

Memorandum

To: Ben Upshaw, PE
NCDOT Division 5 - Division Project Delivery

From: Ivo Dernev, PE
AECOM – Traffic Engineer/Project Manager

Date: August 20, 2018

Reference: U-5747/U-5750 Traffic Forecast 2040 Build Scenario 2

Introduction:

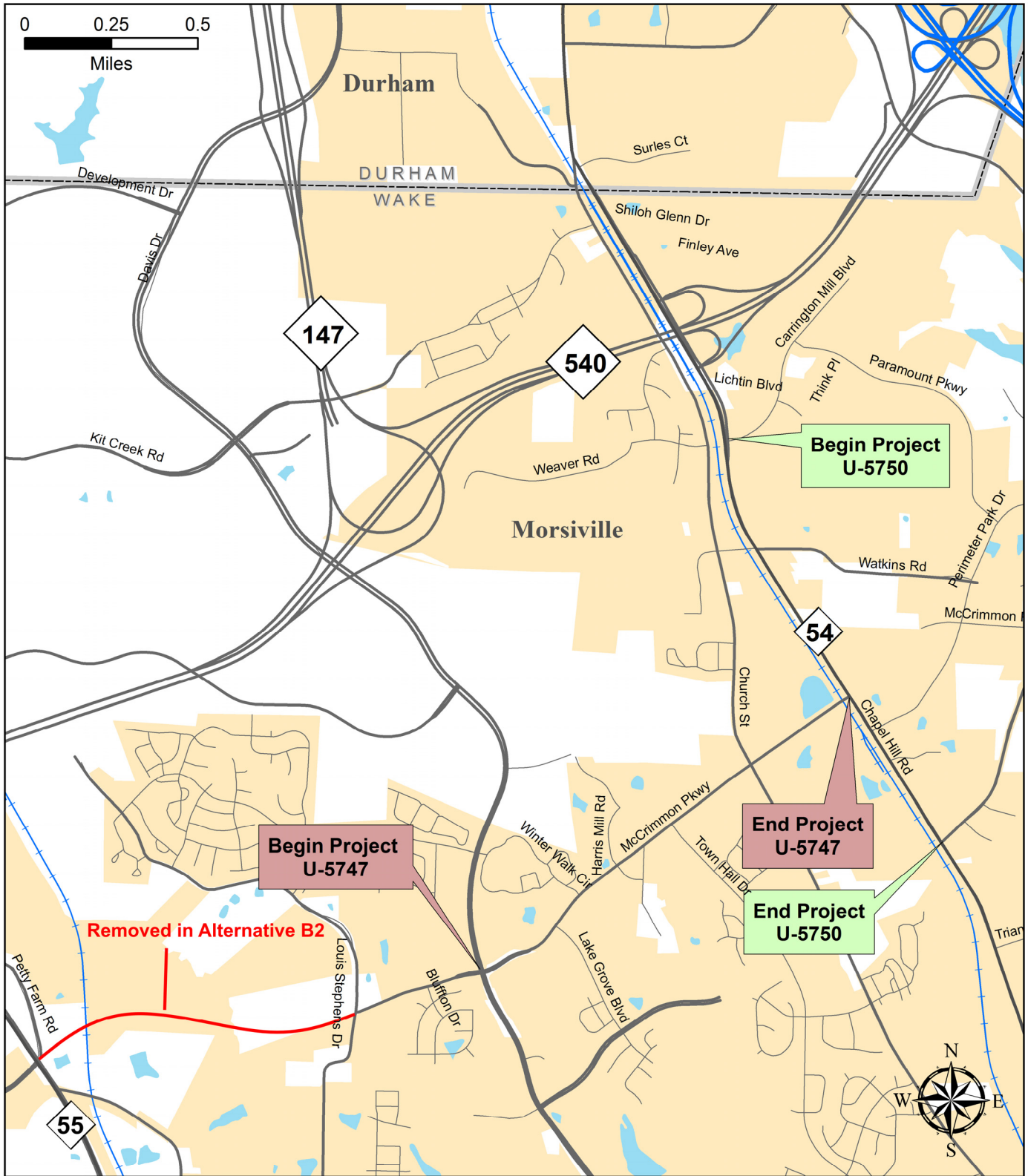
In April 2018, AECOM Technical Services of North Carolina, Inc. (AECOM) developed base and future year traffic forecast for NCDOT State Transportation Improvement Program (STIP) Projects Number U-5747 (SR 1635 (McCrimmon Pkwy) widening and NC 54 (Chapel Hill Rd) and McCrimmon Pkwy Grade Separation) and U-5750 (NC 54 widening). The forecast included one Base Year scenario for Year 2016 and three Future Year scenarios for Year 2040. The 2016 Base Year traffic forecast included one (1) No-Build Scenario, reproducing existing conditions. The 2040 Future Year traffic forecast included two (2) No-Build Scenarios and one (1) Build Scenario. The evaluated scenarios are:


