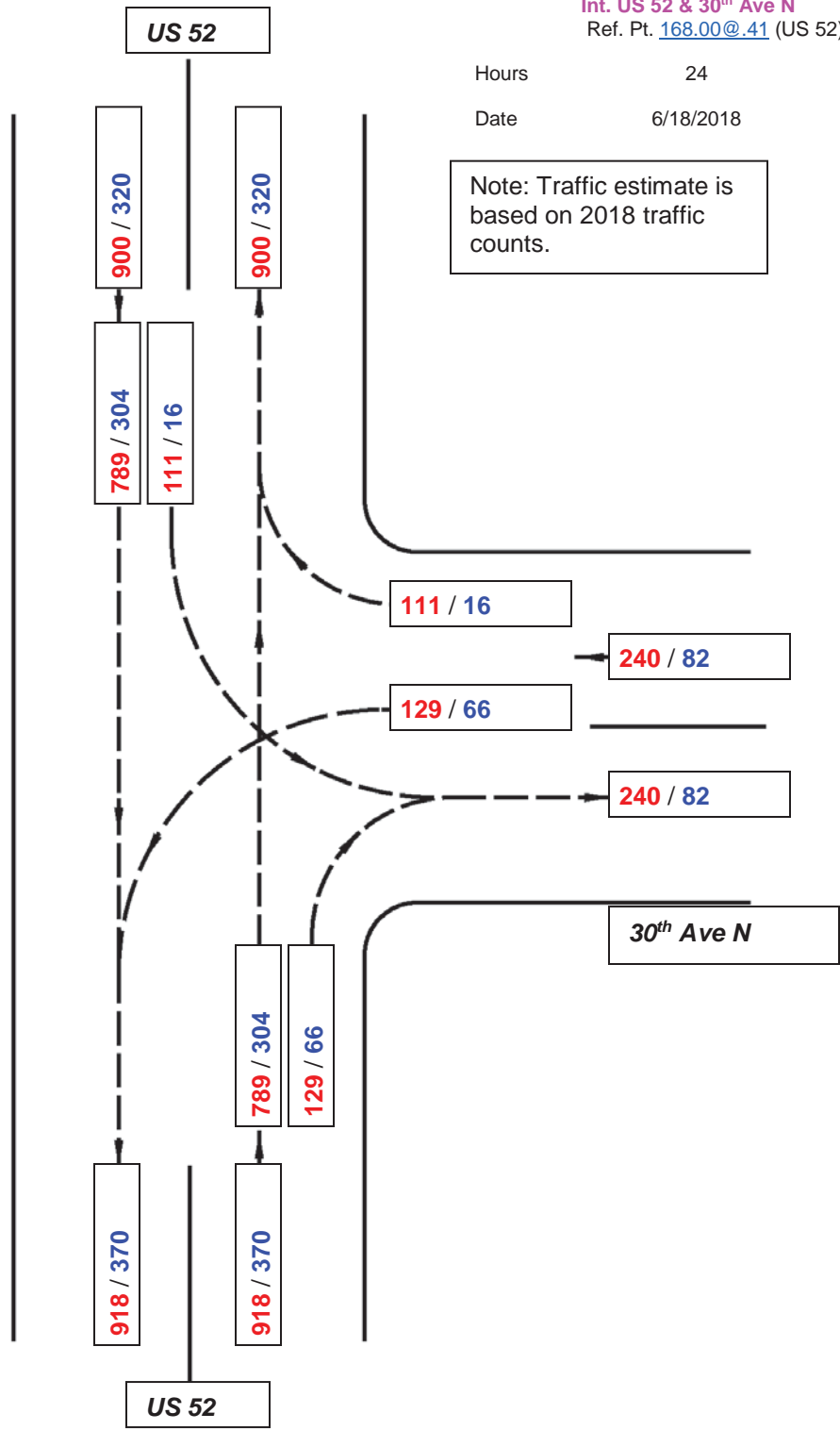
Intersection No. 35

Description **Int. US 52 & 30<sup>th</sup> Ave N**  
 Ref. Pt. 168.00@.41 (US 52)

Hours 24

Date 6/18/2018

Note: Traffic estimate is based on 2018 traffic counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

**Completed by NR**



# Intersection Traffic Volumes

North Dakota Department of Transportation  
SFN 7921 (Rev. 4-85)

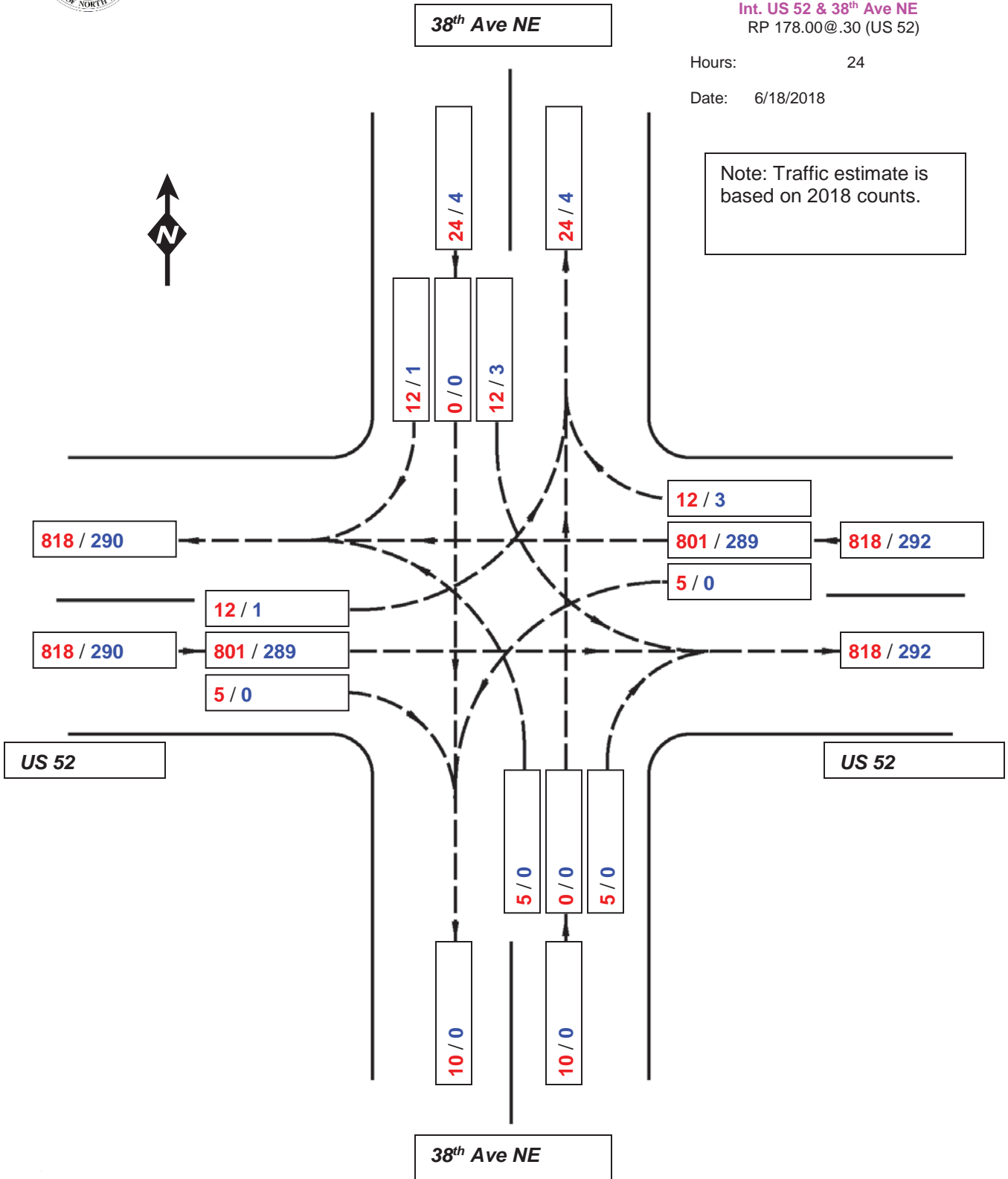
Intersection No: 36

Description  
**Int. US 52 & 38<sup>th</sup> Ave NE**  
RP 178.00@.30 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

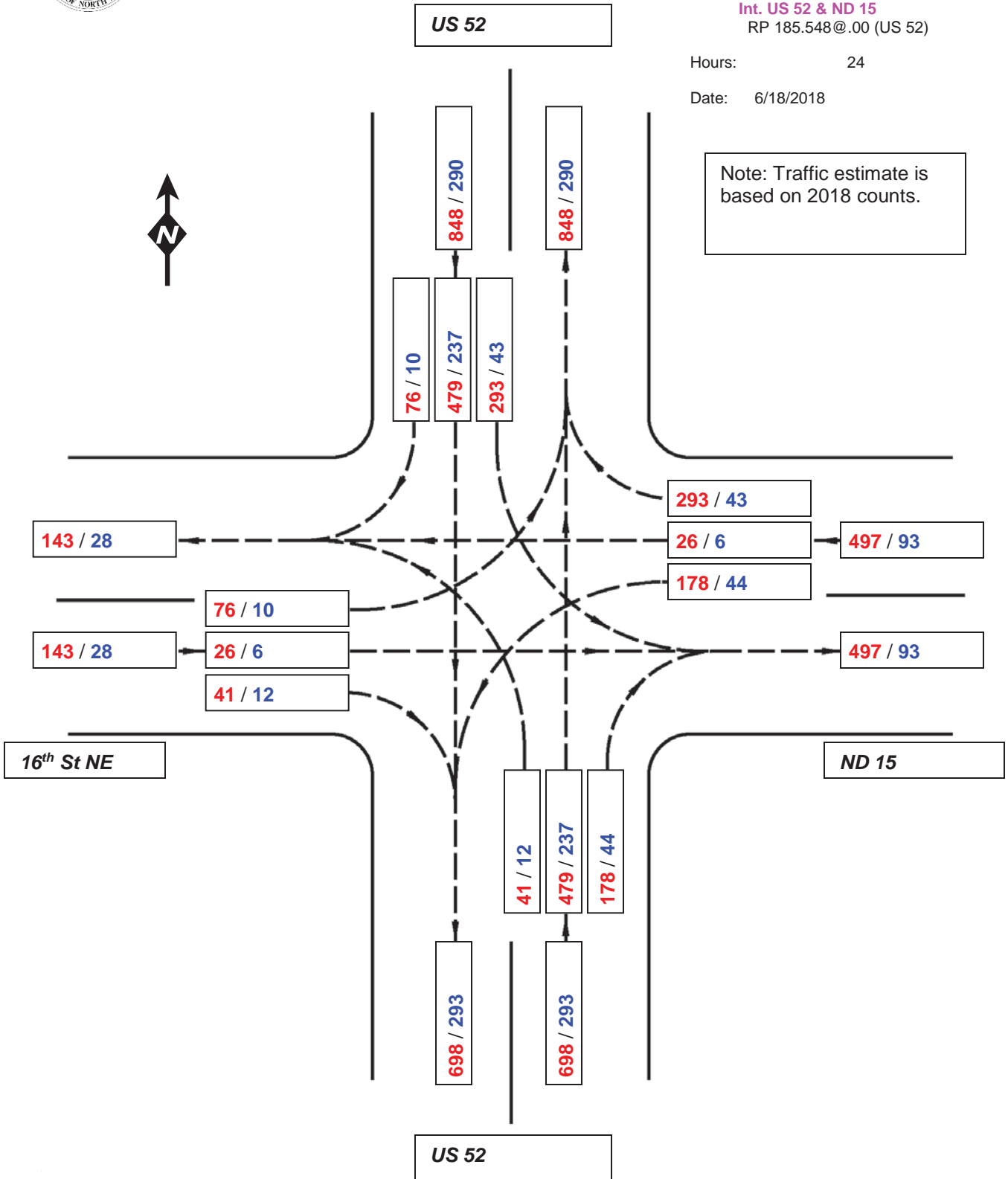
Intersection No: 37

Description  
**Int. US 52 & ND 15**  
 RP 185.548@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR







**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

526

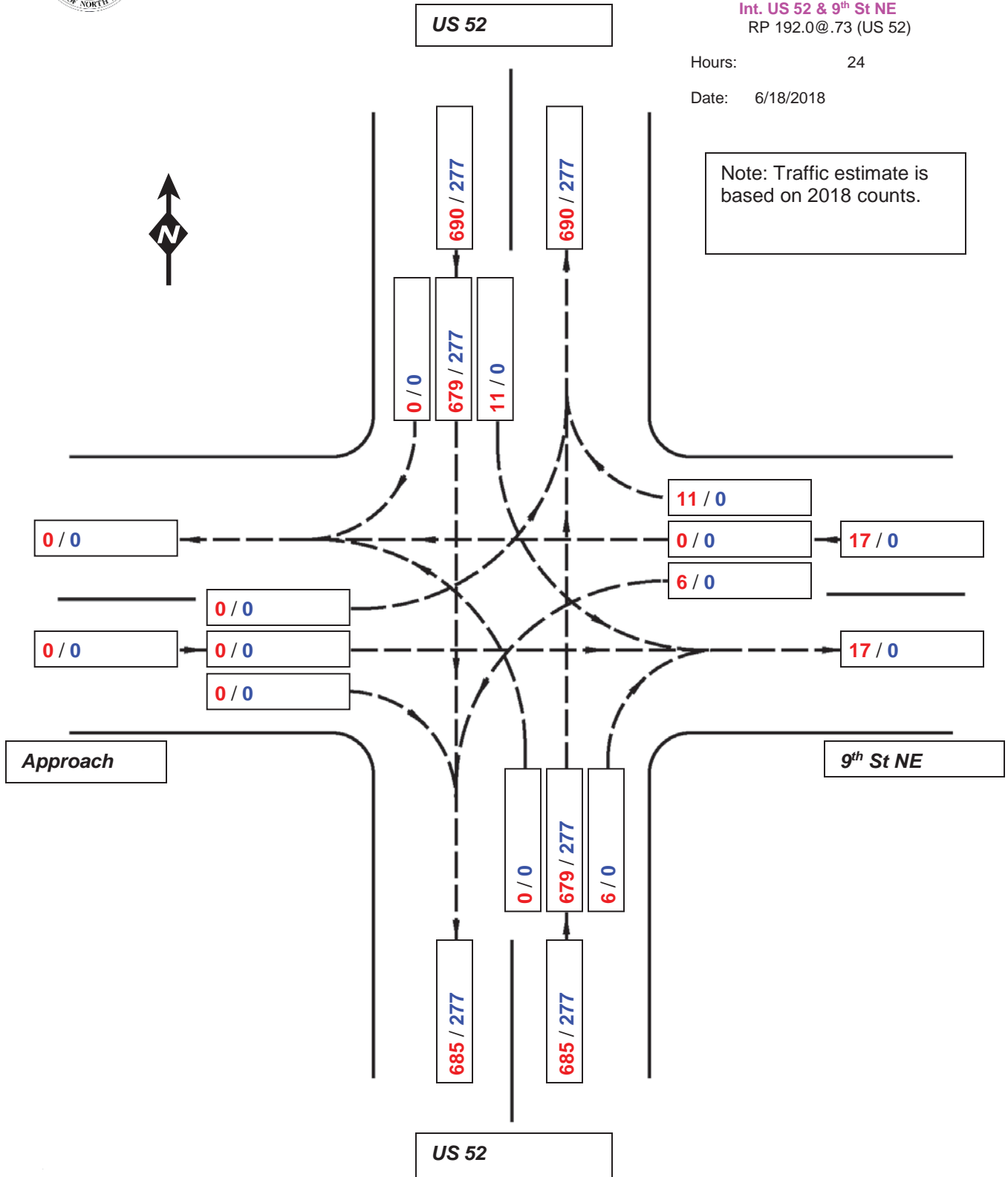
Intersection No: 39

Description  
**Int. US 52 & 9<sup>th</sup> St NE**  
 RP 192.0@.73 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

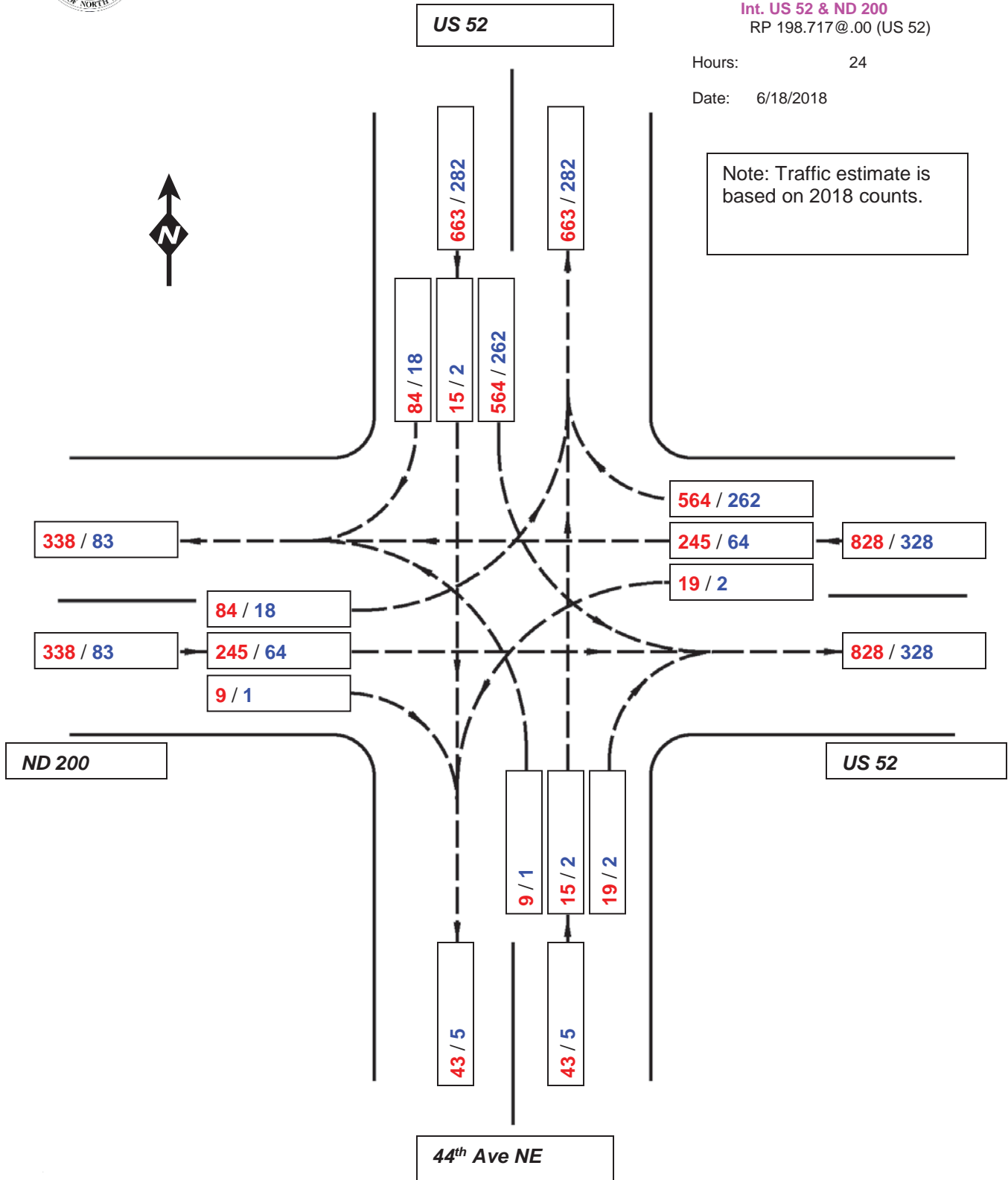
66  
 Intersection No: 40

Description  
**Int. US 52 & ND 200**  
 RP 198.717@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1052

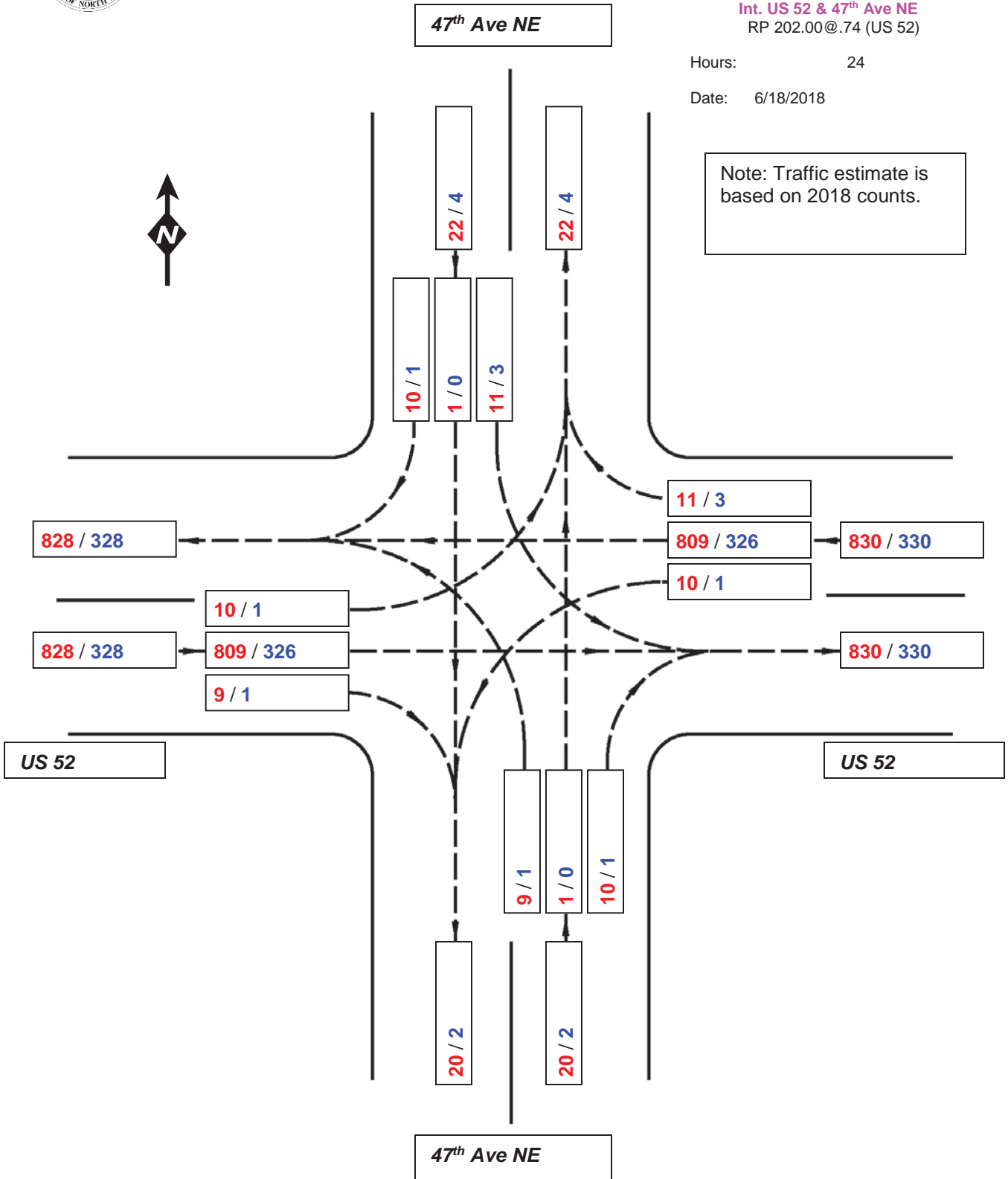
Intersection No: 41

Description  
**Int. US 52 & 47<sup>th</sup> Ave NE**  
 RP 202.00@.74 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

529

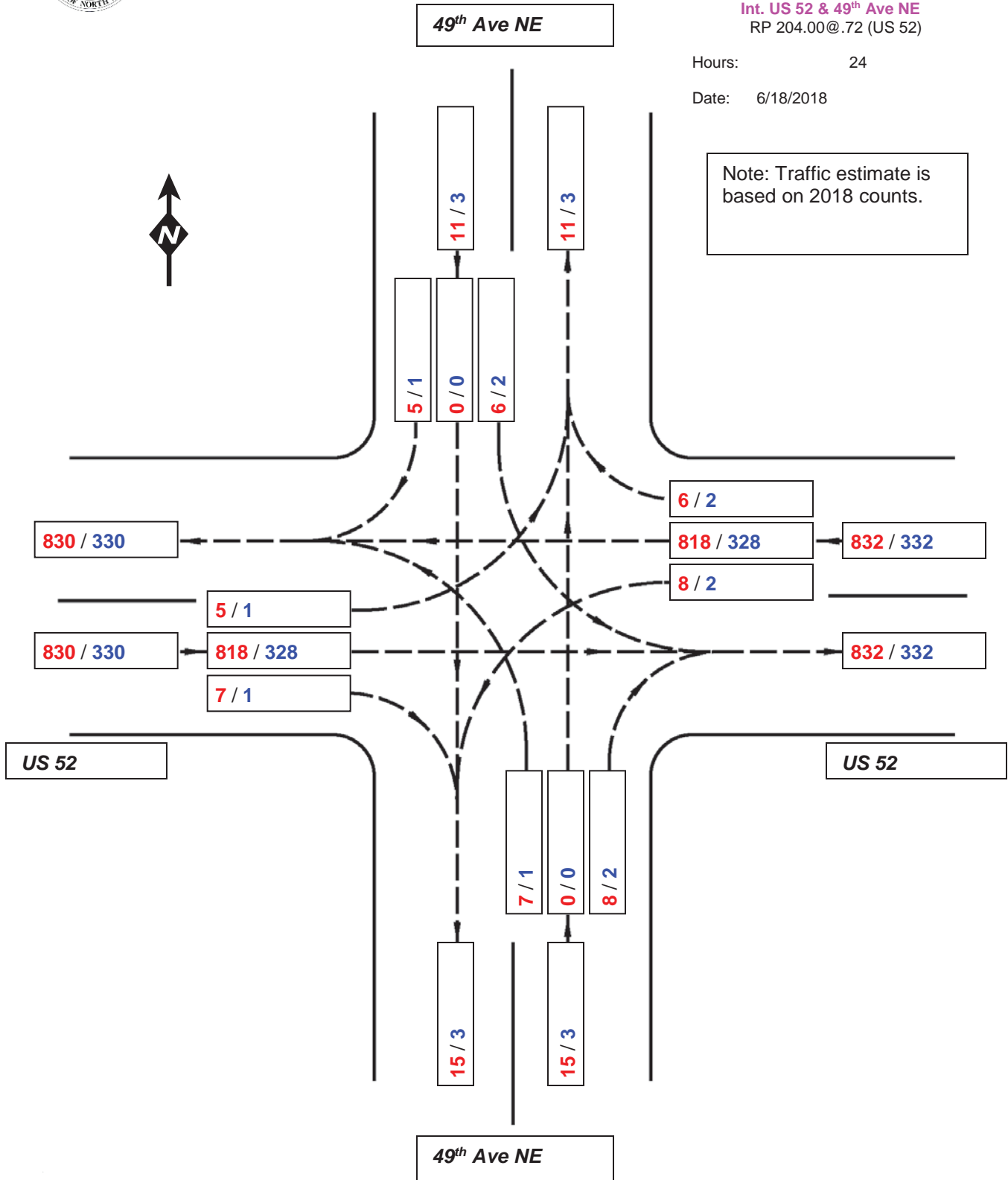
Intersection No: 42

Description  
**Int. US 52 & 49<sup>th</sup> Ave NE**  
 RP 204.00@.72 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

**Completed by NR**



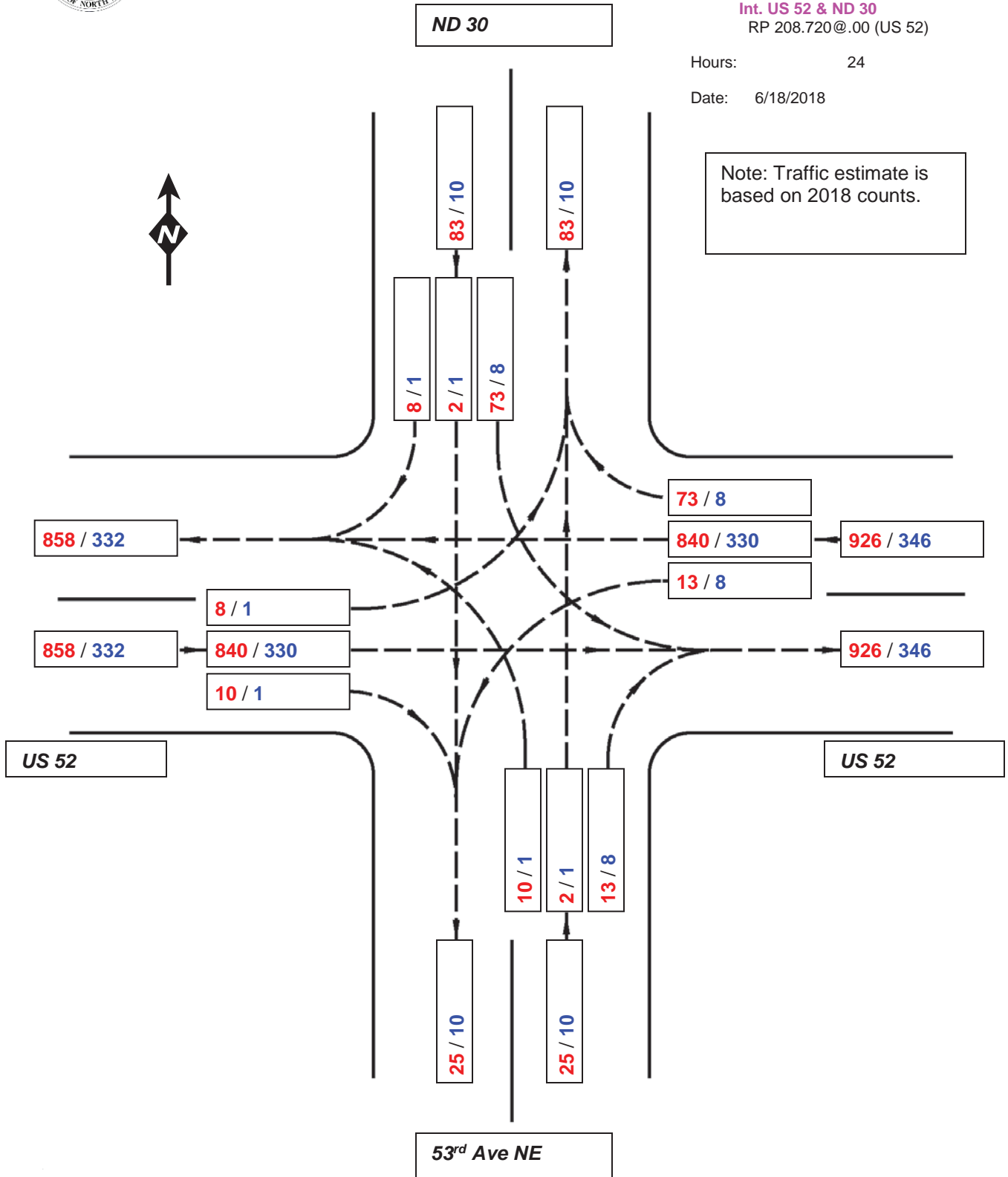
**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

Intersection No: 43 **67**  
 Description  
**Int. US 52 & ND 30**  
 RP 208.720@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

530

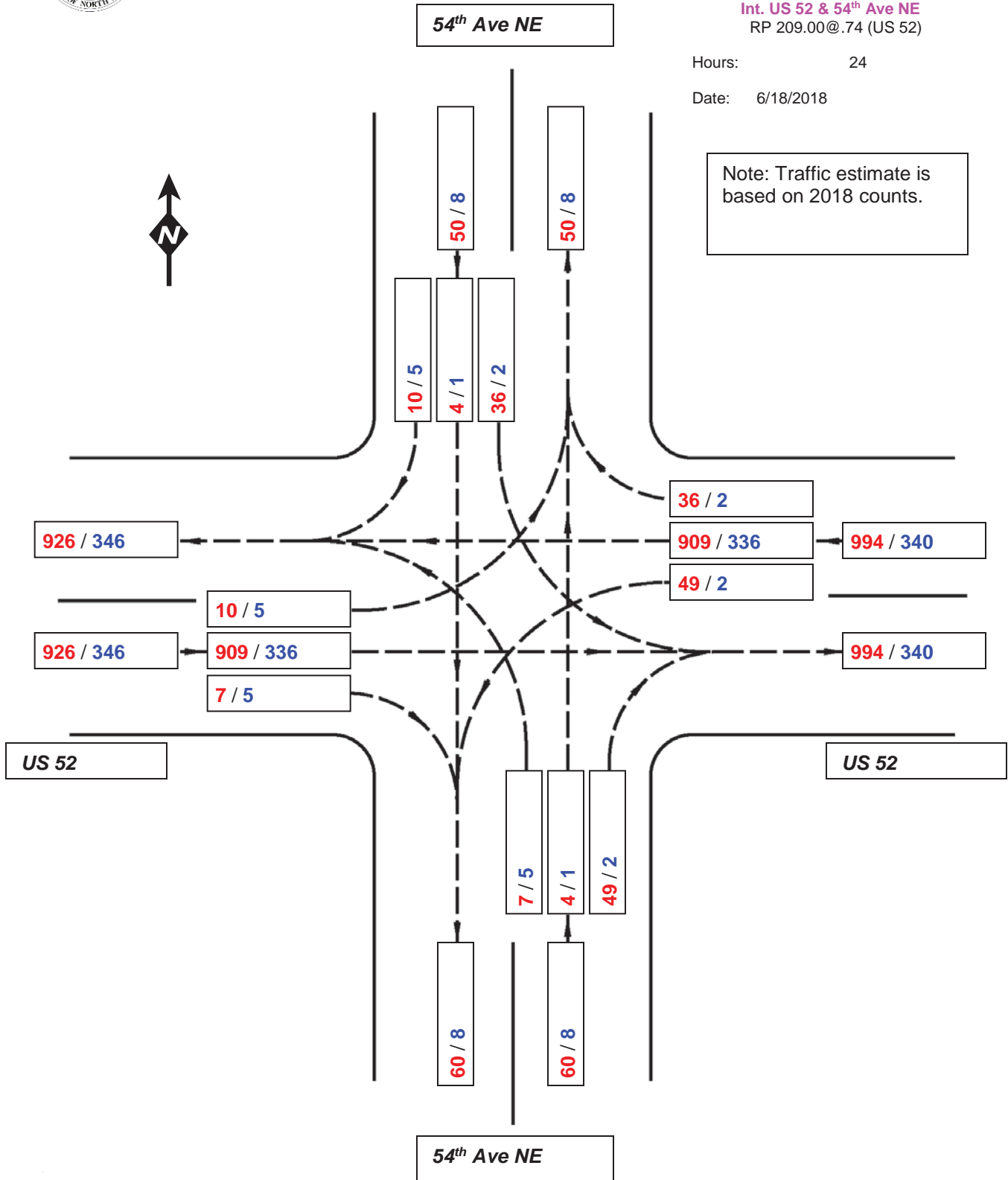
Intersection No: 44

Description  
**Int. US 52 & 54<sup>th</sup> Ave NE**  
 RP 209.00@.74 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR

Phone: Fax:  
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 11/26/2018  
Analysis Time Period  
Highway US 52  
From/To 101.683 - 116.858  
Jurisdiction  
Analysis Year 2018  
Description

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	21	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	15.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	25	%
Up/down	-	%	Access point density	6	/mi

Analysis direction volume, Vd 208 veh/h  
Opposing direction volume, Vo 208 veh/h

Average Travel Speed

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.5	1.5
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.905	0.905
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	261 pc/h	261 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	70.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.5	mi/h
Free-flow speed, FFSd	68.5	mi/h
Adjustment for no-passing zones, fnp	2.3	mi/h
Average travel speed, ATSD	62.2	mi/h
Percent Free Flow Speed, PFFS	90.8	%

-----Percent Time-Spent-Following-----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.979	0.979
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	241 pc/h	241 pc/h
Base percent time-spent-following, (note-4) BPTSFD	27.0 %	
Adjustment for no-passing zones, fnp	42.8	
Percent time-spent-following, PTSFD	48.4 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.14	
Peak 15-min vehicle-miles of travel, VMT15	898	veh-mi
Peak-hour vehicle-miles of travel, VMT60	3162	veh-mi
Peak 15-min total travel time, TT15	14.4	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	15.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	62.2	mi/h
Percent time-spent-following, PTSFD (from above)	48.4	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----



Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	236.4
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	11.12
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 11/26/2018  
Analysis Time Period  
Highway US 52  
From/To RP 116.858 - 169.979  
Jurisdiction  
Analysis Year 2018  
Description

Input Data

Highway class	Class 1	Peak hour factor, PHF	0.88
Shoulder width	6.0 ft	% Trucks and buses	59 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	53.1 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	16 %
Up/down	- %	Access point density	3 /mi

Analysis direction volume, Vd 56 veh/h  
Opposing direction volume, Vo 56 veh/h

Average Travel Speed

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.653	0.653
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	97 pc/h	97 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM - mi/h  
Observed total demand, (note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h  
Adj. for access point density, (note-3) fA 0.8 mi/h

Free-flow speed, FFSd 69.3 mi/h

Adjustment for no-passing zones, fnp 1.1 mi/h  
Average travel speed, ATSD 66.6 mi/h  
Percent Free Flow Speed, PFFS 96.2 %

-----Percent Time-Spent-Following-----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.944	0.944
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	67 pc/h	67 pc/h
Base percent time-spent-following, (note-4) BPTSFD	8.0 %	
Adjustment for no-passing zones, fnp	25.2	
Percent time-spent-following, PTSFD	20.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	845	veh-mi
Peak-hour vehicle-miles of travel, VMT60	2974	veh-mi
Peak 15-min total travel time, TT15	12.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	53.1	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	66.6	mi/h
Percent time-spent-following, PTSFD (from above)	20.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	63.6
Effective width of outside lane, We	36.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	45.44
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 11/26/2018  
Analysis Time Period  
Highway US 52  
From/To 101.683 - 116.858  
Jurisdiction  
Analysis Year 2038  
Description

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	23	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	15.2	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	25	%
Up/down	-	%	Access point density	6	/mi

Analysis direction volume, Vd 287 veh/h  
Opposing direction volume, Vo 287 veh/h

Average Travel Speed

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.4	1.4
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.916	0.916
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	356 pc/h	356 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM	-	mi/h
Observed total demand, (note-3) V	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, (note-3) BFFS	70.0	mi/h
Adj. for lane and shoulder width, (note-3) fLS	0.0	mi/h
Adj. for access point density, (note-3) fA	1.5	mi/h
Free-flow speed, FFSd	68.5	mi/h
Adjustment for no-passing zones, fnp	1.9	mi/h
Average travel speed, ATSD	61.0	mi/h
Percent Free Flow Speed, PFFS	89.1	%

-----Percent Time-Spent-Following-----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.978	0.978
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	334 pc/h	334 pc/h
Base percent time-spent-following, (note-4) BPTSFD	35.9 %	
Adjustment for no-passing zones, fnp	38.8	
Percent time-spent-following, PTSFD	55.3 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	C	
Volume to capacity ratio, v/c	0.19	
Peak 15-min vehicle-miles of travel, VMT15	1239	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4362	veh-mi
Peak 15-min total travel time, TT15	20.3	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	15.2	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	61.0	mi/h
Percent time-spent-following, PTSFD (from above)	55.3	
Level of service, LOSd (from above)	C	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	326.1
Effective width of outside lane, We	24.00
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	12.59
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 11/26/2018  
Analysis Time Period  
Highway US 52  
From/To RP 116.858 - 169.979  
Jurisdiction  
Analysis Year 2038  
Description

Input Data

Highway class	Class 1	Peak hour factor, PHF	0.88
Shoulder width	6.0 ft	% Trucks and buses	59 %
Lane width	12.0 ft	% Trucks crawling	0.0 %
Segment length	53.1 mi	Truck crawl speed	0.0 mi/hr
Terrain type	Level	% Recreational vehicles	4 %
Grade: Length	- mi	% No-passing zones	16 %
Up/down	- %	Access point density	3 /mi

Analysis direction volume, Vd 83 veh/h  
Opposing direction volume, Vo 83 veh/h

Average Travel Speed

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.653	0.653
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	144 pc/h	144 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM - mi/h  
Observed total demand, (note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h  
Adj. for access point density, (note-3) fA 0.8 mi/h

Free-flow speed, FFSd 69.3 mi/h

Adjustment for no-passing zones, fnp 1.6 mi/h  
Average travel speed, ATSD 65.4 mi/h  
Percent Free Flow Speed, PFFS 94.5 %



-----Percent Time-Spent-Following-----

Direction	Analysis (d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.944	0.944
Grade adjustment factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	100 pc/h	100 pc/h
Base percent time-spent-following, (note-4) BPTSFD	11.6 %	
Adjustment for no-passing zones, fnp	0.0	
Percent time-spent-following, PTSFD	11.6 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	1252	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4407	veh-mi
Peak 15-min total travel time, TT15	19.1	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	53.1	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	65.4	mi/h
Percent time-spent-following, PTSFD (from above)	11.6	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	94.3
Effective width of outside lane, We	34.53
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	46.50
Bicycle LOS	F

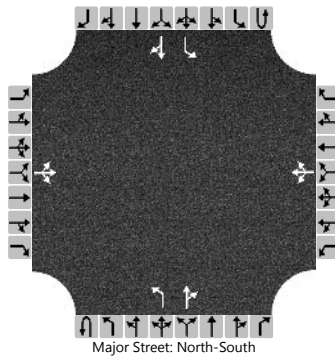
Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

# HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMS			Intersection	1048		
Agency/Co.	NDDOT			Jurisdiction			
Date Performed	1/24/2019			East/West Street	ND 91		
Analysis Year	2019			North/South Street	US 52		
Time Analyzed	Peak			Peak Hour Factor	0.92		
Intersection Orientation	North-South			Analysis Time Period (hrs)	0.25		
Project Description							

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		8	2	13		23	2	19		13	83	23		19	83	8
Percent Heavy Vehicles (%)		12	20	12		12	20	12		12				12		
Proportion Time Blocked																
Percent Grade (%)	0				0											
Right Turn Channelized																
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.22	6.70	6.32		7.22	6.70	6.32		4.22				4.22		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.61	4.18	3.41		3.61	4.18	3.41		2.31				2.31		

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			25				48							21		
Capacity, c (veh/h)			764				731							1414		
v/c Ratio			0.03				0.07							0.01		
95% Queue Length, Q <sub>95</sub> (veh)			0.1				0.2							0.0		
Control Delay (s/veh)			9.9				10.3							7.6		
Level of Service (LOS)			A				B							A		
Approach Delay (s/veh)	9.9				10.3				0.8				1.3			
Approach LOS	A				B											

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M	D	Year
1	1	2013
12	31	2017

**# of Years:** 5.00

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

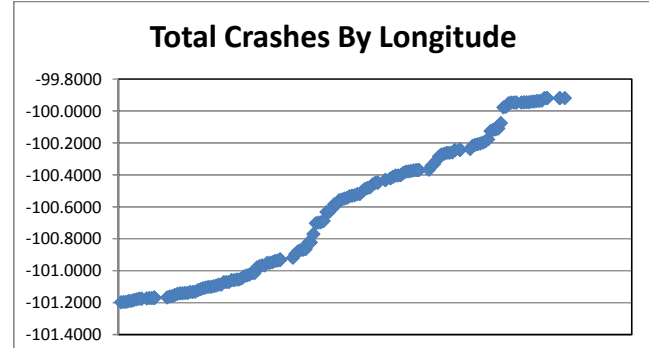
**Statistics for Total Crashes**

Crash Severity	
Fatal = 5	3%
InjA = 7	4%
InjB = 30	17%
InjC = 20	11%
PDO = 112	64%
<b>174</b>	

Roadway Geometrics	
Straight (on level) = 117	67%
Straight (on grade) = 28	16%
Curve (on level) = 15	9%
Curve (on grade) = 10	6%
Hill Crest = 3	2%
Unknown = 1	1%
<b>174</b>	

V1 and V2 Configuration*	
Passenger Car = 69	
PU / Van / Utility = 133	
Truck = 53	
Bus / Motorhome = 1	
Motorcycle + Moped = 1	

*These are only the most popular choices.*



Day of Week	
Monday = 22	13%
Tuesday = 25	14%
Wednesday = 26	15%
Thursday = 27	16%
Friday = 28	16%
Saturday = 33	19%
Sunday = 13	7%
<b>174</b>	

Manner of Collision	
Angle = 22	13%
Rear End = 26	15%
Left Turn = 5	3%
Sideswipe (same direction) = 10	6%
Single Vehicle = 89	51%
Ped / Bike = 1	1%
Other = 21	12%
<b>174</b>	

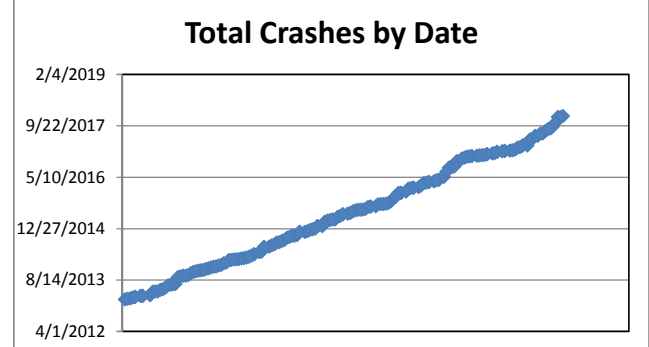
V1 and V2 Directions*	
North = 49	
South = 42	
East = 93	
West = 82	

Surface Conditions	
Dry = 102	59%
Wet = 9	5%
Ice / Snow = 61	35%
Other = 2	1%
<b>174</b>	

First Harmful Event	
Motor Vehicle in Transport = 84	48%
Animal = 0	0%
Jackknife = 4	2%
Ran Off Roadway (not including below crashes) = 50	29%
Guardrail + Concrete Barrier + Bridge Rail = 11	6%
Bridge / Pier / Abutment / Overhead Structure = 0	0%
Poles / Posts / Trees / Overhead Sign Supports = 10	6%

*These are only the most popular choices.*

D1 and D2 Sex*	
Female = 64	
Male = 194	



Lighting Conditions	
Dawn = 4	2%
Daylight = 103	60%
Dusk = 2	1%
Dark = 55	32%
Dark (lighted) = 8	5%
<b>172</b>	

Relation to Junction	
Non-Junction = 116	67%
Intersection + Intersection-Related = 50	29%
Alley / Driveway Access = 3	2%
Interchange Area + Exit / Entrance Ramp = 1	1%

*These are only the most popular choices.*

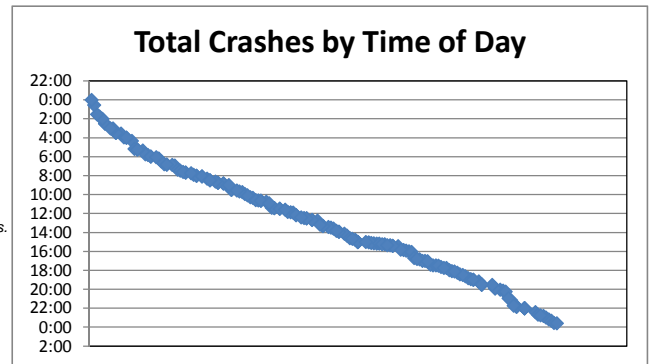
D1 and D2 Age*	
0-17 = 9	45-54 = 51
18-24 = 47	55-64 = 32
25-34 = 59	65-74 = 14
35-44 = 37	75+ = 8

D1 and D2 Alcohol / Drugs*	
Yes (alcohol or drugs present) = 11	

Under Construction	
Yes = 1	1%

D1 and D2 Contr. Factors*	
No Clear Factor = 110	
Attention Distracted = 2	
Weather = 28	
Speed = 10	
Too Fast for Conditions = 25	
Fail to Yield = 17	
Improper Backing/Turning = 10	

*These are only the most popular choices.*



D1 or D2 Ejected*	
Yes (partially or fully) = 6	

*\*This info is not available for all units.*

General Summary								
Yr	Start Date	End Date	Intersection or Alley / Drvwy	Non-Intersection		Total	AADT (two-way)	Crash Rate
				Single Veh	Mult. Veh			
1	1/1/2013	12/31/2013	9	16	12	37		
2	1/1/2014	12/31/2014	11	17	11	39		
3	1/1/2015	12/31/2015	16	13	7	36		
4	1/1/2016	12/31/2016	12	17	6	35		
5	1/1/2017	12/31/2017	5	13	9	27		
			<b>53</b>	<b>76</b>	<b>45</b>	<b>174</b>		
			<b>30%</b>	<b>44%</b>	<b>26%</b>			

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

	M	D	Year
<b>Start Date:</b>	1	1	2013
<b>End Date:</b>	12	31	2017
<b># of Years:</b>	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**Statistics for Intersection-Related Crashes ONLY**

**Crash Severity**

Fatal = 2	4%
InjA = 4	8%
InjB = 13	25%
InjC = 9	17%
PDO = 25	47%
53	

**Relation to Junction**

Intersection + Intersection-Related = 50	94%
Alley / Driveway Access = 3	6%

**Manner of Collision**

Angle = 18	34%
Rear End = 9	17%
Left Turn = 5	9%
Sideswipe (same direction) = 4	8%
Single Vehicle = 13	25%
Ped / Bike = 1	2%
Other = 3	6%

**Surface Conditions**

Dry = 42	79%
Wet = 5	9%
Ice / Snow = 6	11%
Other = 0	0%

**D1 and D2 Contributing Factors\***

No Clear Factor = 43
Attention Distracted = 1
Weather = 2
Speed = 1
Too Fast for Conditions = 3
Fail to Yield = 16
Improper Backing / Turning = 10

*These are only the most popular choices.*

**Lighting Conditions**

Dawn = 2	4%
Daylight = 41	77%
Dusk = 0	0%
Dark = 4	8%
Dark (lighted) = 4	8%

**Under Construction**

Yes = 0    0%

**D1 and D2 Alcohol / Drugs Present\***

Yes (alcohol or drugs) = 3

**V1 and V2 Unit Config.\***

Passenger Car = 31
PU / Van / Utility = 45
Truck = 13
Bus / Motorhome = 1
Motorcycle + Moped = 0

*These are only the most popular choices.*

\*This info is not available for all units.

**Statistics for Non-Intersection Crashes ONLY**

**Multiple Vehicle Crashes ONLY**

**Crash Severity**

Fatal = 2	4%
InjA = 1	2%
InjB = 7	16%
InjC = 4	9%
PDO = 31	69%
45	

**Road Geometrics**

Straight (on level) = 27	60%
Straight (on grade) = 8	18%
Curve (on level) = 5	11%
Curve (on grade) = 3	7%
Hill Crest = 2	4%

**D1 and D2 Alcohol/Drugs Present\***

Yes (alcohol or drugs) = 5

**V1 and V2 Unit Config.\***

Passenger Car = 22
PU / Van / Utility = 38
Truck = 29
Bus / Motorhome = 0
Motorcycle + Moped = 0

*These are only the most popular choices.*

**Surface Conditions**

Dry = 24	53%
Wet = 2	4%
Ice / Snow = 18	40%
Other = 1	2%

**Under Construction**

Yes = 0    0%

**D1 or D2 Ejected\***

Yes = 1

**Lighting Conditions**

Dawn = 0	0%
Daylight = 26	58%
Dusk = 0	0%
Dark = 16	36%
Dark (lighted) = 3	7%

**Manner of Collision**

Angle = 4	9%
Rear End = 17	38%
Left Turn = 0	0%
Sideswipe (same direction) = 6	13%
Head-On + Sideswipe (opp direction) = 15	33%
Other = 3	7%

**Non-Collision with Motor Vehicle (a.k.a. Single Vehicle) Crashes ONLY**

**Crash Severity**

Fatal = 1	1%
InjA = 2	3%
InjB = 10	13%
InjC = 7	9%
PDO = 56	74%
76	

**Road Geometrics**

Straight (on level) = 48	63%
Straight (on grade) = 16	21%
Curve (on level) = 6	8%
Curve (on grade) = 5	7%
Hill Crest = 0	0%

**D1 Alcohol / Drugs Present\***

Yes (alcohol or drugs) = 3    4%

**V1 Unit Config.\***

Passenger Car = 16	21%
PU / Van / Utility = 45	59%
Truck = 10	13%
Bus / Motorhome = 0	0%
Motorcycle + Moped = 1	1%

*These are only the most popular choices.*

**Surface Conditions**

Dry = 36	47%
Wet = 2	3%
Ice / Snow = 37	49%
Other = 1	1%

**Under Construction**

Yes = 1    1%

**D1 Ejected\***

Yes (partially or fully) = 4    5%

**D1 Most Harmful Event\***

Motor Vehicle in Transport = 0	0%
Animal = 0	0%
Jackknife = 5	7%
Ran Off Roadway (not including below crashes) = 42	55%
Guardrail + Concrete Barrier + Bridge Rail = 10	13%
Bridge / Pier / Abutment / Overhead Structure = 0	0%
Poles / Posts / Trees / Overhead Sign Supports = 6	8%

*These are only the most popular choices.*

\*This info is not available for all units.

