

**FORSYTH COUNTY**  
**BOARD OF COMMISSIONERS**

**BRIEFING DRAFT**

**MEETING DATE:** April 01, 2021      **AGENDA ITEM NUMBER:** 1A-1B

**SUBJECT:**

- A. PUBLIC HEARING ON AN ORDINANCE AMENDMENT PROPOSED BY PLANNING AND DEVELOPMENT SERVICES STAFF TO AMEND SECTION 12.2 OF THE UNIFIED DEVELOPMENT ORDINANCES PERTAINING TO TRAFFIC IMPACT STUDY STANDARDS**
  
- B. ORDINANCE AMENDMENT TO AMEND SECTION 12.2 OF THE UNIFIED DEVELOPMENT ORDINANCES PERTAINING TO TRAFFIC IMPACT STUDY STANDARDS (UDO-CC6)**

**COUNTY MANAGER'S RECOMMENDATION OR COMMENTS:**

**SUMMARY OF INFORMATION:-**

See attached staff report.

After consideration, the Planning Board recommended approval of the zoning text amendment.

**ATTACHMENTS:**      X   YES         NO

**SIGNATURE:** \_\_\_\_\_      **DATE:** \_\_\_\_\_

**UDO-CC6**  
**A TEXT AMENDMENT PROPOSED BY PLANNING AND DEVELOPMENT SERVICES STAFF TO AMEND SECTION 12.2 OF THE UNIFIED DEVELOPMENT ORDINANCES RELATING TO TRAFFIC IMPACT STUDY STANDARDS (VERSION REFLECTING ALL PROPOSED CHANGES)**

Be it ordained by the \_\_\_\_\_, North Carolina, that the Unified Development Ordinances is hereby amended as follows:

**Section 1.** Section 12.2 Traffic Impact Standards is amended as follows:

## **12.2 TRAFFIC IMPACT STUDY STANDARDS**

### **A. INTENT**

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1. These standards are intended to provide the City-County Planning Board, and all other local elected and appointed boards within Forsyth County the information necessary to make informed decisions regarding planned development impacts to traffic on their roads.
2. By adopting these standards the City-County Planning Board seeks to ensure that:
  - a. All decisions regarding traffic impacts due to development are based upon technical study, and
  - b. Needed improvements are made in a cost effective and efficient manner.

### **B. APPLICABILITY**

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1. City-County Planning Board (CCPB) staff, the Winston-Salem Department of Transportation (WSDOT) and/or the North Carolina Department of Transportation (NCDOT) review proposed development plans for traffic impacts. WSDOT and/or NCDOT have the ultimate responsibility for resolving questions concerning traffic impact studies. These agencies may recommend that a traffic impact study be performed for any proposed development that meets the trip generation threshold of this ordinance.
2. Anyone performing a traffic impact study in Forsyth County shall contact WSDOT and/or NCDOT to determine the traffic concerns of each jurisdiction or to request a pre-study conference.
3. These standards are intended to provide structure for the traffic study preparer. Individual study recommendations will be determined on a case by case basis.
4. All traffic impact studies should conform to sound engineering principles and are subject to review by WSDOT and/or NCDOT. The study should be submitted electronically to the Planning Department, the Winston-Salem Department of Transportation and NCDOT Division 9.
5. All methods used for analysis other than those mentioned in these standards shall be explained, and their limitations described in an appendix to the traffic impact study.

### **C. BASIS FOR REQUESTING A TIS**

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1. A traffic impact study shall be required according to any of the following:
  - a. Any proposed Special Use District Rezoning, Planning Board Review, or subdivision that will increase the approach traffic volumes at intersections or roadways by 150 or more vehicles in the peak hour.
  - b. Proposed development in the vicinity of areas previously identified as having levels of service "E" or "F", hazardous locations, or other similar adequacy concerns.
  - c. Where a reduction in safety is expected at intersections or roadways. A traffic signal warrant study may still be requested by NCDOT or WSDOT even if a traffic impact study is not.
  - d. Where a proposed development has been approved by the City-County Planning Board or any elected board in Forsyth County based on recommendation from an acceptable traffic impact study and that project has not been completed within two (2) years of the date of approval, an updated traffic impact study may be required. If changes are made to the pre-approved site plan that will require a new approval from the City-County Planning Board or other elected, a new and/or updated traffic impact study may be required.

