



PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

May 26, 2016

MEMORANDUM

TO: Mr. Patrick Norman, P.E., Director
Division of Planning and Programming

FROM: Ms. Lynnise M. Hawes, P.E. ^{DS} *LMH*
Feasibility Studies Engineer

SUBJECT: R-2702 Re-evaluation – US 64 (Proposed Brevard Bypass); Transylvania County

As requested, we have completed feasibility study R-2702 Re-evaluation for the proposed Brevard Bypass in Transylvania County. This project proposes to construct a new route from US 64 to NC 280. The project location is shown on Figure 1. Our evaluation of this project was based on four alternatives, the details of which are as follows:

Alternative 1: Proposed four-lane divided shoulder expressway section with 12-foot travel lanes, a 46-foot depressed grass median, and 10-foot paved shoulders on 250-foot right of way for a distance of approximately 8.9 miles. Included in the costs shown below are 5 interchanges, 7 grade separations, 16 bridges, and 3 roadway extensions (see Table 6 for detailed information). It is anticipated that one hundred forty-two (142) residences, ten (10) businesses, and fifty-five (55) graves would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$180,900,000
Right of Way.....	\$40,200,000
<u>Utility Relocation</u>	<u>\$5,100,000</u>
Total Cost (Alternative 1).....	\$226,200,000

Alternative 2: Proposed four-lane divided shoulder rural parkway section with 12-foot travel lanes, a 46-foot depressed grass median, and 10-foot paved shoulders on 250-foot right of way for a distance of approximately 9.9 miles. Included in the costs shown below are 10 bridges (see Table 7 for detailed information). It is anticipated that one hundred and two (102) residences and seven (7) businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$118,500,000
Right of Way.....	\$38,700,000
<u>Utility Relocation</u>	<u>\$5,300,000</u>
Total Cost (Alternative 2).....	\$162,500,000



Alternative 3A: Proposed four-lane divided shoulder rural parkway section with 12-foot travel lanes, a 46-foot depressed grass median, and 10-foot paved shoulders on 250-foot right of way for a distance of approximately 8.2 miles. Included in the costs shown below are 8 bridges (see Table 8 for detailed information). It is anticipated that one hundred seventeen (117) residences and seventeen (17) businesses would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$97,500,000
Right of Way.....	\$48,600,000
<u>Utility Relocation</u>	<u>\$6,000,000</u>
Total Cost (Alternative 3A).....	\$152,100,000

Alternative 3B: Proposed four-lane divided shoulder rural parkway section with 12-foot travel lanes, a 46-foot depressed grass median, and 10-foot paved shoulders on 250-foot right of way for a distance of approximately 9.4 miles. Included in the costs shown below are 9 bridges (see Table 9 for detailed information). It is anticipated that one hundred twenty-six (126) residences, eight (8) businesses, and fifty-five (55) graves would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$123,400,000
Right of Way.....	\$43,700,000
<u>Utility Relocation</u>	<u>\$5,000,000</u>
Total Cost (Alternative 3B).....	\$172,100,000

Alternative 4: Proposed four-lane divided shoulder expressway section with 12-foot travel lanes, a 46-foot depressed grass median, and 10-foot paved shoulders on 250-foot right of way for a distance of approximately 9.5 miles. Included in the costs shown below are 6 interchanges, 15 bridges, 1 bridge widening, 4 grade separations, 2 roadway realignments, and 2 roadway extensions (see Table 10 for detailed information). It is anticipated that two hundred and two (202) residences, seventeen (17) businesses, and fifty-five (55) graves would need to be relocated due to this project.

The estimated total cost of the alternative is as follows:

Construction.....	\$206,700,000
Right of Way.....	\$68,400,000
<u>Utility Relocation</u>	<u>\$5,500,000</u>
Total Cost (Alternative 4).....	\$280,600,000

The estimated cost of alternatives for the proposed Brevard Bypass ranges from \$152,100,000 to \$280,600,000. At this time, we don't have a preferred alternative. Local officials from Transylvania County endorse Alternative 3A as the locally preferred alternative. The total cost of Alternative 3A is \$152,100,000.

Table 1 shows the estimated current year (2016) and future design year (2035) average daily traffic (ADT) and level of service (LOS) along the proposed Brevard Bypass.

