ANDERSON COUNTY REQUIREMENTS FOR TRAFFIC IMPACT STUDIES (TIS)
Revised June 9, 2023, to reflect TIS ordinance revision adopted June 6, 2023)

What does a study address? The Anderson County Traffic Impact Study (TIS) ordinance addresses two elements of traffic impact:

- Daily traffic on County roads – See Section 24-115(e) in the June 6, 2023, County TIS ordinance in Attachment 1.
- Traffic Impact Study – See Section 24-115(f) in Attachment 1.

Why is a study conducted? Anderson County reviews Traffic Impact Studies (TIS) for developments generating 75 or more trips during the peak hour of the generator or a peak hour of adjacent street traffic. The purposes of the County's review are:

- To respond to traffic impact questions from the County staff, County Planning Commission, and County Council
- To determine roadway improvements required on County roads to mitigate the traffic impact of the development

Who conducts the study? Traffic studies that will be submitted to Anderson County must be conducted by a traffic engineering consultant from the list of approved consultants and paid for by the developer. To be listed, the consultant must submit the information requested in Attachment 2 and submit it to the County Principal Engineer or his/her designee. Currently, that designee is the County Traffic Engineer (ggsprague@andersoncountysc.org). The consultants will be notified by email when they are approved.

What developments require a study? Generally, a subdivision or development requiring a land use permit or requiring a County road encroachment permit will require a TIS. (Rezonings do not REQUIRE a TIS except in specific instances spelled out in the zoning classification being pursued.) The peak hour trip generation will be determined with information from Trip Generation, Institute of Transportation Engineers, latest edition. The table below provides guidance regarding developments that will generate 75 or more trips in a peak hour.

Land Use	75 Peak Hour Trips
Single Family Home Detached	70 units
Apartments	95 units
Condos/Townhouses (Single Family Attached)	126 units
Mobile Home Park	111 units
RV Park	182 sites
Shopping Center Gross Leasable Area (GLA)	5,700 s.f.
Fast Food Restaurant w/Drive-In Gross Floor Area (GFA)	1,500 s.f.
Gas Station w/ Convenience Store	4 fueling positions
Bank w/Drive-In (GFA)	3,500 s.f.
General Office (GFA)	38,000 s.f.
Medical/Dental Office (GFA)	16,000 s.f.
Research & Development (GFA)	57,000 s.f.
Warehousing	361,000 s.f.
Light Industrial (GFA)	90,000 s.f.
Manufacturing Plant (GFA)	73,000 s.f

What about developments accessing SCDOT roads? - Many roads in Anderson County are maintained by the South Carolina Department of Transportation (SCDOT). The traffic consultant should also contact the SCDOT District 2 Traffic Engineer for study scope when a development accesses a DOT road. The SCDOT determines improvements needed on SCDOT-maintained roads and issues the encroachment permits on SCDOT-maintained roads. Therefore, the SCDOT review of a TIS will address those improvements and permits. Information in the TIS regarding SCDOT-maintained roads will be provided to the Anderson County Planning Commission and Development Standards for their consideration.

Is sight distance part of the TIS? The sight distances from driveways and public streets intersecting SCDOT-maintained roads will be reviewed by SCDOT. Anderson County will review sight distances in the preliminary plat or encroachment permit process for encroachments on County-maintained roads and when a proposed new County road will intersect a SCDOT-maintained road. The Anderson County Assistant Principal Engineer will conduct this review.

What should be included in the TIS? So that only one TIS has to be conducted per development, Anderson County follows the TIS requirements of the South Carolina Department of Transportation (SCDOT) as described in the SCDOT Access and Roadside Management Standards. The SCDOT requirements with clarifying notes for Anderson County submissions in the right margin are included in Attachment 3. Attachment 3 also includes SCDOT Traffic Guideline 21 which clarifies acceptable Level of Service. Also included in Attachment 3 is a guideline for the scope of a TIS submitted to Anderson County. To determine the intersections to be studies, the consultant shall contact the County Principal Engineer or his/her designee. Currently, that designee is the County Traffic Engineer (ggsprague@andersoncountysc.gov). Also included in Attachment 3 is the checklist the Anderson County Traffic Engineer will use to review a TIS. The County's review does not constitute a quality check of the TIS but will be conducted for consistency with County requirements.

Attachment 1

MOST RECENT ANDERSON COUNTY TIS ORDINANCE

ORDINANCE NO. 2023-007

AN ORDINANCE TO AMEND SECTION 24-115 (INTENSITY STANDARDS) OF THE CODE OF ORDINANCES, ANDERSON COUNTY, SOUTH CAROLINA; AND OTHER MATTERS RELATED HERETO.

WHEREAS, Anderson County, South Carolina, a body politic and corporate and a political subdivision of the State of South Carolina, acting by and through the Anderson County Council, previously adopted Section 24-115 of the Anderson County Code; and

WHEREAS, the Anderson County Council desires to amend Section 24-115 to further address, among other things, the requirements for a traffic impact study for certain development activities.

