

TRAFFIC OPERATIONS STUDY

PCN 22624, IM-5-094(143)000
I-94 RP 0.0 (Montana State Line) to 11.7

23 USC § 409 Documents
NDDOT Reserves All Objections



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INTRODUCTION

The purpose of this study is to evaluate I-94 from RP 0.0 (Montana State Line) to RP 11.7 to determine if any revisions are needed to improve traffic operations and safety. The cover shows the study area.

Previous/Related Studies

-REF #4404. In 2019 the Beach interchange (I-94 Exit 1) was studied for turn lanes. The only recommended turn lane was a NB to EB right turn lane at the ND 16 & I-94 EB Ramps intersection.

EXISTING CONDITIONS

I-94 Functional Classification = Rural Principal Arterial

I-94 Highway Performance Classification System = Rural Interstate

I-94 Speed Limit = 75mph

Traffic Control = I-94 interchange off-ramps are controlled with stop signs.

CRASH ANALYSIS

The 5yr study period used was 8/1/2014 – 7/31/2019, and crash summary sheets are in **Appendix A**.

Crash Patterns/Trends

- Nearly 80% of crashes were single vehicle crashes, with 2/3 of them occurring during non-dry conditions (17 ice/snow, 6 wet).
- There were 14 crashes in the vicinity of the Exit 1 (Beach) interchange, but no patterns/trends were identified.
- There were 6 crashes near RP 11.3, and 5 of 6 involved WB vehicles that lost control during ice/snow conditions and hit guardrail on the north side of the road (**Figure 1**). **It is recommended** to install WATCH FOR ICE warning signs for WB traffic approaching RP 11.3.

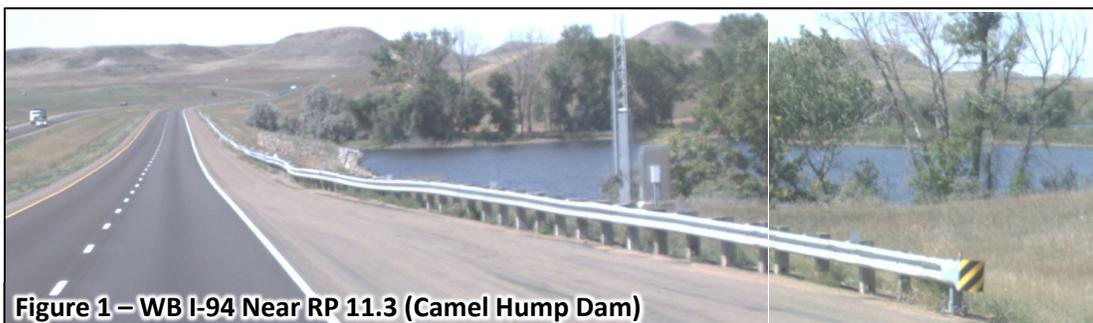


Figure 1 – WB I-94 Near RP 11.3 (Camel Hump Dam)

TRAFFIC VOLUME INFORMATION

REF #4404 shows traffic volumes around the Beach Interchange (Exit 1) have been steady or have decreased in recent years.

TURN LANE ANALYSIS

Repeating the recommendation from REF #4404, it is **recommended** to install a NB to EB right turn lane with a length as long as practical without disrupting the nearby gas station approach (Figure 2).



CAPACITY ANALYSIS

REF #4404 performed a capacity analysis for the Beach Interchange. Those capacity analysis results showed good LOS and low delays for all movements at the interchange.

Capacity analyses were not performed for any other interchanges within the study area due to them having lower traffic volumes than the Beach Interchange.

LIGHTING WARRANTS

There is presently lighting at the weigh station near I-94 RP 0.9 and at the Beach Interchange (Exit 1). If the existing lighting is disturbed as part of this project, then **it is recommended** to replace the lighting based on NDDOT Lighting Warrant 3E.

