

## Cover Letter

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Date: April 22, 2019

To: Tierre Peterson, PE  
NCDOT Structures Management Unit

From: Bradley Reynolds, PE, Michael Eagle, PE, and Ryan Casburn  
Kittelison & Associates, Inc.

Subject: Traffic Forecast for STIP Project B-5953, Division 13, Buncombe County

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Please find attached the 2019/2040 Traffic Forecast for State Transportation Improvement Program (STIP) Project B-5953, Old Leicester Highway (SR 1002) over French Broad River in Asheville, NC (Buncombe County). This forecast was requested on January 2, 2019 by North Carolina Department of Transportation (NCDOT) Transportation Planning Division (TPD) as part of the Traffic Forecasting Limited Services Contract to be performed by Kittelson and Associates, Inc. This forecast was requested by the NCDOT TPD for the NCDOT Structures Management Unit (SMU). B-5953 is being managed by the SMU. Based upon information provided by the SMU B-5953 has a Let Date of January 17, 2023.

The NCDOT Transportation Planning Division approves this forecast for B-5953 for delivery as of April 22, 2019.

STIP Project B-5953 is located in Buncombe County and the French Broad River MPO planning area. This project will include the replacement of the Old Leicester Highway (SR 1002) bridge (Bridge #100649) over the French Broad River. The project is tentatively scheduled for right-of-way to begin in fiscal year 2025 and for construction to begin in fiscal year 2026 as of the February 2019 Amended STIP.

The traffic forecast study area for STIP Project B-5953 includes Old Leicester Highway (SR 1002) from just west of Hollifield Road to the termination at Riverside Drive. The study area also includes Hollifield Road just north of Old Leicester Highway and Riverside Drive to the north and south of Old Leicester Highway. The following scenarios are included in this traffic forecast:

- 2019 Base Year No-Build
- 2040 Future Year Build

Certain assumptions were made in the development of this forecast:

### Travel Demand Model

The 2040 French Broad River MPO Travel Demand Model (FBRTDM) version 1.2 (Adopted September 2018) was utilized as a tool in the development of this traffic forecast. The model has a base year of 2010 and a future year of 2040.

## Interpolation

To determine any intermediate years, straight-line interpolation may be used. AADT volumes can be extrapolated for up to two years immediately following 2040.

## Fiscal Constraint

This forecast is fiscally constrained to the MTP. This means that only projects programmed for construction in the MTP are considered constructed and open to traffic in the future year.

## Development Activity

There are planned developments in the study area and surrounding areas that are anticipated to increase future traffic volumes in the study area. All potential developments are assumed to be included in the forecasted growth.

## Forecast Methodology

The 2019 base year no-build scenario includes an estimate of existing study area conditions. Field collected 2019 count data was primarily used to determine the 2019 base year no-build estimate. Historical AADT linear regression lines were also considered with engineering judgement to select a 2019 AADT estimate.

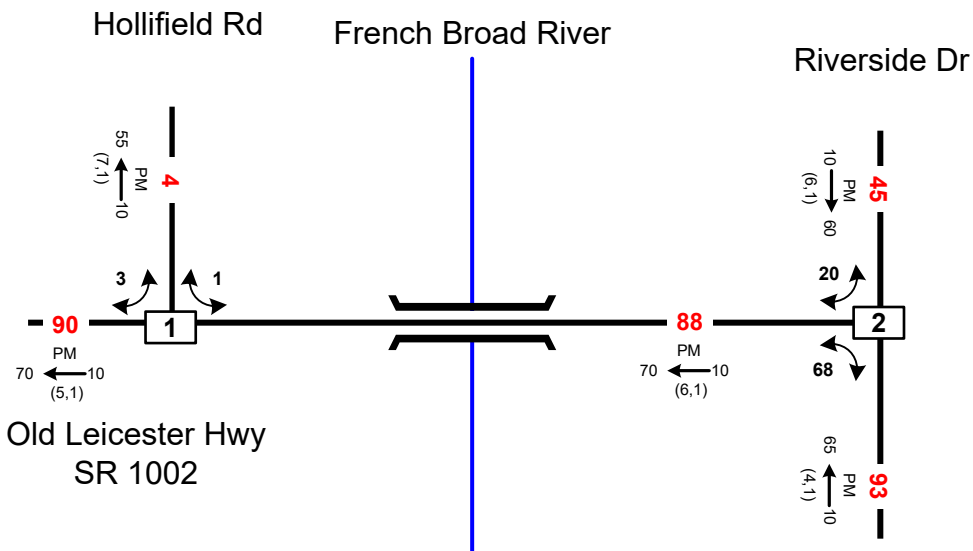
The 2040 future year build forecast volumes were developed by applying a linear growth rate to the 2019 no-build traffic volumes. An applied growth rate was selected for each segment based on a review of model growth rates, historical growth rates, surrounding population and employment growth projections, 2040 model volumes, and nearby historical forecasts.