Table 1: Traffic Analysis

Alternative	2016 (Build)	2035 (Build)	LOS (2016)	LOS (2035)
1	6,400 - 10,900	8,400 - 14,000	A	A
2	5,600 - 10,900	7,300 - 15,100	A	A
3A	5,600 - 12,600	7,400 - 16,800	A	A
3B	5,600 - 11,700	7,300 - 15,900	A	A
4	6,400 - 12,800	8,400 - 16,700	A	A

A crash analysis was performed to compare crash rates within the study area to other rural US routes, NC routes, and secondary roads in North Carolina. Five years of crash history data, from August 2010 to July 2015, were analyzed. A summary comparison of the crash rates within the study area versus the average crash rate for all routes within North Carolina is presented in Table 2. The types of crashes within the study area are summarized in Table 3.

Table 2: Crash Statistics

Roadway	Segment	Number of Crashes	Crashes per 100 Million Vehicle Miles (MVM)	Statewide Crash Rate
US 64	SR 1338/SR 1160 to NC 280/US 276	478	218.36	104.75
NC 280	US 64/US 276 to SR 1510 (Hudlin Gap Road)	51	162.19	159.74
SR 1504	SR 1521 (Glade Creek Road) to SR 1512 (Ecusta Road)	39	292.99	247.22
SR 1510	NC 280 to SR 1598 (Capps Road)	6	673.33	247.22
SR 1512	SR 1504 (Old Hendersonville Highway) to US 64	27	205.44	247.22
SR 1518	SR 1504 (Old Hendersonville Highway) to US 64	22	756.61	247.22
SR 1540	SR 1504 (Old Hendersonville Highway) to US 276	74	379.22	247.22

Table 3: Crash Types

Roadway	Segment	Total Crashes	Fatal Crashes	Non-Fatal Injury Crashes	Property Damage Only Crashes	Prevalent Types
US 64	SR 1338/SR 1160 to NC 280/US 276	478	2	129	347	Angle (14%), Left Turn (12%), Rear End (41%), Sideswipe (11%)
NC 280	US 64/US 276 to SR 1510 (Hudlin Gap Road)	51	2	14	35	Angle (14%), Rear End (47%), Sideswipe (19%)
SR 1504	SR 1521 (Glade Creek Road) to SR 1512 (Ecusta Road)	39	0	7	32	Fixed Object (33%), Overturn/Rollover (15%), Sideswipe (23%)
SR 1510	NC 280 to SR 1598 (Capps Road)	6	0	3	3	Angle (33%), Fixed Object (33%), Left Turn (17%), Overturn/Rollover (17%)
SR 1512	SR 1504 (Old Hendersonville Highway) to US 64	27	0	7	20	Angle (22%), Left Turn (19%), Rear End (41%)
SR 1518	SR 1504 (Old Hendersonville Highway) to US 64	22	1	12	9	Angle (36%), Fixed Object (23%), Left Turn (27%)
SR 1540	SR 1504 (Old Hendersonville Highway) to US 276	74	0	22	52	Fixed Object (42%), Left Turn (11%), Rear End (11%),

It is anticipated that there will be railroad impacts, since several Alternatives intersect and run parallel to the Blue Ridge Southern Railroad (BLU). Currently, no trains are being operated, but in the future BLU may reestablish rail customers and resume rail traffic. See attached rail comments on rail impacts in the proposed project study area.

A detailed investigation was not conducted for this feasibility study, however it is anticipated that there will be possible impacts to Brevard High School, Davidson River School, Pisgah Elementary School, Shady Grove Cemetery, Turkey Creek Cemetery, and the Glenn Cannon Country Club Property. No impacts to parks, recreation areas, or community facilities are anticipated with this project.

The Geographic Information System Service of the North Carolina State Historic Preservation Office was used to determine if any historic properties on the National Register of Historic Places (NRHP) or state study lists exist in the project area. There are no National Register of Historic districts or structures located in the project area. The following is a list of potential historic properties within the project study area:

Glazener House	Duncan MacDougal House	Bagwell-King House
Wilson Bridge	Buck Wilson House	Jenkins House
Bridge #38	William Maxwell House	Elizur Patton House
Mackey Bottom Development	Pisgah Forest Crossroads	Clarence Orr House
(former) Pisgah Forest School	Max & Lea Wilson House	House
(former) Pisgah Forest Baptist Church	Ed & Emma McCoy House	Rose Sentelle House

The proposed project study area is located in the French Broad River Basin. Table 4 lists waterbodies within the project study area. These waterbodies will likely need to be surveyed and have the appropriate coordination with North Carolina Department of Environmental Quality (NCDEQ) and the U.S. Army Corps of Engineers (USACE) during any environmental document study.