SUMMARY OF RECOMMENDATIONS

Crash Analysis

Page 3: -Install WATCH FOR ICE warning signs for WB traffic approaching RP 11.3.

Turn Lane Analysis

Page 4: -At the Beach Interchange, install a NB to EB right turn lane with a length as long as practical without disrupting the nearby gas station approach.

Lighting Warrants

Page 5: -If existing weigh station lighting (I-94 RP 0.9) or existing Beach Interchange lighting is disturbed as part of this project, then replace the lighting.

Appendix A – Crash Information

Crash Summary Sheets

Total Crashes: 45 (Sorted by Longitude)
 Location: I-94 State Line to E Camel Hump Dam (EB+WB)
 Reference Points: 0-11.841
 Start - End Date: 8/1/2014 - 7/31/2019 (5 Years)

Notes: Animal crashes were not included.

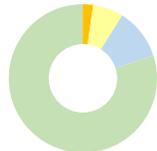
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Statistics for Total Crashes

Crash Severity	Letter Code	No. of Crashes
Fatal	K	0
Incapacitating Injury	A	1
Non-incapacitating Injury	B	3
Possible Injury	C	5
Property Damage Only	O	36

45



K	0%
A	2%
B	7%
C	11%
O	80%

Manner of Collision	Breakdown by Severity					
	K	A	B	C	O	
Angle	0	0%	0	0	0	0
Rear End	4	9%	0	0	0	2
Left Turn	0	0%	0	0	0	0
Sideswipe (same dir.)	4	9%	0	0	0	0
Sideswipe (opp dir.)	0	0%	0	0	0	0
Single Vehicle	37	82%	0	1	3	3
Ped/Bike	0	0%	0	0	0	0
Head On	0	0%	0	0	0	0
Backing	0	0%	0	0	0	0
Other	0	0%	0	0	0	0
Total	45	100%	0	1	3	5

Surface Conditions	Breakdown by Severity					
	K	A	B	C	O	
Dry	18	40%	0	0	2	2
Wet	7	16%	0	1	0	1
Ice / Snow	20	44%	0	0	1	2
Other	0	0%	0	0	0	0
Total	45	100%	0	1	3	5

Lighting Conditions	Breakdown by Severity					
	K	A	B	C	O	
Dawn/Dusk	4	9%	0	0	1	1
Daylight	29	64%	0	1	2	2
Dark	9	20%	0	0	0	2
Dark (lighted)	2	4%	0	0	0	0
Unknown	1	2%	0	0	0	0
Total	45	100%	0	1	3	5

First Harmful Event			
Motor Vehicle in Transport	=	7	16%
Animal	=	0	0%
Jackknife	=	4	9%
Ran Off Roadway (not including below crashes)	=	17	38%
Guardrail + Concrete Barrier + Bridge Rail	=	9	20%
Bridge / Pier / Abutment / Overhead Structure	=	0	0%
Poles / Posts / Trees / Overhead Sign Supports	=	3	7%

Vision Zero Emphasis Areas	Breakdown by Severity				
	K	A	B	C	O
24 Lane Departure Crashes	0	1	3	3	17
4 Intersection Crashes	0	0	0	0	4
2 Alcohol and/or Drug Related Crashes	0	0	0	0	2
2 Unbelted Vehicle Occupant Crashes	0	0	1	0	1
11 Speed Related Crashes	0	1	0	1	9
3 Young Driver Crashes	0	0	0	1	2

