

Final Report

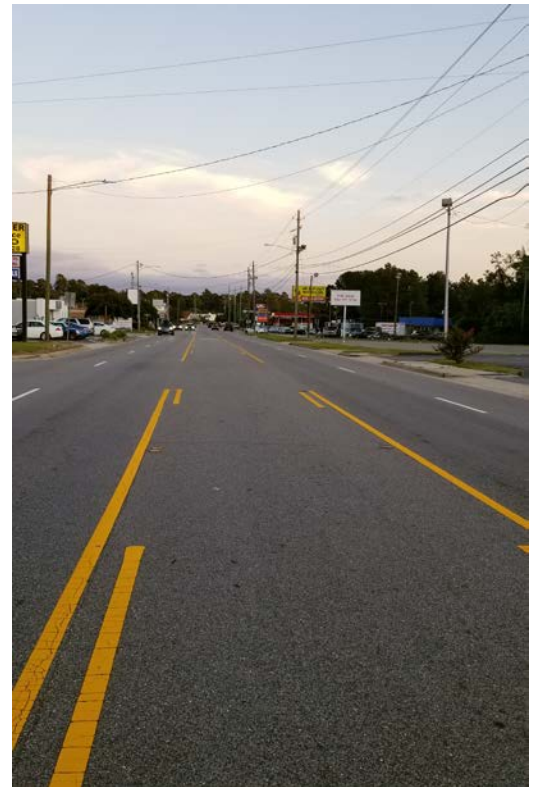
Project Level Traffic Forecast Feasibility Study B170791

SR 1415 (Yadkin Road) Road Improvements,
from Fort Bragg Access Control Point (Gate 4)
to US 401 (Skibo Road)

Fayetteville, Cumberland County, North Carolina
WBS # 47355.1.3



FEBRUARY 2020



PREPARED FOR:



PREPARED BY:





February 3, 2020

MEMORANDUM TO: Janet A. Whetstone-Perez, PE
Transportation Mobility and Safety Unit
North Carolina Department of Transportation

FROM: Claudio Figueroa, PE
VHB Engineering NC, P.C.

SUBJECT: Traffic Forecast for B170791: SR 1415 (Yadkin Road) Road Improvements, from Fort Bragg Access Control Point (Gate 4) to US 401 (Skibo Road), Fayetteville, Cumberland County, WBS #47355.1.3

This forecast has been reviewed and approved by the NCDOT Transportation Planning Division as of February 3, 2020.

Please find attached the **2019/2045 Traffic Forecast** for the project mentioned above. The NCDOT Transportation Mobility and Safety Unit is studying the Feasibility Study B170791, which includes road improvements along SR 1415 (Yadkin Road) from the Fort Bragg Access Control Point (Gate 4) to US 401 (Skibo Road), in Fayetteville, Cumberland County.

No previous forecast has been developed for this project. The following people involved in local land use and/or transportation planning were contacted for additional information relative to the development of this forecast:

- Joel Strickland, Cumberland County Planning & Inspections Department Acting Director and Fayetteville Area Metropolitan Planning Organization (FAMPO) Director
- Dr. Gerald A. Newton, AICP, City of Fayetteville Development Services Director
- Darius D. Sturdivant, NCDOT Division 6 Planning Engineer
- Lee (Richie) Hines, Jr., NCDOT Division 6, District 2 Engineer
- H.L. "Drew" Cox, NCDOT Division 6 Maintenance Engineer
- Lee Jernigan, City of Fayetteville Traffic Engineer
- David M. Nash, AICP, City of Fayetteville Senior Planner

The following scenarios are provided in this forecast:

1. Scenario 1 – 2019 Base Year No-Build Scenario
2. Scenario 2 – 2045 Design Year No-Build Scenario

For the purposes of this forecast, it is understood that the road improvements planned are primarily operational improvements that will not affect the capacity or substantially divert traffic. If the road improvements planned are updated in the future to include increasing capacity by adding lanes or other improvements that may cause a substantial diversion of traffic, then an updated Build scenario may be needed. If a Build scenario is needed, please contact the NCDOT Transportation Planning Division (trafficforecast@ncdot.gov) to request a forecast supplement.



Fiscal Constraint: Within an MPO, the design year forecasts assume the construction of projects as listed within the MPO's Metropolitan Transportation Plan (MTP). This forecast is consistent with the current FAMPO 2045 MTP, adopted in May 2019.

Future Conditions and Development Activity: Relative growth and development are proposed in the study area between 2019 and 2045. Based on coordination with the City of Fayetteville and FAMPO staff, these developments are accurately reflected in the Fayetteville Area Metropolitan Organization's Travel Demand Model (FAMPO TDMv2.1), which was used to develop the forecast.

