



To: Mr. Nasser Rahimzadeh
From: Jonathan Guy, P.E., PTOE
Date: August 9, 2022

RE: *Clemmons Towncenter TIA Review*

At the request of the Village of Clemmons, Kimley-Horn has conducted a review of the revised traffic impact analysis (TIA) prepared for the Clemmons Town Center Development, dated August 2, 2022. This TIA is an update to the original TIA dates 12-21-2016. With this proposed update, the traffic analysis considers the addition of a 3,000-sf fast food development, but without a drive thru. The approach to the analysis was confirmed with Village of Clemmons staff prior to analysis beginning. The proposed development is located west of Lewisville Clemmons Road and north of Interstate 40 in Clemmons, NC.

The analyses contained with the sealed TIA were reviewed for conformance with the traffic impact analysis guidelines presented within the NCDOT *Policy on Street and Driveway Access to North Carolina Highways*, NCDOT *Congestion Management Capacity Analysis Guidelines*, and Village of Clemmons *Unified Development Ordinance*. This memo outlines our technical review of the revised TIA and corresponding recommendations.

TECHNICAL REVIEW COMMENTS

The following comments are offered based on our review and should be addressed as appropriate prior to approval.

- **Attachments**
 - In the “Figures” attachment:
 - Figure 3 – Turn Lane storage lengths should be re-checked for accuracy. Several shown in Figure 3 differ from lengths measured in field and from aerials.
 - Storage lengths for the ramp laneage is not shown and should be provided.
 - In Figure 5, Figure 7, and Figure 13 (as currently numbered), peak hour turning movement volumes of less than 4 vehicles are shown in multiple locations. While the attached capacity analysis reports confirm that NCDOT guidelines were adhered to within the analysis, the figures should be revised to reflect the volumes analyzed.
- **Other Considerations**
 - Synchro files were not provided for review. A review of the synchro data sheets provided in the appendix indicates that several turn lane storage lengths were not coded in.
 - Turn lane warrant analyses were not completed as part of the TIA.

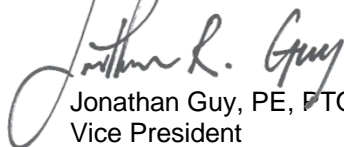
- Despite the low trip generation potential of the proposed development, the memorandum text should note that turn lane warrant analyses were conducted and supporting sheets should be provided within the attachments/Appendix.
- A review of Table 5 (page 31) indicates that the NB approach to the intersection of Lewisville-Clemmons Road and Peace Haven Road shows a degradation from LOS E to LOS F in the PM peak hour. The TIA does address this and the overall change in delay for the approach is less than 25%. A review of the sim traffic analysis shows that the NB left is exceeding the link storage length by approximately 25 feet. The through lane queues are not exceeding the link distance.
- A review of Table 6 (page 33) indicates that the NB approach to the intersection of Lewisville-Clemmons Road and Town Center Drive/Allegacy Way shows a degradation in LOS from LOS B to LOS C in the PM peak hour. The delay for this approach degrades by more than 25% (32%). The TIA does not address this change in LOS nor offer an analysis of potential mitigation. It should be noted that the overall delay for the intersection and approach from does not increase by more than 25%.
- A review of the sim traffic for this intersection shows that the NB right, and the SB right are both exceeding their storage lengths under no build conditions. The addition of the site traffic does not exacerbate the queuing at this location.

CONCLUSIONS

Based on a technical review of the revised TIA memorandum as submitted, the study provides a reasonable assessment of the potential traffic impacts associated with the proposed development. There are several items that should be addressed as noted above to have a complete TIA submission.

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

Sincerely,



Jonathan L. Guy
Jonathan Guy, PE, PTOE
Vice President