- **2016 BY No-Build Scenario** - (Existing Conditions)
- **2040 FY No-Build Scenario Alt 1** – Widen NC 54 to four lanes from NC 540 to Airport Blvd, McCrimmon Pkwy - existing conditions (two lanes from Davis Dr to Church St) and NC 54/McCrimmon Pkwy grade separation not constructed
- **2040 FY No-Build Scenario Alt 2** – Widen McCrimmon Pkwy to 4 lanes from Davis Dr to Church St and construct grade separated intersection between MCCrimmon Pkwy and NC 54, NC 54 – existing conditions (two lanes from NC 540 to Airport Blvd)
- **2040 FY Build Scenario 1** – McCrimmon Pkwy widened to four lanes from Davis Dr to Church St, grade separated intersection between MCCrimmon Pkwy and NC 54 constructed and NC 54 widened to four lanes from NC 540 to Airport Blvd. McCrimmon Pkwy **extended** between NC 54 and Louis Stephens Rd.

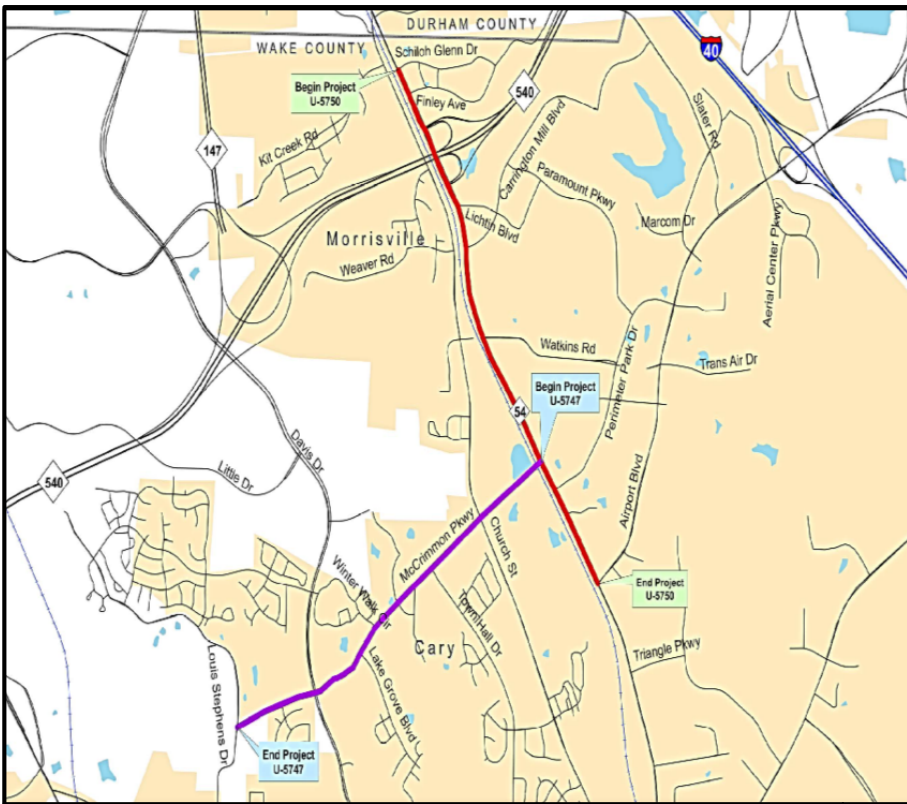
In July of 2018 AECOM was contracted by the North Carolina Department of Transportation (NCDOT) to develop an additional future year traffic forecast scenario assuming that the segment of SR 1635 (McCrimmon Pkwy) between NC 55 and Louis Stephens Dr will not be completed as shown in the 2045 CAMPO MTP:

- **2040 FY Build Scenario 2** – McCrimmon Pkwy widened to four lanes from Davis Dr to Church St, grade separated intersection between MCCrimmon Pkwy and NC 54 constructed and NC 54 widened to four lanes from NC 540 to Airport Blvd. McCrimmon Pkwy **not extended** between NC 54 and Louis Stephens Rd.

