
Bridge Design Speed Investigation

B-5654

Structure #141 on SR 1550 (Winston Road) over White Oak Creek

Johnston County



Document Prepared By:

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Project Manager

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Regional Manager

Principal Investigator

Joshua T. Reinke, PE
Transportation Engineer



Bridge and Approach Investigation Checklist

Project B-5654
Description Bridge #141 over White Oak Creek
Route SR 1550 (Winston Road)
Division 4
County Johnston

Existing Speed Limit 45 mph ☒ Posted ☐ Statutory

Reasonable & Comfortable
Passenger Car Speed 45 mph

Speed Data Estimated 35-50 mph

Ball Bank Speed Study Curve East of Bridge:
35 mph: EB Approach - 9, WB Approach - 7
40 mph: EB Approach - 10, WB Approach - 9
45 mph: EB Approach - 12, WB Approach - 11
50 mph: EB Approach - 14, WB Approach - 12
Curve West of Bridge:
35 mph: EB Approach - 6, WB Approach - 7
40 mph: EB Approach - 7, WB Approach - 8
45 mph: EB Approach - 7, WB Approach - 10
50 mph: EB Approach - 8, WB Approach - 12

Warning Signs at Bridge 4x Guard Rail End Delineators, 2x Bridge End Delineators, 2x Weight
Limit (17 ton SV, 26 ton TTST), 2x 35 mph Cautionary Signs at Curves
(1 on each curve)

Roadside Development Wooded/Residential

ADT History 2400 vpd (From NCDOT TEAAS)
2100 vpd (From NCDOT Traffic Volume Map - 2011)

Pedestrian/Bicycle Traffic Minimal Expected

Bridge and Approach
Digital Photos Attached

Approach Lane Width East of Bridge - 20.5 ft, West of Bridge - 20 ft (total width)

Approach Shoulder Width
Shoulder Type East of Bridge: <1 ft paved, 6 - >8 ft grass
West of Bridge: <1 ft paved, 2 - >8 ft grass

Lane Width (existing bridge) 20 ft (total width)

Shoulder width (existing bridge) 1-2 ft (~24 ft total width)

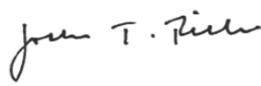
Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section SR 1550 is classified as a rural local facility in the Statewide Functional
Classification System. 2-lane cross-section is recommended.

Crash History and
Safety Considerations Crash data completed from 01/01/11 to 12/31/15. No collisions were
reported.

Comments Area within the vicinity of the bridge is primarily wooded with some residential.
Multiple driveways are located along curves east and west of the bridge.

Reasonable Bridge Speed 45 mph

Investigated by: Joshua T. Reinke, PE

Reviewed by: 

County: Johnston

Route: SR 1550 (Winston Road)

Date: 03/16/16

Eastbound



Eastbound



Westbound



Westbound





Bridge Location Map-Bridge #500141

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

Study Criteria Summary

County: JOHNSTON **City:** All and Rural
Date: 01/01/2011 **to** 12/31/2015 **Study:** JOHNSTONBRIDGE141
Location: 500 feet either side of Bridge 141 on SR 1550 (Winston Road) over Whiteoak Creek
NO CRASHES IN STUDY

Report Details

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
JOHNSTONBRIDGE141				76.8	8.4	2400	40001550

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
JOHNSTON	51	4	All and Rural		0	01/01/2011	12/31/2015	5.00

Location Text	Requestor
500 feet either side of Bridge 141 on SR 1550 (Winston Road) over Whiteoak Creek NO CRASHES IN STUDY	

Excluded Accidents
103991364
103267461

Fiche Roads	
Name	Code
SR 1550	40001550

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1550	40001550	1.545	1.745	0.200	0.322