Table 4: Waterbodies

<u>Waterbody</u>	<u>Classification</u>
Glady Branch	C;HQW
Nicholson Creek	C;Tr
French Broad River	B
Cateechee Branch	B
King Creek	C;Tr
Lambo Creek	C;Tr
Williamston Creek	C;Tr;HQW
Lamb Creek	C,Tr

<u>Waterbody</u>	<u>Classification</u>
Davidson River	B
Trash Branch	C
West Prong Glade Creek	C
Middle Prong Glade Creek	C;Tr
North Prong Glade Creek	C;Tr
Glade Creek	C;Tr
Silver Creek	WS-V;B;Tr

The proposed project study area contains wetlands associated with the waterbodies listed in Table 4 and several jurisdictional wetland areas. Permitting with the U.S. Army Corps of Engineers (USACE) will likely need to be obtained before construction of the project, and appropriate mitigation measures should be taken if deemed necessary. A portion the proposed project study area is located in a 100-year floodplain.

Table 5 lists the threatened and endangered species within the proposed project study area.

Table 5: Threatened and Endangered Species

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Status</u>	<u>State Status</u>
Creeper	<i>Strophitus undalatus</i>		T
French Broad Crayfish	<i>Cambarus reburus</i>	FSC	SR
Sweet Indian-plantain	<i>Senecio suaveolens</i>		SC-H
Hellbender	<i>Cryptobranchus alleganiensis</i>	FSC	SC
Common Mudpuppy	<i>Necturus maculosus</i>		SC
T = Threatened; FSC = Federal Special Concern; SR = Significantly Rare SC-H = Special Concern Historical; SC = Special Concern			

As you are aware, this is preliminary and not the product of comprehensive environmental or design evaluations. If you should have further questions or additional information is needed, please do not hesitate to contact me at 919-707-4662, or via email at lmhawes@ncdot.gov.

ATT: Project Location Map
 Preferred Alternative Map
 Alternative Improvements Details
 Transylvania County Board of Commissioners Resolution
 NCDOT Rail Comments

Cc: Van Argabright, PE, Manager STIP and Feasibility Studies
 Ed Green, PE, Division 14 Engineer

Table 6: Alternative 1 Improvements

<u>Interchange Type</u>	<u>Junction</u>
Trumpet	US 64
Trumpet	Proposed SR 1540 (Wilson Road Extension)
Trumpet	Proposed SR 1556 (Osborne Road Extension)
Diamond	US 64
Trumpet	NC 280
<u>Grade Separations</u>	
	SR 1114 (Illahee Road)
	SR 1116 (N. Country Club Road)
	US 276
	SR 1543 (Elm Bend Road)
	SR 1556 (Osborne Road)
	SR 1540 (Wilson Road)
	SR 1520 (Cemetery Road) (2)
<u>Bridges</u>	
	Nicholson Creek (2)
	French Broad River (2)
	Unnamed Tributary
	King Creek
	Lambo Creek
	Lamb Creek
	Norfolk Southern Railroad
	Davidson River
	West Prong Glade Creek (4)
	Middle Prong Glade Creek (2)
<u>Proposed Roadway Extensions</u>	
SR 1540 (Wilson Road)	
SR 1556 (Osborne Road)	
SR 1520 (Cemetery Road)	

Table 7: Alternative 2 Improvements

<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Thrash Branch
	Norfolk Southern Railroad
Existing Bridge #194	Glade Creek
	North Prong Glade Creek
	Middle Prong Glade Creek