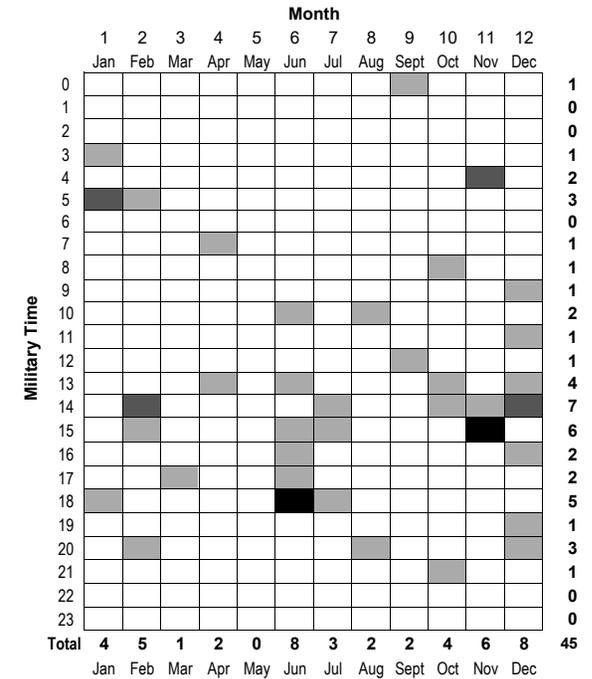
Roadway Geometrics	
Straight (on level)	= 21 47%
Straight (on grade)	= 14 31%
Curve (on level)	= 0 0%
Curve (on grade)	= 7 16%
Hill Crest	= 3 7%
Unknown	= 0 0%
Total	45

V1 and V2 Configuration*	
Passenger Car	= 8
PU / Van / Utility	= 22
Truck	= 21
Bus / Motorhome	= 0
Motorcycle + Moped	= 1
Ped or Bike	= 0

These are only the most popular choices.

V1 and V2 Directions	
NB	= 3
SB	= 1
EB	= 18
WB	= 31

D1 and D2 Alcohol / Drugs*	
Yes (alcohol or drugs present)	= 3



Under Construction	
Yes	= 2 4%

D1 and D2 Contr. Factors*	
Attention Distracted	= 0
Weather	= 14
Speed	= 4
Too Fast for Conditions	= 7
Fail to Yield	= 1
Improper Backing/Turning	= 2

**These are only the most popular choices.*

D1 or D2 Ejected*	
Yes (partially or fully)	= 1

**This info is not available for all units.*

D1 and D2 Age/Sex			
Age	M	F	Total
0-17	0	0	0
18-20	2	1	3
21-24	5	1	6
25-34	8	2	10
35-44	6	3	9
45-54	10	2	12
55-64	7	3	10
65-74	2	0	2
75+	0	0	0
Total	40	12	52

Yr	Start Date	End Date	Intersection (or Alley / Drvwy)	Non-Intersection		Total
				Single Veh	Mult. Veh	
				1	8/1/2014	
2	8/1/2015	7/31/2016	1	8	3	12
3	8/1/2016	7/31/2017		7		7
4	8/1/2017	7/31/2018	1	4	1	6
5	8/1/2018	7/31/2019	2	5	1	8
Total			4	35	6	45

Day of Week	
Monday	= 7 16%
Tuesday	= 4 9%
Wednesday	= 4 9%
Thursday	= 8 18%
Friday	= 6 13%
Saturday	= 6 13%
Sunday	= 10 22%
Total	45

Relation to Junction	
Non-Junction	= 34 76%
Intersection + Intersection-Related	= 4 9%
Alley / Driveway Access	= 0 0%
Interchange Area + Exit / Entrance Ramp	= 0 0%

These are only the most popular choices.

Crash Summary Sheets

Total Crashes: 45 (Sorted by Longitude)
Location: I-94 State Line to E Camel Hump Dam (EB+WB)
Reference Points: 0-11.841
Start - End Date: 8/1/2014 - 7/31/2019 (5 Years)

Notes: Animal crashes were not included.