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

<b>M D Year</b>		
1	1	2013
12	31	2017
<b># of Years:</b> 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.											
	Lat.	Day	Surf Cond	Road Geom.											
	Long.	Time	Lighting	Under Constr.											
1	Hwy 52 RP 101.723	299917 3/4/2014	PDO Snow	Single Veh. Non-junction	V1 28 F	TURTLE LAKE, ND		N	N	Pickup - Van - Utility	Northwest	None	Parked Motor Vehicle		
	48.166 -101.1966	Tuesday 7:55 AM	Snow Daylight	Straight (on Grade) No											
2	Hwy 52 RP 101.813	1039027 8/26/2017	PDO Clear	Single Veh. Non-junction	V1 21 F	MINOT, ND	Fail Keep in Proper Lane	N	N	Passenger Car	North	None	Other Traffic Barrier		
	48.1649 -101.1956	Saturday 10:17 AM	Dry Daylight	Straight (on Grade) No											
3	Hwy 52 RP 101.833	300291 3/6/2014	PDO Cloudy	Single Veh. Non-junction	V1 32 M	MONTICELLO, IN	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Jackknife		
	48.1647 -101.1955	Thursday 5:50 AM	Ice / Snow Dark	Straight (on Grade) No											
4	Hwy 52 RP 102.26	336878 12/11/2015	PDO Snow	Rear End Non-junction	V1 24 F	VELVA, ND	Following too Close	N	N	Pickup - Van - Utility	West	None	MV in Transport		
	48.1603 -101.1894	Friday 12:30 PM	Snow Daylight	Straight (on Level) No											
5	Hwy 52 RP 102.28	336865 12/11/2015	PDO Snow	Sideswipe (Opp. Dir.) Non-junction	V1 19 M	ANAMOOSE, ND	Improper Overtaking	N	N	Passenger Car	West	None	MV in Transport		
	48.1602 -101.1889	Friday 12:29 PM	Snow Daylight	Straight (on Level) No											
6	Hwy 52 RP 102.57	1046958 12/28/2017	PDO Clear	Rear End Non-junction	V1 33 M	KANSAS CITY, MO	To Fast for Conditions	N	N	Pickup - Van - Utility	North	None	MV in Transport		
	48.1581 -101.1837	Thursday 12:45 PM	Dry Daylight	Straight (on Level) No											
7	Hwy 52 RP 102.75	313607 10/24/2014	PDO Clear	Single Veh. Non-junction	V1 24 M	HAWLEY, MN	MV Mechanical Failure	N	N	Pickup - Van - Utility	East	None	Separation of Units		
	48.1568 -101.1802	Friday 7:55 PM	Dry Dark	Straight (on Level) No											
8	Hwy 52 RP 102.99	320092 1/21/2015	InjA Clear	Single Veh. Non-junction	V1 46 M	HARVEY, ND	Over Correct/Steering	N	N	Pickup - Van - Utility	North	None	Overturn / Rollover	V1 NB attempting to pass another car, lost control, went into ditch, rolled several times.	
	48.1551 -101.1758	Wednesday 8:50 AM	Ice / Snow Daylight	Straight (on Level) No											
9	Hwy 52 RP 102.99	337931 1/28/2016	PDO Clear	Single Veh. Non-junction	V1 52 M	VELVA, ND	Fail Keep in Proper Lane	N	Y	Passenger Car	East	None	Guardrail Face		
	48.155 -101.1756	Thursday 11:20 PM	Dry Dark	Straight (on Level) No											
10	Hwy 52 RP 103	1010515 4/16/2016	PDO st/Hail/Freezing f	Single Veh. Non-junction	V1 77 F	MINOT, ND	To Fast for Conditions	N	N	Passenger Car	East	None	Guardrail Face		
	48.155 -101.1756	Saturday 1:55 PM	Slush Daylight	Straight (on Grade) No											

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year  
**Start Date:** 1 1 2013  
**End Date:** 12 31 2017  
**# of Years:** 5.00

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
11	Hwy 52	1024440	InjC	Single Veh.	V1 17 F		MINOT, ND	To Fast for Conditions	Y	N	Pickup - Van - Utility	North	None	Overturn / Rollover			
	RP 103.12	12/20/2016	Blowing Snow	Non-junction													
	48.1541	Tuesday	Ice / Snow	Straight (on Level)													
	-101.1732	9:30 AM	Daylight	No													
12	Hwy 52	1037786	PDO	Rear End	V1 24 M		MINOT, ND		N	N	Unknown Heavy Truck	South	Unknown	MV in Transport			
	RP 103.25	8/3/2017	Clear	Other Crossings													
	48.1532	Thursday	Dry	Straight (on Level)													
	-101.1709	11:54 AM	Daylight	No	V2 66 M	REDWOOD MEADOWS, AB		N	N	Heavy Truck	South	None	MV in Transport				
13	Hwy 52	1016225	PDO	Single Veh.	V1 29 M		VELVA, ND	Other	N	N	Pickup - Van - Utility	South	None	Ditch			
	RP 103.25	8/17/2016	Clear	Intersection Related													
	48.1532	Wednesday	Dry	Curve (on Level)													
	-101.1708	7:10 PM	Daylight	No													
14	Hwy 52	299554	PDO	Left Turn	V1 63 F		VELVA, ND		N	N	Passenger Car	West	None	MV in Transport	V1 WB. V2 made EB left turn did not observe V1 approaching.	US 52 & 79 Ave SE (Ward 16)	
	RP 103.3	2/24/2014	Clear	Intersection													
	48.1529	Monday	Dry	Straight (on Level)													
	-101.17	3:10 PM	Daylight	No	V2 29 M	MINOT, ND	Failed to Yield	N	N	Passenger Car	East	None	MV in Transport				
15	Hwy 52	324042	InjC	Rear End	V1 16 M		ANAMOOSE, ND	Following too Close	N	N	Pickup - Van - Utility	East	Officer/Flagperson	MV in Transport	V2 EB, slowing down to make a left turn. V1 EB was distracte and did not notice V2 came to a stop.	US 52 & 79 Ave SE (Ward 16)	
	RP 103.3	3/21/2015	Clear	Intersection													
	48.1529	Saturday	Dry	Straight (on Level)													
	-101.17	3:00 PM	Daylight	No	V2 38 F	MINOT, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport				
16	Hwy 52	325962	PDO	Rear End	V1 26 M		SAWYER, ND	Improper Evasive Action	N	Y	Pickup - Van - Utility	East	None	MV in Transport	V2 EB stopped with left turn signal activated. V1 came up from behind swerving and crossing into oncoming traffic. V1 struck the rear of V2. D1 arrested for DUI.	US 52 & 79 Ave SE (Ward 16)	
	RP 103.3	4/20/2015	Clear	Intersection													
	48.1529	Monday	Dry	Straight (on Level)													
	-101.17	6:26 PM	Daylight	No	V2 41 M	MINOT, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport				
17	Hwy 52	331265	PDO	Rear End	V1 27 F		SAWYER, ND	Improper Evasive Action	N	N	Pickup - Van - Utility	Northwest	None	MV in Transport	V1 following V2 WB. Vehicles ahead slowing to turn onto 79 Ave SE. V1 struck V2 in center rear.	US 52 & 79 Ave SE (Ward 16)	
	RP 103.3	8/3/2015	Clear	Intersection													
	48.1529	Monday	Dry	Curve (on Grade)													
	-101.17	10:40 AM	Daylight	No	V2 71 M	VOLTAIRE, ND	Other	N	N	Passenger Car	Northwest	None	MV in Transport				
18	Hwy 52	1027734	InjB	Rear End	V1 29 M		MINOT, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	MV in Transport	V1 EB at 65 mph, D1 not paying attention to the traffic ahead. V2 stopped in the EB lane waiting to make a left turn. V1 struck the rear of V2.	US 52 & 79 Ave SE (Ward 16)	
	RP 103.3	1/25/2017	Cloudy	Intersection													
	48.1529	Wednesday	Ice / Snow	Straight (on Level)													
	-101.17	7:40 AM	Dawn	No	V2 25 M	THOMPSON, ND	Weather	N	N	2-Axle	East	None	MV in Transport				
19	Hwy 52	1024375	PDO	Single Veh.	V1 70 M		MINOT, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 103.47	12/20/2016	Clear	Non-junction													
	48.1516	Tuesday	Ice / Snow	Curve (on Grade)													
	-101.1669	8:00 AM	Dawn	No													
20	Hwy 52	277224	PDO	Single Veh.	V1 43 M		KARLSRUHE, ND	Weather	N	N	Pickup - Van - Utility	Northeast	None	Guardrail Face			
	RP 103.83	4/21/2013	Snow	Non-junction													
	48.1476	Sunday	Snow	Curve (on Level)													
	-101.1615	6:11 AM	Dawn	No													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.											
	Lat.	Day	Surf Cond	Road Geom.											
	Long.	Time	Lighting	Under Constr.											
21	Hwy 52	295083	PDO	Single Veh.	V1 53 M	KARLSRUHE, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	Northwest	None	Overturn / Rollover		
	RP 104.06	12/26/2013	Cloudy	Non-junction											
	48.1451	Thursday	Frost	Straight (on Grade)											
	-101.1584	8:19 AM	Daylight	No											
22	Hwy 52	1040887	PDO	Single Veh.	V1 52 F	TOWNER, ND		N	N	Pickup - Van - Utility	East	None	Cargo Loss or Shift		
	RP 104.52	9/16/2017	Clear	Non-junction											
	48.14	Saturday	Dry	Straight (on Grade)											
	-101.1521	4:51 PM	Daylight	No	V2 40 M	MINOT, ND		N	N	Pickup - Van - Utility	West	None	Cargo Loss or Shift		
23	Hwy 52	1009531	PDO	Single Veh.	V1 51 M	MINOT, ND	To Fast for Conditions	N	N	Passenger Car	North	None	Other Traffic Barrier		
	RP 105.07	3/17/2016	Snow	Non-junction											
	48.1337	Thursday	Snow	Straight (on Level)											
	-101.1445	9:50 PM	Dark	No											
24	Hwy 52	300428	InjC	Single Veh.	V1 21 M	VELVA, ND	Fail Keep in Proper Lane	N	N	Pickup - Van - Utility	Southeast	None	Overturn / Rollover		
	RP 105.34	3/14/2014	Cloudy	Non-junction											
	48.1307	Friday	Dry	Straight (on Grade)											
	-101.1413	3:02 PM	Daylight	No											
25	Hwy 52	1010514	PDO	Single Veh.	V1 54 M	HARVEY, ND	To Fast for Conditions	N	N	Passenger Car	West	None	Guardrail End		
	RP 105.4	4/16/2016	at/Hail/Freezing f	Alley/Driveway											
	48.1299	Saturday	Slush	Straight (on Grade)											
	-101.1405	2:20 PM	Daylight	No											
26	Hwy 52	272373	PDO	Rear End	V1 24 F	MESA, WA	Following too Close	N	N	Pickup - Van - Utility	East	None	MV in Transport		
	RP 105.41	2/16/2013	Clear	Non-junction											
	48.1296	Saturday	Dry	Straight (on Grade)											
	-101.1402	4:00 PM	Daylight	No	V2 46 M	ADDY, WA		N	N	Passenger Car	East	None	MV in Transport		
27	Hwy 52	316573	PDO	Sideswipe (Opp. Dir.)	V1 41 F	HARVEY, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	Northwest	None	MV in Transport		
	RP 105.49	11/26/2014	Cloudy	Non-junction											
	48.1288	Wednesday	Ice / Snow	Straight (on Grade)											
	-101.1394	8:45 AM	Daylight	No	V2					Pickup - Van - Utility	Southeast	None	MV in Transport		
28	Hwy 52	291412	PDO	Sideswipe (Same Dir.)	V1 21 M	VELVA, ND	Other	N	N	Pickup - Van - Utility	West	None	Guardrail Face		
	RP 105.98	11/29/2013	Cloudy	Non-junction											
	48.1229	Friday	Dry	Straight (on Level)											
	-101.1334	5:20 AM	Dark	No	V2 66 M	SAWYER, ND		N	N	Pickup - Van - Utility	West	None	MV in Transport		
29	Hwy 52	304062	InjC	Single Veh.	V1 19 F	MINOT, ND	Speed	Y	N	On Highway Vehicle	West	None	Overturn / Rollover		
	RP 105.99	5/15/2014	Clear	Non-junction											
	48.1228	Thursday	Dry	Unknown											
	-101.1332	8:03 PM	Dusk	No											
30	Hwy 52	302873	PDO	Single Veh.	V1 31 F	VELVA, ND	Other	N	N	Pickup - Van - Utility	East	None	Ditch		
	RP 106.14	4/23/2014	Clear	Non-junction											
	48.121	Wednesday	Dry	Straight (on Level)											
	-101.1314	11:11 PM	Dark	No											

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only



**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017
# of Years: 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
31	Hwy 52	315917	PDO	Sideswipe (Opp. Dir.)	V1 41	M	DRAKE, ND	Weather	N	N	Pickup - Van - Utility	North	None	MV in Transport			
	RP 107.02	11/25/2014	Blowing Snow	Non-junction	V2 57	M	BIRCHWOOD, WI	Weather	N	N	Truck Tractor	South	None	MV in Transport			
32	Hwy 52	1046403	InjB	Sideswipe (Opp. Dir.)	V1 22	M	MINOT, ND	Fail Keep in Proper Lane	N	N	Passenger Car	North	None	MV in Transport			
	RP 107.49	12/17/2017	Clear	Non-junction	V2 41	M	CALGARY, AB		N	N	2-Axle	South	None	MV in Transport			
33	Hwy 52	304293	InjA	Single Veh.	V1 21	M	BENEDICT, ND	Speed	N	N	Highway Vehicle	West	None	Overturn / Rollover	V1 (ATV) WB traveling in the south ditch, came over a driveway and did not see a creek. V1 overturned and landed upside down on top of him in the creek.		
	RP 107.79	5/16/2014	Clear	Non-junction													
34	Hwy 52	333859	InjC	Single Veh.	V1 22	F	DRAKE, ND	Speed	N	N	Passenger Car	Northwest	None	Overturn / Rollover			
	RP 108.03	9/17/2015	Cloudy	Non-junction													
35	Hwy 52	330014	InjC	Single Veh.	V1 17	F	VELVA, ND	Improper Evasive Action	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 108.22	6/28/2015	Clear	Non-junction													
36	Hwy 52	1024940	InjB	Single Veh.	V1 25	F	VELVA, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 108.24	12/28/2016	Clear	Non-junction													
37	Hwy 52	1033594	InjB	Rear End	V1 18	F	VELVA, ND	Following too Close	N	N	Passenger Car	West	None	MV in Transport		US 52 & 125 St SE	
	RP 108.53	5/13/2017	Clear	Intersection Related	V2 70	F	SAWYER, ND		N	N	Passenger Car	West	None	MV in Transport			
38	Hwy 52	320516	PDO	Single Veh.	V1 30	F	VOLTAIRE, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	West	None	Guardrail Face			
	RP 108.65	1/20/2015	Cloudy	Non-junction													
39	Hwy 52	1036669	InjB	Head On	V1 34	M	WOODBURY, GA	Improper Overtaking	N	N	Pickup - Van - Utility	West	None	MV in Transport			
	RP 108.99	7/12/2017	Clear	Non-junction	V2 23	M	VELVA, ND		N	N	Passenger Car	East	None	MV in Transport			
40	Hwy 52	1025140	PDO	Single Veh.	V1 32	F	SAWYER, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	South	None	Other Traffic Barrier			
	RP 109.02	12/30/2016	Clear	Non-junction													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.											
	Lat.	Day	Surf Cond	Road Geom.											
	Long.	Time	Lighting	Under Constr.											
41	Hwy 52	1011689	PDO	Single Veh.	V1 56 F	MINOT, ND	Other	N	Y	Pickup - Van - Utility	West	None	Ditch		
	RP 109.78	5/14/2016	Clear	Non-junction											
	48.0897	Saturday	Dry	Curve (on Grade)											
	-101.0715	3:26 PM	Daylight	No											
42	Hwy 52	295904	PDO	Single Veh.	V1 37 M	LAS VEGAS, NV	To Fast for Conditions	N	N	Pickup - Van - Utility	West	None	Ran Off Roadway		
	RP 109.8	1/10/2014	Clear	Non-junction											
	48.0896	Friday	Frost	Straight (on Grade)											
	-101.0709	6:50 AM	Dark	No											
43	Hwy 52	288691	InjB	Sideswipe (Opp. Dir.)	V1 33 M	VELVA, ND	Wrong Way	N	Y	Pickup - Van - Utility	South	None	MV in Transport		
	RP 109.81	10/19/2013	Cloudy	Non-junction											
	48.0895	Saturday	Dry	Hillcrest	V2 58 M	COALDALE, AB		N	N	Truck Tractor	North	None	MV in Transport		
	-101.0705	6:57 AM	Dark	No											
44	Hwy 52	1026591	PDO	Single Veh.	V1 37 M	MINOT, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Other Traffic Barrier		
	RP 110.37	1/12/2017	Blowing Snow	Non-junction											
	48.0868	Thursday	Snow	Curve (on Grade)											
	-101.0596	6:53 AM	Dark	No											
45	Hwy 52	1026687	InjC	Single Veh.	V1 23 M	MINOT, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Overturn / Rollover		
	RP 110.38	1/12/2017	Blowing Snow	Non-junction											
	48.0868	Thursday	Snow	Curve (on Grade)											
	-101.0594	1:45 AM	Dark	No											
46	Hwy 52	281357	InjB	Single Veh.	V1 19 M	STANLEY, ND	Other	Y	N	On Highway Vehicle	West	None	Overturn / Rollover		
	RP 110.54	6/23/2013	Rain	Non-junction											
	48.0864	Sunday	Wet	Straight (on Grade)											
	-101.0559	8:09 PM	Daylight	No											
47	Hwy 52	1034158	InjB	Rear End Intersection Related	V1 34 F	VELVA, ND	Following too Close	N	N	Pickup - Van - Utility	West	None	MV in Transport		
	RP 110.55	5/21/2017	Clear	Curve (on Level)											
	48.0864	Sunday	Dry	Curve (on Level)	V2 26 M	SAWYER, ND	Improper License	N	N	Pickup - Van - Utility	West	None	MV in Transport		
	-101.0558	12:40 PM	Daylight	No											
48	Hwy 52	337658	PDO	Single Veh.	V1 57 M	VELVA, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Guardrail Face		
	RP 110.99	1/20/2016	og / Smoke / Du	Non-junction											
	48.0859	Wednesday	Ice / Snow	Straight (on Level)											
	-101.0462	3:57 AM	Dark	No											
49	Hwy 52	337825	PDO	Angle	V1 36 M	HARVEY, ND	Speed	N	N	Pickup - Van - Utility	North	None	MV in Transport		
	RP 111.48	1/25/2016	Cloudy	Non-junction											
	48.0854	Monday	Ice / Snow	Straight (on Grade)	V2 23 M	MINOT, ND		N	N	Pickup - Van - Utility	South	None	MV in Transport		
	-101.0357	6:49 AM	Dark	No											
50	Hwy 52	297604	PDO	Single Veh.	V1 24 M	VELVA, ND	Other	N	N	Pickup - Van - Utility	North	None	Ran Off Roadway		
	RP 111.79	2/1/2014	Clear	Non-junction											
	48.085	Saturday	Dry	Straight (on Grade)											
	-101.0291	4:21 AM	Dark	No											

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
51	Hwy 52	290448	PDO	Single Veh.	V1	24	M	MINOT, ND	Other	N	N	Pickup - Van - Utility	East	None	Cargo Loss or Shift		
	RP 112	11/15/2013	Clear	Non-junction													
	48.0846	Friday	Dry	Straight (on Level)	V2	62	M	MINOT, ND		N	N	Pickup - Van - Utility	West	None	Thrown/Falling Object		
	-101.0246	6:05 PM	Dark	No													
52	Hwy 52	1009400	InjC	Backing	V1	62	F	VELVA, ND	Following too Close	N	N	Pickup - Van - Utility	North	None	MV in Transport		US 52 & 181 St SE (Ward 25)
	RP 112.52	3/18/2016	Clear	Intersection Related													
	48.0809	Friday	Dry	Straight (on Level)	V2	56	F	LANSFORD, ND		N	N	Pickup - Van - Utility	North	None	MV in Transport		
	-101.0148	1:30 PM	Daylight	No													
53		275962	PDO	Single Veh.	V1	28	M	Drake, ND		N	N	Passenger Car	East	None	Other Object (Not Fixed)		US 52 & 181 St SE (Ward 25)
	48.081	3/13/2013	Clear	Intersection													
	-101.0147	Wednesday	Ice / Snow	Straight (on Level)													
		7:30 PM	Unknown	No													
54	Hwy 52	1030354	InjB	Sideswipe (Opp. Dir.)	V1	26	M	VELVA, ND	Care Required	N	Y	Passenger Car	East	None	MV in Transport		
	RP 114.39	2/3/2017	Clear	Non-junction													
	48.0676	Friday	Dry	Straight (on Level)	V2	26	M	BRECKENRIDG E, MN		N	N	3+ Axle	West	None	MV in Transport		
	-100.9788	3:33 AM	Dark (Lighted)	No													
55	Hwy 52	332605	PDO	Single Veh.	V1	28	F	VELVA, ND		N	N	Passenger Car	West	None	Other Object (Not Fixed)		
	RP 114.83	8/25/2015	Cloudy	Non-junction													
	48.0648	Tuesday	Dry	Straight (on Level)													
	-100.9704	6:30 AM	Dark	No													
56	Hwy 52	1021483	InjB	Single Veh.	V1	34	M	KIEF, ND	Other	N	N	Passenger Car	South	None	Overturn / Rollover		
	RP 115.01	11/18/2016	Clear	Non-junction													
	48.0638	Friday	Dry	Straight (on Level)													
	-100.9675	10:00 PM	Dark	No													
57	Hwy 52	307203	PDO	Single Veh.	V1	46	M	CARRINGTON, ND	MV Mechanical Failure	N	N	Pickup - Van - Utility	Southeast	None	Thrown/Falling Object		
	RP 115.06	7/7/2014	Cloudy	Non-junction													
	48.0635	Monday	Dry	Straight (on Level)	V2	25	M	DEVILS LAKE, ND		N	N	Truck Tractor	Northwest	None	Thrown/Falling Object		
	-100.9664	11:50 AM	Daylight	No													
58		282506	<b>Fatal</b>	Head On	V1	47	M	OAKES, ND		N	N	Truck Tractor	Northwest	None	MV in Transport	V1 WB. V2 EB crossed the centerline into the WB lane and struck V1. D2 was ejected from the vehicle.	
	48.0585	7/5/2013	Clear	Non-junction													
	-100.9513	Friday	Dry	Straight (on Level)	V2	17	M	VELVA, ND	Driving Left of Center	Y	Y	Passenger Car	Southeast	None	MV in Transport		
		4:00 AM	Dark	No													
59	Hwy 52	308243	InjB	Sideswipe (Opp. Dir.)	V1	23	F	VELVA, ND	Other	N	Y	Passenger Car	Southeast	None	MV in Transport		
	RP 115.8	7/28/2014	Clear	Non-junction													
	48.0583	Monday	Dry	Curve (on Level)	V2	45	M	SASKATOON, SK		N	N	Truck Tractor	Northwest	None	MV in Transport		
	-100.9505	8:45 AM	Daylight	No													
60	Hwy 52	1010208	InjB	Single Veh.	V1	51	M	MINOT, ND		N	N	Motorcycle	East	None	Overturn / Rollover		
	RP 116.01	4/2/2016	Clear	Non-junction													
	48.0576	Saturday	Sand	Straight (on Level)													
	-100.9479	3:00 PM	Daylight	No													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

**M D Year**  
**Start Date:** 1 1 2013  
**End Date:** 12 31 2017  
**# of Years:** 5.00

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
61	Hwy 52	310232	PDO	Sideswipe (Same Dir.)	V1 57 M	RICHVILLE, MN				N	N	Truck Tractor	West	None	Parked Motor Vehicle		
	RP 116.44	8/31/2014	Cloudy	Alley/Driveway													
	48.056	Sunday	Dry	Straight (on Level)	V2							Truck Tractor	West	None	MV Tran in Other Rdwy		
	-100.9385	10:00 PM	Dark (Lighted)	No													
62		312470	PDO	Backing Non-junction	V1 20 F	VELVA, ND				N	N	Passenger Car	South	None	MV Tran in Other Rdwy		
	48.0561	9/10/2014	Cloudy	Straight (on Level)													
	-100.9376	Wednesday	Dry	Straight (on Level)	V2							Hit and Run	South	None	MV in Transport		
		10:40 PM	Dark (Lighted)	No													
63	Hwy 41	291843	InjB	Angle Intersection	V1 60 M	MINOT, ND	Defective Equipment			N	N	Pickup - Van - Utility	East	None	MV in Transport	V2 stopped facing NB. V1 making EB right turn. As he was making the turn his accelerator got stuck. V1 unable to turn struck V2.	US 52 & ND 41
	RP 73.39	12/6/2013	Cloudy	Straight (on Level)													
	48.0548	Friday	Snow	Straight (on Level)	V2 18 M	VELVA, ND				N	N	Passenger Car	North	Barricade	MV in Transport		
	-100.9303	10:00 PM	Dark (Lighted)	No													
64	Hwy 52	313289	PDO	Angle Intersection	V1 51 M	MINOT, ND				N	N	Pickup - Van - Utility	East	None	MV in Transport	V2 making a NB left turn and was struck by EB V1. D2 stated that he "thought he had enough time" and "actually thought it was a 4-way stop".	US 52 & ND 41
	RP 116.83	10/18/2014	Clear	Straight (on Level)													
	48.0548	Saturday	Dry	Straight (on Level)	V2 54 M	AMERY, WI	Failed to Yield			N	N	Passenger Car	North	Stop Sign	MV in Transport		
	-100.9303	1:35 PM	Daylight	No													
65	Hwy 52	325784	InjC	Angle Intersection	V1 51 M	VELVA, ND				N	N	Truck Tractor	West	None	MV in Transport	V1 WB struck NB V2. D2 stated she never saw the semi approaching and that her view was obstructed by her vehicle's pillar.	US 52 & ND 41
	RP 103.87	3/27/2015	Clear	Straight (on Level)													
	48.0548	Friday	Wet	Straight (on Level)	V2 27 F	VELVA, ND	Vision Obstructed			N	N	Passenger Car	North	Stop Sign	MV in Transport		
	-100.9303	10:20 AM	Daylight	No													
66	Hwy 52	332250	InjB	Angle Intersection	V1 54 F	BISMARCK, ND	Failed to Yield			N	N	Pickup - Van - Utility	South	Stop Sign	MV in Transport	V1 SB failed to come to a stop and struck WB V2.	US 52 & ND 41
	RP 116.83	8/24/2015	Clear	Straight (on Level)													
	48.0548	Monday	Dry	Straight (on Level)	V2 34 M	MINOT, ND	Other			N	N	Pickup - Van - Utility	West	None	MV in Transport		
	-100.9303	11:25 AM	Daylight	No													
67	Hwy 52	1009740	PDO	Angle Intersection	V1 75 M	BERGEN, ND	Failed to Yield			N	N	Pickup - Van - Utility	South	Stop Sign	MV in Transport	V2 WB at 40 mph. V1 making a SB left turn did not see V2 and struck V2 on the front passenger side.	US 52 & ND 41
	RP 116.83	3/25/2016	Cloudy	Straight (on Level)													
	48.0548	Friday	Dry	Straight (on Level)	V2 20 M	MINOT, ND				N	N	Passenger Car	West	None	MV in Transport		
	-100.9303	2:47 PM	Daylight	No													
68		278323	PDO	Single Veh. Non-junction	V1 45 M	Minot, ND				N	N	Pickup - Van - Utility	West	None	Tree		
	48.0502	4/27/2013	Clear	Straight (on Grade)													
	-100.9184	Saturday	Dry	Straight (on Grade)													
		3:30 AM	Dark	No													
69	Hwy 52	275177	InjB	Single Veh. Non-junction	V1 36 M	MINDEN, LA				N	N	Pickup - Van - Utility	West	None	Overturn / Rollover		
	RP 119.08	3/5/2013	Clear	Straight (on Grade)													
	48.0338	Tuesday	Ice / Snow	Straight (on Grade)													
	-100.8942	11:23 AM	Daylight	No													
70	Hwy 52	299553	PDO	Single Veh. Non-junction	V1 52 F	MINOT, ND	MV Mechanical Failure			N	N	Passenger Car	West	None	Fire / Explosion		
	RP 2.739	2/26/2014	Clear	Straight (on Level)													
	48.0254	Wednesday	Dry	Straight (on Level)													
	-100.8785	3:25 PM	Daylight	No													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash	
	Ref Pt	Date	Weather	Relation to Jct.												
	Lat.	Day	Surf Cond	Road Geom.												
	Long.	Time	Lighting	Under Constr.												
71	Hwy 52	320293	PDO	Single Veh.	V1 20 F	VELVA, ND	To Fast for Conditions	N	N	Passenger Car	East	None	Highway Traffic Sign Post			
	RP 2.839	1/20/2015	Cloudy	Non-junction												
	48.0212	Tuesday	Ice / Snow	Curve (on Level)												
	-100.8698	5:10 AM	Dark	No												
72	Hwy 52	312939	PDO	Backing	V1 49 M	CRASOBY, ND		N	N	Truck Tractor	East	Signals with	MV in Transport			
	RP 2.869	10/19/2014	Clear	Railroad Crossing												
	48.0211	Sunday	Dry	Curve (on Grade)												
	-100.8692	7:30 PM	Dark	No	V2 60 M	ROCKY FACE, GA		N	N	Truck Tractor	East	Signals with	MV in Transport			
73	Hwy 52	335008	PDO	Single Veh.	V1	MOORETON, ND	Other	N	N	Hit and Run	West	Signals with	Other Object (Not Fixed)			
	RP 3.059	10/19/2015	Clear	Railroad Crossing												
	48.0206	Monday	Dry	Straight (on Level)												
	-100.8652	2:08 PM	Daylight	No	V2 54 M			N	N	Pickup - Van - Utility	East	Signals with	Other Object (Not Fixed)			
74	Hwy 52	1035589	PDO	Rear End	V1 21 M	WILLISTON, ND	Speed	N	N	Passenger Car	East	None	MV in Transport			
	RP 122.63	6/16/2017	Clear	Non-junction												
	48.0165	Friday	Dry	Straight (on Level)												
	-100.8243	6:15 PM	Daylight	No	V2 28 M	DRAKE, ND	Speed	N	N	Pickup - Van - Utility	East	None	MV in Transport			
75	Hwy 52	308472	PDO	Rear End	V1 21 F	ESMOND, ND	Following too Close	N	N	Passenger Car	East	None	MV in Transport			
	RP 122.69	7/19/2014	Clear	Non-junction												
	48.0163	Saturday	Dry	Straight (on Level)												
	-100.8229	3:55 PM	Daylight	No	V2 25 M	BISMARCK, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport			
76	Hwy 52	303854	PDO	Single Veh.	V1 37 M	NEWPORT, MI	Weather	N	N	Truck Tractor	West	None	Separation of Units			
	RP 125.17	4/23/2014	Rain	Non-junction												
	48.0102	Wednesday	Wet	Straight (on Level)												
	-100.7705	1:55 PM	Daylight	No												
77	Hwy 52	287631	PDO	Sideswipe (Same Dir.)	V1 45 M	DRAKE, ND	Improper Overtaking	N	N	Truck Tractor	East	None	MV in Transport			
	RP 128.38	9/24/2013	Clear	Non-junction												
	48.0009	Tuesday	Dry	Straight (on Level)												
	-100.703	2:36 PM	Daylight	No	V2 47 M	MINOT, ND		N	N	Passenger Car	East	None	MV in Transport			
78		286971	PDO	Single Veh.	V1 57 M	RAY, ND	Defective Equipment	N	N	Pickup - Van - Utility	West	None	Ran Off Roadway			
		9/20/2013	Clear	Non-junction												
	47.9999	Friday	Dry	Straight (on Level)												
	-100.6984	1:25 PM	Daylight	No												
79	Hwy 52	1023197	PDO	Single Veh.	V1 43 M	SURREY, BC	Over Correct/Steering	N	N	Unknown Heavy Truck	West	None	Overturn / Rollover			
	RP 128.75	12/1/2016	Cloudy	Non-junction												
	47.9989	Thursday	Ice / Snow	Straight (on Level)												
	-100.6956	8:38 AM	Daylight	No												
80	Hwy 52	1016612	InjB	Single Veh.	V1 58 M	HARVEY, ND		N	N	Pickup - Van - Utility	West	None	Immersion			
	RP 129.08	8/22/2016	Clear	Non-junction												
	47.997	Monday	Dry	Straight (on Level)												
	-100.6891	1:20 PM	Daylight	No												

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017
# of Years: 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
81	Hwy 52	316406	PDO	Sideswipe (Opp. Dir.)	V1	21	M	DRAKE, ND	Weather	N	N	Pickup - Van - Utility	West	None	MV in Transport		
	RP 132.07	11/25/2014	Blowing Snow	Non-junction	V2	45	M	HARRIS, MN	Weather	N	N	Passenger Car	East	None	MV in Transport		
82	47.9775	Tuesday	Ice / Snow	Straight (on Grade)													
	-100.6322	8:15 PM	Dark	No													
83	Hwy 52	297245	PDO	Rear End	V1	28	M	LAS VEGAS, NV	Weather	N	N	3+ Axle	East	None	MV in Transport		
	RP 132.07	1/26/2014	Blowing Snow	Non-junction	V2	40	F	RUGBY, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport		
84	47.9774	Sunday	Snow	Curve (on Grade)													
	-100.6321	12:10 PM	Daylight	No													
85	Hwy 52	331169	PDO	Single Veh.	V1	44	M	MINOT, ND	Vision Obstructed	N	N	Passenger Car	West	Warning Signs	Other Object (Not Fixed)		
	RP 133	7/29/2015	Clear	Non-junction													
86	47.9711	Wednesday	Dry	Straight (on Level)													
	-100.6139	3:30 AM	Dark	No													
87		301931	PDO	Single Veh.	V1	34	M		To Fast for Conditions	N	N	Truck Tractor	Southeast	None	Other Fixed Object		
	47.9634	3/21/2014	Cloudy	Non-junction													
88	47.9634	Friday	Ice / Snow	Straight (on Level)													
	-100.5849	9:57 AM	Daylight	No													
89	Hwy 52	1016061	PDO	Sideswipe (Same Dir. Intersection)	V1	26	M	TALKEETNA, AK	Improper Overtaking	N	N	Pickup - Van - Utility	East	None	MV in Transport		US 52 & Center Ave
	RP 134.59	8/11/2016	Clear	Straight (on Level)	V2	21	M	MINOT, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport		
90	47.9628	Thursday	Dry	Straight (on Level)													
	-100.5826	11:34 PM	Dark	No													
91	Hwy 52	273192	PDO	Rear End	V1	29	M	Princeton, MN	Weather	N	N	Passenger Car	West	None	MV in Transport		
	RP 136	2/7/2013	Snow	Non-junction	V2	33	M	Fargo, ND		N	N	Truck Tractor	West	None			
92	47.9558	Thursday	Snow	Straight (on Grade)													
	-100.5579	6:00 AM	Dark	No													
93	Hwy 52	1027971	PDO	Single Veh.	V1	71	M	CONSTANTINE, MI	Weather	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover		
	RP 136.01	1/28/2017	Cloudy	Non-junction													
94	47.955	Saturday	Ice / Snow	Straight (on Level)													
	-100.5545	9:50 PM	Dark	No													
95	Hwy 52	1027483	PDO	Single Veh.	V1	33	F	DONNYBROOK, ND	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Overturn / Rollover		
	RP 136.3	1/21/2017	og / Smoke / Du	Non-junction													
96	47.9534	Saturday	Ice / Snow	Straight (on Level)													
	-100.5486	7:23 AM	Daylight	No													
97	Hwy 52	1027488	PDO	Rear End	V1	62	M	BAIRD, TX	Following too Close	N	N	Truck Tractor	East	None	Parked Motor Vehicle		
	RP 136.48	1/21/2017	Unkown	Non-junction	V2	27	M	VELVA, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport		
98	47.9524	Saturday	Ice / Snow	Straight (on Level)													
	-100.545	7:28 AM	Dark	No													
99	Hwy 52	1007369	PDO	Single Veh.	V1	20	M	POUND, WI	Weather	N	N	Pickup - Van - Utility	West	None	Other Fixed Object		
	RP 122	2/4/2016	Snow	Non-junction													
100	47.9491	Thursday	Snow	Straight (on Level)													
	-100.5346	5:15 AM	Dark	No													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash	
	Ref Pt	Date	Weather	Relation to Jct.												
	Lat.	Day	Surf Cond	Road Geom.												
	Long.	Time	Lighting	Under Constr.												
91	Hwy 52	1009681	PDO	Single Veh.	V1 39 M	ANAMOOSE, ND	Weather	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 137	3/25/2016	Blowing Snow	Non-junction												
	47.9481	Friday	Ice / Snow	Straight (on Level)												
	-100.5294	6:00 AM	Dark	No												
92	Hwy 52	273666	PDO	Angle	V1 54 M	Maxbass, ND	Weather	N	N	Truck Tractor	East	None	MV in Transport			
	RP 137	2/14/2013	Blowing Snow	Non-junction												
	47.9476	Thursday	Snow	Straight (on Level)												
	-100.5283	6:03 AM	Dark (Lighted)	No	V2 35 M	Anamoose, ND	Weather	N	N	Pickup - Van - Utility	West	None				
93	Hwy 52	1013765	InjA	Rear End	V1 23 M	MARTIN, ND	Following too Close			Pickup - Van - Utility	West	None	MV in Transport	V1 WB, V2 WB, V3 EB. V2 slowed to make a left turn and was struck by V1. V2 was propelled across the centerline and collided head on with V3.	US 52 & ND 53	
	RP 137.65	7/2/2016	Clear	Intersection Related												
	47.9457	Saturday	Dry	Straight (on Level)												
	-100.5208	3:52 PM	Daylight	No	V2 53 F	DRAKE, ND			Passenger Car	West	None	MV in Transport				
94	Hwy 52	300425	InjB	Rear End	V1 19 F	VELVA, ND	Attn Distracted-Inside	N	N	Passenger Car	West	None	MV in Transport		US 52 & ND 53	
	RP 137.5	3/13/2014	Clear	Intersection Related												
	47.9454	Thursday	Dry	Straight (on Level)												
	-100.5198	10:35 AM	Daylight	No	V2 40 M	DEVILS LAKE, ND			Pickup - Van - Utility	West	None	MV in Transport				
95	Hwy 52	1023159	PDO	Rear End	V1 25 M	MOSSYROCK, WA	Weather	N	N	3+ Axle	East	None	MV in Transport			
	RP 138.6	12/6/2016	Snow	Non-junction												
	47.9408	Tuesday	Snow	Straight (on Level)												
	-100.5028	3:08 PM	Daylight	No	V2 63 M	CAROL CITY, FL	Weather	N	N	Pickup - Van - Utility	East	None	MV in Transport			
96	Hwy 52	274484	PDO	Single Veh.	V1 28 M	FORT SMITH, AR	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	Overturn / Rollover			
	RP 139.34	3/13/2013	Clear	Non-junction												
	47.9366	Wednesday	Ice / Snow	Straight (on Level)												
	-100.4876	9:45 AM	Daylight	No												
97	Hwy 52	318148	PDO	Angle	V1 19 M	HARVEY, ND	Failed to Yield	N	N	Passenger Car	East	None	MV in Transport			
	RP 139.63	12/20/2014	st/Hail/Freezing I	Non-junction												
	47.9349	Saturday	Ice / Snow	Straight (on Level)												
	-100.4816	9:50 PM	Dark	No	V2 23 M	ST. CLOUD, MN	To Fast for Conditions	N	N	Pickup - Van - Utility	East	None	MV in Transport			
98	Hwy 52	1030015	Fatal	Head On	V1 31 M	GRANVILLE, ND	Fail Keep in Proper Lane	N	N	Pickup - Van - Utility	East	None	MV in Transport	V1 EB crossed the centerline and struck WB V2 head on.		
	RP 139.81	2/28/2017	Clear	Non-junction												
	47.9339	Tuesday	Ice / Snow	Straight (on Level)												
	-100.4781	8:05 AM	Daylight	No	V2 32 M	MINOT, ND		N	N	Truck Tractor	West	None	MV in Transport			
99	Hwy 52	1045819	PDO	Other	V1 58 M	DUNSEITH, ND				Truck Tractor	West	None	MV in Transport			
	RP 140.76	12/18/2017	Cloudy	Non-junction												
	47.9289	Monday	Wet	Straight (on Level)												
	-100.4595	3:06 PM	Daylight	No	V2 59 M	HARWOOD, ND		N	N	Pickup - Van - Utility	East	None	MV in Transport			
100	Hwy 52	316813	PDO	Single Veh.	V1 23 M	MINOT, ND	Animal in Roadway	N	N	Passenger Car	West	None	Highway Traffic Sign Post			
	RP 83.936	12/1/2014	Clear	Non-junction												
	47.9266	Monday	Dry	Straight (on Level)												
	-100.4501	3:01 AM	Dark	No												

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017

**# of Years:** 5.00

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash	
	Ref Pt	Date	Weather	Relation to Jct.														
	Lat.	Day	Surf Cond	Road Geom.														
	Long.	Time	Lighting	Under Constr.														
101	Hwy 52 RP 141.37 47.9259 -100.4472	287131 9/30/2013 Monday 5:45 PM	InjB Cloudy Dry Daylight	Backing Intersection Straight (on Level) No	V1 34 M V2 51 M			PIEDMONT, MO GRANTS PASS, OR										
									Improper Backing/Turning	N Y		Truck Tractor Pickup - Van - Utility	Northwest Southwest	None Stop Sign	MV in Transport MV in Transport			US 52 & ND 14 (W Jct)
102	Hwy 14 RP 83.796 47.9258 -100.4472	307216 7/2/2014 Wednesday 2:30 AM	PDO Clear Dry Dark	Single Veh. Intersection Straight (on Level) No	V1 51 M			HOUSTON, TX	Disregard Traffic Signs	N	N	Passenger Car	South	Stop Sign	Immersion	V1 SB failed to stop at the stop sign and landed in 1 ft deep water on the south side of the intersection.		US 52 & ND 14 (W Jct)
103	Hwy 52 RP 141.37 47.9258 -100.4472	308004 7/2/2014 Wednesday 2:30 AM	<b>Fatal</b> Clear Dry Dark	Ped / Bike Intersection Straight (on Level) No	V1 54 M V2 51 M			CHEYENNE, WY HOUSTON, TX		N N	N Y	Truck Tractor Pedestrian	Northwest North	None None	Pedestrian MV in Transport	D2 was involved in an earlier crash (307216), D2 trying to flag down a passing veh for help on the north side of the road where the fog line would be and was struck by WB V1.		US 52 & ND 14 (W Jct)
									Improper Evasive Action	N N	N N	Passenger Car Pickup - Van - Utility	East East	None None	MV in Transport MV in Transport			US 52 & 7 Ave NE
104	Hwy 52 RP 142.15 47.9219 -100.4312	327781 5/23/2015 Saturday 1:20 PM	InjB Clear Dry Daylight	Rear End Intersection Straight (on Level) No	V1 32 M V2 24 M			KENMARE, ND MINOT, ND		N N	N N	Passenger Car Pickup - Van - Utility	East East	None None	MV in Transport MV in Transport			US 52 & 7 Ave NE
105	Hwy 52 RP 142.15 47.9219 -100.4312	328524 5/29/2015 Friday 3:50 PM	InjB Clear Dry Daylight	Angle Intersection Straight (on Grade) No	V1 48 M V2 70 M			PERRY, MI TURTLE LAKE, ND	Improper Turn	N Y	N N	Truck Tractor Pickup - Van - Utility	West South	None None	MV in Transport MV in Transport			US 52 & 7 Ave NE
106	Hwy 52 RP 142.63 47.92 -100.4212	1030795 3/15/2017 Wednesday 2:00 AM	PDO Cloudy Ice / Snow Dark	Single Veh. Non-junction Straight (on Level) No	V1 44 F			MITCHELL, MB	Weather	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
107	Hwy 52 RP 143.01 47.92 -100.4113	1027209 1/17/2017 Tuesday 9:10 PM	PDO Clear Ice / Snow Dark	Single Veh. Non-junction Straight (on Level) No	V1 18 M			TOWNER, ND	Weather	N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
108		279392 5/17/2013 Friday 11:30 AM	InjC Cloudy Dry Daylight	Rear End Non-junction Straight (on Level) No	V1 37 M V2 47 M			JAMESTOWN, ND CALGARY, AB	Attn Distracted-Outside	N N	N N	Pickup - Van - Utility Pickup - Van - Utility	Southeast Southeast	None None	MV in Transport MV in Transport			
109	Hwy 52 RP 143.39 47.9199 -100.4029	1038803 8/22/2017 Tuesday 12:40 PM	PDO Clear Dry Daylight	Single Veh. Railroad Crossing Straight (on Level) No	V1 54 M			FORRESTON, IL	Defective Equipment	N	N	3+ Axle	East	Signals with	Overturn / Rollover			
110	Hwy 52 RP 143.41 47.9199 -100.4025	317654 12/13/2014 Saturday 6:50 PM	PDO Clear Dry Dark	Single Veh. Non-junction Straight (on Level) No	V1 19 M			DRAKE, ND	MV Mechanical Failure	N	N	3+ Axle	East	None	Overturn / Rollover			

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only



**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year  
**Start Date:** 1 1 2013  
**End Date:** 12 31 2017  
**# of Years:** 5.00

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
111	Hwy 52 RP 144.26 47.9199 -100.3868	1022187 12/1/2016 Thursday 11:25 AM	PDO Cloudy Wet Daylight	Rear End Non-junction Straight (on Level) No	V1 40 M SAINT MICHAEL, MN			Careless/Reckless Driving	N	N	Pickup - Van - Utility	East	None	MV in Transport			
	V2 59 M WILLISTON, ND								N	N	Pickup - Van - Utility	East	None	MV in Transport			
112	Hwy 52 RP 144.62 47.9199 -100.379	1020322 10/17/2016 Monday 5:24 PM	<b>Fatal</b> Cloudy Dry Daylight	Left Turn Alley/Driveway Straight (on Level) No	V1 76 M MINOT, ND				N	N	Passenger Car	West	None	MV in Transport	V2 making a EB left onto a private drive and was struck by WB V1.		
	V2 73 F DRAKE, ND						Failed to Yield	N	N	Passenger Car	East	None	MV in Transport				
113	Hwy 52 RP 144.64 47.9199 -100.3786	323578 3/4/2015 Wednesday 7:00 PM	PDO Clear Dry Dark	Sideswipe (Same Dir.) Non-junction Straight (on Level) No	V1 27 F KIEF, ND			Driving Left of Center	N	N	Pickup - Van - Utility	West	None	Ran Off Roadway MV Tran in Other Rdwy			
	V2 30 M DRAKE, ND						Driving Left of Center	N	N	Pickup - Van - Utility	West	None					
114	Hwy 52 RP 144.77 47.9199 -100.3757	292069 11/16/2013 Saturday 3:00 PM	PDO Cloudy Dry Daylight	Single Veh. Non-junction Straight (on Level) No	V1 24 M DRAKE, ND			Left Crash Scene	N	N	Pickup - Van - Utility	West	None	Highway Traffic Sign Post			
	V1 M DRAKE, ND						D.U.I. (Alcohol)	N	N	Pickup - Van - Utility	West	None	Highway Traffic Sign Post				
115	Hwy 52 RP 144.94 47.9198 -100.3721	286970 9/12/2013 Thursday 6:38 PM	PDO Clear Dry Daylight	Single Veh. Non-junction Straight (on Level) No	V1 M DRAKE, ND			D.U.I. (Alcohol)	N	N	Pickup - Van - Utility	West	None	Highway Traffic Sign Post			
	V1 M DRAKE, ND						D.U.I. (Alcohol)	N	N	Pickup - Van - Utility	West	None	Highway Traffic Sign Post				
116	Hwy 52 RP 145.01 47.9196 -100.3707	329556 6/22/2015 Monday 3:21 PM	PDO Clear Dry Daylight	Sideswipe (Same Dir.) Intersection Curve (on Level) No	V1 80 M DRAKE, ND			Failed to Yield	N	N	Pickup - Van - Utility	East	Stop Sign	MV in Transport	V1 made SB left and struck EB V2. D1 stated he did not see V2.	10 Ave NE Lake St	
	V2 53 M REEDS SPRING, MO								N	N	Truck Tractor	East	None	MV in Transport			
117	Hwy 52 RP 145 47.9197 -100.3706	278170 4/25/2013 Thursday 7:36 AM	<b>InjA</b> Clear Dry Dawn	Left Turn Intersection Straight (on Level) No	V1 15 F ANAMOOSE, ND			Improper Turn	N	N	Pickup - Van - Utility	East	None	MV in Transport	V1 made an EB left and struck WB V2. D1 stated that the rising sun temporarily blinded her.	10 Ave NE Lake St	
	V2 31 M ANAMOOSE, ND								N	N	Passenger Car	West	None	MV in Transport			
118	Hwy 52 RP 145.01 47.9197 -100.3706	1010243 4/9/2016 Saturday 5:29 PM	PDO Clear Dry Daylight	Single Veh. Intersection Related Straight (on Level) No	V1 46 F ANAMOOSE, ND			Improper Turn	N	N	Passenger Car	North	None	Highway Traffic Sign Post	V1 made a EB left and struck the stop sign post.	10 Ave NE Lake St	
	V1 35 M BISRMARCK, ND							Improper Turn	N	N	Pickup - Van - Utility	North	None	Highway Traffic Sign Post	V1 made an EB left and ran over the stop sign. D1 stated he was looking at the train that was going by.	10 Ave NE Lake St	
120	Hwy 52 RP 145.01 47.9196 -100.3706	1029555 2/20/2017 Monday 6:55 PM	<b>InjB</b> Clear Dry Dark (Lighted)	Left Turn Intersection Related Straight (on Level) No	V1 44 M MITCHELL, SD				N	N	Passenger Car	West	None	MV in Transport	V1 WB at 55 mph. V2 made EB left and was struck by V1.	10 Ave NE Lake St	
	V2 44 F DRAKE, ND						Improper Turn	N	N	Pickup - Van - Utility	East	None	MV in Transport				

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash	
	Ref Pt	Date	Weather	Relation to Jct.														
	Lat.	Day	Surf Cond	Road Geom.														
	Long.	Time	Lighting	Under Constr.														
121	Hwy 52	331319	PDO	Single Veh.	V1 56	M	DRAKE, ND			N	N	Pickup - Van - Utility	East	None	Other Object (Not Fixed)			
	RP 145.12	7/29/2015	Clear	Non-junction														
	47.9192	Wednesday	Dry	Straight (on Grade)														
	-100.3685	5:15 AM	Dark	Yes Under Constr.														
122	Hwy 52	274115	InjB	Single Veh.	V1 21	M	Minot Afb, ND	To Fast for Conditions		N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 146	2/25/2013	Clear	Non-junction														
	47.9154	Monday	Ice / Snow	Curve (on Level)														
	-100.3429	3:00 AM	Dark	No														
123	Hwy 52	293111	PDO	Sideswipe (Opp. Dir.)	V1 29	M	ANAMOOSE, ND	D.U.I. (Alcohol)		N	Y	Passenger Car	West	None	MV Tran in Other Rdwy			
	RP 146.92	12/16/2013	Blowing Snow	Non-junction														
	47.913	Monday	Ice / Snow	Straight (on Level)	V2 57	M	BLOOMINGTON GROVE, TX			N	N	Pickup - Van - Utility	East	None	MV Tran in Other Rdwy			
	-100.3307	8:58 PM	Dark	No														
124	Hwy 52	274544	PDO	Single Veh.	V1 57	M	ANAMOOSE, ND			N	N	Pickup - Van - Utility	Southeast	None	Jackknife			
	RP 147.95	3/12/2013	Clear	Non-junction														
	47.9074	Tuesday	Ice / Snow	Straight (on Level)														
	-100.3092	7:55 PM	Dark	No														
125	Hwy 52	281843	PDO	Rear End	V1 37	F	DRAKE, ND			N	N	Passenger Car	West	None	MV in Transport			
	RP 149.3	7/2/2013	Clear	Non-junction														
	47.9002	Tuesday	Dry	Curve (on Level)	V2 46	M	WAYNESBORO, MS			N	N	Passenger Car	West	None	MV in Transport			
	-100.283	5:00 PM	Daylight	No														
126	Hwy 52	331168	PDO	Single Veh.	V1 38	M	BATTLEFORD, SK	Weather		N	N	Pickup - Van - Utility	West	None	Overturn / Rollover			
	RP 149.99	7/28/2015	Severe Wind	Non-junction														
	47.8936	Tuesday	Dry	Straight (on Level)														
	-100.2721	7:00 PM	Daylight	No														
127		282766	PDO	Sideswipe (Same Dir.)	V1 33	M	Waconia, MN			N	N	Truck Tractor	Northwest	Warning Signs	MV in Transport			
		7/1/2013	Clear	Non-junction														
	47.8908	Monday	Dry	Straight (on Grade)	V2 54	M	Olivia, MN			N	N	Truck Tractor	Northwest	Warning Signs				
	-100.2675	8:00 AM	Daylight	No														
128		274507	PDO	Single Veh.	V1 43	F	ANAMOOSE, ND	Weather		N	N	Pickup - Van - Utility	South	Stop Sign	Highway Traffic Sign Post		US 52 & 15 Ave NE	
		3/5/2013	Clear	Intersection Related														
	47.8876	Tuesday	Snow	Straight (on Grade)														
	-100.2624	9:30 AM	Daylight	No														
129	Hwy 52	329993	InjC	Angle	V1 12	F	ANAMOOSE, ND	Failed to Yield		N	N	Pickup - Van - Utility	North	Stop Sign	MV Tran in Other Rdwy		US 52 & 15 Ave NE	
	RP 150.62	7/2/2015	Clear	Intersection														
	47.8873	Thursday	Dry	Straight (on Level)	V2 18	F	ANAMOOSE, ND			N	N	Passenger Car	West	None	MV Tran in Other Rdwy			
	-100.2623	7:33 PM	Daylight	No														
130	Hwy 52	1024960	PDO	Sideswipe (Same Dir.)	V1 27	F	KIEF, ND	Other		N	N	Pickup - Van - Utility	South	None	MV in Transport			
	RP 150.8	11/29/2016	Blowing Snow	Non-junction														
	47.8855	Tuesday	Ice / Snow	Straight (on Grade)	V2 42	M	HUMBOLT, SK	Weather		N	N	Truck Tractor	South	None	MV in Transport			
	-100.2596	10:05 AM	Daylight	No														

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017
# of Years: 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
131	Hwy 52 RP 73.543 47.8782 -100.2457	312061 9/30/2014 Tuesday 3:25 PM	PDO Cloudy Wet Daylight	Angle Intersection Curve (on Grade) No	V1 83 M V2 16 F			DRAKE, ND ANAMOOSE, ND	Improper Turn	N N	N N	Passenger Car Passenger Car	South East	None None	MV in Transport MV in Transport		US 52 & 32 St NE
		337099 12/24/2015 Thursday 10:40 AM	InjC Cloudy Snow Daylight	Single Veh. Intersection Straight (on Level) No	V1 74 M			ANAMOOSE, ND	Speed	N	N	Pickup - Van - Utility	North	None	Overturn / Rollover		US 52 & 32 St NE
133	Hwy 14 RP 21.289 47.8772 -100.2411	302412 4/8/2014 Tuesday 7:45 AM	PDO Clear Dry Daylight	Backing Intersection Related Straight (on Level) No	V1 62 F V2 50 F			DRAKE, ND HARVEY, ND	Improper Backing/Turning	N N	N N	Pickup - Van - Utility Passenger Car	South South	Stop Sign Stop Sign	MV in Transport MV in Transport		US 52 & ND 14
	Hwy 52 RP 151.83 47.8772 -100.2411	329288 6/13/2015 Saturday 9:40 AM	InjC Cloudy Dry Daylight	Angle Intersection Straight (on Grade) No	V1 38 M V2 62 M			ETOBICOKE, ON ELGIN, ND		N N	N N	Truck Tractor Pickup - Van - Utility	West North	None Stop Sign	MV in Transport Overturn / Rollover		US 52 & ND 14
135	Hwy 14 RP 73.26 47.8772 -100.2411	1019570 10/15/2016 Saturday 4:04 PM	PDO Clear Dry Daylight	Single Veh. Intersection Straight (on Level) No	V1 69 M			MULVANE, KS	To Fast for Conditions	N	N	Farm Equipment	East	None	Overturn / Rollover		US 52 & ND 14
136	Hwy 14 RP 73.26 47.8772 -100.2411	1035406 6/17/2017 Saturday 5:30 PM	InjB Clear Dry Daylight	Angle Intersection Straight (on Level) No	V1 35 M V2 71 M			BISMARCK, ND WING, ND	Failed to Yield	N N	N N	Pickup - Van - Utility Pickup - Van - Utility	South East	Stop Sign None	MV in Transport MV in Transport		US 52 & ND 14
	Hwy 52 RP 152.014 47.8766 -100.2384	1042110 10/21/2017 Saturday 11:00 PM	InjB Clear Dry Dark	Single Veh. Non-junction Curve (on Level) No	V1 48 M			PICKERING, ON		N	N	Truck Tractor	West	None	Jackknife		
138	Hwy 52 RP 153.01 47.8723 -100.2177	302124 3/28/2014 Friday 10:49 PM	InjB Clear Dry Dark	Sideswipe (Opp. Dir.) Non-junction Curve (on Level) No	V1 53 M V2 55 M			GRANGER, IN GRAND PRAIRE, TX	Driving Left of Center	N N	N N	Pickup - Van - Utility 3+ Axle	East West	None None	MV in Transport MV in Transport		
	Hwy 52 RP 153.32 47.8709 -100.2112	1030788 3/14/2017 Tuesday 9:45 PM	PDO Cloudy Ice / Snow Dark	Single Veh. Non-junction Curve (on Grade) No	V1 35 M			GRAND ISLAND, NE	Weather	N	N	Truck Tractor	East	None	Jackknife		
140	Hwy 52 RP 153.53 47.8697 -100.207	1023177 12/11/2016 Sunday 4:43 PM	InjB Clear Ice / Snow Dusk	Single Veh. Non-junction Curve (on Level) No	V1 30 F			MEMPHIS, TN	Weather	N	N	Passenger Car	East	None	Overturn / Rollover		

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017
# of Years: 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Day	Surf Cond	Road Geom.														
	Long.	Time	Lighting	Under Constr.													
141	Hwy 52 RP 153.69	329837 7/8/2015	PDO Clear	Sideswipe (Opp. Dir.) Non-junction	V1 48	M	MINOT, ND			N	N	Truck Tractor	East	None	MV in Transport		
	47.8685 -100.2041	Wednesday 9:00 AM	Dry Daylight	Curve (on Grade) No	V2 29	M	FARGO, ND			N	N	Pickup - Van - Utility	West	None	MV in Transport		
142	Hwy 52 RP 154.11	295681 1/3/2014	PDO Cloudy	Single Veh. Non-junction	V1 54	M	WACONIA, MN	Other		N	N	Truck Tractor	Southeast	None	Jackknife		
	47.8645 -100.1969	Friday 1:11 PM	Ice / Snow Daylight	Straight (on Grade) No													
143	Hwy 52 RP 154.58	324229 3/15/2015	<b>Fatal</b> Unkown	Single Veh. Non-junction	V1 48	M	ANAMOOSE, ND	Other		Y	Y	Pickup - Van - Utility	West	None	Overturn / Rollover	V1 WB lost control, slid sideways into north ditch, rolled. D1 was partially ejected. D1 was not wearing a seat belt.	
	47.8601 -100.1889	Sunday 4:00 AM	Dry Dark	Straight (on Level) No													
144	Hwy 52 RP 155.5	276308 3/19/2013	PDO Unkown	Single Veh. Non-junction	V1 28	M	Anamoose, ND	Left Crash Scene		N	N	Passenger Car	East	None	Overturn / Rollover		
	47.8533 -100.1767	Tuesday 10:00 PM	Ice / Snow Dark	Straight (on Level) No													
145	Hwy 52 RP 158.2	290539 11/20/2013	PDO Snow	Single Veh. Non-junction	V1 43	M	BRISTOL, IN	Weather		N	N	Pickup - Van - Utility	East	None	Highway Traffic Sign Post		
	47.8309 -100.1252	Wednesday 7:30 PM	Snow Dark	Straight (on Level) No													
146	Hwy 52 RP 158.48	338126 2/21/2016	PDO Cloudy	Sideswipe (Same Dir.) Non-junction	V1 21	M	MCCOMB, MS	Speed		N	N	Passenger Car	Southeast	None	Ran Off Roadway		
	47.8286 -100.1182	Sunday 8:05 AM	Ice / Snow Daylight	Straight (on Level) No	V2 60	M	SIoux FALLS, SD	Speed		N	N	Truck Tractor	Southeast	None	Ran Off Roadway		
147	Hwy 52 RP 158.61	318619 12/26/2014	InjC Unkown	Single Veh. Non-junction	V1 46	M	MOUNTAIN HOME, AR	Speed		N	N	Passenger Car	East	None	Other Fixed Object		
	47.8277 -100.1156	Friday 11:35 PM	Dry Dark (Lighted)	Straight (on Level) No													
148	Hwy 52 RP 159	312864 10/6/2014	InjC Unkown	Rear End Non-junction	V1 32	M	HARVEY, ND	Careless/Reckless Driving		N	N	Passenger Car	West	None	Fire / Explosion		
	47.8254 -100.1091	Monday 1:32 AM	Oil Dark	Straight (on Level) No	V2 53	M	MINOT, ND			N	N	2-Axle	West	None	MV in Transport		
149	Hwy 52 RP 160.79	274325 3/13/2013	PDO Clear	Single Veh. Non-junction	V1 63	M	MARTIN, ND			N	N	Pickup - Van - Utility	East	None	Thrown/Falling Object		
	47.8155 -100.0747	Wednesday 8:30 AM	Dry Daylight	Straight (on Level) No													
150	Hwy 52 RP 165.73	1030775 3/14/2017	PDO Clear	Single Veh. Non-junction	V1 26	M	WILLISTON, ND	Fail Keep in Proper Lane		N	N	Passenger Car	East	None	Ditch		
	47.7866 -99.9768	Tuesday 3:11 PM	Slush Daylight	Straight (on Level) No													

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year			
Start Date:	1	1	2013
End Date:	12	31	2017
# of Years:	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
151		327462	InjC	Angle	V1	24	M	PEORIA, IL	Weather	N	N	Passenger Car	West	None	MV in Transport		
	47.7853 -99.9725	5/17/2015 Sunday 7:30 PM	Wet/Hail/Freezing f Slush Daylight	Non-junction Straight (on Level) No	V2	68	M	HALIAFX, NS	Weather	N	N	Heavy Truck	East	None	MV in Transport		
152		279292	PDO	Single Veh.	V1	23	M	Harvey, ND		N	N	Pickup - Van - Utility	East	None	Ditch		
	47.778 -99.9515	5/11/2013 Saturday 12:33 AM	Clear Dry Dark	Non-junction Straight (on Level) No													
153	Hwy 52 RP 167.32	1024382	PDO	Rear End	V1	29	M	JAMESTOWN, ND	To Fast for Conditions	N	N	2-Axle	East	None	MV in Transport		
	47.7761 -99.9475	12/13/2016 Tuesday 12:10 PM	Blowing Snow Ice / Snow Daylight	Non-junction Curve (on Level) No	V2	39	M	MINOT, ND	Weather	N	N	Passenger Car	East	None	MV in Transport		
154	Hwy 52 RP 0.01	302024	PDO	Angle	V1	49	M	WILLISTON, ND		N	N	Pickup - Van - Utility	West	Stop Sign	MV in Transport	V1 WB. V2 NB pulled out onto US 52 and struck trailer of V1.	US 52 & ND 91
	47.7753 -99.9464	3/3/2014 Monday 12:30 PM	Unknown Dry Daylight	Intersection Related Curve (on Level) No	V2		BOWDON, ND					Pickup - Van - Utility	North	Stop Sign	MV in Transport		
155	Hwy 52 RP 167.4	1002279	InjC	Angle	V1	38	M	HARVEY, ND	Failed to Yield	N	N	Pickup - Van - Utility	East	Stop Sign	MV in Transport	V2 NB on US 52 slowing to make a turn. V1 EB entered the intersection and was struck by V1.	US 52 & ND 91
	47.7751 -99.9463	9/3/2015 Thursday 9:35 AM	Clear Dry Daylight	Intersection Straight (on Level) No	V2	60	F	HARVEY, ND		N	N	Pickup - Van - Utility	North	None	MV in Transport		
156	Hwy 52 RP 167.4	1004847	InjA	Angle	V1	24	F	HARVEY, ND	Failed to Yield	N	N	Passenger Car	East	Stop Sign	MV in Transport	V1 EB stopped at stop sign, then began to cross US 52 did not see NB V2. V2 was NB beginning to slow down to turn into gas station beyond the intersection.	US 52 & ND 91
	47.7751 -99.9463	12/9/2015 Wednesday 10:55 AM	Clear Dry Daylight	Intersection Straight (on Level) No	V2	59	M	SELZ, ND		N	N	2-Axle	North	None	MV in Transport		
157	Hwy 52 RP 0.01	324650	PDO	Single Veh.	V1	26	M	ANAMOOSE, ND	Other	N	N	3+ Axle	East	None	Overturn / Rollover	V1 was hauling a track digger with pole auger attachment attached to a trailer. As V1 made SB left the trailer tipped crashing the digger into the south ditch.	US 52 & ND 91
	47.7751 -99.9462	3/26/2015 Thursday 3:01 PM	Clear Dry Daylight	Interchange Curve (on Level) No													
158	Hwy 52 RP 167.331	1021820	PDO	Angle	V1		U			N	N	Hit and Run	East	Yield Sign	MV in Transport	V1 on slip ramp made a left turn onto US 52B and struck WB V2.	US 52 & US 52B
	47.7732 -99.9448	11/26/2016 Saturday 3:15 PM	Clear Dry Daylight	Intersection Straight (on Level) No	V2	32	F	REGINA, SK		N	N	Pickup - Van - Utility	North	None	MV in Transport		
159	Hwy 52 RP 0.25	326796	InjA	Head On	V1	25	M	PLAZA, ND	Driving Left of Center	N	N	Pickup - Van - Utility	Northwest	None	MV in Transport	V1 WB crossed the centerline and entered the EB left turn lane and struck EB V2 head on.	
	47.7718 -99.9443	5/1/2015 Friday 8:30 AM	Clear Dry Daylight	Non-junction Curve (on Level) No	V2	38	M	HENDERSON, NV		N	N	Truck Tractor	Southeast	None	MV in Transport		
160	Hwy 52 RP 168.052	1002120	InjC	Rear End	V1	16	M	HARVEY, ND	Care Required	N	N	Pickup - Van - Utility	East	None	MV in Transport	V2 slowing slowed down to wave at people. V1 also waving at the people and rear ended V2.	
	47.7676 -99.9441	8/21/2015 Friday 10:45 PM	Clear Dry Dark	Non-junction Straight (on Level) No	V2	17	M	HURDSFIELD, ND	Other	N	N	Pickup - Van - Utility	East	None	MV in Transport		

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

M D Year		
1	1	2013
12	31	2017
# of Years: 5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh #	Age	Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.													
	Lat.	Day	Surf Cond	Road Geom.													
	Long.	Time	Lighting	Under Constr.													
161	Hwy 52 RP 168.41	1021314 11/9/2016	InjB Clear	Left Turn Intersection	V1 94 M			HARVEY, ND	Failed to Yield	N	N	Pickup - Van - Utility	South	None	Overturn / Rollover	V1 making SB left onto US 52 from Elm Ave. V2 going WB was struck as V1 pulled out into the intersection.	US 52 & Elm Ave
	47.7614 -99.9412	Wednesday 3:14 PM	Dry Daylight	Hillcrest No	V2 23 F			MILWAUKEE, WI		N	N	Passenger Car	North	None	MV in Transport		
162		1002164 8/26/2015	PDO Unkown	Single Veh. Intersection Related	V1		U			N	N	Hit and Run	North	Stop Sign	Highway Traffic Sign Post	Stop sign struck by an unknown vehicle.	US 52 & 24 St NE
	47.7607 -99.9407	Wednesday 12:00 AM	Dry Unknown	Straight (on Level) No													
163	Hwy 52 RP 168.79	1023056 12/10/2016	PDO Cloudy	Single Veh. Non-junction	V1 35 F			MINOT, ND	Careless/Reckless Driving	N	N	Passenger Car	North	None	Bridge Rail	V1 struck bridge guard rails.	
	47.7567 -99.9371	Saturday 6:00 PM	Ice / Snow Dark	Straight (on Grade) No													
164	Hwy 52 RP 168.82	1036452 7/8/2017	InjB Clear	Single Veh. Non-junction	V1 59 M			WILLISTON, ND		N	N	Pickup - Van - Utility	East	None	Other Non- Collision	SB V2's trailer lost its left rear tire. The tire then struck V1.	
	47.7563 -99.9368	Saturday 12:24 PM	Dry Daylight	Straight (on Grade) No	V2 75 F			AMITY, AR		N	N	Pickup - Van - Utility	North	None	Cargo Loss or Shift		
165	Hwy 52 RP 168.91	289396 11/2/2013	InjB Clear	Rear End Non-junction	V1 50 F			MINOT, ND	Care Required	N	N	Passenger Car	Northwest	None	MV in Transport	V2 NW at 20 mph. V1 NW at 60-65mph going down the hill tried to stop but could not and rear ended V2.	
	47.7551 -99.9358	Saturday 4:49 PM	Dry Daylight	Straight (on Grade) No	V2 52 F			HARVEY, ND		N	N	Pickup - Van - Utility	Northwest	None	MV in Transport		
166	Hwy 52 RP 170	281068 6/1/2013	PDO Clear	Single Veh. Intersection	V1 28 M			WASILLA, AK	Over Correct/Steering	N	N	Pickup - Van - Utility	West	None	Ran Off Roadway	V1 WB swerved due to V2 NB pulling into the intersection, V1 went into the ditch.	US 52 & ND 3 (E Jct)
	47.7461 -99.9197	Saturday 11:35 AM	Dry Daylight	Straight (on Level) No	V2 51 F			BEULAH, ND	Disregard Traffic Signs	N	N	Pickup - Van - Utility	North	Stop Sign	MV in Transport		
167	Hwy 52 RP 73.323	287280 9/26/2013	InjB Rain	Angle Intersection	V1 66 M			HARVEY, ND		N	N	Passenger Car	East	Flashing Beacon	MV in Transport	V1 EB at 50 mph struck a SB bus (V2).	US 52 & ND 3 (E Jct)
	47.7459 -99.9196	Thursday 6:50 AM	Wet Dark	Straight (on Level) No	V2 64 M			HARVEY, ND	Failed to Yield	N	N	Bus	South	Stop Sign	MV in Transport		
168	Hwy 52 RP 73.323	290452 11/7/2013	InjA Clear	Sideswipe (Same Dir. Intersection	V1 54 M			RUSO, ND	Improper Overtaking	N	N	Truck Tractor	East	Flashing Beacon	MV in Transport	V2 EB had turn signal on to turn right, then D2 decided to go left to go to the gas station. V1 EB following behind began to pass and struck V2.	US 52 & ND 3 (E Jct)
	47.7459 -99.9196	Thursday 2:40 PM	Dry Daylight	Straight (on Level) No	V2 21 F			FARGO, ND	Improper Turn	N	N	Passenger Car	East	Flashing Beacon	MV in Transport		
169	Hwy 52 RP 73.323	293901 12/20/2013	InjC Clear	Angle Intersection	V1 29 F			FARGO, ND		N	N	Passenger Car	West	Flashing Beacon	MV in Transport	V2 stopped at stop sign facing south then pulled out into traffic. V1 tried to stop but could not avoid a colliding with V2.	US 52 & ND 3 (E Jct)
	47.7459 -99.9196	Friday 1:50 PM	Dry Daylight	Straight (on Level) No	V2 66 F			VALLEY CITY, ND	Failed to Yield	N	N	Passenger Car	South	Stop Sign	MV in Transport		
170	Hwy 3 RP 157.37	309062 8/14/2014	PDO Clear	Single Veh. Intersection Related	V1 75 M			HARVEY, ND	Improper Turn	N	N	Pickup - Van - Utility	West	None	Highway Traffic Sign Post	V1 made WB left struck the stop sign between the NB and SB lanes.	US 52 & ND 3 (E Jct)