Table 8: Alternative 3A Improvements

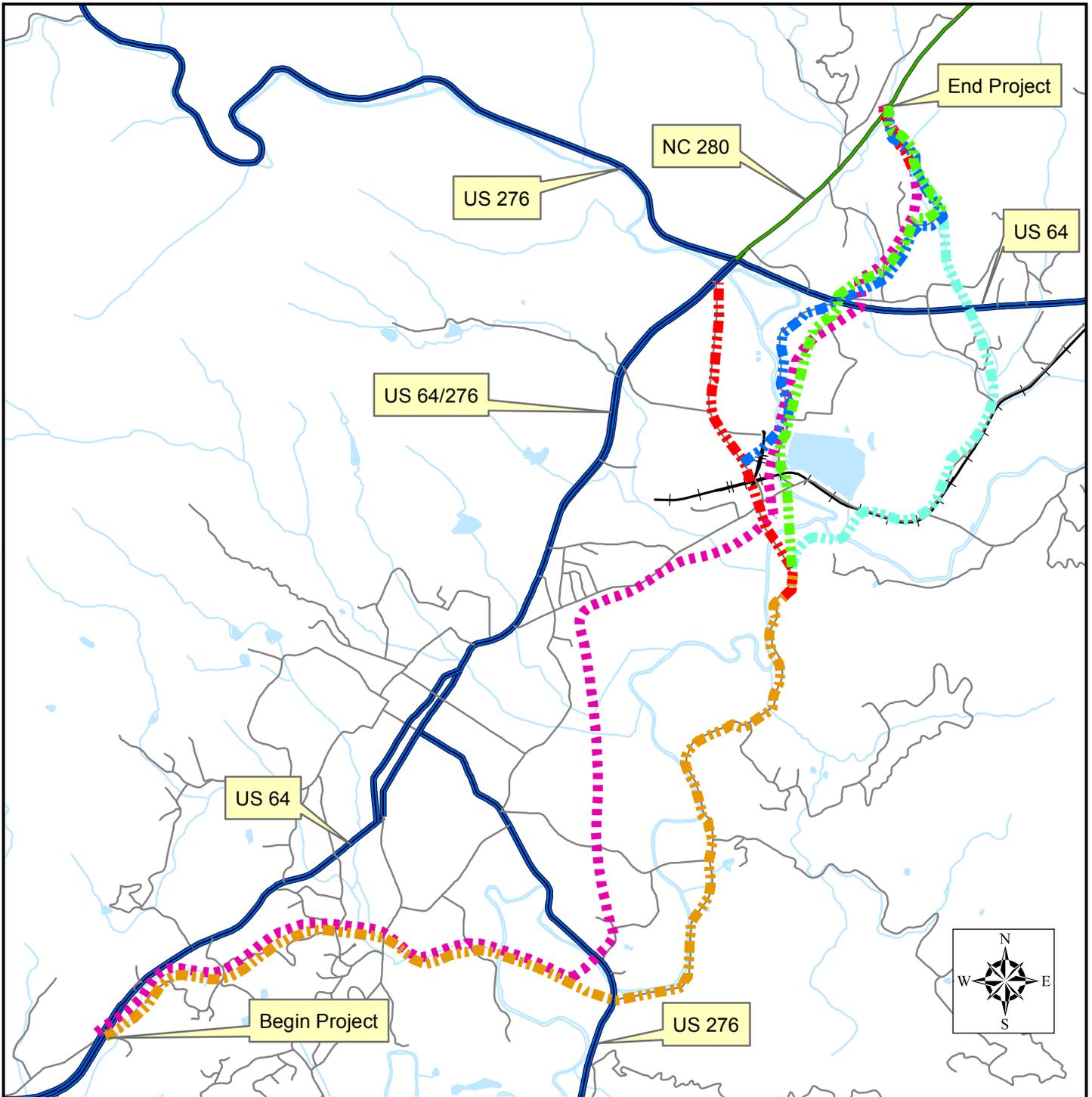
<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
Existing Bridge #36	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Norfolk Southern Railroad
Existing Bridges #97 & #98	Davidson River (2)

Table 9: Alternative 3B Improvements

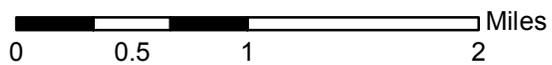
<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
Existing Bridge #36	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Norfolk Southern Railroad
	Davidson River
	West Prong Glade Creek
	Middle Prong Glade Creek