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Statistics for Intersection-Related Crashes ONLY

Statistics for Non-Intersection Crashes ONLY

Crash Severity

K = 0	0%
A = 0	0%
B = 0	0%
C = 0	0%
O = 4	100%
4	

Relation to Junction

Intersection + Intersection-Related = 4	100%
Alley / Driveway Access = 0	0%

Manner of Collision

Angle = 0	0%
Rear End = 0	0%
Left Turn = 0	0%
Sideswipe (same direction) = 2	50%
Single Vehicle = 2	50%
Ped / Bike = 0	0%
Other = 0	0%

Surface Conditions

Dry = 1	25%
Wet = 0	0%
Ice / Snow = 3	75%
Other = 0	0%

Lighting Conditions

Dawn = 0	0%
Daylight = 2	50%
Dusk = 0	0%
Dark = 1	25%
Dark (lighted) = 1	25%

Under Construction

Yes = 0	0%
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D1 and D2 Contributing Factors*

Attention Distracted = 0
Weather = 1
Speed = 0
Too Fast for Conditions = 3
Fail to Yield = 0
Improper Backing / Turning = 1

These are only the most popular choices.

D1 and D2 Alcohol / Drugs Present*

Yes (alcohol or drugs) = 1

V1 and V2 Unit Config.*

Passenger Car = 0
PU / Van / Utility = 2
Truck = 4
Bus / Motorhome = 0
Motorcycle + Moped = 0

These are only the most popular choices.

V1 and V2 Traffic Control

V1	V2
Signal = 0	0
Stop = 2	1
Beacon = 1	0

These are only the most popular choices.

**This info is not available for all units.*

Multiple Vehicle Crashes ONLY

Crash Severity

K = 0	0%
A = 0	0%
B = 0	0%
C = 2	33%
O = 4	67%
6	

Road Geometrics

Straight (on level) = 1	17%
Straight (on grade) = 3	50%
Curve (on level) = 0	0%
Curve (on grade) = 1	17%
Hill Crest = 1	17%

D1 and D2 Alcohol/Drugs Present*

Yes (alcohol or drugs) = 0

V1 and V2 Unit Config.*

Passenger Car = 2
PU / Van / Utility = 2
Truck = 8
Bus / Motorhome = 0
Motorcycle + Moped = 0

These are only the most popular choices.

Surface Conditions

Dry = 5	83%
Wet = 1	17%
Ice / Snow = 0	0%
Other = 0	0%

Under Construction

Yes = 1	17%
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D1 or D2 Ejected*

Yes = 0

Lighting Conditions

Dawn = 0	0%
Daylight = 5	83%
Dusk = 1	17%
Dark = 0	0%
Dark (lighted) = 0	0%

Manner of Collision

Angle = 0	0%
Rear End = 4	67%
Left Turn = 0	0%
Sideswipe (same direction) = 2	33%
Head-On + Sideswipe (opp direction) = 0	0%
Other = 0	0%

Non-Collision with Motor Vehicle (a.k.a. Single Vehicle) Crashes ONLY

Crash Severity

K = 0	0%
A = 1	3%
B = 3	9%
C = 3	9%
O = 28	80%
35	

Road Geometrics

Straight (on level) = 20	57%
Straight (on grade) = 10	29%
Curve (on level) = 0	0%
Curve (on grade) = 4	11%
Hill Crest = 1	3%

D1 Alcohol / Drugs Present*

Yes (alcohol or drugs) = 2 6%

V1 Unit Config.*

Passenger Car = 6	17%
PU / Van / Utility = 18	51%
Truck = 9	26%
Bus / Motorhome = 0	0%
Motorcycle + Moped = 1	3%

These are only the most popular choices.

Surface Conditions

Dry = 12	34%
Wet = 6	17%
Ice / Snow = 17	49%
Other = 0	0%

Under Construction

Yes = 1	3%
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D1 Ejected*

Yes (partially or fully) = 1	3%
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Lighting Conditions

Dawn = 0	0%
Daylight = 22	63%
Dusk = 3	9%
Dark = 8	23%
Dark (lighted) = 1	3%

D1 Most Harmful Event*

Motor Vehicle in Transport = 0	0%
Animal = 0	0%
Jackknife = 4	11%
Ran Off Roadway (not including below crashes) = 13	37%
Guardrail + Concrete Barrier + Bridge Rail = 9	26%
Bridge / Pier / Abutment / Overhead Structure = 0	0%
Poles / Posts / Trees / Overhead Sign Supports = 5	14%

These are only the most popular choices.