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**Crash Summary Sheets**

**Total Crashes:** 174    **Location Description:** US 52  
**Length:** 68.317    **Start RP:** 101.683  
**Sorted By:** Longitude    **End RP:** 170.000

	<b>M D Year</b>		
<b>Start Date:</b>	1	1	2013
<b>End Date:</b>	12	31	2017
<b># of Years:</b>	5.00		

**Notes:** Animal crashes were not included.

23 USC § 409 Documents NDDOT Reserves All Objections
---

	Hwy	Crash #	Severity	Manner of Coll.	Veh # Age Sex	Address	Contributing Factors	Ejected	A.D.I.	Unit Config.	Direction of Travel	Traffic Control	Most Harmful Event	Shortened Narrative	Inter. of Crash
	Ref Pt	Date	Weather	Relation to Jct.											
	Lat.	Day	Surf Cond	Road Geom.											
	Long.	Time	Lighting	Under Constr.											
171	Hwy 52 RP 73.323	309117 8/18/2014	PDO Clear	Angle Intersection	V1 60 M	HARVEY, ND	Failed to Yield	N	N	3+ Axle	South	Stop Sign	MV in Transport	V2 WB behind another semi making a WB right. V1 began to proceed to go south after stopping at the stop sign. V1 did not see V2.	US 52 & ND 3 (E Jct)
	47.7459 -99.9196	Monday 3:20 PM	Dry Daylight	Straight (on Level) No	V2 28 M	SUMTER, SC		N	N	Truck Tractor	West	None	MV in Transport		
172	Hwy 52 RP 169.989	329980 6/29/2015	PDO Clear	Single Veh. Intersection	V1 54 F	BISMARCK, ND		N	N	Pickup - Van - Utility	East	None	Highway Traffic Sign Post	V1 EB turned left too soon and struck the stop sign. Officer observation: this sign has been struck multiple times--should be marked better.	US 52 & ND 3 (E Jct)
	47.746 -99.9195	Monday 6:30 PM	Dry Daylight	Straight (on Level) No											
173	Hwy 52 RP 169.989	335835 11/4/2015	InjC Cloudy	Angle Intersection	V1 49 M	BISMARCK, ND	Failed to Yield	N	N	Passenger Car	South	Stop Sign	MV in Transport	V1 SB failed to yield at the stop sign and was struck by EB V2.	US 52 & ND 3 (E Jct)
	47.746 -99.9195	Wednesday 5:02 PM	Wet Dark (Lighted)	Straight (on Level) No	V2 39 M	REEDS, MO		N	N	Pickup - Van - Utility	East	None	MV Tran in Other Rdwy		
174	Hwy 52 RP 73.323	327032 5/17/2015	PDO st/Hail/Freezing f	Single Veh. Non-junction	V1 33 M	BURLINGTON, VT	Weather	N	N	Truck Tractor	South	Flashing Beacon	Ditch	V1 went off the west side of the roadway into the ditch.	NEAR US 52 & ND 3 (E Jct)
	47.746 -99.9191	Sunday 6:08 PM	Slush Daylight	Straight (on Level) No											
175															
176															
177															
178															
179															
180															

For Crash Severity: Fatal = Fatality, InjA = Incapacitating Injury, InjB = Non-Incapacitating Injury, InjC = Possible Injury, PDO = Property Damage Only

**US 52 / Ward 19 S**

Project Info		<b>1107</b>
PCN		
Ref#	4347	
Study Date	12/18/2018	

Intersection Info		US 52	Ward 19 S
Reference Points	Major Road	104.300	Minor Road
Speed Limits (mph)		65	35
Select Major Road Directions		North-South	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

E<sub>t</sub> = 1.5

2018 AADTs			
↑ N	0	2146	41
	0	4374	41
0	0	90	0
0	0	4	4
↓ S	0	4300	41
	0	2146	4

**US 52**  
4374

SBR	470	5
SBT	2146	41
SBL		

215 (22%)  
4 (12%)

STOP

WBR	41	5
WBT		
WBL	4	3

4 (12%)  
0 (75%)

90  
**Ward 19 S**

NBL	470	3
NBT	2146	4
NBR		

215 (22%)  
0 (75%)

4300  
**US 52**

Traffic Year **2018**  
Growth Rate 0.00%  
Truck Growth 0.00%  
No. of years 0  
K 0.100  
Growth Factor 1

2018	2018
Major AADT	4374
Minor AADT	90
AADT Product	0.4M
AADT Ratio	0.02
TEV	4,382

Enter traffic data:  
AADT Trucks

2018 TAADTs			
↑ N	0	470	5
	0	950	5
0	0	16	0
0	0	3	3
↓ S	0	946	5
	0	470	3

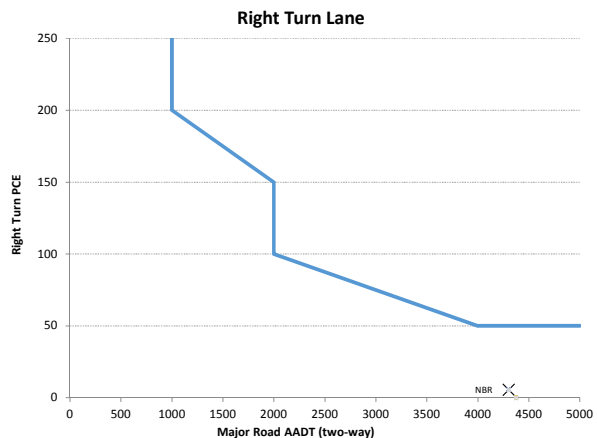
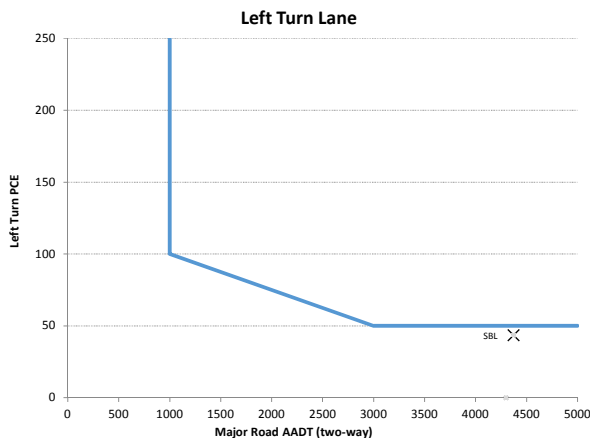
2018 Truck %			
↑ N	215 (22%)	4 (12%)	
	860	4 (12%)	4 (12%)
0	0	0 (75%)	0 (75%)
↓ S	215 (22%)	4 (12%)	
	0	0 (75%)	0 (75%)

**LEFT Turn Lane Volume Criteria (1.A)**

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 41$	$V_{LT} = 0$
$P_T = 0.12$	$P_T =$
PCE = 44	PCE =
AADT = 4374	AADT = 4300
Met? No	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 4$
$P_T =$	$P_T = 0.75$
PCE =	PCE = 6
AADT = 4374	AADT = 4300
Met?	Met? No





**US 52 / 135 Ave SE**

Project Info		<b>1108</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/4/2019	

Intersection Info		US 52	135 Ave SE
Reference Points	Major Road	108.000	Minor Road
Speed Limits (mph)		65	55
Select Major Road Directions		North-South	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	14	2011
		4050	0
14	0	156	0
0	64	4150	0
		64	2011
		0	0

**US 52**  
4050

SBR: 3, SBT: 440, SBL: 14, 2011

1 (21%)  
201 (22%)

135 Ave SE  
156

EBL: 14, EBT: 3, EBR: 64, 12

Major Road →

← Major Road

NBL: 12, NBT: 440, NBR: 64, 2011

6 (19%)  
201 (22%)

US 52  
4150

Traffic Year	2018
Growth Rate	0.00%
Truck Growth	0.00%
No. of years	0
K	0.100
Growth Factor	1

STOP

WBR	
WBT	
WBL	

0

	2018	2018
Major AADT	4150	4150
Minor AADT	156	156
AADT Product	0.6M	0.6M
AADT Ratio	0.04	0.04
TEV	4,178	4,178

2018 TAADTs			
↑	N	3	440
		886	0
3	0	30	0
0	12	904	0
		12	440
		0	0

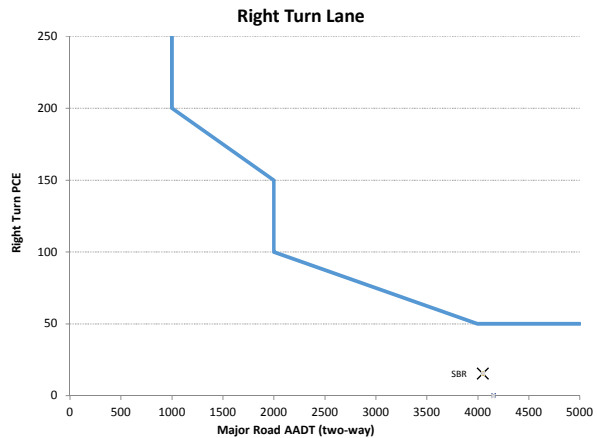
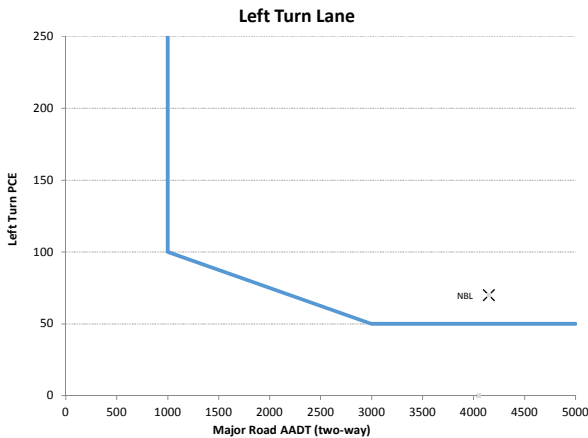
2018 Truck %			
↑	N	1 (21%)	201 (22%)
		0	0
1 (21%)	0	0	0
0	6 (19%)	1212	0
		6 (19%)	201 (22%)

**LEFT Turn Lane Volume Criteria (1.A)**

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 0$	$V_{LT} = 64$
$P_T =$	$P_T = 0.19$
$PCE =$	$PCE = 70$
AADT = 4050	AADT = 4150
Met?	Met? Yes

**RIGHT Turn Lane Volume Criteria (1.A)**

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 14$	$V_{RT} = 0$
$P_T = 0.21$	$P_T =$
$PCE = 16$	$PCE =$
AADT = 4050	AADT = 4150
Met? No	Met?

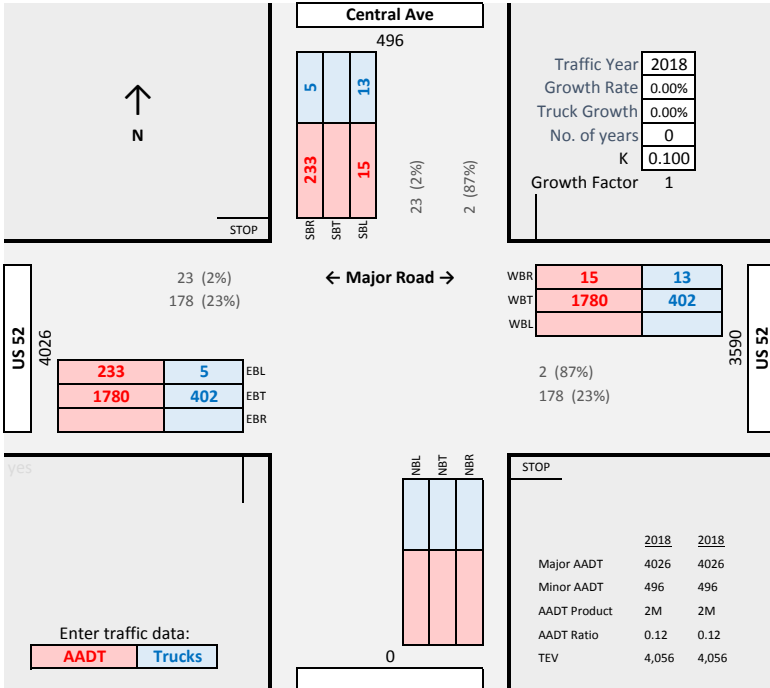


**US 52 / Central Ave**

Project Info		1110
PCN		
Ref#	4347	
HSIP #		
Study Date	1/4/2019	

Intersection Info		US 52	Central Ave	
Reference Points	Major Road	109.800	Minor Road	
Speed Limits (mph)		65	35	Y
Select Major Road Directions	East-West			
Intersection/Junction Traffic Control	Stop on Minor Road			Y
Major Road a Divided Highway?	No			
Terrain	Level			
	$E_T =$	1.5		

2018 AADTs			
↑	N	233	0
		496	15
233	1780	0	3590
0	0	0	1780
		0	0



2018 TAADTs			
↑	N	5	13
		36	13
5	402	0	830
0	0	0	402
		0	0

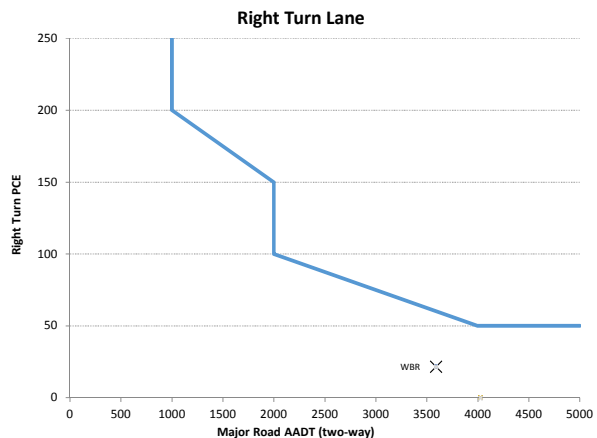
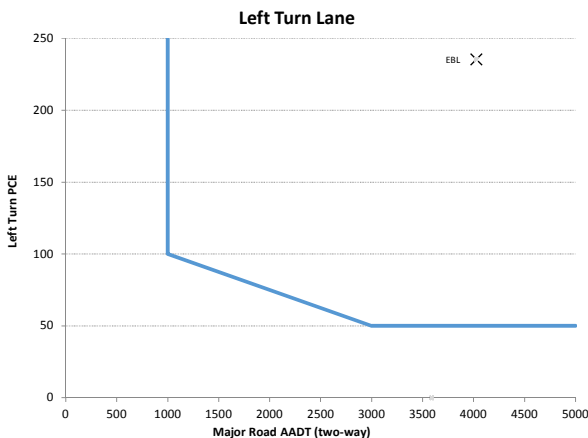
2018 Truck %			
↑	N	23 (2%)	2 (87%)
		0	0
23 (2%)	178 (23%)	0	2 (87%)
		0	0
		0	0

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 233$	$V_{LT} = 0$
$P_T = 0.02$	$P_T =$
$PCE = 236$	$PCE =$
$AADT = 4026$	$AADT = 3590$
Met? Yes	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 15$
$P_T =$	$P_T = 0.87$
$PCE =$	$PCE = 22$
$AADT = 4026$	$AADT = 3590$
Met?	Met? No



# US 52 / 153 St SE

## Project Info

PCN		<b>1111</b>
Ref#	4347	
HSIP #		
Study Date	1/4/2019	

## Intersection Info

	US 52	153 St SE	
Reference Points	Major Road	Minor Road	
Speed Limits (mph)	110.700		
Select Major Road Directions	65	25	Y
Intersection/Junction Traffic Control	East-West		
Major Road a Divided Highway?	Stop on Minor Road		Y
Terrain	No		
	Level		E <sub>T</sub> = 1.5

## 2018 AADTs

↑	N		
		24	1
		100	25
24	1765	3596	25
6			8
		6	1
		30	8

## 2018 TAADTs

↑	N		
		2	1
		6	
2	413	830	1
0			413
		0	0
		0	0

## 2018 Truck %

↑	N		
		2 (8%)	0 (0%)
		3 (4%)	3 (4%)
2 (8%)	177 (23%)	360	178
1 (0%)			177 (23%)
		1 (0%)	2
		1 (0%)	1 (0%)

153 St SE

SBR	2
SBT	0
SBL	1

2 (8%)  
0 (0%)  
3 (4%)

Major Road

WBR	25	1
WBT	1765	413
WBL	8	0

3 (4%)  
177 (23%)  
1 (0%)

Traffic Year: 2018  
Growth Rate: 0.00%  
Truck Growth: 0.00%  
No. of years: 0  
K: 0.100  
Growth Factor: 1

US 52

EBL	24	2
EBT	1765	413
EBR	6	0

2 (8%)  
177 (23%)  
1 (0%)

153 St SE

NBL	0
NBT	0
NBR	0

1 (0%)  
0 (0%)  
1 (0%)

STOP

EBL	6
EBT	1
EBR	8

30

Enter traffic data:

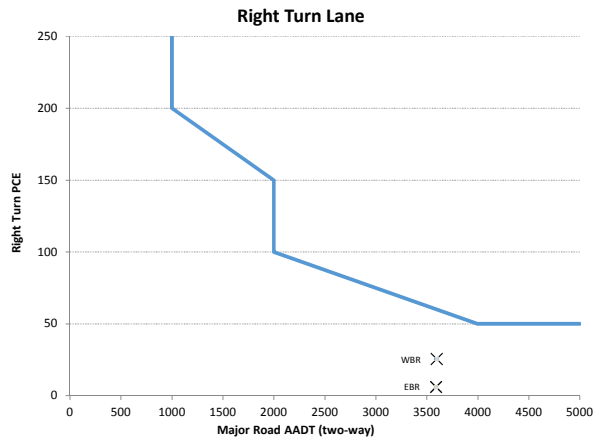
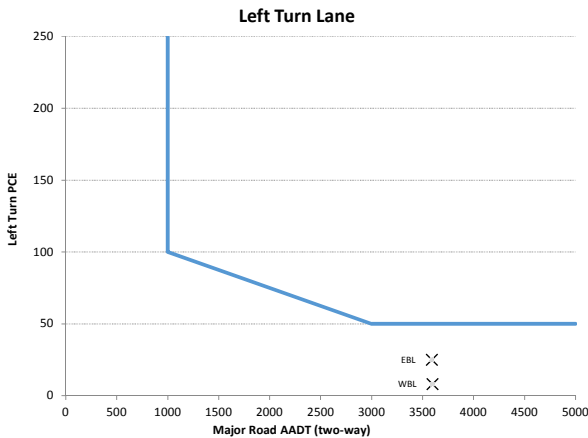
AADT Trucks

## LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 24$	$V_{LT} = 8$
$P_T = 0.08$	$P_T = 0.00$
$PCE = 25$	$PCE = 8$
$AADT = 3590$	$AADT = 3596$
Met? No	Met? No

## RIGHT Turn Lane Volume Criteria (1.A)

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 6$	$V_{RT} = 25$
$P_T = 0.00$	$P_T = 0.04$
$PCE = 6$	$PCE = 26$
$AADT = 3590$	$AADT = 3596$
Met? No	Met? No



**US 52 / 1 St E**

Project Info		<b>1112</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/7/2019	

Intersection Info		US 52	1 St E
Reference Points	Major Road	110.700	Minor Road
Speed Limits (mph)		65	25
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	3	0
		189	93
3			90
1795	3596		1795
0		3773	0
		0	0
		0	0

**1 St E**

SBR	3
SBT	1
SBL	8

189

0 (33%)      9 (9%)

← Major Road →

WBR	90	7
WBT	1795	413
WBL		

9 (8%)      180 (23%)

US 52 3596

EBL	3	1
EBT	1795	413
EBR		

US 52 3773

Enter traffic data:

**AAADT**   **Trucks**

0

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

2018	2018
Major AADT	3773
Minor AADT	189
AADT Product	0.7M
AADT Ratio	0.05
TEV	3,779

STOP

NBL	
NBT	
NBR	

0

2018 TAADTs			
↑	N	1	0
		17	8
1			7
413	828		413
0		841	0
		0	0
		0	0

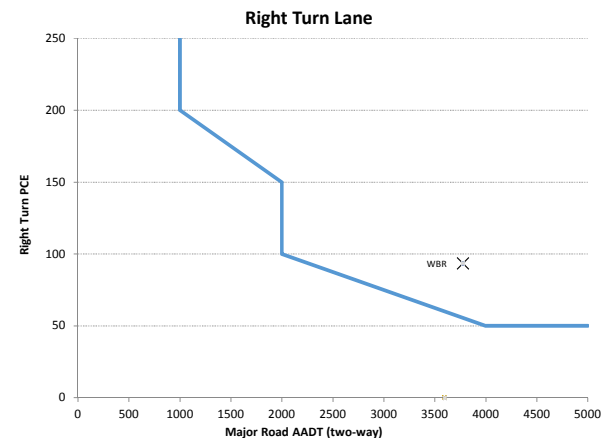
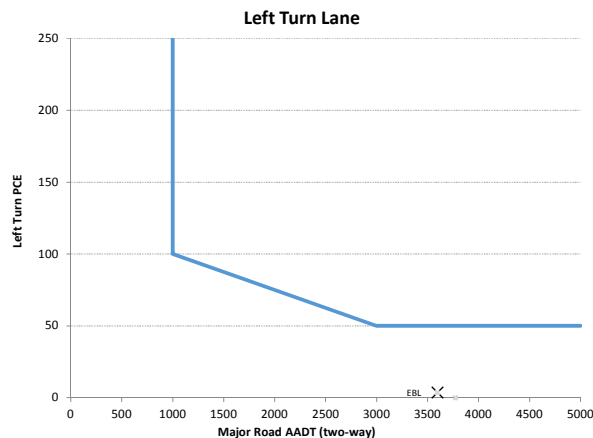
2018 Truck %			
↑	N	0 (33%)	0
		9 (9%)	9 (8%)
0 (33%)			180 (23%)
180 (23%)	0		0
		0	0
		0	0

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 3$	$V_{LT} = 0$
$P_T = 0.33$	$P_T =$
$PCE = 4$	$PCE =$
$AAADT = 3596$	$AAADT = 3773$
Met? No	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 90$
$P_T =$	$P_T = 0.08$
$PCE =$	$PCE = 94$
$AAADT = 3596$	$AAADT = 3773$
Met?	Met? Yes



**US 52 / 14 Ave N**

Project Info		1114
PCN		
Ref#	4347	
HSIP #		
Study Date	1/7/2019	

Intersection Info		US 52 / 14 Ave N
Reference Points	Major Road	119.600
Speed Limits (mph)	Minor Road	65 / 25
Select Major Road Directions	East-West	Y
Intersection/Junction Traffic Control	Stop on Minor Road	Y
Major Road a Divided Highway?	No	
Terrain	Level	
	$E_T =$	1.5

2018 AADTs			
↑	N	0	0
0	2276	0	0
1045	93	2114	1045
93	0	12	0
0	0	0	0

STOP

↑ N

SBR	0	0	0
SBT	0	0	0
SBL	0	0	0

#DIV/0! #DIV/0! #DIV/0!

Major Road →

WBR	0	0
WBT	1045	354
WBL	12	4

#DIV/0! #DIV/0!

← Major Road

EBL	0	0
EBT	1045	354
EBR	93	29

#DIV/0! #DIV/0!

US 52 2276

US 52 2114

14 Ave N

210

Enter traffic data:

**AADT** **Trucks**

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

2018	2018
Major AADT	2276
Minor AADT	210
AADT Product	0.5M
AADT Ratio	0.09
TEV	2,300

9 (31%) #DIV/0!

1 (33%) #DIV/0!

29 (31%) #DIV/0!

0 (0%) #DIV/0!

4 (33%) #DIV/0!

STOP

2018 TAADTs			
↑	N	0	0
0	766	0	0
354	29	716	354
29	0	4	0
0	0	0	0

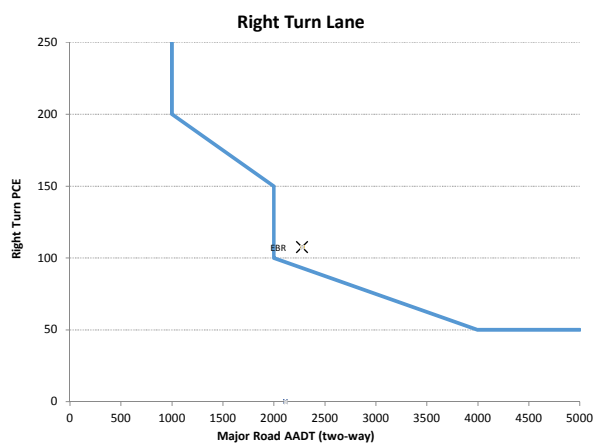
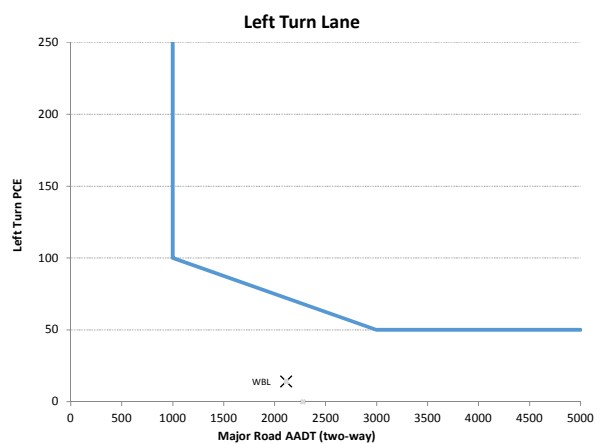
2018 Truck %			
↑	N	0	0
105 (34%)	9 (31%)	114 (33%)	105 (34%)
9 (31%)	0	1	1 (33%)
0	0	0	0

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 0$	$V_{LT} = 12$
$P_T =$	$P_T = 0.33$
$PCE =$	$PCE = 14$
$AADT = 2276$	$AADT = 2114$
Met?	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

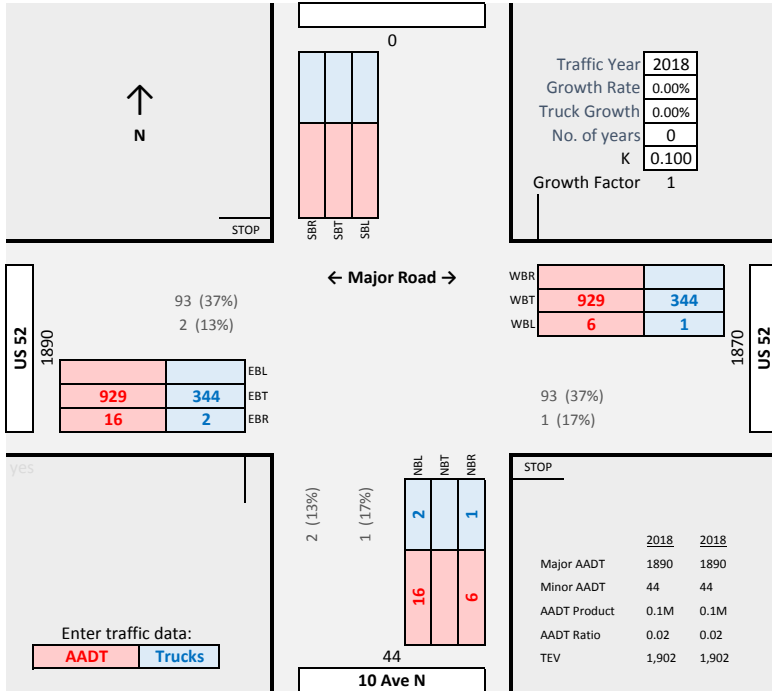
EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 93$	$V_{RT} = 0$
$P_T = 0.31$	$P_T =$
$PCE = 108$	$PCE =$
$AADT = 2276$	$AADT = 2114$
Met? Yes	Met?



**US 52 / 10 Ave N**

Project Info		1117
PCN		
Ref#	4347	
HSIP #		
Study Date	1/7/2019	

Intersection Info		US 52	10 Ave N
Reference Points	Major Road	123,800	Minor Road
Speed Limits (mph)		65	55
Select Major Road Directions		East-West	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	
	$E_T =$	1.5	



2018 AADTs			
↑	N	0	0
0		0	0
929	1890	1870	929
16			6
		44	
		16	6

2018 TAADTs			
↑	N	0	0
0		0	0
344	692	690	344
2			1
		6	
		2	1

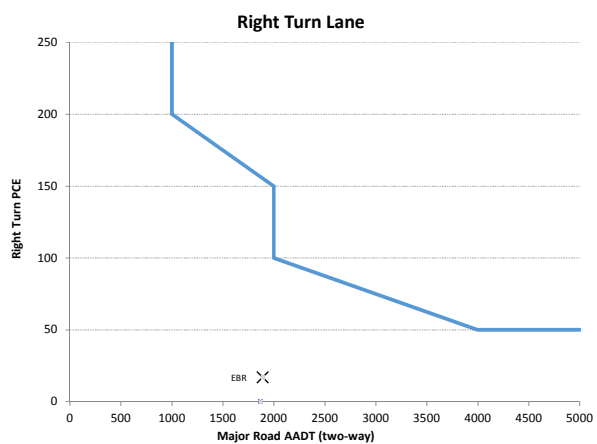
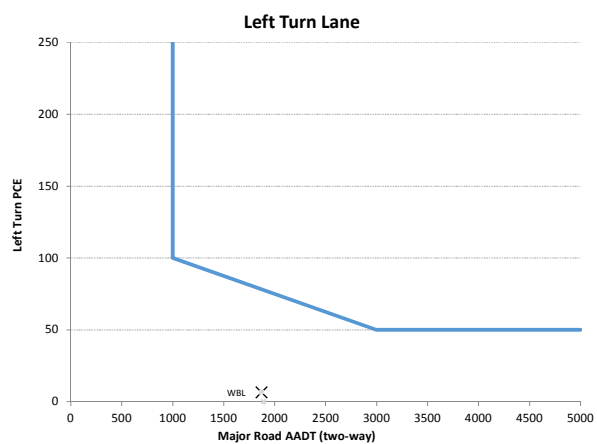
2018 Truck %			
↑	N	0	0
93 (37%)		95	93 (37%)
2 (13%)			1 (17%)
		0	
		2 (13%)	1 (17%)

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 0$	$V_{LT} = 6$
$P_T =$	$P_T = 0.17$
$PCE =$	$PCE = 7$
AADT = 1890	AADT = 1870
Met?	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 16$	$V_{RT} = 0$
$P_T = 0.13$	$P_T =$
$PCE = 17$	$PCE =$
AADT = 1890	AADT = 1870
Met? No	Met?



**US 52 / 6 Ave N**

Project Info		<b>1118</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/7/2019	

Intersection Info		US 52	6 Ave N	
Reference Points	Major Road	127,800	Minor Road	
Speed Limits (mph)		65	25	Y
Select Major Road Directions	East-West			
Intersection/Junction Traffic Control	Stop on Minor Road	Y		
Major Road a Divided Highway?	No			
Terrain	Level	E <sub>T</sub> = 1.5		

2018 AADTs			
↑	N	8	0
		20	
8			2
883	1800		883
9			6
		9	0
		0	6
			1782

**6 Ave N**

0	0	0
8	0	2

SBR SBT SBL

1 (0%) #DIV/0! 0 (0%)

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

← Major Road →

2	0
883	329
6	2

WBR WBT WBL

0 (0%) 88 (37%) 1 (33%)

US 52

8	0
883	329
9	1

EBL EBT EBR

US 52

1	0
88	329
1	1

EBL EBT EBR

STOP

1	0	2
9	0	6

NBL NBT NBR

1 (11%) #DIV/0! 1 (33%)

Enter traffic data:

**AADT** **Trucks**

	2018	2018
Major AADT	1800	1800
Minor AADT	30	30
AADT Product	0.1M	0.1M
AADT Ratio	0.02	0.02
TEV	1,816	1,816

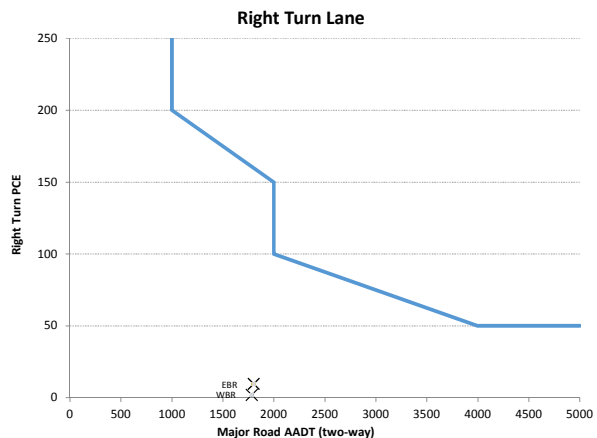
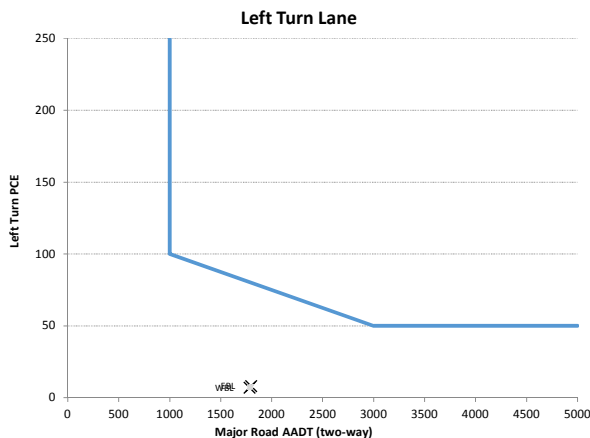
2018 TAADTs			
↑	N	0	0
		0	
0			0
329	660		662
1			2
		1	0
		0	2

2018 Truck %			
↑	N	1 (0%)	0 (0%)
		0	
1 (0%)			0 (0%)
88 (37%)	88		89
1 (11%)			1 (33%)
		1 (11%)	1 (33%)

**LEFT Turn Lane Volume Criteria (1.A)      RIGHT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 8$	$V_{LT} = 6$
$P_T = 0.00$	$P_T = 0.33$
$PCE = 8$	$PCE = 7$
$AADT = 1800$	$AADT = 1782$
Met? No	Met? No

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 9$	$V_{RT} = 2$
$P_T = 0.11$	$P_T = 0.00$
$PCE = 10$	$PCE = 2$
$AADT = 1800$	$AADT = 1782$
Met? No	Met? No



**US 52 / 4 Ave N**

Project Info		1119
PCN		
Ref#	4347	
HSIP #		
Study Date	1/9/2019	

Intersection Info		US 52	4 Ave N
Reference Points	Major Road	130.500	
Speed Limits (mph)	Minor Road	50	
Select Major Road Directions		East-West	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

Traffic Year: **2018**  
 Growth Rate: 0.00%  
 Truck Growth: 0.00%  
 No. of years: 0  
 K: 0.100  
 Growth Factor: 1

WBR		
WBT	872	330
WBL	1	0

Year	Major AADT	Minor AADT	AADT Product	AADT Ratio	TEV
2018	1782	40	0.1M	0.02	1,784
2018	1782	40	0.1M	0.02	1,784

2018 AADTs			
↑	N	0	0
0	1782	0	0
872	19	1746	872
19	0	1	1

2018 TAADTs			
↑	N	0	0
0	662	0	0
330	1	660	330
1	0	2	0

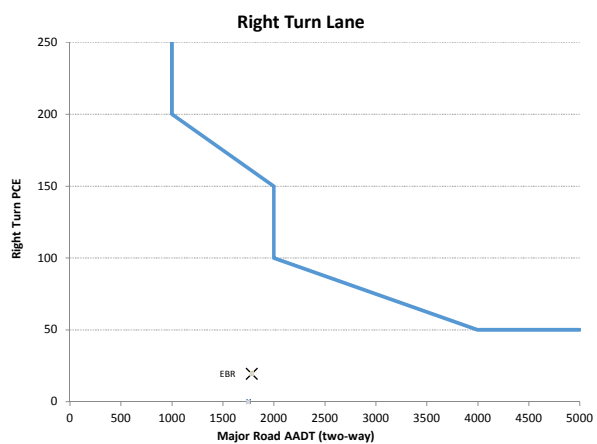
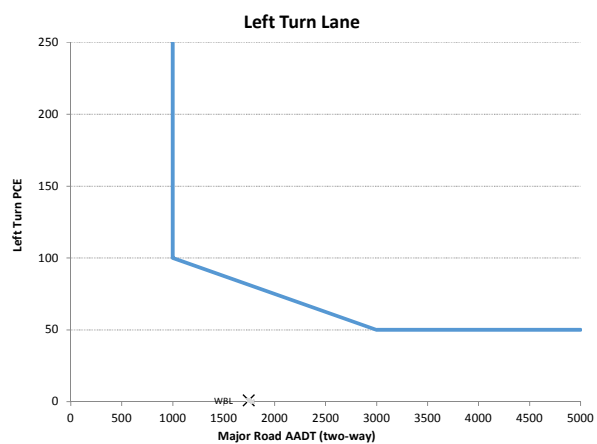
2018 Truck %			
↑	N	0	0
87 (38%)	2 (5%)	0	0
2 (5%)	0 (0%)	0	87 (38%)
0	0	0	0 (0%)

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 0$	$V_{LT} = 1$
$P_T =$	$P_T = 0.00$
$PCE =$	$PCE = 1$
AADT = 1782	AADT = 1746
Met?	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 19$	$V_{RT} = 0$
$P_T = 0.05$	$P_T =$
$PCE = 20$	$PCE =$
AADT = 1782	AADT = 1746
Met? No	Met?





**US 52 / 2 Ave N**

Project Info		<b>631</b>
PCN		
Ref#	4347	
Study Date	1/14/2019	

Intersection Info		US 52	2 Ave N
Reference Points	Major Road	132.500	Minor Road
Speed Limits (mph)		65	40
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	12	14
12	1746	52	14
861		0	861
0		0	0
		0	0
		0	0
		1750	

**2 Ave N**

1	0	6
12	0	14

SBR: 1 (8%) #DIV/0!  
SBL: 1 (43%) #DIV/0!

Traffic Year: 2018  
Growth Rate: 0.00%  
Truck Growth: 0.00%  
No. of years: 0  
K: 0.100  
Growth Factor: 1

← Major Road →

14	6
861	329
0	0

WBR: 1 (43%) #DIV/0!  
WBL: 86 (38%) #DIV/0!

12	1
861	329
0	0

EBL: 1 (8%) #DIV/0!  
EBT: 86 (38%) #DIV/0!  
EBR: 0

Enter traffic data:

**AADT**   **Trucks**

	2018	2018
Major AADT	1750	1750
Minor AADT	52	52
AADT Product	0.1M	0.1M
AADT Ratio	0.03	0.03
TEV	1,774	1,774

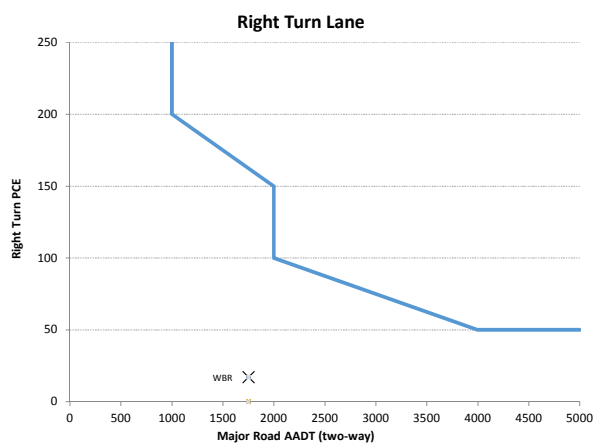
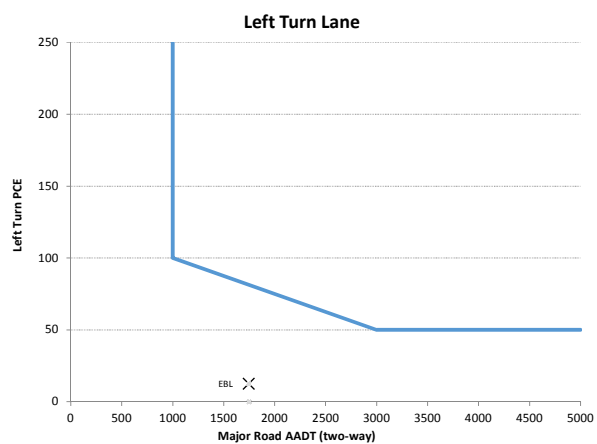
2018 TAADTs			
↑	N	1	6
1	660	14	6
329		0	329
0		0	0
		0	0
		0	0
		670	

2018 Truck %			
↑	N	1 (8%)	1 (43%)
1 (8%)	87	0	1 (43%)
86 (38%)		0	86 (38%)
0		0	0
		0	0
		0	0
		0	0

**LEFT Turn Lane Volume Criteria (1.A)      RIGHT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 12$	$V_{LT} = 0$
$P_T = 0.08$	$P_T =$
$PCE = 13$	$PCE =$
$AADT = 1746$	$AADT = 1750$
Met? No	Met?

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 14$
$P_T =$	$P_T = 0.43$
$PCE =$	$PCE = 17$
$AADT = 1746$	$AADT = 1750$
Met?	Met? No



**US 52 / Main St**

Project Info		1120
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	Main St
Reference Points	Major Road	137,000	Minor Road
Speed Limits (mph)		65	25
Select Major Road Directions		East-West	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	10	13
10	862	46	13
3	1750	1760	862
		3	5
		0	0
		16	

**Main St**

46
4
0
2
10
0
13

SBR 1 (40%) #DIV/0!  
SBL 1 (15%)

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

US 52 1750

10	4
862	326
3	0

EBL 1 (40%)  
EBT 86 (38%)  
EBR 0 (0%)

← Major Road →

13	2
862	326
5	0

WBR 1 (15%)  
WBT 86 (38%)  
WBR 1 (0%)

YES

0 (0%) #DIV/0!  
1 (0%)

0	0	0
3	0	5

NBL 0 (0%)  
NBT 0 (0%)  
NBR 0 (0%)

STOP

2018	2018
Major AADT	1760
Minor AADT	46
AADT Product	0.1M
AADT Ratio	0.03
TEV	1,786

2018 TAADTs			
↑	N	4	2
4	326	12	2
0	660	656	326
		0	0
		0	0
		0	0

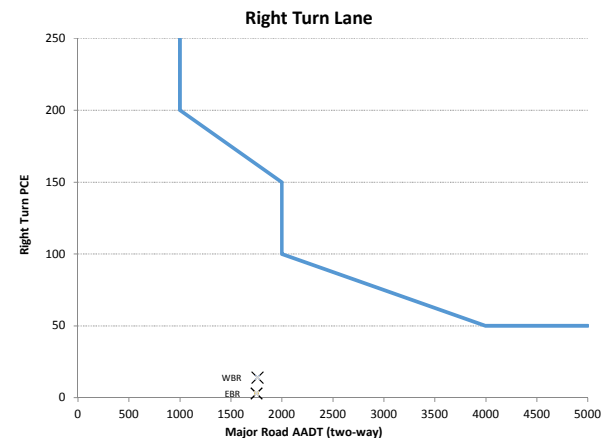
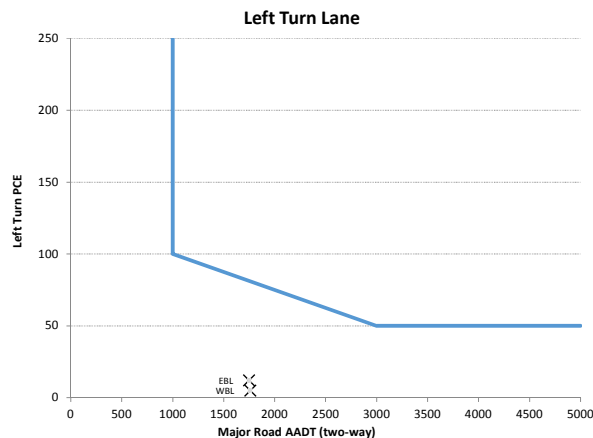
2018 Truck %			
↑	N	1 (40%)	1 (15%)
1 (40%)	87	1	1 (15%)
86 (38%)	0	86	86 (38%)
0 (0%)		0	1 (0%)
		0 (0%)	1 (0%)
		1 (0%)	

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 10$	$V_{LT} = 5$
$P_T = 0.40$	$P_T = 0.00$
$PCE = 12$	$PCE = 5$
$AADT = 1750$	$AADT = 1760$
Met? No	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 3$	$V_{RT} = 13$
$P_T = 0.00$	$P_T = 0.15$
$PCE = 3$	$PCE = 14$
$AADT = 1750$	$AADT = 1760$
Met? No	Met? No



**US 52 / 3 Ave NE – ND 53**

Project Info		<b>60</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	3 Ave NE – ND 53
Reference Points	Major Road	137.700	Minor Road
Speed Limits (mph)		65	65
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	2	1
		8	1
2		1760	1
819			1720
59			819
		200	
		59	40
		1	
		40	

**3 Ave NE**

0	0	0
2	1	1

SBR: 0 (0%)  
SBL: 0 (0%)  
SBL: 0 (0%)

Traffic Year: 2018  
Growth Rate: 0.00%  
Truck Growth: 0.00%  
No. of years: 0  
K: 0.100  
Growth Factor: 1

US 52

0 (0%)	82 (38%)	6 (25%)
2	0	0
819	313	15
59	15	0

EBL, EBT, EBR

Major Road

1	0
819	313
40	10

WBR, WBL, WBL

US 52

6 (25%)	0 (0%)	4 (25%)
15	0	10
59	1	40

NBL, NBT, NBR

STOP

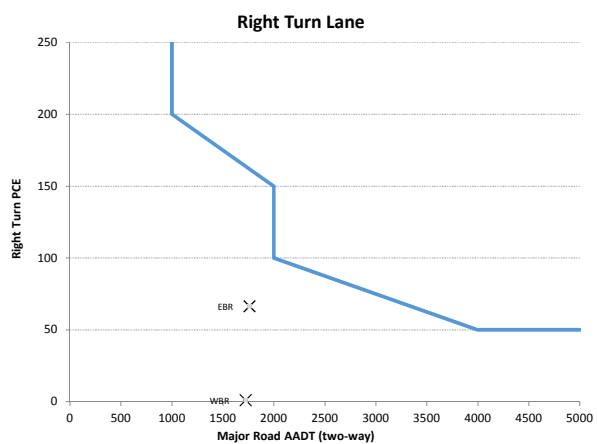
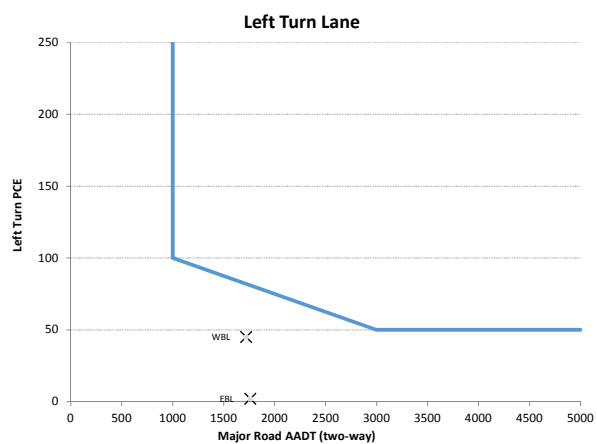
2018	2018
Major AADT	1760
Minor AADT	200
AADT Product	0.4M
AADT Ratio	0.11
TEV	1,844

2018 TAADTs			
↑	N	0	0
		0	0
0		656	0
313			646
15			313
		50	
		15	10
		0	
		10	

2018 Truck %			
↑	N	0 (0%)	0 (0%)
		0 (0%)	0 (0%)
0 (0%)		0	0 (0%)
82 (38%)			352
6 (25%)			82 (38%)
		0	
		6 (25%)	4 (25%)
		0 (0%)	
		4 (25%)	

LEFT Turn Lane Volume Criteria (1.A)	
EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 2$	$V_{LT} = 40$
$P_T = 0.00$	$P_T = 0.25$
$PCE = 2$	$PCE = 45$
AADT = 1760	AADT = 1720
Met? No	Met? No

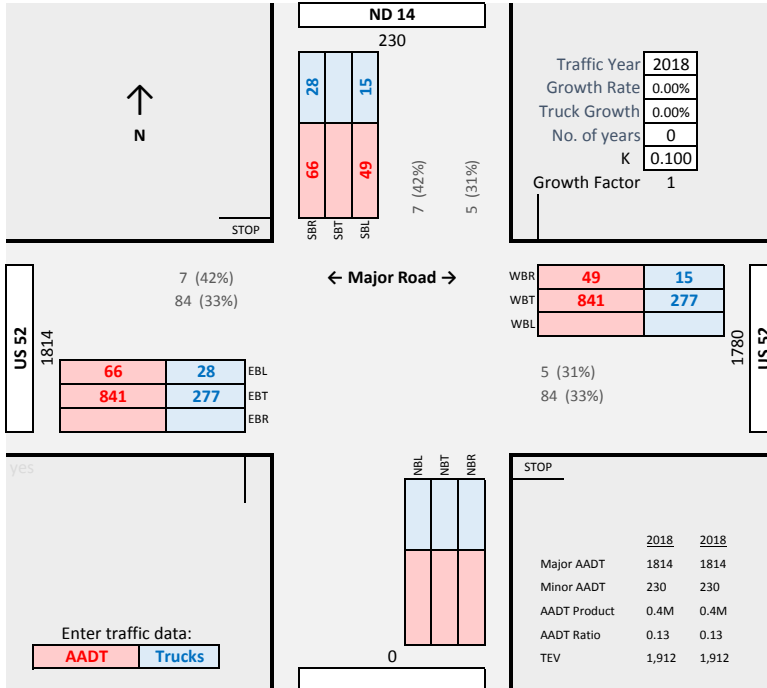
RIGHT Turn Lane Volume Criteria (1.A)	
EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 59$	$V_{RT} = 1$
$P_T = 0.25$	$P_T = 0.00$
$PCE = 67$	$PCE = 1$
AADT = 1760	AADT = 1720
Met? No	Met? No



**US 52 / ND 14**

Project Info		<b>61</b>
PCN		
Ref#	4347	
Study Date	1/14/2019	

Intersection Info		US 52	ND 14
Reference Points	Major Road	141.400	Minor Road
Speed Limits (mph)		65	65
Select Major Road Directions		East-West	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain			Level



2018 AADTs			
↑	N	66	0
		230	49
66	1814		49
841		1780	841
0			0
		0	0
		0	0

2018 TAADTs			
↑	N	28	15
		86	
28	610		15
277		584	277
0			0
		0	0
		0	0

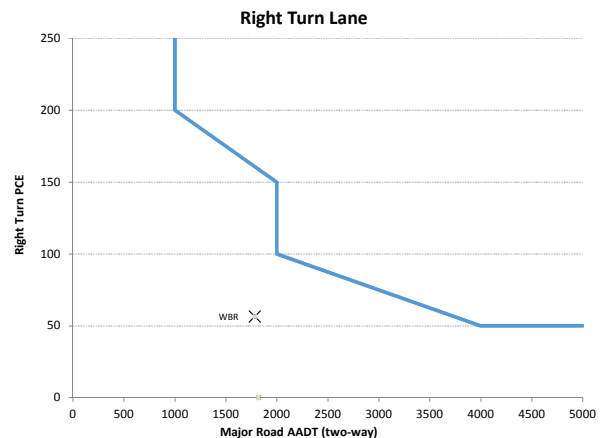
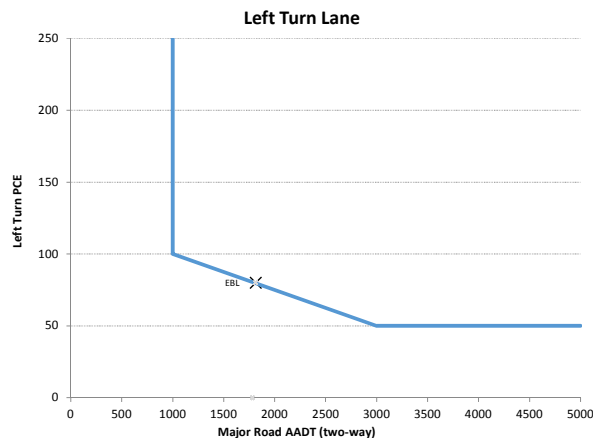
2018 Truck %			
↑	N	7 (42%)	5 (31%)
		0	
7 (42%)	623		5 (31%)
84 (33%)		0	84 (33%)
		0	
		0	

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 66$	$V_{LT} = 0$
$P_T = 0.42$	$P_T =$
$PCE = 80$	$PCE =$
$AADT = 1814$	$AADT = 1780$
Met? Yes	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 49$
$P_T =$	$P_T = 0.31$
$PCE =$	$PCE = 57$
$AADT = 1814$	$AADT = 1780$
Met?	Met? No



**US 52 / 7 Ave N**

Project Info		<b>1121</b>
PCN		
Ref#	4347	
Study Date	1/14/2019	

Intersection Info		US 52	7 Ave N
Reference Points	Major Road	142.200	Minor Road
Speed Limits (mph)		65	50
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

2018 AADTs			
↑	N	0	0
0	0	0	0
880	1780	1796	880
10			18
		10	56
		0	18

Traffic Year: 2018  
Growth Rate: 0.00%  
Truck Growth: 0.00%  
No. of years: 0  
K: 0.100  
Growth Factor: 1

WBR		
WBT	880	290
WBL	18	5

2018	2018
Major AADT	1796
Minor AADT	56
AADT Product	0.1M
AADT Ratio	0.03
TEV	1,816

2018 TAADTs			
↑	N	0	0
0	0	0	0
290	584	590	290
2			5
		2	14
		0	5

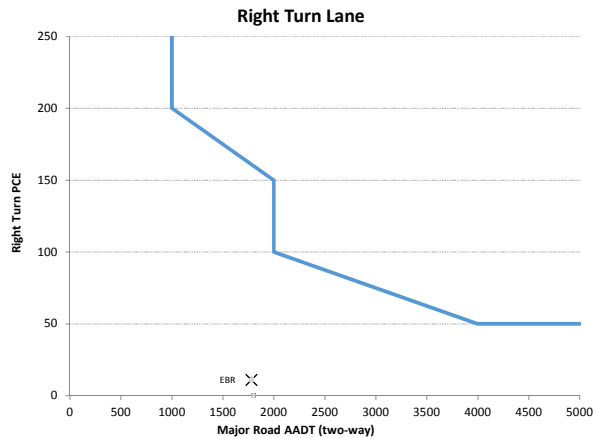
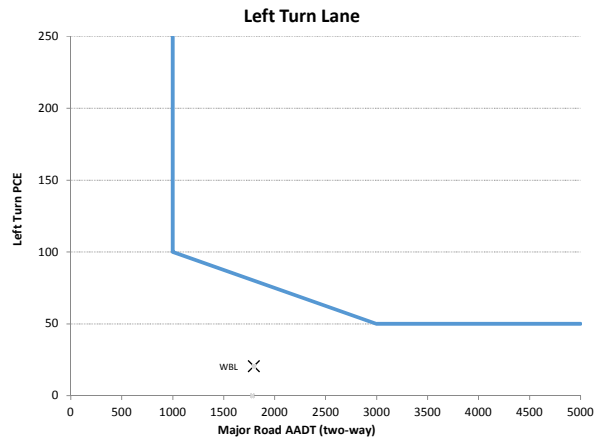
2018 Truck %			
↑	N	0	0
88 (33%)	0	178	88 (33%)
1 (20%)			2 (28%)
		1 (20%)	0
		0	2 (28%)

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 0$	$V_{LT} = 18$
$P_T =$	$P_T = 0.28$
$PCE =$	$PCE = 21$
AADT = 1780	AADT = 1796
Met?	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 10$	$V_{RT} = 0$
$P_T = 0.20$	$P_T =$
$PCE = 11$	$PCE =$
AADT = 1780	AADT = 1796
Met? No	Met?