Table 10: Alternative 4 Improvements

<u>Interchange Type</u>	<u>Junction</u>
Trumpet	US 64
Partial Clover	US 276
Diamond	Proposed Realigned SR 1543 (Elm Bend Road) & SR 1541 (Williamson Creek Road)
Diamond	Proposed SR 1580 (Glenn Cannon Road Extension)
Diamond	US 64
Trumpet	NC 280
<u>Grade Separations</u>	
	SR 1114 (Illahee Road)
	SR 1116 (N. Country Club Road)
	SR 1520 (Cemetery Road) (2)
<u>Bridges</u>	
	Nicholson Creek (2)
Existing Bridge #206	French Broad River (2)
	French Broad River Overflow (2)
Existing Bridge #40	Williamson Creek (2)
	Davidson River, SR 1504 (Old US 64), & Norfolk Southern Railroad
	West Prong Glade Creek (4)
	Middle Prong Glade Creek (2)
<u>Bridge Widening</u>	
Existing Bridge #39	French Broad River
<u>Proposed Roadway Realignments</u>	
SR 1543(Elm Bend Road)	
SR 1541 (Williamson Creek Road)	
SR 1540 (Wilson Road)	
<u>Proposed Roadway Extensions</u>	
SR 1580 (Glenn Cannon Road)	
SR 1520 (Cemetery Road)	



- █ Alternative 1
- █ Alternatives 2, 3A, 3B, & 4
- █ Alternative 2
- █ Alternative 3A
- █ Alternative 3B
- █ Alternative 4



