

Bridge and Approach Investigation Checklist

Project 17BP.11.R.93
Description Bridge # 153
Route SR 1508
Division Eleven
County Watauga

Existing Speed Limit 55 MPH

Reasonable & Comfortable
Passenger Car Speed 30 to 35 MPH

Speed Data _____

Ball Bank Speed Study _____

Warning Signs at Bridge Bridge End Delineators

Roadside Development 40%

ADT History 2011-300vpd, 2009-450vpd, 2007-460vpd, 2005-510 vpd

Pedestrian/Bicycle Traffic unknown

Bridge and Approach
Digital Photos see attached

Approach Lane Width 8 FEET

Approach Shoulder Width: 6 to 8 FEET
Shoulder Type grass

Lane Width (existing bridge) 8 FEET

Shoulder width (existing bridge) 3 FEET

Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section _____

Crash History and
Safety Considerations 4 crashes in a 10 year study. All crashes lane departure.

Comments _____

Reasonable Bridge Speed 35 MPH



Investigated by: J. A. Hamrick, P. E.
Date: 8/4/2014

Reviewed by: _____

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: WATAUGA **City:** All and Rural
Date: 05/01/2004 to 04/30/2014 **Study:** 41000029912
Location: 500 feet on Both Sides of Bridge Number 153 on Secondary Route 1508 (Elk Creek Road) over Elk Creek

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Cl	Dv	Op
1	101796013	3.532	07/29/2006 17:05	FIXED OBJECT	\$ 2500	0	0	0	0	2	1	3	5	0	13	1
Unit 1 : 1		Alchl/Drgs: 0	Speed: 55 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk: 33									
2	103787733	3.560	06/25/2013 22:43	OVERTURN/ROLLOVER	\$ 5000	0	0	0	2	1	5	2	1	0	13	1
Unit 1 : 2		Alchl/Drgs: 1	Speed: 45 MPH	Dir: E	Veh Mnvr/Ped Actn: 4		Obj Strk: 33									
3	102496586	3.600	12/24/2008 16:45	FIXED OBJECT	\$ 1000	0	0	0	0	1	2	2	7	0	13	1
Unit 1 : 1		Alchl/Drgs: 7	Speed: 50 MPH	Dir: NE	Veh Mnvr/Ped Actn: 1		Obj Strk: 59									
4	101457115	3.660	07/11/2005 14:35	FIXED OBJECT	\$ 8500	0	0	0	0	2	1	2	3	0	13	1
Unit 1 : 11		Alchl/Drgs: 0	Speed: 10 MPH	Dir: S	Veh Mnvr/Ped Actn: 16		Obj Strk: 33									

**Legend for
Report Details:**

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Cl - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

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Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	1	25.00
Total Injury Crashes	1	25.00
Property Damage Only Crashes	3	75.00
Night Crashes	1	25.00
Wet Crashes	2	50.00
Alcohol/Drugs Involvement Crashes	1	25.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	1	25.00
Property Damage Only Crashes	3	75.00

Vehicle Exposure Statistics

Annual ADT = 910

Total Length = 0.198 (Miles)

0.319 (Kilometers)

Total Vehicle Exposure = 0.66 (MVMt)

1.06 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	607.89	377.72
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	151.97	94.43
Night Crash Rate	151.97	94.43
Wet Crash Rate	303.94	188.86
EPDO Rate	1732.48	1076.51

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Miscellaneous Statistics

Severity Index =	2.85
EPDO Crash Index =	11.40
Estimated Property Damage Total = \$	17000.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
FIXED OBJECT	3	75.00
OVERTURN/ROLLOVER	1	25.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	2	100.00
Total Non-Fatal Injuries	2	100.00
Total Injuries	2	100.00

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Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	0	0.00
Apr	0	0.00
May	0	0.00
Jun	1	25.00
Jul	2	50.00
Aug	0	0.00
Sep	0	0.00
Oct	0	0.00
Nov	0	0.00
Dec	1	25.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	1	25.00
Tue	1	25.00
Wed	1	25.00
Thu	0	0.00
Fri	0	0.00
Sat	1	25.00
Sun	0	0.00

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Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	1	25.00
1500-1559	0	0.00
1600-1659	1	25.00
1700-1759	1	25.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	1	25.00
2300-2359	0	0.00

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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	0	2	0	2
Dark	1	0	0	1
Other	1	0	0	1
Total	2	2	0	4

Object Struck Summary

Object Type	Times Struck	Percent of Total
EMBANKMENT	1	25.00
TREE	3	75.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	2	50.00
PICKUP	1	25.00
SINGLE UNIT TRUCK (3 OR MORE AXLES)	1	25.00

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Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2004	0	0	0	0
2005	1	0	0	1
2006	1	0	0	1
2007	0	0	0	0
2008	1	0	0	1
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0
2013	1	0	1	0
2014	0	0	0	0
Total	4	0	1	3

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2004	0	0
2005	0	0
2006	0	0
2007	0	0
2008	0	0
2009	0	0
2010	0	0
2011	0	0
2012	0	0
2013	0	2
2014	0	0
Total	0	2

Miscellaneous Totals

Year	Property Damage	EPDO Index
2004	\$ 0	0.00
2005	\$ 8500	1.00
2006	\$ 2500	1.00

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Year	Property Damage	EPDO Index
2007	\$ 0	0.00
2008	\$ 1000	1.00
2009	\$ 0	0.00
2010	\$ 0	0.00
2011	\$ 0	0.00
2012	\$ 0	0.00
2013	\$ 5000	8.40
2014	\$ 0	0.00
Total	\$ 17000	11.40

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2004	0	0	0	0	0	0	0
2005	0	0	0	1	0	0	0
2006	0	0	0	1	0	0	0
2007	0	0	0	0	0	0	0
2008	0	0	0	1	0	0	0
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	1
2014	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	1

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Strip Diagram

Features	Milepost	Crash IDs
	3.47	
	3.48	
	3.49	
	3.50	
	3.51	
	3.52	
	3.53	101796013
	3.54	
	3.55	
BEGIN BRIDGE STRUCTURE SR 1570 ELK	3.56	103787733
Structure:940153	3.57	
END BRIDGE STRUCTURE	3.58	
	3.59	
	3.60	102496586
	3.61	
	3.62	
	3.63	
	3.64	
	3.65	
	3.66	101457115
	3.67	

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Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
41000029912	41000029912			76.8	8.4	910	40001508

Request Date	Courier Service	Phone No.	Ext.	Fax No.
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County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
WATAUGA	94	11	All and Rural		0	05/01/2004	04/30/2014	10.00

Location Text	Requestor
500 feet on Both Sides of Bridge Number 153 on Secondary Route 1508 (Elk Creek Road) over Elk Creek	Jimmy Hamrick, PE NCDOT High Country and Foothills Region

Included Accidents	Old MP	New MP	Type
102496586	4.165	3.6	I

Fiche Roads

Name	Code
SR 1508	40001508
ELK CREEK	50009547

Strip Road

Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1508	40001508	3.471	3.669	0.198	0.319

Bridge # 153

Watauga





SB SR 1508



SB SR 1508



SB SR 1508



NB SR 1508



NB SR 1508