

York County Government

# Traffic Impact Analysis Guidelines & Methodology

Implementation Guide for Chapter 154: Land Development Code, Section  
154.360 – Traffic Impact Analysis



11/20/2023

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## I. Introduction

The purpose of this document is to guide the implementation of Section 154.360 - *Traffic Impact Analysis* of the York County Code of Ordinances and establish uniform guidelines for preparing a traffic impact analysis.

As York County experiences increased residential, commercial, and institutional development, there has been and continues to be a significant increase in traffic and its impact to York County's overall transportation network. A Traffic Impact Analysis (TIA) is one tool York County utilizes to ensure development impacts are properly mitigated and York County grows in a manageable and sustainable manner. York County will use the Traffic Impact Analysis to make informed decisions regarding rezoning applications for special districts, preliminary plats, civil construction plans for non-residential and multi-family developments, and some special exception applications. The Traffic Impact Analysis will ensure York County is able to:

- Identify in advance any potential adverse impacts to the existing transportation network and ensure adequate mitigation is provided for by proposed development;
- Assist public and private sector entities in the early identification of issues related to traffic operations, including but not limited to driveway/access locations, traffic signals, and other elements of transportation facilities; and
- Support long-term planning solutions that foster responsible growth of transportation infrastructure consistent with the local government's Comprehensive Plan and vision for the community.

A development application will not be deemed complete until a final approved TIA, if required, is received and approved by York County. In addition, applicants should note that interagency and intergovernmental coordination is necessary for projects that impact transportation facilities maintained by state or municipal governments.

## II. Preliminary Site Evaluation

A preliminary site evaluation form is required to determine the appropriate traffic impact analysis threshold. The preliminary site evaluation form should be completed by a traffic engineer licensed in the state of South Carolina. Use the latest edition of the Institute of Transportation Engineers (ITE) manual to complete the “Site Trip Generation Table.” If the applicant would like to utilize a different method, it must be approved by York County Planning before the applicant completes and submits the form.

Thresholds for TIA Tiers			
Tier	ADT	Daily Peak Trips	Number of Dwelling Units
Tier 1	1-399	1-99	1-29
Tier 2	≥ 400	≥ 100	≥ 30

After review of the preliminary site evaluation, if York County Planning concurs that the development is at or below the Tier 1 threshold, no further action is required by the applicant. If the preliminary site evaluation finds that the thresholds for a Tier 2 are met or exceeded, or York County Planning determines that the preliminary site evaluation underestimates the expected trip generation, the applicant shall be required to expand upon the evaluation and perform a Tier 2 Traffic Impact Analysis.



## PLANNING & DEVELOPMENT SERVICES

18 W. LIBERTY STREET, PO BOX 96  
YORK, SC 29745-0096  
PHONE (803) 909-7200 / FAX (803) 909-7227

### Preliminary Site Evaluation Form

This preliminary Site Evaluation Form is used to determine the appropriate Traffic Impact Analysis Tier. It must be completed by a traffic consultant prior to preparing a Traffic impact Analysis. Planning staff will review the completed form and either agree with the consultant's determination, request additional information, or reject the determination. Refer to the current Traffic Impact Analysis Guidelines Methodology for acceptable trip calculation methods and data sources.

**Project and/or Development Name:**

**Project Description:** \_\_\_\_\_

**Anticipated Build-out Year** \_\_\_\_\_ **Is the project located in a Pennies for Progress Area?**

**Applicant/Developer/Agent:**

Name (Printed):

Phone Number: (\_\_\_\_\_) \_\_\_\_\_ Email Address:

Mailing Address: \_\_\_\_\_ City, State, Zip Code:

**Traffic Consultant:**

Name (Printed):

Phone Number: (\_\_\_\_\_) \_\_\_\_\_ Email Address:

Mailing Address: \_\_\_\_\_ City, State, Zip Code:



Trip Generation Table										
ITE LUC	Proposed Land Use	Intensity	Daily Trips	AM Peak Trips			PM Peak Trips			Data Source
				Enter	Exit	Total	Enter	Exit	Total	

Based upon Section 154.362 of the Land Development Code, the estimated trips meet York County's threshold for a TIA:

Tier One       Tier Two

Consultant Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## Preliminary Site Evaluation: Staff Analysis

York County Planning staff has reviewed the preliminary site evaluation form. Based upon the information presented, the following determination has been made. Any changes in the development plan will require a re-evaluation of staff's determination.

