

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

Study Criteria Summary

County: WAKE **City:** All and Rural
Date: 03/01/2013 to 02/28/2018 **Study:** I5870H
Location: I-440 WB On Ramp from US 70 (Glenwood Ave) diverge to I-440 WB merge

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	Ci	Dv	Op
1	103795070	0.000	07/08/2013 13:44	REAR END, SLOW OR STOP	\$ 5200	0	0	0	0	1	1	1	5	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
2	103795069	0.000	07/08/2013 14:00	REAR END, SLOW OR STOP	\$ 3600	0	0	0	0	1	1	1	5	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
3	103946241	0.000	01/07/2014 10:00	REAR END, SLOW OR STOP	\$ 3500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
4	104450665	0.000	08/03/2015 17:54	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 2	Alchl/Drgs:	0	Speed: 30 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
5	104525163	0.000	10/20/2015 10:30	SIDESWIPE, SAME DIRECTION	\$ 1000	0	0	0	0	1	1	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
6	104592866	0.000	12/21/2015 18:29	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
7	104903130	0.000	11/05/2016 17:25	REAR END, SLOW OR STOP	\$ 10250	0	0	0	6	1	2	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: SE		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
8	105138167	0.000	06/17/2017 16:02	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	2	1	3	5	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 25 MPH Dir: SE		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: SE		Veh Mnvr/Ped Actn:				11		Obj Strk:				
9	105169098	0.000	07/23/2017 16:08	REAR END, SLOW OR STOP	\$ 400	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1		Obj Strk:				
10	104132266	0.066	08/21/2014 07:52	REAR END, SLOW OR STOP	\$ 1300	0	0	0	0	1	1	1	5	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: SW		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: SW		Veh Mnvr/Ped Actn:				1		Obj Strk:				
11	103748646	0.189	05/10/2013 18:49	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	2	1	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: SW		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: SW		Veh Mnvr/Ped Actn:				1		Obj Strk:				
12	103812946	0.189	07/30/2013 18:02	REAR END, SLOW OR STOP	\$ 300	0	0	0	0	1	1	2	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 12 MPH Dir: S		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				4		Obj Strk:				
13	104030114	0.189	04/09/2014 19:13	REAR END, SLOW OR STOP	\$ 900	0	0	0	0	1	1	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	7	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				4		Obj Strk:				
Unit	2 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1		Obj Strk:				
14	104664083	0.189	03/03/2016 18:58	SIDESWIPE, SAME DIRECTION	\$ 1000	0	0	0	0	1	5	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				6		Obj Strk:				
Unit	2 : 2	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				4		Obj Strk:				
15	103693226	0.398	03/02/2013 21:54	REAR END, SLOW OR STOP	\$ 16000	0	0	0	0	1	5	1	5	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				11		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				11		Obj Strk:				
16	103701111	0.398	03/12/2013 08:32	SIDESWIPE, SAME DIRECTION	\$ 5000	0	0	0	0	2	1	3	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 55 MPH Dir: W		Veh Mnvr/Ped Actn:				5		Obj Strk:				
Unit	2 : 1	Alchl/Drgs:	0	Speed: 65 MPH Dir: W		Veh Mnvr/Ped Actn:				4		Obj Strk:				

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
17	103824018	0.398	08/13/2013 07:47	REAR END, SLOW OR STOP	\$ 2800	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: SW		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: SW		Veh Mnvr/Ped Actn:				5	Obj Strk:					
18	104186637	0.398	10/18/2014 18:56	REAR END, SLOW OR STOP	\$ 100	0	0	0	1	1	4	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 2 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
19	104268613	0.398	01/08/2015 18:25	SIDESWIPE, SAME DIRECTION	\$ 3000	0	0	0	0	1	2	1	1	0	0	
Unit	1 : 32	Alchl/Drgs:	7	Speed: 45 MPH Dir: SW		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 55 MPH Dir: SW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
20	104398902	0.398	06/07/2015 16:10	SIDESWIPE, SAME DIRECTION	\$ 1500	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 3	Alchl/Drgs:	0	Speed: 50 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	7	Speed: 50 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
21	104421311	0.398	06/30/2015 16:30	REAR END, SLOW OR STOP	\$ 3700	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 60 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
22	104554361	0.398	11/16/2015 11:15	SIDESWIPE, SAME DIRECTION	\$ 3000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 60 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
23	104880226	0.398	10/15/2016 12:57	SIDESWIPE, SAME DIRECTION	\$ 6000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 60 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
24	104880242	0.398	10/16/2016 13:27	REAR END, SLOW OR STOP	\$ 6000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 55 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 20	Alchl/Drgs:	7	Speed: 50 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
25	105013433	0.398	02/18/2017 10:35	SIDESWIPE, SAME DIRECTION	\$ 12500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 60 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 50 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk: 42					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
26	105302634	0.398	11/27/2017 17:25	SIDESWIPE, SAME DIRECTION	\$ 1000	0	0	0	0	1	2	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	60 MPH	Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:			
Unit	2 : 12	Alchl/Drgs:	0	Speed:	60 MPH	Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:			

**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 Ci - 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	26	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	4	15.38
Total Injury Crashes	4	15.38
Property Damage Only Crashes	22	84.62
Night Crashes	3	11.54
Wet Crashes	3	11.54
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	26	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	4	15.38
Property Damage Only Crashes	22	84.62

Vehicle Exposure Statistics

Annual ADT = 11000

Total Length = 0.398 (Miles)

0.641 (Kilometers)

Total Vehicle Exposure = 7.99 (MVMT)

