

**RESPONSES (IN RED) FROM CRAIG SHEFFLER, HNTB, TO TRAFFIC QUESTIONS FROM ALAN RIMER, 8-23-18**

**Memorandum**

**To:** Chapel Hill Planning Commission  
**From:** Alan E. Rimer P.E.  
**Date:** August 21, 2018  
**Subject:** UNC Medical Center Development - Eastowne  
**Cc:** Chapel Hill Town Council

*Why am I here?* - The entranceway into Chapel Hill along the 15-501 corridor is an important attribute for our community. With the pending construction of Wegmans, redevelopment of the SECU property, and the special use permit being requested by UNC for construction of a medical office building, the character of the entranceway may be adversely changed if not properly designed. I would like to address three specific areas I believe to be important: a) site design; b) stormwater management; and c) the traffic impact.

*Why do I believe I am qualified to comment?*

- Former member of the Planning Commission (six years) and chair (three years)
- Vice Chair of the Chapel Hill Entranceway Committee formed many moons ago
- Former Town Council member
- Adjunct faculty in the UNC City and Regional Planning department for 13 years teaching site design

**Site Design** - while each professional may take a different view on site design based on their professional experience, I have several concerns regarding the proposed site design. Because no overall site plan was presented in the August 16, 2018 package provided by UNC Health System Care (UNC Presentation) some of these comments have been gleaned from portions of the presentation.

- A proposed fire access lane of 95 feet will remove a significant amount of tree buffer along 15-501 to allow for firetrucks to approach the site after a U-turn on Lakeview Drive. That seems an unlikely occasion, since the Chapel Hill fire department will be servicing this area and approaching the site from the West onto Eastowne Drive. Were the Eastowne Drive intersection to be unavailable, the firetrucks could approach the site from the parallel service road.
- If it is necessary to have this alternative entrance, there is no need for a 95-foot wide swath of trees to be cut. In addition, this entranceway should be marked as fire access only so that general access traffic to the facility not utilize this as a general traffic entranceway.
- The road facing front of the parking deck should be designed in a staggered fashion (each successive floor be stepped back a bit) so that planters for vegetation can be installed on that side of the deck to reduce the visual impact of such a large and tall structure.
- The building sits rather high along the tree buffer. While I recognize digging into rock is expensive, a geotechnical analysis may reveal there is not as much rock there as believed.

**Stormwater** - It is beyond the applicant's responsibility to fully develop a comprehensive, sitewide stormwater management plan because redevelopment projects are not required to treat impacts from existing impervious surface and thus do not typically provide as much treatment as a greenfield development. This is a flaw in the current ordinance which should be corrected by the Town Council. In the interim, UNC should, as a gesture of

goodwill, thoroughly evaluate stormwater management for the site and present a comprehensive overall plan that deals with the existing application and proposed future construction.

The request for an up-zoning and SUP may well provide the Council some leeway in requesting additional stormwater design data. If that is possible, staff should request that before a final application is received.

**Traffic** - The issue of traffic created by this development as well as the redevelopment of the SECU site and Wegmans, in my opinion, should be considered holistically. It is unrealistic to look at just the impact of the UNC site development in a vacuum. The following are some thoughts on the traffic impact analysis and actions that should be taken to better reflect true traffic conditions.

### **TIA Background**

The initial TIA was issued in April 2018 and was based on traffic counts from March 20, 2018. *The initial draft TIA was completed with a different set of assumptions than what matches the current Applicant SUP application. Further discussions with Town staff and the Applicant in June 2018 provided updated direction to revise assumptions related to the site plan, assumed land uses for trip generation and methodology to understanding the net impact of the site above “no-build” conditions where the existing facilities would be fully utilized.*

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#### Existing Trip Generation

Existing traffic volumes from two UNC Health Care site driveways were collected during each peak hour as part of intersection counts to adjacent minor streets or private driveways. These data appear not to have been used to determine existing site trip generation. *That is true, there is no information available to square footage or number of employees actually in operation on the date counts were collected. Without certainty to that data, there is no clear way count data could be used to establish accurate trip generation, regardless if all driveway movements were counted or not. Field observation during the time of the counts noted that the existing facilities were mostly vacant, so the decision was made not to attempt to derive existing trip generation from the mostly vacant facilities.*

*From Page 15*

Consultant Used ITE code for office rather than Medical Office, thus underestimating traffic. Council requested that traffic study be corrected.

In the revised HNTB TIA dated June 2018 no additional counts were performed. *No additional counts were necessary. Count data is not typically taken during the summer months in Chapel Hill due to UNC and Chapel Hill schools not being in full session.*

UNC Health Care provided a new narrative to the Planning Commission dated 8-16-18 noted as: *Eastowne SUP Medical Office Building Responses to Town Council* (UNC Presentation).