Forecast Methodology: The 2019 Base Year No-Build traffic forecast was developed primarily from traffic counts taken for this forecast, as well as historic traffic counts and trends. All other scenarios were developed based on modeling results and existing traffic data, using FAMPO TDMv2.1, which was adopted in March 2019.

Due to the project proximity to the Fort Bragg military base, turning movement counts were collected from 5:00 AM to 9:00 PM to consider the shift changes in the military base. The effects of these shift changes in Fort Bragg are presented in the directionality of the peak hours, which caused the same directionality during both morning and afternoon peak hours.

Interpolation: To determine volumes during any intermediate years, straight-line interpolation may be used. AADT volumes may be extrapolated for up to two years immediately following 2045. If it is determined that any of these assumptions have become inconsistent with the project and surrounding area activity, a request should be made for updated projections at this location.

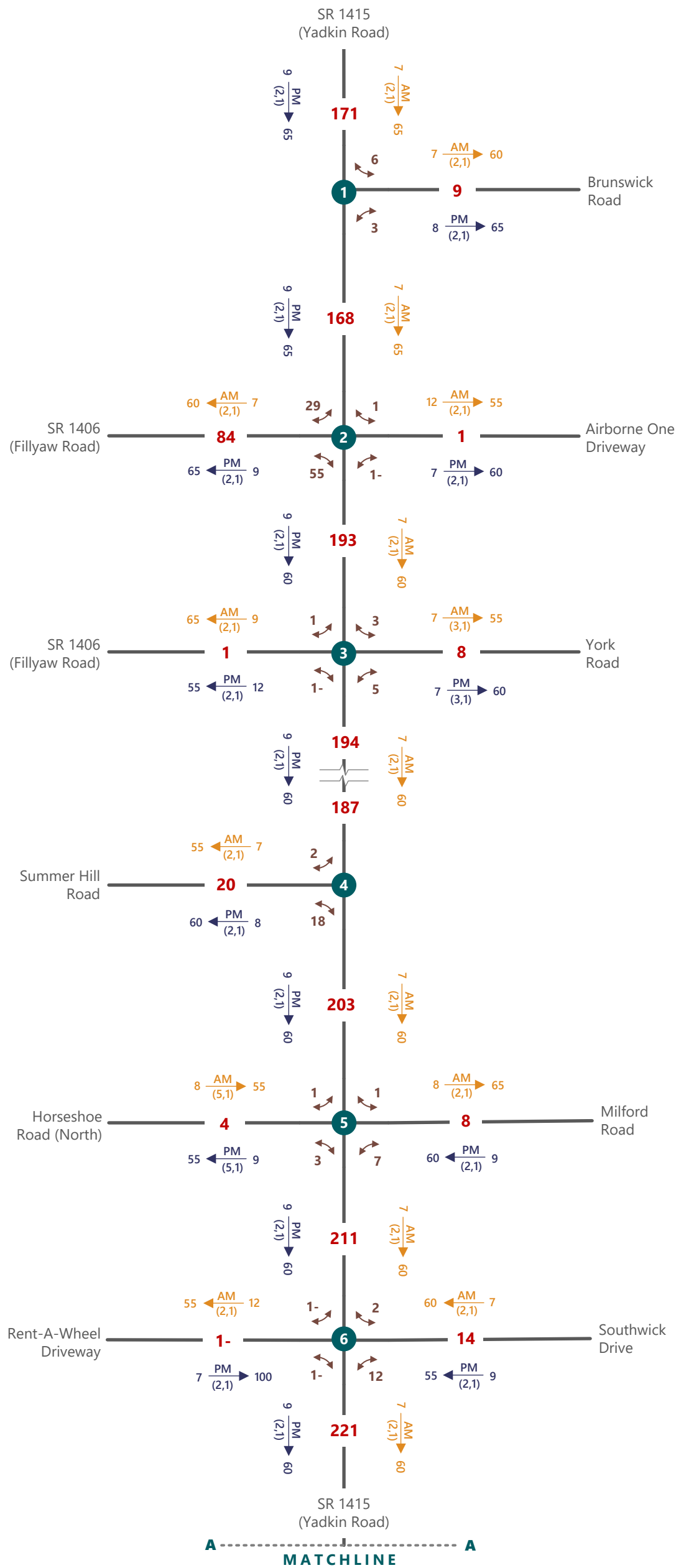
If you have any questions or **VHB** can be of further assistance, please feel free to contact me by telephone at 984-960-5106 or by email at cfigueroa@vhb.com.

cc: (via e-mail as PDF attachment)