This recommendation may be waived by the Director of WSDOT and/or the Division Engineer of NCDOT Division 9 upon written request by the petitioner upon adequate justification for such waiver.

#### **D. STANDARDS FOR REVIEW**

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1. A Traffic Impact Study shall only be performed by a Professional Engineer licensed by the North Carolina Board of Registration for Engineers and Land Surveyors, to practice engineering in North Carolina, with experience in the preparation of traffic impact studies.
2. The following areas of investigation shall generally be included in a Traffic Impact Study:
  - a. An examination of traffic flows, exclusive of the site being studied, defined as "background traffic";
  - b. An examination of projected traffic flows when site traffic is added, defined as "total traffic";
  - c. A discussion of mitigation measures (if such measures are recommended);
  - d. An examination of projected traffic flows after the site is developed and mitigation measures are implemented.
3. Traffic shall be examined as follows:
  - a. From data collected by persons or agencies within the defined study area which is no more than two years old at the time of study preparation;
  - b. From traffic counts obtained by the applicant based on the specification established at the pre-study conference.
4. The study area shall be determined as follows:

The study area should include each intersection with a major thoroughfare highway which can be considered as a logical travel path between the site and the major thoroughfare highway network. Major thoroughfare highways are so designated by the Winston-Salem/Forsyth County Thoroughfare (or Transportation) Plan. The study area(s) should be reviewed and approved by WSDOT or NCDOT prior to preparing the study.

Additional intersections between the site and the major thoroughfare intersection(s) as well as those intersections that are rationally identified as being impacted by a development shall be included in the study area.

5. The design hour shall be determined by:
  - a. The period for the proposed development which will generate the highest traffic volumes; and/or
  - b. The period of highest traffic volumes on the traffic facilities within the study area.
6. The forecast year shall be determined according to some or all of following criteria:
  - a. A scheduled phase or the completion of the project (for this and other projects);
  - b. The Winston-Salem/Forsyth County Comprehensive Plan;
  - c. Locally adopted Transportation or Thoroughfare plan or capital improvement program schedule, or Transportation Improvement Program;
  - d. Major transportation system changes.
7. The following technical procedures and guidelines shall be used:
 

Roadways and intersections shall be analyzed using the appropriate analysis method as depicted in the latest edition of the Highway Capacity Manual, Transportation Research Board. Additional analyses may be recommended depending on the traffic concerns expressed at the pre-study conference.
8. The minimum standard for traffic operations is defined as follows:
 

Level of service "D" is the lowest level of service that should be considered adequate for intersections and roadway approaches to intersections in Winston-Salem and Forsyth County. No development should bring a level of service down by more than one level without implementing roadway improvements.
9. Background traffic shall be determined by-thoroughfare classification, as per the most current locally adopted Winston-Salem/Forsyth County Transportation or Thoroughfare Plan document:
  - a. By historic and/or projected traffic increase rates on roads classified as being major thoroughfares (arterial or major collectors); and
  - b. By developments/trips that have been approved (recorded) on roads classified as minor thoroughfares or streets (minor collectors or local roads).
10. Trip Generation, Distribution and Assignment shall be determined using the following:
  - a. The latest edition of the Trip Generation Manual, Institute of Transportation Engineers; or
  - b. Documented local trip generation rates, (as determined through previous or current studies).

Trip distribution shall be determined by using the following:

  - c. Gravity model;
  - d. Trip assignment of the traffic demand forecasting model;
  - e. Utilization of demographic data leading to trip purpose and trip tables;
  - f. Current directional distribution only if no future changes to land use and no improvements to transportation facilities are expected until the design year;
  - g. Trips should be assigned to the study area network during the study's design hour.
11. Pass-by Trips shall be determined by using either of the following:
  - a. The Institute of Transportation Engineers pass-by trip rates; or
  - b. Documented local pass-by trip rates, (as determined through previous or current studies).
12. Traffic shall be apportioned to the proposed project in the following manner:
  - a. First, the projected level of service for the study area is forecast without the proposed project.