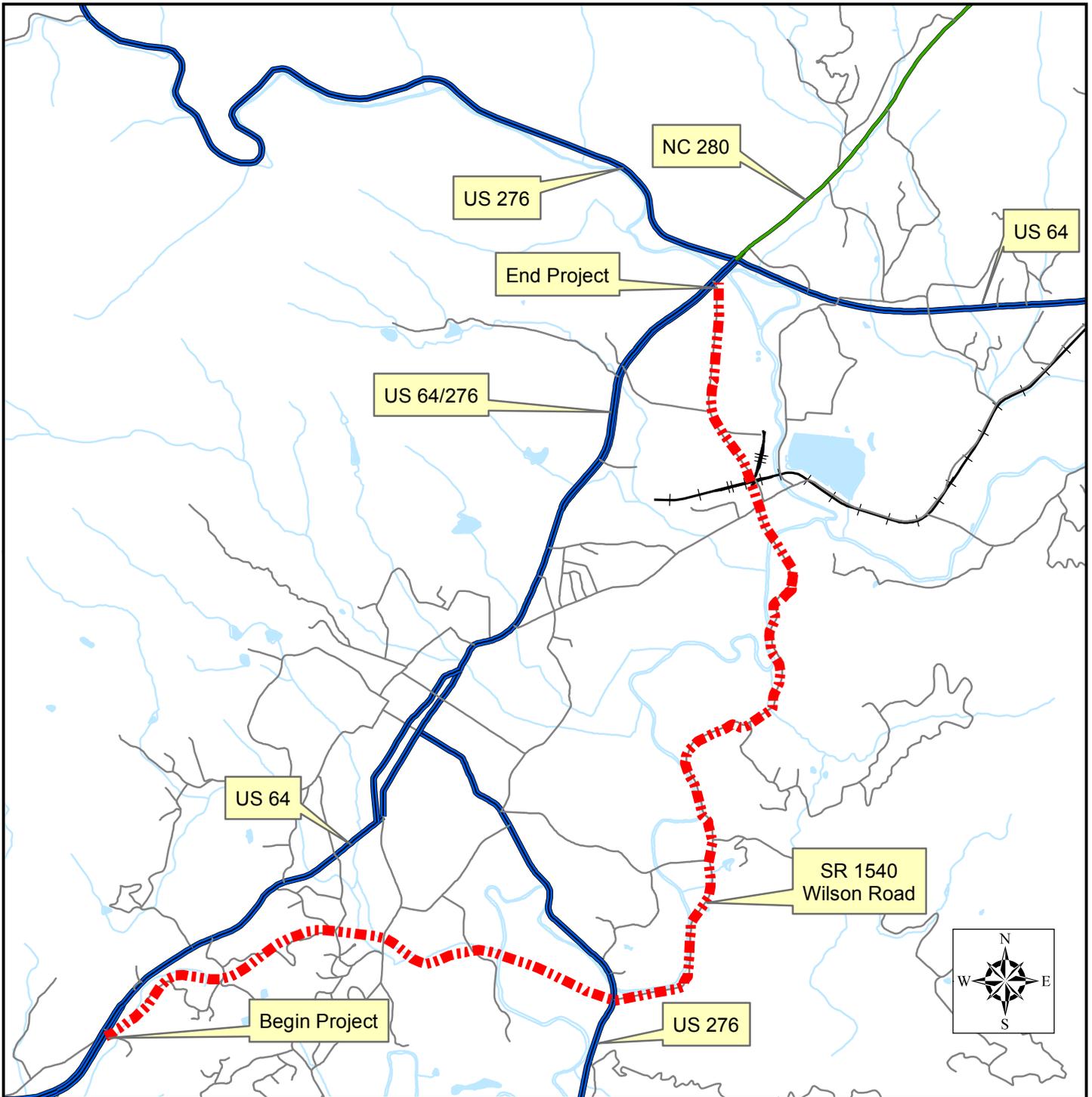


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

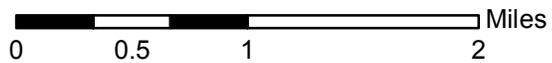
Project Location Map
R-2702Re

US 64 (Brevard Bypass)
 from US 64 to Nc 280

Transylvania County Division 14



 Preferred Alternative 3A





STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
 PROGRAM DEVELOPMENT BRANCH
 FEASIBILITY STUDIES UNIT

Project Location Map
R-2702Re

US 64 (Brevard Bypass)
 from US 64 to Nc 280

Transylvania County Division 14

Table 6: Alternative 1 Improvements

<u>Interchange Type</u>	<u>Junction</u>
Trumpet	US 64
Trumpet	Proposed SR 1540 (Wilson Road Extension)
Trumpet	Proposed SR 1556 (Osborne Road Extension)
Diamond	US 64
Trumpet	NC 280
<u>Grade Separations</u>	
	SR 1114 (Illahee Road)
	SR 1116 (N. Country Club Road)
	US 276
	SR 1543 (Elm Bend Road)
	SR 1556 (Osborne Road)
	SR 1540 (Wilson Road)
	SR 1520 (Cemetery Road) (2)
<u>Bridges</u>	
	Nicholson Creek (2)
	French Broad River (2)
	Unnamed Tributary
	King Creek
	Lambo Creek
	Lamb Creek
	Norfolk Southern Railroad
	Davidson River
	West Prong Glade Creek (4)
	Middle Prong Glade Creek (2)
<u>Proposed Roadway Extensions</u>	
	SR 1540 (Wilson Road)
	SR 1556 (Osborne Road)
	SR 1520 (Cemetery Road)

Table 7: Alternative 2 Improvements

<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Thrash Branch
	Norfolk Southern Railroad
Existing Bridge #194	Glade Creek
	North Prong Glade Creek
	Middle Prong Glade Creek

Table 8: Alternative 3A Improvements

<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
Existing Bridge #36	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Norfolk Southern Railroad
Existing Bridges #97 & #98	Davidson River (2)

Table 9: Alternative 3B Improvements

<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
Existing Bridge #36	French Broad River (2)
Existing Bridge #40	Williamson Creek
	Norfolk Southern Railroad
	Davidson River
	West Prong Glade Creek
	Middle Prong Glade Creek

Table 10: Alternative 4 Improvements

<u>Interchange Type</u>	<u>Junction</u>
Trumpet	US 64
Partial Clover	US 276
Diamond	Proposed Realigned SR 1543 (Elm Bend Road) & SR 1541 (Williamson Creek Road)
Diamond	Proposed SR 1580 (Glenn Cannon Road Extension)
Diamond	US 64
Trumpet	NC 280
<u>Grade Separations</u>	<u>Junction</u>
	SR 1114 (Illahee Road)
	SR 1116 (N. Country Club Road)
	SR 1520 (Cemetery Road) (2)
<u>Bridges</u>	<u>Junction</u>
	Nicholson Creek (2)
Existing Bridge #206	French Broad River (2)
	French Broad River Overflow (2)
Existing Bridge #40	Williamson Creek (2)
	Davidson River, SR 1504 (Old US 64), & Norfolk Southern Railroad
	West Prong Glade Creek (4)
	Middle Prong Glade Creek (2)
<u>Bridge Widening</u>	<u>Junction</u>
Existing Bridge #39	French Broad River
<u>Proposed Roadway Realignments</u>	
SR 1543(Elm Bend Road)	
SR 1541 (Williamson Creek Road)	
SR 1540 (Wilson Road)	
<u>Proposed Roadway Extensions</u>	
SR 1580 (Glenn Cannon Road)	
SR 1520 (Cemetery Road)	