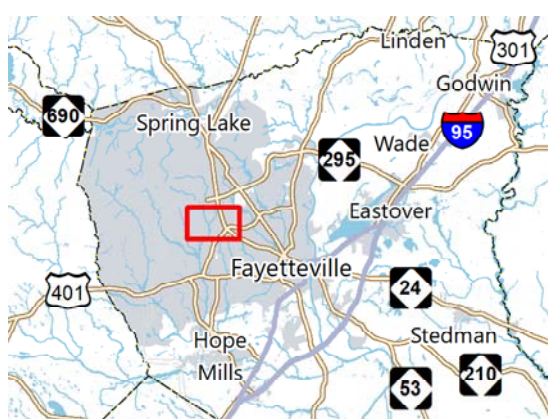
Joel Strickland, Fayetteville Area MPO
James Dunlop, Congestion Management
Brenda Moore, PE, CPM Highway Design Branch
Clark Morrison, Ph.D., PE, Pavement Management
Darius D. Sturdivant, Division 6 Planning Engineer
Behshad Norowzi, CPM, NCDOT TPD Planning Team Supervisor
Keith G. Dixon, Transportation Planning Division
NCDOT GIS Unit

File Copy: B170791, Cumberland

PROJECT START



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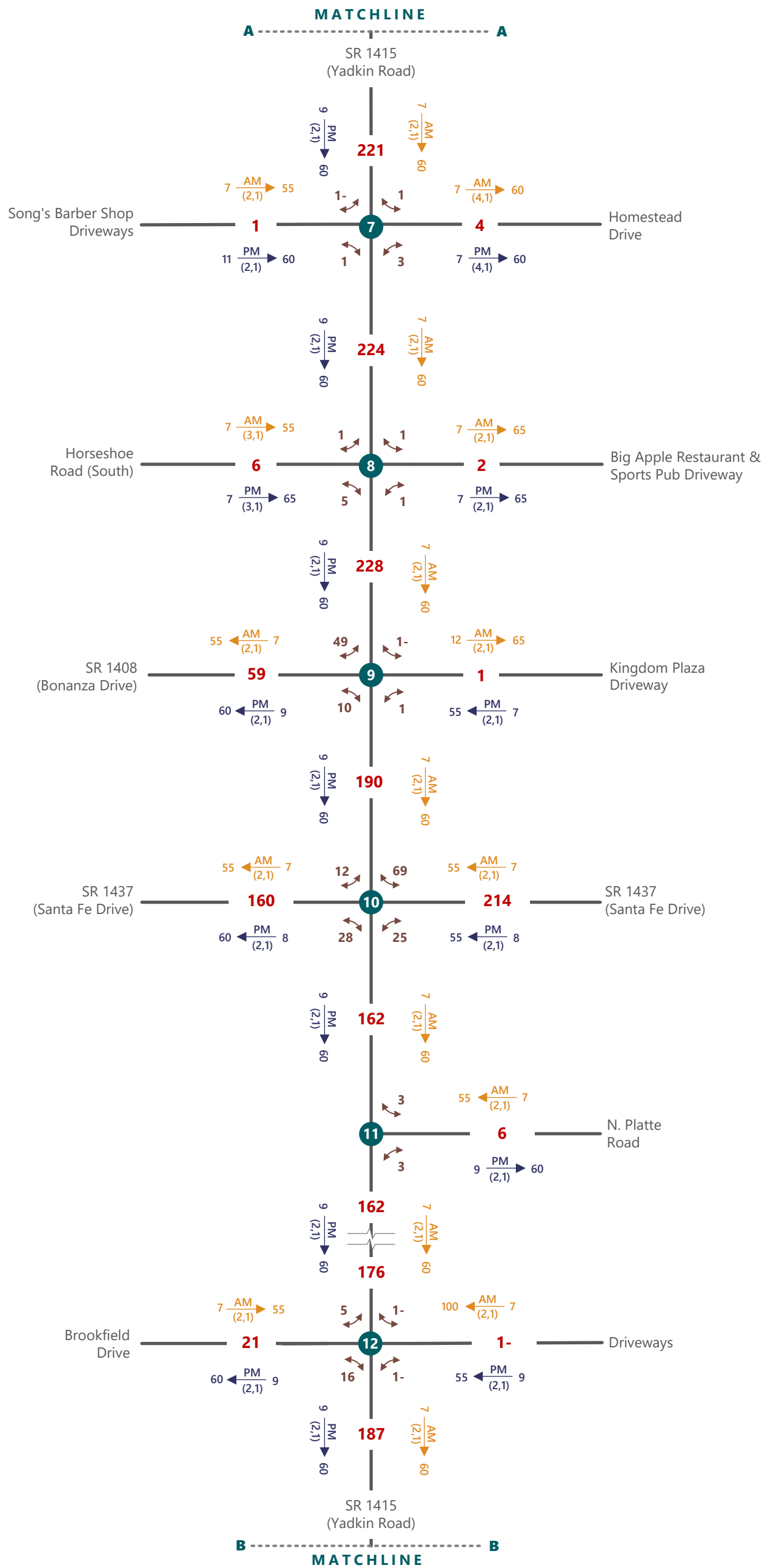
2019 AVERAGE ANNUAL DAILY TRAFFIC

