

# Attachment D

TIA Amendment Commentary: Bruce Anderson

After my fourth reading of the proposed TIA text amendment I think I understand the existing policy and the proposed changes.

The change from the 7 % impact to 30 vehicles in a single approach or 50 vehicles on all approaches in a peak hour make good sense. Adding the flexibility for developers to improve one intersection with credit for others would be a major cost savings for them. It could also provide more beneficial congestion relief in some cases.

However, the TIA is already heavily weighted to limit the financial impact on the developer. The key paragraphs are:

**“Where an ICU percentage is above those established in Section 14.4.1 or, as a result of proposed development, becomes greater than the adopted standard AND has increased by more than 3 percent; a development application may be approved if the applicant proposes measures that fully mitigate the transportation impacts of the proposed development.”**

**Mitigation, when required, shall fully reduce the ICU percentage of the impacted intersection to either the adopted standard in Section 14.4.1 or to within 3 percent of the no-build ICU percentage.”**

Under the “adopted standard” text, an impact increasing the ICU from 65 % to 84 % in a “D” intersection only needs to mitigate to 82 %. That is clearly not fully mitigating the impact. It just drives the ICU to higher levels of congestion.

Perhaps a trade-off makes sense. Replace the 7 % and allow flexibility – and – interpret “fully mitigate” as meaning a return to the no-build condition.

Note the color code at the end of the TIA showing the meaning.

## ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

### ARTICLE 14: TRAFFIC IMPACT ANALYSIS

#### 14.1 Overview

~~The adequacy of service levels for local and state road intersections that serve or are affected by a proposed project shall be determined in accordance with the provisions of this Article. A Traffic Impact Analysis (TIA) required by this Article will be prepared by a qualified traffic engineering consultant retained by the Applicant and reviewed and approved by the Town.~~ **A Traffic Impact Analysis is utilized by the Town to evaluate the incremental impact of a development on the surrounding transportation system. A TIA required by this Article will be prepared by a qualified traffic engineering consultant retained by the Applicant and reviewed and approved by the Town. The adequacy of service levels for local and state road intersections that serve or are affected by a proposed project shall be determined in accordance with the provisions of this Article.**

#### 14.2 Applicability TIA Fees

##### 14.2.1 Generally.

- a) ~~Except as provided in subsections (e) through (g) below, a TIA is required for any development residential subdivision, multifamily site plan, or nonresidential development, or portion thereof, which is expected to create fifty (50) or more peak hour vehicle trips or five hundred (500) or more daily vehicle trips except as provided in subsections (c) through (g) below. Daily trips are those occurring on peak days on the roadway adjacent to the proposed development, based on the current edition of the ITE (Institute of Transportation Engineers) Trip Generation Manual, with the exception of public and private schools which will be based on the NCDOT's most recent MSTA School Traffic Calculator. Alternative trip generation rates/equations for non standard uses may be utilized subject to Town Engineering staff approval. A "Determination of Need" for a TIA shall be made by the Town in accordance with the trip generation standards set forth in subsection 14.2.1. (See the *Town of Huntersville TIA Process and Procedures Manual* for additional information.)~~
- b) The determination of the number of trips generated also shall take into account pass-by trips, internal trip capture for integrated mixed use projects (e.g., roadway and/or pedestrian connectivity) and any proposed transportation demand management system where adequate guarantees are provided by the applicant to the Town, which ensure the proposed demand management system will function as proposed for the life of the project. In addition, if the proposed development is designed and integrated with an adjacent mixed use project, a credit for trips may be permitted.
- c) For redevelopment projects, including changes of use, trip generation thresholds shall be defined as the number of net new trips anticipated to be generated by the proposed development over and above the number of trips generated by the current use of the site.
- d) **Where a development is expected to generate less than 50 peak hour trips, but is anticipated to adversely impact intersections within the Town, a TIA may be required as determined by the Town Engineer.**
- e) **No TIA shall be required for special events, which either are temporary in nature, consistent with the Town Zoning Ordinance, or which generate trips that meet or exceed the thresholds set forth in (a), but which do not occur during the peak hours of the roadways adjacent to the proposed development unless the Transportation Engineer finds that the trip generation off peak will significantly impact travel.**
- f) **A "Determination of Need" for a TIA shall be made by the Town in accordance with the trip generation standards set forth in subsection 14.2.1. (See the *Town of Huntersville TIA Process and Procedures Manual* for additional information.)** *NOTE: Relocated from a) above.*

## ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

ge) Nothing herein shall prohibit the Town from requiring on-site or off-site improvements necessary to address traffic safety concerns created by a proposed development, regardless of whether the thresholds set forth above have been met.

hf) The provisions of this Article shall not be interpreted or deemed to affect any rights that have vested prior to the effective date of this Article, nor shall any provision of this Article be applied to a specific property or applicant in a manner that would result in a taking of property.

ig) The provisions of this Article shall not apply to any development proposal that was part of a conditional zoning plan or subdivision plan submitted prior to the effective date of this Article.

