

# Memorandum

---

**To:** Central West Citizens

**From:** Daniel Findley, Ph.D., P.E.  
Christopher Cunningham, P.E.

**Date:** 11/14/2013

**Re:** Evaluation of Traffic Impact Analysis for Central West Small Area Plan

---

Central West Citizens,

This memorandum documents some preliminary observations of the traffic analysis related to the Central West Small Area Plan, with a particular emphasis on additional information needed for our review of the traffic analysis for the Central West Small Area Plan. Recommendations for further analysis efforts is also provided in this document, in relation to the Central West Area and other developments which might also impact roads in the study area.

In essence, this memorandum documents the fundamental theme that the plan, presented at the October 21, 2013 public hearing, lacks sufficient detail to conduct a thorough review of the traffic analysis, particularly with respect to many of the concerns raised by stakeholders at this public hearing and those conducted prior to this meeting. Another concern is the disconnected nature (through the use of more than one report to present the traffic analysis) of traffic analysis information related to this plan; this memorandum refers to multiple documents with respect to key traffic analysis information, which further exacerbates concerns about the availability of relevant traffic data used in the analysis and requires unnecessary cross-referencing to the multiple documents. For example, the *Traffic Analysis*<sup>1</sup> does not provide pertinent background information or a discussion of its contents, nor does it state whether or not it supplements or replaces previous traffic analyses.

The official plan, *Central West Small Area Plan*<sup>2</sup>, provides a high level discussion. While supplemental information bridges some of the gap towards full understanding of the development plan, critical information about relevant assumptions are not clearly stated (including justifications for those assumptions). One such element is the traffic assignment

---

<sup>1</sup> Town of Chapel Hill. *Traffic Analysis*. October 21, 2013. URL:

<http://www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=21001>

<sup>2</sup> Town of Chapel Hill. *Central West Small Area Plan*. Draft Plan Available on October 21, 2013.

URL: <http://www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=20924>

assumptions made for Estes Drive<sup>3</sup>. A notable exclusion from the traffic analysis presented by the Town of Chapel Hill are baseline and projected traffic volumes. Although this particular plan might not fall under the requirements for the guidelines for traffic impact analysis, this process would certainly benefit from the clarity that this information would provide, as established by the Town of Chapel Hill, as good practice for traffic analysis reporting<sup>4</sup>. The scope and impact of this development proposed for this area are significant, which exceeds all quantitative thresholds described by the Town of Chapel Hill through their guidelines.

Several relevant excerpts from the Town of Chapel Hill's traffic impact analysis guidelines are presented below which specifically reference traffic volumes and trip distribution. If these elements can be presented for review, a more thorough review will be possible.

*The applicant shall provide a description of the existing traffic conditions within the study area. A map shall be prepared, which presents a.m. and p.m. peak hour and daily traffic volumes. These volumes shall be no more than two years old and less if the development is in a high growth area. The source of existing traffic volume information shall be explicitly stated (Town counts, new counts by applicant, County counts, etc.) Summaries of current traffic counts shall be included in the appendix. A map of the existing roadway network shall be prepared that presents lane geometrics, traffic control, existing access, speed limits, and any other notable features.*

*Trip distribution may be based on the MPO regional modeling, market analysis, existing traffic flows, applied census data, and professional judgment. Regardless of the estimates, the procedures and logic for estimating the trip distributions must be well documented. The trip distribution patterns must be presented for each phase if changes in roadway network, access or land use are proposed. The distribution percentages shall be noted on the Summary of Traffic Impacts sheet.*

Additional specific comments related to the traffic analysis materials<sup>1</sup> currently available include:

- The LOS/Delay table for the Central West Plan presented in the traffic analysis included five breakdowns (total and four directional approaches). However, only four LOS/Delay values are reported in the table.
- The color coding of the checkmarks are not defined in the traffic analysis. It is unclear if the coloring is intended to represent some difference amongst the final alternatives. A discussion of why the other mitigation options were not selected would also be desirable.

---

<sup>3</sup> Town of Chapel Hill. *Central West Alternatives Analysis*. August 29, 2013. Page 2. URL: <http://www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=20258>

<sup>4</sup> Town of Chapel Hill. *Guidelines for Traffic Impact Analysis*. October 1, 2001. URL: <http://www.townofchapelhill.org/modules/ShowDocument.aspx?documentid=3175>

- Traffic assumptions related to the intersection in the traffic analysis were not provided. These assumptions might include lane utilization, storage length, ability of drivers to turn right on red, etc. that can significantly impact capacity analysis.
- Within the traffic analysis documentation, the LOS/delay values were not presented for existing conditions or future projections without the build-out of the Central West Small Area Plan.

Although a comprehensive and thorough document to summarize traffic impact analysis might provide necessary information about the development of results from the current traffic analysis, further data collection might be necessary to refine assumptions that are viewed as contentious. A household travel survey might provide sufficient insight into local travel behavior and activities which would calibrate the traffic analysis for local conditions.

In addition to the Central West Small Area Plan, the *Chapel Hill 2020 Comprehensive Plan*<sup>5</sup> presents five other Focus Areas which will have varying degrees of impact on the Central West Area. Therefore, in addition to conducting a thorough study of the traffic impacts related to the Central West Small Area Plan, it would be prudent to evaluate the impact of the future developments in the proposed Focus Areas on the Central West Area. In particular, Estes Drive provides a critical East-West link in the Central West Area and any developments directly impacting this route should be carefully considered to adequately plan for necessary traffic mitigation strategies.

Regards,



Daniel Findley, Ph.D., P.E.  
(919) 302-8527  
danieljfindley@gmail.com



Christopher Cunningham, P.E.  
(919) 210-2809  
cunningham.chris@hotmail.com

---

<sup>5</sup> Town of Chapel Hill. Chapel Hill 2020 Comprehensive Plan. June 25, 2012. URL: <http://www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=14684>