Agree with evaluation. Tier 1 / Preliminary Site Evaluation.

Agree with evaluation. The Traffic consultant is requested to begin the TIA scoping stage for Tier Two.

Unable to complete evaluation. Please provide the following additional information.

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Disagree with evaluation. Reason for determination. \_\_\_\_\_

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Staff Signature: \_\_\_\_\_ Date: \_\_\_\_\_

*Any and all information provided on this document may be subject to the South Carolina Freedom of Information Act and may be disclosed to third parties in accordance with applicable law.*



### **III. Submission and Review of a TIA**

When a proposed development meets the applicability requirements of Section 154.361 of the York County Code of Ordinances and the threshold for a Tier 2 Document, the developer shall contract with a qualified, South Carolina-licensed traffic engineer to develop the document. The traffic engineer shall contact York County Planning and Development Services to determine the scope of the TIA. During the scoping process, the traffic engineer shall coordinate with staff of the York County Planning and Development Services and Engineering Departments to establish the study area. If a proposed project, requiring a Tier 2 study, impacts a road maintained by the South Carolina Department of Transportation (SCDOT), York County staff shall include SCDOT staff in the scoping process. If the TIA scope for a proposed project includes roads or property within municipal limits, the municipality shall be provided with TIA drafts for courtesy reviews. The scope must be presented in writing to all reviewing parties and receive written approval from all reviewers to confirm that the content of the scope is complete, prior to drafting the TIA document. Email is an acceptable form for review and approval of a proposed scope of work.

All Traffic Impact Analysis submittals must be provided to York County's Development Coordination Center to be entered into the plan review system. Applicants shall utilize the County's digital submittal program throughout the entire review and approval process. Submission of two hard copies of draft documents is optional. York County staff will review the TIA within 20 business days of submission. Review comments, or notification of approval, will be forwarded to the applicant. Revised draft TIAs may be needed depending on the level of comments provided by reviewers.

If the TIA is approved, the applicant shall submit final sealed copies to York County. The final document must include a South Carolina Certificate of Authorization stamp and South Carolina PE stamp with signature and date, and incorporate all recommendations for mitigation agreed upon by reviewing parties. If a Tier 2 study impacts a road maintained by the SCDOT, York County staff shall not approve the TIA until confirmation of approval of the project's general concept is received from SCDOT staff.

### **IV. Guidelines and Standards for Tier 2 TIA**

The purpose of a Tier 2 TIA document is to identify system and immediate area impacts associated with a proposed development accessing the road system. A Tier 2 TIA shall be used for proposed development that is anticipated to generate a large number of peak hour (AM or PM) trips and/or ADT, which would have a significant impact on existing LOS. In addition to



meeting the threshold for a Tier 2 TIA, a Tier 2 is required for any project that is in the vicinity of an intersection that is known to be operating at or below the minimum acceptable level of service; is of a nature or is in a location that causes a concern for traffic safety; or is located in proximity to other development generating a significant number of average daily trips or peak hour trips and the addition of the proposed project trips may have a detrimental cumulative impact on the overall transportation network.

Tier 2 TIA documents shall follow the outline below and be presented in a report format. Please note any and all assumptions where made within the submitted document.

- I. Executive Summary
- II. Introduction
- III. Analysis of Existing Conditions
- IV. Proposed Development
- V. Analysis of Future Conditions
- VI. Conclusions and Recommendations
- VII. Appendices

When preparing a Tier 2 TIA document, address the following items. If an item is not applicable, identify as such:

- Study Area Description
  - Must include the roadway being accessed by the development and significant roadway intersections up to and including the nearest traffic signal(s), as determined by the reviewing agencies.
  - Provide a vicinity map of the study area identifying all streets by name and route number with a north arrow, and provide a general description of the site location.
- Proposed Land Use
  - List the number and type of residential units, square footage of gross and/or leasable floor area, number of employees, etc.
  - Identify proposed site access points.
- Analysis Period
  - The AM Peak (6:30-8:30) and the PM Peak (4:30-6:30) periods will be used for all studies, unless otherwise specified during the scoping process.
  - Provide weekday SCDOT AADT.
  - Traffic count times for school developments will be based on the proposed school hours.
  - Weekend generation rates may be requested by staff, depending on the nature of the proposed land use.