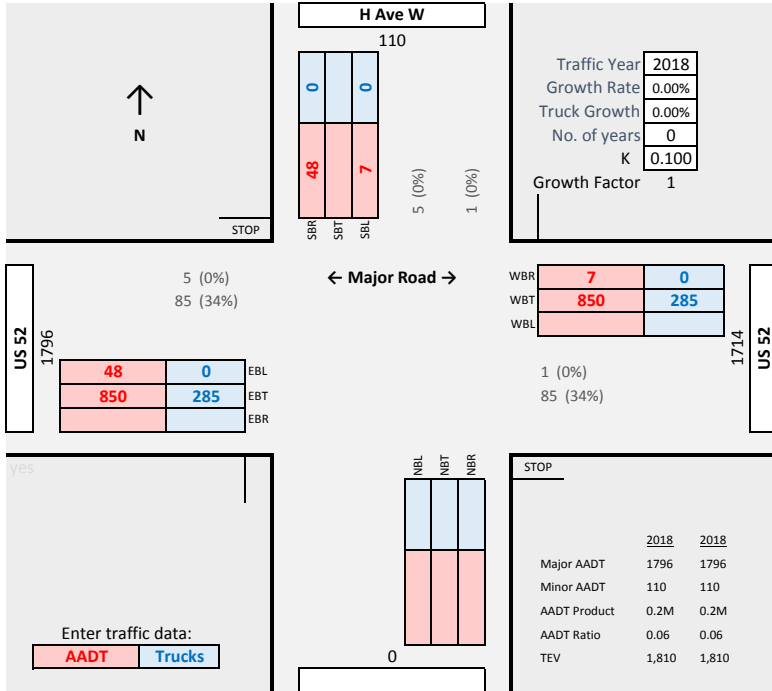
**US 52 / H Ave W**

Project Info		<b>1122</b>
PCN		
Ref#	4347	
Study Date	1/14/2019	

Intersection Info		US 52	H Ave W
Reference Points	Major Road	151.000	Minor Road
Speed Limits (mph)		65	40
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	48	0
		110	7
48			7
850	1796		850
0		1714	0
		0	0
		0	0



2018 TAADTs			
↑	N	0	0
		0	0
0			0
285	570		0
0		570	285
		0	0
		0	0

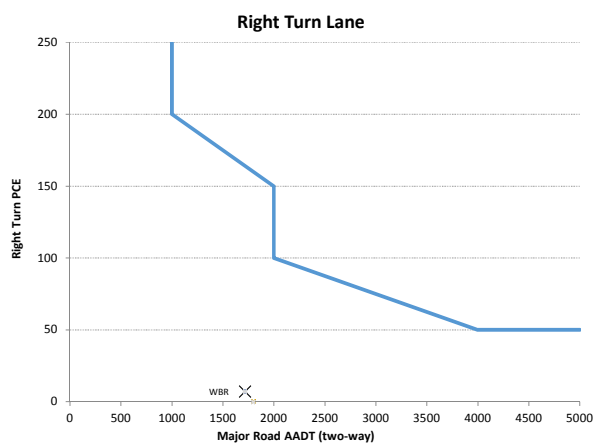
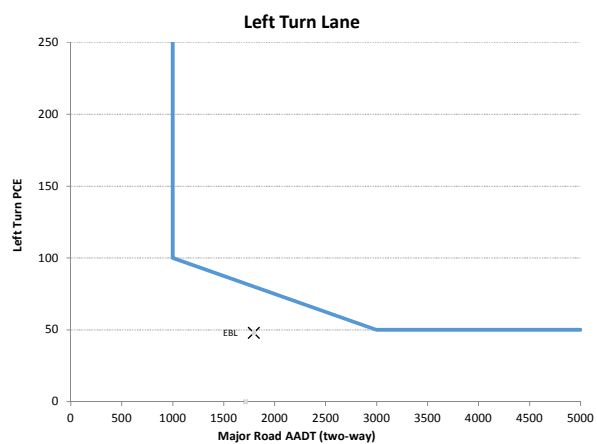
2018 Truck %			
↑	N	5 (0%)	1 (0%)
		0	0
5 (0%)			1 (0%)
85 (34%)	430		85 (34%)
		0	0
		0	0

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 48$	$V_{LT} = 0$
$P_T = 0.00$	$P_T =$
$PCE = 48$	$PCE =$
$AADT = 1796$	$AADT = 1714$
Met? No	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 7$
$P_T =$	$P_T = 0.00$
$PCE =$	$PCE = 7$
$AADT = 1796$	$AADT = 1714$
Met?	Met? No



**US 52 / 32 St NE**

Project Info		<b>1123</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	32 St NE
Reference Points	Major Road	151.610	Minor Road
Speed Limits (mph)		65	25
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	7	21
7	1714	60	21
848			848
2			6
		20	
		2	6

**32 St NE**

SBR	0
SBT	0
SBL	0

1 (0%)  
0 (0%)  
2 (0%)

Major Road →

WBR	21	0
WBT	848	285
WBL	6	0

2 (0%)  
85 (34%)  
1 (0%)

US 52

EBL	7	0
EBT	848	285
EBR	2	0

US 52

Enter traffic data:  
AADT Trucks

**32 St NE**

NBL	0
NBT	0
NBR	0

0 (0%)  
0 (0%)  
1 (0%)

STOP

2018	2018
Major AADT	1750
Minor AADT	60
AADT Product	0.1M
AADT Ratio	0.03
TEV	1,772

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

2018 TAADTs			
↑	N	0	0
0	570	0	0
285			0
0			0
		0	0
		0	0

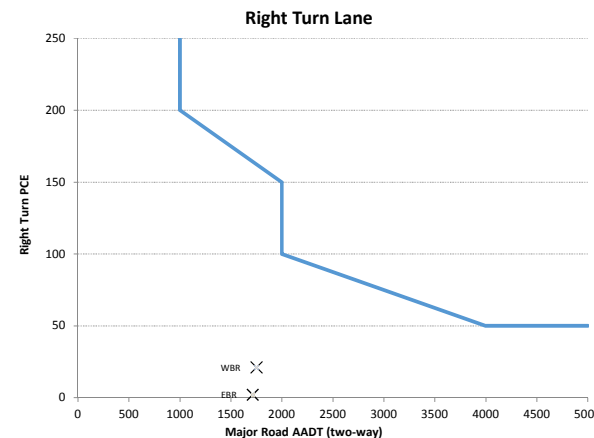
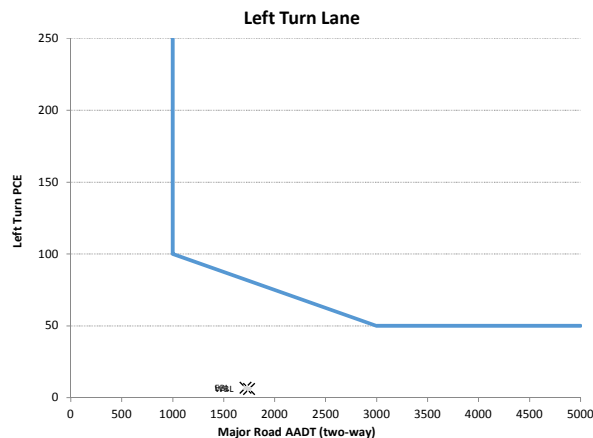
2018 Truck %			
↑	N	1 (0%)	2 (0%)
1 (0%)	87	2 (0%)	85 (34%)
85 (34%)			85 (34%)
0 (0%)			1 (0%)
		0	
		0 (0%)	1 (0%)

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 7$	$V_{LT} = 6$
$P_T = 0.00$	$P_T = 0.00$
$PCE = 7$	$PCE = 6$
AADT = 1714	AADT = 1750
Met? No	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 2$	$V_{RT} = 21$
$P_T = 0.00$	$P_T = 0.00$
$PCE = 2$	$PCE = 21$
AADT = 1714	AADT = 1750
Met? No	Met? No

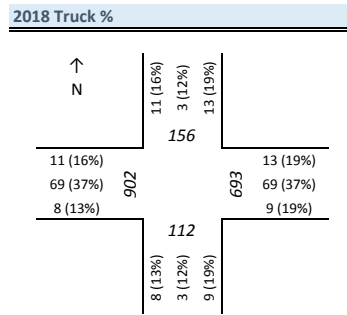
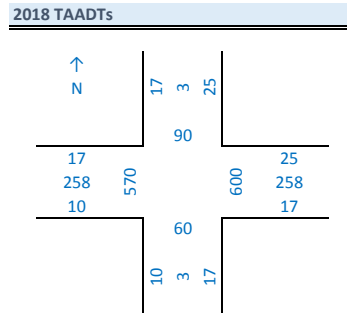
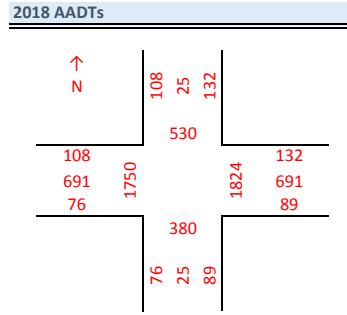
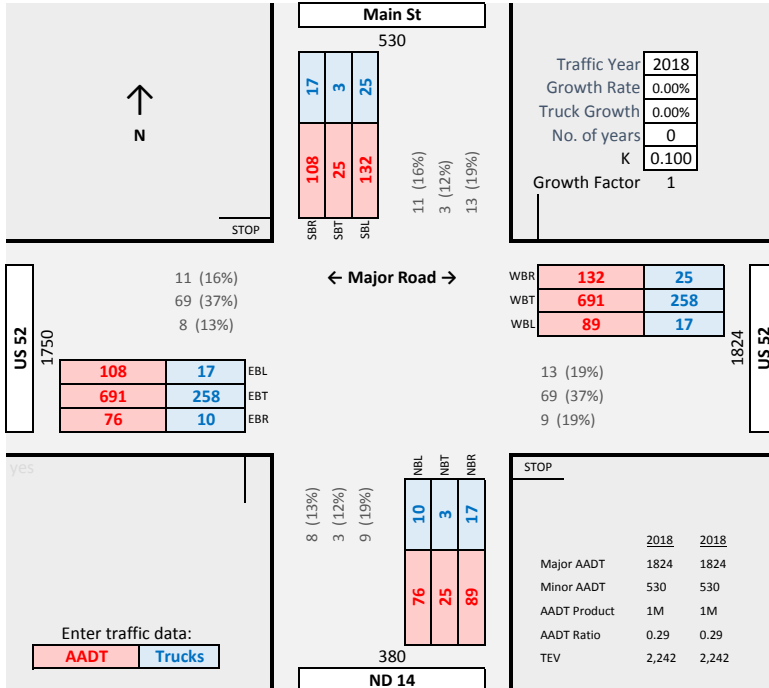


**US 52 / Main St – ND 14**

Project Info		<b>62</b>
PCN		
Ref#	4347	
Study Date	1/14/2019	

Intersection Info		US 52 / Main St – ND 14	
Reference Points	Major Road	Minor Road	
Speed Limits (mph)	151.900	65	Y
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>t</sub> = 1.5

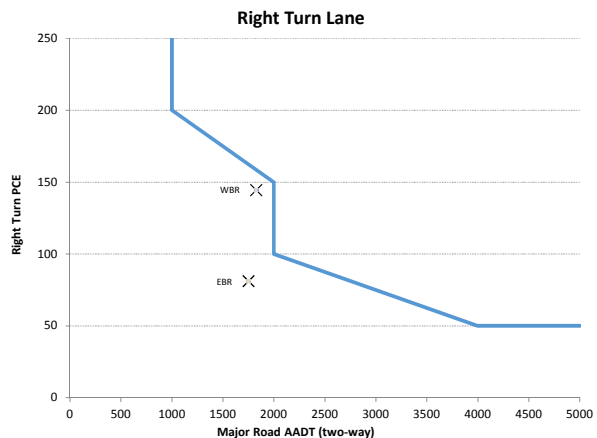
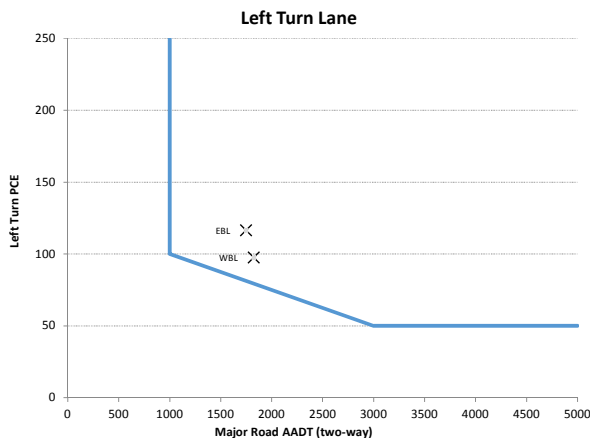


**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 108$	$V_{LT} = 89$
$P_T = 0.16$	$P_T = 0.19$
$PCE = 117$	$PCE = 98$
$AADT = 1750$	$AADT = 1824$
Met? Yes	Met? Yes

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 76$	$V_{RT} = 132$
$P_T = 0.13$	$P_T = 0.19$
$PCE = 81$	$PCE = 145$
$AADT = 1750$	$AADT = 1824$
Met? No	Met? No





**US 52 / 32 St SE**

Project Info		<b>1124</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	32 St SE
Reference Points	Major Road	152.060	Minor Road
Speed Limits (mph)		65	25
Select Major Road Directions	East-West		
Intersection/Junction Traffic Control	Stop on Minor Road		
Major Road a Divided Highway?	No		
Terrain	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	31	0
		110	24
31	880	1824	24
1			1
		1	0
		4	1
			1810
			880

**32 St SE**

SBR	4
SBT	0
SBL	4

3 (13%) #DIV/0!  
2 (17%)

← Major Road →

WBR	24	4
WBT	880	296
WBL	1	0

2 (17%)  
88 (34%)  
0 (0%)

US 52 1824

EBL	31	4
EBT	880	296
EBR	1	0

US 52 1810

Enter traffic data:  
AADT Trucks

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

NBL	0
NBT	0
NBR	0

0 (0%) #DIV/0!  
0 (0%)

STOP

2018	2018
Major AADT	1824 1824
Minor AADT	110 110
AADT Product	0.2M 0.2M
AADT Ratio	0.06 0.06
TEV	1,874 1,874

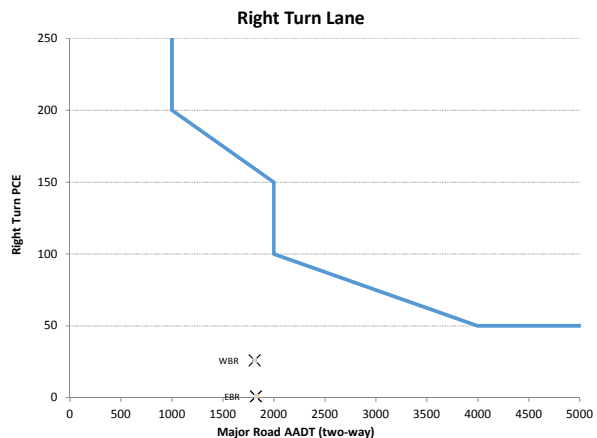
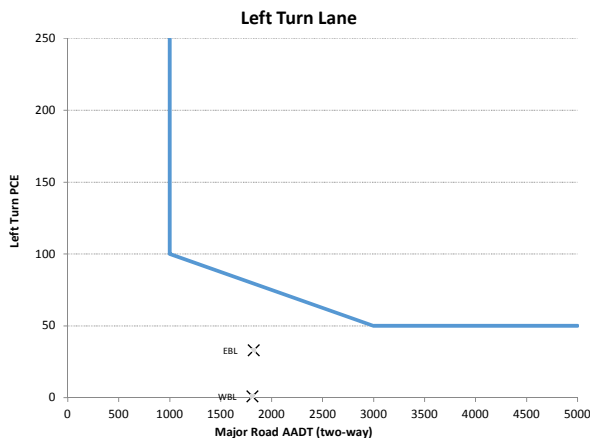
2018 TAADTs			
↑	N	4	0
		16	4
4	296	600	4
0			0
		0	0
		0	0
		0	0
		0	0
		0	0

2018 Truck %			
↑	N	3 (13%)	2 (17%)
		0	0
3 (13%)	88 (34%)	270	88 (34%)
0 (0%)			0 (0%)
		0	0
		0 (0%)	0 (0%)
		0 (0%)	0 (0%)

**LEFT Turn Lane Volume Criteria (1.A)      RIGHT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 31$	$V_{LT} = 1$
$P_T = 0.13$	$P_T = 0.00$
$PCE = 33$	$PCE = 1$
AADT = 1824	AADT = 1810
Met? No	Met? No

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 1$	$V_{RT} = 24$
$P_T = 0.00$	$P_T = 0.17$
$PCE = 1$	$PCE = 26$
AADT = 1824	AADT = 1810
Met? No	Met? No



**US 52 / 25 St NE – ND 91**

Project Info		<b>1048</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52 / 25 St NE – ND 91	
Reference Points	Major Road	Minor Road	
Speed Limits (mph)	167.400		
Select Major Road Directions	55	25	Y
Intersection/Junction Traffic Control	North-South		
Major Road a Divided Highway?	Stop on Minor Road		
Terrain	No		
	Level		

E<sub>T</sub> = 1.5

2018 AADTs			
↑	N	82	831
		2196	
		82	185
		20	20
		131	233
		2390	
		131	233

**US 52**

2196

SBR	10	311	23
SBT	82	831	185
SBL			

8 (12%)  
83 (37%)  
19 (12%)

STOP

WBR	185	23
WBT	20	4
WBL	233	28

19 (12%)  
2 (20%)  
23 (12%)

**ND 91**

876

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

25 St NE

466

EBL	82	10
EBT	20	4
EBR	131	16

8 (12%)  
2 (20%)  
13 (12%)

← Major Road →

NBL	16	311	28
NBT	131	831	233
NBR			

13 (12%)  
83 (37%)  
23 (12%)

2390

**US 52**

Enter traffic data:

**AADT**   **Trucks**

	2018	2018
Major AADT	2390	2390
Minor AADT	876	876
AADT Product	2.1M	2.1M
AADT Ratio	0.37	0.37
TEV	2,964	2,964

2018 TAADTs			
↑	N	10	311
		688	
		10	23
		4	4
		16	28
		710	
		16	28

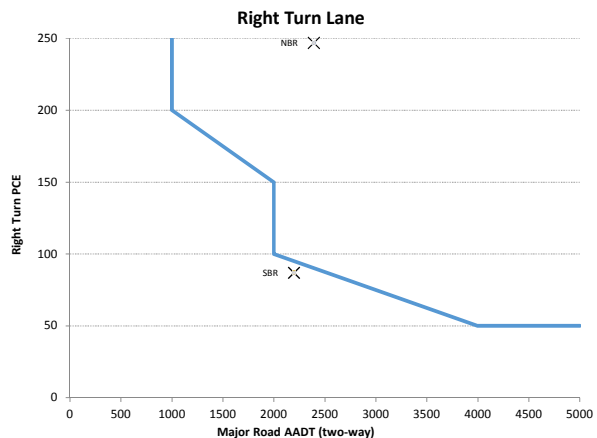
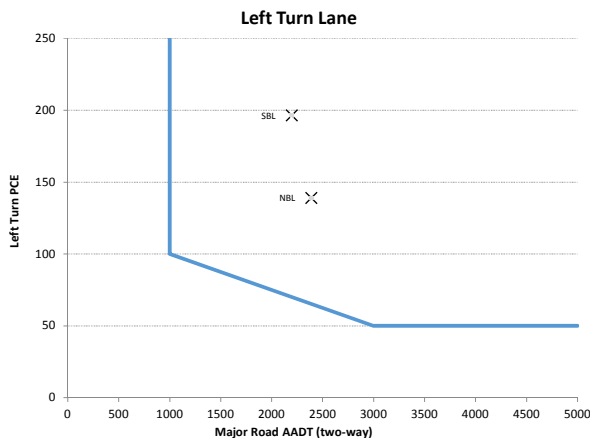
2018 Truck %			
↑	N	8 (12%)	19 (12%)
		2014	
		8 (12%)	19 (12%)
		2 (20%)	2 (20%)
		13 (12%)	23 (12%)
		1183	
		13 (12%)	23 (12%)

**LEFT Turn Lane Volume Criteria (1.A)**

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 185$	$V_{LT} = 131$
$P_T = 0.12$	$P_T = 0.12$
$PCE = 197$	$PCE = 139$
$AADT = 2196$	$AADT = 2390$
Met? Yes	Met? Yes

**RIGHT Turn Lane Volume Criteria (1.A)**

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 82$	$V_{RT} = 233$
$P_T = 0.12$	$P_T = 0.12$
$PCE = 87$	$PCE = 247$
$AADT = 2196$	$AADT = 2390$
Met? No	Met? Yes



**US 52 / US 52B**

Project Info		<b>1050</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	US 52B
Reference Points	Major Road	167.700	Minor Road
Speed Limits (mph)		55	25
Select Major Road Directions		North-South	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

E<sub>t</sub> = 1.5

2018 AADTs			
↑	N	0	855
		2390	340
0			340
0	0		0
0			45
		1800	
		0	855
			45

**US 52**

2390

SBR	316
SBT	39
SBL	855
SBR	340

86 (37%)  
34 (11%)

STOP

WBR	340	39
WBT		
WBL	45	4

34 (11%)  
5 (9%)

Major Road →

← Major Road

NBL	316
NBT	4
NBR	855
NBR	45

86 (37%)  
5 (9%)

US 52B

770

US 52

1800

Enter traffic data:  
AADT Trucks

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

2018	2018
Major AADT	2390
Minor AADT	770
AADT Product	1.8M
AADT Ratio	0.32
TEV	2,480

2018 TAADTs			
↑	N	0	316
		710	39
0			39
0	0		0
0			4
		640	
		0	316
			4

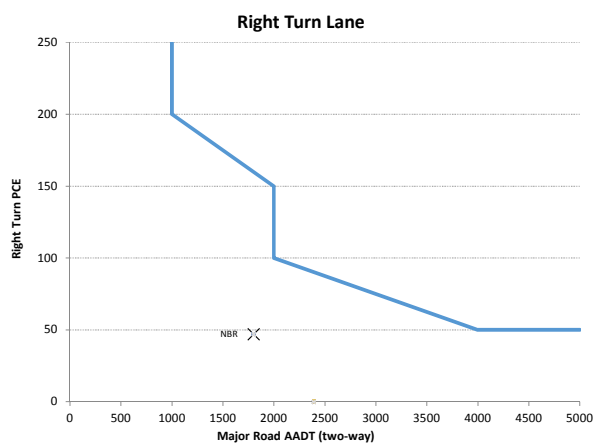
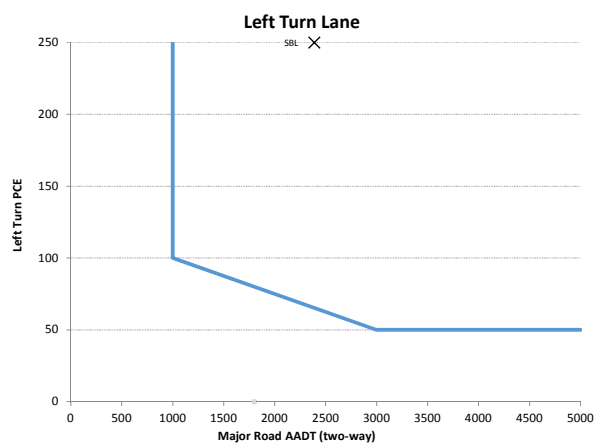
2018 Truck %			
↑	N	86 (37%)	34 (11%)
		3094	34 (11%)
0			5 (9%)
0	0		0
0			0
		0	0
		86 (37%)	5 (9%)
			34 (11%)

**LEFT Turn Lane Volume Criteria (1.A)**

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 340$	$V_{LT} = 0$
$P_T = 0.11$	$P_T =$
$PCE = 360$	$PCE =$
$AADT = 2390$	$AADT = 1800$
Met? Yes	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 45$
$P_T =$	$P_T = 0.09$
$PCE =$	$PCE = 47$
$AADT = 2390$	$AADT = 1800$
Met?	Met? No



**US 52 / 30 Ave N**

Project Info		<b>1125</b>
PCN		
Ref#	4347	
HSIP #		
Study Date	1/14/2019	

Intersection Info		US 52	30 Ave N	
Reference Points	Major Road	168.500	Minor Road	
Speed Limits (mph)		55	25	Y
Select Major Road Directions		North-South		
Intersection/Junction Traffic Control		Stop on Minor Road		Y
Major Road a Divided Highway?		No		
Terrain		Level		

E<sub>r</sub> = 1.5

2018 AADTs			
↑	N	0	789
		1800	111
0			111
0	0		0
0			129
		1836	
		0	789
			129

**US 52**

1800

SBR	304	16
SBT	789	111
SBL		

79 (39%)  
11 (14%)

STOP

WBR	111	16
WBT		
WBL	129	66

11 (14%)  
13 (51%)

480

**30 Ave N**

NBL	304	66
NBT	789	129
NBR		

79 (39%)  
13 (51%)

1836

**US 52**

Traffic Year **2018**

Growth Rate 0.00%

Truck Growth 0.00%

No. of years 0

K 0.100

Growth Factor 1

2018	2018
Major AADT	1836
Minor AADT	480
AADT Product	0.9M
AADT Ratio	0.26
TEV	2,058

Enter traffic data: **AADT** Trucks

2018 TAADTs			
↑	N	0	304
		640	16
0			16
0	0		0
0			66
		740	
		0	304
			66

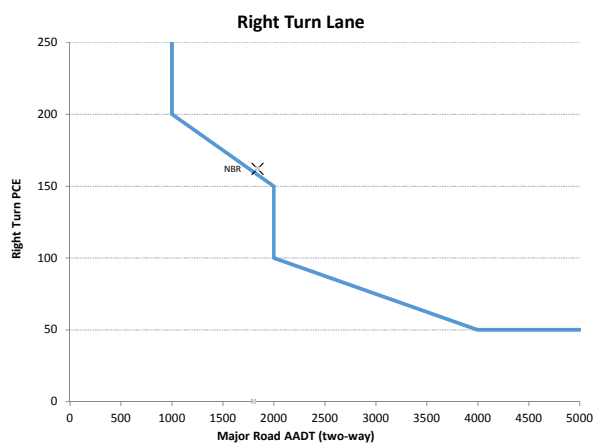
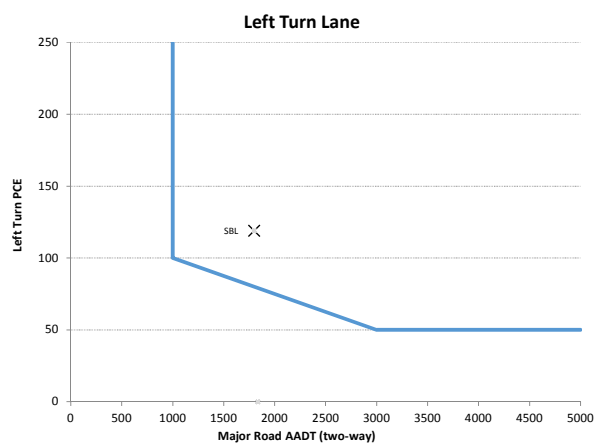
2018 Truck %			
↑	N	79 (39%)	11 (14%)
		1012	11 (14%)
0			11 (14%)
0	0		0
0			13 (51%)
		0	0
		79 (39%)	11 (14%)
		13 (51%)	13 (51%)

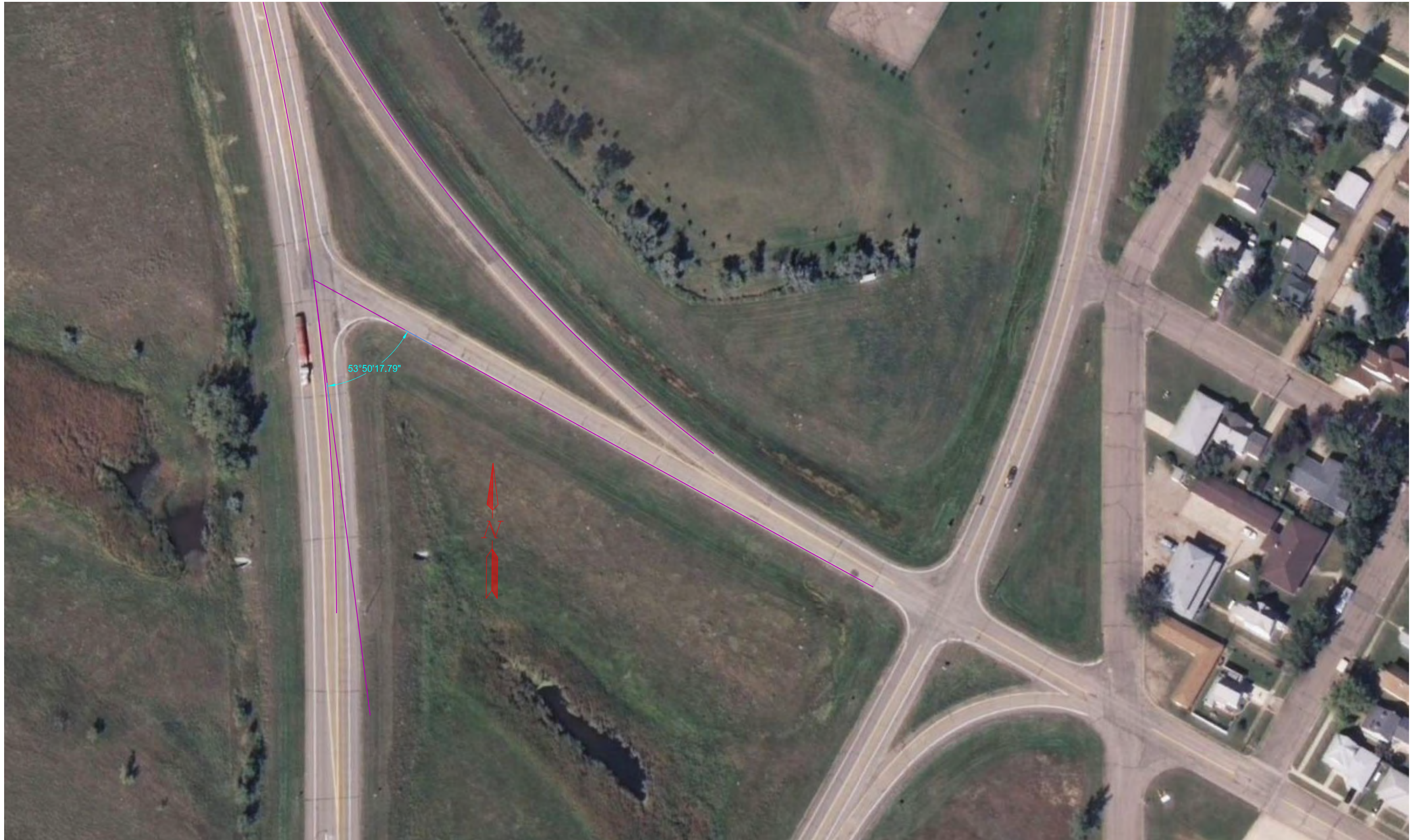
**LEFT Turn Lane Volume Criteria (1.A)**

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 111$	$V_{LT} = 0$
$P_T = 0.14$	$P_T =$
$PCE = 119$	$PCE =$
$AADT = 1800$	$AADT = 1836$
Met? Yes	Met?

**RIGHT Turn Lane Volume Criteria (1.A)**

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 129$
$P_T =$	$P_T = 0.51$
$PCE =$	$PCE = 162$
$AADT = 1800$	$AADT = 1836$
Met?	Met? Yes















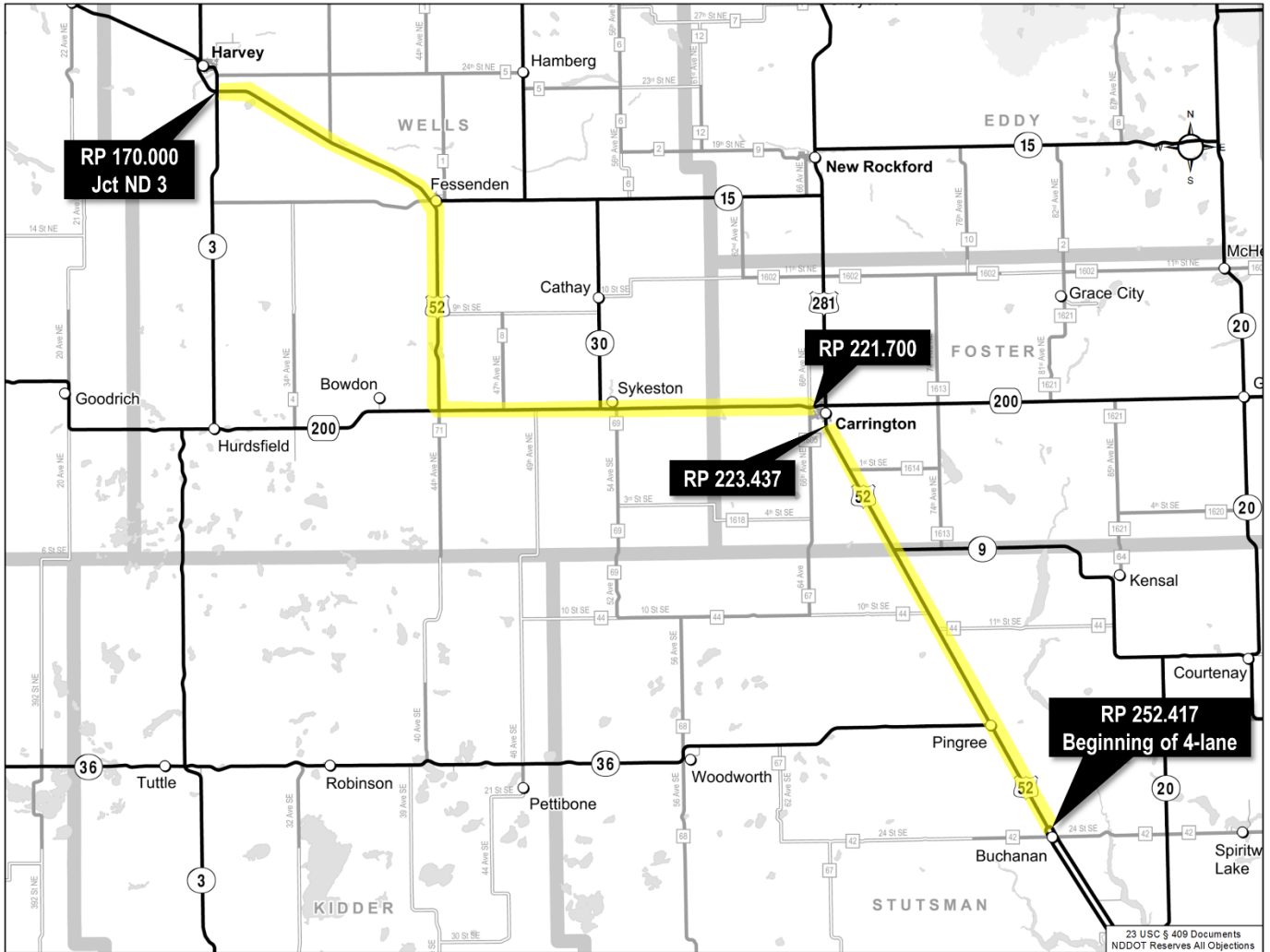
#4347

# TRAFFIC OPERATIONS STUDY

## US 52

Harvey (ND 3) to Beginning of 4-lane (Buchanan)  
RP 170.000 to 221.700 &  
RP 223.437 to 252.417

This document was originally issued and sealed by DONOVAN M SLAG Registration Number PE 5647 on 6/21/2019 and the original document is stored at the North Dakota Department of Transportation



Prepared By:  
NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
PROGRAMMING DIVISION  
TRAFFIC OPERATIONS SECTION

June 2019

# TABLE OF CONTENTS

Introduction.....	3
Background .....	3
Traffic Data / Segment Capacity .....	4
Crash History .....	5
Intersections	
US 52 / 38 Ave NE (Wells 4) .....	6
US 52 / ND 15.....	7
US 52 / 2 St .....	8
US 52 / 9 St NE .....	9
US 52 – ND 200 / US 52 – 43 Ave NE .....	10
US 52 / 47 Ave NE (Wells 8) .....	11
US 52 / 49 Ave NE .....	12
US 52 / ND 30.....	13
US 52 / 54 Ave NE (Wells 69) .....	14
US 52 / 1 St SE (Foster 1614).....	15
US 52 / ND 9.....	16
US 52 / 10 St SE (Stutsman 44).....	17
US 52 / 11 St SE (Stutsman 44).....	18
Summary .....	19
Appendix A – Traffic Volumes .....	20
Appendix B – Capacity Analysis Reports.....	35
Appendix C – Crash Summary Reports .....	48
Appendix D – Turn Lane Warrant Calculations.....	64

**TRAFFIC OPERATIONS STUDY**  
 US 52  
 Beginning of 2-lane to Harvey (ND 3)

**INTRODUCTION**

The traffic control recommendations in this study are based on:

- The 2009 Manual on Uniform Traffic Control Devices (MUTCD), FHWA
- A Policy on Geometric Design of Highways and Streets, AASHTO, 2018
- The Highway Capacity Manual 6<sup>th</sup> Edition, TRB, 2016
- Highway Safety Manual, 1<sup>st</sup> Edition, AASHTO, 2010
- Lighting Warrant Policy, NDDOT, 2015
- NDDOT Traffic Operations Manual, November 2018

**BACKGROUND**

The study area is US 52 from Harvey at ND 3 to the beginning point of the 4-lane section (near Buchanan). This study excludes US 52 in the Carrington area. The purpose of this study is to evaluate the need for turn lanes at the study intersections and to evaluate the two-lane highway segment capacity to determine the possible need for passing-lanes.

The study intersections were determined based on:

- US 52 intersections where the minor road is paved and there are no existing turn lanes
- Where US 52 posted speed is greater than 50 mph
- Input from the Minot, Devils Lake and Valley City District Engineers

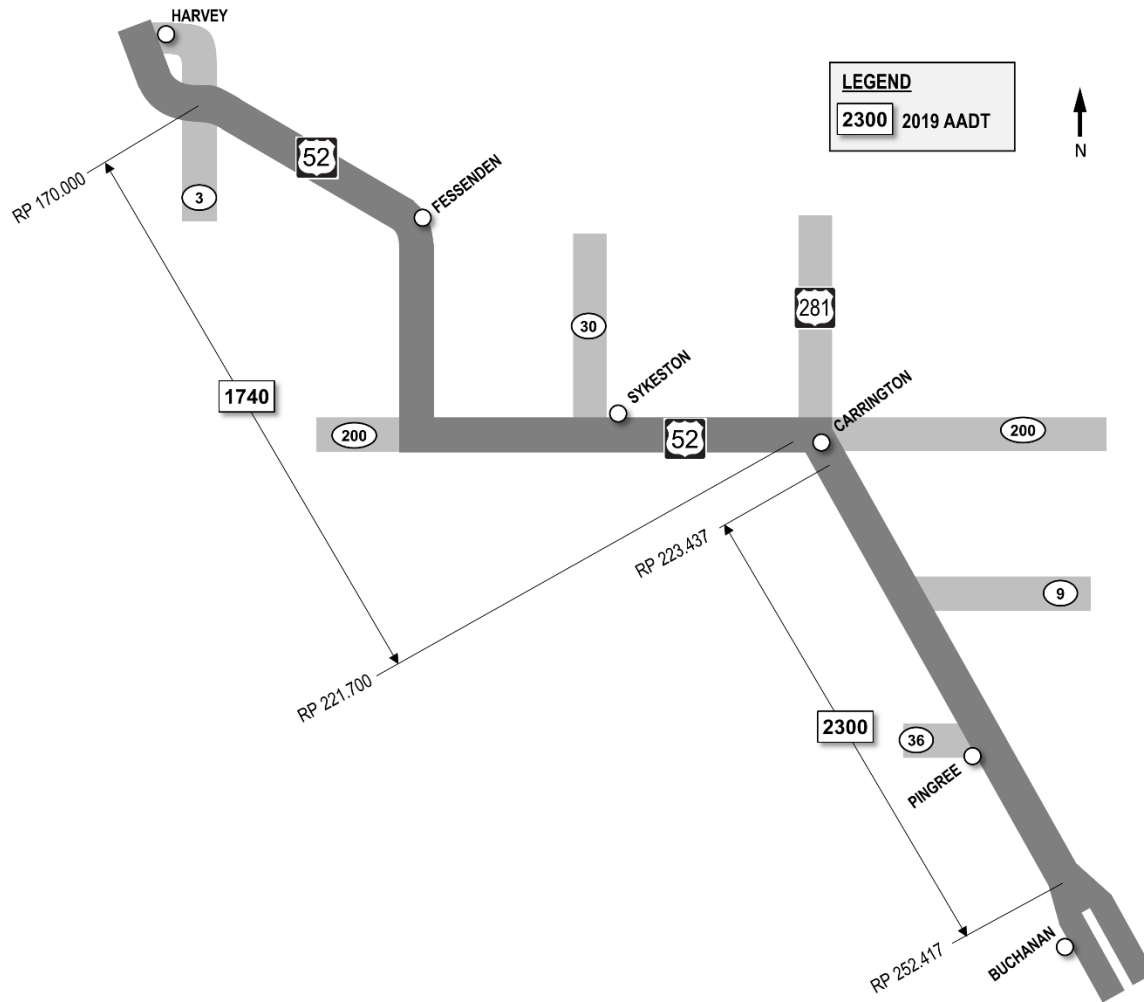
For this study, the intersection capacity analysis was done only at US 52 – ND 200 / US 52 – 43 Ave NE. This intersection had the highest traffic volume with a calculated LOS A (see page 10), therefore it is assumed the remaining study intersections can also expect LOS A.

Study Intersections	Traffic Control	Lighting
#638 US 52 / 38 Ave NE (Wells 4)	Two-way Stop	None
#65 US 52 / ND 15	Two-way Stop	Destination
#1126 US 52 / 2 St	Two-way Stop	None
#526 US 52 / 9 St NE	Two-way Stop	None
#66 US 52 – ND 200 / US 52 – 43 Ave NE	Two-way Stop*	Destination
#1052 US 52 / 47 Ave NE (Wells 8)	Two-way Stop	None
#529 US 52 / 49 Ave NE	Two-way Stop	None
#67 US 52 / ND 30	Two-way Stop	Destination
#530 US 52 / 54 Ave NE (Wells 69)	Two-way Stop	Destination
#535 US 52 / 1 St SE (Foster 1614)	Two-way Stop	None
#69 US 52 / ND 9	Two-way Stop	None
#536 US 52 / 10 St SE (Stutsman 44)	Two-way Stop	None
#537 US 52 / 11 St SE (Stutsman 44)	Two-way Stop	None

\*Stop sign mounted flashing beacons

Highway	Functional Classification	Performance Classification	Speed Limit
US 52	Principal Arterial Rural	Rural Interregional Corridor	65 mph

# TRAFFIC DATA



Traffic data was acquired from the Roadway Data Section in June 2018. The current and projected AADTs are summarized below. Note the high percentage of trucks, this is due to the low volume of passenger vehicles. Traffic volume details are in appendix A. The peak hour is assumed to be 10% of the total AADT with a 50/50 directional distribution. Segment capacity worksheets are in appendix B.

RP 170.000 to RP 221.700				
Year	Passenger	Trucks	Total AADT	LOS
2019	1110	630 (36.2%)	1740	A
2039	1500	855 (36.3%)	2355	A

RP 223.437 to RP 252.417				
Year	Passenger	Trucks	Total AADT	LOS
2019	1505	795 (34.6%)	2300	A
2039	2035	1075 (34.6%)	3110	B

NDDOT guidance is to meet or exceed an overall LOS D for under 20-year projected automobile traffic<sup>1</sup>. The existing roadway cross section meets LOS guidelines for all 4 segments. Therefore, passing-lanes are not needed based on this capacity analysis.

Reference:

1. NDDOT, "[Traffic Operations Manual](#)", November 2018. Page 11

## CRASH HISTORY

Location Description

US 52 – RP 170.000 to 221.700 & RP 223.437 to 252.417

Crash Time Period

January 1, 2013 through December 31, 2017

### Crash Severity

Fatal	1
Incapacitating Injury	7
Non-incapacitating Injury	23
Possible Injury	12
Property Damage Only	95
<b>Total</b>	<b>138</b>

### Manner of Collision

Angle	3
Rear End	25
Left Turn	0
Sideswipe	9
Single Vehicle	82
Ped/Bike	0
Other	19
<b>Total</b>	<b>138</b>

### Surface Conditions

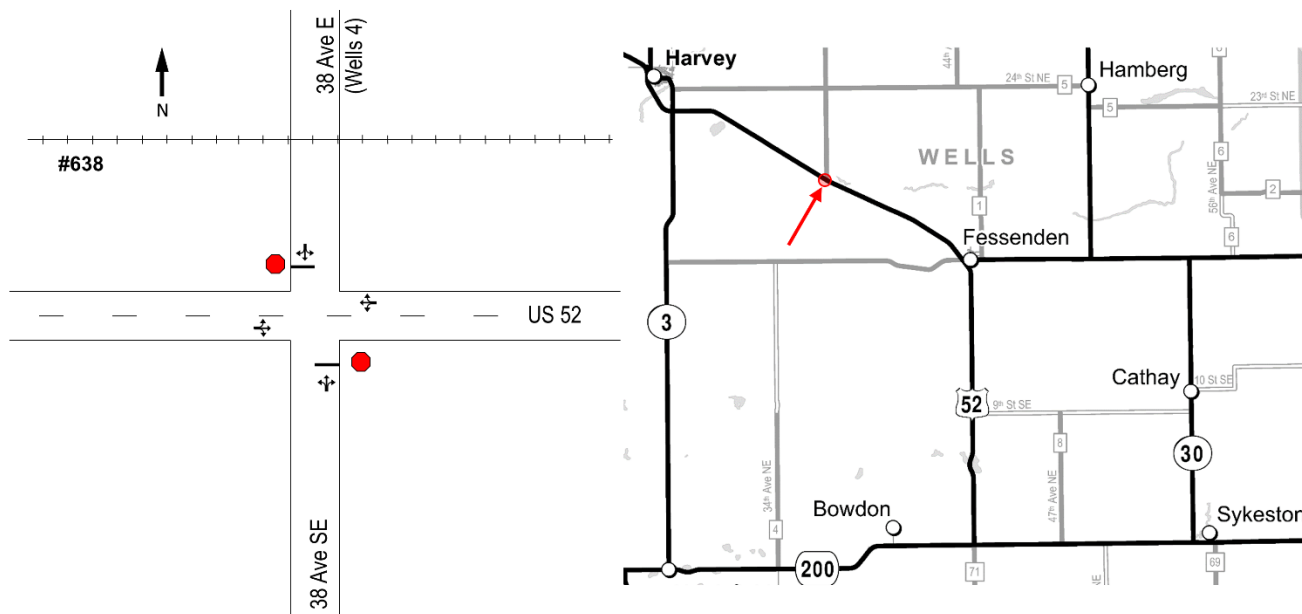
Dry	57
Wet, ice, snow, frost, other	81
<b>Total</b>	<b>138</b>

- There were a couple of crashes that occurred at the Sykeston Rest Area turnoff (RP 208.83) that involved vehicles slowing to make an EB left. These crashes occurred in 2013 and 2014. This would meet the crash criteria for installation of a left turn lane. However, this rest area was closed in 2016. There have been no reported crashes at this location since then. If this rest area is re-opened, it is recommended to evaluate the need for an EB left turn lane here.
- The 1 fatal crash was a head on collision where a SB vehicle went into the oncoming lane and was struck by a NB semi. This crash happened about 4 miles north of Pingree. Alcohol was a factor for the driver of the SB vehicle.
- Contributing factors for fatal & injury crashes (K,A,B,C) were typically: weather, too fast for conditions, improper overtaking, following too close, careless/reckless driving, and attention distracted.
- Out of all the crashes, 56% occurred during wet or ice/snow surface conditions.
- With 4 reported crashes, the study intersection that had the most crashes was US 52 – ND 200 / US 52 – 43 Ave NE.

See appendix C for details on the crash data. A crash modification factor (CMF) for a passing-lane is 0.75<sup>1</sup>.

#### Reference:

1. AASHTO, "[Highway Safety Manual](#)", 2010. Table 16-7



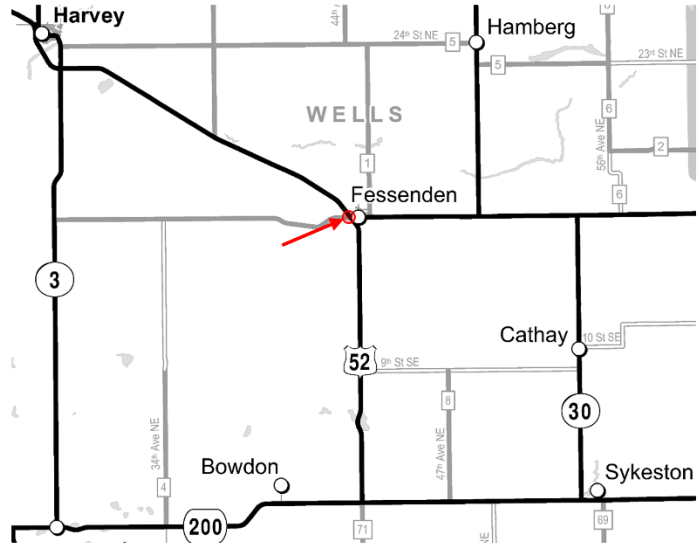
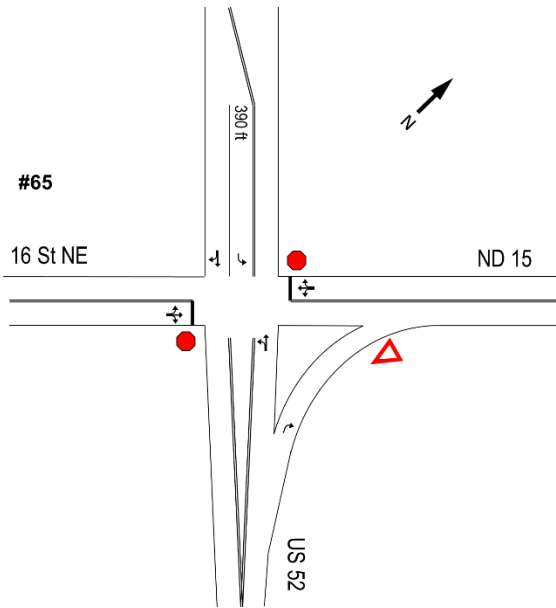
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

There were no reported crashes at this intersection.

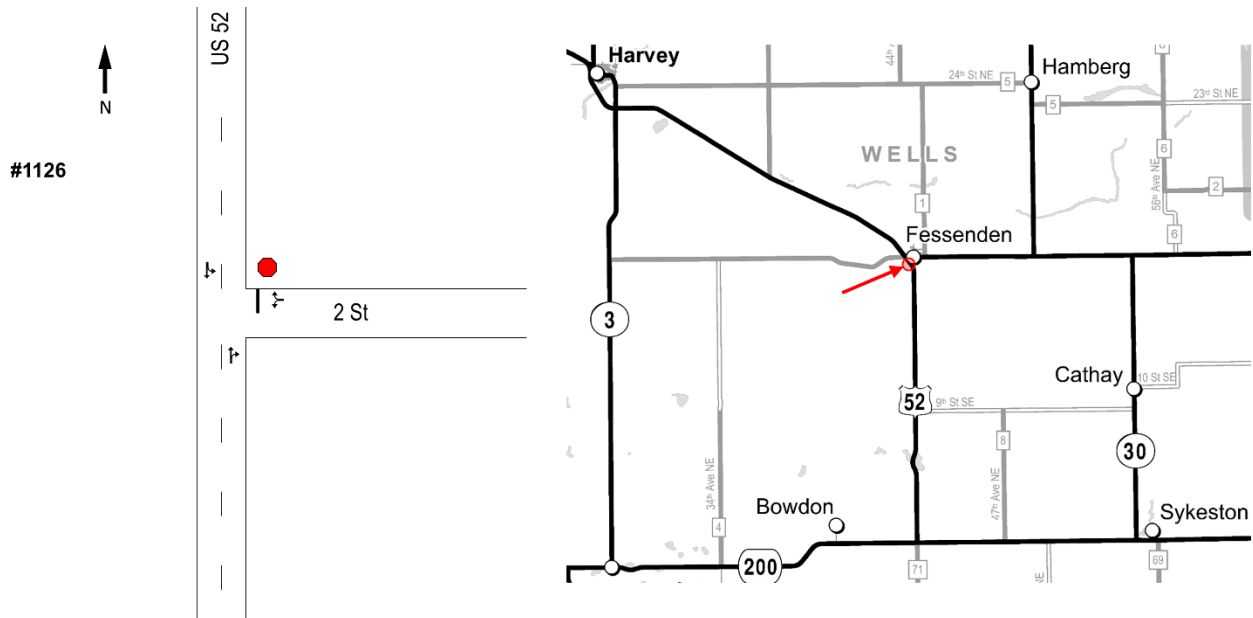
Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	Yes	Yes	No – should be 435 ft
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	Yes	Yes	Yes

**A SB left turn lane and a NB right turn lane are warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 1.7 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**





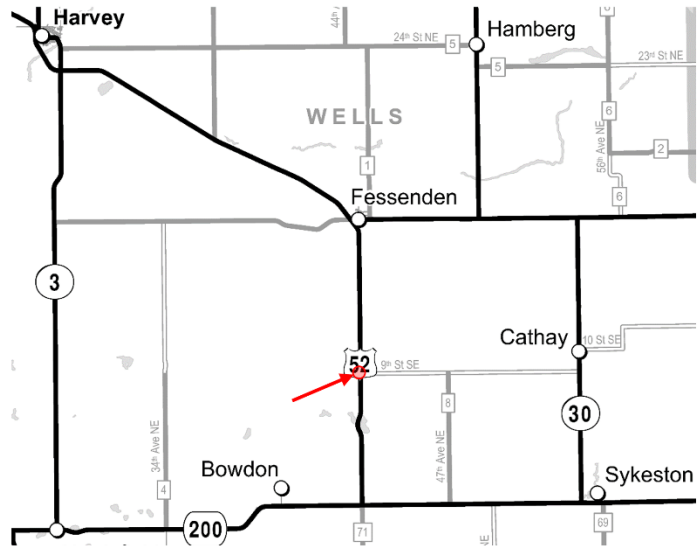
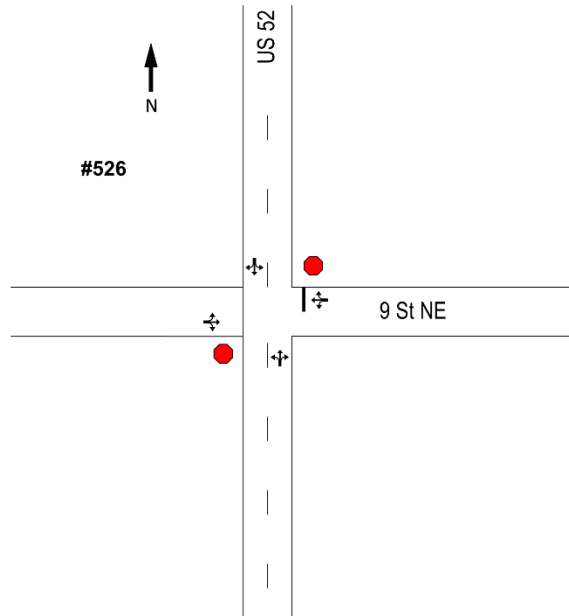
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.2 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



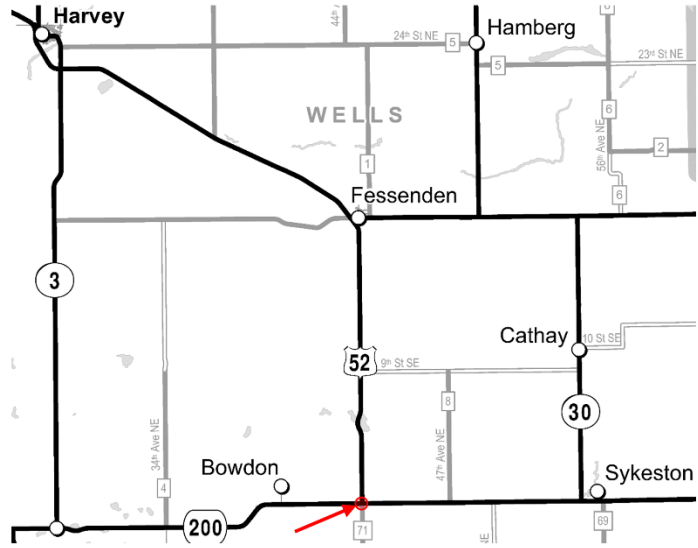
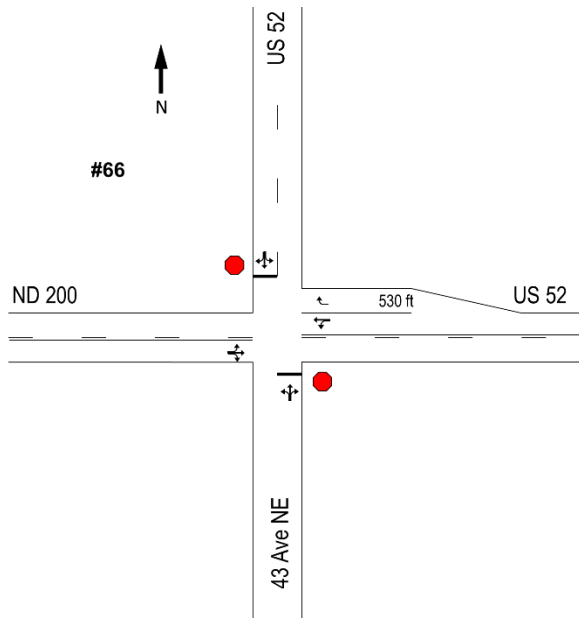
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.0 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



This intersection was evaluated with SHE-3-052(045)198 (PCN 20287, HSIP 321502) with a proposal to reconfigure the roadways so that US 52 traffic would be free-flow. The project did not move forward based on a January 2014 decision document.

**Intersection-related Crashes**

There were 4 reported crashes at this intersection. One crash was a sideswipe where an EB vehicle passed another vehicle trying to make an EB left turn. One crash was backing. The two other crashes were vehicles making WB right turns that slid into the stopped vehicle facing SB at the stop sign.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	Yes	Yes	Yes

**A WB right turn lane is warranted.**

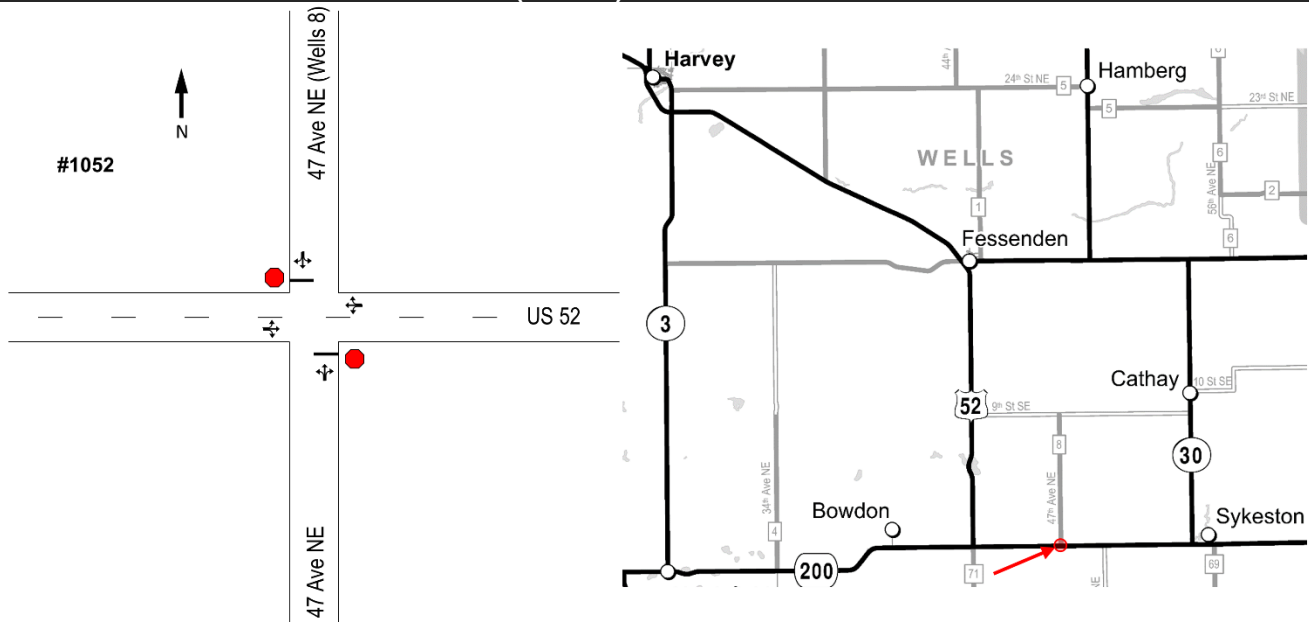
Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product ≥ 2,000,000	Yes – cross product is 2.2 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**

**Capacity analysis – EXISTING GEOMETRY Peak Hour**

Approach	2018 LOS	2018 Delay (sec)
Eastbound:	A*	2
Westbound:	A*	1
Northbound:	A	9
Southbound:	A	10
<b>Intersection</b>	<b>A*</b>	<b>4</b>

\*Equivalent LOS shown, mainline approaches and the overall intersection LOS are not calculated for TWSC intersections.



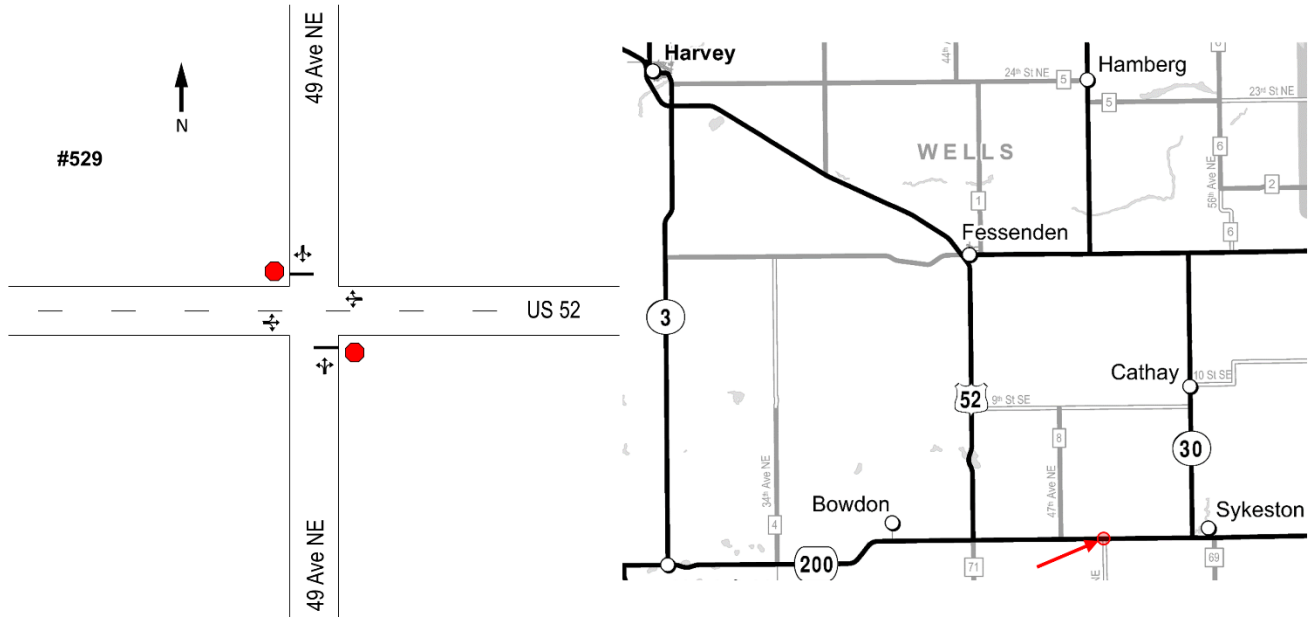
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



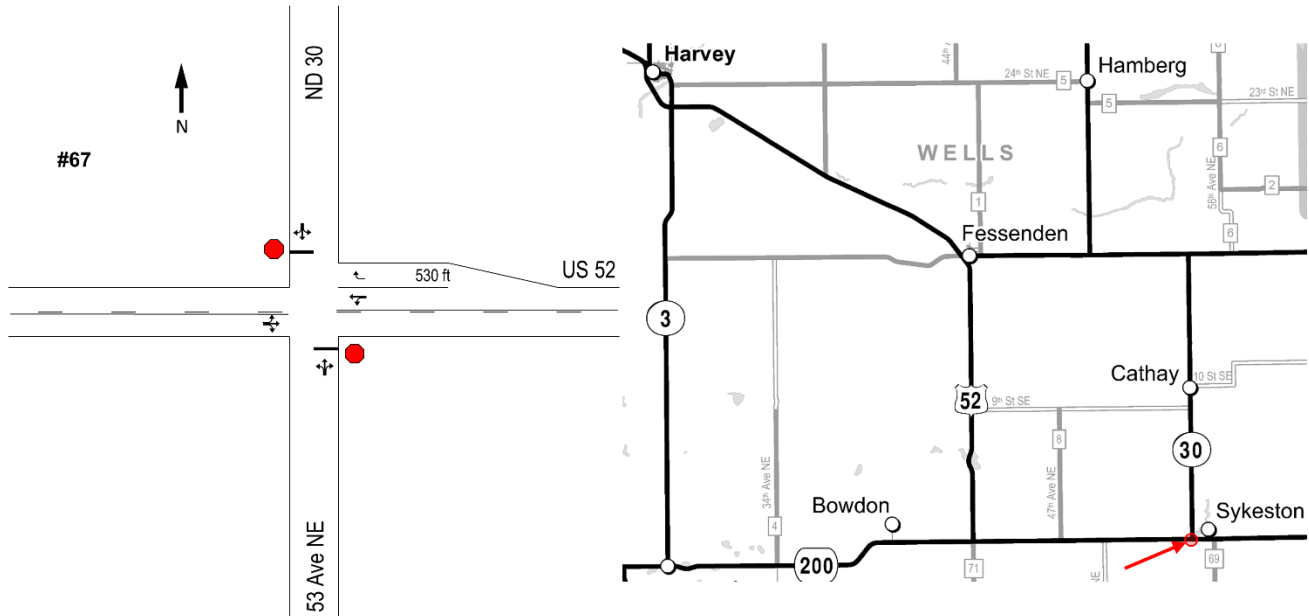
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.0 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



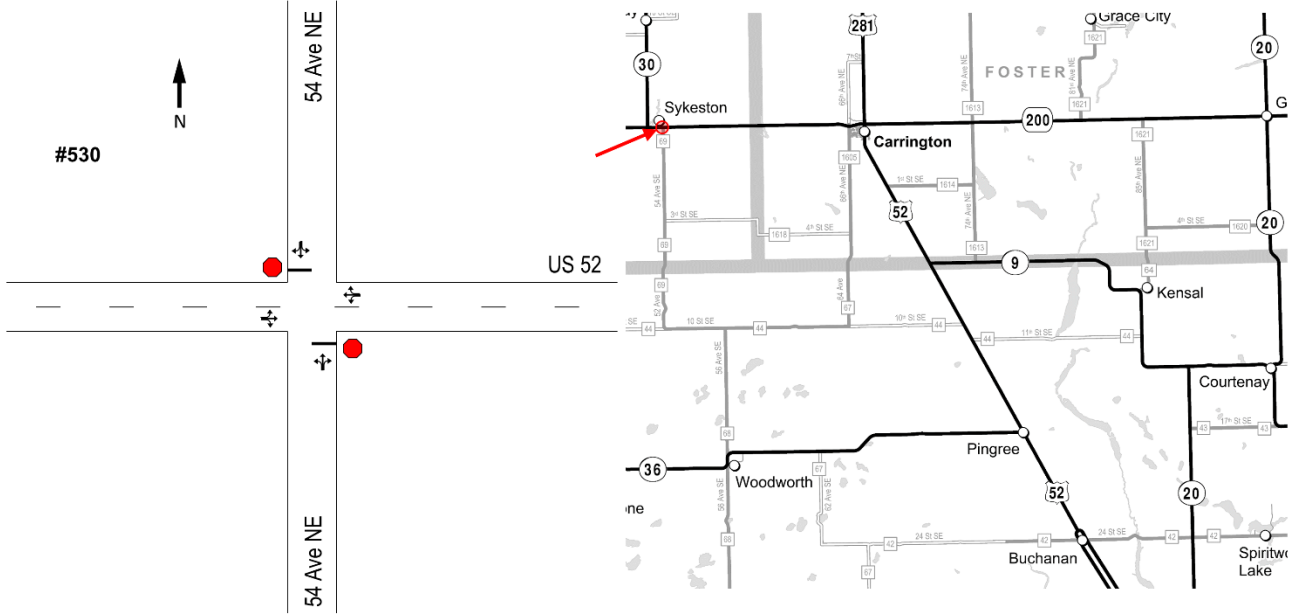
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	Yes	No	Yes

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.3 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**



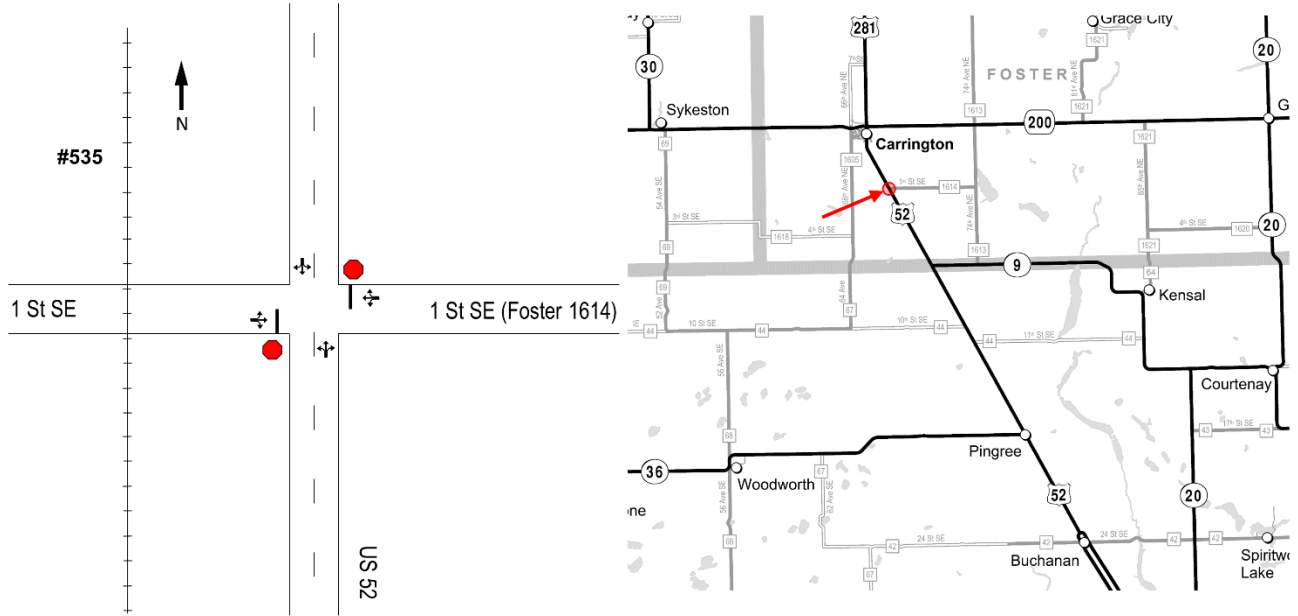
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
EB to NB Left	No	No	N/A
WB to SB Left	No	No	N/A
EB to SB Right	No	No	N/A
WB to NB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product ≥ 2,000,000	No – cross product is 0.2 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	Yes
6F Local government pays 50% and maintains	No

**Destination lighting is warranted.**



**Intersection-related Crashes**

There were no reported crashes at this intersection.