### 14.2.2 Consecutive or Sequential Applications.

Proposed developments may not be phased or subdivided in piecemeal fashion to avoid application of this Article. Two or more developments represented to be separate developments shall be aggregated and treated as a single development under this Article if the Administrator determines them to be part of a unified plan of development and physically proximate to one another, based on the following factors:

- a) There is unified ownership, indicated by the fact that:
  - 1) The same person has retained or shared control of the developments;
  - 2) The same person has ownership or a significant legal or equitable interest in the developments; or
  - 3) There is common management of the developments controlling the form of physical development or disposition of parcels of the development.
- b) There is a reasonable closeness in time between the completion of eighty (80) percent or less of one development and the submission to the Town of a development proposal for a subsequent development that is indicative of a common development effort.
- b) The voluntary sharing of infrastructure that is indicative of a common development effort or is designated specifically to accommodate the developments.
- c) There is a common advertising scheme or promotional plan in effect for the developments.
- d) Any information provided by the applicant that the project is not being phased or subdivided to avoid the requirements of this Article.

### 14.2.3 TIA Submission and Completion Requirement

Once the Town has made a Determination of Need for a TIA, the applicant may proceed with the TIA study, in accordance with the terms of the most recent version of the *Town of Huntersville TIA Process and Procedures Manual*, as approved by the Town Engineer and all applicable Zoning Ordinance and Subdivision Ordinance requirements. The draft TIA shall be submitted to Town staff 30 days prior to either the Town Board Public Hearing (for rezoning cases) or the Planning Board Meeting (subdivisions). **Resubmittals of TIAs are to be received a minimum of 20 business days prior to the scheduled Town Board final action.** The final sealed TIA shall be completed and accepted by Town staff prior to final action by the Town Board or permit issuing authority.

### 14.3 Impact Area (relocated from Section 14.4) ~~Level of Service Standards; Compliance; Mitigation; Excess Capacity~~

**The impact study area designates the intersections for study where potential increases in traffic from the development may require mitigation. Where traffic from the proposed development is anticipated to increase a signalized or major unsignalized intersection single approach by 30 vehicles in a peak hour or the total of all approaches by 50 vehicles in a peak hour would require the intersection to be studied in the TIA. Should an intersection be considered at its ultimate buildout laneage or configuration, the Town Engineer may waive the requirement to include the intersection for study in the TIA. This replaces the 7% impact criteria and saves money.**

ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

**14.3.1 Tiered Level of Service Standards**

The following Level of Service Standards (LOS) standards, measured using the most recent Intersection Capacity Utilization (ICU) methodology, shall be used when determining the adequacy of intersections within the applicable impact area:

**Zoning District Adopted LOS**

Rural & TR districts C

Town Center & TOD E

All other Districts D

Where an intersection is located within more than one zoning district, the less restrictive LOS shall apply to the entire intersection for purposes of complying with this Article.

**14.4 Intersection Capacity Utilization Percentage Standards; Mitigation; Compliance; Excess Capacity**

**14.4.1 Intersection Capacity Utilization Percentage Standards**

The following Intersection Capacity Utilization (ICU) percentage standards, measured using the most recent methodology, shall be used when determining the adequacy of intersections within the applicable impact area:

**Zoning District Adopted ICU Percentage**

Rural and TR Districts

73.0 (LOS C)

Town Center and TOD

91.0 (LOS E)

All other Districts

82.0 (LOS D)

*\*ICU percentage relates to the relative capacity of an intersection to accommodate vehicular traffic where a value of 100 percent means that the intersection is at capacity and likely experiences congestion periods of 60 minutes.*

Where an intersection is located within more than one zoning district, the less restrictive ICU percentage shall apply to the entire intersection for purposes of complying with this Article.