NOW THEREFORE, be it ordained by the County Council of Anderson County, South Carolina in meting duly assembled that:

1. Section 24-115 of the Code of Ordinances, Anderson County, South Carolina, is hereby amended to read as shown in Exhibit A (final version) and B (a compare version with the current Code), attached hereto and made a part hereof.

2. The remaining terms and provisions of the Code of Ordinances, Anderson, South Carolina, not revised or affected hereby remain in full force and effect.

3. All Ordinances, Orders, Resolutions and actions of Anderson County Council inconsistent herewith are, to the extent of such inconsistency only, hereby repealed, revoked, and rescinded.

4. Should any part or portion of this Ordinance be deemed unconstitutional or unenforceable by any Court of competent jurisdiction, such determination shall not affect the remainder of this Ordinance, all of which is hereby deemed separable.

5. This Ordinance shall take effect and be in full force upon Third Reading and Enactment by Anderson County Council.

ENACTED in a meeting duly assembled this 6th day of June 2023.

ATTEST:

Rusty Burns
Anderson County Administrator

FOR ANDERSON COUNTY:

Tommy Dunn
Chairman

Renee D. Watts
Clerk to Council

APPROVED AS TO FORM:

Leon C. Harmon
County Attorney

First Reading:	March 21, 2023
Second Reading:	May 16, 2023
Third Reading:	June 6, 2023
Public Hearing:	June 6, 2023

Exhibit A

Sec. 24-115. - Intensity standards.

(a) *Definition.* Intensity is a measure of development, designed principally to regulate land use in accordance with the design function and carrying capacity of the road on which it is located.

(b) *Purposes.* The purposes of this section are to:

(1) Relate land use intensity to the design function and carrying capacity of the county's road network.

(2) Reduce the cost of road repair and maintenance by prohibiting from residential roads intense uses which would overload and accelerate the deterioration of such roads.

(3) Promote the safety and convenience of vehicular traffic.

(4) Protect the residential quality of neighborhoods by limiting nonresidential traffic.

(5) Promote the safety of neighborhood residents.

(c) *Road classification.* In order to carry out the purposes of subsection (b) of this section, all roads in the county are hereby classified on the basis of their traffic carrying capabilities, their general function in the circulation system, and the existing land use of abutting properties. The classification system is based on concepts and criteria contained in the Highway Functional Classification Manual, Concepts, Criteria, and Procedures, U.S. Department of Transportation, Federal Highway Administration, July 1974. The manual classifies roads into one of three functional categories:

(1) Local;

(2) Collector; and

(3) Arterial.

Local roads are separated from other types because they generally carry significant volumes of foot and bicycle traffic and are used by children. Therefore, traffic volumes must remain relatively low in order to provide the necessary safety for residential neighborhoods. Collector roads generally form barriers between subdivisions. Their traffic volumes and design speeds are correspondingly greater since their function is to connect major traffic routes. Arterial roads constitute the highway network upon which most traffic must flow. The efficiency of the system requires that arterial roads accommodate traffic at high speeds over considerable distances. For purposes of this section, these functional categories are refined to form a four-road classification system (see appendix B (section 24-251) for diagram), characterized as follows:

(1) *Minor local (access) road.* A minor local road is one designed primarily to access abutting properties. This road normally terminates in a cul-de-sac, loop or other turnaround, with no more than two access points.

(2) *Major local (access) road.* A major local road is one designed primarily to access abutting properties. This road is characterized as one having two or more access points,and receiving traffic from minor local roads.

(3) *Collector road.* A collector road is one that connects local access roads to the highway systems major and high-speed arterial roads. The collector road provides both land access service and traffic service within residential subdivisions, commercial and industrial areas. Collector roads form barriers between subdivisions and are designed for higher speeds and traffic volumes than major or minor local roads and shall not be designed as cul-de-sac.

(4) *Arterial road.* An arterial road is one designed to carry through traffic and to carry intra-county traffic. Arterial roads are characterized as having access control, channelized intersections, restricted parking and signalization. The concept of service to abutting land is subordinate to the provision of travel service.

(d) *Standards.* The following design capacity standards shall govern the intensity of development along all roads in the county:

Road Classification	*Maximum ADT**
Minor local road (one access point)	500
Minor local road (two access points)	1,000
Major local road	1,600
Collector road	No maximum
Arterial road	No maximum
*ADT=Average Daily Traffic (trips)	

(e) *Capacity calculations.* All preliminary certificate of compliance, building permit applications, and other applications affecting minor or major local County roads shall be evaluated on the basis of their traffic generation versus road capacity. To measure the impact of a proposed use, the weekday daily trips shall be calculated using information from the latest edition of Trip Generation, Institute of Transportation Engineers. A weekday traffic count will account for traffic generated by existing uses, and traffic to be generated by developments that have been approved but not built shall also be added using Trip Generation, Institute of Transportation Engineers.

Where a proposed use will cause the ADT to exceed the maximum set for such County roads by subsection (d) of this section, the applicant shall choose one of these options:

(i) Present a petition to change the road classification to the development standards manager. The petition shall include sufficient documentation to support the assertion that the road is not currently properly classified. The development standards manager may approve the petition upon approval by the Roads & Bridges manager. If the petition is denied, the applicant shall choose one of the two remaining options.