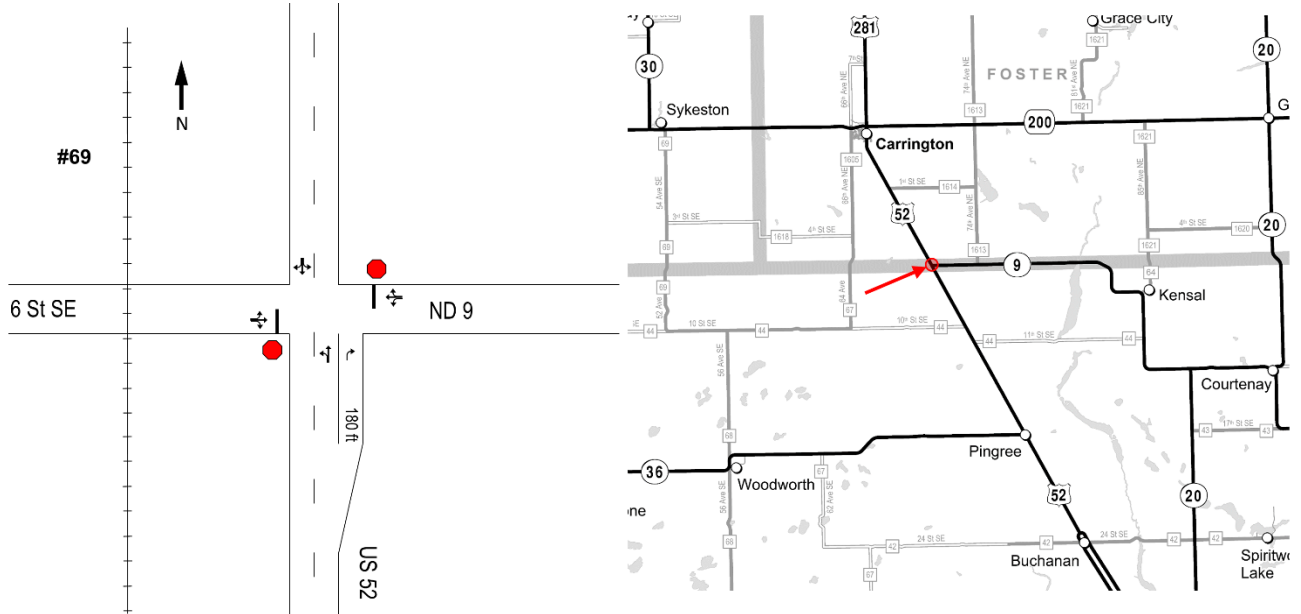
Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No*	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

\*A SB left may meet criteria in 2023 based on a 1.5% traffic growth per year.

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.3 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**





**Intersection-related Crashes**

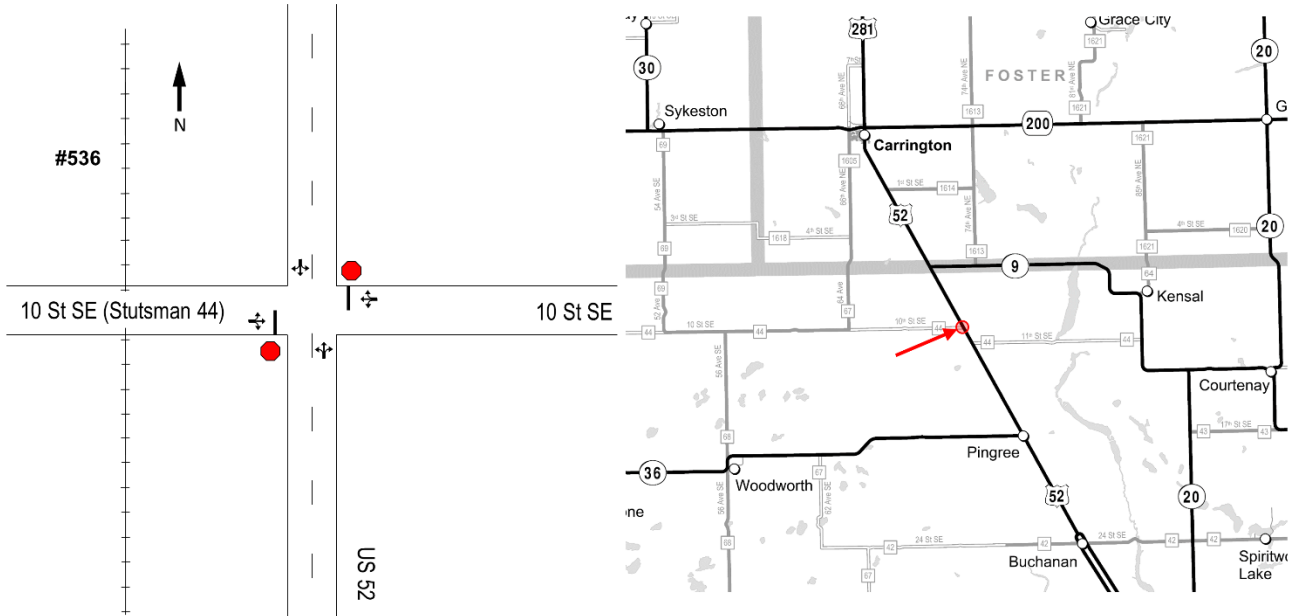
There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	Yes	N/A – should be 630 ft
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	Yes	No	No – should be 530 ft

**A SB left turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.7 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



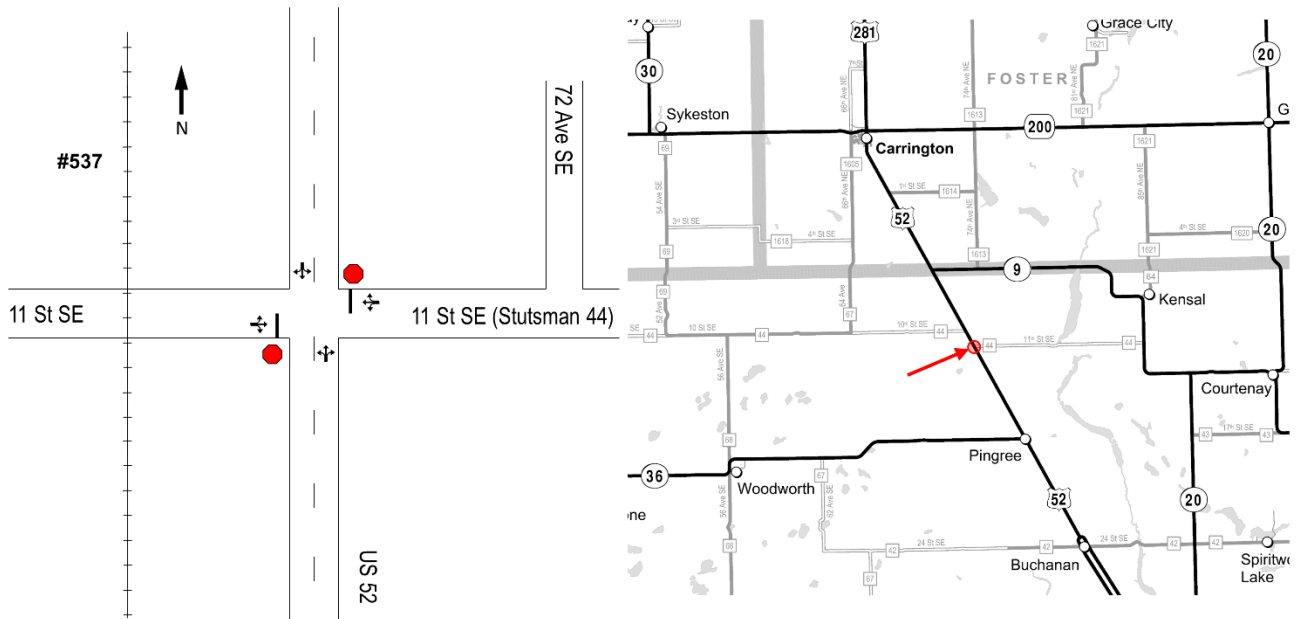
**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	No	N/A

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.1 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**



**Intersection-related Crashes**

There were no reported crashes at this intersection.

Major Road Turn Lane	Existing?	Criteria 1.A Met?	Meets current design standards?
SB to EB Left	No	No	N/A
NB to WB Left	No	No	N/A
SB to WB Right	No	No	N/A
NB to EB Right	No	Yes	N/A – should be 530 ft

**A NB right turn lane is warranted.**

Destination Lighting Warrant	Met?
6A Recommended in HSIP or LRSP	No
6B AADT cross product $\geq 2,000,000$	No – cross product is 0.8 million
6C Overhead flashing beacon is removed	No
6D Engineering judgment	No
6E Existing destination lighting present	No
6F Local government pays 50% and maintains	No

**Destination lighting is not warranted.**

## **SUMMARY**

### **Turn Lane Warrants**

<b>Intersection</b>	<b>Warranted</b>	<b>Page reference</b>
US 52 / ND 15	SB left*, NB right*	7
US 52 – ND 200 / US 52 – 43 Ave NE	WB right*	10
US 52 / 1 St SE (Foster 1614)	See note below	15
US 52 / ND 9: SB left	SB left	16
US 52 / 11 St SE (Stutsman 44)	NB right	18

\*Existing turn lane in place—may not meet current standards.

The intersection of US 52 / 1 St SE (Foster 1614) does not warrant a turn lane based on the current traffic volumes. However, a SB left may meet criteria in 2023 assuming a 1.5% per year growth in traffic volumes.

### **Lighting Warrants:**

<b>Intersection</b>	<b>Lighting Warranted</b>	<b>Page reference</b>
US 52 / ND 15	Destination*	7
US 52 – ND 200 / US 52 – 43 Ave NE	Destination*	10
US 52 / ND 30	Destination*	13
US 52 / 54 Ave NE (Wells 69)	Destination*	14

\*Existing lighting already in place.

ESTIMATE OF CURRENT AND FUTURE TRAFFIC  
 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
 (PLANNING DIV. TRAFFIC INFO. SECTION)

RECNO: 11563

DATE PRINTED OR REPRINTED: 04/15/2019 PROJECT NO:

DATE PREPARED: 04/15/2019 COUNTY: WELLS ROUTE ID: 0

HIGHWAY NO: 52 HWY SUFFIX: HWY DIRECTION: E

REF PT: 170.000 OFFSET: .0000 LENGTH: 82.4115

PASSENGER EXPANSION FACTOR: 1.35 TRUCK EXPANSION FACTOR: 1.35

TRAFFIC'S ANNUAL % OF GROWTH: 1.5 ESAL'S ANNUAL % OF GROWTH: 1.5

LOCATION: RP 170.00 TO RP 221.70

\* \* \* \* \*  
 \* ALL AADT'S & ESALS, ARE AT THE HIGHEST POINT OF THE PROJECT SEGMENT \*

	YEAR	PASS	TRUCKS	TOTAL	30TH MAX HR	E.S.A.L.'S	
						FLEX	RIGID
CURRENT	2019	1,110	630	1,740	175	605	995
FORECAST	2039	1,500	855	2,355	240	825	1,355

\* \* \* \* \*

PAVEMENT EQUIVALENCY FACTORS: FLEXIBLE AT SN4 RIGID AT 9 INCHES

WAS CLASS WIM DATA AVAILABLE FOR THIS PARTICULAR LOCATION? N

IS THIS A REVISED ESTIMATE? N SUPERCEDES EST. OF

REQUESTED BY: DONOVAN SLAG- PROGRAMMING

\* \* \* \* \* REMARKS! \* \* \* \* \*

TRAFFIC FORECAST ESTIMATE IS BASED ON 2018 TRAFFIC COUNTS.  
 TRAFFIC FOR BOTH DIRECTIONS.  
 COMPLETED BY NR.

ESTIMATE OF CURRENT AND FUTURE TRAFFIC  
 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
 (PLANNING DIV. TRAFFIC INFO. SECTION)

RECNO: 11566

DATE PRINTED OR REPRINTED: 04/15/2019 PROJECT NO:

DATE PREPARED: 04/15/2019 COUNTY: FOSTER ROUTE ID: 0

HIGHWAY NO: 52 HWY SUFFIX: HWY DIRECTION: E

REF PT: 170.000 OFFSET: .0000 LENGTH: 82.4115

PASSENGER EXPANSION FACTOR: 1.35 TRUCK EXPANSION FACTOR: 1.35

TRAFFIC'S ANNUAL % OF GROWTH: 1.5 ESAL'S ANNUAL % OF GROWTH: 1.5

LOCATION: RP 223.437 TO RP 252.417

\* \* \* \* \*  
 \* ALL AADT'S & ESALS, ARE AT THE HIGHEST POINT OF THE PROJECT SEGMENT \*

	YEAR	PASS	TRUCKS	TOTAL	30TH MAX HR	E.S.A.L.'S	
						FLEX	RIGID
CURRENT	2019	1,505	795	2,300	230	765	1,260
FORECAST	2039	2,035	1,075	3,110	315	1,035	1,700

\* \* \* \* \*

PAVEMENT EQUIVALENCY FACTORS: FLEXIBLE AT SN4 RIGID AT 9 INCHES

WAS CLASS WIM DATA AVAILABLE FOR THIS PARTICULAR LOCATION? N

IS THIS A REVISED ESTIMATE? N SUPERCEDES EST. OF

REQUESTED BY: DONOVAN SLAG- PROGRAMMING

\* \* \* \* \* REMARKS! \* \* \* \* \*

TRAFFIC FORECAST ESTIMATE IS BASED ON 2018 TRAFFIC COUNTS.  
 TRAFFIC FOR BOTH DIRECTIONS.  
 COMPLETED BY NR.



# Intersection Traffic Volumes

North Dakota Department of Transportation  
SFN 7921 (Rev. 4-85)

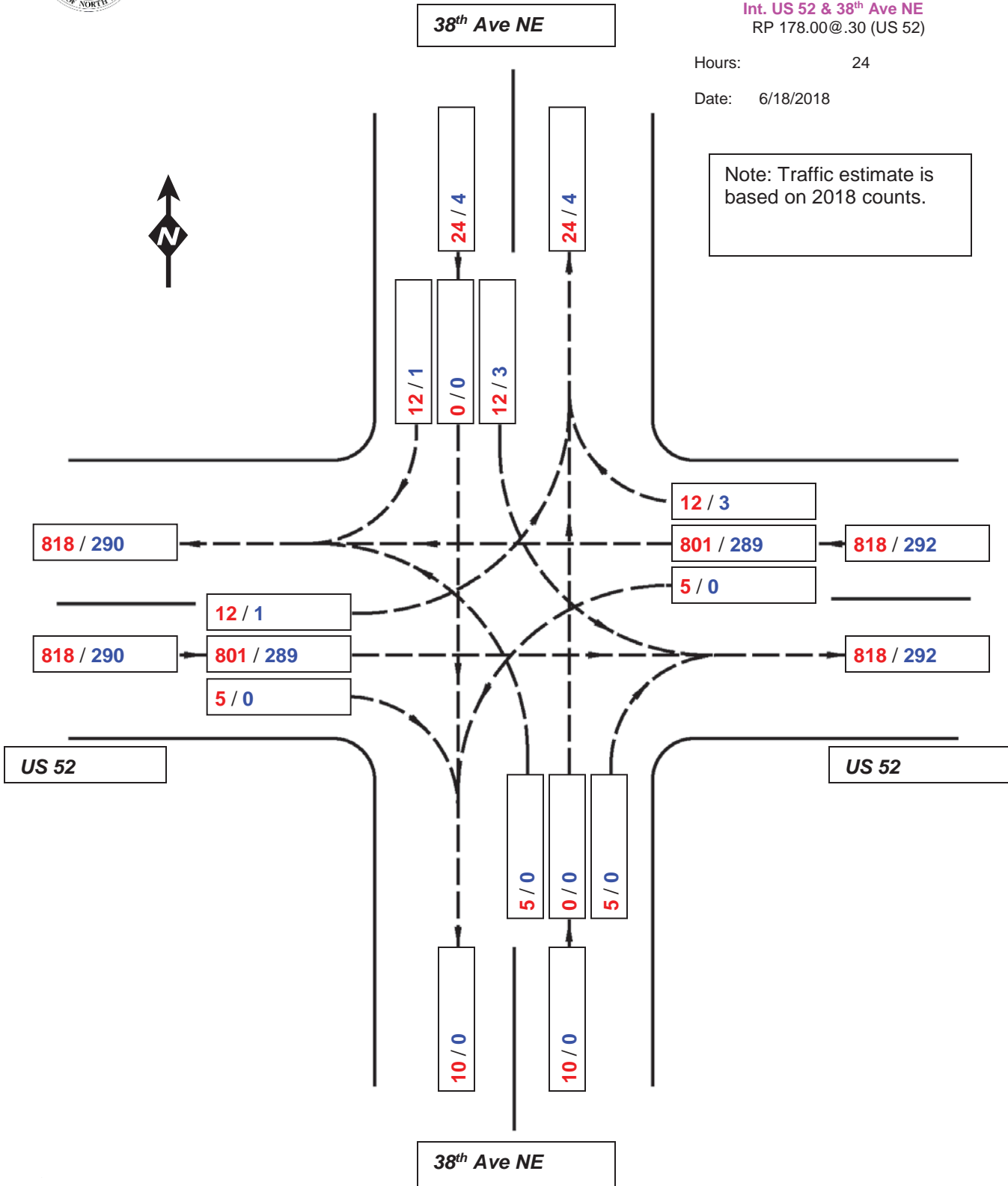
Intersection No: 36

Description  
**Int. US 52 & 38<sup>th</sup> Ave NE**  
RP 178.00@.30 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

65

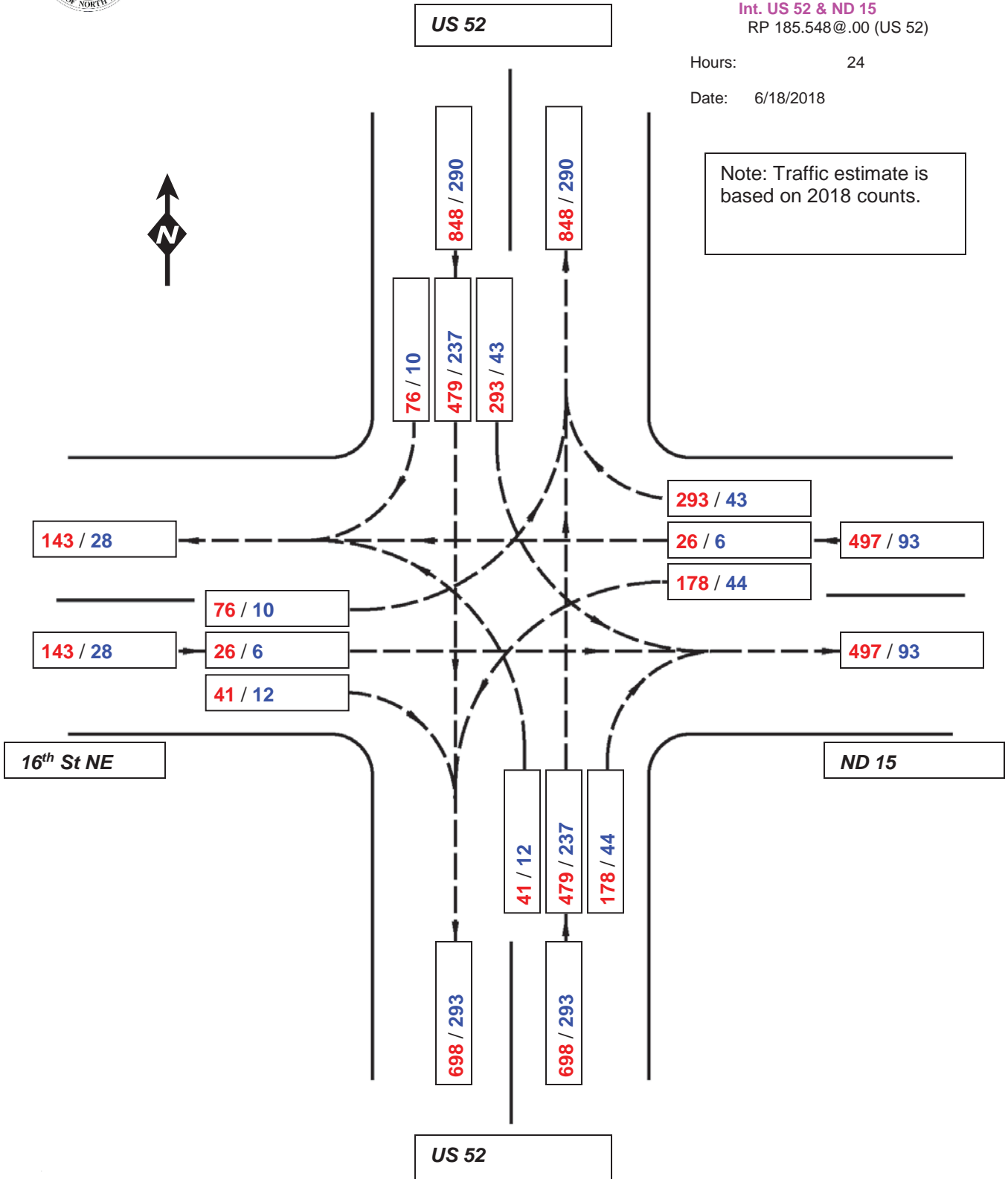
Intersection No: 37

Description  
**Int. US 52 & ND 15**  
 RP 185.548@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1126

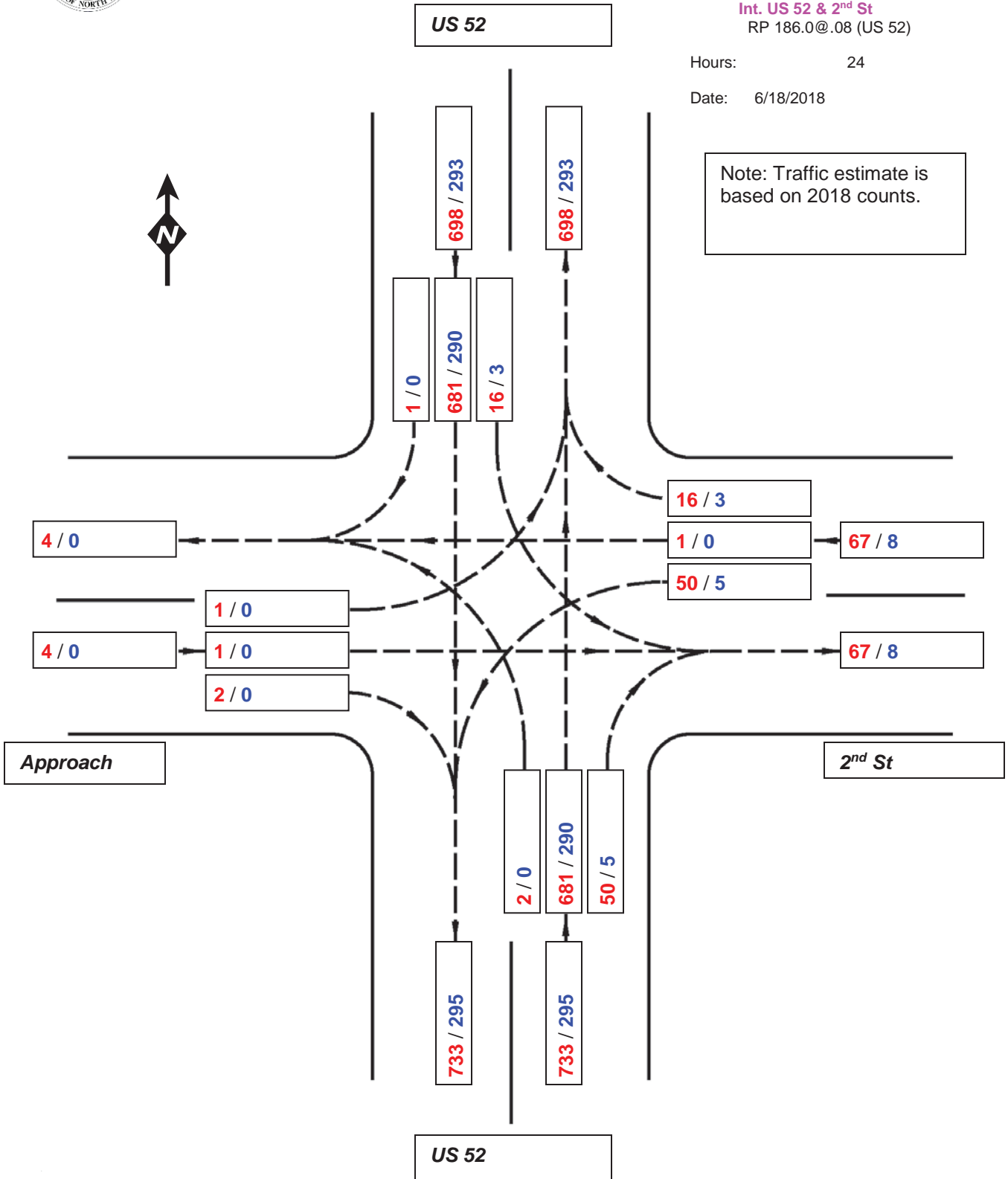
Intersection No: 38

Description  
**Int. US 52 & 2<sup>nd</sup> St**  
 RP 186.0@.08 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

526

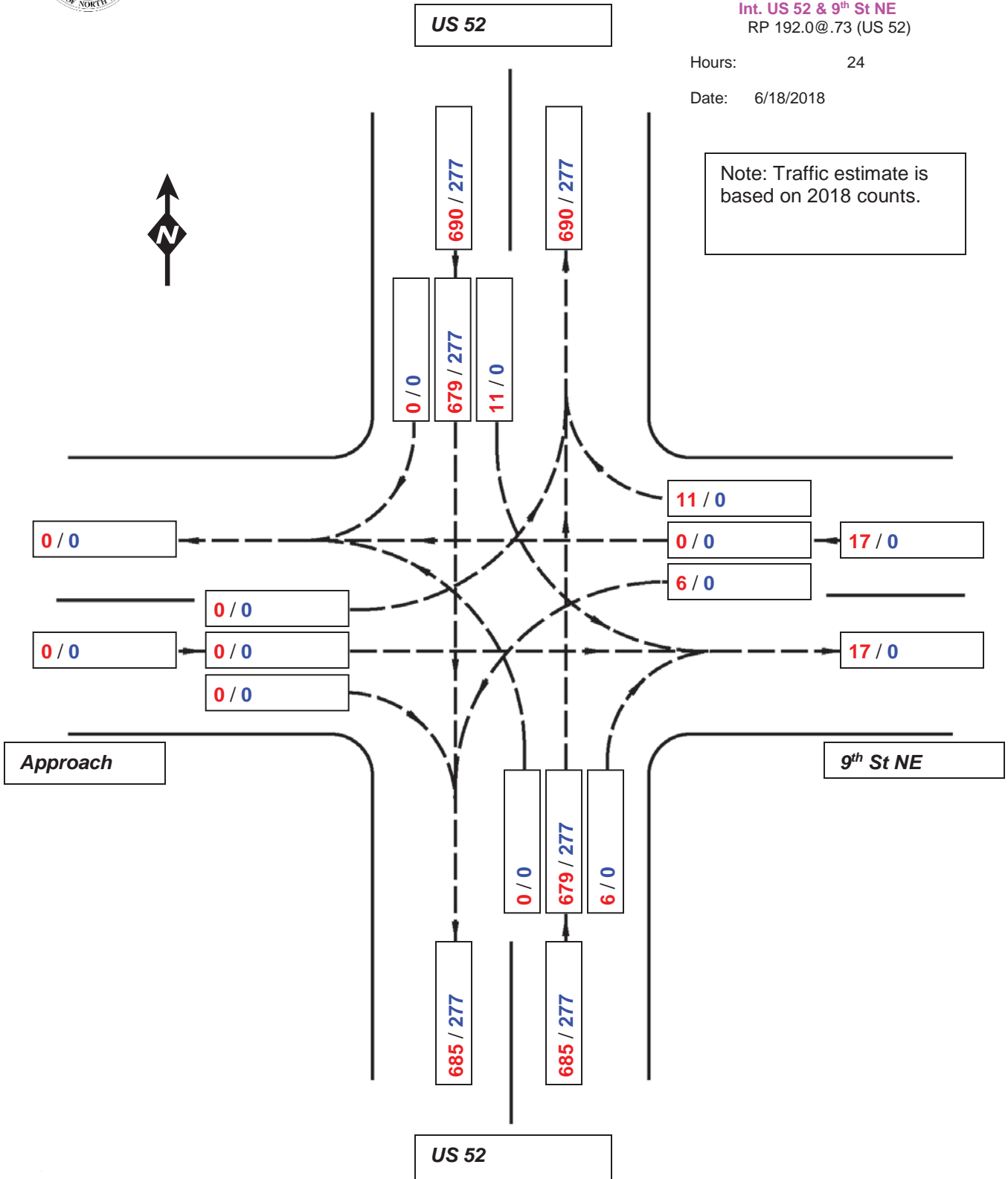
Intersection No: 39

Description  
**Int. US 52 & 9<sup>th</sup> St NE**  
 RP 192.0@.73 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

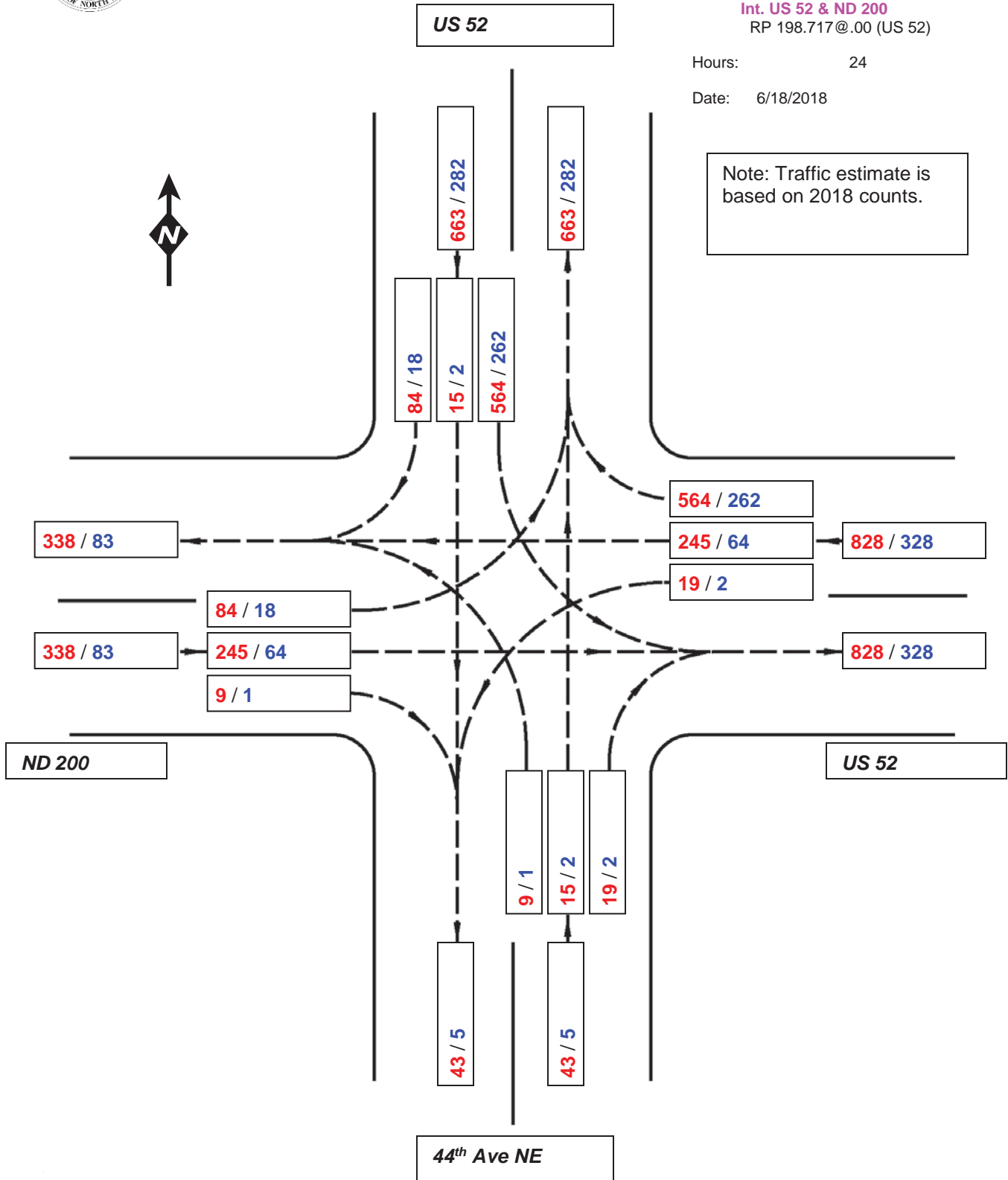
66  
 Intersection No: 40

Description  
**Int. US 52 & ND 200**  
 RP 198.717@.00 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

1052

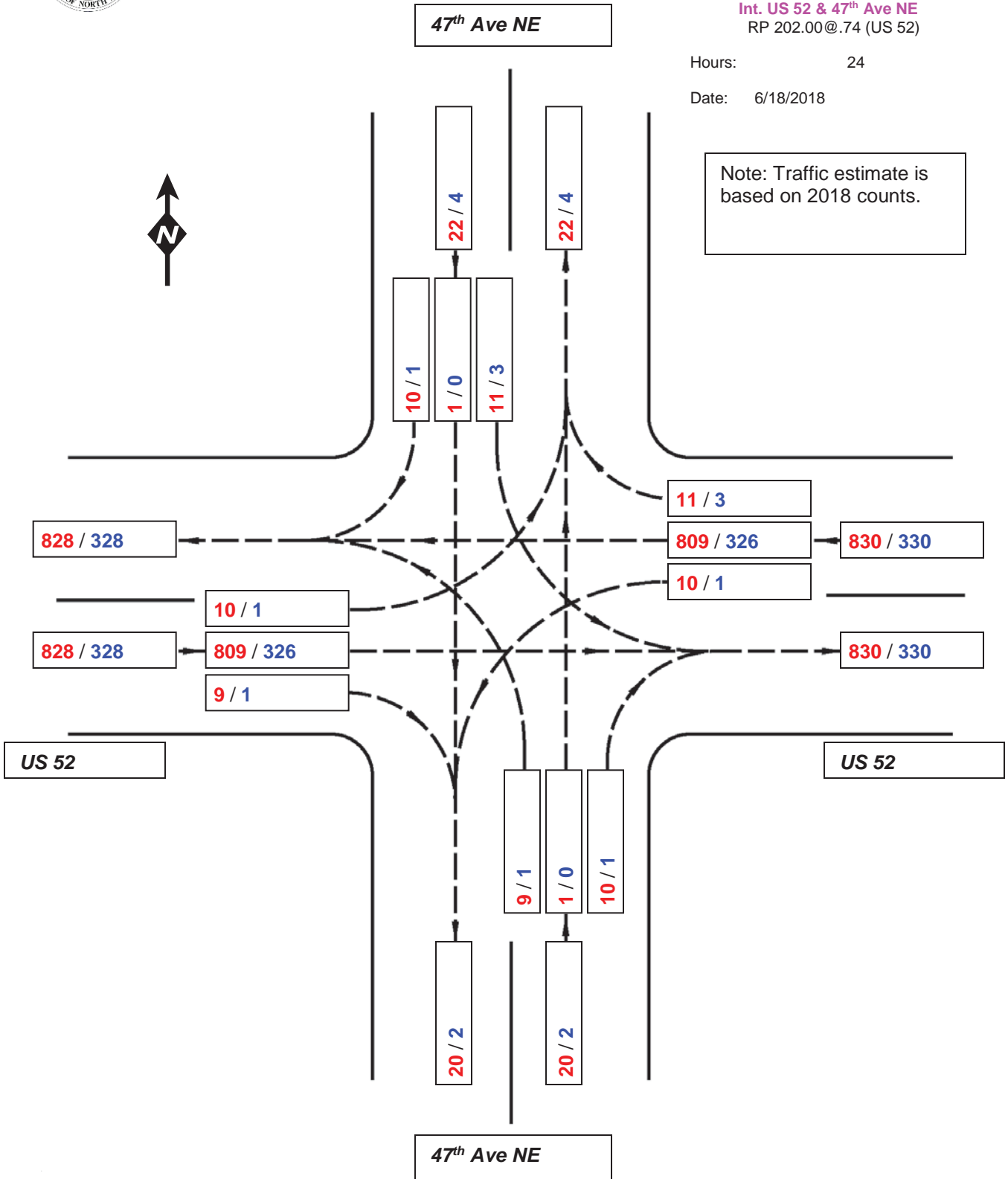
Intersection No: 41

Description  
**Int. US 52 & 47<sup>th</sup> Ave NE**  
 RP 202.00@.74 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

529

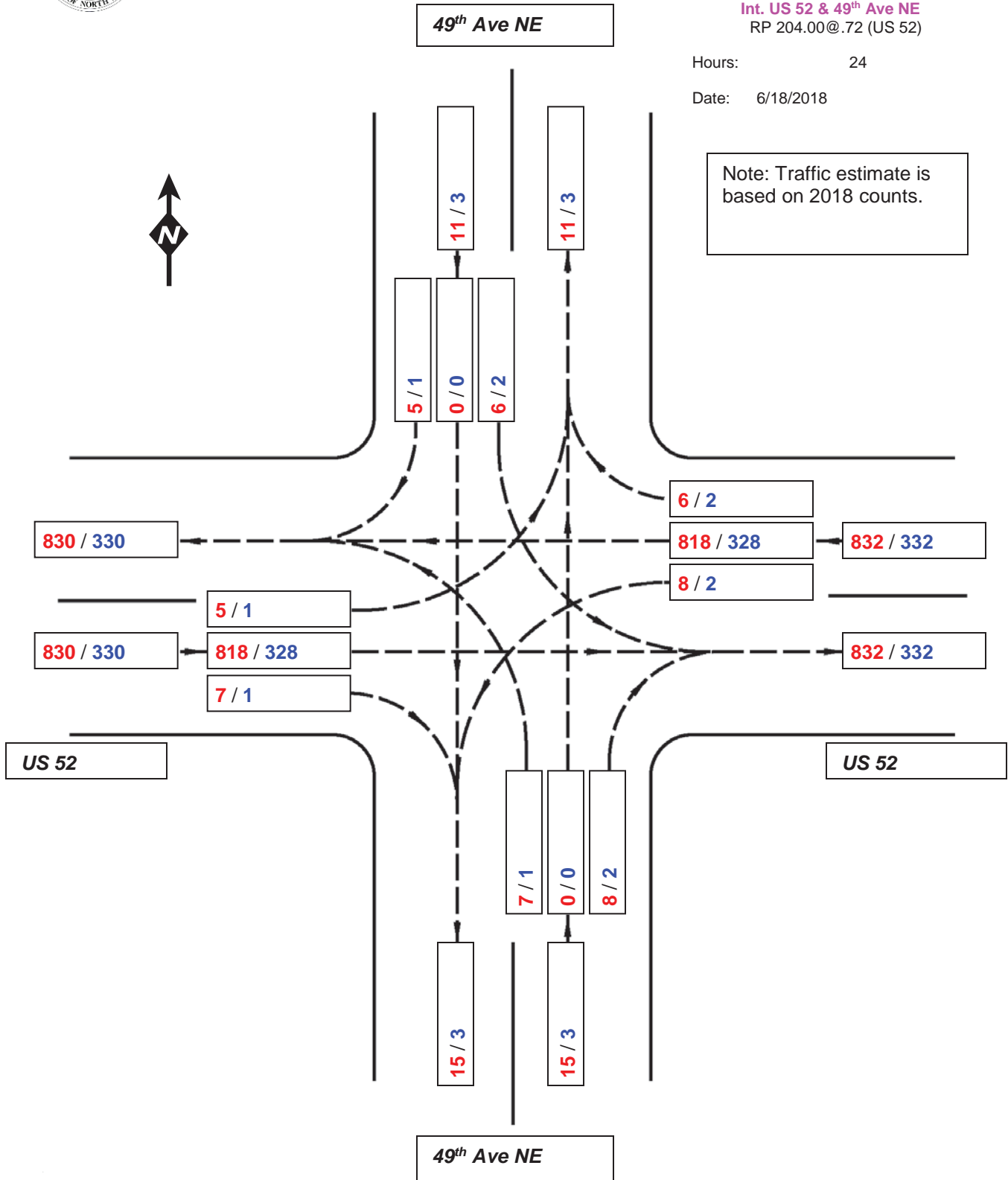
Intersection No: 42

Description  
**Int. US 52 & 49<sup>th</sup> Ave NE**  
 RP 204.00@.72 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

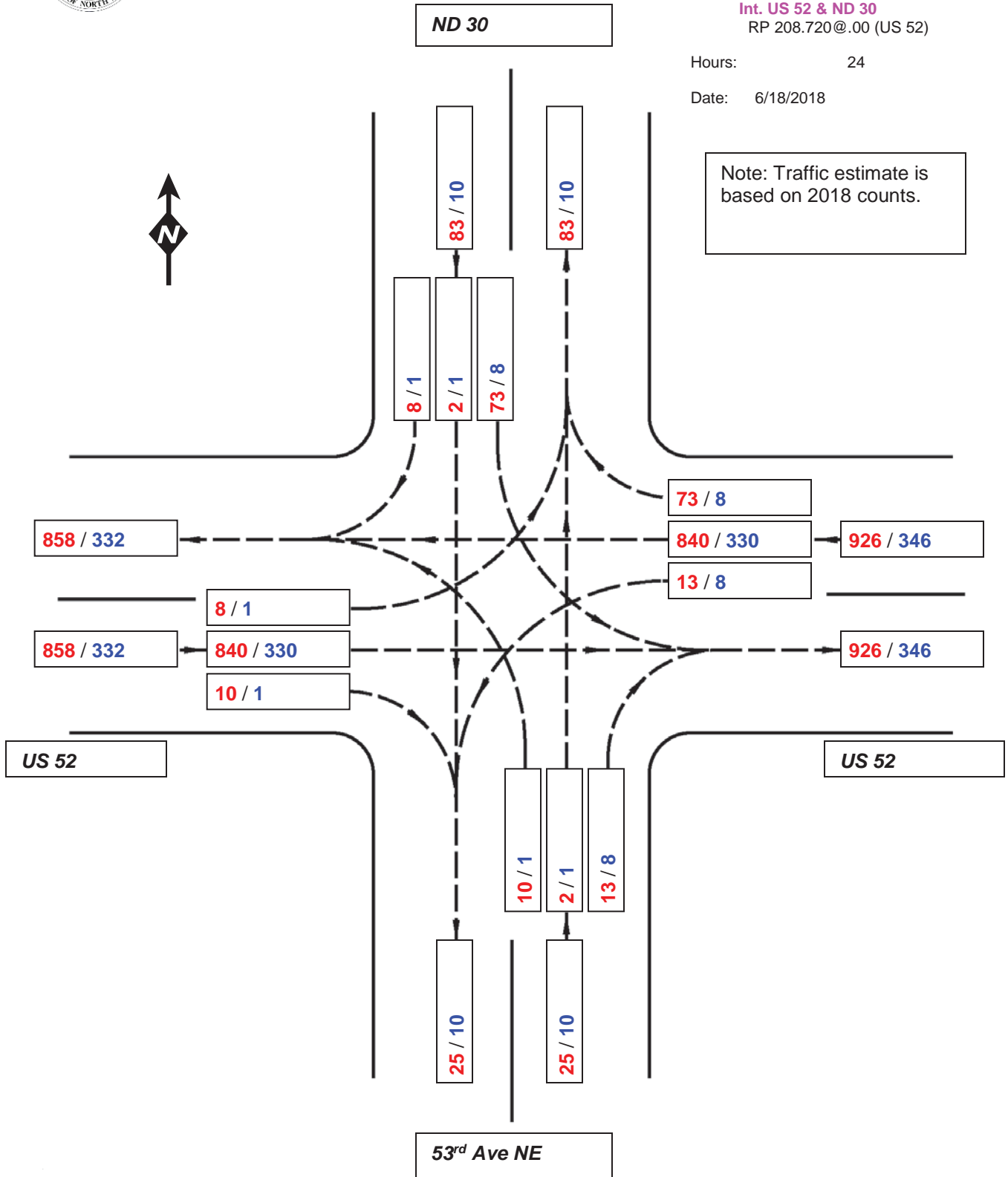
**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

Intersection No: 43 **67**  
 Description  
**Int. US 52 & ND 30**  
 RP 208.720@.00 (US 52)  
 Hours: 24  
 Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AADT / TRUCKS** - 2018

Completed by NR



# Intersection Traffic Volumes

North Dakota Department of Transportation  
SFN 7921 (Rev. 4-85)

530

Intersection No: 44

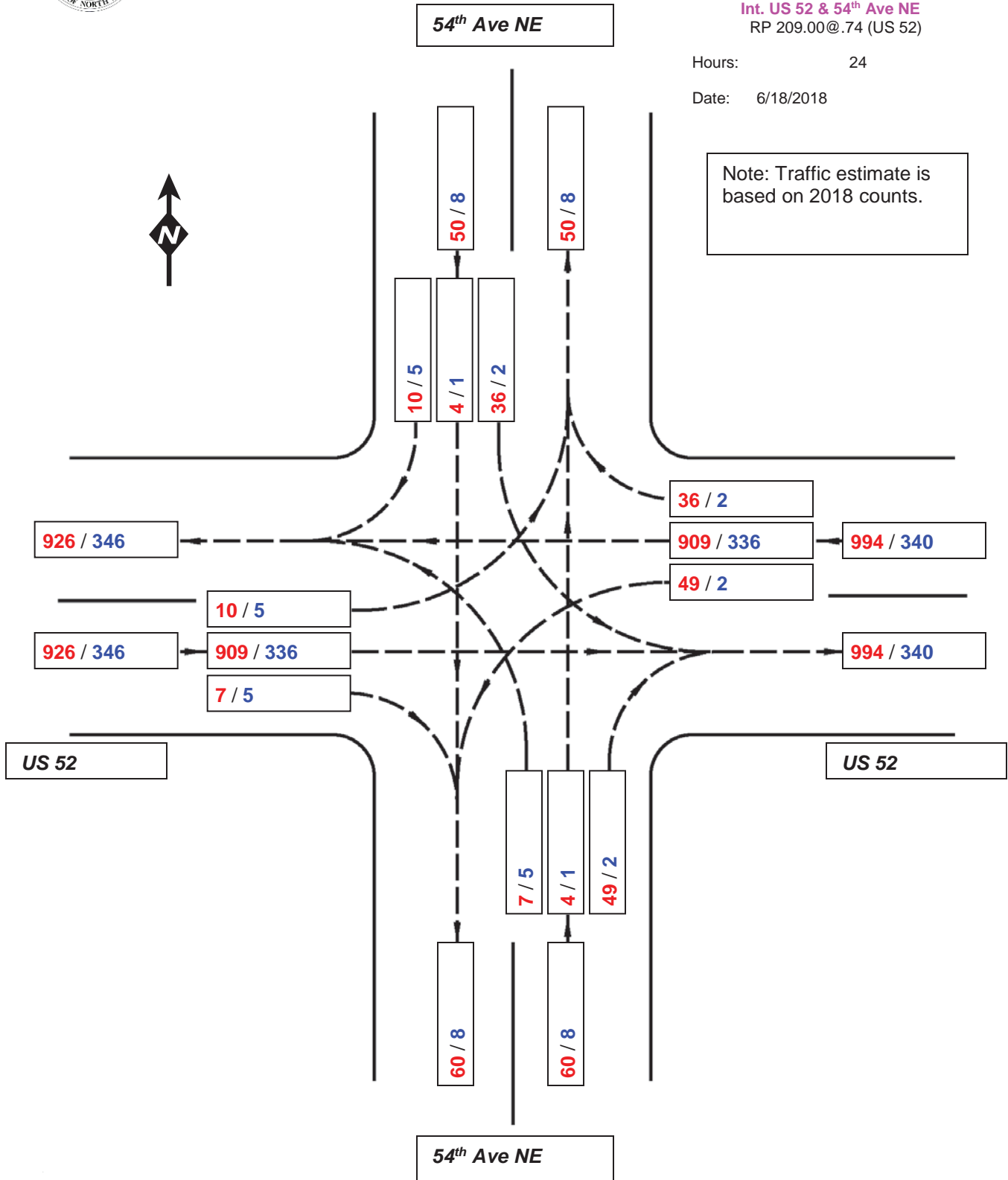
Description

Int. US 52 & 54<sup>th</sup> Ave NE  
RP 209.00@.74 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: AADT / TRUCKS - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

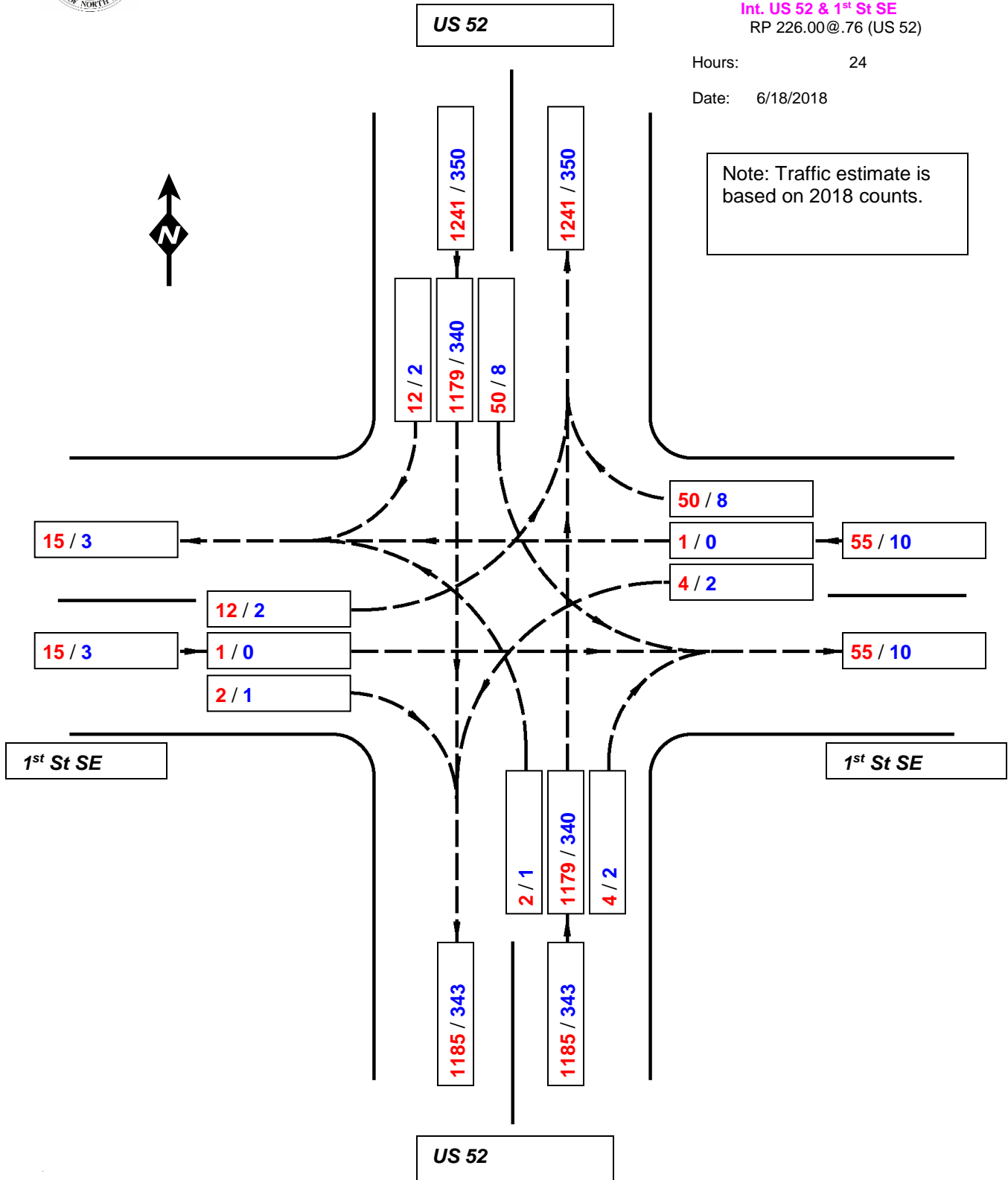
Intersection No: 45 **535**

Description  
**Int. US 52 & 1<sup>st</sup> St SE**  
 RP 226.00@.76 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT** / **TRUCKS** - 2018

**Completed by NR**





**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

69

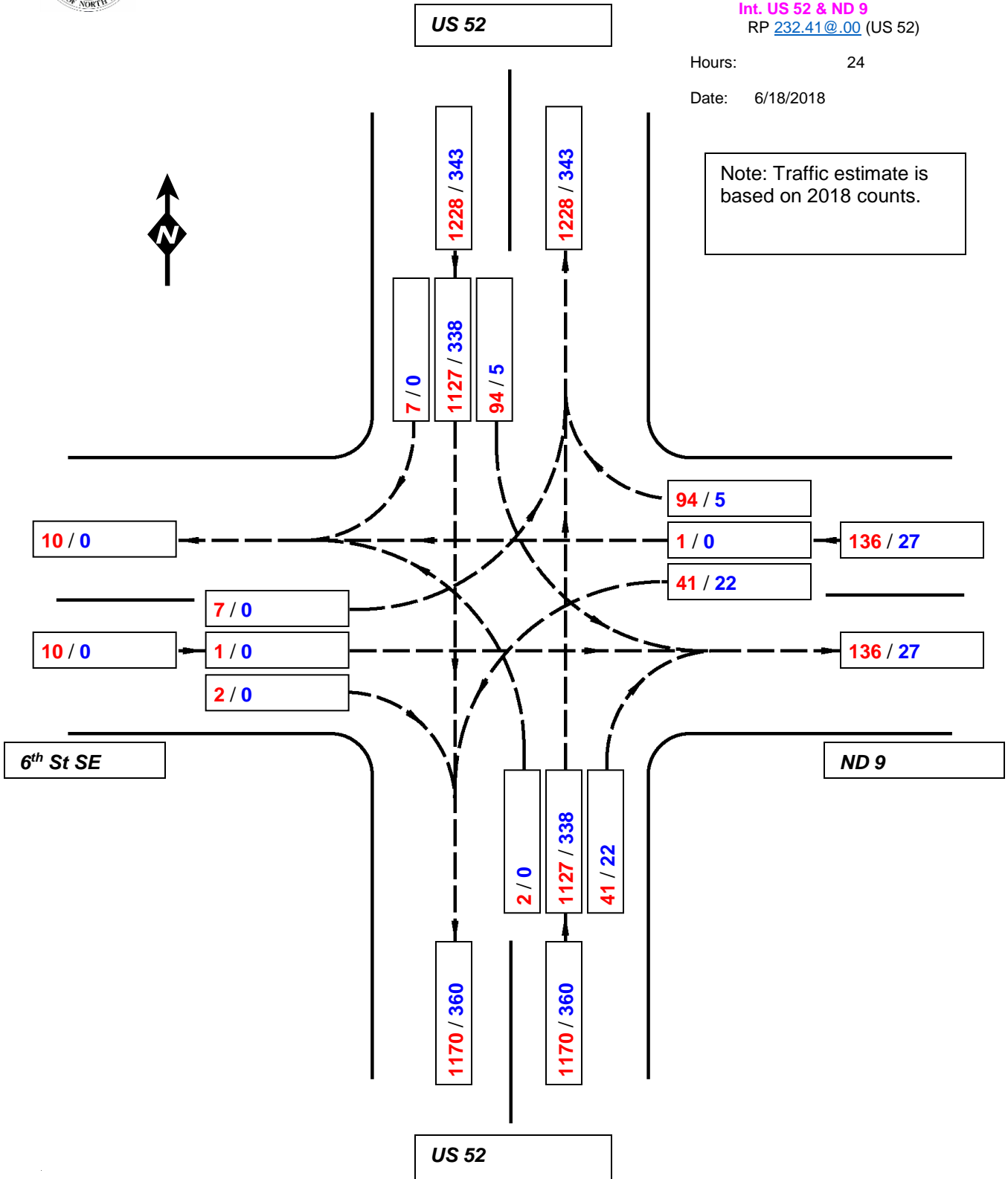
Intersection No: 46

Description  
 Int. **US 52 & ND 9**  
 RP [232.41@.00](#) (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by NR



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

536

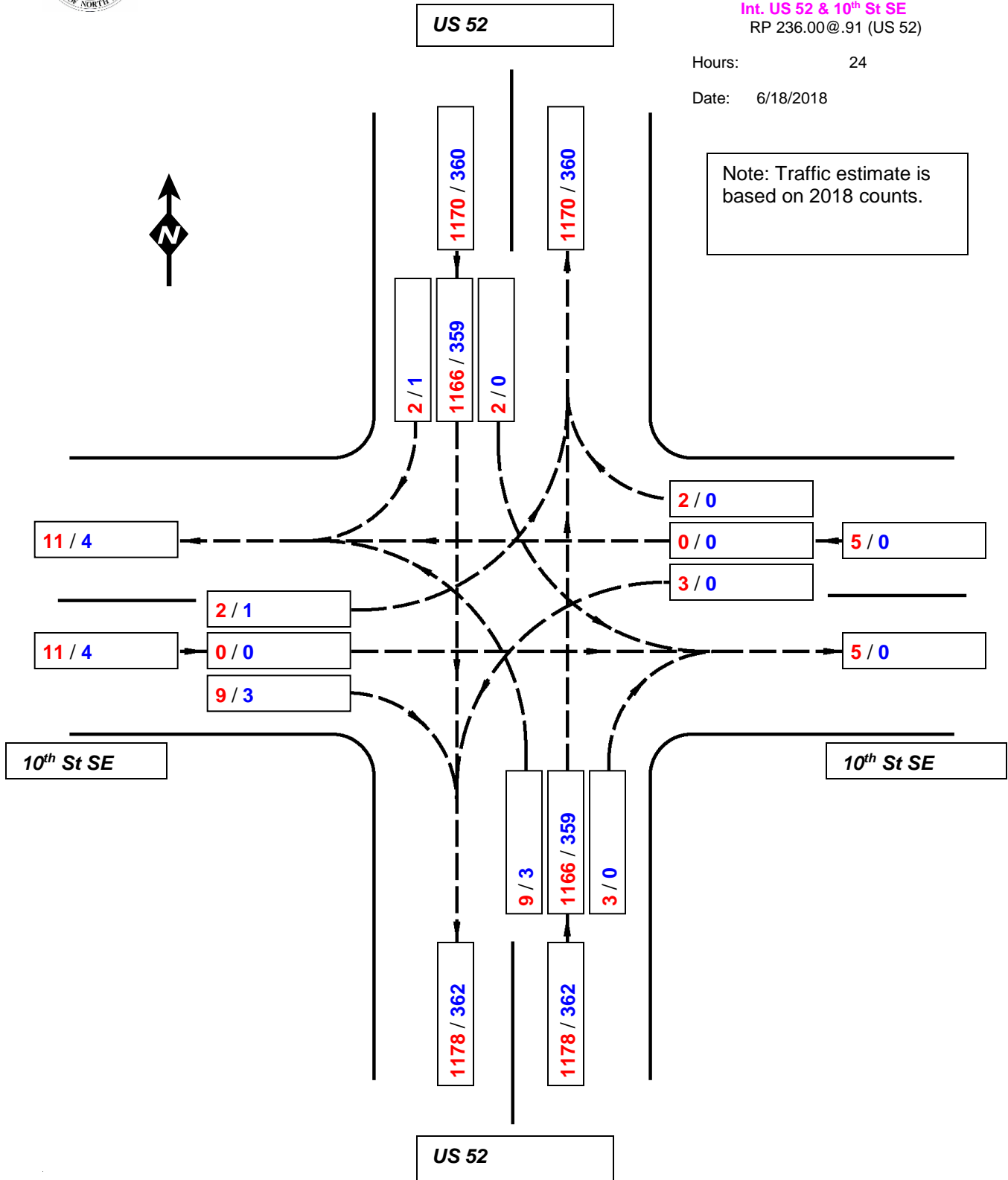
Intersection No: 47

Description  
**Int. US 52 & 10<sup>th</sup> St SE**  
 RP 236.00@.91 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AAADT / TRUCKS** - 2018

**Completed by NR**



**Intersection Traffic Volumes**  
 North Dakota Department of Transportation  
 SFN 7921 (Rev. 4-85)

537

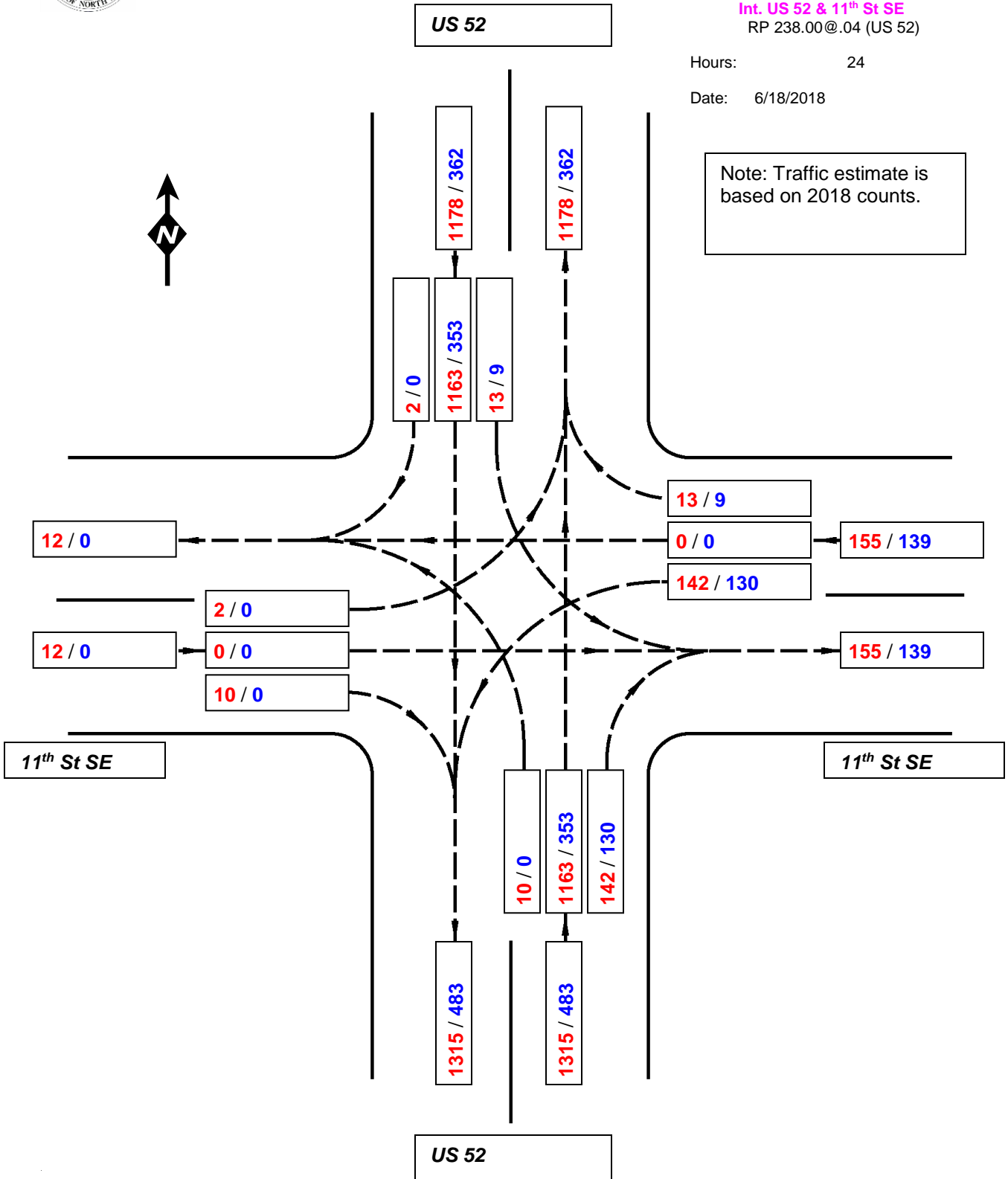
Intersection No: 48

Description  
**Int. US 52 & 11<sup>th</sup> St SE**  
 RP 238.00@.04 (US 52)

Hours: 24

Date: 6/18/2018

Note: Traffic estimate is based on 2018 counts.



