

Section 113. Transportation Impact Analysis

(Amended 6/6/00,4/6/04)

A. Purpose. The purpose of a Transportation Impact Analysis (TIA) is to assess the impact of a proposed development, zoning change, or special use approval on the transportation system. A TIA will (1) ensure that proposed developments or zoning changes do not adversely affect the transportation network, (2) identify problems with the transportation system, (3) delineate solutions to identified problems, and (4) identify improvements to be incorporated into the proposed development.

B. TIA Required.

Development proposals meeting the following criteria shall conduct a TIA. The TIA shall be prepared in accordance with the guidelines established by this ordinance.

1. Development Applications: Rezoning, special use/ conditional use permit, or change of use requests that are expected to generate 100 or more peak hour (a.m. or p.m.) trips, or 1,000 or more daily trips.
2. Preliminary-General/ Site Plan Applications: When the potential development is expected to generate 100 or more peak hour (a.m. or p.m.) trips, or 1,000 or more daily trips.
3. Localized Safety or Capacity Conditions: The Director of Development Services or City Council shall require that a TIA be submitted for any or all of the above, regardless of the potential trip generation levels, when there are localized safety or capacity deficiencies such as:
 - a) Current traffic problems in the area of the proposed development, such as high accident locations, confusing intersections, or an intersection in need of a traffic signal;
 - b) Current or projected level of service of the roadway adjacent to the development, which will be significantly affected;
 - c) The ability of the adjacent, existing or proposed roadway system to handle increased traffic, or the feasibility of improving the roadway system to handle increased traffic;
 - d) Other specific problems or deficiencies that may be affected by the proposed development or affect the ability of the development to be satisfactorily accommodated (i.e. capacity deficiency, vertical/horizontal curves, circulation).

C. Pre-submittal Conference.

1. Prior to the pre-submittal conference, the applicant shall submit a site plan or sketch plan for the proposed rezoning, special/conditional use, change of use or other development proposal.
2. The applicant and/or applicant's representative shall be required to participate in a pre-submittal conference with the City of Jacksonville and engineering firm selected to prepare the TIA. This meeting shall establish the study area, the trip distribution, the traffic counts to be utilized, approved developments in the area, pass-by and internal capture percentages, additional hours of analyses, if required (other than AM and PM peak), and resolve any other questions specific to the site.
3. The engineering firm shall submit a scope of work and cost proposal to the City within ten (10) working days of the pre-submittal conference.

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4. Prior to any work commencing on the TIA, the applicant shall submit the necessary fee as set forth in the fee schedule adopted by City Council.

D. TIA Submission.

A licensed engineer registered to practice in the state of North Carolina shall prepare the TIA. The engineer shall have traffic assessment and transportation management experience.

The engineer shall submit 5 (five) draft copies of the TIA report to the City of Jacksonville Planning Division.

The TIA shall at a minimum include the following:

1. Study purpose and objectives;
2. Description of the site and study area boundaries including appropriate mapping and the rationale for selection of the study area boundaries;
3. A summary of existing conditions including but not limited to: surrounding street and key intersection traffic volumes (Daily and Peak Hour), turning movements, and capacities, safety deficiencies and funded transportation improvements;
4. Anticipated or approved development in the area;
5. Trip generation, trip distribution, and discussion of:
 - a) Trip generation rates shall be based on trip generation rates contained in the latest edition of *Trip Generation* published by the Institute of Transportation Engineers (ITE). The applicant shall also provide the ITE code used to identify the development trip generation rate and assumptions used or data collected for any variations from generally accepted ITE rates or equations;
 - b) Pass-by trip factors and assumptions;
 - c) Internal trip assumptions for mixed use developments;
 - d) Trip distribution assumptions.
6. Projection of future traffic volumes and assessment of future roadway and intersection operating conditions for the year of the ultimate completion of the project. All projections should specifically document projected background traffic as well as the traffic generated by the proposed development. If the project is to be phased; projections for each phase of the development is required. If the unphased build out period of the project is greater than nine years, then a minimum of one intermediate and one full build out impact projection is required. All projections and assessments should include the following three scenarios:
 - a) No Build
 - b) Maximum possible development under existing use or zoning. Applicant shall conduct assessment of project phasing. The impact of the development of a particular phase is not to be compared with the total possible build out of the entire project location.