##	No. of vehicles per day (VPD) in 100s	D ← AM (d,t) K	D ← PM (d,t) K
—	Existing roadway	AM	AM peak hour
•••	Proposed roadway	PM	PM peak hour
		D	Peak hour directional split (%) indicated direction of D
		(d, t)	Duals, TTSTs (%)
		K	Design hour factor (%)
		X	Movement prohibited
		1-	Less than 50 VPD

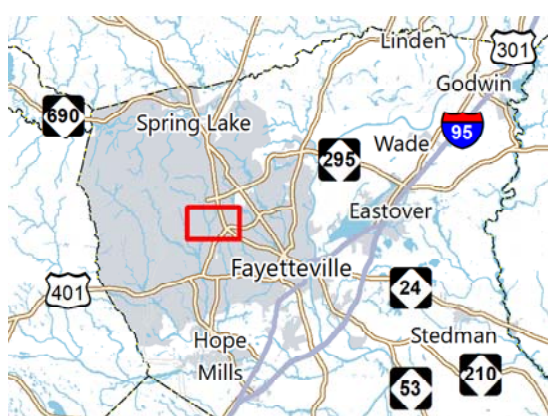
No-Build Alternative
SCENARIO 1 (SHEET 1 OF 3)

TIP	B170791
DIVISION	6
COUNTY	Cumberland
LOCATION	SR 1415 (Yadkin Road) from Fort Bragg Gate 4 and US 401 (Skibo Road)
PROJECT	SR 1415 (Yadkin Road) Road Improvements
DATE	02.03.2020
WBS	47355.1.3





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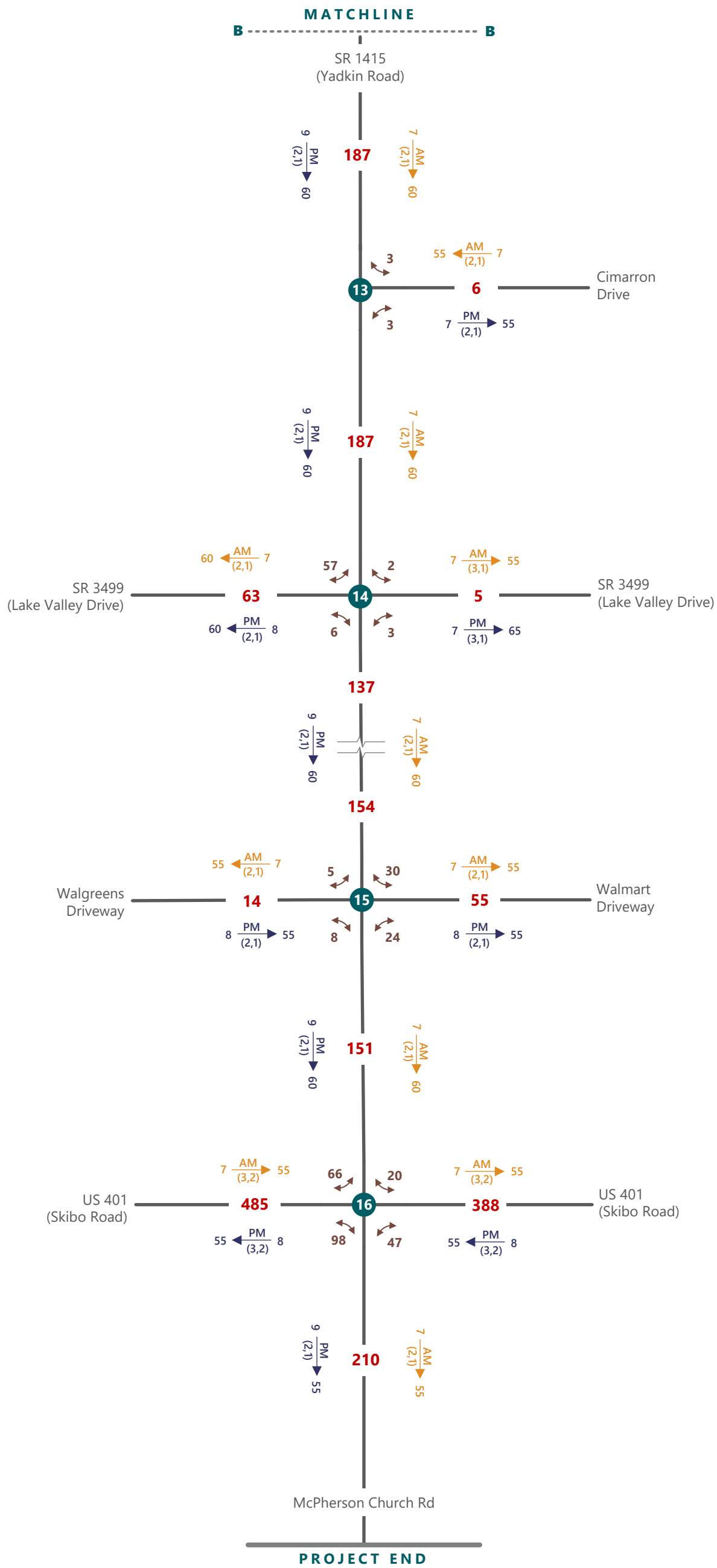
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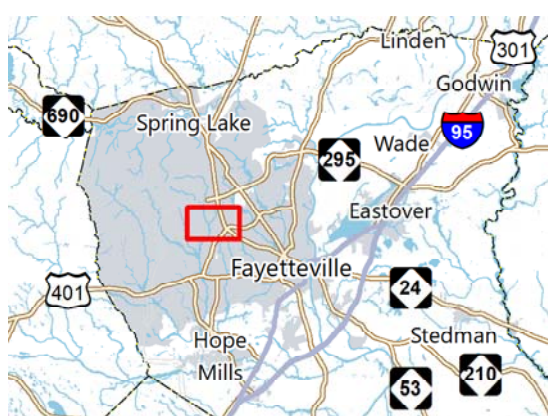
No-Build Alternative SCENARIO 1 (SHEET 2 OF 3)