LEGEND: **AA**DT / **TRUCKS** - 2018

Completed by NR

Phone: Fax:  
E-Mail:

-----Directional Two-Lane Highway Segment Analysis-----

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 4/16/2019  
Analysis Time Period  
Highway US 52  
From/To RP 170.000-221.700  
Jurisdiction  
Analysis Year 2019  
Description

-----Input Data-----

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	36	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	51.7	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	8	%
Up/down	-	%	Access point density	4	/mi

Analysis direction volume, Vd 87 veh/h  
Opposing direction volume, Vo 87 veh/h

-----Average Travel Speed-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.9	1.9
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.755	0.755
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	131 pc/h	131 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h  
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h  
Adj. for access point density,(note-3) fA 1.0 mi/h

Free-flow speed, FFSd 69.0 mi/h

Adjustment for no-passing zones, fnp 1.4 mi/h  
Average travel speed, ATSD 65.5 mi/h  
Percent Free Flow Speed, PFFS 95.0 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.965	0.965
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	102 pc/h	102 pc/h
Base percent time-spent-following,(note-4) BPTSFd	11.8 %	
Adjustment for no-passing zones, fnp	17.3	
Percent time-spent-following, PTSFd	20.5 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	1278	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4498	veh-mi
Peak 15-min total travel time, TT15	19.5	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	51.7	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	65.5	mi/h
Percent time-spent-following, PTSFd (from above)	20.5	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	98.9
Effective width of outside lane, We	34.17
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	19.53
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 4/16/2019  
Analysis Time Period  
Highway US 52  
From/To RP 170.000-221.700  
Jurisdiction  
Analysis Year 2039  
Description

----- Input Data -----

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	36	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	51.7	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	8	%
Up/down	-	%	Access point density	4	/mi

Analysis direction volume, Vd 118 veh/h  
Opposing direction volume, Vo 118 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.8	1.8
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor, (note-5) fHV	0.776	0.776
Grade adj. factor, (note-1) fg	1.00	1.00
Directional flow rate, (note-2) vi	173 pc/h	173 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed, (note-3) S FM - mi/h  
Observed total demand, (note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed, (note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width, (note-3) fLS 0.0 mi/h  
Adj. for access point density, (note-3) fA 1.0 mi/h

Free-flow speed, FFSd 69.0 mi/h

Adjustment for no-passing zones, fnp 1.9 mi/h  
Average travel speed, ATSD 64.4 mi/h  
Percent Free Flow Speed, PFFS 93.4 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)	
PCE for trucks, ET	1.1	1.1	
PCE for RVs, ER	1.0	1.0	
Heavy-vehicle adjustment factor, fHV	0.965	0.965	
Grade adjustment factor,(note-1) fg	1.00	1.00	
Directional flow rate,(note-2) vi	139 pc/h	139 pc/h	
Base percent time-spent-following,(note-4) BPTSFD	15.7	%	
Adjustment for no-passing zones, fnp	20.6		
Percent time-spent-following, PTSFD	26.0	%	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.08	
Peak 15-min vehicle-miles of travel, VMT15	1733	veh-mi
Peak-hour vehicle-miles of travel, VMT60	6101	veh-mi
Peak 15-min total travel time, TT15	26.9	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	51.7	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	64.4	mi/h
Percent time-spent-following, PTSFD (from above)	26.0	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----



Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	134.1
Effective width of outside lane, We	31.38
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	20.60
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

----- Directional Two-Lane Highway Segment Analysis -----

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 4/16/2019  
Analysis Time Period  
Highway US 52  
From/To RP 223.437 - 252.417  
Jurisdiction  
Analysis Year 2019  
Description

----- Input Data -----

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	35	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	29.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	14	%
Up/down	-	%	Access point density	4	/mi

Analysis direction volume, Vd 115 veh/h  
Opposing direction volume, Vo 115 veh/h

----- Average Travel Speed -----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.8	1.8
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.781	0.781
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	167 pc/h	167 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h  
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h  
Adj. for access point density,(note-3) fA 1.0 mi/h

Free-flow speed, FFSd 69.0 mi/h

Adjustment for no-passing zones, fnp 1.8 mi/h  
Average travel speed, ATSD 64.6 mi/h  
Percent Free Flow Speed, PFFS 93.6 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.966	0.966
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	135 pc/h	135 pc/h
Base percent time-spent-following,(note-4) BPTSFd	15.3 %	
Adjustment for no-passing zones, fnp	26.8	
Percent time-spent-following, PTSFd	28.7 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.08	
Peak 15-min vehicle-miles of travel, VMT15	947	veh-mi
Peak-hour vehicle-miles of travel, VMT60	3335	veh-mi
Peak 15-min total travel time, TT15	14.7	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	29.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	64.6	mi/h
Percent time-spent-following, PTSFd (from above)	28.7	
Level of service, LOSd (from above)	A	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	130.7
Effective width of outside lane, We	31.65
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	19.57
Bicycle LOS	F

Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

Phone: Fax:  
E-Mail:

Directional Two-Lane Highway Segment Analysis

Analyst DMS  
Agency/Co. NDDOT  
Date Performed 4/16/2019  
Analysis Time Period  
Highway US 52  
From/To RP 223.437 - 252.417  
Jurisdiction  
Analysis Year 2039  
Description

Input Data

Highway class	Class 1		Peak hour factor, PHF	0.88	
Shoulder width	6.0	ft	% Trucks and buses	35	%
Lane width	12.0	ft	% Trucks crawling	0.0	%
Segment length	29.0	mi	Truck crawl speed	0.0	mi/hr
Terrain type	Level		% Recreational vehicles	4	%
Grade: Length	-	mi	% No-passing zones	14	%
Up/down	-	%	Access point density	4	/mi

Analysis direction volume, Vd 156 veh/h  
Opposing direction volume, Vo 156 veh/h

Average Travel Speed

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.6	1.6
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adj. factor,(note-5) fHV	0.826	0.826
Grade adj. factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	215 pc/h	215 pc/h

Free-Flow Speed from Field Measurement:

Field measured speed,(note-3) S FM - mi/h  
Observed total demand,(note-3) V - veh/h

Estimated Free-Flow Speed:

Base free-flow speed,(note-3) BFFS 70.0 mi/h  
Adj. for lane and shoulder width,(note-3) fLS 0.0 mi/h  
Adj. for access point density,(note-3) fA 1.0 mi/h

Free-flow speed, FFSd 69.0 mi/h

Adjustment for no-passing zones, fnp 2.2 mi/h  
Average travel speed, ATSD 63.5 mi/h  
Percent Free Flow Speed, PFFS 92.0 %

-----Percent Time-Spent-Following-----

Direction	Analysis(d)	Opposing (o)
PCE for trucks, ET	1.1	1.1
PCE for RVs, ER	1.0	1.0
Heavy-vehicle adjustment factor, fHV	0.966	0.966
Grade adjustment factor,(note-1) fg	1.00	1.00
Directional flow rate,(note-2) vi	183 pc/h	183 pc/h
Base percent time-spent-following,(note-4) BPTSFd	20.0 %	
Adjustment for no-passing zones, fnp	31.8	
Percent time-spent-following, PTSFd	35.9 %	

-----Level of Service and Other Performance Measures-----

Level of service, LOS	B	
Volume to capacity ratio, v/c	0.10	
Peak 15-min vehicle-miles of travel, VMT15	1285	veh-mi
Peak-hour vehicle-miles of travel, VMT60	4524	veh-mi
Peak 15-min total travel time, TT15	20.2	veh-h
Capacity from ATS, CdATS	1700	veh/h
Capacity from PTSF, CdPTSF	1700	veh/h
Directional Capacity	1700	veh/h

-----Passing Lane Analysis-----

Total length of analysis segment, Lt	29.0	mi
Length of two-lane highway upstream of the passing lane, Lu	-	mi
Length of passing lane including tapers, Lpl	-	mi
Average travel speed, ATSD (from above)	63.5	mi/h
Percent time-spent-following, PTSFd (from above)	35.9	
Level of service, LOSd (from above)	B	

-----Average Travel Speed with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for average travel speed, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for average travel speed, Ld	-	mi
Adj. factor for the effect of passing lane on average speed, fpl	-	
Average travel speed including passing lane, ATSp1	-	
Percent free flow speed including passing lane, PFFSp1	0.0	%

-----Percent Time-Spent-Following with Passing Lane-----

Downstream length of two-lane highway within effective length of passing lane for percent time-spent-following, Lde	-	mi
Length of two-lane highway downstream of effective length of the passing lane for percent time-spent-following, Ld	-	mi
Adj. factor for the effect of passing lane on percent time-spent-following, fpl	-	
Percent time-spent-following including passing lane, PTSFpl	-	%

-----Level of Service and Other Performance Measures with Passing Lane-----

Level of service including passing lane, LOSpl	E	
Peak 15-min total travel time, TT15	-	veh-h

-----Bicycle Level of Service-----

Posted speed limit, Sp	55
Percent of segment with occupied on-highway parking	0
Pavement rating, P	3
Flow rate in outside lane, vOL	177.3
Effective width of outside lane, We	27.96
Effective speed factor, St	4.79
Bicycle LOS Score, BLOS	20.82
Bicycle LOS	F

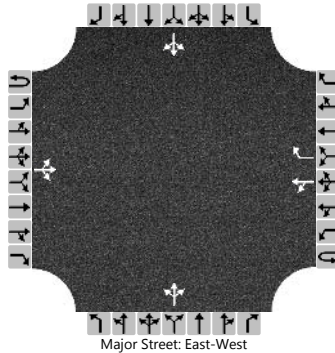
Notes:

1. Note that the adjustment factor for level terrain is 1.00, as level terrain is one of the base conditions. For the purpose of grade adjustment, specific downgrade segments are treated as level terrain.
2. If  $v_i$  ( $v_d$  or  $v_o$ )  $\geq 1,700$  pc/h, terminate analysis-the LOS is F.
3. For the analysis direction only and for  $v > 200$  veh/h.
4. For the analysis direction only.
5. Use alternative Exhibit 15-14 if some trucks operate at crawl speeds on a specific downgrade.

# HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst	DMS			Intersection	66		
Agency/Co.	NDDOT			Jurisdiction			
Date Performed	4/15/2019			East/West Street	ND 200 - US 52		
Analysis Year	2019			North/South Street	US 52		
Time Analyzed	Peak			Peak Hour Factor	0.88		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Ref 4347						

## Lanes



## Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		8	25	1		2	25	56		1	2	2		56	2	8
Percent Heavy Vehicles (%)		21				11				11	13	11		46	13	21
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					No											
Median Type   Storage	Undivided															

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.31				4.21				7.21	6.63	6.31		7.56	6.63	6.41
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.39				2.30				3.60	4.12	3.40		3.91	4.12	3.49

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9				2					6					75	
Capacity, c (veh/h)		1391				1527					841					819	
v/c Ratio		0.01				0.00					0.01					0.09	
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.0					0.3	
Control Delay (s/veh)		7.6				7.4					9.3					9.8	
Level of Service (LOS)		A				A					A					A	
Approach Delay (s/veh)	1.8				0.2				9.3				9.8				
Approach LOS	A				A				A				A				



Rural Segment Crash Summary Sheets

Total Crashes: 138 Location Description: US 52, Harvey-Buchanan (excludes Carrington)  
 Length: 82.417 Start RP: 170.000  
 Sorted By: Longitude End RP: 252.417

M	D	Year
1	1	2013
12	31	2017

# of Years: 5.00

Notes: Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

Statistics for Total Crashes

Crash Severity

Fatal	=	1	1%
InjA	=	7	5%
InjB	=	23	17%
InjC	=	12	9%
PDO	=	95	69%
		138	

Roadway Geometrics

Straight (on level)	=	115	83%
Straight (on grade)	=	11	8%
Curve (on level)	=	8	6%
Curve (on grade)	=	2	1%
Hill Crest	=	2	1%
Unknown	=	0	0%
		138	

V1 and V2 Configuration\*

Passenger Car	=	44
PU / Van / Utility	=	81
Truck	=	59
Bus / Motorhome	=	0
Motorcycle + Moped	=	3

*These are only the most popular choices.*

Day of Week

Monday	=	26	19%
Tuesday	=	23	17%
Wednesday	=	17	12%
Thursday	=	24	17%
Friday	=	15	11%
Saturday	=	15	11%
Sunday	=	18	13%
		138	

Manner of Collision

Angle	=	3	2%
Rear End	=	25	18%
Left Turn	=	0	0%
Sideswipe (same direction)	=	9	7%
Single Vehicle	=	82	59%
Ped / Bike	=	0	0%
Other	=	19	14%
		138	

V1 and V2 Directions\*

North	=	59
South	=	46
East	=	41
West	=	49

D1 and D2 Sex\*

Female	=	34
Male	=	154

D1 and D2 Age\*

0-17	=	7	45-54	=	38
18-24	=	34	55-64	=	13
25-34	=	33	65-74	=	13
35-44	=	37	75+	=	4

D1 and D2 Alcohol / Drugs\*

Yes (alcohol or drugs present) = 7

Surface Conditions

Dry	=	57	41%
Wet	=	6	4%
Ice / Snow	=	72	52%
Other	=	3	2%
		138	

First Harmful Event

Motor Vehicle in Transport	=	55	40%
Animal	=	0	0%
Jackknife	=	16	12%
Ran Off Roadway (not including below crashes)	=	50	36%
Guardrail + Concrete Barrier + Bridge Rail	=	1	1%
Bridge / Pier / Abutment / Overhead Structure	=	0	0%
Poles / Posts / Trees / Overhead Sign Supports	=	2	1%

*These are only the most popular choices.*

Lighting Conditions

Dawn	=	0	0%
Daylight	=	91	66%
Dusk	=	10	7%
Dark	=	35	25%
Dark (lighted)	=	2	1%
Unknown	=	0	
		138	

Relation to Junction

Non-Junction	=	114	83%
Intersection + Intersection-Related	=	17	12%
Alley / Driveway Access	=	2	1%
Interchange Area + Exit / Entrance Ramp	=	1	1%

*These are only the most popular choices.*

Under Construction

Yes	=	1	1%
-----	---	---	----

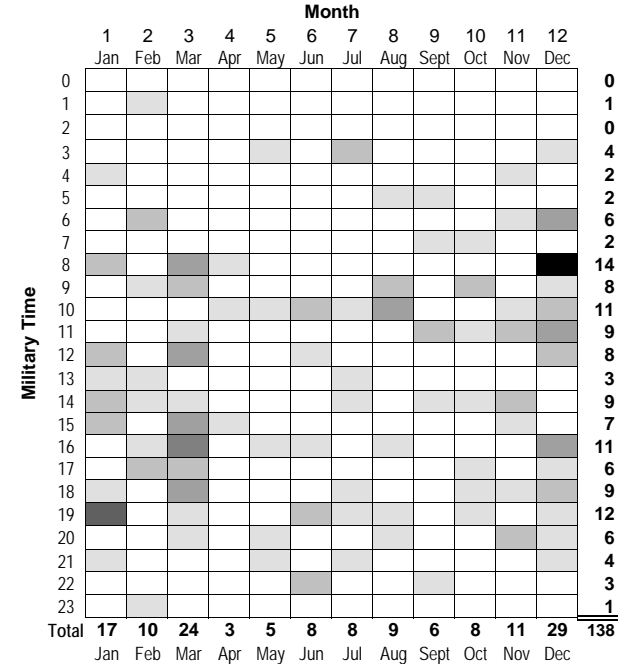
D1 and D2 Contr. Factors\*

Attention Distracted	=	1
Weather	=	51
Speed	=	4
Too Fast for Conditions	=	21
Fail to Yield	=	3
Improper Backing/Turning	=	3

D1 or D2 Ejected\*

Yes (partially or fully) = 3

*\*This info is not available for all units.*



General Summary								
Yr	Start Date	End Date	Intersection (or Alley / Drvwy)	Non-Intersection		Total	AADT (two-way)	Crash Rate
				Single Veh	Mult. Veh			
1	1/1/2013	12/31/2013	8	25	9	42		
2	1/1/2014	12/31/2014	2	18	15	35		
3	1/1/2015	12/31/2015	3	14	8	25		
4	1/1/2016	12/31/2016	2	12	5	19		
5	1/1/2017	12/31/2017	4	10	3	17		
			19	79	40	138		
			14%	57%	29%			

Rural Segment Crash Summary Sheets

Total Crashes: 138 Location Description: US 52, Harvey-Buchanan (excludes Carrington)  
 Length: 82.417 Start RP: 170.000  
 Sorted By: Longitude End RP: 252.417

M	D	Year
1	1	2013
12	31	2017

# of Years: 5.00

Notes: Animal crashes were not included.

23 USC § 409 Documents  
 NDDOT Reserves All Objections

Statistics for Intersection-Related Crashes ONLY

Crash Severity	
Fatal = 0	0%
InjA = 2	11%
InjB = 2	11%
InjC = 1	5%
PDO = 14	74%
19	

Relation to Junction	
Intersection + Intersection-Related = 17	89%
Alley / Driveway Access = 2	11%

Manner of Collision	
Angle = 3	16%
Rear End = 5	26%
Left Turn = 0	0%
Sideswipe (same direction) = 3	16%
Single Vehicle = 3	16%
Ped / Bike = 0	0%
Other = 5	26%

Surface Conditions	
Dry = 11	58%
Wet = 1	5%
Ice / Snow = 7	37%
Other = 0	0%

D1 and D2 Contributing Factors*	
Attention Distracted = 0	
Weather = 5	
Speed = 2	
Too Fast for Conditions = 1	
Fail to Yield = 2	
Improper Backing / Turning = 2	

*These are only the most popular choices.*

Lighting Conditions	
Dawn = 0	0%
Daylight = 16	84%
Dusk = 2	11%
Dark = 1	5%
Dark (lighted) = 0	0%

Under Construction	
Yes = 0	0%

D1 and D2 Alcohol / Drugs Present*	
Yes (alcohol or drugs) = 0	

V1 and V2 Unit Config.*	
Passenger Car = 13	
PU / Van / Utility = 12	
Truck = 9	
Bus / Motorhome = 0	
Motorcycle + Moped = 0	

*These are only the most popular choices.*

\*This info is not available for all units.

Statistics for Non-Intersection Crashes ONLY

Multiple Vehicle Crashes ONLY																																
<table border="1"> <thead> <tr> <th colspan="2">Crash Severity</th> </tr> </thead> <tbody> <tr> <td>Fatal = 1</td> <td>3%</td> </tr> <tr> <td>InjA = 4</td> <td>10%</td> </tr> <tr> <td>InjB = 8</td> <td>20%</td> </tr> <tr> <td>InjC = 4</td> <td>10%</td> </tr> <tr> <td>PDO = 23</td> <td>58%</td> </tr> <tr> <td colspan="2">40</td> </tr> </tbody> </table>	Crash Severity		Fatal = 1	3%	InjA = 4	10%	InjB = 8	20%	InjC = 4	10%	PDO = 23	58%	40		<table border="1"> <thead> <tr> <th colspan="2">Road Geometrics</th> </tr> </thead> <tbody> <tr> <td>Straight (on level) = 37</td> <td>93%</td> </tr> <tr> <td>Straight (on grade) = 3</td> <td>8%</td> </tr> <tr> <td>Curve (on level) = 0</td> <td>0%</td> </tr> <tr> <td>Curve (on grade) = 0</td> <td>0%</td> </tr> <tr> <td>Hill Crest = 0</td> <td>0%</td> </tr> </tbody> </table>	Road Geometrics		Straight (on level) = 37	93%	Straight (on grade) = 3	8%	Curve (on level) = 0	0%	Curve (on grade) = 0	0%	Hill Crest = 0	0%	<table border="1"> <thead> <tr> <th colspan="2">D1 and D2 Alcohol/Drugs Present*</th> </tr> </thead> <tbody> <tr> <td>Yes (alcohol or drugs) = 4</td> <td></td> </tr> </tbody> </table>	D1 and D2 Alcohol/Drugs Present*		Yes (alcohol or drugs) = 4	
Crash Severity																																
Fatal = 1	3%																															
InjA = 4	10%																															
InjB = 8	20%																															
InjC = 4	10%																															
PDO = 23	58%																															
40																																
Road Geometrics																																
Straight (on level) = 37	93%																															
Straight (on grade) = 3	8%																															
Curve (on level) = 0	0%																															
Curve (on grade) = 0	0%																															
Hill Crest = 0	0%																															
D1 and D2 Alcohol/Drugs Present*																																
Yes (alcohol or drugs) = 4																																
<table border="1"> <thead> <tr> <th colspan="2">Surface Conditions</th> </tr> </thead> <tbody> <tr> <td>Dry = 24</td> <td>60%</td> </tr> <tr> <td>Wet = 1</td> <td>3%</td> </tr> <tr> <td>Ice / Snow = 14</td> <td>35%</td> </tr> <tr> <td>Other = 1</td> <td>3%</td> </tr> </tbody> </table>	Surface Conditions		Dry = 24	60%	Wet = 1	3%	Ice / Snow = 14	35%	Other = 1	3%	<table border="1"> <thead> <tr> <th colspan="2">Under Construction</th> </tr> </thead> <tbody> <tr> <td>Yes = 0</td> <td>0%</td> </tr> </tbody> </table>	Under Construction		Yes = 0	0%	<table border="1"> <thead> <tr> <th colspan="2">V1 and V2 Unit Config.*</th> </tr> </thead> <tbody> <tr> <td>Passenger Car = 19</td> <td></td> </tr> <tr> <td>PU / Van / Utility = 30</td> <td></td> </tr> <tr> <td>Truck = 26</td> <td></td> </tr> <tr> <td>Bus / Motorhome = 0</td> <td></td> </tr> <tr> <td>Motorcycle + Moped = 0</td> <td></td> </tr> </tbody> </table> <p><i>These are only the most popular choices.</i></p>	V1 and V2 Unit Config.*		Passenger Car = 19		PU / Van / Utility = 30		Truck = 26		Bus / Motorhome = 0		Motorcycle + Moped = 0					
Surface Conditions																																
Dry = 24	60%																															
Wet = 1	3%																															
Ice / Snow = 14	35%																															
Other = 1	3%																															
Under Construction																																
Yes = 0	0%																															
V1 and V2 Unit Config.*																																
Passenger Car = 19																																
PU / Van / Utility = 30																																
Truck = 26																																
Bus / Motorhome = 0																																
Motorcycle + Moped = 0																																
<table border="1"> <thead> <tr> <th colspan="2">Lighting Conditions</th> </tr> </thead> <tbody> <tr> <td>Dawn = 0</td> <td>0%</td> </tr> <tr> <td>Daylight = 31</td> <td>78%</td> </tr> <tr> <td>Dusk = 2</td> <td>5%</td> </tr> <tr> <td>Dark = 7</td> <td>18%</td> </tr> <tr> <td>Dark (lighted) = 0</td> <td>0%</td> </tr> </tbody> </table>	Lighting Conditions		Dawn = 0	0%	Daylight = 31	78%	Dusk = 2	5%	Dark = 7	18%	Dark (lighted) = 0	0%	<table border="1"> <thead> <tr> <th colspan="2">D1 or D2 Ejected*</th> </tr> </thead> <tbody> <tr> <td>Yes = 0</td> <td></td> </tr> </tbody> </table>	D1 or D2 Ejected*		Yes = 0		<table border="1"> <thead> <tr> <th colspan="2">Manner of Collision</th> </tr> </thead> <tbody> <tr> <td>Angle = 0</td> <td>0%</td> </tr> <tr> <td>Rear End = 20</td> <td>50%</td> </tr> <tr> <td>Left Turn = 0</td> <td>0%</td> </tr> <tr> <td>Sideswipe (same direction) = 6</td> <td>15%</td> </tr> <tr> <td>Head-On + Sideswipe (opp direction) = 13</td> <td>33%</td> </tr> <tr> <td>Other = 0</td> <td>0%</td> </tr> </tbody> </table>	Manner of Collision		Angle = 0	0%	Rear End = 20	50%	Left Turn = 0	0%	Sideswipe (same direction) = 6	15%	Head-On + Sideswipe (opp direction) = 13	33%	Other = 0	0%
Lighting Conditions																																
Dawn = 0	0%																															
Daylight = 31	78%																															
Dusk = 2	5%																															
Dark = 7	18%																															
Dark (lighted) = 0	0%																															
D1 or D2 Ejected*																																
Yes = 0																																
Manner of Collision																																
Angle = 0	0%																															
Rear End = 20	50%																															
Left Turn = 0	0%																															
Sideswipe (same direction) = 6	15%																															
Head-On + Sideswipe (opp direction) = 13	33%																															
Other = 0	0%																															

Non-Collision with Motor Vehicle (a.k.a. Single Vehicle) Crashes ONLY																																		
<table border="1"> <thead> <tr> <th colspan="2">Crash Severity</th> </tr> </thead> <tbody> <tr> <td>Fatal = 0</td> <td>0%</td> </tr> <tr> <td>InjA = 1</td> <td>1%</td> </tr> <tr> <td>InjB = 13</td> <td>16%</td> </tr> <tr> <td>InjC = 7</td> <td>9%</td> </tr> <tr> <td>PDO = 58</td> <td>73%</td> </tr> <tr> <td colspan="2">79</td> </tr> </tbody> </table>	Crash Severity		Fatal = 0	0%	InjA = 1	1%	InjB = 13	16%	InjC = 7	9%	PDO = 58	73%	79		<table border="1"> <thead> <tr> <th colspan="2">Road Geometrics</th> </tr> </thead> <tbody> <tr> <td>Straight (on level) = 62</td> <td>78%</td> </tr> <tr> <td>Straight (on grade) = 8</td> <td>10%</td> </tr> <tr> <td>Curve (on level) = 5</td> <td>6%</td> </tr> <tr> <td>Curve (on grade) = 2</td> <td>3%</td> </tr> <tr> <td>Hill Crest = 2</td> <td>3%</td> </tr> </tbody> </table>	Road Geometrics		Straight (on level) = 62	78%	Straight (on grade) = 8	10%	Curve (on level) = 5	6%	Curve (on grade) = 2	3%	Hill Crest = 2	3%	<table border="1"> <thead> <tr> <th colspan="2">D1 Alcohol / Drugs Present*</th> </tr> </thead> <tbody> <tr> <td>Yes (alcohol or drugs) = 2</td> <td>3%</td> </tr> </tbody> </table>	D1 Alcohol / Drugs Present*		Yes (alcohol or drugs) = 2	3%		
Crash Severity																																		
Fatal = 0	0%																																	
InjA = 1	1%																																	
InjB = 13	16%																																	
InjC = 7	9%																																	
PDO = 58	73%																																	
79																																		
Road Geometrics																																		
Straight (on level) = 62	78%																																	
Straight (on grade) = 8	10%																																	
Curve (on level) = 5	6%																																	
Curve (on grade) = 2	3%																																	
Hill Crest = 2	3%																																	
D1 Alcohol / Drugs Present*																																		
Yes (alcohol or drugs) = 2	3%																																	
<table border="1"> <thead> <tr> <th colspan="2">Surface Conditions</th> </tr> </thead> <tbody> <tr> <td>Dry = 22</td> <td>28%</td> </tr> <tr> <td>Wet = 4</td> <td>5%</td> </tr> <tr> <td>Ice / Snow = 51</td> <td>65%</td> </tr> <tr> <td>Other = 2</td> <td>3%</td> </tr> </tbody> </table>	Surface Conditions		Dry = 22	28%	Wet = 4	5%	Ice / Snow = 51	65%	Other = 2	3%	<table border="1"> <thead> <tr> <th colspan="2">Under Construction</th> </tr> </thead> <tbody> <tr> <td>Yes = 1</td> <td>1%</td> </tr> </tbody> </table>	Under Construction		Yes = 1	1%	<table border="1"> <thead> <tr> <th colspan="2">V1 Unit Config.*</th> </tr> </thead> <tbody> <tr> <td>Passenger Car = 12</td> <td>15%</td> </tr> <tr> <td>PU / Van / Utility = 39</td> <td>49%</td> </tr> <tr> <td>Truck = 24</td> <td>30%</td> </tr> <tr> <td>Bus / Motorhome = 0</td> <td>0%</td> </tr> <tr> <td>Motorcycle + Moped = 3</td> <td>4%</td> </tr> </tbody> </table> <p><i>These are only the most popular choices.</i></p>	V1 Unit Config.*		Passenger Car = 12	15%	PU / Van / Utility = 39	49%	Truck = 24	30%	Bus / Motorhome = 0	0%	Motorcycle + Moped = 3	4%						
Surface Conditions																																		
Dry = 22	28%																																	
Wet = 4	5%																																	
Ice / Snow = 51	65%																																	
Other = 2	3%																																	
Under Construction																																		
Yes = 1	1%																																	
V1 Unit Config.*																																		
Passenger Car = 12	15%																																	
PU / Van / Utility = 39	49%																																	
Truck = 24	30%																																	
Bus / Motorhome = 0	0%																																	
Motorcycle + Moped = 3	4%																																	
<table border="1"> <thead> <tr> <th colspan="2">Lighting Conditions</th> </tr> </thead> <tbody> <tr> <td>Dawn = 0</td> <td>0%</td> </tr> <tr> <td>Daylight = 44</td> <td>56%</td> </tr> <tr> <td>Dusk = 6</td> <td>8%</td> </tr> <tr> <td>Dark = 27</td> <td>34%</td> </tr> <tr> <td>Dark (lighted) = 2</td> <td>3%</td> </tr> </tbody> </table>	Lighting Conditions		Dawn = 0	0%	Daylight = 44	56%	Dusk = 6	8%	Dark = 27	34%	Dark (lighted) = 2	3%	<table border="1"> <thead> <tr> <th colspan="2">D1 Ejected*</th> </tr> </thead> <tbody> <tr> <td>Yes (partially or fully) = 3</td> <td>4%</td> </tr> </tbody> </table>	D1 Ejected*		Yes (partially or fully) = 3	4%	<table border="1"> <thead> <tr> <th colspan="2">D1 Most Harmful Event*</th> </tr> </thead> <tbody> <tr> <td>Motor Vehicle in Transport = 0</td> <td>0%</td> </tr> <tr> <td>Animal = 0</td> <td>0%</td> </tr> <tr> <td>Jackknife = 16</td> <td>20%</td> </tr> <tr> <td>Ran Off Roadway (not including below crashes) = 49</td> <td>62%</td> </tr> <tr> <td>Guardrail + Concrete Barrier + Bridge Rail = 1</td> <td>1%</td> </tr> <tr> <td>Bridge / Pier / Abutment / Overhead Structure = 0</td> <td>0%</td> </tr> <tr> <td>Poles / Posts / Trees / Overhead Sign Supports = 0</td> <td>0%</td> </tr> </tbody> </table> <p><i>These are only the most popular choices.</i></p>	D1 Most Harmful Event*		Motor Vehicle in Transport = 0	0%	Animal = 0	0%	Jackknife = 16	20%	Ran Off Roadway (not including below crashes) = 49	62%	Guardrail + Concrete Barrier + Bridge Rail = 1	1%	Bridge / Pier / Abutment / Overhead Structure = 0	0%	Poles / Posts / Trees / Overhead Sign Supports = 0	0%
Lighting Conditions																																		
Dawn = 0	0%																																	
Daylight = 44	56%																																	
Dusk = 6	8%																																	
Dark = 27	34%																																	
Dark (lighted) = 2	3%																																	
D1 Ejected*																																		
Yes (partially or fully) = 3	4%																																	
D1 Most Harmful Event*																																		
Motor Vehicle in Transport = 0	0%																																	
Animal = 0	0%																																	
Jackknife = 16	20%																																	
Ran Off Roadway (not including below crashes) = 49	62%																																	
Guardrail + Concrete Barrier + Bridge Rail = 1	1%																																	
Bridge / Pier / Abutment / Overhead Structure = 0	0%																																	
Poles / Posts / Trees / Overhead Sign Supports = 0	0%																																	

\*This info is not available for all units.

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**  
 ▶ Fatal  
 ► Incapacitating Injury  
 ► Non-Incapacitating Injury  
 ▷ Possible Injury  
 ◆ Wet surface  
 ❄ Snow, Ice, Slush, Frost  
 ▲ Crash related to work zone  
 ① Unit number

**1. Contributing Factor**  
 \* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
 For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
1031745 52 170.14	PDO 03/06/17 Monday Snow (BI Snow) Daylight 4:30 PM Straight (on Level) / Alley/Driveway	❄ Head on	① 47M FESSENDEN ND Pickup - Van - Utility EB Going Straight Wrong Way	② 52M HARVEY ND Pickup - Van - Utility WB Going Straight Weather		Driveway
296433 52 170.48	PDO 01/16/14 Thursday Dry (BI Snow) Daylight 8:45 AM Straight (on Level) / Non-junction	Rear End	① 54M WINKLER MB Truck Tractor SB Going Straight Weather	② 70M WINCHESTER CA Pickup - Van - Utility SB Going Straight Weather		
1028264 52 171.49	▷ Possible Injury 02/01/17 Wednesday Ice / Snow (BI Snow) Daylight 4:16 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 23F FESSENDEN ND Pickup - Van - Utility EB Going Straight Over Correct/Steering			
305802 52 171.95	PDO 06/13/14 Friday Dry (Cloudy) Daylight 12:30 PM Curve (on Level) / Non-junction	Single Veh (Other Non- Collision)	① 20M CLARE MI Motorcycle NB Going Straight Other			
291168 52 73.323	PDO 12/02/13 Monday Ice / Snow (Snow) Daylight 11:45 AM Curve (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 52M COLUMBUS GA Pickup - Van - Utility NB Going Straight To Fast for Conditions			
1024116 52 172.04	PDO 12/12/16 Monday Ice / Snow (Clear) Dark 7:10 PM Straight (on Level) / Non-junction	❄ Single Veh (Ditch)	① 55M SHERWOOD PARK AB Truck Tractor EB Going Straight Fail Keep in Proper Lane			
327117 52 174	PDO 05/18/15 Monday Dry (Clear) Daylight 10:30 AM Straight (on Level) / Non-junction	Single Veh (Jackknife)	① 35M SASKATOON SK Truck Tractor SB Going Straight Improper Evasive Action			
310241 52 175.07	PDO 08/27/14 Wednesday Dry (Clear) Daylight 10:57 AM Straight (on Level) / Non-junction	Sideswipe (Same Dir.)	① 37M HOUSTON TX Truck Tractor WB Going Straight Improper Overtaking	② 33M NEW ROCKFORD ND Truck Tractor WB Going Straight		
316574 52 175.86	► Non-incapacitating injury 12/04/14 Thursday Dry (Clear) Daylight 12:00 PM Straight (on Level) / Non-junction	Rear End	① 58M MINOT ND Truck Tractor SB Going Straight	② 38F ONION LAKE SK Pickup - Van - Utility SB Going Straight		
317054 52 175.99	PDO 12/04/14 Thursday Dry (Clear) Daylight 11:50 AM Straight (on Level) / Non-junction	Single Veh (Ditch)	① 33M HOPKINS MN Truck Tractor WB Going Straight Improper Evasive Action			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**

- ▶ **Fatal**
- ▶ **Incapacitating Injury**
- ▶ **Non-Incapacitating Injury**
- ▷ **Possible Injury**
- ◆ **Wet surface**
- ❄ **Snow, Ice, Slush, Frost**
- ▲ **Crash related to work zone**
- ① **Unit number**

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
313938 52 176	▶ Incapacitating Injury 10/25/14 Saturday Dry (Clear) Daylight 9:10 AM Straight (on Level) / Intersection	Rear End	① 74M NEW ROCKFORD ND Passenger Car NB Going Straight (Oth) Following too Close	② 61M MADDOCK ND Truck Tractor NB Waiting to Turn Left (Oth) Other	V2 waiting for traffic to clear before making a NB left turn. V1 NB rear ended V2.	36 Ave NE
1007355 52 177.35	▶ Incapacitating Injury 02/02/16 Tuesday Dry (Clear) Dark 6:10 AM Straight (on Level) / Non-junction	Sideswipe (Opp. Dir.)	① 25M JAMESTOWN ND Passenger Car EB Going Straight Wrong Way	② 48M ROCHELLE IL Truck Tractor WB Going Straight	V1 EB went into the WB lane and struck the semi's driver's side. V1 came to rest in the south ditch.	
301894 52 177.91	▶ Non-incapacitating injury 04/09/14 Wednesday Dry (Clear) Daylight 10:40 AM Straight (on Level) / Non-junction	Single Veh (Overturn / Rollover)	① 36M HARVEY ND Passenger Car NB Going Straight Attn Distracted-Inside			
274849 52 181.84	PDO 03/03/13 Sunday Dry (BI Snow) Dusk 6:00 PM Straight (on Level) / Non-junction	Single Veh (Ran Off Roadway)	① 47M JAMESTOWN ND Pickup - Van - Utility SB Going Straight Other			
317349 52 181.99	▶ Incapacitating Injury 12/07/14 Sunday Ice / Snow (Clear) Daylight 8:43 AM Straight (on Level) / Non-junction	◆ Head on	① 35M BAXTER MN Pickup - Van - Utility EB Going Straight Careless/Reckless Driving*	② 70M SPRUCE HOME SK Truck Tractor WB Going Straight	V1 lost control on ice and entered the WB lane of US 52 and struck V2. V1 was separated in half, both halves came to rest in the south ditch of US 52.	
1021738 52 182.56	PDO 11/11/16 Friday Ice / Snow (Fog) Dark 4:15 AM Curve (on Level) / Non-junction	◆ Single Veh (Ran off roadway)	① 33M MINOT ND Passenger Car WB Going Straight Weather			
292653	PDO 12/02/13 Monday Snow (BI Snow) Dusk 6:50 PM Curve (on Level) / Intersection	◆ Single Veh (Overturn / Rollover)	① 44M CLANE OF Passenger Car SB Going Straight			42 Ave NE
328919	▶ Non-incapacitating injury 06/10/15 Wednesday Dry (Clear) Daylight 4:13 PM Straight (on Level) / Intersection	Angle	① 41F FESSENDEN ND Pickup - Van - Utility SB Going Straight Improper Overtaking	② 45M FESSENDEN ND Farm Equipment EB Turning Left		Private Driveway
270480 52 185.618	PDO 01/28/13 Monday Dry (Clear) Dark 7:25 PM Straight (on Level) / Ramp	Single Veh (Ran Off Roadway)	① 51M ST PETERSBURG FL Truck Tractor NB Going Straight Other			ND 15
315417 52 185.788	PDO 11/23/14 Sunday Dry (BI Snow) Daylight 3:45 PM Straight (on Level) / Non-junction	Rear End	① 19M NEW ROCKFORD ND Pickup - Van - Utility WB Going Straight (Stop) Attn Distracted-Outside	② 21F NEW ROCKFORD ND Passenger Car WB Stopped (Stop)		

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

**LEGEND**  
▶ Fatal  
▶ Incapacitating Injury  
▶ Non-Incapacitating Injury  
▷ Possible Injury  
◆ Wet surface  
❄ Snow, Ice, Slush, Frost  
▲ Crash related to work zone  
① Unit number

**1. Contributing Factor**  
\* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
277848 52 195.02	PDO 04/12/13 Friday Ice / Snow (Snow) Daylight 8:20 AM Curve (on Level) / Non-junction	❄ Single Veh (Other Object (Not Fixed))	① 17F BOWDON ND Pickup - Van - Utility NB Negotiating Curve Weather			
269266 52 185.948	PDO 01/08/13 Tuesday Ice / Snow (Cloudy) Daylight 1:10 PM Straight (on Level) / Non-junction	❄ Rear End	① 29M CHICAGO IL Truck Tractor WB Going Straight Following too Close	② 43M ST CLAIR MO Truck Tractor WB Slowing/Stopping		Cenex
317634	PDO 12/15/14 Monday Ice / Snow (Cloudy) Daylight 8:30 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 23M FARGO ND Pickup - Van - Utility WB Going Straight Weather			
285733 200 268.58	PDO 09/07/13 Saturday Dry (Cloudy) Daylight 2:25 PM Straight (on Level) / Intersection	Sideswipe (Same Dir.)	① 65F GOODRICH ND Passenger Car EB Going Straight Improper Overtaking	② 47M PARK RAPIES MN Passenger Car EB Turning Left		US 52 / ND 200
320087 52 194.16	PDO 01/23/15 Friday Ice / Snow (Bl Snow) Dark 4:45 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 39M WINNIPEG MB Truck Tractor NB Going Straight Weather			
295186 52 194.01	PDO 01/03/14 Friday Ice / Snow (Rain) Daylight 3:00 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 56M SHAWNEE OK Pickup - Van - Utility SB Going Straight Weather			
322993 52 193.98	PDO 03/02/15 Monday Dry (Bl Snow) Daylight 2:15 PM Straight (on Level) / Non-junction	Sideswipe (Opp. Dir.)	① 29M WINKLER MB Truck Tractor NB Going Straight  MV Tran in Other Rdwy	② 51M ROXTON TX Truck Tractor SB Stopped Other MV Tran in Other Rdwy		
293100 52 193.02	PDO 12/16/13 Monday Ice / Snow (Bl Snow) Dark 9:45 PM Straight (on Grade) / Non-junction	❄ Single Veh (Jackknife)	① 32M WOODSTOCK GA Pickup - Van - Utility NB Going Straight Weather			
317633 52 192.96	PDO 12/15/14 Monday Ice / Snow (Frozen Prcp) Dark 3:00 AM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 35M BEAVERTON OR Truck Tractor WB Going Straight Weather			
1004361 52 189.82	▶ Non-incapacitating injury 12/01/15 Tuesday Snow (Snow) Daylight 6:50 AM Straight (on Level) / Non-junction	❄ Rear End	① 56M NEW ROCKFORD ND Pickup - Van - Utility SB Going Straight Weather Parked MV	② Pickup - Van - Utility SB Driverless (Stopped) Weather Parked MV		

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

- LEGEND**
- ▶ Fatal
  - ▶ Incapacitating Injury
  - ▶ Non-Incapacitating Injury
  - ▷ Possible Injury
  - ◆ Wet surface
  - ❄ Snow, Ice, Slush, Frost
  - ▲ Crash related to work zone
  - ① Unit number

- 1. Contributing Factor**  
 \* = alcohol or drugs involved
- 2. Most Harmful Event**  
 For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>			Shortened Narrative	Name of Intersection
1004878 52 191.68	PDO 12/11/15 Friday Ice / Snow (Bl Snow) Dusk 4:55 PM Straight (on Level) / Non-junction	❄ Single Veh (Ran off roadway)	① 71M BUTTE DES MORTS WI Pickup - Van - Utility NB Turning Left Too Fast for Conditions				
295644 52 192.29	PDO 01/05/14 Sunday Ice / Snow (Bl Snow) Daylight 12:07 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 45M PASADENA TX Truck Tractor NB Going Straight Too Fast for Conditions				
1022755 52 197.1	PDO 11/30/16 Wednesday Ice / Snow (Frozen Prcp) Dark 6:30 AM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 47M SURREY BC 2-Axle SB Turning Left Other				
1030814 52 196.55	PDO 03/06/17 Monday Ice / Snow (Frozen Prcp) Daylight 4:00 PM Straight (on Level) / Non-junction	❄ Single Veh (Ditch)	① 57M WINNIPEG MB Unknown Heavy Truck NB Going Straight Weather				
290438 52 196.98	PDO 11/08/13 Friday Dry (Severe Wind) Dusk 6:30 PM Straight (on Level) / Non-junction	Sideswipe (Same Dir.)	① 73M GRAND ISLAND NE Truck Tractor NB Going Straight Improper Overtaking	② 46M BOWDON ND Farm Equipment NB Going Straight			
1034123 52 196.47	▶ Non-incapacitating injury 05/21/17 Sunday Dry (Clear) Daylight 4:23 PM Straight (on Level) / Non-junction	Single Veh (Overturn / Rollover)	① 51F BOWDON ND EJECTED Off Highway Vehicle NB Other Action on Roadway				
290439 52 198.32	PDO 11/18/13 Monday Dry (Severe Wind) Dark 8:30 PM Straight (on Level) / Non-junction	Single Veh (Overturn / Rollover)	① 53M LINCOLN ND Truck Tractor NB Going Straight				
269045 52	PDO 01/08/13 Tuesday Dry (Severe Wind) Dark(L) 9:15 PM Straight (on Level) / Non-junction	Single Veh (Post)	① 47M WARSAW IN Pickup - Van - Utility NB Going Straight Weather				
1030865 52 198.74	PDO 03/08/17 Wednesday Dry (Clear) Dusk 6:24 PM Straight (on Level) / Intersection	Backing	① 37M SASKATOON SK 2-Axle SB Going Straight (Stop) Improper Backing/Turning	② 3+ Axle SB Backing (Stop)  Parked MV			US 52 / ND 200
272209 52	PDO 02/04/13 Monday Ice / Snow (Bl Snow) Daylight 2:00 PM Straight (on Level) / Intersection	❄ Other	① 20M MINOT AFB ND Passenger Car WB Turning Right Weather	② 58M CARRINGTON ND Passenger Car SB Turning Right (Stop) Weather		V1 making WB right turn on icy roadway and struck SB V2.	US 52 / ND 200

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

**LEGEND**  
▶ Fatal  
▶ Incapacitating Injury  
▶ Non-Incapacitating Injury  
▷ Possible Injury  
◆ Wet surface  
❄ Snow, Ice, Slush, Frost  
▲ Crash related to work zone  
① Unit number

**1. Contributing Factor**  
\* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
292293 52 198.76	PDO 12/01/13 Sunday Ice / Snow (Frozen Prcp) Daylight 4:00 PM Straight (on Level) / Intersection	❄ Other	① 20F BOWBELLS ND Pickup - Van - Utility WB Turning Right (Beacon) Weather	② 50F FARGO ND Passenger Car SB Stopped (Stop) Other	V1 making WB right turn, lost control and slid into V2.	US 52 / ND 200
307995 52 199.13	PDO 07/29/14 Tuesday Dry (Clear) Daylight 10:31 AM Straight (on Level) / Non-junction	Rear End	① 28M CARRINGTON ND Passenger Car WB Going Straight (Signal) MV Mechanical Failure	② 29M JAMESTOWN ND Passenger Car WB Going Straight (Signal)		
274156 52 200.67	▷ Possible Injury 03/12/13 Tuesday Ice / Snow (Clear) Daylight 5:35 PM Straight (on Level) / Non-junction	❄ Single Veh (Ran off roadway)	① 34F GOODRICH ND Passenger Car EB Going Straight Weather			
319214 52 200.8	PDO 01/06/15 Tuesday Dry (Clear) Daylight 3:50 PM Straight (on Grade) / Non-junction	Single Veh (Ran Off Roadway)	① 40M DES MOINES IA Pickup - Van - Utility EB Going Straight Fail Keep in Proper Lane*			
328920 52 201	PDO 06/16/15 Tuesday Wet (Rain) Daylight 10:37 AM Straight (on Level) / Non-junction	◆ Single Veh (Jackknife)	① 54M WHPETON ND Truck Tractor WB Going Straight Improper Evasive Action			
329289 52 201.01	PDO 06/16/15 Tuesday Wet (Rain) Daylight 10:30 AM Straight (on Level) / Non-junction	◆ Rear End	① 22F BISMARCK ND Pickup - Van - Utility WB Going Straight Improper Evasive Action	② 26M BISMARCK ND Unknown Heavy Truck WB Going Straight		
271657 52 201.5	PDO 02/04/13 Monday Ice / Snow (Bl Snow) Daylight 5:15 PM Hillcrest / Non-junction	❄ Single Veh (Overturn / Rollover)	① 21M MINOT ND Pickup - Van - Utility WB Going Straight Speed			
274510 52 202.12	PDO 03/07/13 Thursday Ice / Snow (Clear) Dusk 5:45 PM Hillcrest / Non-junction	❄ Single Veh (Overturn / Rollover)	① 15F BOWDON ND Pickup - Van - Utility EB Going Straight Weather			
294332 52 203.38	▷ Possible Injury 12/27/13 Friday Frost (Clear) Daylight 8:42 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 47M BOWDON ND Pickup - Van - Utility EB Going Straight To Fast for Conditions			
274509 52 203.44	PDO 03/07/13 Thursday Ice / Snow (Clear) Daylight 4:00 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 38M MINOT ND Pickup - Van - Utility WB Passing Weather			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

**LEGEND**

- ▶ **Fatal**
- ▶ **Incapacitating Injury**
- ▶ **Non-Incapacitating Injury**
- ▷ **Possible Injury**
- ◆ **Wet surface**
- ❄ **Snow, Ice, Slush, Frost**
- ▲ **Crash related to work zone**
- ① **Unit number**

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>		Shortened Narrative	Name of Intersection
274523	PDO 03/12/13 Tuesday Ice / Snow (Clear) Daylight 7:10 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 35M NAPLES FL Truck Tractor WB Going Straight To Fast for Conditions			
1024393 52 203.98	PDO 12/14/16 Wednesday Snow (BI Snow) Daylight 10:55 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 43M DEVILS LAKE ND Pickup - Van - Utility EB Going Straight Weather			
296296 52 203.99	PDO 01/13/14 Monday Dry (Clear) Dusk 6:30 PM Straight (on Level) / Non-junction	Single Veh (Other Object (Not Fixed))	① 40M HARVEY ND Passenger Car WB Going Straight Improper License			
274154 52 204.16	PDO 03/12/13 Tuesday Ice / Snow (Cloudy) Daylight 12:14 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 43M CEADAR SPRINGS MI Truck Tractor EB Going Straight Weather			
1023675 52 204.2	PDO 12/15/16 Thursday Ice / Snow (Snow) Dark 6:50 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 25M BATESVILLE MS Pickup - Van - Utility EB Going Straight Weather			
319708 52 204.23	▷ Possible Injury 01/08/15 Thursday Snow (BI Snow) Daylight 2:55 PM Straight (on Level) / Non-junction	❄ Rear End	① 24M BERTHOLD ND Passenger Car WB Going Straight Vision Obstructed	② 72M MCCLUSKY ND Passenger Car WB Going Straight Vision Obstructed		
297517 52 206.3	PDO 01/26/14 Sunday Snow (BI Snow) Daylight 12:40 PM Straight (on Level) / Non-junction	❄ Rear End	① 29M MOORHEAD MN Passenger Car WB Going Straight Weather	② Hit and Run WB Going Straight		
274153 52 207.65	PDO 03/12/13 Tuesday Ice / Snow (Cloudy) Daylight 11:32 AM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 52M ALAMO TX Truck Tractor EB Going Straight Weather			
1028214 52 207.66	PDO 01/31/17 Tuesday Ice / Snow (Snow) Dark 7:34 PM Straight (on Level) / Other Cossings	❄ Single Veh (Overturn / Rollover)	① 53M SYKESTON ND Pickup - Van - Utility WB Other Action on Roadway Weather			
307327 52 208.814	▷ Possible Injury 07/17/14 Thursday Dry (Clear) Daylight 6:00 PM Straight (on Level) / Non-junction	Sideswipe (Same Dir.)	① 51F WORTHINGTON MN Pickup - Van - Utility EB Passing Improper Overtaking	② 35M FARGO ND Pickup - Van - Utility EB Turning Left	V2 waiting to make EB left, V1 EB passed and struck V2 on the driver's side door.	Sykeston Rest Area



**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

**LEGEND**

- ▶ **Fatal**
- ▶ **Incapacitating Injury**
- ▶ **Non-Incapacitating Injury**
- ▷ **Possible Injury**
- ◆ **Wet surface**
- ❄ **Snow, Ice, Slush, Frost**
- ▲ **Crash related to work zone**
- ① **Unit number**

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
284190 52 88.394	▶ Non-incapacitating injury 08/12/13 Monday Dry (Clear) Daylight 9:49 AM Straight (on Level) / Non-junction	Rear End	① 19M LESTER PRAIRIE MN Pickup - Van - Utility EB Going Straight Attn Distracted-Inside	② 49F CRAIG MO Passenger Car EB Going Straight	V2 slowing down to turn left into the rest area. Driver 1 looked down or looked in rear view mirror, V1 could not stop in time and rear ended V2.	Sykeston Rest Area
1043390 52 209.59	PDO 11/09/17 Thursday Snow (Clear) Daylight 11:30 AM Straight (on Level) / Alley/Driveway	❄ Backing	① 58M CASSLETON ND Single Unit Truck NB Backing Improper Backing/Turning	② Pickup - Van - Utility NB Driverless (Stopped)  Parked MV		Sykeston Cemetery Driveway
330842	PDO 07/10/15 Friday Dry (Clear) Daylight 1:34 PM Straight (on Level) / Non-junction	Rear End	① 20M FARGO ND Passenger Car EB Going Straight Careless/Reckless Driving	② 50F CARRINGTON ND Passenger Car EB Going Straight		
1037621 52 210.19	PDO 07/31/17 Monday Dry (Clear) Daylight 2:07 PM Straight (on Level) / Non-junction	Sideswipe (Opp. Dir.)	① 50M BIXBY OK Pickup - Van - Utility EB Going Straight Other	② 29M GLENFIELD ND Pickup - Van - Utility WB Going Straight		
304425 52 210.9	PDO 05/20/14 Tuesday Dry (Clear) Dark 3:00 AM Straight (on Level) / Non-junction	Single Veh (Post)	① 27M SYKESTON ND Pickup - Van - Utility WB Going Straight Care Required			
274508 52 211.44	PDO 03/05/13 Tuesday Ice / Snow (Clear) Dark(L) 6:00 PM Straight (on Grade) / Non-junction	❄ Single Veh (Jackknife)	① 26M PITTSBURGH PA Truck Tractor EB Passing Weather			
331682	▶ Incapacitating Injury 08/10/15 Monday Dry (Clear) Daylight 9:10 AM Straight (on Level) / Intersection	Rear End	① 40M CATHAY ND Pickup - Van - Utility EB Going Straight Failed to Yield	② 70M SYKESTON ND Pickup - Van - Utility EB Turning Left	V2 stopped waiting to make an EB left turn onto 56 Ave NE. V1 rear ended V2.	56 Ave NE
321177 52 212	▷ Possible Injury 01/22/15 Thursday Ice / Snow (Cloudy) Dark 7:20 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 38F ESMOND ND Passenger Car WB Going Straight Weather			
320085	PDO 01/22/15 Thursday Ice / Snow (Severe Wind) Dark 7:15 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 56M YPSILANTI MI Truck Tractor WB Going Straight Weather			
320086 52 212.33	PDO 01/22/15 Thursday Ice / Snow (Severe Wind) Dark 7:15 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 60M BALTIMORE ON Pickup - Van - Utility WB Going Straight Weather			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

**LEGEND**  
▶ Fatal  
▶ Incapacitating Injury  
▶ Non-Incapacitating Injury  
▷ Possible Injury  
◆ Wet surface  
❄ Snow, Ice, Slush, Frost  
▲ Crash related to work zone  
① Unit number