BOARD OF COMMISSIONERS
Mike Hawkins, Chair
Larry Chapman, Vice-Chair
Jason Chappell
Daryle Hogsted
Page Lemel



COUNTY MANAGER
Arthur C. Wilson, Jr.
828-884-3100
Fax 828-884-3119
828-884-3107
21 East Main Street
Brevard, NC 28712

Transylvania County

RESOLUTION 22-2014

A RESOLUTION OFFERING COMMENT UPON ALTERNATIVE ALIGNMENTS TO THE BREVARD BYPASS / SYLVAN VALLEY PARKWAY

WHEREAS, the Transylvania County Board of Commissioners recognizes that the efficient provision of a multi-modal transportation system is a necessity in maintaining quality of life and economic development within Transylvania County; and

WHEREAS, the North Carolina Department of Transportation has solicited comment from the City of Brevard and Transylvania County regarding alternative alignments to the Brevard Bypass / Sylvan Valley Parkway; and

WHEREAS, a subcommittee including representatives of the Transylvania County Transportation Advisory Committee, the Transylvania County Planning Board, the City of Brevard Planning Board, Land-of-Sky Rural Planning Organization Technical Coordinating Committee, and City and County staff, recommend endorsement of Alignment Alternative 3A, with certain modifications and exceptions;

NOW, THEREFORE BE IT RESOLVED BY THE BOARD OF COMMISSIONERS OF TRANSYLVANIA COUNTY THAT:

Section 1. The Transylvania County Board of Commissioners hereby endorses Alternative 3A as the locally preferred alternative.

Section 2. The Transylvania County Board of Commissioners offers the following modifications and exceptions to its endorsement of Alternative 3A:

- a) The extension of the Bypass from US Highway 276 at Wilson Bridge, to US Highway 64 West, as shown on the fourth page of Alternative 3A, is not supported at this time; and
- b) The Bypass project should be modified to include replacement and upgrading of the US Highway 64 / US Highway 276 bridge across the Davidson River at Lowes; and
- c) The Bypass project should be modified to include improvements to the US Highway 62 / US Highway 276 / NC Highway 280 intersection; and
- d) The Bypass project should be modified to incorporate the Davidson River Connector Road into the Bypass project, and the Davidson River Connector Road be continued through to Deavor Road, Deavor Road improved, and the intersection of NC280 and Deavor Road be improved; and

- e) The Bypass project should be modified such that the portion of the project that follows Wilson Road be designed as two-lane, scenic byway; and
- f) Access to private properties and residential subdivisions along Wilson Road (e.g. Glen Cannon) be addressed in the Bypass project design; and
- g) The Bypass project should be modified such that the portion of the project that follows Ecusta Road be shifted south and east to prevent any impacts to Davidson River School; and
- h) US Highway 276 should be rerouted to follow the alignment of Alternative 3A, and US Highway 276 be designated as a Scenic Byway from Interstate 40 in Haywood County to the South Carolina State boundary.

Section 3. The County Manager is hereby directed to forward this Resolution, along with any necessary supporting documentation, to the North Carolina Department of Transportation.

Section 4. This Resolution shall become effective upon its adoption and approval.

Adopted and approved this the 23rd day of June, 2014.



Mike Hawkins, Chair
Transylvania County Board of Commissioners

ATTEST:



Trisha M. Hogan, Clerk to the Board





PAT McCRORY
Governor

NICHOLAS J. TENNYSON
Secretary

May 13, 2016

Memorandum

To: Ms. Lynnise M. Hawes, PE
Feasibilities Studies Engineer
Division of Planning and Programming
Feasibility Studies Unit

From: James B. Harris, PE
State Railroad Coordination Engineer
NCDOT Rail Division

State Project: R-2702Re
F/A Project:
WBS No: 34263.1.1
County: Transylvania County
Description: US 64 (Proposed Brevard Bypass)

Subject: Feasibility Study in Progress

The NCDOT Rail Division is in receipt of your feasibility study request letter on the above highway project.

After review of the project letter and location of the project in relation to nearby railroad tracks shown on the map, it has been determined that rail interaction may occur on this project in the way of parallel impacts/encroachment on railroad right-of-way (R/W) or with at-grade highway/railroad crossings or bridges over/under the railroad.