**This info is not available for all units.*

Crash Summary Sheets

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Reference Points: 0-11.841
Start - End Date: 8/1/2014 - 7/31/2019 (5 Years)

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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 Factor¹ Most Harmful Event²	Shortened Narrative	Name of Intersection
1008887 94 0	▶ Non-incapacitating injury 03/03/16 Thursday Dry (Clear) Dusk 5:32 PM Straight (on Level) / Non-junction	Single Veh (Embankment)	① 43M WIXBAUX MT Pickup - Van - Utility WB Going Straight Other		
1081782 94 0.05	PDO 07/30/19 Tuesday Dry (Clear) Daylight 3:38 PM Straight (on Level) / Non-junction	Single Veh (Ditch)	① 42F BUSHNELL IL Pickup - Van - Utility WB Going Straight Over Correct/Steering		
1058183 94 0.74	PDO 07/06/18 Friday Dry (Clear) Daylight 2:20 PM Hillcrest / Non-junction	Sideswipe (Same Dir.)	① 53F HAMMONDSPORT NY Passenger Car EB Going Straight Defective Equipment	② 43M SELIGMAN MO Unknown Heavy Truck EB Going Straight	
1010666 94 1.01	▷ Possible Injury 04/16/16 Saturday Wet (Bl Snow) Daylight 1:14 PM Straight (on Level) / Non-junction	Single Veh (Overturn / Rollover)	① 32M THIEF RIVER FALLS MN EJECTED Motorcycle WB Passing Weather		
335171 94 1.01	PDO 09/25/15 Friday Dry (Clear) Daylight 12:00 PM Straight (on Level) / Non-junction	Single Veh (Other Object (Not Fixed))	① 51M DICKINSON ND Pickup - Van - Utility EB Going Straight Other		
1049635 94 1.63	PDO 02/08/18 Thursday Snow (Snow) Daylight 2:15 PM Hillcrest / Ramp	❄ Single Veh (Utility Post)	① 68M BEACH ND 3+ Axle WB Merging/Diverging Weather		Exit 1 WB On-Ramp Merge Area
1065208 94 1.76	PDO 11/08/18 Thursday Ice / Snow (Bl Snow) Daylight 3:25 PM Curve (on Grade) / Intersection	❄ Sideswipe (Same Dir.)	① 21F BEACH ND Pickup - Van - Utility EB Going Straight To Fast for Conditions	② 43F MOUNT FOREST ON Truck Tractor EB Going Straight Weather	Exit 1 ND 16 & I-94 EB Ramps Intersection
1043603 94 1.76	PDO 11/04/17 Saturday Snow (Frozen Prcp) Dark 4:56 AM Curve (on Grade) / Ramp	❄ Single Veh (Jackknife)	① 22M TULSA OK Truck Tractor EB Other Action on Roadway To Fast for Conditions		Exit 1 EB Off-Ramp
1071980 94 1.76	PDO 02/11/19 Monday Ice / Snow (Cloudy) Dark(L) 5:26 AM Curve (on Grade) / Intersection	❄ Single Veh (Ditch)	① 48M FARGO ND Unknown Heavy Truck NB Turning Left To Fast for Conditions		Exit 1 ND 16 & I-94 WB Ramps Intersection
1019795 16 1.859	PDO 10/10/16 Monday Dry (Clear) Daylight 2:45 PM Straight (on Grade) / Non-junction	Single Veh (Guardrail Face)	① 58M COON RAPIDS MN Truck Tractor SB Going Straight Defective Equipment		Exit 1 Crossroad