**1. Contributing Factor**  
\* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>		Shortened Narrative	Name of Intersection
276789 52 213.08	PDO 04/15/13 Monday Ice / Snow (Bl Snow) Daylight 3:40 PM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 36M JACKSONVILLE BEACH FL Truck Tractor EB Going Straight To Fast for Conditions			
273653 52 215.12	PDO 03/05/13 Tuesday Ice / Snow (Clear) Daylight 4:30 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 49M JAMESTOWN ND Pickup - Van - Utility EB Going Straight To Fast for Conditions			
317335 52 216.33	▷ Possible Injury 12/15/14 Monday Ice / Snow (Frozen Prcp) Daylight 11:18 AM Straight (on Grade) / Non-junction	❄ Single Veh (Jackknife)	① 31M LOVELAND CO Truck Tractor EB Going Straight Weather			
1042999 52 216.33	▶ Non-incapacitating injury 11/04/17 Saturday Ice / Snow (Snow) Daylight 11:58 AM Straight (on Grade) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 21F ABERDEEN SD EJECTED Pickup - Van - Utility WB Going Straight To Fast for Conditions			
300771 52 216.89	PDO 03/21/14 Friday Ice / Snow (Bl Snow) Daylight 9:45 AM Straight (on Level) / Non-junction	❄ Single Veh (Ran Off Roadway)	① 43F SHEYENNE ND Pickup - Van - Utility WB Going Straight To Fast for Conditions			
293295 52 216.91	▶ Non-incapacitating injury 12/16/13 Monday Snow (Bl Snow) Dark 8:40 PM Straight (on Level) / Non-junction	❄ Sideswipe (Opp. Dir.)	① 27M ROCK SPRINGS WY Pickup - Van - Utility EB Going Straight Weather*  ② 52M MEMONOMIE WI 3+ Axle WB Going Straight Weather			
1020342 52 217.7	PDO 10/29/16 Saturday Dry (Clear) Daylight 11:30 AM Straight (on Level) / Non-junction	Sideswipe (Same Dir.)	① 58M HOLMEN WI Truck Tractor WB Going Straight  ② 25M CARRINGTON ND Single Unit Truck WB Turning Left Failed to Yield			
275432 52 218.17	PDO 03/07/13 Thursday Ice / Snow (Unkown) Dark 8:30 PM Straight (on Level) / Non-junction	❄ Single Veh (Ran off roadway)	① 37M DELTONA FL 2-Axle WB Going Straight (Stop) Weather			
273463 52 218.7	▶ Non-incapacitating injury 02/24/13 Sunday Dry (Clear) Daylight 5:13 PM Straight (on Level) / Intersection	Rear End	① 20M SYKESTON ND Passenger Car WB Going Straight Attn Distracted-Inside  ② 19F CARRINGTON ND Passenger Car WB Turning Right			63 Ave NE
1030184 52 219.76	▶ Non-incapacitating injury 03/04/17 Saturday Wet (Clear) Daylight 12:00 PM Straight (on Level) / Non-junction	◆ Single Veh (Ditch)	① 33M CUTLER BAY FL Truck Tractor EB Other Action on Roadway Over Correct/Steering			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**  
 ▶ Fatal  
 ▶ Incapacitating Injury  
 ▶ Non-Incapacitating Injury  
 ▷ Possible Injury  
 ◆ Wet surface  
 ❄ Snow, Ice, Slush, Frost  
 ▲ Crash related to work zone  
 ① Unit number

**1. Contributing Factor**  
 \* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
 For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
1035631 52 219.99	▶ Non-incapacitating injury 06/18/17 Sunday Dry (Cloudy) Daylight 7:15 PM Straight (on Level) / Non-junction	Rear End	① 65M SAINT-LAURENT QC Truck Tractor EB Going Straight Following too Close	② 56F CARRINGTON ND Pickup - Van - Utility EB Slowing/Stopping D.U.I. (Alcohol)*		
1035682 52 220.54	PDO 06/18/17 Sunday Mud Dirt Gravel (Unkown) Dark 10:00 PM Straight (on Level) / Non-junction	Single Veh (Other Object (Not Fixed))	① 34M CARRINGTON ND Pickup - Van - Utility EB Going Straight			
1019391	▶ Non-incapacitating injury 10/12/16 Wednesday Mud Dirt Gravel (Clear) Dark 7:15 PM Straight (on Level) / Interchange	Single Veh (Overturn / Rollover)	① 49M CARRINGTON ND EJECTED Hit and Run WB Turning Left Improper Turn			
1035649 52 221	PDO 06/18/17 Sunday Dry (Cloudy) Dark 10:00 PM Straight (on Level) / Non-junction	Single Veh (Other Object (Not Fixed))	① 19M CARRIGTON ND Passenger Car EB Going Straight			
274545 52 221.1	▶ Non-incapacitating injury 03/13/13 Wednesday Ice / Snow (Clear) Daylight 12:05 PM Curve (on Level) / Non-junction	Single Veh (Overturn / Rollover) ❄	① 28M PRAGUE OK Pickup - Van - Utility WB Negotiating Curve To Fast for Conditions			
275430 52 221.56	PDO 03/12/13 Tuesday Ice / Snow (Bl Snow) Daylight 8:00 AM Curve (on Grade) / Non-junction	Single Veh (Ran off roadway) ❄	① 53M MORRICE MI Pickup - Van - Utility WB Going Straight (Stop) Weather			
1020237 52 221.7	PDO 10/28/16 Friday Dry (Clear) Daylight 9:10 AM Curve (on Level) / Intersection	Sideswipe (Same Dir.)	① 55F ROSEMOUNT MN Passenger Car WB Passing Improper Overtaking	② 38M CAVALIER ND Unknown Heavy Truck WB Turning Right		66 Ave NE
309496 52 221.7	PDO 08/07/14 Thursday Dry (Clear) Daylight 10:15 AM Curve (on Level) / Intersection	Single Veh (Luminaire / Light Support)	① 22F STAPLES MN Passenger Car EB Going Straight Attn Distracted-Inside			66 Ave NE
293174 52 221.93	PDO 12/17/13 Tuesday Ice / Snow (Bl Snow) Daylight 8:45 AM Straight (on Level) / Railroad Crossing	Rear End ❄	① 17M CARRINGTON ND Passenger Car EB Going Straight Weather	② 32M ALEXANDRIA MN 3+ Axle EB Stopped  Parked MV		
332795 52 221.96	PDO 09/03/15 Thursday Dry (Cloudy) Daylight 11:00 AM Straight (on Level) / Railroad Crossing	Sideswipe (Same Dir.)	① 27M LITTLE FALLS MN Pickup - Van - Utility EB Going Straight (Oth) Following too Close	② 35M BECKEMEYER IL Truck Tractor EB Going Straight (RR)		

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**

- ▶ **Fatal**
- ▶ **Incapacitating Injury**
- ▶ **Non-Incapacitating Injury**
- ▷ **Possible Injury**
- ◆ **Wet surface**
- ❄ **Snow, Ice, Slush, Frost**
- ▲ **Crash related to work zone**
- ① **Unit number**

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>			Shortened Narrative	Name of Intersection
1016636 52 222.09	PDO 08/16/16 Tuesday Dry (Clear) Daylight 10:30 AM Straight (on Level) / Non-junction	Single Veh (Guardrail Face) ▲	① 26M FINLEY ND Farm Equipment WB Going Straight (Signal)				
326834 52 223.71	PDO 05/17/15 Sunday Slush (Frozen Prcp) Dusk 8:30 PM Curve (on Grade) / Non-junction	❄ Single Veh (Ran off roadway)	① 19F MADDOCK ND Passenger Car NB Going Straight To Fast for Conditions				
1028208 52 223.99	▶ Non-incapacitating injury 02/01/17 Wednesday Ice / Snow (Clear) Daylight 1:12 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 81F JAMESTOWN ND Pickup - Van - Utility NB Going Straight To Fast for Conditions				
317533 52 224.36	PDO 12/20/14 Saturday Ice / Snow (Fog) Daylight 8:50 AM Straight (on Level) / Non-junction	❄ Rear End	① 35F FORT TOTTEN ND Pickup - Van - Utility SB Passing Weather	② 39M ORLANDO FL 3+ Axle SB Going Straight Weather			
288337	PDO 10/05/13 Saturday Wet (Rain) Daylight 2:23 PM Straight (on Level) / Intersection	◆ Sideswipe (Same Dir.)	① 17F CARRINGTON ND Passenger Car SB U-Turn MV Mechanical Failure	② 53M BISMARCK ND Passenger Car SB Going Straight  MV Tran in Other Rdwy			1 St NE
336168 52 224.6	▶ Non-incapacitating injury 11/20/15 Friday Dry (Clear) Daylight 2:55 PM Straight (on Level) / Non-junction	Sideswipe (Opp. Dir.)	① 21M MINOT ND Emergency Vehicle SB Wrong Side of Road Careless/Reckless Driving Ran Off Roadway	② 19M MINOT ND Pickup - Van - Utility NB Slowing/Stopping Other Ditch			
1023561 52 224.76	PDO 12/07/16 Wednesday Snow (Snow) Daylight 12:01 PM Straight (on Level) / Non-junction	❄ Backing	① 46M CARRINGTON ND Construction Equipment SB Backing Weather	② Pickup - Van - Utility NB Driverless (Stopped) Weather Parked MV			
317679 52 225.85	▶ Non-incapacitating injury 12/20/14 Saturday Frost (Fog) Daylight 9:15 AM Straight (on Level) / Non-junction	❄ Rear End	① 19M LOON LAKE WA Passenger Car NB Going Straight Weather	② 58M CARRINGTON ND Pickup - Van - Utility NB Going Straight			
273248 52 226.27	PDO 03/04/13 Monday Ice / Snow (Bl Snow) Daylight 8:40 AM Straight (on Level) / Intersection	❄ Rear End	① 30M DEVILS LAKE ND Pickup - Van - Utility SB Going Straight Speed	② 26M WILLISTON ND Pickup - Van - Utility SB Turning Left Weather			1 St SE #535
307841 52 226.59	▶ Non-incapacitating injury 07/21/14 Monday Wet (Severe Wind) Daylight 7:30 PM Straight (on Level) / Non-junction	◆ Single Veh (Overturn / Rollover)	① 71M CLIMAX MN Truck Tractor NB Stopped Weather				

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**

- ▶ Fatal
- ▶ Incapacitating Injury
- ▶ Non-Incapacitating Injury
- ▷ Possible Injury
- ◆ Wet surface
- ❄ Snow, Ice, Slush, Frost
- ▲ Crash related to work zone
- ① Unit number

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	Shortened Narrative	Name of Intersection
273247 52 229	PDO 02/18/13 Monday Snow (BI Snow) Dark 1:30 AM Straight (on Level) / Non-junction	❄ Single Veh (Jackknife)	① 66M MAIDEN NC Pickup - Van - Utility NB Going Straight Weather		
1016774 52 230.3	▶ Non-incapacitating injury 08/27/16 Saturday Dry (Clear) Dark 5:40 AM Straight (on Level) / Non-junction	Rear End	① 23M JAMESTOWN ND Unknown Heavy Truck NB Going Straight Careless/Reckless Driving	② 76M JAMESTOWN ND Passenger Car NB Going Straight	
308097 52 231.75	▷ Possible Injury 08/02/14 Saturday Wet (Rain) Daylight 4:20 PM Straight (on Level) / Non-junction	◆ Single Veh (Ran off roadway)	① 40F CARRINGTON ND Passenger Car SB Going Straight		
322401 52 231.9	PDO 02/17/15 Tuesday Dry (Clear) Dark 11:30 PM Straight (on Level) / Non-junction	Single Veh (Separation of Units)	① 43M BRAINERD MN 3+ Axle SB Going Straight Fail Keep in Proper Lane		
336288 52 0.41	PDO 11/30/15 Monday Snow (BI Snow) Dark 8:15 PM Straight (on Level) / Intersection	❄ Single Veh (Mail Box)	① 36F FARGO ND Pickup - Van - Utility SB Going Straight To Fast for Conditions		Private Driveway
326738 52 0.46	▷ Possible Injury 05/07/15 Thursday Dry (Clear) Dark 9:30 PM Straight (on Level) / Non-junction	Single Veh (Ditch)	① 28M CARRINGTON ND Passenger Car NB Swerving Fail Keep in Proper Lane*		
295680 52 0.57	PDO 01/12/14 Sunday Ice / Snow (Cloudy) Daylight 8:27 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 36M NAPLES FL Truck Tractor NB Passing To Fast for Conditions		
273652 52 234.99	PDO 03/05/13 Tuesday Dry (Clear) Daylight 3:35 PM Straight (on Grade) / Non-junction	Sideswipe (Opp. Dir.)	① 21M PINGREE ND Pickup - Van - Utility SB Going Straight Fail Keep in Proper Lane	② 64M NORFOLK NE Truck Tractor NB Going Straight	
320000 52 235.24	▷ Possible Injury 12/23/14 Tuesday Ice / Snow (Cloudy) Dark 6:06 AM Straight (on Level) / Non-junction	❄ Sideswipe (Opp. Dir.)	① Hit and Run NB Going Straight Weather	② NEW ROCKFORD ND Passenger Car SB Going Straight	
300004 52 236.76	▶ Non-incapacitating injury 03/06/14 Thursday Slush (Cloudy) Daylight 9:25 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 32M NEW IBERIA LA Pickup - Van - Utility NB Going Straight To Fast for Conditions		

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

**23 USC § 409 Documents  
 NDDOT Reserves All Objections**

**LEGEND**  
 ▶ Fatal  
 ▶ Incapacitating Injury  
 ▶ Non-Incapacitating Injury  
 ▷ Possible Injury  
 ◆ Wet surface  
 ❄ Snow, Ice, Slush, Frost  
 ▲ Crash related to work zone  
 ① Unit number

**1. Contributing Factor**  
 \* = alcohol or drugs involved  
  
**2. Most Harmful Event**  
 For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
338136 52 237.67	▶ Non-incapacitating injury 02/18/16 Thursday Ice / Snow (Fog) Dark 6:50 AM Straight (on Level) / Non-junction	◆ Single Veh (Overturn / Rollover)	① 24M MINOT ND Pickup - Van - Utility SB Going Straight To Fast for Conditions			
286726 52 238.99	PDO 09/12/13 Thursday Dry (Cloudy) Daylight 11:59 AM Straight (on Level) / Non-junction	Rear End	① 79M HARVEY ND Pickup - Van - Utility SB Going Straight Following too Close	② 57F CARRINGTON ND Pickup - Van - Utility SB Slowing/Stopping		
328536 52 239.21	PDO 06/11/15 Thursday Dry (Clear) Daylight 7:35 PM Straight (on Level) / Non-junction	◆ Single Veh (Fire / Explosion)	① 45M HARVEY ND Passenger Car NB Going Straight MV Mechanical Failure			
299909 52 239.74	PDO 03/05/14 Wednesday Ice / Snow (BI Snow) Daylight 3:55 PM Straight (on Grade) / Non-junction	◆ Single Veh (Overturn / Rollover)	① 47M HARVEY ND Pickup - Van - Utility NB Going Straight Weather			
315961 52 239.99	PDO 11/26/14 Wednesday Ice / Snow (BI Snow) Daylight 10:14 AM Straight (on Grade) / Non-junction	◆ Sideswipe (Opp. Dir.)	① 70M EARL GREY SK Pickup - Van - Utility NB Going Straight Weather	② 36M CARRINGTON ND Passenger Car SB Going Straight Weather		
1041616 52 240.3	PDO 10/12/17 Thursday Dry (Clear) Daylight 5:00 PM Straight (on Level) / Intersection	Angle	① 18M BUCHANAN ND Pickup - Van - Utility SB Going Straight Speed Ran Off Roadway	② 18M SILVER LAKE KS Unknown Heavy Truck WB Turning Right	V1 SB traveling above the posted speed limit. V2 making SB right turn. V1 unable to stop in time, went into the ditch and struck V2.	13 St SE
330029 52 240.72	▶ Fatal 07/03/15 Friday Dry (Cloudy) Dark 3:08 AM Straight (on Level) / Non-junction	Head on	① 24M NEW ROCKFORD ND Pickup - Van - Utility SB Wrong Side of Road Drove left of center*	② 56M ADRIAN ND Truck Tractor NB Going Straight	V1 SB at 65 mph. V2 NB at 65 mph. V1 crossed centerline and collided with V2.	
287132 52 240.73	▶ Incapacitating Injury 09/21/13 Saturday Dry (Fog) Daylight 7:57 AM Straight (on Level) / Non-junction	Sideswipe (Opp. Dir.)	① 23M CITRUS HEIGHTS CA 3+ Axle NB Passing Improper Overtaking Other Non-Collision	② 62M NEW ROCKFORD ND Pickup - Van - Utility SB Going Straight Weather	V1 NB at 55 mph passing another NB vehicle. V1 went into the SB lane and struck SB V2. Dense fog in the area at the time of this crash.	
271610 52 240.99	PDO 02/09/13 Saturday Ice / Snow (Frozen Prcp) Daylight 9:10 AM Straight (on Grade) / Non-junction	◆ Single Veh (Ran Off Roadway)	① 50M WARROAD MN Pickup - Van - Utility NB Going Straight To Fast for Conditions			
330000 52 241.01	PDO 07/03/15 Friday Dry (Unkown) Dark 3:15 AM Straight (on Grade) / Non-junction	◆ Single Veh (Other Object (Not Fixed))	① 44M LITTLE FALLS MN Truck Tractor SB Going Straight Other			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

**LEGEND**

- ▶ Fatal
- ▶ Incapacitating Injury
- ▶ Non-Incapacitating Injury
- ▷ Possible Injury
- ◆ Wet surface
- ❄ Snow, Ice, Slush, Frost
- ▲ Crash related to work zone
- ① Unit number

**1. Contributing Factor**

\* = alcohol or drugs involved

**2. Most Harmful Event**

For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>		Shortened Narrative	Name of Intersection
332912	▶ Incapacitating Injury 09/06/15 Sunday Dry (Clear) Dark 10:40 PM Straight (on Level) / Non-junction	Single Veh (Ran Off Roadway)	① 75F PINGREE ND Pickup - Van - Utility NB Going Straight Fail Keep in Proper Lane		V1 NB drifted into the ditch and then hit an approach, landed on its passenger side.	
317321 52 90.724	PDO 12/14/14 Sunday Ice / Snow (Fog) Daylight 8:45 AM Straight (on Level) / Non-junction	❄ Single Veh (Ran Off Roadway)	① 48F BRANTFORD ON Pickup - Van - Utility NB Going Straight Weather			
295085 52 90.624	▶ Non-incapacitating injury 01/03/14 Friday Ice / Snow (Rain) Daylight 2:45 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 39M MINOT ND Pickup - Van - Utility NB Going Straight Too Fast for Conditions			
1009819 52 244.82	PDO 03/19/16 Saturday Dry (Clear) Daylight 3:30 PM Straight (on Level) / Non-junction	Single Veh (Post)	① 55M SYKESTON ND Pickup - Van - Utility NB Going Straight Fail Keep in Proper Lane			
309329 52 245.46	▶ Incapacitating Injury 08/20/14 Wednesday Dry (Clear) Dusk 8:52 PM Straight (on Level) / Non-junction	Head on	① 16M JAMESTOWN ND Passenger Car SB Changing Lanes (Oth) Improper Overtaking	② 30M MOORHEAD MN 3+ Axle NB Going Straight (Oth)	V1 SB behind stopped vehicle who was waiting to make a SB left into "The 281 Stop". V1 moved into the NB lane to pass the stopped vehicle and collided with NB V2.	
317981 52 246.15	PDO 12/22/14 Monday Snow (Snow) Dark 5:44 PM Straight (on Level) / Non-junction	❄ Sideswipe (Same Dir.)	① 20F WEST FARGO ND Passenger Car NB Passing Too Fast for Conditions	② 54F CARRINGTON ND Passenger Car NB Going Straight Weather		
313610 52 246.48	PDO 10/22/14 Wednesday Dry (Clear) Dark 7:05 AM Straight (on Grade) / Non-junction	Rear End	① 32M GARY TX Pickup - Van - Utility NB Going Straight Speed	② 59M Passenger Car NB Going Straight No Insurance		
1025169 52 247.02	PDO 12/31/16 Saturday Ice / Snow (Bl Snow) Daylight 10:45 AM Straight (on Level) / Non-junction	❄ Single Veh (Cargo Loss or Shift)	① 70M LISBON ND Pickup - Van - Utility NB Going Straight Fail Keep in Proper Lane			
1017185	▶ Non-incapacitating injury 09/03/16 Saturday Dry (Clear) Dark 5:34 AM Straight (on Level) / Non-junction	Single Veh (Other Non- Collision)	① 25M WEST FARGO ND Pickup - Van - Utility NB Other Action on Roadway			
1045614 52 248.38	PDO 12/14/17 Thursday Ice / Snow (Cloudy) Daylight 8:20 AM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 16M BUCHANAN ND Pickup - Van - Utility NB Going Straight Other			

**Crash Summary Sheets**

**Total Crashes:** 138 (Sorted by Longitude)  
**Location:** US 52, Harvey-Buchanan (excludes Carrington)  
**Reference Points:** 170-252.417  
**Start - End Date:** 1/1/2013 - 12/31/2017 (5 Years)

23 USC § 409 Documents  
 NDDOT Reserves All Objections

- LEGEND**
- ▶ Fatal
  - ▶ Incapacitating Injury
  - ▶ Non-Incapacitating Injury
  - ▷ Possible Injury
  - ◆ Wet surface
  - ❄ Snow, Ice, Slush, Frost
  - ▲ Crash related to work zone
  - ① Unit number

- 1. Contributing Factor**  
 \* = alcohol or drugs involved
- 2. Most Harmful Event**  
 For single vehicle crashes, the most harmful event is shown in parentheses in the "Type of Collision" column

Crash No. Hwy RP	Crash Severity Date Day Surface Conditions (Weather) Lighting & Time Road Geometrics / Relation to Jct	Type of Collision	① AGE SEX CITY STATE Unit Configuration Movement (traffic control) Contributing Factor <sup>1</sup> Most Harmful Event <sup>2</sup>	②	Shortened Narrative	Name of Intersection
1045617 52 248.42	▷ Possible Injury 12/14/17 Thursday Ice / Snow (Cloudy) Daylight 8:20 AM Straight (on Level) / Non-junction	❄ Sideswipe (Opp. Dir.)	① 33M CARRINGTON ND Pickup - Van - Utility SB Going Straight	② 37M TIFFIN OH Truck Tractor NB Going Straight Fail Keep in Proper Lane		
291378 52 248.98	PDO 12/01/13 Sunday Ice / Snow (Frozen Prcp) Dark 6:00 PM Straight (on Level) / Non-junction	❄ Single Veh (Ran Off Roadway)	① 23F FARGO ND Passenger Car SB Going Straight To Fast for Conditions			
1020476 52 249.94	▷ Possible Injury 11/01/16 Tuesday Dry (Clear) Daylight 2:00 PM Straight (on Level) / Intersection	Rear End	① 36M FARGO ND Unknown Heavy Truck NB Going Straight Following too Close	② 38M NEW ROCKFORD ND Pickup - Van - Utility NB Going Straight		21 1/2 St SE
275781	PDO 03/28/13 Thursday Dry (Fog) Daylight 8:40 AM Straight (on Level) / Intersection	Angle	① 23M ONAKA SD 3+ Axle EB Turning Left (Stop) Failed to Yield	② 48M FERTILE MN 3+ Axle SB Going Straight		20 St NE
291377 52 250.96	PDO 12/01/13 Sunday Ice / Snow (Frozen Prcp) Dark 4:30 PM Straight (on Level) / Non-junction	❄ Single Veh (Ran Off Roadway)	① 19M WILLISTON ND Pickup - Van - Utility SB Going Straight To Fast for Conditions			
1015843 52 252.04	PDO 08/10/16 Wednesday Dry (Clear) Daylight 7:45 PM Straight (on Level) / Non-junction	Rear End	① 20M ABILENE KS Pickup - Van - Utility NB Going Straight Careless/Reckless Driving	② 19M ABILENE KS Pickup - Van - Utility NB Going Straight Care Required		
1014119 52 252.12	▶ Non-incapacitating injury 07/03/16 Sunday Dry (Cloudy) Dusk 9:30 PM Straight (on Level) / Non-junction	Single Veh (Ran off roadway)	① 16M WEST FARGO ND Passenger Car SB Passing Improper Overtaking	② 61M HARVEY ND Motorcycle NB Going Straight *	V1 SB passing another SB vehicle. V2 NB laid his bike over and took to the ditch to avoid a collision with V1. V1 returned to scene to check on V2 and phoned in the incident.	
288551 52 252.45	PDO 10/16/13 Wednesday Oil (Clear) Daylight 6:28 PM Straight (on Level) / Non-junction	Rear End	① 59M ALEXANDRIA MN Pickup - Van - Utility SB Going Straight Defective Equipment MV Tran in Other Rdwy	② 49M LETHBRIDGE AB Truck Tractor SB Going Straight MV Tran in Other Rdwy		



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

638

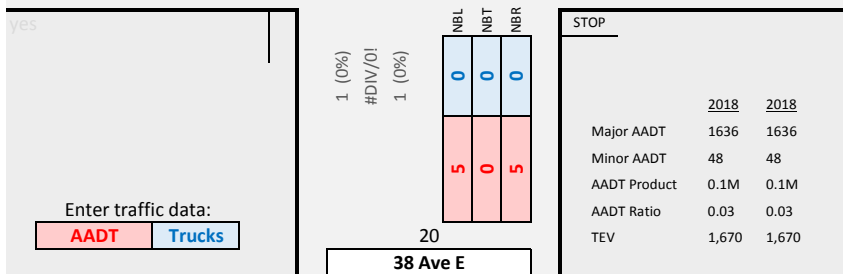
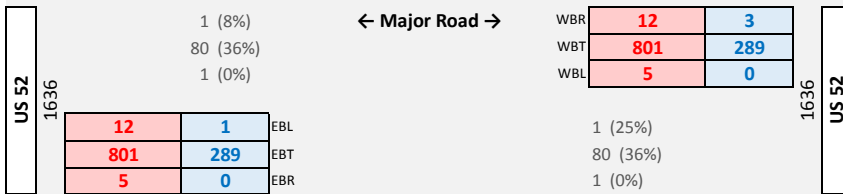
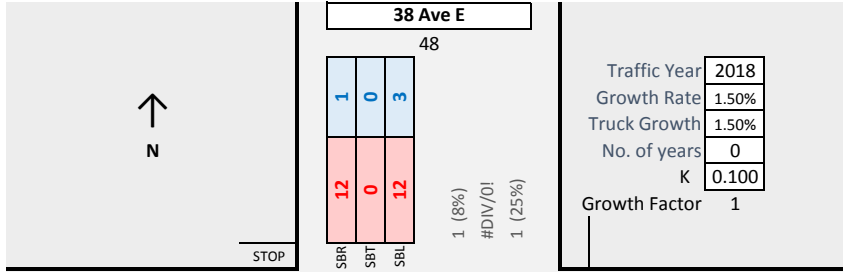
Intersection Info

US 52 38 Ave E

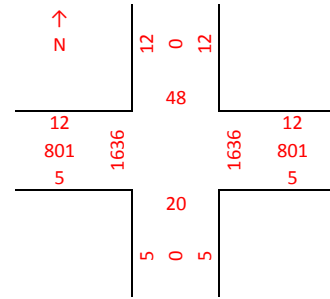
Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
178.300		
65	55	Y
East-West		
Stop on Minor Road		
No		
Level		

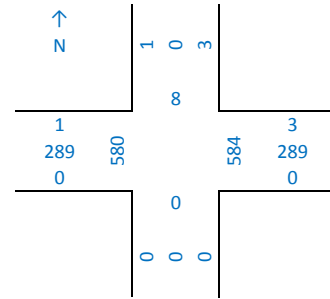
E<sub>T</sub> = 1.5



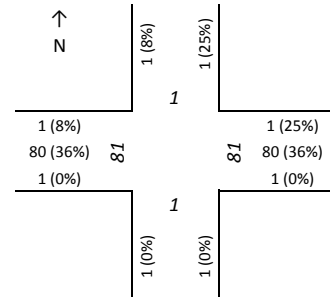
2018 AADTs



2018 TAADTs



2018 Truck %



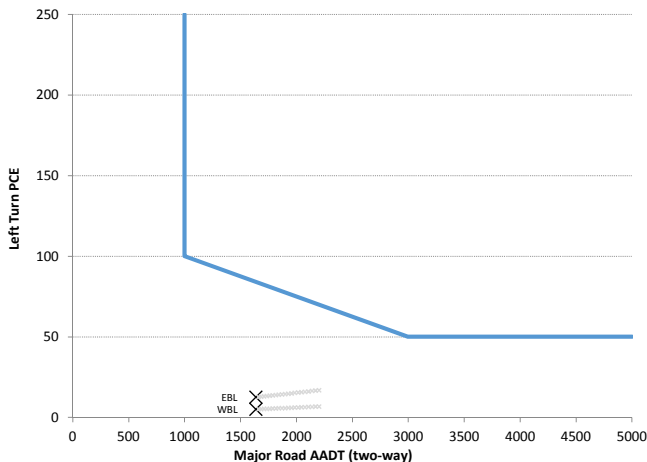
LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 12$	$V_{LT} = 5$
$P_T = 0.08$	$P_T = 0.00$
$PCE = 13$	$PCE = 5$
$AADT = 1636$	$AADT = 1636$
Met? No	Met? No

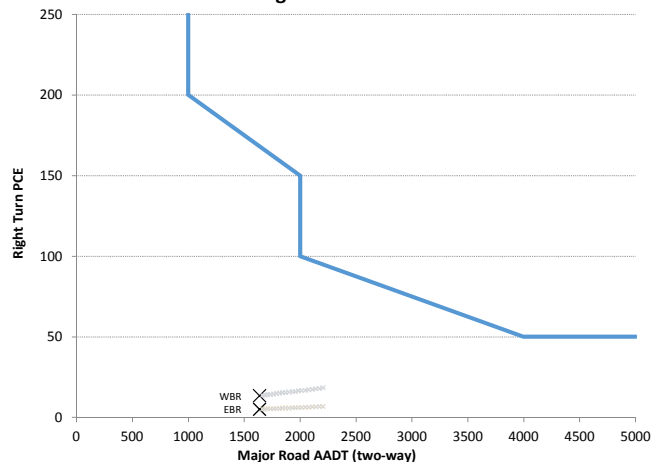
RIGHT Turn Lane Volume Criteria (1.A)

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 5$	$V_{RT} = 12$
$P_T = 0.00$	$P_T = 0.25$
$PCE = 5$	$PCE = 14$
$AADT = 1636$	$AADT = 1636$
Met? No	Met? No

Left Turn Lane



Right Turn Lane



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

65

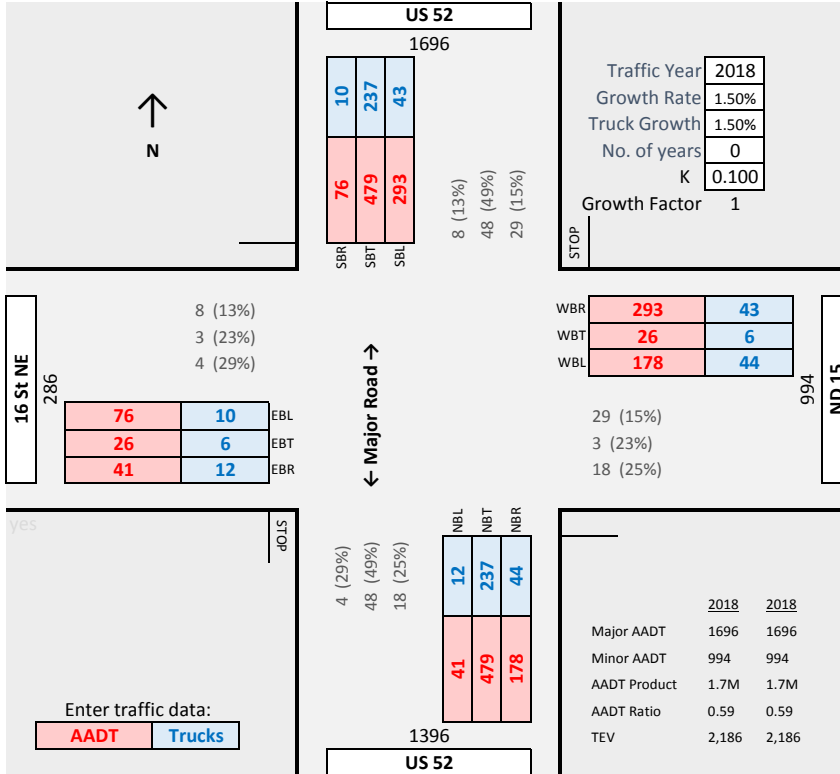
Intersection Info

US 52 16 St NE – ND 15

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
185.600		
55	25	Y
North-South		
Stop on Minor Road		
No		Y
Major Road a Divided Highway?		
Level		

E<sub>T</sub> = 1.5



2018 AADTs

↑			
N	76	479	293
	1696		
	76		293
	26	286	994
	41		26
		1396	178
		41	479
		178	

2018 TAADTs

↑			
N	10	237	43
	580		
	10		43
	6	56	6
	12		44
		586	186
		12	237
		44	

2018 Truck %

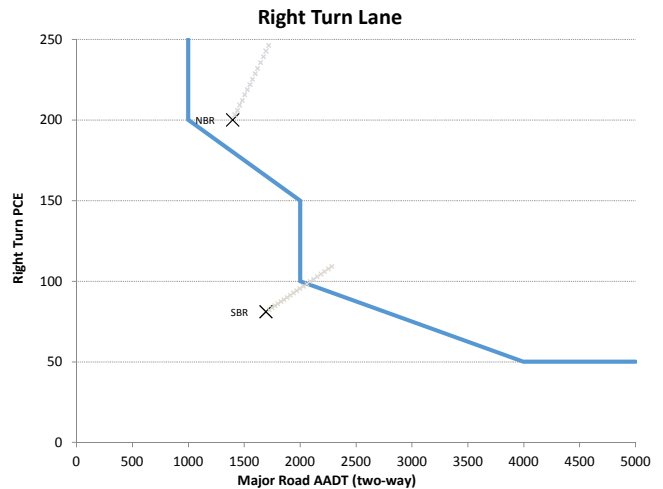
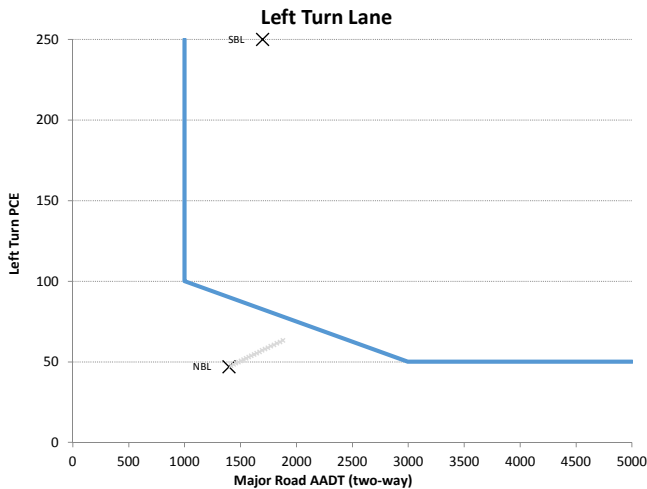
↑			
N	8 (13%)	48 (49%)	29 (15%)
	1914		
	8 (13%)		29 (15%)
	3 (23%)	256	3 (23%)
	4 (29%)		18 (25%)
		224	126
	4 (29%)	48 (49%)	18 (25%)
		18 (25%)	

LEFT Turn Lane Volume Criteria (1.A)

<b>SBL</b>	<b>NBL</b>
PCE = $V_{LT}(1+P_T(E_T-1))$	PCE = $V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 293$	$V_{LT} = 41$
$P_T = 0.15$	$P_T = 0.29$
PCE = 315	PCE = 47
AADT = 1696	AADT = 1396
Met? Yes	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

<b>SBR</b>	<b>NBR</b>
PCE = $V_{RT}(1+P_T(E_T-1))$	PCE = $V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 76$	$V_{RT} = 178$
$P_T = 0.13$	$P_T = 0.25$
PCE = 81	PCE = 200
AADT = 1696	AADT = 1396
Met? No	Met? Yes
(may be met in 2032)	



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

1126

Intersection Info

US 52 2 St

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road
186.080	
65	40
North-South	
Stop on Minor Road	
No	
Level	

E<sub>T</sub> = 1.5

2018 AADTs

↑			
N	1	681	16
		1396	
	1		16
	1	8	1
	2		50
		1466	
	2	681	50

2018 TAADTs

↑			
N	0	290	3
		586	
	0		3
	0	0	0
	0		5
		590	
	0	290	5

2018 Truck %

↑			
N	0 (0%)	68 (43%)	2 (19%)
		146	
	0 (0%)		2 (19%)
	0 (0%)	0	0 (0%)
	0 (0%)		5 (10%)
		0	
	0 (0%)	68 (43%)	5 (10%)

US 52

0	290	3
1	681	16

SBR SBT SBL

0 (0%)  
68 (43%)  
2 (19%)

STOP

Traffic Year 2018

Growth Rate 1.50%

Truck Growth 1.50%

No. of years 0

K 0.100

Growth Factor 1

2 St

1	0
1	0
2	0

EBL EBT EBR

0 (0%)  
0 (0%)  
0 (0%)

Major Road →

16	3
1	0
50	5

WBR WBT WBL

2 (19%)  
0 (0%)  
5 (10%)

US 52

0	290	5
2	681	50

NBL NBT NBR

0 (0%)  
68 (43%)  
5 (10%)

STOP

Enter traffic data:

**AADT** Trucks

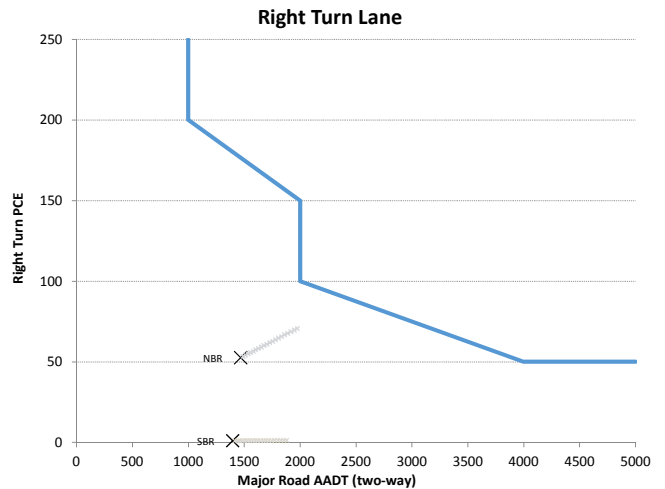
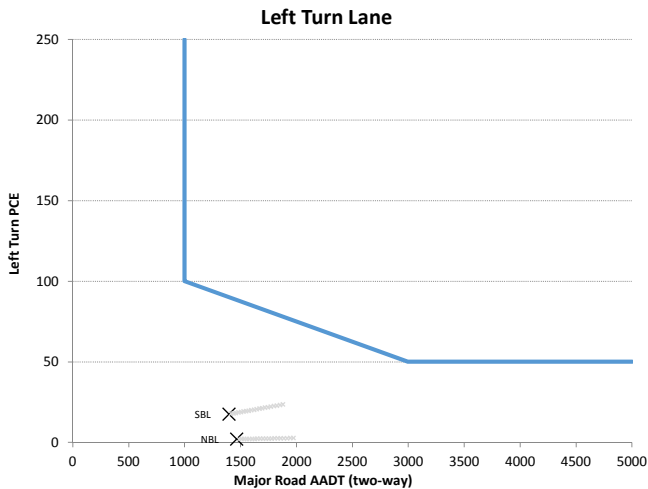
2018	2018
Major AADT	1466
Minor AADT	134
AADT Product	0.2M
AADT Ratio	0.09
TEV	1,502

LEFT Turn Lane Volume Criteria (1.A)

SBL	NBL
PCE = $V_{LT}(1+P_T(E_T-1))$	PCE = $V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 16$	$V_{LT} = 2$
$P_T = 0.19$	$P_T = 0.00$
PCE = 18	PCE = 2
AADT = 1396	AADT = 1466
Met? No	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

SBR	NBR
PCE = $V_{RT}(1+P_T(E_T-1))$	PCE = $V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 1$	$V_{RT} = 50$
$P_T = 0.00$	$P_T = 0.10$
PCE = 1	PCE = 53
AADT = 1396	AADT = 1466
Met? No	Met? No



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

526

Intersection Info

US 52 9 St NE

Reference Points	192.730	
Speed Limits (mph)	65	55
Select Major Road Directions	North-South	
Intersection/Junction Traffic Control	Stop on Minor Road	
Major Road a Divided Highway?	No	
Terrain	Level	

E<sub>T</sub> = 1.5

2018 AADTs

↑	0	679	11
N	0	1380	
0	0		11
0	0		0
0			6
		1370	
		0	6
		679	6

2018 TAADTs

↑	0	277	0
N	0	554	
0	0		0
0	0		0
0			0
		554	
		0	0
		277	0

2018 Truck %

↑	68 (41%)	1 (0%)
N	69	1 (0%)
0		1 (0%)
0		1 (0%)
0		1 (0%)
	0	
	68 (41%)	1 (0%)

US 52

1380

SBR	0	277	0
SBT	679		
SBL	11		

#DIV/O!  
68 (41%)  
1 (0%)

STOP

Traffic Year 2018

Growth Rate 1.50%

Truck Growth 1.50%

No. of years 0

K 0.100

Growth Factor 1

9 St NE

0

EBL	0	0
EBT	0	0
EBR	0	0

#DIV/O!  
#DIV/O!  
#DIV/O!

Major Road →

← Major Road

34

9 St NE

WBR 11, 0

WBT 0, 0

WBL 6, 0

1 (0%)  
#DIV/O!  
1 (0%)

US 52

1370

NBL	0	277	0
NBT	679		
NBR	6		

#DIV/O!  
68 (41%)  
1 (0%)

STOP

Enter traffic data:

AADT Trucks

Major AADT	1380	1380
Minor AADT	34	34
AADT Product	0M	0M
AADT Ratio	0.02	0.02
TEV	1,392	1,392

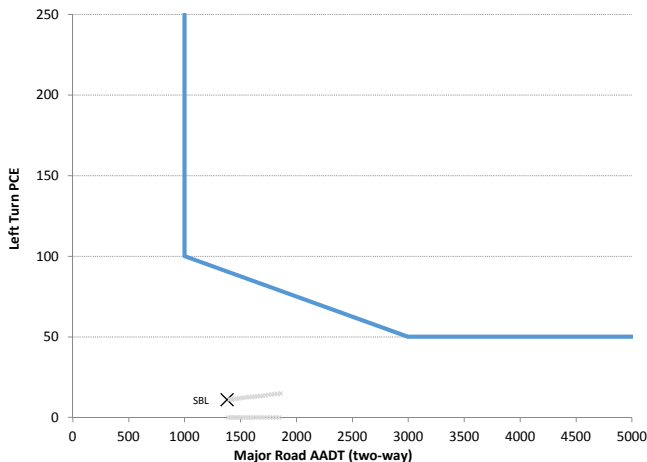
LEFT Turn Lane Volume Criteria (1.A)

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 11$	$V_{LT} = 0$
$P_T = 0.00$	$P_T =$
$PCE = 11$	$PCE =$
$AADT = 1380$	$AADT = 1370$
Met? No	Met?

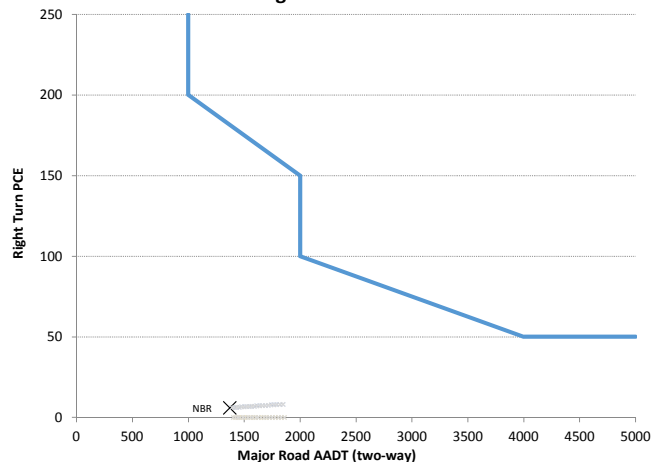
RIGHT Turn Lane Volume Criteria (1.A)

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 0$	$V_{RT} = 6$
$P_T =$	$P_T = 0.00$
$PCE =$	$PCE = 6$
$AADT = 1380$	$AADT = 1370$
Met?	Met? No

Left Turn Lane



Right Turn Lane



**Project Info**

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

66

**Intersection Info**

ND 200 – US 52S 52 – 43 Ave N

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
198.720		
65	65	Y
East-West		
Stop on Minor Road		Y
No		
Level		E <sub>T</sub> = 1.5

**2018 AADTs**

↑			
N	84	15	564
	1326		
	84		564
	245	676	245
	9		19
		86	
	9	15	19
			1656

**2018 TAADTs**

↑			
N	18	2	262
	564		
	18		262
	64	166	64
	1		2
		10	
	1	2	2
			656

**2018 Truck %**

↑			
N	8 (21%)	2 (13%)	56 (46%)
	224		
	8 (21%)		56 (46%)
	25 (26%)	648	25 (26%)
	1 (11%)		2 (11%)
		10	
	1 (11%)	2 (13%)	2 (11%)

**US 52**

1326

SBR	18	2	262
SBT	84	15	564
SBL			

8 (21%)  
2 (13%)  
56 (46%)

Traffic Year: 2018  
 Growth Rate: 1.50%  
 Truck Growth: 1.50%  
 No. of years: 0  
 K: 0.100  
 Growth Factor: 1

**ND 200**

676

EBL	84	18
EBT	245	64
EBR	9	1

8 (21%)  
25 (26%)  
1 (11%)

**Major Road**

WBR	564	262
WBT	245	64
WBL	19	2

56 (46%)  
25 (26%)  
2 (11%)

**43 Ave NE**

86

NBL	1	2	2
NBT	9	15	19
NBR			

1 (11%)  
2 (13%)  
2 (11%)

STOP

2018	2018
Major AADT	1656
Minor AADT	1326
AADT Product	2.2M
AADT Ratio	0.80
TEV	1,872

Enter traffic data:

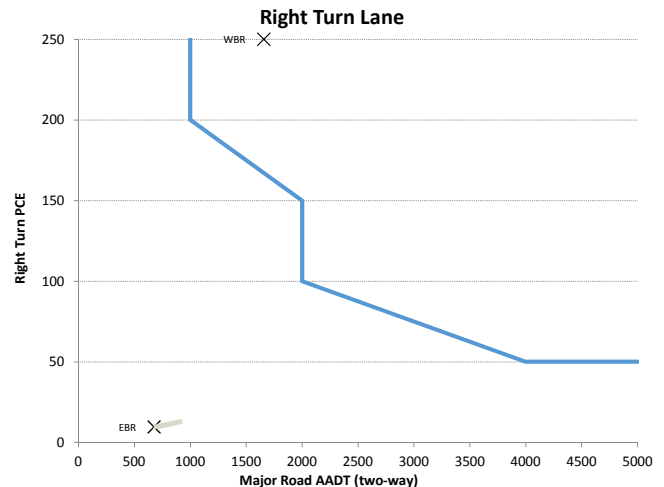
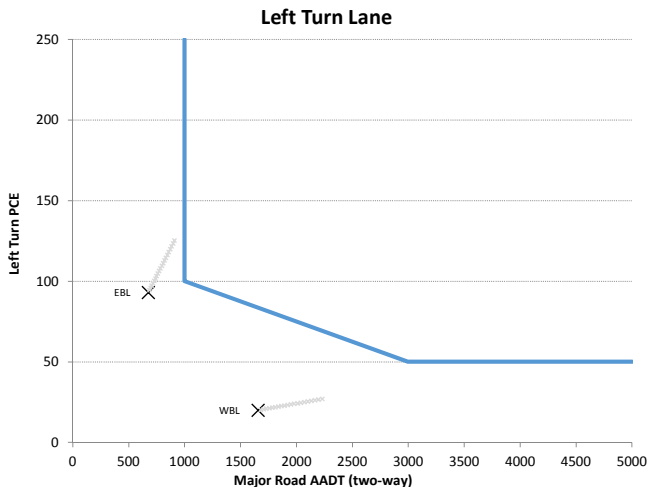
**AADT** **Trucks**

**LEFT Turn Lane Volume Criteria (1.A)**

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 84$	$V_{LT} = 19$
$P_T = 0.21$	$P_T = 0.11$
$PCE = 93$	$PCE = 20$
$AADT = 676$	$AADT = 1656$
Met? No	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 9$	$V_{RT} = 564$
$P_T = 0.11$	$P_T = 0.46$
$PCE = 10$	$PCE = 695$
$AADT = 676$	$AADT = 1656$
Met? No	Met? Yes



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

1052

Intersection Info

US 52 47 Ave NE

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
202.740		
65	55	Y
East-West		
Stop on Minor Road		
No		
Level		

E<sub>T</sub> = 1.5

2018 AADTs

↑			
N	10	1	11
	44		
10	1656		11
809			809
9			10
		9	
		1	
		10	

2018 TAADTs

↑			
N	1	0	3
	8		
1	656		3
326			326
1			1
		1	
		0	
		1	

2018 Truck %

↑			
N	1 (10%)	0 (0%)	1 (27%)
	1		
1 (10%)	82		1 (27%)
81 (40%)			81 (40%)
1 (11%)			1 (10%)
		1	
		0 (0%)	
		1 (10%)	

47 Ave NE

SBR	10	1	3
SBT	1	0	
SBL	11		

1 (10%)  
0 (0%)  
1 (27%)

Traffic Year 2018  
 Growth Rate 1.50%  
 Truck Growth 1.50%  
 No. of years 0  
 K 0.100  
 Growth Factor 1

← Major Road →

WBR	11	3
WBT	809	326
WBL	10	1

1 (27%)  
81 (40%)  
1 (10%)

US 52

EBL	10	1
EBT	809	326
EBR	9	1

1 (10%)  
81 (40%)  
1 (11%)

47 Ave NE

NBL	1	0	1
NBT	1	0	
NBR	10		

1 (11%)  
0 (0%)  
1 (10%)

STOP

Major AADT	1660	1660
Minor AADT	44	44
AADT Product	0.1M	0.1M
AADT Ratio	0.03	0.03
TEV	1,700	1,700

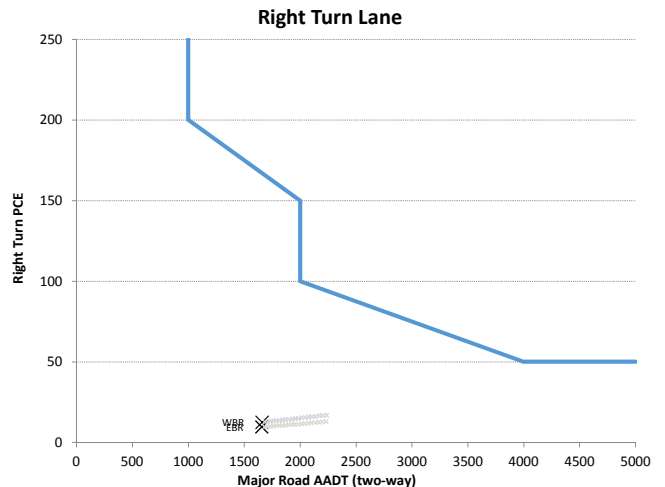
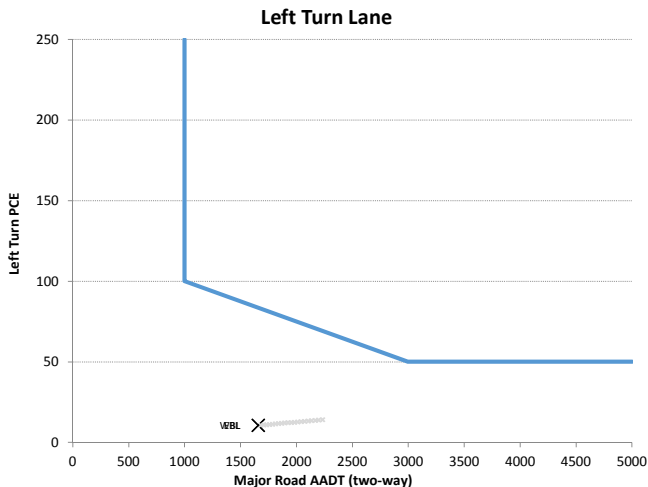
Enter traffic data:

LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>LT</sub> = 10	V <sub>LT</sub> = 10
P <sub>T</sub> = 0.10	P <sub>T</sub> = 0.10
PCE = 11	PCE = 11
AADT = 1656	AADT = 1660
Met? No	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

EBR	WBR
PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>RT</sub> = 9	V <sub>RT</sub> = 11
P <sub>T</sub> = 0.11	P <sub>T</sub> = 0.27
PCE = 10	PCE = 13
AADT = 1656	AADT = 1660
Met? No	Met? No



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

529

Intersection Info

US 52 49 Ave NE

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road
204.720	
65	55
East-West	
Stop on Minor Road	
No	
Level	

E<sub>T</sub> = 1.5

2018 AADTs

↑			
N	5	0	6
		22	
5	1660		6
818			1664
7			8
		30	
		7	0
		8	

2018 TAADTs

↑			
N	1	0	2
		6	
1	660		2
328			664
1			2
		6	
		1	0
		2	

2018 Truck %

↑			
N	1 (20%)	1 (33%)	
		1	
1 (20%)	83		1 (33%)
82 (40%)			82 (40%)
1 (14%)			1 (25%)
		1	
		1 (14%)	1 (25%)

49 Ave NE

22
1 0 2
5 0 6

SBR SBT SBL

1 (20%) #DIV/0!  
1 (33%)

Traffic Year 2018

Growth Rate 1.50%

Truck Growth 1.50%

No. of years 0

K 0.100

Growth Factor 1

← Major Road →

6	2
818	328
8	2

WBR WBT WBL

1 (33%)  
82 (40%)  
1 (25%)

US 52

1 (20%)	82 (40%)	1 (14%)
5	1	EBL
818	328	EBT
7	1	EBR

1660

Enter traffic data:

**AADT** Trucks

49 Ave NE

30
1 0 2
7 0 8

NBL NBT NBR

1 (14%) #DIV/0!  
1 (25%)

STOP

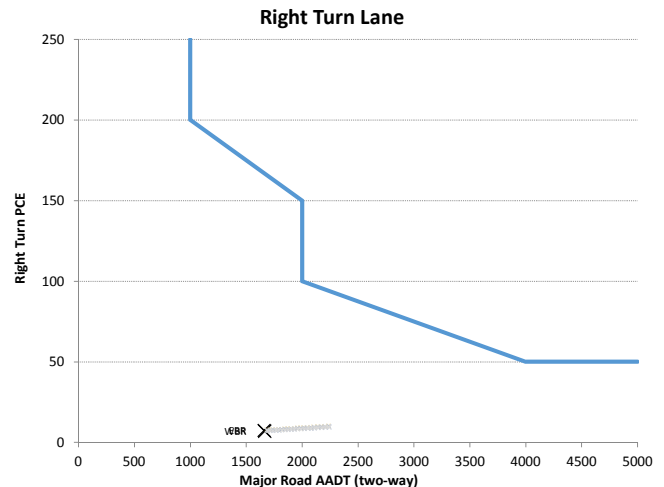
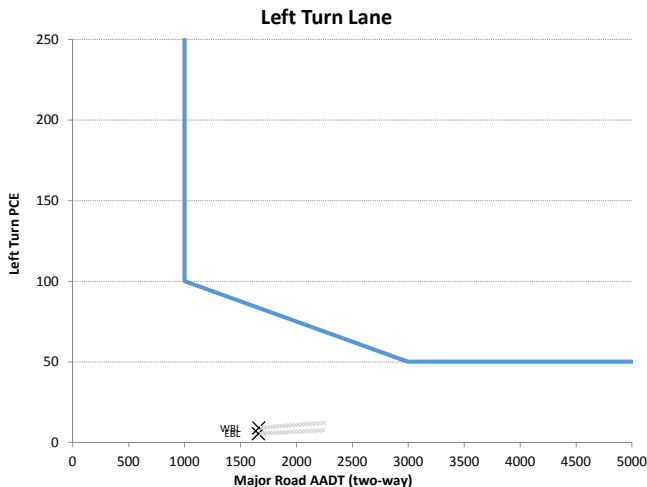
2018	2018
Major AADT	1664 1664
Minor AADT	30 30
AADT Product	0M 0M
AADT Ratio	0.02 0.02
TEV	1,688 1,688

LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>LT</sub> = 5	V <sub>LT</sub> = 8
P <sub>T</sub> = 0.20	P <sub>T</sub> = 0.25
PCE = 6	PCE = 9
AADT = 1660	AADT = 1664
Met? No	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

EBR	WBR
PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>RT</sub> = 7	V <sub>RT</sub> = 6
P <sub>T</sub> = 0.14	P <sub>T</sub> = 0.33
PCE = 8	PCE = 7
AADT = 1660	AADT = 1664
Met? No	Met? No



US 52 / ND 30 – 53 Ave NE

Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

67

Intersection Info

US 52 D 30 – 53 Ave NE

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
208.720		
65	65	Y
East-West		
Stop on Minor Road		Y
No		
Level		E <sub>T</sub> = 1.5

2018 AADTs

↑	N	8	2	73
8	840	1716	166	73
10			50	13
			10	2
			13	8

2018 TAADTs

↑	N	1	1	8
1	330	664	20	8
1			20	8
			1	1
			8	8

2018 Truck %

↑	N	1 (13%)	0 (50%)	7 (11%)
1 (13%)	84 (39%)	91	85	84 (39%)
1 (10%)			1	1 (62%)
			1 (10%)	0 (50%)
			1 (62%)	7 (11%)

**ND 30**

166
SBR 1
SBT 1
SBL 8

1 (13%)  
0 (50%)  
7 (11%)

Traffic Year 2018  
 Growth Rate 1.50%  
 Truck Growth 1.50%  
 No. of years 0  
 K 0.100  
 Growth Factor 1

← Major Road →

WBR 73	8
WBT 840	330
WBL 13	8

7 (11%)  
84 (39%)  
1 (62%)

US 52

1716	
8	1
840	330
10	1

EBL  
EBT  
EBR

Enter traffic data:

**AADT** **Trucks**

**53 Ave NE**

50
NBL 1
NBT 1
NBR 8

1 (10%)  
0 (50%)  
1 (62%)

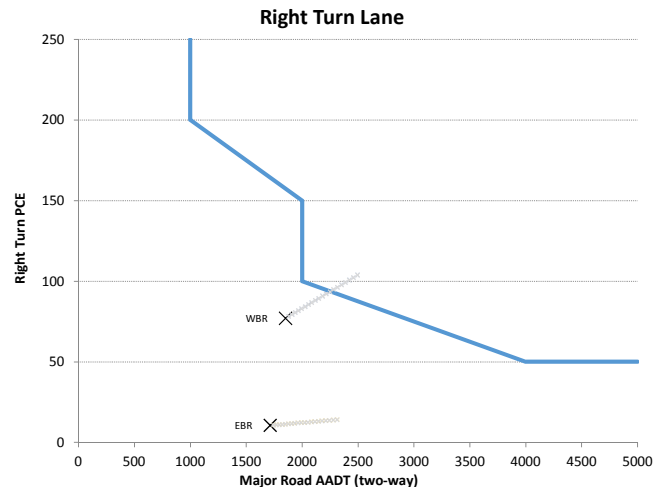
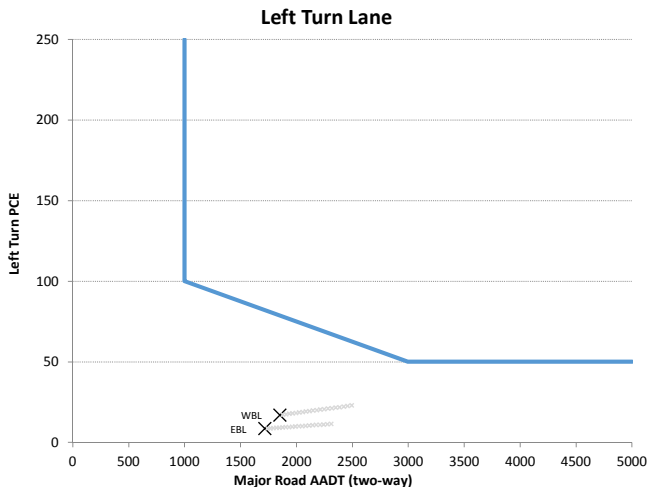
Major AADT 1852 1852  
 Minor AADT 166 166  
 AADT Product 0.3M 0.3M  
 AADT Ratio 0.09 0.09  
 TEV 1,892 1,892

LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 8$	$V_{LT} = 13$
$P_T = 0.13$	$P_T = 0.62$
$PCE = 9$	$PCE = 17$
$AADT = 1716$	$AADT = 1852$
Met? No	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

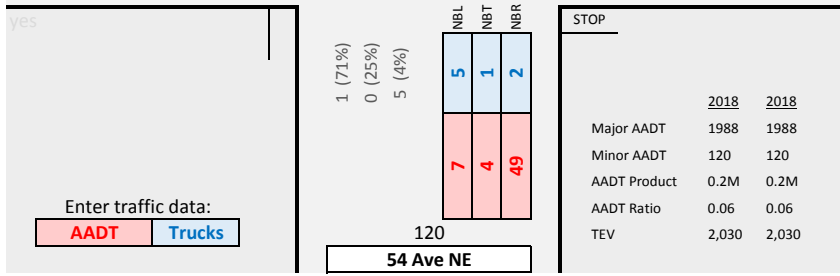
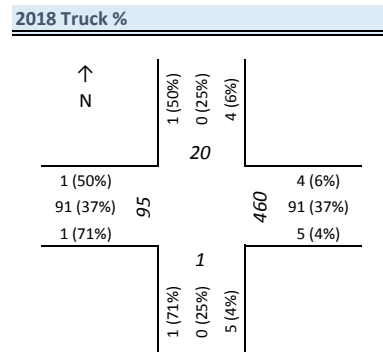
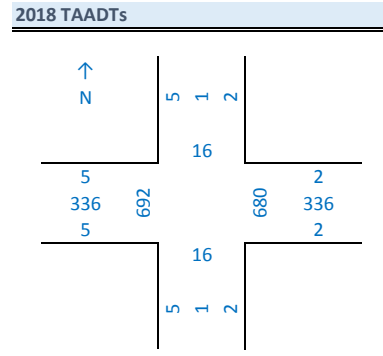
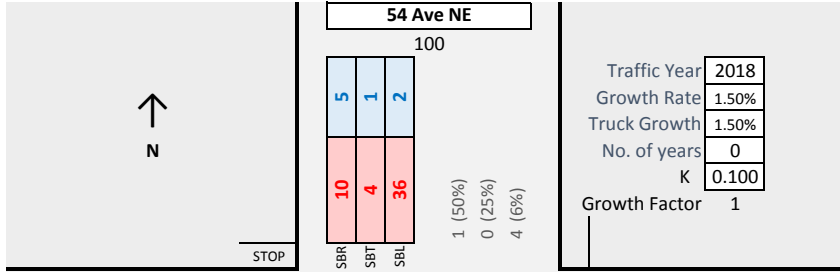
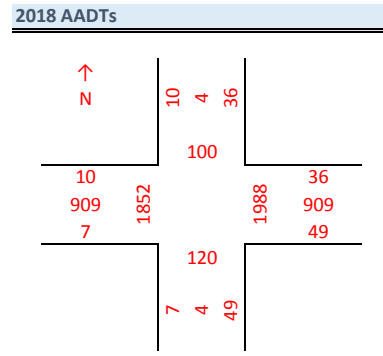
EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 10$	$V_{RT} = 73$
$P_T = 0.10$	$P_T = 0.11$
$PCE = 11$	$PCE = 77$
$AADT = 1716$	$AADT = 1852$
Met? No	Met? No
	(may be met in 2032)





