



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

October 28, 2020

MEMORANDUM

In reply, refer to
File No. SC-2020-174

TO: C. Blake Guffey, District Supervisor
Division 12, District 1

FROM: Robert S. Gallo, Design Engineer
Congestion Management Section

Document Sent Electronically

SUBJECT: Preliminary Review of South Fork Development TIA, located at the southeast quadrant of NC 279 (S New Hope Rd) and SR 2519 (Armstrong Ford Rd) in Belmont, Gaston County.

The Congestion Management Section has performed a preliminary review of the sealed Traffic Impact Analysis (TIA) prepared by Kimley-Horn and Associates Inc., and the preliminary site plan included with the TIA for the subject site. The key dates regarding this development are as follows:

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|--|-----------|----------------------------|------------|
| Date Received by NCDOT | 10/2/2020 | Date of Sealed TIA | 10/2/2020 |
| Date of Latest Information Received by This Office | 10/2/2020 | Date of Site Plan (in TIA) | 04/22/2020 |

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| X | We consider the Traffic Impact Analysis to substantially meet our criteria for further review and comments. This review has been added to our queue of projects to perform a more detailed review that will be submitted under separate cover at a later date. |
| | We require additional information from the TIA preparer as noted on the attached list. We are unable to perform a thorough review until we receive this information. |
| | We have concerns with the Traffic Impact Analysis. The attached list includes inconsistencies or other questionable aspects that vary from our recommended practices and require further explanation or justification. A revised TIA should be submitted before a thorough review can be completed. |

Based on this preliminary review, the TIA is "Complete" according to G.S.136-93.1A

Please refer to the Driveway Manual and the Capacity Analysis Guidelines available via <https://connect.ncdot.gov/resources/safety/Pages/Congestion-Management.aspx> for additional information. This letter is only being distributed electronically and should be considered as the official documentation. If we can provide further assistance with this project or if you require a paper copy of this letter please contact me or Michael P. Reese, PE, CPM at (919) 814-5000.

RSG

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|-----|--------------------|-------------------------|-------------------------|
| cc: | M. E. Stafford, PE | J. K. Lacy, PE, CPM | J. E. Hummer, PhD., PE |
| | B. K. Engle, PE | D. D. Galloway, PE, CPM | M. P. Reese, PE, CPM |
| | W. S. Clary | R. D. Steskal, PE, PLS | B. R. Finklea, PE (PEF) |

Preliminary Review Concerns Attachment (For SC-2020-174 / South Fork Development TIA)

Items Requiring Correction or Clarification:

Synchro Coding

- It is standard practice to include a peak hour factor (PHF) of 0.5 at school entrances during the AM peak hour. Additionally, the PHF for movements which contain school traffic and offsite traffic should be adjusted between 0.90 and 0.5 according to the proportion of school traffic contained in the movement.

- One or more intersections was analyzed with Dallas protected/permitted phasing in the TIA. Dallas phasing is not typically used in North Carolina, and should not be coded as such in analysis without justification.
 - East bound left movement on Node 4 (Fort William Ave & Keener Blvd)
 - South bound left movement on Node 3 (South Point Rd & Nixon Rd/RL Stowe Rd)

- Detector and switch phases were improperly coded causing coding errors and an improper analysis.
 - East bound movement on Node 8 (Main St & Eagle Rd)

Although not anticipated to significantly change the recommendation made in this TIA, the following issues should be addressed:

- LUC code 251 (Senior Adult Housing - Detached) used exclusively in trip generation assumes that the development is age restricted. If some of the residential developments are anticipated to be not age restricted, then a revised trip generation and a revised TIA will be necessary. [Observation]

Synchro Coding

- For left-turn signal phases, protected/permitted phasing was used in the analysis for one or more intersections without clarification, justification, and mutual concurrence during the scoping stage.
 - East bound left movement on Node 8 (Main St & Eagle Rd)

- The “Code Error Check” should be run in Synchro before finalizing the analysis, and any errors or warnings should be justified or corrected prior to activating SimTraffic.

- Analysis of all lanes with finite storage should include an appropriate taper.

NOTE: This list should not be considered all inclusive. Further review may identify additional areas of concern