



To: Mr. Nasser Rahimzadeh

From: Jonathan Guy, P.E., PTOE

Date: August 11, 2021

**RE: *Gateway West Development, Clemmons, NC
Transportation Analysis***

At the request of the Village of Clemmons, Kimley-Horn has conducted a review of the proposed Gateway West Development located off Culler Road in Clemmons, NC. The proposed development consists of 70 low-rise multifamily units. The proposed development would take access off Culler Road near the intersection of Lewisville-Clemmons Road. Two access driveways are anticipated along Culler Road.

This memo outlines our observations regarding the proposed development.

OBSERVATIONS

The following observations are offered based on a review of the Ramey Kemp traffic impact memo date August 9, 2021.

- The proposed development generates 488 daily, 34 AM peak hour, and 43 PM peak hour trips
- NCDOT requires a TIA that generates more than 3,000 daily trips
- The traffic distribution shows 15% turning right from Hanesbrook Circle onto Lewisville Clemmons Road. It is unlikely that right-turning traffic from the development would navigate several streets to make a right at a full movement intersection when it could be made at the intersection of Lewisville Clemmons Road at Culler Road.
- The intersection of Culler Road and Lewisville-Clemmons Road is projected to operate at level of service (LOS) B in all three scenarios analyzed for the crucial intersection movement – eastbound (EB) right.
- NCDOT Capacity Analysis guidelines recommend that for movements that are allowed, but no volume was recorded, four (4) vehicles per hour should be used in the synchro analysis. This is done so that Synchro does not incorrectly calculate one or more movements. The footnote to Table 4 indicates that a volume of zero was utilized for the EB and WB movements at Hanesbrook Circle and Lewisville Clemmons Road.
- The eastbound approach of the intersection of Hanesbrook Circle is projected to operate at LOS C in the AM peak hour, LOS D in the 2023 No Build, and LOS E in the 2023 Build. For the PM peak hour, the eastbound approach operates at LOS F for all three scenarios analyzed.
- In the AM peak hour, the westbound approach of the intersection of Hanesbrook Circle is projected to operated at LOS C for the existing and 2023 No Build Scenarios. With the introduction of site traffic, the approach is projected to operate at LOS D.

- For the PM peak hour, the westbound approach is projected to operate at LOS F for the existing, 2023 No Build, and 2023 Build scenarios.

CONCLUSIONS

The proposed development as presented in the current traffic impact analysis will generate a measurable impact on the adjacent roadway network. The TIA does not recommend mitigation for the LOS changes for the EB and WB movements. Per the NCDOT Driveway Manual, mitigation should be recommended when an intersection or approach experiences the following:

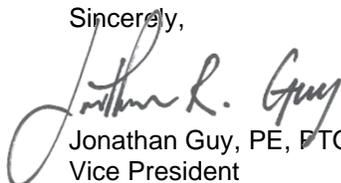
- The total average delay increases by 25% or greater
- The LOS degrades by one level
- Level of Service F

Per the submitted TIA, the LOS for the EB approach of Hanesbrook Circle, in the AM peak hour, the proposed development increases delay by more than 25% (+/- 60%) and degrades from LOS D to LOS E. As noted previously, the synchro should have been set up to include four (4) vehicles per hour. With this, delay may be greater than depicted in the study.

The TIA should be updated to reflect current NCDOT guidance zero volume recorded movements. Furthermore, mitigation should be recommended per the driveway manual (page 21/22). The recommendation of mitigation does not necessarily require the implementation of mitigation, rather that it was evaluated to determine if mitigation is feasible at this location.

Please contact me at (704) 488-3055 or jonathan.guy@kimley-horn.com should you have any questions regarding this analysis.

Sincerely,



Jonathan Guy, PE, PTOE
Vice President