Figure 1 shows the STIP projects location and the subject McCrimmon roadway segment in red, and the diagrams show the difference in traffic volumes with and without the McCrimmon Extension.



<p>Legend</p> <ul style="list-style-type: none"> — Interstate — US/NC Routes — SR Roads — Railroads Municipal Boundary 	<p>Project Vicinity</p> <p>STIP U-5747/U-5750</p> <p>Widen McCrimmon Pkwy and NC 54 Grade Separation McCrimmon Pkwy and NC 54</p>	<p>Figure 1</p> 
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2040 B1

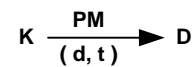
NC 54 widened to four lanes and McCrimmon Pkwy grade separated with NC 54

SR 1635 (McCrimmon Pkwy) extension between NC 55 and Louis Stephe Rd completed

AVERAGE ANNUAL DAILY TRAFFIC

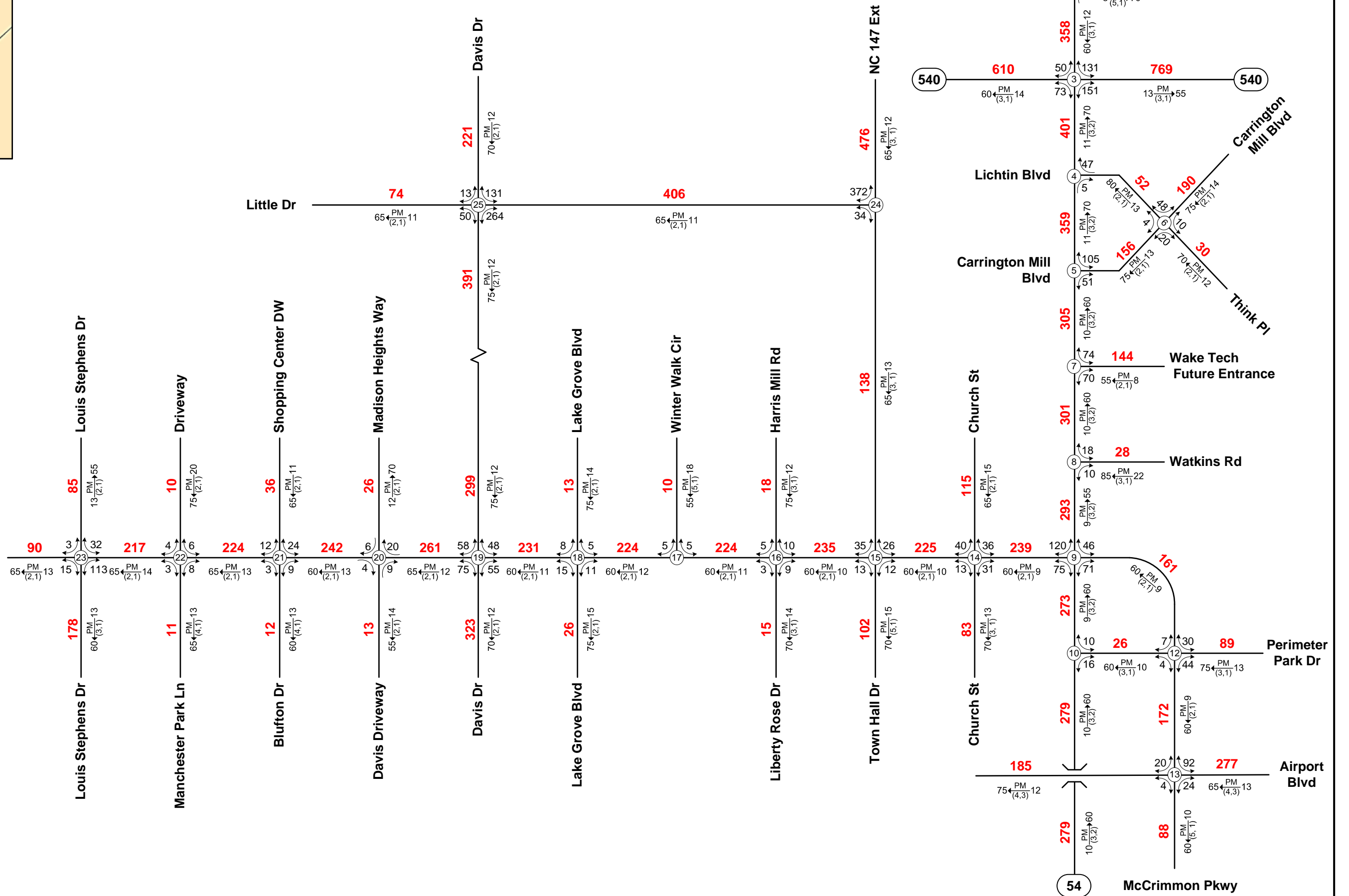
SHEET 1 OF 2

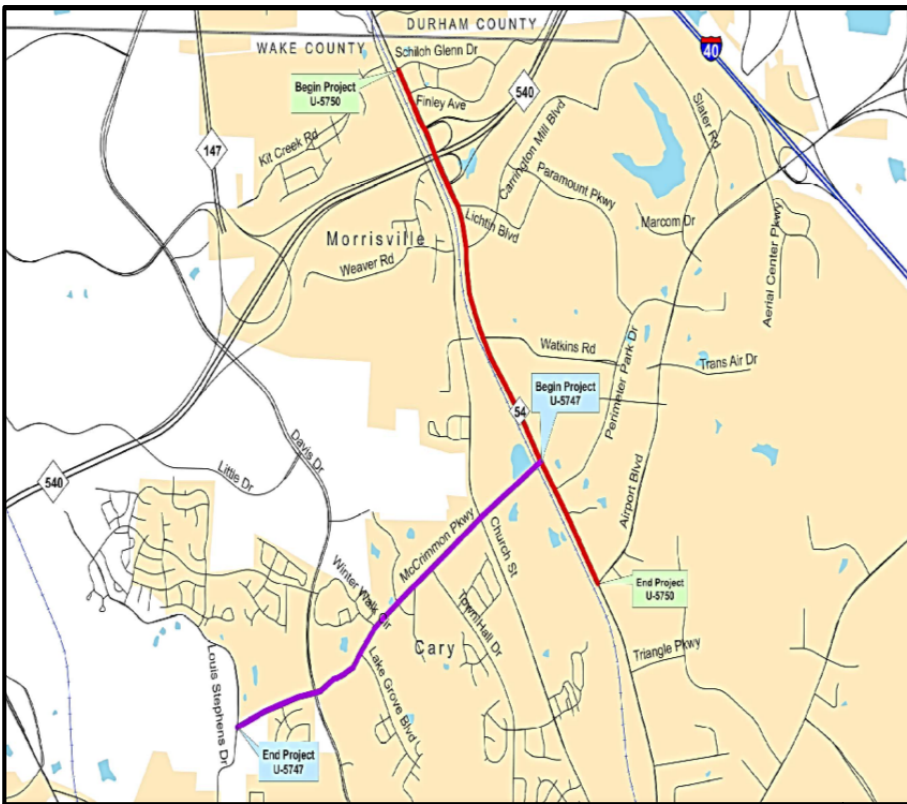
LEGEND



- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM PM Peak Period
- D Peak Hour Directional Split
- Indicates Direction of D
- (d,t) Duals, TT-STs (%)

TIP: U-5747/U-5750	WBS: 50170.1.1
COUNTY: Wake	DIVISION: 5
DATE: August 2018	PREPARED BY: AECOM
LOCATION: NC 54 to Perimeter Park Dr in Morrisville	
PROJECT: NC 54 and SR 1635 (McCrimmon Pkwy)	





2040 B2

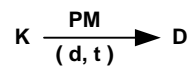
NC 54 widened to four lanes and McCrimmon Pkwy grade separated with NC 54

SR 1635 (McCrimmon Pkwy) extension between NC 55 and Louis Stephe Rd not completed

AVERAGE ANNUAL DAILY TRAFFIC

SHEET 2 OF 2

LEGEND



- ### No. of Vehicles Per Day (VPD) in 100s
- 1- Less than 50 VPD
- X Movement Prohibited
- Roadway
- K Design Hour Factor (%)
- PM Peak Hour Directional Split
- D Indicates Direction of D
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