Project Info		530
PCN		
Ref#	4347	
Study Date	4/10/2019	

Intersection Info		US 52	54 Ave NE
Reference Points		209.740	
Speed Limits (mph)		65	55
Select Major Road Directions		East-West	
Intersection/Junction Traffic Control		Stop on Minor Road	
Major Road a Divided Highway?		No	
Terrain		Level	

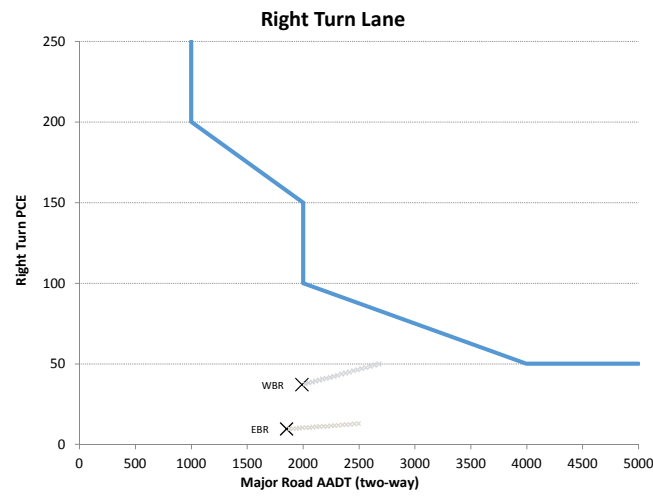
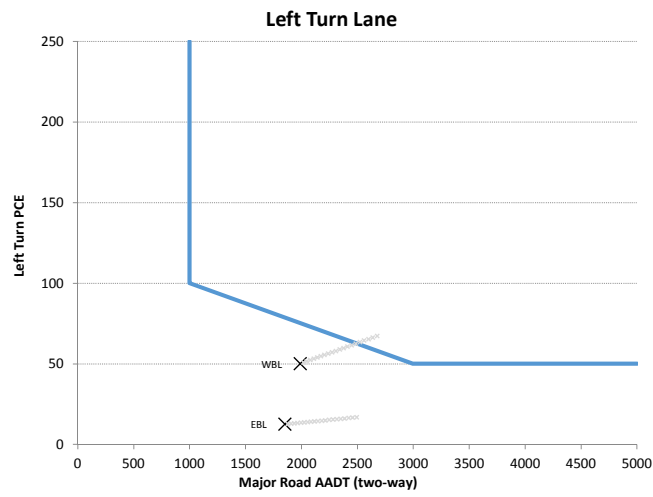


LEFT Turn Lane Volume Criteria (1.A)

EBL	WBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 10$	$V_{LT} = 49$
$P_T = 0.50$	$P_T = 0.04$
$PCE = 13$	$PCE = 50$
$AADT = 1852$	$AADT = 1988$
Met? No	Met? No
	(may be met in 2034)

RIGHT Turn Lane Volume Criteria (1.A)

EBR	WBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 7$	$V_{RT} = 36$
$P_T = 0.71$	$P_T = 0.06$
$PCE = 10$	$PCE = 37$
$AADT = 1852$	$AADT = 1988$
Met? No	Met? No



US 52 / 1 St SE

Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

535

Intersection Info

US 52 1 St SE

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
226.760		
65	55	Y
North-South		
Stop on Minor Road		
No		Y
Major Road a Divided Highway?		
No		
Level		

E<sub>T</sub> = 1.5

**US 52**

2482

SBR	2	340	8
SBT	12	1179	50
SBL			

1 (17%)  
118 (29%)  
5 (16%)

STOP

Traffic Year 2018

Growth Rate 1.50%

Truck Growth 1.50%

No. of years 0

K 0.100

Growth Factor 1

1 St SE

30

EBL	12	2
EBT	1	0
EBR	2	1

1 (17%)  
0 (0%)  
0 (50%)

Major Road →

← Major Road

110

1 St SE

WBR	50	8
WBT	1	0
WBL	4	2

5 (16%)  
0 (0%)  
0 (50%)

Enter traffic data:

**AADT** **Trucks**

2370

**US 52**

NBL	1	340	2
NBT	2	1179	4
NBR			

0 (50%)  
118 (29%)  
0 (50%)

Major AADT 2482 2482

Minor AADT 110 110

AADT Product 0.3M 0.3M

AADT Ratio 0.04 0.04

TEV 2,496 2,496

2018 AADTs

↑	N	12	1179	50
		2482		
12	1	30	110	50
2			1	4
		2370		
		2	1179	4

2018 TAADTs

↑	N	2	340	8
		700		
2	0	6	20	8
1			0	2
		686		
		1	340	2

2018 Truck %

↑	N	1 (17%)	118 (29%)	5 (16%)
		590		
1 (17%)	0 (0%)	5	0	0 (0%)
0 (50%)			0	0 (50%)
		0		
		0 (50%)	118 (29%)	0 (50%)

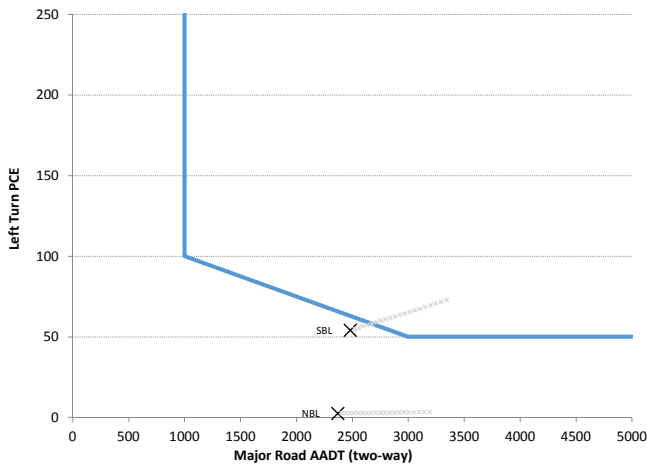
LEFT Turn Lane Volume Criteria (1.A)

SBL	NBL
PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>LT</sub> = 50	V <sub>LT</sub> = 2
P <sub>T</sub> = 0.16	P <sub>T</sub> = 0.50
PCE = 54	PCE = 3
AADT = 2482	AADT = 2370
Met? No	Met? No
(may be met in 2023)	

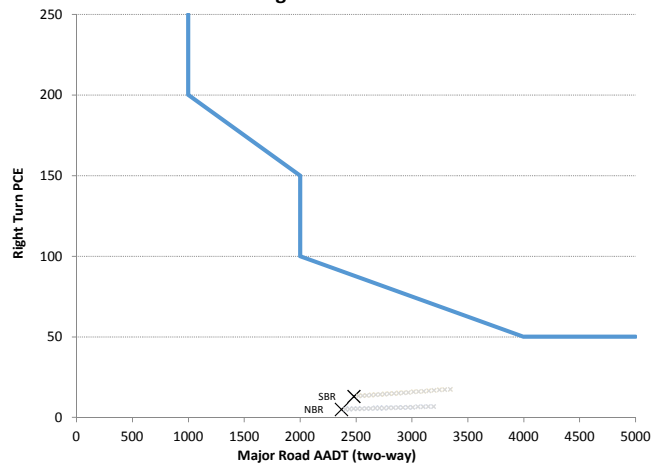
RIGHT Turn Lane Volume Criteria (1.A)

SBR	NBR
PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>RT</sub> = 12	V <sub>RT</sub> = 4
P <sub>T</sub> = 0.17	P <sub>T</sub> = 0.50
PCE = 13	PCE = 5
AADT = 2482	AADT = 2370
Met? No	Met? No

Left Turn Lane



Right Turn Lane



**Project Info**

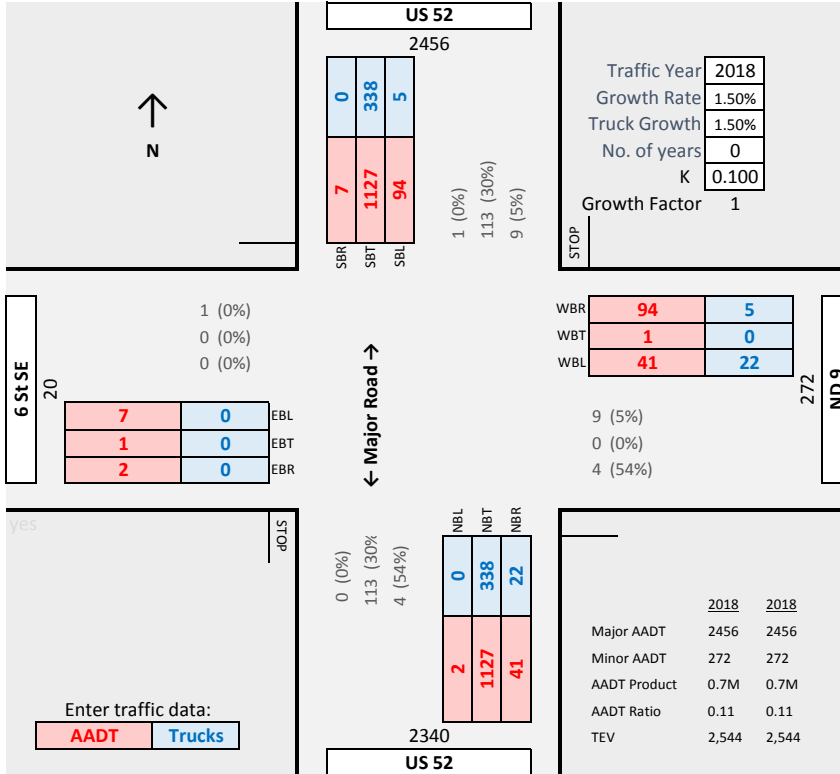
PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

69

**Intersection Info**

US 52 6 St SE – ND 9

Reference Points	232.410	
Speed Limits (mph)	65	65
Select Major Road Directions	North-South	
Intersection/Junction Traffic Control	Stop on Minor Road	
Major Road a Divided Highway?	No	
Terrain	Level	
	E <sub>T</sub> = 1.5	



**2018 AADTs**

↑	N	7	1127	94
7		20	2456	94
1				1
2				41
			2340	
		2	1127	41

**2018 TAADTs**

↑	N	0	338	5
0		0	686	5
0		0		0
0		0		22
			720	
		0	338	22

**2018 Truck %**

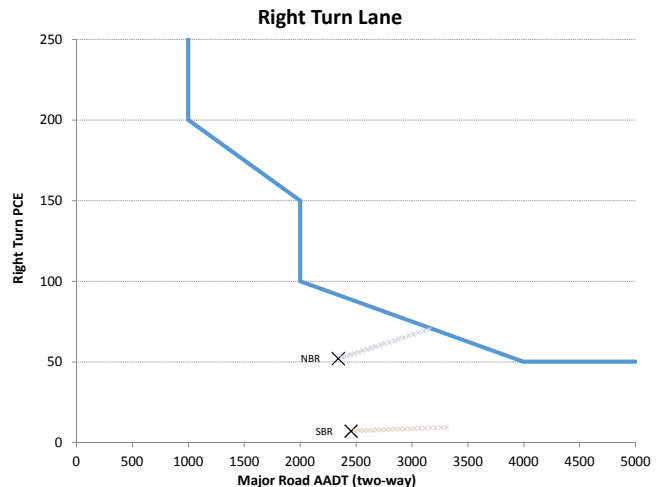
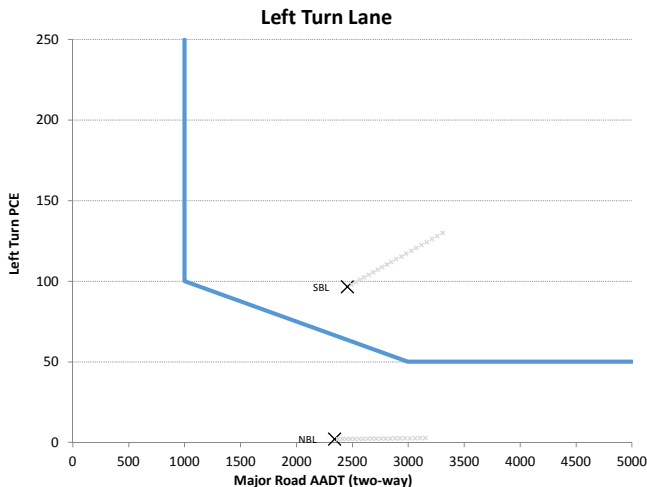
↑	N	1 (0%)	113 (30%)	9 (5%)
1 (0%)		9	1053	9 (5%)
0 (0%)		0		0 (0%)
0 (0%)		0		4 (54%)
			0	
		0 (0%)	113 (30%)	4 (54%)

**LEFT Turn Lane Volume Criteria (1.A)**

<b>SBL</b>	<b>NBL</b>
PCE = $V_{LT}(1+P_T(E_T-1))$	PCE = $V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 94$	$V_{LT} = 2$
$P_T = 0.05$	$P_T = 0.00$
PCE = 97	PCE = 2
AADT = 2456	AADT = 2340
Met? Yes	Met? No

**RIGHT Turn Lane Volume Criteria (1.A)**

<b>SBR</b>	<b>NBR</b>
PCE = $V_{RT}(1+P_T(E_T-1))$	PCE = $V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 7$	$V_{RT} = 41$
$P_T = 0.00$	$P_T = 0.54$
PCE = 7	PCE = 52
AADT = 2456	AADT = 2340
Met? No	Met? No



US 52 / 10 St SE

Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

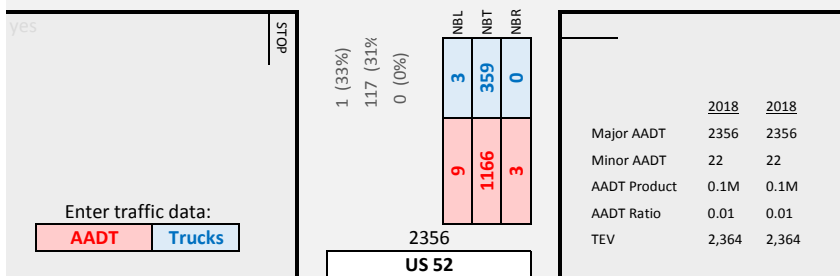
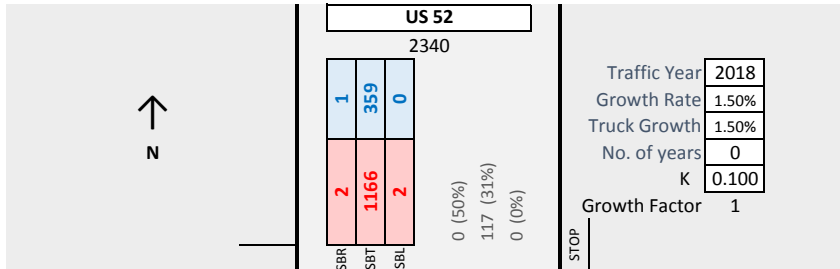
536

Intersection Info

US 52 10 St SE

Reference Points	236.910	
Speed Limits (mph)	65	55
Select Major Road Directions	North-South	
Intersection/Junction Traffic Control	Stop on Minor Road	
Major Road a Divided Highway?	No	
Terrain	Level	

E<sub>T</sub> = 1.5



2018 AADTs

↑	N	2	1166	2
2		22	2340	2
0				0
9				3
			2356	
		9	1166	3

2018 TAADTs

↑	N	1	359	0
1		8	720	0
0				0
3				0
			724	
		3	359	0

2018 Truck %

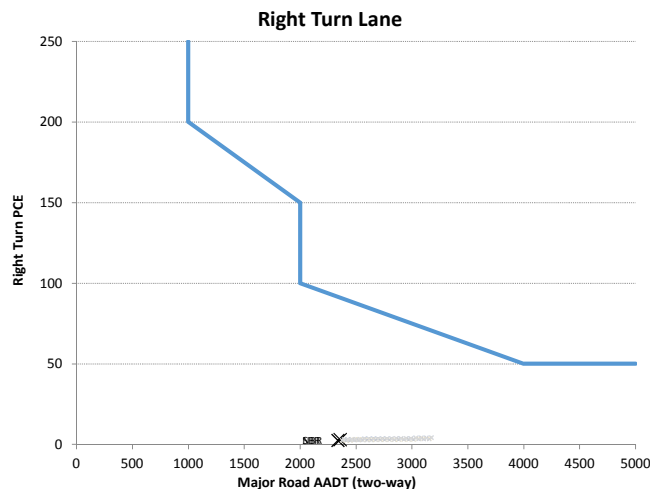
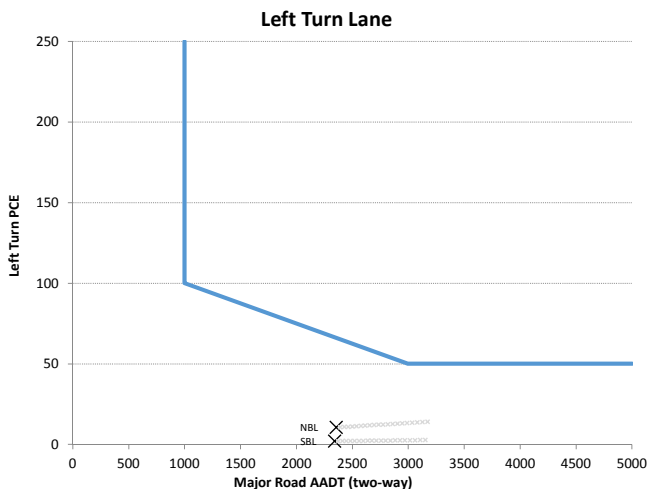
↑	N	0 (50%)	117 (31%)	0 (0%)
0 (50%)		0	0	0 (0%)
1 (33%)		0	0	0 (0%)
			117	
		1 (33%)	117 (31%)	0 (0%)

LEFT Turn Lane Volume Criteria (1.A)

<b>SBL</b>	<b>NBL</b>
PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>LT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>LT</sub> = 2	V <sub>LT</sub> = 9
P <sub>T</sub> = 0.00	P <sub>T</sub> = 0.33
PCE = 2	PCE = 11
AADT = 2340	AADT = 2356
Met? No	Met? No

RIGHT Turn Lane Volume Criteria (1.A)

<b>SBR</b>	<b>NBR</b>
PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))	PCE = V <sub>RT</sub> (1+P <sub>T</sub> (E <sub>T</sub> -1))
V <sub>RT</sub> = 2	V <sub>RT</sub> = 3
P <sub>T</sub> = 0.50	P <sub>T</sub> = 0.00
PCE = 3	PCE = 3
AADT = 2340	AADT = 2356
Met? No	Met? No



Project Info

PCN	
Ref#	4347
HSIP #	
Study Date	4/10/2019

537

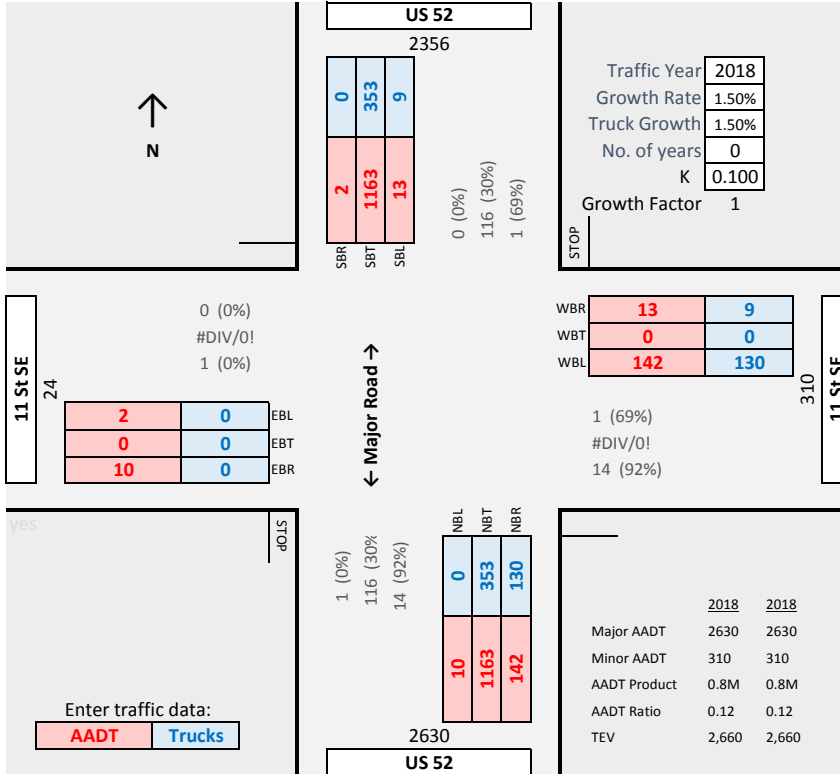
Intersection Info

US 52 11 St SE

Reference Points  
 Speed Limits (mph)  
 Select Major Road Directions  
 Intersection/Junction Traffic Control  
 Major Road a Divided Highway?  
 Terrain

Major Road	Minor Road	
238.040		
65	55	Y
North-South		
Stop on Minor Road		
No		Y
Major Road a Divided Highway?		
No		
Level		

E<sub>T</sub> = 1.5



2018 AADTs

↑			
N	2	1163	13
	2356		
	2		13
	0	24	0
	10		142
		2630	
	10	1163	142
			310

2018 TAADTs

↑			
N	0	353	9
	724		
	0		9
	0	0	0
	0		130
		966	
	0	353	130
			278

2018 Truck %

↑			
N	0 (0%)	116 (30%)	1 (69%)
	130		
	0 (0%)		1 (69%)
	0		0
	1 (0%)		14 (92%)
		116	
	1 (0%)	116 (30%)	14 (92%)
			14

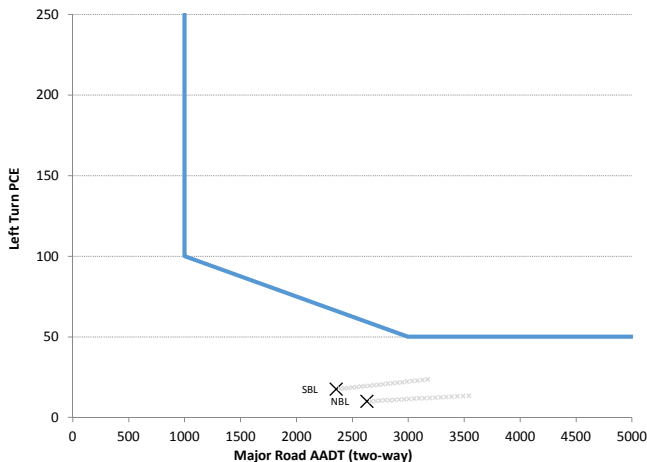
LEFT Turn Lane Volume Criteria (1.A)

SBL	NBL
$PCE = V_{LT}(1+P_T(E_T-1))$	$PCE = V_{LT}(1+P_T(E_T-1))$
$V_{LT} = 13$	$V_{LT} = 10$
$P_T = 0.69$	$P_T = 0.00$
$PCE = 18$	$PCE = 10$
$AADT = 2356$	$AADT = 2630$
Met? No	Met? No

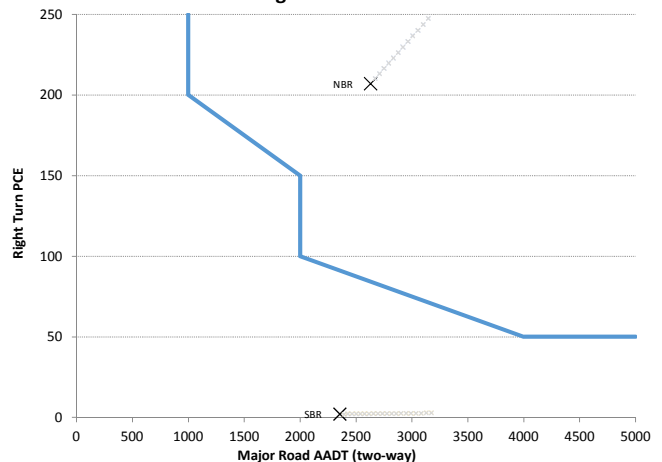
RIGHT Turn Lane Volume Criteria (1.A)

SBR	NBR
$PCE = V_{RT}(1+P_T(E_T-1))$	$PCE = V_{RT}(1+P_T(E_T-1))$
$V_{RT} = 2$	$V_{RT} = 142$
$P_T = 0.00$	$P_T = 0.92$
$PCE = 2$	$PCE = 207$
$AADT = 2356$	$AADT = 2630$
Met? No	Met? Yes

Left Turn Lane



Right Turn Lane



# LINEAR SOILS SURVEY AND RECOMMENDATIONS

Project NO. NH-4-052(104)141

PCN 23641

County Wells & Mchenry

HWY 52, RP 141.0 to 185.548



PREPARED BY: Riley McAdoo-Roesler

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION MATERIAL  
AND RESEARCH DIVISION

November 2023

**NH-4-052(104)141**

**Near JCT 53 to Near Fessenden**

# ***CERTIFICATION***

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of North Dakota. This document was originally issued and sealed by Jared J. Loegering, Registration number PE-10931 on 11/30/2023 and the original document is stored at the North Dakota Department of Transportation.



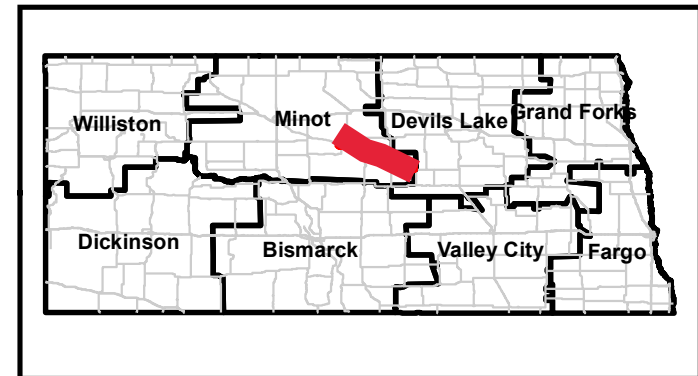
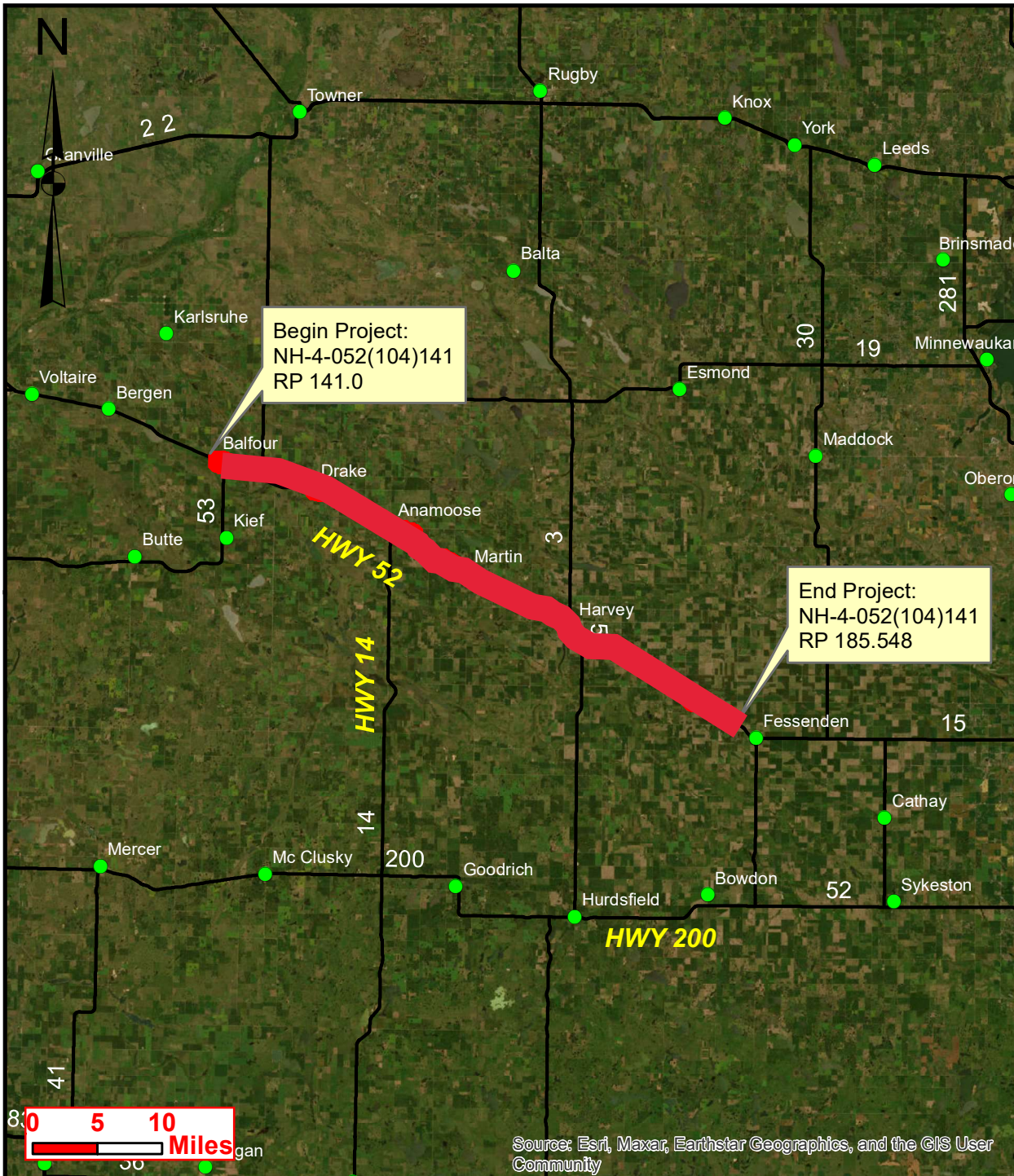
## Project Location

**Project: NH-4-052(104)141**

**PCN: 23641**

**Scope: Minor Rehabilitation, Overlay**

**Location: RP 141.0 to RP 185.548**





## Table of Contents

Introduction .....	1
Maintenance Review.....	1
Summary of Soil Investigation.....	3
Summary of Soil Analysis .....	5
Soil Sample Distribution .....	5
Design Recommendations .....	6
Design Information .....	9
Plan Notes.....	10

## List of Figures

Figure 1 - Soil Sample Distribution.....	5
--	---

## List of Tables

Table 1 - Identified Maintenance Areas.....	1
Table 2 - Boring Locations Summary .....	3
Table 3 - Subcut Recommendations .....	9
Table 4 – Pavement Repair Section.....	9

## Appendices

Appendix A – Soil Classification

Appendix B – Maintenance Review and Subsurface Investigation Scope

Appendix C – Boring Locations

Appendix D – Summary of Soils Analysis

Appendix E – Lab Results

## Introduction

Location: HWY 52, Near JCT 53 to Near Fessenden  
 Reference Points: 141.0 to 185.548  
 Project Length: 44.1387 Miles  
 Proposed Project Scope: Minor Rehabilitation, Overlay  
 Investigation Scope: Identified Maintenance Areas

## Maintenance Review

Date of Maintenance Review: 12/12/2022  
 Materials and Research Person Conducting the Review: Brent Flaa  
 Maintenance Person Conducting Review: Vince Sabbe

Table 1 - Identified Maintenance Areas

Location RP + Feet	Distress Identified	Maintenance Comments	Drilling Required
145+0565 to 167+4224	Rutting	-	NO
145+0565 to 167+4224	Transv. Cracks	-	NO
137+1540 to 137+4224	Bituminous patch	Scoping report calls out a subcut at this location, through intersection, both sides	YES
145+0866 to 145+1344	Bituminous patch	Multiple patches like this throughout project	YES
145+2440 to 145+2840	Bituminous patch	Scoping report calls out a subcut at this location, Blade Patch	YES
145+3101 to 145+3696	Bituminous patch	Scoping report calls out a subcut at this location, Starts WB only and moved to both lanes	YES
146+2218 to 146+3432	Bituminous patch	Around Curve, EB only for final 150 ft	YES
150+4382 to 150+4594	Bituminous patch	Blade Patch	YES

151+1278 to 151+3034	Bituminous patch	Multiple patches, east patch is surrounded by cattails	YES
152+3464 to 152+4118	Bituminous patch	Blade Patch	YES
153+1531 to 153+1742	Bituminous patch	Blade Patch	YES
153+3432 to 153+3749	Bituminous patch	Blade Patch	YES
156+3062 to 156+4066	Bituminous patch	Scoping report calls out a subcut at this location, primally WB lane	YES
157+0000 to 157+0589	Bituminous patch	East end is WB only, more rutting then other patches, cut/fill transision	YES
157+0950 to 157+1214	Bituminous patch	Small misc.	YES
157+1848 to 157+2059	Bituminous patch	Misc. patch	YES
157+2990 to 157+3901	Bituminous patch	Big Patch	YES
157+3960 to 157+4382	Bituminous patch	Switches lanes. Uneven.	YES
157+4699 to 157+5544	Bituminous patch	Starting at west end it is WB only, then both, then finishes EB only	YES
180+0845 to 180+2534	Bituminous patch	Scoping report calls out a subcut at this location, Rutting leading into patch from west	YES
182+4858 to 183+1320	Bituminous patch	Scoping report calls out a subcut at this location, Rutting lanes likely pushing up center.	YES

**Summary of Soil Investigation**

The soil investigation was completed on 05/31/2023. The investigation consisted of 77 borings.

Table 2 - Boring Locations Summary

<b>Boring Location</b>	<b>Pavement Distress</b>	<b>Justification for Boring</b>	<b>Boring Depth</b>	<b>Boring Locations/Comments</b>
137+1540 to 137+4224	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 5 borings in the identified area and one boring on each side approximately 100' away. A total of 7 borings.
145+0866 to 145+1344	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
145+2440 to 145+2840	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
145+3101 to 145+3696	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
146+2218 to 146+3432	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 3 borings in the identified area and one boring on each side approximately 100' away. A total of 5 borings.
150+4382 to 150+4594	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.
151+1278 to 151+3034	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 4 borings in the identified area and one boring on each side approximately 100' away. A total of 6 borings.
152+3464 to 152+4118	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.
153+1531 to 153+1742	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.

153+3432 to 153+3749	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.
156+3062 to 156+4066	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 3 borings in the identified area and one boring on each side approximately 100' away. A total of 5 borings.
157+0000 to 157+0589	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
157+0950 to 157+1214	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.
157+1848 to 157+2059	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 1 borings in the identified area and one boring on each side approximately 100' away. A total of 3 borings.
157+2990 to 157+3901	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
157+3960 to 157+4382	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 2 borings in the identified area and one boring on each side approximately 100' away. A total of 4 borings.
157+4699 to 157+5544	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 3 borings in the identified area and one boring on each side approximately 100' away. A total of 5 borings.
180+0845 to 180+2534	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 4 borings in the identified area and one boring on each side approximately 100' away. A total of 6 borings.
182+4858 to 183+1320	Bituminous patch	Identified Maintenance Area	5 Feet	Conduct 4 borings in the identified area and one boring on each side approximately 100' away. A total of 6 borings.

Map of the boring locations are shown in Appendix C. The lab results and included in Appendix E.

## Summary of Soil Analysis

### Soil Sample Distribution

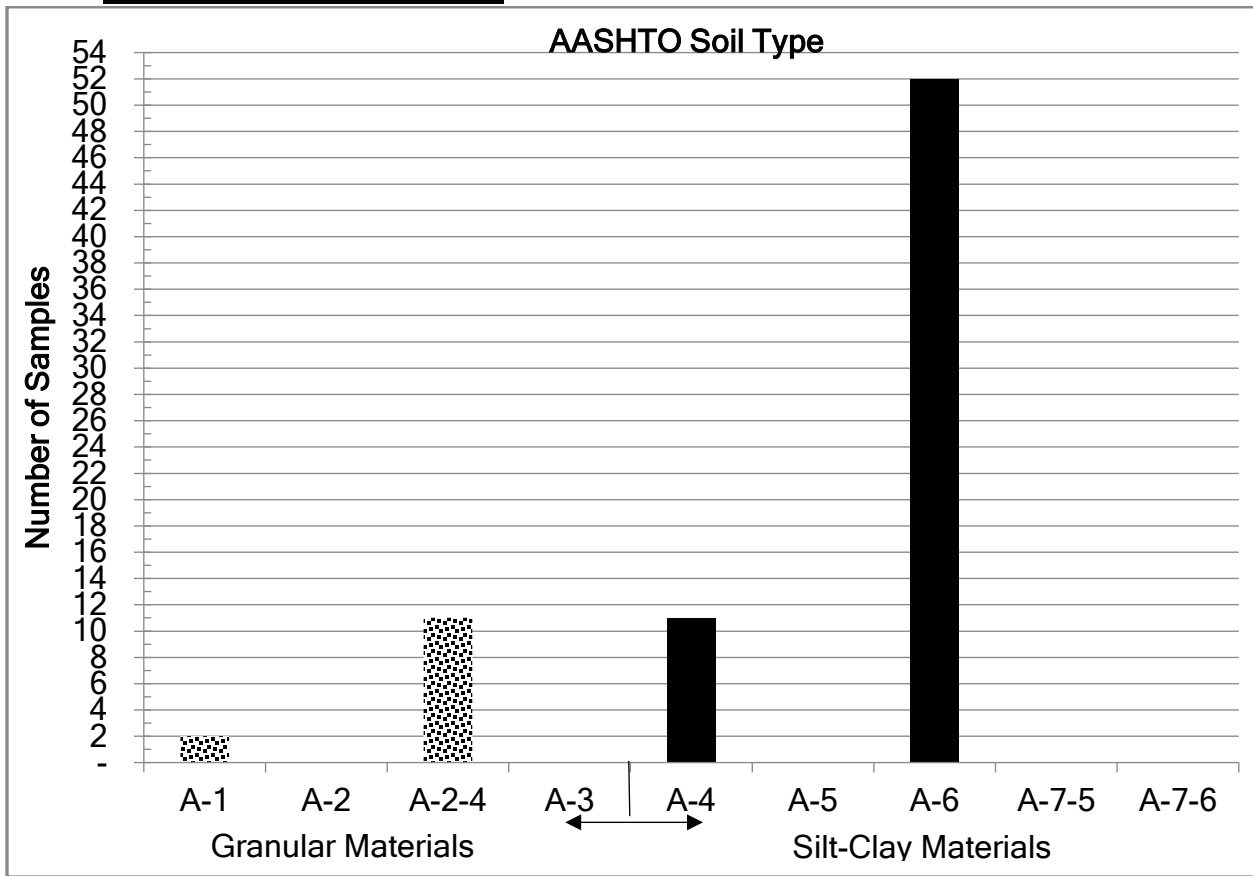


Figure 1 - Soil Sample Distribution

## **Design Recommendations**

**Project Limits – 137+3817 to 183+0000:** The project limits fall within a geologic area of collapsed glacial sediment. The soils found this project our typical of glacial till include Sand, silts, and clays. The soils within the project are primarily sandy lean clay. The condition of these soils does not indicate subgrade mitigation is required or recommended.

**Identified Maintenance Area – 137+1540 to 137+4224:** The soils within the identified maintenance area are sandy lean clays. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 137+1490 to 137+4275. See table 4 for pavement repair sections.

**Identified Maintenance Area – 145+0866 to 145+1344:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 145+2440 to 145+2840:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 145+2390 to 145+2890. See table 4 for pavement repair sections.

**Identified Maintenance Area – 145+3101 to 145+3696:** The soils within the identified maintenance area are sandy lean clays. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 145+3050 to 145+3750. See table 4 for pavement repair sections.

**Identified Maintenance Area – 146+2218 to 146+3432:** The soils within the identified maintenance area are sandy lean clays. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 150+4382 to 150+4594:** The soils within the identified maintenance area are sandy lean clay. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 151+1278 to 151+3034:** The soils within the identified maintenance area are silt/clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 152+3464 to 152+4118:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 153+1531 to 153+1742:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 153+3432 to 153+3749:** The soils within the identified maintenance area are sandy lean clay. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 156+3062 to 156+4066:** The soils within the identified maintenance area are silty, clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 156+3010 to 156+4120. See table 4 for pavement repair sections.

**Identified Maintenance Area – 157+0000 to 157+0589:** The soils within the identified maintenance area are sandy lean clay. This maintenance area occurs in a cut/fill transition which likely correlates to the change in soil type and the substandard performance of the pavement through this area. Based on the change in soil type it is recommended to perform a subcut from RP+feet 156+5180 to 157+0700 at a depth of 36". See table 3 for subcut specifications.

**Identified Maintenance Area – 157+0950 to 157+1214:** The soils within the identified maintenance area are silty, clayey sand with gravel. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.



**Identified Maintenance Area – 157+1848 to 157+2059:** The soils within the identified maintenance area are clayey sand with an elevated moisture content. There is a change in water content from the surrounding soils that would indicate that the subgrade is causing the roadway distress at this location. Therefore, it is recommended to perform a subcut from RP+feet 157+1800 to 157+2110 at a depth of 36". See table 3 for subcut specifications.

**Identified Maintenance Area – 157+2990 to 157+3901:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 157+3960 to 157+4382:** The soils within the identified maintenance area are sandy lean clay. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 157+4699 to 157+5544:** The soils within the identified maintenance area are sandy lean clay. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. No subgrade mitigation is recommended.

**Identified Maintenance Area – 180+0845 to 180+2534:** The soils within the identified maintenance area are clayey sand. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 180+0800 to 180+2580. See table 4 for pavement repair sections.

**Identified Maintenance Area – 182+4858 to 183+1320:** The soils within the identified maintenance area are sandy lean clay. There is not a change in soil type, geology or water content that would indicate that the subgrade is causing the roadway distress at this location. The scoping report calls out this location as a protentional subcut. However, the condition of the subgrade does not indicate that it is causing the issue at this maintenance area. Therefore, it is recommended to conduct a pavement repair section from RP+feet 182+4800 to 183+1370. See table 4 for pavement repair sections.

**Design Information**

**Pipe Replacement:** None

**Compaction Method:** T-180

**Subgrade Prep:** None

**Subcut Recommendations:**

Location RP + Feet	Length	Depth
156+5180 to 157+0700	800'	36"
157+1800 to 157+2110	310'	36"

Table 3 - Subcut Recommendations

Calculate the subcut quantity based on the lengths and depths as shown in Table 3 above and adhere to the guidelines stated below.

**Remarks:** Subcut from the top of proposed pavement. Replace the removed material with Class 5 aggregate and line the excavation with Geosynthetic Geogrid (Type G) in accordance with NDDOT Specification 709. Do not scarify the bottom of the subcut.

**Pavement Repair Section:**

Location RP + Feet	Length
145+2390 to 145+2890	500'
145+3050 to 145+3750	700'
137+1540 to 137+4275	3035'
156+3010 to 156+4120	1110'
180+0800 to 180+2580	1780'
182+4800 to 183+1370	1850'

Table 4 – Pavement Repair Section

**Remarks:** It is recommended to repair the distress areas according to the pavement design recommendation. See NDDOT Filenet for pavement recommendations. Line the excavation with Geosynthetic Geogrid (Type G) in accordance with NDDOT Specification 709. Do not scarify the bottom.

**Drainage:** None

## **Plan Notes**

None

**The recommendations in this report are based on the scope specified in the Introduction. If the scope of work, vertical profile or horizontal alignment is changed, in either the conceptual phase or the design phase, the Geotechnical Engineer must be notified as soon as possible to ensure that there is adequate geotechnical information addressing these areas.**

**APPENDIX A**  
**SOIL CLASSIFICATION**

# AASHTO Classification System

Table 5.1. AASHTO Classification System

General Classification	Granular materials (35% or less passing No. 200 Sieve (0.075 mm))							Silt-clay Materials More than 35% passing No. 200 Sieve (0.075 mm)			
	A-1		A-3	A-2				A-4	A-5	A-6	A-7
Group Classification	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5
(a) Sieve Analysis: Percent Passing											
(i) 2.00 mm (No. 10)	50 max										
(ii) 0.425 mm (No. 40)	30 max	50 max	51 min								
(iii) 0.075 mm (No. 200)	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
(b) Characteristics of fraction passing 0.425 mm (No. 40)											
(i) Liquid limit				40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
(ii) Plasticity index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11 min*
(c) Usual types of significant Constituent materials	Stone Fragments Gravel and sand		Fine Sand	Silty or Clayey Gravel Sand				Silty Soils		Clayey Soils	
(d) General rating as subgrade.	Excellent to Good							Fair to Poor			

\* If plasticity index is equal to or less than (Liquid Limit-30), the soil is A-7-5 (i.e. PL > 30%)  
If plasticity index is greater than (Liquid Limit-30), the soil is A-7-6 (i.e. PL < 30%)

# Unified Soil Classification System, USCS

Table 5.2 Unified Soil Classification System (Based on Material Passing 76.2-mm Sieve)

Criteria for assigning group symbols				Group symbol	
Coarse-grained soils More than 50% of retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels	$C_u \geq 4$ and $1 \leq C_c \leq 3^c$	GW	
		Less than 5% fines <sup>a</sup>	$C_u < 4$ and/or $1 > C_c > 3^c$	GP	
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands	$C_u \geq 6$ and $1 \leq C_c \leq 3^c$	SW	
		Less than 5% fines <sup>b</sup>	$C_u < 6$ and/or $1 > C_c > 3^c$	SP	
	Gravels with Fines More than 12% fines <sup>a,d</sup>		$PI < 4$ or plots below "A" line (Figure 5.3)	GM	
			$PI > 7$ and plots on or above "A" line (Figure 5.3)	GC	
Fine-grained soils 50% or more passes No. 200 sieve	Silts and clays Liquid limit less than 50	Inorganic	$PI > 7$ and plots on or above "A" line (Figure 5.3) <sup>e</sup>	CL	
		Organic	$PI < 4$ or plots below "A" line (Figure 5.3) <sup>e</sup>	ML	
	Silts and clays Liquid limit 50 or more	Inorganic	$\frac{\text{Liquid limit — oven dried}}{\text{Liquid limit — not dried}} < 0.75$ ; see Figure 5.3; OL zone	OL	
		Organic	$PI$ plots on or above "A" line (Figure 5.3)	CH	
	Highly Organic Soils	Primarily organic matter, dark in color, and organic odor		$PI$ plots below "A" line (Figure 5.3)	MH
				$\frac{\text{Liquid limit — oven dried}}{\text{Liquid limit — not dried}} < 0.75$ ; see Figure 5.3; OH zone	OH

<sup>a</sup>Gravels with 5 to 12% fine require dual symbols: GW-GM, GW-GC, GP-GM, GP-GC.

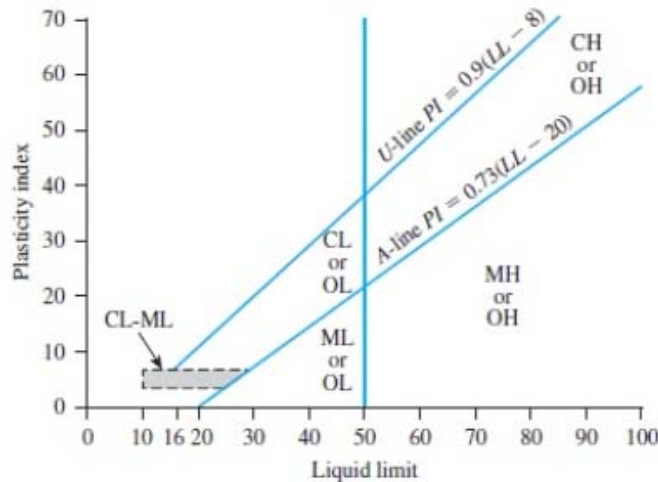
<sup>b</sup>Sands with 5 to 12% fines require dual symbols: SW-SM, SW-SC, SP-SM, SP-SC.

$$C_u = \frac{D_{60}}{D_{10}}; \quad C_c = \frac{(D_{30})^2}{D_{60} \times D_{10}}$$

<sup>d</sup>If  $4 \leq PI \leq 7$  and plots in the hatched area in Figure 5.3, use dual symbol GC-GM or SC-SM.

<sup>e</sup>If  $4 \leq PI \leq 7$  and plots in the hatched area in Figure 5.3, use dual symbol CL-ML.

## Plasticity Chart :



**Table 7-12. Frost susceptibility classification of soils (NCHRP 1-37A).**

Frost Group	Degree of Frost Susceptibility	Type of Soil	Percentage Finer than 0.075 mm (# 200) by wt.	Typical Soil Classification
F1	Negligible to low	Gravelly soils	3-10	GC, GP, GC-GM, GP-GM
F2	Low to medium	Gravelly soils	10-20	GM, GC-GM, GP-GM
		Sands	3-15	SW, SP, SM, SW-SM, SP-SM
F3	High	Gravelly Soils	Greater than 20	GM-GC
		Sands, except very fine silty sands	Greater than 15	SM, SC
		Clays PI>12	—	CL, CH
F4	Very high	All Silts	—	ML-MH
		Very Fine Silty Sands	Greater than 15	SM
		Clays PI<12	—	CL, CL-ML
		Varied clays and other fine grained, banded sediments	—	CL, ML, SM, CH

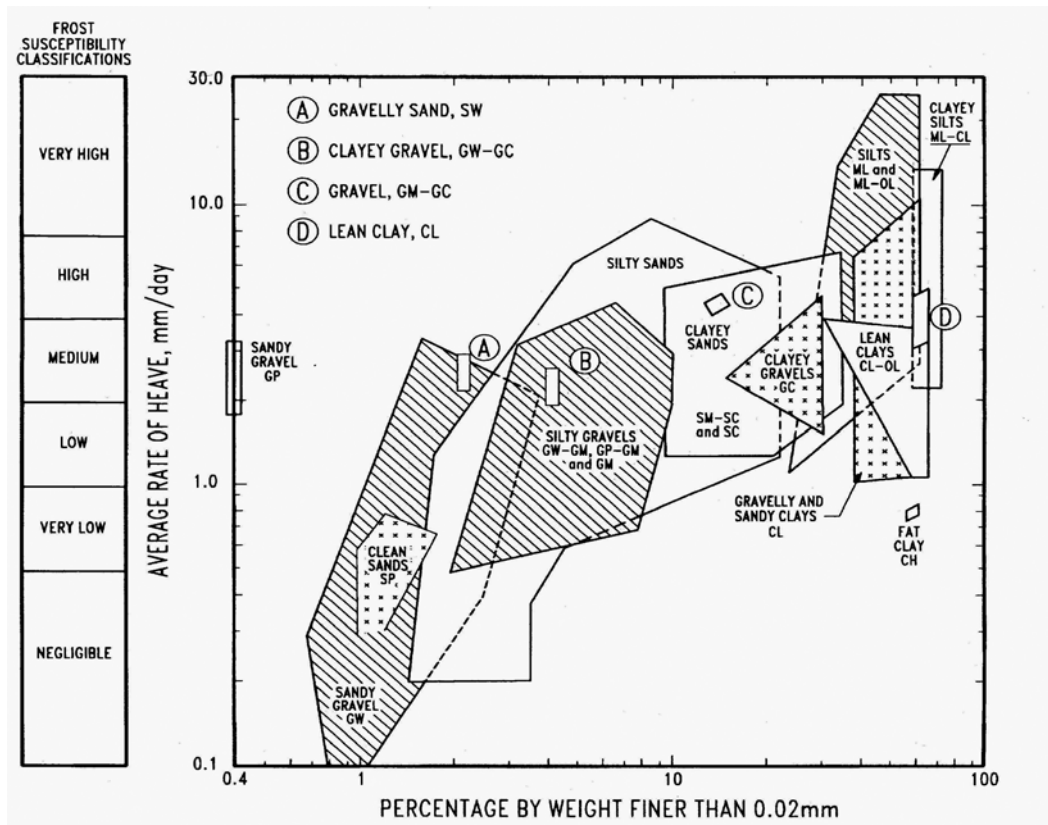


Figure 7-20. Average rate of heave versus % fines for natural soil gradations (Kaplar, 1974).

# Frost Depth Map



\*Values shown are in meters



## **APPENDIX B**

# **MAINTENANCE REVIEW AND SUBSURFACE INVESTIGATION SCOPE**

# PAVEMENT EVALUATION LOG FOR LINEAR SOIL SURVEY

North Dakota Department of Transportation, Materials & Research  
SFN 60472 (6-2017)

Sheet
1 of 3

Project Number NH-4-052(104)137	PCN 23641	Date of Survey 12/12/2022
Section Maintenance Contact Vince Sabbe		Completed By Brent Flaa

Highway Reference Points 137+3817 to 183+0000	Surface Types Asphalt
--	--------------------------

Location	Pavement Distress	Description	Maintenance Comment	Picture Number	Drilling Required
137+1540 to 137+4224	Bituminous Patch	Through intersection both sides.	Scoping report calls out a subcut at this location	1-3	Yes
145+0866 to 145+1344	Bituminous Patch	Dal says we will see multiple patches like this throughout the project	NA	4	Yes
145+2440 to 145+2840	Bituminous Patch	Blade Patch	Scoping report calls out a subcut at this location	5	Yes
145+3101 to 145+3696	Bituminous Patch	Starts westbound only and moves to both lanes.	Scoping report calls out a subcut at this location	6-8	Yes
146+2218 to 146+3432	Bituminous Patch	Around curve. Eastbound only for final 150 ft	NA	9-11	Yes
150+4382 to 150+4594	Bituminous Patch	Blade Patch	NA	12	Yes
151+1278 to 151+3034	Bituminous Patch	Multiple patches, East patch is surrounded by cattails	NA	13-15	Yes
152+3464 to 152+4118	Bituminous Patch	Blade Patch	NA	16	Yes
153+1531 to 153+1742	Bituminous Patch	Blade Patch	NA	NA	Yes

Comments

# PAVEMENT EVALUATION LOG FOR LINEAR SOIL SURVEY

North Dakota Department of Transportation, Materials & Research  
SFN 60472 (6-2017)

Sheet  
2 of 3

Project Number NH-4-052(104)137	PCN 23641	Date of Survey 12/12/2022
Section Maintenance Contact Vince Sabbe		Completed By Brent Flaa

Highway Reference Points 137+3817 to 183+0000	Surface Types Asphalt
--	--------------------------

Location	Pavement Distress	Description	Maintenance Comment	Picture Number	Drilling Required
153+3432 to 153+3749	Bituminous Patch	Blade Patch	NA	NA	Yes
156+3062 to 156+4066	Bituminous Patch	West end is westbound lane only. East end is westbound only.	Scoping report calls out a subcut at this location	17-18	Yes
157+0000 to 157+0589	Bituminous Patch	East end is West bound only, More rutting then other patches Cut fill transition	NA	19-21	Yes
157+0950 to 157+1214	Bituminous Patch	Small Misc	NA	NA	Yes
157+1848 to 157+2059	Bituminous Patch	Misc Patch	NA	NA	Yes
157+2990 to 157+3901	Bituminous Patch	Big Patch	NA	22	Yes
157+3960 to 157+4382	Bituminous Patch	Switches lanes. Uneven lanes	NA	23-24	Yes
157+4699 to 157+5544	Bituminous Patch	Starting at west end it is west bound only then both and finishes east bound only	NA	25-26	Yes
180+0845 to 180+2534	Bituminous Patch	Rutting leading into patch from west	Scoping report calls out a subcut at this location	27-29	Yes

Comments

# PAVEMENT EVALUATION LOG FOR LINEAR SOIL SURVEY

North Dakota Department of Transportation, Materials & Research  
 SFN 60472 (6-2017)

Sheet  
 3 of 3

Project Number NH-4-052(104)137	PCN 23641	Date of Survey 12/12/2022
Section Maintenance Contact Vince Sabbe		Completed By Brent Flaa

Highway Reference Points 137+3817 to 183+0000	Surface Types Asphalt
--	--------------------------

Location	Pavement Distress	Description	Maintenance Comment	Picture Number	Drilling Required
182+4858 to 183+1320	Bituminous Patch	Rutting lanes likely pushing up in center. Center of lane possibly ground down from snowplow blade	Scoping report calls out a subcut at this location	30-34	Yes
145+0565 to 167+4224	Rutting	Whole project varying in depth.		NA	No
145+0565 to 167+4224	Transv. Cracks	Scattered throughout project.		NA	No

Comments



1  
137+4224



2  
137+4224



3  
137+4224



4  
145+0866 to 145+1344



5  
145+2640



6  
145+3101 to 145+3696



7  
145+3101 to 145+3696



8  
145+3101 to 145+3696





9  
146+2218 to 146+3432



10  
146+2218 to 146+3432



11  
146+2218 to 146+3432



12  
150+4382 to 150+4594



13  
151+1278 to 151+3034



14  
151+1278 to 151+3034



15  
151+1278 to 151+3034



16  
152+3464 to 152+4118



17  
156+3062 to 156+4066



18  
156+3062 to 156+4066



19  
157+0000 to 157+0589



20  
157+0000 to 157+0589



21  
157+0000 to 157+0589



22  
157+2990 to 157+3901



23  
157+3960 to 157+4382



24  
157+3960 to 157+4382





25  
157+4699 to 157+ 1.05



26  
157+4699 to 157+ 1.05



27  
180+0845 to 180+2534



28  
180+0845 to 180+2534



29  
180+0845 to 180+2534



30  
182+4858 to 183+1320



31  
182+4858 to 183+1320



32  
182+4858 to 183+1320

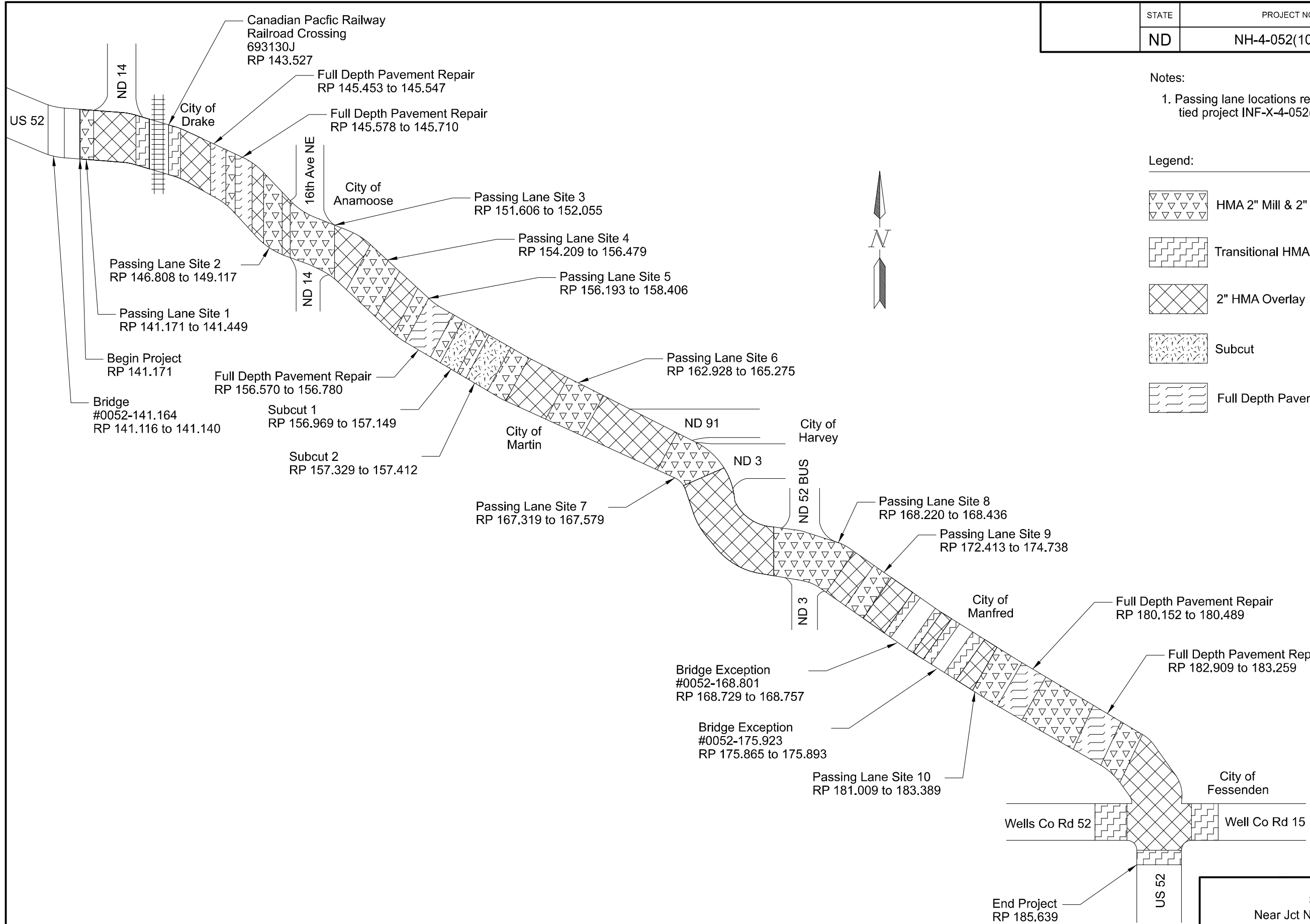


33  
182+4858 to 183+1320



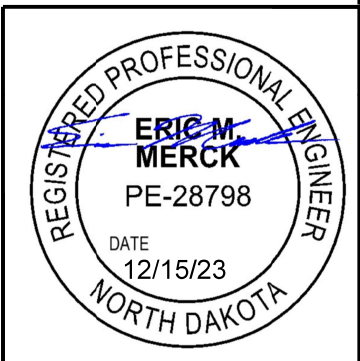
34  
182+4858 to 183+1320

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	NH-4-052(104)141	4	1



Notes:  
 1. Passing lane locations refer to tied project INF-X-4-052(100)140

- Legend:
- HMA 2" Mill & 2" Overlay
  - Transitional HMA 2" Mill & 2" Overlay
  - 2" HMA Overlay
  - Subcut
  - Full Depth Pavement Repair



Scope of Work  
 Near Jct ND 53 to Near Fessenden  
 US 52  
 McHenry, Pierce, Sheridan & Wells County, ND