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- c) Proposed development.
7. Analysis of the key elements of the development and evaluation of the impacts of the development on the following:
- a. **Generalized Peak Hour and/or Daily Link Level of Service (LOS) Analysis**
Using the peak hour directional volumes and daily traffic volumes forecast and service thresholds, a general evaluation shall be made of the street system for the short term and long-term horizon years. If the project is to be phased; then an assessment of conditions after the completion of each phase of the development is required. Incremental differences attributable to the land use action shall be identified. A map showing generalized levels of service shall be presented for each design year.
 - b. **Access Analysis**
The design, number, and location of access points to collector and arterial roadways must be fully analyzed. The number of access points shall be kept to a minimum and be designed to be consistent with the type of roadway facility. Access analysis shall include a strip accident, intersection accident analysis and bicycle/pedestrian analysis.
 - c. **Intersection Analysis (Signal Warrant Analysis, Phasing Analysis, Intersection Crash Analysis and Progression Analysis)**
The appropriateness of the development's access locations and type must be established. For full-access locations, a signal warrant analysis based on the Manual on Uniform Traffic Control Devices must be conducted for each design year. Traffic signals specifically warranted by the land use action shall be identified.
 - d. **Peak Hour Intersection Level of Service**
An AM and PM peak hour intersection level of service analysis shall be conducted for each intersection, based on procedures specified in the most recent release of the Highway Capacity Manual. Levels of service for signalized intersections shall be based on the signal timings developed for the signal progression analysis.
 - e. **Turn Lane Storage Requirements**
Turn lane storage needs shall be identified for the "warranted" situation, based on projected turning volumes and AASHTO analytic techniques. Appropriate documentation of the calculations must be provided.
 - f. **Sight Distance**
The identification of sight distance at the development entrances and all internal streets shall be conducted.
 - g. **Appropriateness of Acceleration or Deceleration Lanes**
All proposed development access points on arterials shall be evaluated to determine the need for acceleration lanes or deceleration lanes, with justification and basis provided for

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recommendations.

h. Pedestrian and Bicycle Analysis

Continuity and adequacy of pedestrian and bike facilities shall be provided to the nearest attraction (existing or planned) within a 1/4 mile of the development site. Destinations of significance include bus stops, elementary schools, parks, activity centers and major bicycle facilities. Adherence to the Americans with Disabilities Act (ADA) shall be required.

i. Public Transportation Analysis

Existing and proposed (if any) public transportation facilities analysis shall be provided.

j. Special Analysis/Issues

The City may require specific focused traffic analyses relative to the proposed development.

8. Recommendations for site access and transportation improvements or mitigation measures needed to maintain traffic flow to, from, within and adjacent to the proposed development at an acceptable and safe level of service (generally assumed at LOS D or better). Any recommendations for roadway improvements should identify funding sources for these improvements.

9. Data collected for the study shall be made available to the City for evaluation of the study conclusions. The format for data submission as well as format for data to be provided to the City will be determined at a pre-consultation meeting between the applicant and City.

E. Review and Approval.

1. The City Planning Division, and when applicable the NCDOT, will review and may comment on the draft TIA submitted for the proposed development. When necessary, the draft TIA report may be forwarded to the NCDOT Congestion Management section for review and comment.
2. The City Planning Division and NCDOT may request clarification and further analysis of the impacts considered necessary to adequately determine the impact to the Level of Service presented to the traveling public by the proposed development.
3. The engineer shall address all additional City and NCDOT comments and re-submit a revised TIA report.
4. The City and NCDOT shall review the revised report and may request additional information or approve the TIA report.
5. Once all comments have been addressed and the City has approved the TIA report, the City shall notify the applicant of the TIA approval.
6. When multiple mitigation alternatives are identified in the report, which address the same transportation deficiency, the Planning Division and NCDOT (when applicable) may select the alternative that provides the greatest public benefit and that meets the appropriate Level of Service on the impacted street network.

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7. If the cost of the TIA exceeds the submitted cost proposal and the applicant utilizes the City's selected engineering firm, the additional fee must be received prior to the development proposal being forwarded to the Jacksonville Planning Board and City Council for consideration.
8. Said approval shall be valid for a period of eighteen months. Likewise, significant changes in the development proposal or surrounding conditions may require revision to or re-submittal of the TIA.
9. If the City Council accepts the means of mitigation, the mitigation must be successfully completed prior to the issuance of a certificate of occupancy.

F. Exemption. The City of Jacksonville Development Services Director or City Council shall have the authority to waive the requirement for completion of the TIA for any proposed development regardless of the size upon review of the proposed development.

G. Appeals. An applicant may appeal any decision of the City of Jacksonville Development Services Director to City Council.

Section 114 – Reserved.