- b. Second, the projected level of service is forecast with the addition of the proposed project. The two forecasts shall be evaluated to determine whether the traffic projected to be generated by the proposed development will lower the projected Levels of Service (LOS) within the study area to below LOS "D" or one level below the current level of service.
- 13. When a traffic impact study projects that the intersection(s) or roadway(s) in the study area will meet the level of service standard and other identified recommendations have been addressed, Planning staff shall make no further traffic impact recommendations. However, it is possible that the NCDOT Division Engineer or the Winston-Salem Department of Transportation may still recommend additional analyses and/or improvements.
- 14. When a traffic impact study projects that the intersection(s) or roadway(s) in the study area will be inadequate then the following alternatives may be considered:
  - a. The project is deferred or reduced in scope so that the level of service standard is not exceeded, or
  - b. A mitigation plan is submitted for review by Planning, WSDOT and/or NCDOT staff. The mitigation plan together with the recommendations of staff are presented to the Planning Board and elected body, where required.
    - i. A mitigation plan is:
      - 1. An addition to a traffic impact study, (the recommendation for which is identified by preliminary study results);
      - 2. Intended to identify specific causes of lowered levels of service (traffic impacts);
      - 3. Recommends improvements that will moderate the effects of projected traffic impacts;
      - 4. Recommends transportation demand management options.
      - 5. Examples of possible mitigation plan improvements may include, but are not limited to: construction of new roads, road improvements, traffic signals, ridesharing programs, off-site parking facilities and para-transit, signal timing/phasing changes, channelization modifications, changes in ingress/egress points, reducing the number of entrances, and/or lane widening.
    - ii. Mitigation Plan improvements may be phased and shall be sensitive to the following:
      - 1. Timing of short-term and long-term network improvements that are already planned, scheduled and/or funded;
      - 2. Time schedules of adjacent developments;
      - 3. Size and timing of individual phases of development;
      - 4. Right-of-way needs and availability of additional right-of-way within appropriate time frames;
      - 5. Local priorities for transportation improvements and funding;
      - 6. Local priorities for transportation demand management strategies;
      - 7. Necessary lead time for additional design and construction;
      - 8. That the sum of improvements are proportional to the projected Impact.

Analysis of traffic needs by development phase should provide the information needed to determine the appropriate sequence of improvements.
    - iii. The improvements recommended in the mitigation plan are the sole responsibility of

the developer to implement unless 100% of construction costs for the projected improvements are in the subject budget year of the seven year Transportation Improvement Program or the local Government's Capital Improvements Program.

- c. The developer may agree to pay fees to fund the necessary improvements by written agreement with WSDOT and/or NCDOT.
  - d. If the existing level of service is inadequate (i.e., "E" or "F"), or the existing plus background growth (not including the site) causes an inadequate level of service, then the developer shall be expected to mitigate only the traffic to be generated by the proposed project.
  - e. If the proposed development is of significant economic importance it may be recommended that the developer be granted an exception and/or waiver where improvements are scheduled or included in either the NCDOT TIP or locally approved Capital Improvements Program.
15. Additional analyses may be recommended, including but not limited to Sight Distance Analysis, Signal Warrant Analysis, Environmental Analysis, and Traffic Signal Progression Analysis

**Section 2.** This ordinance shall be effective upon adoption.

**CITY-COUNTY PLANNING BOARD  
STAFF REPORT**

**DOCKET:** UDO-CC6  
**STAFF:** David Reed

**REQUEST**

This text amendment is proposed by Planning and Development Services staff to revise Section 12.2 of the *Unified Development Ordinances* as it pertains to traffic impact study standards.