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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 ¹ Most Harmful Event ²	②	Shortened Narrative	Name of Intersection
332445	PDO 08/23/15 Sunday Dry (Clear) Daylight 10:20 AM Straight (on Grade) / Intersection	Sideswipe (Same Dir.)	① 27M KNOXVILLE TN Truck Tractor WB Turning Left (Stop) Improper Turn	② 52M PAGOSA SPRINGS CO Truck Tractor WB Stopped (Stop) Parked MV		Exit 1 ND 16 & I-94 WB Ramps Intersection
328510 16 1.889	PDO 06/14/15 Sunday Dry (Clear) Daylight 6:00 PM Straight (on Level) / Non-junction	Single Veh (Bridge Rail)	① 45M BEACH ND Passenger Car NB Swerving Animal in Roadway			Exit 1 Crossroad
309975 16 1.899	PDO 09/02/14 Tuesday Dry (Unkown) Unknown 12:00 AM Straight (on Level) / Non-junction	Single Veh (Guardrail Face)	① Hit and Run NB Swerving Careless/Reckless Driving			Exit 1 Crossroad
1050327	PDO 02/10/18 Saturday Ice / Snow (Clear) Dark 8:00 PM Hillcrest / Intersection Related	❄ Single Veh (Post)	① 37M SCOTTSDALE AZ Pickup - Van - Utility EB Going Straight (Stop) To Fast for Conditions*			Exit 1 ND 16 & I-94 EB Ramps Intersection
1063925	PDO 10/11/18 Thursday Wet (Snow) Dark 9:15 PM Curve (on Grade) / Ramp	◆ Single Veh (Highway Traffic Sign Post)	① 66M JAMESTOWN ND Truck Tractor WB Other Action on Roadway			Exit 1 WB Off-Ramp
1025046	PDO 12/26/16 Monday Snow (Snow) Daylight 2:15 PM Straight (on Grade) / Non-junction	❄ Single Veh (Impact Attenuator)	① 48F PHOENIX AZ Pickup - Van - Utility WB Going Straight (Beacon) Disregard Traffic Signs			Exit 1 WB Road Closed Gate
1073908 94 2.03	▶ Non-incapacitating injury 02/24/19 Sunday Dry (Clear) Daylight 2:10 PM Straight (on Level) / Non-Junction	Single Veh (Utility Post)	① 38M ALPENA MI Truck Tractor WB Going Straight Fail Keep in Proper Lane			Exit 1 WB Road Closed Gate
1005566	PDO 12/22/15 Tuesday Wet (Cloudy) Dark(L) 7:50 PM Straight (on Level) / Ramp	◆ Single Veh (Utility Post)	① 29M GREAT FALLS MT Pickup - Van - Utility EB Merging/Diverging Careless/Reckless Driving*			Exit 1 EB On-Ramp Merge Area
1010971	PDO 04/27/16 Wednesday Slush (Snow) Daylight 7:05 AM Straight (on Level) / Ramp	❄ Single Veh (Utility Post)	① 59M SISSETON SD Passenger Car EB Changing Lanes To Fast for Conditions			Exit 1 EB On-Ramp Merge Area
1012961 94 2.6	PDO 06/13/16 Monday Wet (Rain) Daylight 5:50 PM Straight (on Level) / Non-junction	◆ Single Veh (Overturn / Rollover)	① 22M CHICAGO IL Pickup - Van - Utility WB Going Straight Weather			