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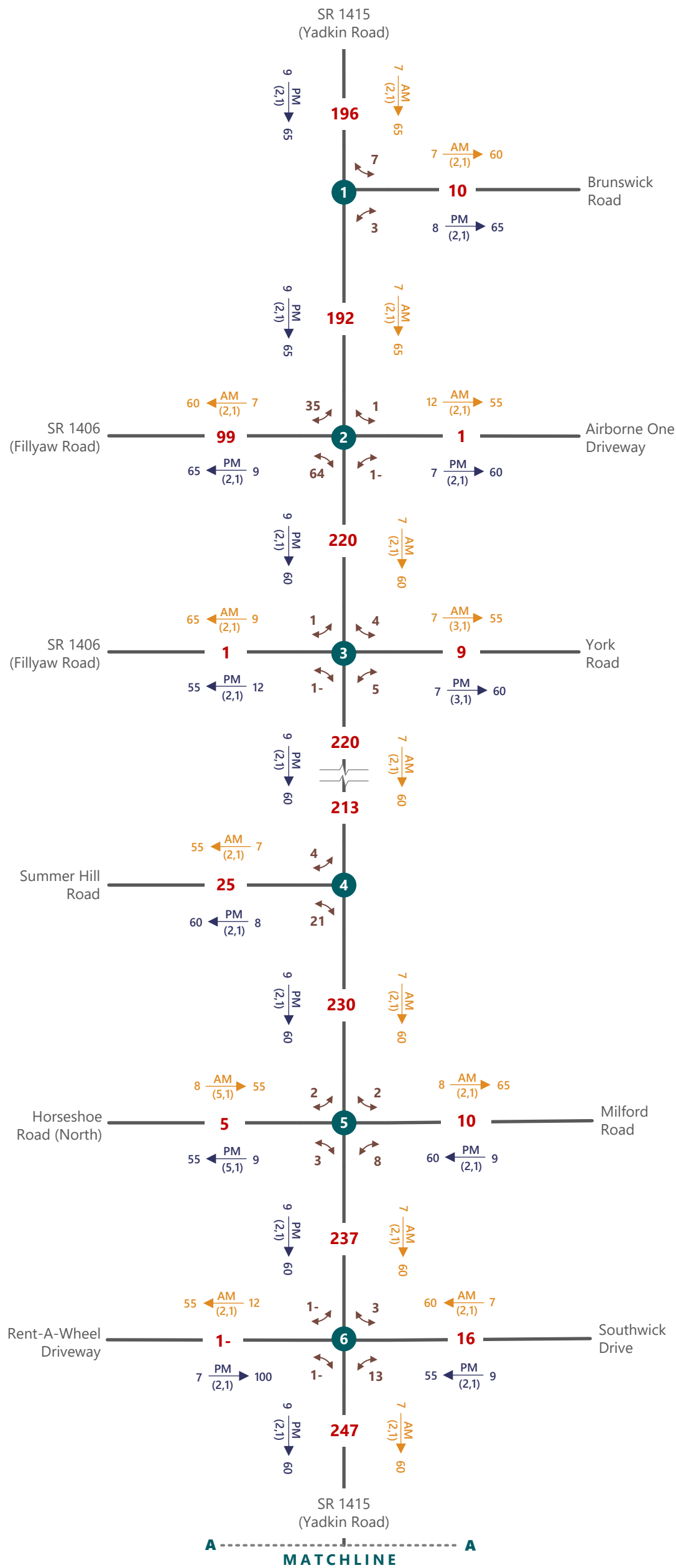
No-Build Alternative