- Data Collection
  - Include peak-hour turning movement volumes for the current year, future background, future build, and future build mitigated. Future dates shall be the year of estimated project completion, plus one additional year.
    - Include the traffic growth rate and discuss the assumptions used. Background growth for the study area will be determined by establishing an average percentage of change (increase/decrease) over the past ten years using SCDOT AADT records for the primary road included within the study area. Provide a table listing road name, identification number, station number, years and AADT used to determine growth factor.
    - Discuss traffic characteristics (vehicle mix, percentage of truck traffic, and any special vehicle requirements).
  - Describe existing traffic conditions including roadway, bicycle, pedestrian, and transit facilities (lane configuration, existing storage lengths, speed limits, crosswalks, bike lanes, traffic accident data, etc.).
  - Details shall be provided on curb space use on public streets along the edge of the development site when it is intended that such areas be used for parking, parking space access, delivery and loading zones, passenger zones, taxi cab stands, bus stops, fire zones/and other official/emergency zones. This review shall include a description of existing conditions prior to development and proposed changes resulting from the development, including a description of any loss or gain in curb space use by the activities intended.
  - Identify existing traffic control devices including traffic signals and regulatory signs.
  - Obtain and use current traffic signal timings and phasing in operation from the SCDOT or other managing agency.
  - Record current year traffic counts while school is in regular session on Tuesday, Wednesday, or Thursday unless approved otherwise. Counts cannot be older than 12 months from the date that the project scope is determined unless otherwise approved.
  - Include approved but not yet constructed developments within the study area and associated improvements. York County staff will provide a list of developments based on applicable TIA reports submitted and/or approved projects within the study area that may result in significant cumulative impacts to the transportation network.
  - Include planned public transportation improvements in the study area.
- Trip Generation

- Use equations or rates available in the latest edition of the ITE Trip Generation Manual unless an alternative methodology is approved by York County staff.
- Provide a table of categories and quantities of land uses with the corresponding trip generation rates or equations and the resulting number of trips.
- Land use tables for phased projects shall include uses and trip generation separately for each phase of the development.
- Document reasons for using rates, equations, reductions for pass-by or internal capture trips, etc.
- Trip Distribution and Traffic Assignment
  - Provide figures documenting separately the directional distribution and assignment of future traffic volumes.
  - Provide figures documenting the assignment of pass-by trips.
  - Discuss vehicle types and note any vehicles that require special routing due to weight, length, and/or width restrictions.
  - On-site vehicle circulation and parking patterns shall be designed so as not to interfere with the flow of traffic on any public street and shall accommodate all anticipated types of traffic.
- Capacity Analysis
  - Identify intersection LOS (current year, future background, future build, future build mitigated) at each study area intersection.
    - LOS shall be based on the procedures in the latest edition of the Transportation Research Board's Highway Capacity Manual.
  - For existing traffic signals, identify the development's impact on operations in terms of overall LOS and determine necessary changes to lane lengths, widths, and configuration, traffic signal timing, phasing, etc.
  - For non-signalized intersections, identify the stop-controlled approach LOS.
  - Analyze vehicle queuing and storage for all turn lanes and interstate ramps under stop or signal control within the study area.
- Traffic Safety Analysis
  - Verify that intersection sight distance requirements can be met at all proposed site access points. Provide measurements and photos to document the existing sight distance at proposed driveway locations.
- Mitigation and Alternatives
  - LOS will be measured for segments and intersections using ITE standards for LOS calculations. Identify the need for road improvements or alternative transportation measures to mitigate LOS deficiencies and improve traffic flow. If applicable, this shall include pedestrian and bicycle danger mitigation.