**14.3.2 Compliance Relocated to Section 14.4.3**

a) Unless an applicant mitigates the impacts of the proposed development, as provided in subsection 14.3.3, no application subject to the requirements of this Article shall be approved if the level of service for an intersection within the impact area is below the adopted LOS above or, as a result of the proposed development, is anticipated to be below the adopted LOS above. This determination shall be based on the most currently accepted ICU methodology.

b) In the alternative to mitigation, the developer may elect to phase the project, reduce its intensity, or delay the project until the LOS standards have been met as a result of a transportation improvement planned by the Town, North Carolina Department of Transportation (NCDOT) or other party.

**14.3.3 14.4.2 Mitigation**

## ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

a) Where an intersection LOS standard set forth in section 14.3.1 has not been met or, as a result of the proposed development, is anticipated to fail, a development application may be approved if the applicant proposes mitigation measures that fully mitigate the transportation impacts of the proposed development on failing intersections within the impact area. For required intersection improvements, **mitigation must ensure that the ICU value at each failing intersection within the impact area will not be made worse as a result of the proposed development.** Such mitigation measures may include, but are not limited to, the provision or funding of pavement widening, turn lanes, median islands, access controls, or traffic signalization.

Where an increase in the ICU value at any intersection is three percentage points or less, the permit approving authority will not require mitigation. Where the increase in ICU value at any intersection is greater than three percentage points and the ICU value is above the level of service standard in Article 14.3.1, required mitigation shall include improvements that either mitigate the intersection to the level of service standard in 14.3.1 or the background year ICU value.

Furthermore, proposed mitigation measures required to meet the LOS standards of Article 14.3.1 may be modified, subject to final approval of the Town Board, or other Town of Huntersville permit granting authority, in order to substantially achieve the standards, purpose and intent of this ordinance based upon expert opinion provided by the Town Engineer, based upon professional engineering judgment.

Mitigation measures shall be consistent with the Design Standards found within the *Town of Huntersville TIA Process and Procedures Manual*.

Mitigation may include participation by the Town or other governmental or private parties and also may include the funding of road improvements planned by other governmental agencies, so that such improvements can be advanced to mitigate the impacts of the proposed development. The nature and type of mitigation should reflect the timing and the availability of needed right of way, the existence and timing of other developments within the project area, and other characteristics of the particular needed transportation improvement. However, monetary mitigation proposed by the applicant may be accepted by the Town Board only where it is shown that such mitigation is a reasonable substitute for actual construction, based on the LOS standards and construction timeframes set forth herein. Proposed mitigation shall be included as a condition of approval or a binding agreement between the applicant and the Town, with the consent, as appropriate, of the NCDOT or other governmental agencies with jurisdiction.

**Mitigation will not be required if the ICU percentage is at or below those established in Section 14.4.1 or when, as a result of proposed development, an increase in the ICU percentage is 3 percent or less.**

**Where an ICU percentage is above those established in Section 14.4.1 or, as a result of proposed development, becomes greater than the adopted standard AND has increased by more than 3 percent; a development application may be approved if the applicant proposes **measures that fully mitigate** the transportation impacts of the proposed development.**

**Mitigation, when required, shall fully reduce the ICU percentage of the impacted intersection to either the adopted standard in Section 14.4.1 or to within 3 percent of the no-build ICU percentage.** Is it “fully” or not? An impact increasing the ICU from 65 % to 84 % in a “D” intersection only needs to mitigate to 82 %?

Proposed mitigation measures required to meet the ICU percentage standards of Article 14.4.1 may be modified, subject to Town Board approval, in order to substantially achieve the intent of this ordinance based upon professional engineering judgement provided by the Town Engineer.

**A modification to the required mitigation, which may be considered by the Town Board as meeting the intent of the Ordinance, is where proposed mitigation at an impacted intersection provides measurable and beneficial surplus capacity (above and beyond that required to meet the minimum**

## ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

**requirements) such that the surplus capacity may be counted toward credit in the mitigation of other impacted intersections. The method of measurement considered in determining the acceptability of such modifications will be the net effect on the cumulative ICU percentage totals.** This change provides substantial value to the developer. It will also result in some intersections being impacted without mitigation. It could result in benefits due to the major improvements at one or more intersections.