**BACKGROUND**

In 2001, the Forsyth County Board of Commissioners and the Winston-Salem Board of Aldermen (City Council) adopted standards delineating when traffic impact studies would be required for certain types of nonresidential development (UDO-73). Prior to the adoption of UDO-73, there were no codified standards in place to guide the preparation of traffic impact studies (TIS) for proposed development. Whether a TIS was requested of developers was determined based upon traffic conditions in a particular area. Consequently, TIS requests were inconsistent (even for similar types of development) and there was no predictable process for requiring such studies.

Since 2001, many significant development projects have included a TIS as part of the rezoning process. Because UDO-73 did not apply to most residential developments, however, some residential projects that were impactful enough to justify preparation of a TIS did not require submission of such a study at the time of development application. As a result, such projects took longer for developers to complete, as a TIS would be requested after Transportation staff had evaluated the project's projected trip generation numbers, rather than at the start of the project. This situation created frustration for staff, developers, and elected officials.

Furthermore, UDO-73 did not include specific language requiring a TIS for any review process other than a Special Use Zoning, so large developments that can be approved by the Planning Board and do not require rezoning are currently not required to submit a TIS.

Since the adoption of UDO-73, weekly interdepartmental sketch plan review meetings have become an integral part of the development review process in our community. Winston-Salem Department of Transportation (WSDOT) and North Carolina Department of Transportation (NCDOT) staff often identify the need for a TIS during these sketch plan reviews based on the trip generation of a proposed development, regardless of development type. Applicants have generally submitted a TIS as part of their application whenever these agencies have requested one. The proposed amendment would make the language in the UDO consistent with this practice, allowing developers to complete the development review process in a timelier manner.

**ANALYSIS**

The trip generation threshold that requires submission of a TIS in Winston-Salem/Forsyth County is generally similar to the requirements of other large North Carolina communities. However, ours is the only large community where residential development is largely exempt from TIS requirements (see table below).

**Summary of TIS Requirements for Large NC Communities**

<b>Jurisdiction</b>	<b>TIS Threshold</b>	<b>Residential Development Requirement</b>
Durham/Durham County	150 Peak Hour Trips	Yes
Raleigh	150 Peak Hour Trips or 3,000 Trips per day	Yes
Wake County	1,000 Trips per day	Yes
Charlotte/Mecklenburg	2,500 Trips per day	Yes
Greensboro	100 Peak Hour Trips or 1,000 Trips per day	Yes
Guilford County	PRDs over 25 acres; Case-by-Case for Large Non-residential Developments	Yes for PRDs over 25 acres
Winston-Salem/Forsyth County	150 Peak Hour Trips	No

Our peer communities generally do not differentiate traffic impacts based on the use that generates the traffic. As a result, staff recommends amending the UDO to base the need for a TIS on the amount of traffic a proposed development will add to the road network, regardless of the use that is generating the traffic, and requiring a TIS for developments which meet the trip generation threshold, regardless of whether the proposed development is being submitted for a rezoning or a Planning Board Review.

This text amendment also streamlines existing TIS provisions and revises ordinance language to make this section more consistent with the rest of the UDO. This change was suggested by the Planning Board during its work session discussion on this item.

Staff believes the proposed amendment will create a more consistent, predictable process for developers and allow our UDO to better reflect our development review practices.

**RECOMMENDATION: APPROVAL**



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**CITY-COUNTY PLANNING BOARD  
PUBLIC HEARING  
MINUTES FOR UDO-CC6  
NOVEMBER 12, 2020**

David Reed presented the staff report.

For clarification, Mo McRae noted different variables that go into a TIS, and asked whether, if an additional unit was added, would deviate from the comprehensive plan.

Kirk Ericson stated that our current TIS requirement is a simple analysis of things like existing road conditions in the area, whether the proposed development will put you into a Level of Service E or F, or some other scenario where there would be impacts on the surrounding area. The TIS standards were developed by Transportation staff, the folks who are actually the review authority for the TIS reports. Kirk added that putting a requirement like that in an ordinance could be explored, if the Board so directed, but it's not something that would be done without having conversations with the folks who wrote the ordinance and would administer it.