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1024123	PDO 12/10/16 Saturday Dry (Unkown) Dark 8:30 PM Straight (on Level) / Non-junction	Single Veh (Other Post Pole / Support)	① 23M BEACH ND Passenger Car WB Other Action on Roadway		
313936 94 4.47	PDO 10/31/14 Friday Dry (Severe Wind) Daylight 1:56 PM Straight (on Level) / Non-junction	Single Veh (Fire / Explosion)	① 48M WATERLOO WI Pickup - Van - Utility EB Going Straight MV Mechanical Failure		
1035925 94 5	PDO 06/25/17 Sunday Dry (Clear) Daylight 10:41 AM Straight (on Level) / Non-junction	Single Veh (Overturn / Rollover)	① 24M KENT WA Truck Tractor EB Going Straight Fail Keep in Proper Lane		
1067661 94 6.07	PDO 12/16/18 Sunday Dry (Clear) Daylight 11:40 AM Straight (on Grade) / Non-junction	Rear End	① 45M STAR ID Truck Tractor EB Going Straight Careless/Reckless Driving	② 61M SENTINEL BUTTE ND Single Unit Truck EB Going Straight	
1072619 94 7.26	PDO 02/15/19 Friday Snow (Bl Snow) Daylight 3:01 PM Straight (on Grade) / Non-junction	❄ Single Veh (Guardrail Face)	① 45M ELIZABETH CO Pickup - Van - Utility WB Going Straight Weather		Exit 7 Bridge
1063032	PDO 10/06/18 Saturday Ice / Snow (Clear) Daylight 8:08 AM Straight (on Grade) / Non-junction	❄ Single Veh (Jackknife)	① 52M BISMARCK ND Pickup - Van - Utility WB Going Straight Too Fast for Conditions		Exit 7 Bridge
1045783 94 7.478	▶ Non-incapacitating injury 12/14/17 Thursday Ice / Snow (Cloudy) Daylight 9:25 AM Straight (on Grade) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 25F WIBAUX MT Pickup - Van - Utility EB Going Straight Over Correct/Steering		Exit 7 Bridge
317058 94 7.488	PDO 12/14/14 Sunday Ice / Snow (Rain) Daylight 2:30 PM Straight (on Grade) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 42M KENT WA Truck Tractor EB Going Straight Weather		Exit 7 Bridge
1014948 94 7.758	▷ Possible Injury 07/20/16 Wednesday Dry (Clear) Daylight 6:55 PM Straight (on Grade) / Non-junction	Rear End	① 48M BISMARCK ND Unknown Heavy Truck WB Passing Following too Close	② 18M DICKINSON ND Passenger Car WB Turning Left Improper Turn Other Non-Collision	
1026003 94 7.758	PDO 12/30/16 Friday Ice / Snow (Bl Snow) Daylight 1:25 PM Straight (on Level) / Non-junction	❄ Single Veh (Overturn / Rollover)	① 19F BOZEMAN MT Pickup - Van - Utility WB Going Straight Weather		

