Kimley»Horn

February 2, 2022

Mr. Matthew Manley
City of Hendersonville
Community Development Department
100 N. King Street
Hendersonville, NC 28712

RE: *Greenville Highway Apartments TIA Review*

Dear Matthew,

At the request of the City of Hendersonville, Kimley-Horn has conducted a review of the traffic impact analysis (TIA) prepared for the Greenville Highway Apartments residential development dated January 21, 2022 by Ramey Kemp & Associates, Inc. The proposed site is located in the southeast quadrant of the intersection of NC 225/Greenville Highway with Chadwick Avenue. Up to 80 mid-rise, multifamily dwelling units are proposed as part of the development, with one unsignalized access point planned on Chadwick Avenue approximately 175 feet east of the intersection with NC 225/Greenville Highway.

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 City of Hendersonville *Zoning Ordinance.* This memo outlines our technical review of the TIA and corresponding recommendations.

TECHNICAL REVIEW COMMENTS

The following observations are offered based on our technical review of the TIA as submitted and should be addressed as appropriate:

TIA Report Figures:

- In Figure 1, the proposed site location is included in the Legend but not shown on the map. This figure should be revised for correctness.
- Figure 2 has no caption, and spacing between the proposed driveway and NC 225/Greenville Highway is not clearly noted. The figure should be dimensioned to show this length, and a figure caption should be provided to improve readability of the TIA report.
- In Figure 3, the storage length shown for the outside westbound right-turn lane (75 feet) at the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway should instead be shown for the inside right-turn lane.
- In Figure E-1 and Figure 3 through Figure 11, the intersection of NC 225/Greenville Highway with Chadwick Avenue is shown as unsignalized. The figures should each be revised to show this intersection as signalized per existing conditions.

- In Figure E-1 and Figure 11, the following should be revised such that the correct future lane configurations are shown:
  - A northbound left-turn lane with 500 feet of storage and northbound shared through/right-turn lane with 600 feet of storage are shown at the intersection of NC 225/Greenville Highway with White Street; however, the design plans for NCDOT STIP Project U-5886 suggest that the actual storage length will be much less than the values shown.
  - A single right-turn lane is shown on the eastbound and westbound approaches of the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway; however, the design plans for NCDOT STIP Project U-5886 show dual right-turn lanes in each case.
- In Figure E-1 and Figure 11, different minimum internal protected stem lengths are shown at the proposed site driveway (50 feet in Figure E-1 versus 40 feet in Figure 11). The figures should be revised to show the same value.

Section 3 – 2023 No-Build Peak Hour Conditions (TIA Report Pages 8-10):

- Future roadway improvement plans for NCDOT STIP Projects U-5886 and U-6049 are referenced in Appendix D; however, the appendices only show improvements at the intersection of NC 225/Greenville Highway with White Street. Appendix D should be updated to include design plans at the intersection of NC 225/Greenville Highway with US 176/Spartanburg Highway.
- Per NCDOT, the projected let date for STIP Project U-5886 is 2025. The TIA report text should be amended to explain why these improvements were modeled under both 2023 and 2040 conditions.

Section 5 – Build Traffic Conditions (TIA Report Pages 14-17):

- In Section 5.3, it is unclear that only two of four study intersections were analyzed under 2040 conditions.
  - Assuming that the reviewing parties agreed only these two intersections should be analyzed under 2040 conditions, the TIA report text should be amended to clearly state that only the intersections of NC 225/Greenville Highway with White Street and US 176/Spartanburg Highway were considered.
  - If the proposed site driveway and adjacent intersections on Chadwick Avenue were to be analyzed under 2040 conditions, the analysis and supporting figures should be updated accordingly.

Additional Observations:

- The NCDOT *Policy on Street and Driveway Access to North Carolina Highways* prescribes a minimum internal protected stem length of 100 feet. The TIA report text should be amended to clearly state why a minimum internal protected stem length less than 100 feet is recommended instead.
- Auxiliary turn lane warrants, intersection sight distance, and pedestrian/bicycle considerations were not addressed in the TIA. Justification for the exclusion of these key analysis elements should be provided within the report text.

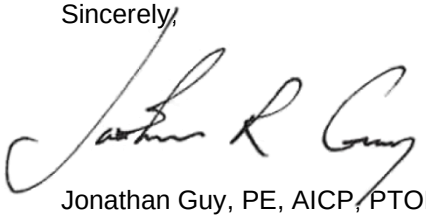
- Consideration should be given to moving the driveway on Chadwick Avenue as far back from the intersection with Greenville Highway as practically possible. As shown, the current location could impact the operations of the intersection. Furthermore, pushing the driveway back will allow for a future installation of a left-turn lane at the signal with Greenville Highway. In its current location and with the installation of a left turn lane the driveway could be limited to right-in/right our operations at some point in the future.

CONCLUSIONS

Based on a technical review of the TIA as submitted, the analysis and recommendations provide a reasonable assessment of the traffic impacts associated with the proposed development on the adjacent street network. The report text and figures should be revised as noted herein for completeness and correctness, and a technical memo or addendum to this TIA should be completed as a response to all comments.

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, AICP, PTOE
Vice President