Melynda asked why the report didn't include a gross number of trips that would trigger a TIS and noted that some neighboring cities use numbers like 3,000 or 1,000 total trips per day. David indicated that some cities do the study differently, but they generally use 150 peak-hour trips. 150 is what our transportation planners mostly use, and they did not suggest any other way of determining what the trigger should be. Melynda asked if they had a ballpark idea of how many gross trips would trigger 150 peak-hour trips. David stated that in investigating residential uses, he looked to see how many units in a development would trigger a TIS, and it was approximately 150 homes. If there were a subdivision with fewer than 150 homes, it would likely not trigger a TIS, unless it were in a very congested area. David also stated that in multifamily developments, 340 midrise units would also trigger a TIS.

George stated that the term "peak" seems to have changed during times of COVID and asked staff whether the definition of "peak" has changed or is pretty set the way it is. David stated that that would be up to the transportation planners, but that at this point, for that many households, that's the number they use as a benchmark.

Mo commented that actual historic data has been used to determine "peak" during COVID, and that it also has the ability to analyze future trips. A stress test is put into the analysis, and from what she's seen in the industry, she does not see the term "peak" changing. George stated that

"peak" affects more than just this UDO and that term will need to be changed at some point. If not, then a total trip number would need to be used if peak time is not getting at the kinds of questions that the Board has.

After doing the calculation, Kirk stated that each single-family residence, according to the ITE manual, basically generates about 9.5 trips per day. That would be a subdivision of 150 homes, which is the threshold for triggering a TIS. That would have between 1,400 and 1,500 trips per day. Each ITE use has its own threshold, but the peak hour seems to receive approximately 10 percent of the trips on any given 24-hour period.

**PUBLIC HEARING**

FOR: None

AGAINST: None

**WORK SESSION**

MOTION: Clarence Lambe recommended approval of the ordinance amendment.

SECOND: Jason Grubbs

VOTE:

FOR: George Bryan, Melynda Dunigan, Jason Grubbs, Tommy Hicks, Clarence Lambe, Chris Leak, Mo McRae, Brenda Smith

AGAINST: None

EXCUSED: None

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Aaron King  
Director of Planning and Development Services

(For publication in the WS Journal Legal Section on  
March 19 & 26, 2021)

## NOTICE OF PUBLIC HEARING

NOTICE is hereby given that the Board of Commissioners will hold a public hearing in the Commissioners' Meeting Room on the fifth floor of the Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, North Carolina at 2:00 p.m. on Thursday, April 01, 2021 on the following:

Public Hearing on ordinance amendment proposed by Planning and Development Services revising Section 12.2 of the Unified Development Ordinances pertaining to traffic impact study standards (UDO-CC6)

Public Hearing on ordinance amendment proposed by Planning and Development Services revising Sections 4.1.6 and 6.1.5 of the Unified Development Ordinances pertaining to bonus density for affordable housing and alternative parking compliance for multifamily development near transit (UDO-CC7)

Public Hearing on ordinance amendment proposed by Planning and Development Services revising Sections 5.2.30, 5.2.31 and 11.2 of the Unified Development Ordinances pertaining to use specific standards and definitions of the Family Group Home A, Family Group Home B, and Family Group Home C uses (UDO-CC9)

There will be no meeting place where members of the public can be physically present. The Meeting will be broadcast live at 2:00 p.m. on local cable channel WSTV 13- The Government Channel, [http://winston-salem.granicus.com/MediaPlayer.php?publish\\_id=29](http://winston-salem.granicus.com/MediaPlayer.php?publish_id=29) and <https://vimeo.com/forsythcountync>.

All persons interested in the proposed amendments are invited by the Board of Commissioners to present their views. If you wish to submit a written comment, please send an email to [sloopam@forsyth.cc](mailto:sloopam@forsyth.cc) by Friday, April 2, 2021.

This notice shall be published once a week for two successive calendar weeks. The notice shall be published the first time not less than 10 days, or more than 25 days, before the date fixed for the hearing. In computing such period, the day of publication is not to be included but the day of the hearing shall be included.

This the 19<sup>th</sup> day of March, 2021.

FORSYTH COUNTY BOARD OF COMMISSIONERS  
Ashleigh M. Sloop, Clerk to the Board