From that narrative, the following emerges related to traffic issues:

- On page 5 of the UNC Presentation it notes there will be 229 employees relocated from Chapel Hill and 82 employees relocated from Durham resulting in an actual total of 311 employees. In the June TIA (Table 5) and repeated in the UNC Presentation (page 47) it shows that the

consultant used 255 employees in their calculation. Therefore, the traffic numbers are based on an estimate that is 21 % ( $(311-255 = 56)/255 = 21\%$ ) lower than expected number of employees. The Applicant provided a maximum employee number of 255 for use in the trip generation process of the revised TIA in June 2018. The assertion above is misstated – the 82 employees relocated are part of the 229 total employees. The revised maximum number of employees currently being considered (229) is actually lower than the 255 estimated in the revised TIA.

- On page 2 of the June TIA, the analysis again reduced the AM peak entering by 85 and peak PM exit deduction of 75 for the demolished buildings vs the actual of 11 and 12. This methodology reduced the traffic for the demolition by 47% ( $85/178$ ) and 48% ( $75/154$ ) when it should have been only a reduction of 6% ( $11/178$ ) and 8% ( $12/154$ ). To clarify the table and its purpose – the top row shows the total trips generated by the new UNC Health Care MOB facility. The existing site, if fully occupied and still in operation in the 2021 future analysis year, would be expected to generate the numbers of trips shown in the second row of data. This is what was being analyzed in the 2021 No-Build Scenario. The “net” numbers of trips shown in the 3<sup>rd</sup> row are the expected additional number of trips that are generated by the new medical clinic facilities above what would be generated by the fully occupied existing administrative office buildings. The 2021 Build Scenario includes full impacts from the total number of trips (top row) of the proposed new facility. In summary – no “deductions” are being made to the total number of trips generated by the new facility. This study also did not take any trip reductions for transit, bicycles, pedestrians or the fact that not all these trips to the site will be “newly” created and would rather be a redistribution of existing trips made to UNC Health Care facilities on UNC Main Campus.
- On page 23 of the June TIA, the long-term impact analysis assumes 15-501 will be a six Lane road. The Metropolitan Transportation Plan (MTP) through 2045 plan does not include widening of this stretch of 15/501. No additional recommendations for mitigation were made although the TIA noted that “long term improvements may be necessary.” NCDOT is in the process of studying the US 15-501 corridor in the area (STIP U-5304F), which include “corridor capacity improvements” which may include improvements such as widening, additional turn lanes and access management enhancements. The ultimate goal would be to improve the daily capacity of the facility, which is shown in the long-range estimates in Table 11 of the TIA report. The travel demand model that this data set was taken from has the US 15-501 corridor in the project study area coded as a six-lane facility, though as stated above, the actual U-5304F project may or may not include widening to six lanes.

#### Conclusions from the June TIA and UNC Presentation

- The traffic analysis was based on 255 employees rather than an actual of 311 employees resulting in an underestimate by 21%. See previous response to this issue.
- Actual current driveway data counts were not used when calculating offsets for demolition of existing buildings resulting in a 47-48% reduction in net impact when it should have been 6-8% based on the actual counts. The existing buildings were largely empty in March 2018. See previous response to this issue.

- Only the short-term impacts were addressed in the mitigation measures and assumptions included that others would pay for the widening of 15/501 to six lanes, but no such plan exists through 2045. It also anticipated impacts to other roads within Eastowne. **See previous response to this issue.** In addition to local improvements proposed by both the Wegmans and UNC Health Care TIAs, NCDOT is studying additional improvements to the US 15-501 corridor. The NCDOT improvements are not included in the short-term analysis for this study, but were accounted for in the long-term analysis.
- The TIA averaged models for Medical Office and Medical-Dental offices even though the UNC Presentation indicated no dental offices are planned in this facility. While small, this resulted in another 3% reduction in estimated daily traffic that was not warranted. **No dental offices are planned – one of the ITE land use codes utilized for the study, called “Medical-Dental Office Buildings” includes facilities that could include either type of usage.** The study also considered another land use code with characteristics similar to the proposed UNC Health Care Eastown project, called “Medical Clinic”. After careful review of the estimated trips by both the Medical-Dental office build and Medical Clinic land use codes, engineering judgement was applied to average the two sets of data as they showed reasonably close correlation in the estimated data sets.

### **Recommendations**

The Traffic Analysis should be **redone** using appropriate number of employees and actual driveway counts. **The current June 2018 TIA was done using a conservatively high number of employees and as stated in previous responses, actual estimated driveway counts were analyzed from full utilization of the existing facilities in the 2021 No-Build Scenario.**

As Eastowne development is now on the UNC Master plan, what are the plans the Council is considering or has to prioritize resources to address the growing traffic and other needs/concerns in this area including making sure that the MPO has this in their plan.

What can be done (a more detailed analysis evaluating future scenarios?) to assure that the neighbors are not adversely impacted? Might UNC be asked to place a traffic mitigation bond with the City to mitigate any unanticipated impacts.