- For intersections involving only minor streets, as defined in the County Code, an intersection LOS C or better shall be maintained.
- On intersections involving one or more major streets, as defined in the County Code, an intersection LOS D or better shall be maintained.
- Provide a figure of existing lane configurations and recommended lane configurations and pavement markings and list and/or discuss the recommended improvements including storage lengths.
- Analyze and recommend improvements to achieve the targeted LOS.
- Provide conceptual design drawings with labels and dimensions to illustrate proposed site mitigations.
- Where the existing or no-build LOS is at or above the adopted LOS standard, the traffic impact analysis shall identify those improvements required to ensure that development-related traffic demands result in no reduction in LOS below the adopted LOS standard, and identify additional improvements needed to maintain or raise the LOS to the standards on the applicable street(s).
  - All recommended improvements to mitigate traffic generated by the proposed development will be the responsibility of the developer.
- Where the no-build LOS for a segment or an intersection is below the adopted LOS standard and the proposed development increases the delay, the developer will be required to contribute a percentage of funding equal to the percentage of delay increase for the segment or intersection towards transportation improvements within reasonable distance of the study area.
  - The cost estimate for transportation improvements and the percentage amount to be contributed by the developer must be approved by Planning and Engineering Department staff, and also SCDOT staff if the improvement includes a road maintained by the SCDOT. York County Government reserves the right to obtain a third-party estimate for the cost of transportation improvements. The third-party estimate shall prevail over the estimate received from the developer.
  - If the delay increase for a segment or intersection is 80% or higher, all recommended improvements to mitigate traffic generated by the proposed development will be the responsibility of the developer.
- The following cost estimates should include, but is not limited to the following:
  - (Construction) Construction Staking and Grades, Utility Relocations, Traffic Control, Mobilization, Erosion Control, Pavement Markings/Signing, Design.



- (Right of Way) Agent Negotiation Fee, Appraisal, Title Search, Land Acquisition.
- Conclusion and Recommendation
  - Describe the impact of the proposed development on the study area.
  - Discuss any significant findings regarding safety, change in LOS, etc.
  - List all recommended improvements to the existing roadway system that are necessary to mitigate the effects of changes due to the proposed development or are due to the effects of background growth.
  - Describe the benefits or mitigated effects of making the recommended improvements.
- Appendix of supporting information and data
  - Field survey notes
  - Turning movement counts
  - Synchro reports
  - Internal capture calculations
  - Pass-by calculations
  - Approved development data/calculations
  - Volume development worksheets
  - Photographs and measurements documenting sight distance

## V. Approval of TIA

The TIA should be formally submitted to York County through the County's Evolve online portal. All fees associated with Tier 1 or Tier 2 review process must be paid before the review commences. Draft versions of the TIA will be accepted for review purposes, but only final sealed version of the TIA will be approved.

- If a proposed development meets SCDOT's thresholds for a TIA. York County requires the developer to submit a copy of the TIA to SCDOT for review. A copy of SCDOT's concurrence letter will be required before York County approval will be provided.
- Upon review of the TIA, if the TIA fails to identify or mitigate the proposed development impacts of the TIA will not be approved.
- If a transportation mitigation agreement (TMA) is a component of the development's improvements, the TIA will be conditionally approved pending the completion of the TMA. Once the TMA has been fully executed, the project file will be updated from conditional to approved.

Once a TIA has been approved York County Planning Department will send out a concurrence letter.

## VI. Expiration of a TIA

If a proposed development does not commence in a timely fashion, fully built out within the proposed time frame or the market dictates a change in land use from what was approved within a TIA document, changes or updates to a previously approved TIA may be required. To address these changes and other deviations from approved TIA scopes, these guidelines are provided to determine when a revised TIA is required. An approved TIA will be considered valid unless:

- The build year date is exceeded by more than twelve months.
- Road improvements have been constructed within the study area and were not considered in the original TIA or change the distribution of traffic within the study area.
- Road improvements considered in the original TIA that were needed to achieve the targeted LOS and mitigate the impacts of the proposed development or change the distribution of traffic within the study area were not completed within the timeframe projected in the TIA.
- Development occurs within the study area that is significantly greater than the anticipated background growth (from a rezoning, annexation, etc.).
- The developer of the site proposes to increase the number of residential units in developments approved to contain up to 300 units by ten percent or more, in developments approved to contain 300 or more units by five percent or more or to increase the commercial square footage of gross and leasable floor area by twenty percent or more.
- A change in use or scale of the development is proposed that may result in an increase in trip generation, a change in traffic distribution, change in access points, or additional impact to a LOS.

When a development's TIA is considered to no longer be consistent with the previously approved scope for one or more of these reasons, additional development of the site shall not be approved by York County staff until a revised TIA is approved by all reviewing agencies.

## VII. Coordination with Plan Submittals

All transportation mitigation agreed upon by reviewing agencies must be illustrated or noted on all Preliminary Plats, Subdivision Construction Plans, Final Plats, and Civil Construction Plans. For projects requiring a TIA, no plan approvals will be provided by York County staff until the TIA is approved by all reviewing agencies.