The rail line involved belongs to the Blue Ridge Southern Railroad (BLU) and is known as their TR-line. This rail line runs from Hendersonville to Brevard where it dead-ends at approximately milepost TR 19.9. Any former track from this point westward has been abandoned and removed. BLU bought this rail line from Norfolk Southern Railway (NS) in 2014 along with other rail lines in the Asheville area. The rail line is considered oriented east/west with mileposts increasing from east to west. R/W width of the mainline is 100 feet wide (50 feet each side the centerline of track). Railroad R/W and tracks other than that on the mainline also exist. The railroad R/W (or valuation) map for the area impacted is attached. BLU currently does not operate any trains over this rail line but, as the



new owners, will be looking to reestablish rail customers and resume rail traffic over the line. No trains operated over the rail line the last several years that NS owned it. When trains did operate over it, rail traffic was generally one train per day from Hendersonville to Brevard and back at maximum speeds of 10-20 mph with no passenger trains.

All of the alternatives shown on the map impact the BLU TR-line with parallel encroachments and/or crossings (at-grade or grade separated). The following is noted with consideration that BLU will be looking to reestablish rail service along the rail line:

- Alternative 4 runs parallel to the TR-line from approximately milepost TR 17.2 to milepost TR 18.4 then crosses the rail line.
- All of the remaining alternatives cross the TR-line (mainline) in the area between mileposts TR 19.1 to TR 19.2.
- The mainline itself has several tracks parallel to it in this area that composes a small rail yard.
- In addition to the mainline, there is a significant amount of other adjacent rail-related property, tracks, and former/potential rail business that exist in this area. A lumber company that was a former rail customer still has a number of tracks on the north side of the mainline R/W. This company and/or site would be a desired customer for BLU.

The following is recommended in regard to the above noted impacts:

- The parallel alignment associated with Alternative 4 should not encroach upon the BLU R/W. All new highway design/construction should be located off of the railroad R/W.
- It is difficult to determine how to handle the crossing of the rail line considering the rail line is currently out of service but, as noted above, BLU desires to restore rail service along the line. A grade separation may not be justified for rail traffic's sake but building a new at-grade crossing is undesirable as well and may not be desired by BLU considering the type of proposed highway. It may not be desirable either from the NCDOT's perspective to have a new major multi-lane highway like US 64 with an at-grade railroad crossing and trains running through it.
- The impacts (associated with all alternatives except Alternative 4) to the rail-related properties, tracks, and business on the north side of the railroad mainline at milepost TR 19.1 are undesirable and should be avoided. It's not known who owns the tracks and property but that would all have to be removed with these alternatives and would eliminate a former and potential new rail customer/site on the BLU.
- The several tracks on the mainline in the milepost TR 19.1 vicinity would create a very wide at-grade crossing or would have to be spanned with a longer bridge (if highway over railroad) or wider bridge (if highway under railroad).

It may be beneficial to discuss the above with BLU and get their input on the alternatives, especially in regard to at-grade vs grade separation options and the

impacts on the rail properties/tracks/business on the north side of the mainline at milepost TR 19.1 associated with all alternatives except Alternative 4. The Rail Division can assist and be involved with this as necessary.

It is also noted that there was discussion in the past, prior to BLU purchasing the rail line from NS, about turning this rail corridor into a rails-to-trail corridor.

In regard to any potential at-grade crossings and encroachments on railroad R/W, Ms. Meredith McLamb, Surfaces & Encroachment Manager, Rail Division, (919) 715-0955 should be included for any information related to that. Mr. Richard Mullinax, PE, Rail Signals Manager, Rail Division, (919) 733-8015, should be included for any crossing signals and associated design that would be required for any at-grade crossings. Mr. Kevin Fischer, PE, PEF & Project Management in Structures Management Unit, (919) 707-6514, should be included in regard to any potential bridge issues over/under the railroad.

Thank you for keeping the Rail Division involved in the early project planning stages. Please contact me at (919) 707-4707, or jbharris@ncdot.gov, or Cheryl Collins at (919) 707-4723, or cjcollins@ncdot.gov, if you have any additional questions or need any additional information.

Cc: Cheryl Collins, Rail Division
Meredith McLamb, Rail Division
Richard Mullinax, PE, Rail Division
Kevin Fischer, PE, Structures Management