If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, please request updated projections at this location.

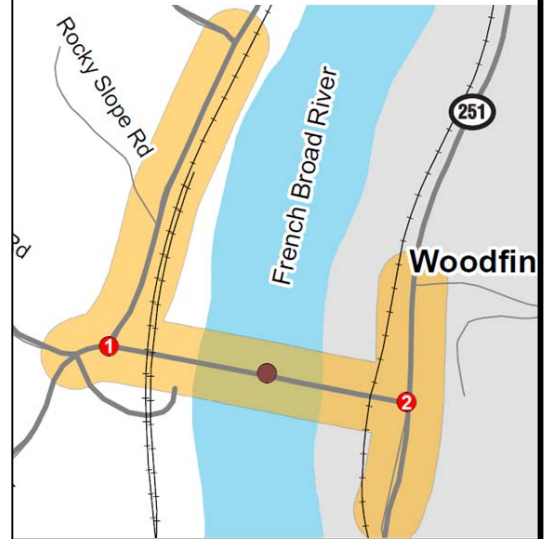
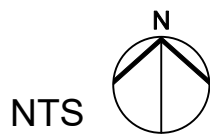
If you have any questions or I can be of further assistance, please do not hesitate to call me at 919.694.3630 or email me at [breyolds@kittelsohn.com](mailto:breyolds@kittelsohn.com).

cc:

Mike Reese, PE, NCDOT Congestion Management  
Brenda Moore, PE, CPM, NCDOT Roadway Design  
Clark Morrison, PhD, PE, NCDOT Pavement Management  
Hannah K. Cook, Highway Division 13 Planning Engineer  
Lyuba Zuyeva, French Broad River MPO Chairperson  
James Upchurch, NCDOT TPD Planning Team Supervisor  
Keith Dixon, NCDOT State Traffic Forecast Engineer  
Jerry VeHaun, Mayor of Woodfin



2019 Base Year



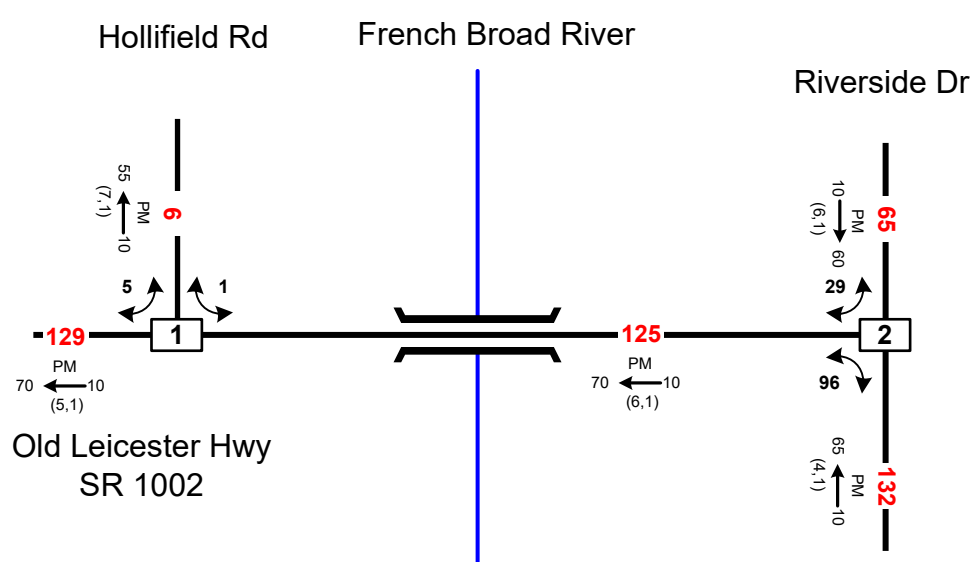
**2019/2040**

AVERAGE ANNUAL DAILY TRAFFIC

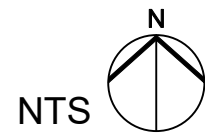
**BASE/FUTURE YEAR  
NO-BUILD/BUILD**

**LEGEND**

- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- ..... Proposed Roadway
- DHV <sup>PM</sup> (d, t) → D
- DHV Design Hourly Volume (%) = K30
- PM PM Peak Period
- D Peak Hour Directional Split (%)
- Indicates Direction of D
- (d, t) Duals, TT-STs (%)



2040 Future Year



TIP: B-5953	WBS: 47217.1.1
COUNTY: Buncombe	DIVISION: 13
DATE: 04-22-2019	
PREPARED BY: Kittelson & Associates, Inc	
LOCATION: Old Leicester Hwy (SR 1002) Between Hollifield Road and Riverside Drive	
PROJECT: Replace bridge over French Broad River (Bridge #100649)	