Mitigation may also include Applicant funding of transportation improvements on planned or funded Town or NCDOT projects previously adopted such that the improvements can be advanced to mitigate the impacts of the proposed development. This funding mitigation may be accepted by the Town Board only where it is shown that such mitigation is a reasonable substitute for actual construction based on the ICU percentage totals and anticipated construction schedules of the projects. Proposed mitigation shall be included as a condition of approval.

b) Transportation improvements provided through mitigation, pursuant to this Article, shall be completed and available within three (3) years of the approval of the development proposal, unless expressly provided otherwise by the Town Board or other applicable Town permitting authority. Any improvements not completed prior to the issuance of a Certificate of Occupancy, shall be bonded at 115% **percent** of the cost of the remaining required improvement(s), as reviewed and approved by the Town Engineer. All necessary right-of-way for ~~identified~~ **required** transportation improvements shall be acquired prior to the issuance of a Certificate of Occupancy.

**Mitigation measures shall be consistent with the Standards found within the Town of Huntersville TIA Process and Procedures Manual and the Town Engineering Standards and Procedures Manual.**

### **14.3.4 Excess Capacity**

~~If a private party or developer chooses to build a transportation facility that provides capacity in excess of that needed to serve the proposed development, the Town and other responsible parties may enter into an agreement to facilitate the participation of subsequent developers, the Town, NCDOT, or other parties in the provision or funding of the transportation improvement.~~

**14.4.3 Compliance** *Formerly Section 14.3.2 This section restates the policy in different wording. It would seem more logical to place compliance before mitigation.*

**a) If the ICU percentage for an impacted intersection is greater than the adopted ICU percentage identified in Section 14.4.1 or, as a result of the proposed development, is anticipated to be greater than the adopted ICU percentage in Section 14.4.1, no application subject to the requirements of this Article shall be approved unless an applicant mitigates the impacts of the proposed development. Where an ICU percentage has increased by more than 3 percent; a development application may be approved if the applicant proposes measures that fully mitigate the transportation impacts of the proposed development. This determination shall be based on methodology identified in section 14.4.2.**

**b) In the alternative to mitigation, the developer may elect to phase the project, reduce its intensity, or delay the project until the ICU percentage standards have been met as a result of a constructed transportation improvement by the Town, NCDOT or other party.**

### **14.4 Impact Area**

The impact area designates the distance from a proposed development within which the TIA analysis is conducted to determine compliance with the LOS standards set forth above. The following impact areas apply to development subject to this Article:

#### **14.4.1 Town Center & TOD Districts:**

ARTICLE 14 TRAFFIC IMPACT ANALYSIS (10-19-16)

a) half mile radius from the property line or as provided in the chart in section 14.4.2 below, by land use, whichever is less; and

b) intersections where the proposed development contributes seven (7) percent or more of the traffic on any intersection approach during any peak hour.

**14.4.2 All Districts: Development**

Fast food restaurant

Service station

Convenience store, with or without gas pumps

Other development w/fewer than 200 trips during any peak hour

Shopping center less than 70,000 sq. ft.

Development w/peak hour trips between 200 and 500 during peak hour

Shopping center between 70,000 and 100,000 sq. ft. GLA (gross lease area)

Office or industrial park between 300 and 500 employees

Well balanced mixed use development with more than 500 peak hour trips

Shopping center greater than 100,000 GLA

Office or industrial park with more than 500 employees

All other developments with more than 500 peak-hour trips

**Study Area**

1,000 feet from access drive and intersections where the proposed development contributes seven (7) percent or more of the traffic of any intersection approach during any peak hour.

All signalized intersections and access drives within 0.5 miles from a property line of the site and all major unsignalized intersections and access drives within 0.25 miles and intersections where the proposed development contributes seven (7) percent or more of the traffic of any intersection approach during any peak hour.

All signalized and major unsignalized intersections and freeway ramps within 1 mile of a property line of the site and intersections where the proposed development contributes seven (7) percent or more of the traffic of any intersection approach during any peak hour.

All signalized intersections and freeway ramps within 2 miles of a property line, all major unsignalized access (streets and driveways) within 1 mile of a property line of the site and intersections where the proposed development contributes seven (7) percent or more of the traffic of any intersection approach during any peak hour.

## **14.5 Contents of TIA**

### **14.5.1 Generally.**

The TIA shall generally follow the guidelines set forth by the ITE's **publication entitled ~~#~~Transportation ~~#~~Impact ~~#~~Analysis for ~~s~~Site ~~#~~Development** and be consistent with the *Town of Huntersville TIA Process and Procedures Manual*, or as required by the Town Engineer, and may include, but is not limited to, the following:

- a) traffic analysis information related to trip generation, peak hour impacts, and other factors evaluated to determine compliance with applicable **ICU percentage LOS** standards for intersections within the impact area;
- b) site location map and site layout;
- c) existing and proposed land uses;
- d) timing and phasing of the proposed development, by month and/or year;
- e) a narrative describing the project, including any special transportation-related impacts or considerations; and
- f) other information determined by the Town's Traffic Engineer to be necessary in order to determine whether the proposed project complies with the requirements of this Article and the requirements of the ITE guidelines for the preparation of transportation impact analysis for site development.