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 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 ¹ Most Harmful Event ²	Shortened Narrative	Name of Intersection
316582 94 8.02	PDO 12/07/14 Sunday Ice / Snow (Frozen Prcp) Dusk 4:00 PM Straight (on Grade) / Non-junction	Single Veh (Ran Off Roadway) ❄	① 24M DAYTON WY Pickup - Van - Utility WB Going Straight Weather		
1013488 94 8.07	PDO 06/25/16 Saturday Dry (Severe Wind) Daylight 6:50 PM Straight (on Grade) / Non-junction	Single Veh (Jackknife)	① 62M LAS VEGAS NV Pickup - Van - Utility WB Going Straight Weather		
314854 94 8.87	▷ Possible Injury 11/09/14 Sunday Ice / Snow (Snow) Dark 4:54 AM Curve (on Grade) / Non-junction	Single Veh (Overturn / Rollover) ❄	① 33M MILES CITY MT Pickup - Van - Utility WB Negotiating Curve To Fast for Conditions		
1027314 94 9.01	PDO 01/18/17 Wednesday Ice / Snow (Clear) Dark 3:20 AM Curve (on Grade) / Non-junction	Single Veh (Overturn / Rollover) ❄	① 20M ZIONSVILLE IN Pickup - Van - Utility WB Turning Left		
1012912 94 9.56	PDO 06/13/16 Monday Wet (Rain) Daylight 3:55 PM Straight (on Level) / Non-junction	Single Veh (Jackknife) ◆	① 55M ISLAND CITY OR Truck Tractor WB Going Straight Weather		
328903 94 10.1	PDO 06/19/15 Friday Dry (Clear) Daylight 1:30 PM Curve (on Grade) / Ramp	Sideswipe (Same Dir.) ▲	① 63F SENTINEL BUTTE ND Pickup - Van - Utility WB Merging/Diverging Failed to Yield	② 27M PERHAM MN Truck Tractor WB Going Straight	Exit 10 WB On-Ramp Merge Area
1012950 94 10.08	PDO 06/13/16 Monday Wet (Rain) Daylight 4:00 PM Straight (on Grade) / Non-junction	Rear End ◆	① 38M CHAMBERSBURG PA Truck Tractor WB Slowing/Stopping Weather	② 59M KLAMATH FALLS OR Truck Tractor WB Going Straight Weather	
1045589 94 10.508	▶ Incapacitating Injury 11/27/17 Monday Wet (Cloudy) Daylight 2:20 PM Straight (on Grade) / Non-junction	Single Veh (Culvert) ◆	① 29M FARGO ND Passenger Car EB Going Straight Speed *		D1 (drugs involved) was EB fleeing police at high speed, lost control, went into median, hit a culvert, rolled across the WB lanes, and came to rest in north ditch.
1013890 94 10.638	▷ Possible Injury 06/28/16 Tuesday Dry (Clear) Dusk 6:04 PM Straight (on Level) / Non-junction	Rear End	① 51M DICKINSON ND Truck Tractor EB Going Straight Following too Close Cargo Loss or Shift	② 33F HUGO MN Pickup - Van - Utility EB Slowing/Stopping Thrown/Falling Object	
319307	PDO 01/08/15 Thursday Snow (Bl Snow) Dark 5:30 AM Straight (on Level) / Non-junction	Single Veh (Other Object (Not Fixed)) ❄	① 25M MISHAWAKA IN Pickup - Van - Utility WB Going Straight Weather		

Crash Summary Sheets

Total Crashes: 45 (Sorted by Longitude)
Location: I-94 State Line to E Camel Hump Dam (EB+WB)
Reference Points: 0-11.841
Start - End Date: 8/1/2014 - 7/31/2019 (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 ¹ Most Harmful Event ²	Shortened Narrative	Name of Intersection
319699 94 11.26	▷ Possible Injury 01/08/15 Thursday Snow (BI Snow) Dark 6:39 PM Straight (on Level) / Non-junction	❄ Single Veh (Guardrail Face)	① 43F BEACH ND Pickup - Van - Utility WB Going Straight Weather		
315648 94 11.26	PDO 11/23/14 Sunday Snow (BI Snow) Daylight 3:30 PM Straight (on Level) / Non-junction	❄ Single Veh (Guardrail Face)	① 59F BROADUS MT Passenger Car WB Going Straight Speed		
315649 94 11.26	PDO 11/23/14 Sunday Snow (BI Snow) Daylight 3:30 PM Straight (on Level) / Non-junction	❄ Single Veh (Guardrail Face)	① 59F BROADUS MT Passenger Car WB Going Straight Speed		
319146	PDO 01/08/15 Thursday Snow (BI Snow) Dark 5:45 AM Straight (on Level) / Non-junction	❄ Single Veh (Ran Off Roadway)	① 64M CARSON CA Pickup - Van - Utility WB Going Straight Speed		
1016112	PDO 08/10/16 Wednesday Dry (Clear) Dusk 8:05 PM Straight (on Grade) / Crossover-	Single Veh (Impact Attenuator) ▲	① 31M LAKEWOOD WA Truck Tractor WB Going Straight		