12.87 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	325.23	202.09
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	50.04	31.09
Night Crash Rate	37.53	23.32
Wet Crash Rate	37.53	23.32
EPDO Rate	695.50	432.16

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Miscellaneous Statistics

Severity Index =	2.14
EPDO Crash Index =	55.60
Estimated Property Damage Total = \$	95050.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
REAR END, SLOW OR STOP	17	65.38
SIDESWIPE, SAME DIRECTION	9	34.62

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	9	100.00
Total Non-Fatal Injuries	9	100.00
Total Injuries	9	100.00

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Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	2	7.69
Feb	1	3.85
Mar	3	11.54
Apr	1	3.85
May	1	3.85
Jun	3	11.54
Jul	4	15.38
Aug	3	11.54
Sep	0	0.00
Oct	4	15.38
Nov	3	11.54
Dec	1	3.85

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	6	23.08
Tue	6	23.08
Wed	1	3.85
Thu	3	11.54
Fri	1	3.85
Sat	6	23.08
Sun	3	11.54

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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	2	7.69
0800-0859	1	3.85
0900-0959	0	0.00
1000-1059	3	11.54
1100-1159	1	3.85
1200-1259	1	3.85
1300-1359	2	7.69
1400-1459	1	3.85
1500-1559	0	0.00
1600-1659	4	15.38
1700-1759	3	11.54
1800-1859	6	23.08
1900-1959	1	3.85
2000-2059	0	0.00
2100-2159	1	3.85
2200-2259	0	0.00
2300-2359	0	0.00

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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	17	3	0	20
Dark	3	0	0	3
Other	3	0	0	3
Total	23	3	0	26

Object Struck Summary

Object Type	Times Struck	Percent of Total
GUARDRAIL FACE ON SHOULDER	1	100.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	2	3.70
MOTORCYCLE	1	1.85
PASSENGER CAR	31	57.41
PICKUP	5	9.26
SPORT UTILITY	11	20.37
TRUCK/TRAILER	1	1.85
UNKNOWN	1	1.85
VAN	2	3.70

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Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2013	7	0	0	7
2014	4	0	1	3
2015	7	0	1	6
2016	4	0	2	2
2017	4	0	0	4
2018	0	0	0	0
Total	26	0	4	22

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2013	0	0
2014	0	1
2015	0	1
2016	0	7
2017	0	0
2018	0	0
Total	0	9

Miscellaneous Totals

Year	Property Damage	EPDO Index
2013	\$ 35400	7.00
2014	\$ 5800	11.40
2015	\$ 15200	14.40
2016	\$ 23250	18.80
2017	\$ 15400	4.00
2018	\$ 0	0.00
Total	\$ 95050	55.60

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road &			
				Fixed Object	Angle	Side Swipe	Other
2013	0	0	6	0	0	1	0
2014	0	0	4	0	0	0	0
2015	0	0	3	0	0	4	0

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Run Off Road &							
Year	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2016	0	0	2	0	0	2	0
2017	0	0	2	0	0	2	0
2018	0	0	0	0	0	0	0
Total	0	0	17	0	0	9	0

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Strip Diagram

Features	Milepost	Crash IDs
US 70 DIVERGE	0.00	103795070 103795069 103946241 104450665 104525163 104592866 104903130 105138167 105169098
	0.01	
	0.02	
	0.03	
	0.04	
	0.05	
	0.06	
	0.07	104132266
	0.08	
	0.09	
	0.10	
	0.11	
	0.12	
	0.13	
	0.14	
	0.15	
	0.16	
	0.17	
	0.18	
	0.19	103748646 103812946 104030114 104664083
	0.20	
RIDGE RD DIVERGE	0.21	
	0.22	
	0.23	
	0.24	
	0.25	
	0.26	
	0.27	
	0.28	
	0.29	
	0.30	
	0.31	
	0.32	
	0.33	
	0.34	
	0.35	
	0.36	
	0.37	
	0.38	
	0.39	
	0.40	103693226 103701111 103824018 104186637 104268613 104398902 104421311 104554361
I-440 WB MERGE		

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Features	Milepost Crash IDs
	104880226 104880242 105013433 105302634

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Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
I5870H				76.8	8.4	11000	

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
WAKE	92	5	All and Rural		0	03/01/2013	02/28/2018	5.00

Location Text	Requestor
I-440 WB On Ramp from US 70 (Glenwood Ave) diverge to I-440 WB merge	

Included Accidents	Old MP	New MP	Type
104450665		0	I
105169098		0	I
105138167		0	I
104903130		0	I
103795069		0	I
103795070		0	I
103946241		0	I
104592866		0	I
104268613		0.398	I
104398902		0.398	I
105302634		0.398	I
104554361		0.398	I
103824018		0.398	I
103701111		0.398	I
104186637		0.398	I
104880226		0.398	I
104421311		0.398	I
103748646		0.189	I
105013433		0.398	I
104030114		0.189	I
103812946		0.189	I
104132266		0.066	I
104880242		0.398	I
104664083		0.189	I
104525163		0	I
103693226		0.398	I

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Fiche Roads

Name	Code
I 1	10000001
US 70BUS	29000070
US 70ALT	21000070
US 70BYP	22000070
US 401	20000401
NC 50	30000050
GLENNWOOD	50011977
EXIT 7	50038709
EXIT 7A	50039831
EXIT 7B	50039832
EXIT 6	50039123
I 440	10000440
US 70	20000070
RIDGE	50025900

Strip Road

Name	Code	Begin MP	End MP	Miles	Kilometers
I 1	10000001	0.000	0.398	0.398	0.641