### **14.5.2 Demand Measures.**

TIA's shall take into account the following demand factors:

- a) Existing traffic volumes;
- b) Background traffic, including, historical growth traffic and projected trips associated with approved, but unbuilt development(s); and
- c) The trips to be generated by the proposed development.

### **14.5.3 Capacity Measures.**

TIA's shall take into account the following existing or anticipated capacity measures:

- a) Existing **road segments and** intersections;
- b) Roadway ~~segments~~ and intersection improvements planned by the Town, NCDOT, or other party, scheduled to be completed and available within three (3) years of the approval of the development proposal and which either have or are reasonably certain to have all necessary governmental approvals and funding such that these timeframes can be met.

### **14.5.4 Mitigation Measures Needed.**

The TIA shall describe what, if any, transportation facility improvements within the impact area are needed in order for the proposed development to comply with ~~the intersection level of service standards set forth in section 14.3 of this Article~~ **Section 14.4 of this Article**. **A TIA that does not identify the transportation facility improvements within the impact area to comply with Section 14.4 will be returned to the Applicant as incomplete.**



14-7 **14.6 Intergovernmental Coordination**

While the Town coordinates with NCDOT and other appropriate governmental agencies on development proposals, it is the responsibility of the Applicant to contact NCDOT to discuss access and traffic impact issues on state roads.

**14.7 Appeals and Variances**

An applicant may seek a variance from the terms of this Article or appeal a determination by the Administrator or other Town official or agency, made pursuant to the terms of this Article, to the Zoning Board of Adjustment, as provided in Article 11.3 of the Zoning Ordinance.

14-8

\*\*\*\*\*

(Note: The above changes are my first cut at suggested changes to the text amendment for discussion at the January 19 special meeting. The document on ICU provides supporting information.)

The colors used represent:

Red – highlight a sentence or section for comment

Orange – add this wording

Green – comment

Blue – delete this wording

Bruce Andersen

## Intersection capacity utilization (ICU)

---

### Level of Service

- A: If ICU is less than or equal to 55%
- B: If ICU is greater than 55% but less than 64%
- C: If ICU is greater than 64% but less than 73%
- D: If ICU is greater than 73% but less than 82%
- E: If ICU is greater than 82% but less than 91%
- F: If ICU is greater than 91% but less than 100%
- G: If ICU is greater than 100% but less than 109%
- H: If ICU is greater than 109%

The current proposal results in escalating negative impacts on the town. Each impact not resulting in a change in LOS, each impact less than 3%, and each mitigation to just within 3% of the no-build condition drives the ICU at all intersections to higher levels of congestion. In the limit, without significant taxpayer support, all intersections will be very congested.

### Logical criteria:

- Fully mitigate the impact
- Do not require developers to solve existing problems
- Recognize that mitigation cannot be required for minimal change – only require mitigation if the impact at an intersection is greater than 3% ICU.
- Allow flexibility when approved by the Transportation Engineer.

### Examples given my suggested changes:

1. Existing ICU at intersection is 84 %. Measured impact is ICU increases to 86.5 %. No mitigation required as impact is less than 3 %.
2. Existing ICU at intersection is 84 %. Measured impact is ICU increases to 89 %. Improvements should be required to fully mitigate the impact. The improvements should return the ICU to 84 % or less.
3. Existing ICU at "E" intersection (1) is 84 %. Measured impact is ICU increases to 89%. Existing ICU at "C" intersection (2) is 65 %. Measured impact is ICU increases to 70 %. Existing ICU at "B" intersection (3) is 59 %. Measured impact is ICU increases to 63 %. With the text amendment, the developer may be allowed to make all the improvements at intersection (1) such that the cumulative ICU percentage total is reduced to the no-build level.
4. In a "D" intersection with existing ICU of 65 %, measured impact increases ICU to 84 %. The improvements should return the ICU to 65 % as opposed to the 82 % in the proposed text amendment.
5. Existing ICU at intersection is 49 %. Measured impact is ICU increases to 54%. No mitigation required as there is no noticeable impact when there is no congestion.

Bruce Andersen