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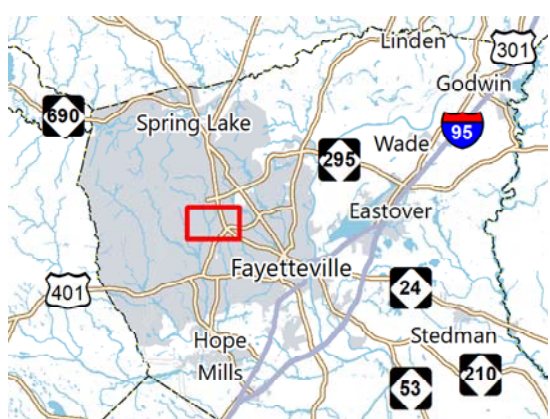
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2045 AVERAGE ANNUAL DAILY TRAFFIC

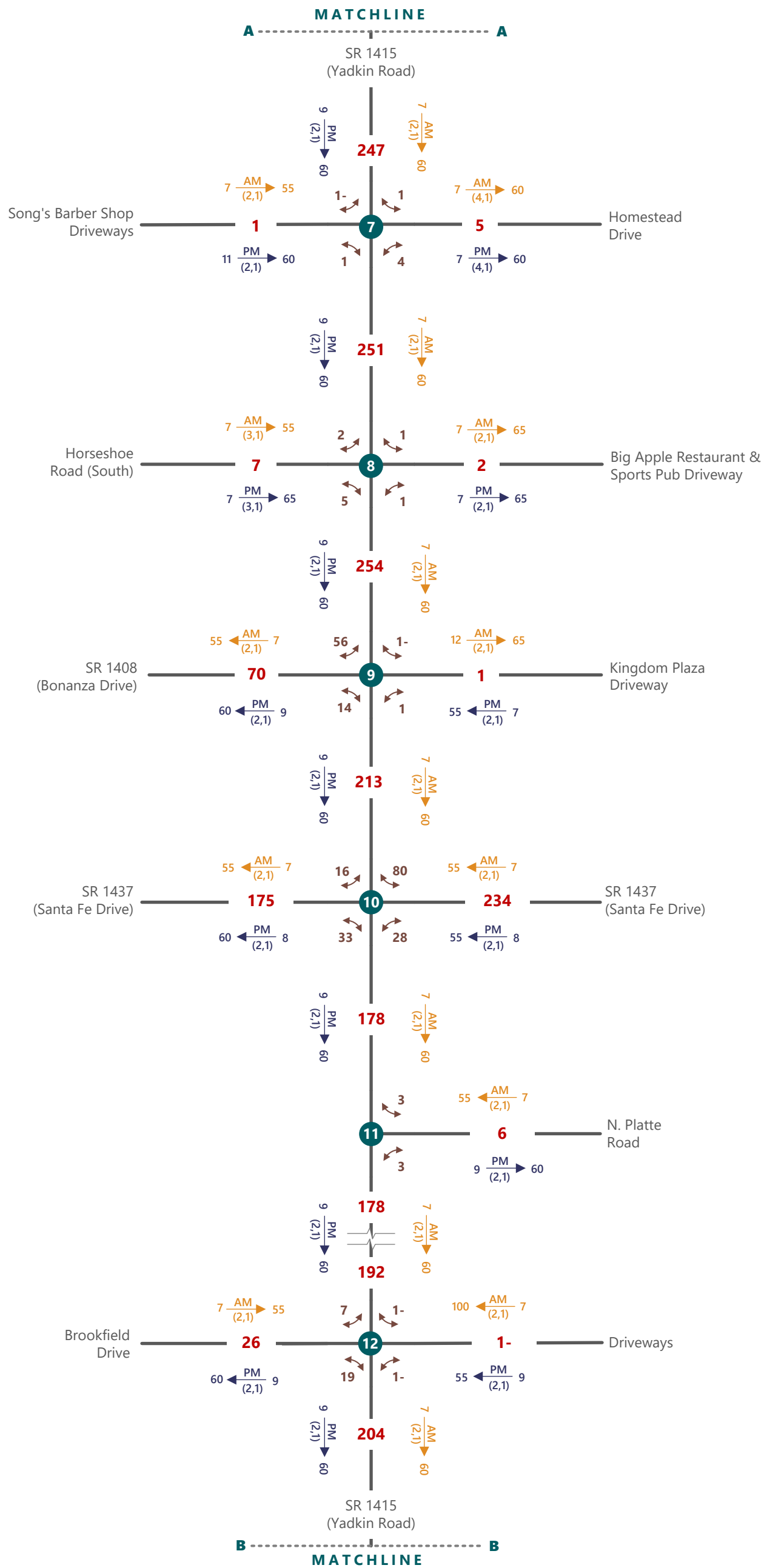
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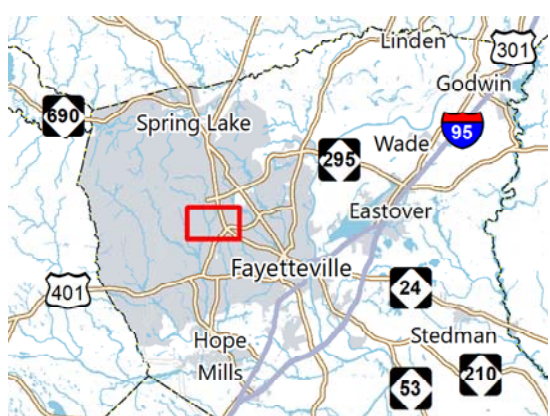
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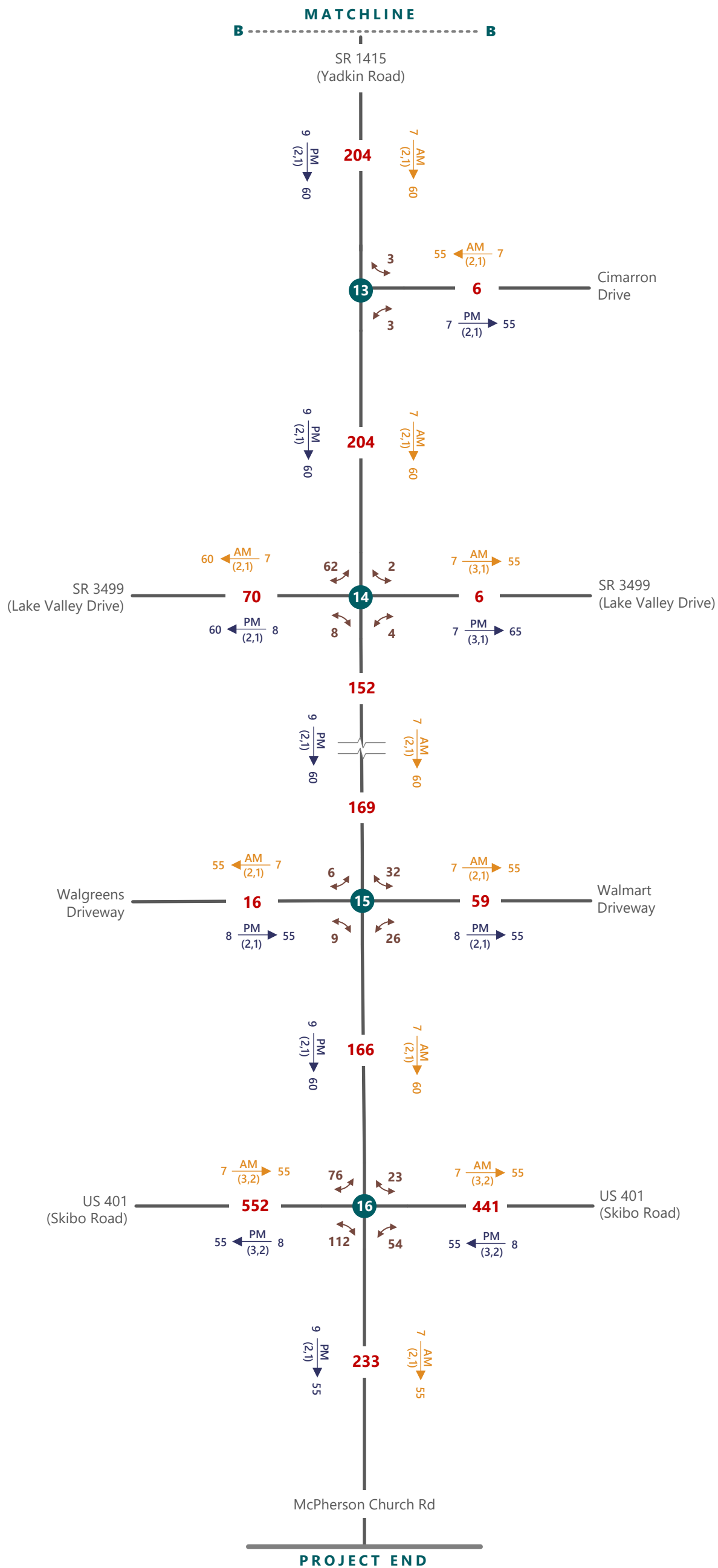
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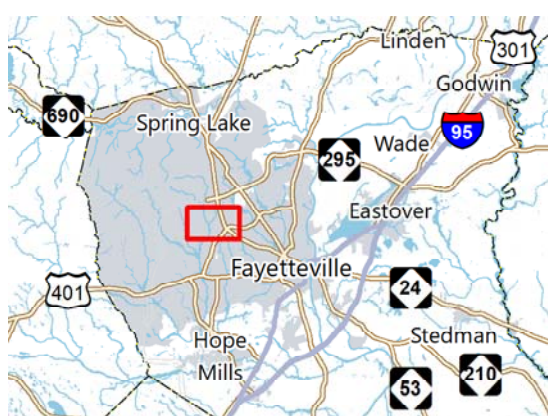
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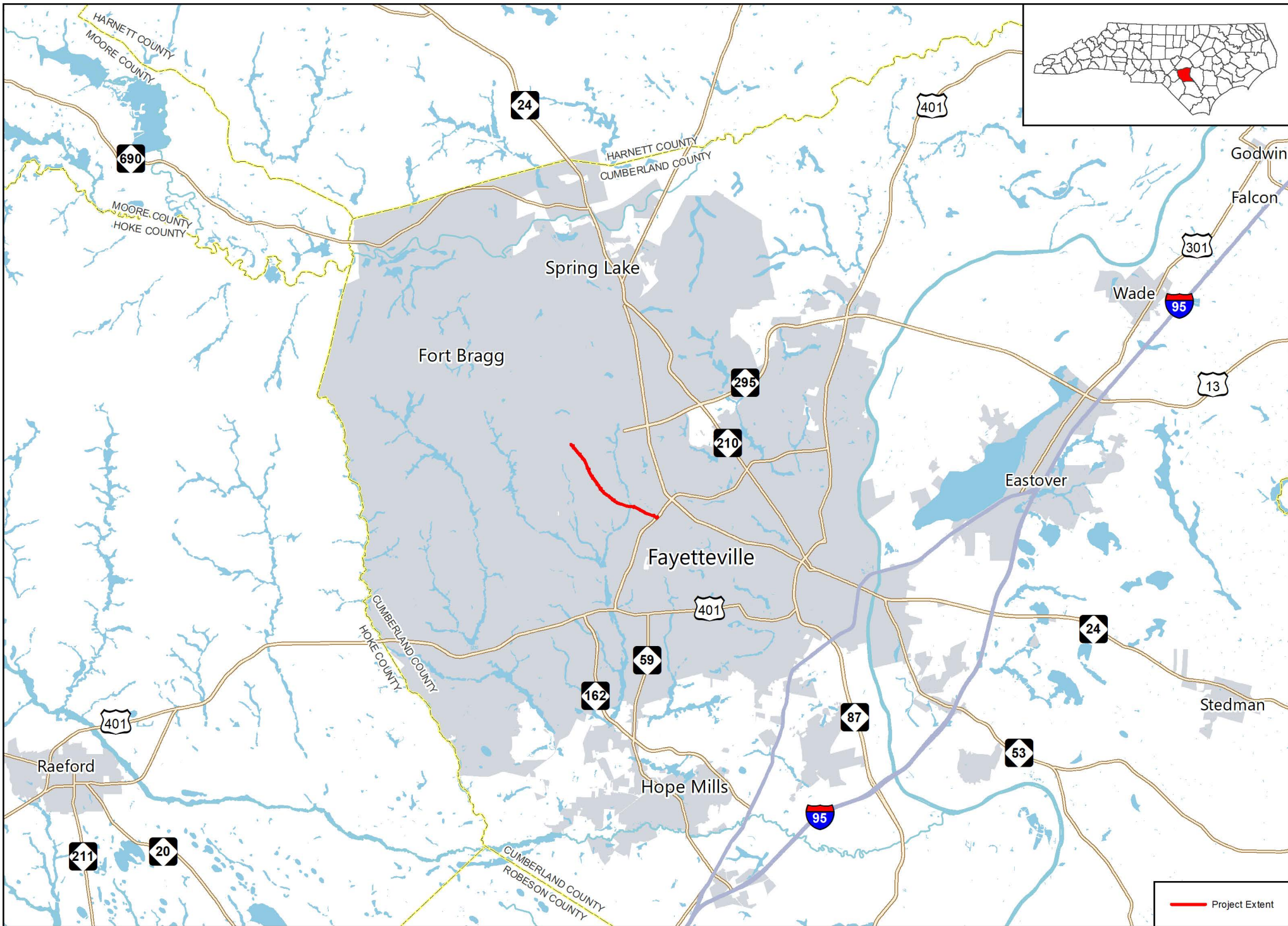
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Yadkin Road from Fort Bragg Gate 4 to US 401 (Skibo Road)
 Project Vicinity





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