(ii) Adjust the proposed use so that the resulting ADT does not exceed that associated with the subject County road's classification.

(ii) Improve the subject County road to bring it up to the design standards of the higher classification resulting from the subject development. This improvement must be made along the frontage of the site on the side of the road on which the site is located.

(f) *Traffic impact studies.* A traffic impact study shall be required for access approval through the state and county encroachment permit process when a development will generate 75 or more trips during the peak hour of the traffic generator or the peak hour of the adjacent street (using the latest edition of Trip Generation, Institute of Transportation Engineers). The traffic impact study and subsequent access locations, turning lane and signalization requirements shall follow the South Carolina Department of Transportation Access and Roadside Management Standards, latest edition and any additional requirements set forth by the County. The developer shall be responsible for all costs of the required study, roadway improvements identified in the study, and right-of-way acquisition. The traffic impact study shall be included with the preliminary plat or site plan. Any changes to the traffic study or preliminary plat must be resubmitted to the planning commission. Submission of the study before official application with preliminary plat or site plan is recommended.

The developers or their traffic engineers shall contact the County's Principal Engineer or his/her designee before beginning the study to obtain the scope and other requirements of the study. The study shall be conducted by a consultant on the County's approved TIS consultant list.

If additional right-of-way not under the control of the developer is required to implement required roadway improvements, the developer shall make a reasonable effort to obtain the necessary right-of-way to perform the recommended improvements, including offering an amount as appraised by a licensed SC real estate appraiser (fair market value). If right-of-way cannot be obtained, the developer is required to make a written request to the County and go back to the Planning Commission for a waiver if the requirement was part of a Planning Commission approval. The Commission will consider the waiver if the developer provides written documentation that a fair market value offer was offered and not accepted.

(Code 2000, § 38-118; Ord. No. 03-007, § 1, 4-15-2003; Ord. No. 2003-069, § 1a, 1-20-2004; Ord. No. 2006-025, § 2, 8-15-2006; Ord. No. 2011-017, § 1, 7-19-2011; Ord. No. 2017-036, exh. B, 12-5-2017; Ord. No. 2020-034, § 1, 12-15-2020)

In addition to SCDOT requirements, any turns from a **County road** shall be checked against warrants in the following tables. See above regarding right-of-way.

Posted Speed	2 Lane Routes		More than 2 Lanes on Main Road	
	AADT		**AADT**	
	< 6,000	>=6,000	<10,000	>+10,000
35 MPH or less	200 RTV a day	100 RTV a day	200 RTV a day	100 RTV a day
40 to 50 MPH	150 RTV a day	75 RTV a day	150 RTV a day	75 RTV a day
55 to 60 MPH	100 RTV a day	50 RTV a day	100 RTV a day	50 RTV a day
>=65	Always	Always	Always	Always

Minimum Volumes Requiring Right Turn Lanes

Posted Speed	2 Lane Routes		More than 2 Lanes on Main Road	
	ADT		**ADT**	
	<6,000	>=6,000	<10,000	>+10,000
35 MPH or Less	300 LTV a day	200 LTV a day	400 LTV a day	300 LTV a day
40 to 50 MPH	250 LTV a day	175 LTV a day	325 LTV a day	250 LTV a day
>= 55 MPH	200 LTV a day	150 LTV a day	250 LTV a day	200 LTV a day

Minimum Volumes Requiring Left Turn Lanes

Source: Georgia Department of Transportation.

(Ord. No. 03-007, § 1, 4-15-03; Ord. No. 2003-069, § 1a, 1-20-04; Ord. No. 2006-025, § 2, 8-15-06; Ord. No. 2011-017, § 1, 7-19-2011)

Base ordinance updated through December 2020, Ordinance No. 2020-034.

Attachment 2

INFORMATION REQUIRED FOR A CONSULTANT TO BE LISTED ON ANDERSON COUNTY'S LIST OF APPROVED TRAFFIC ENGINEERING CONSULTANTS

INFORMATION REQUIRED FOR A CONSULTANT TO BE LISTED ON ANDERSON COUNTY'S LIST OF APPROVED TRAFFIC ENGINEERING CONSULTANTS

Name of Company and SC LLR Certificate of Authorization number

Names of Professional Engineers who will be signing reports and their SC LLR PE numbers

Summary of Company's experience conducting Traffic Impact Studies (TIS)

- Number of years company has conducted TIS
- Number of years each of the PEs who will sign reports have conducted TIS

One example of a TIS conducted in the last two years. Preferably this TIS will have been conducted in the last 12 months for a project that also involved an SCDOT encroachment.

Send via email to the County Principal Engineer or his/her designee. Currently, that designee is the County Traffic Engineer (ggsprague@andersoncountysc.gov).

The County may request an update of this information if a consultant has not completed a TIS in Anderson County in 24 months. The County may remove a consultant from the list if a TIS which does not generally follow the guidelines of the County is submitted to the County. The consultant will be informed of removal via email to the original provider of the above information.

It is the responsibility of the consultant to inform the County of any changes in the information originally submitted.

Attachment 3

TIS GUIDELINES

CHAPTER 6 – TRAFFIC IMPACT STUDIES

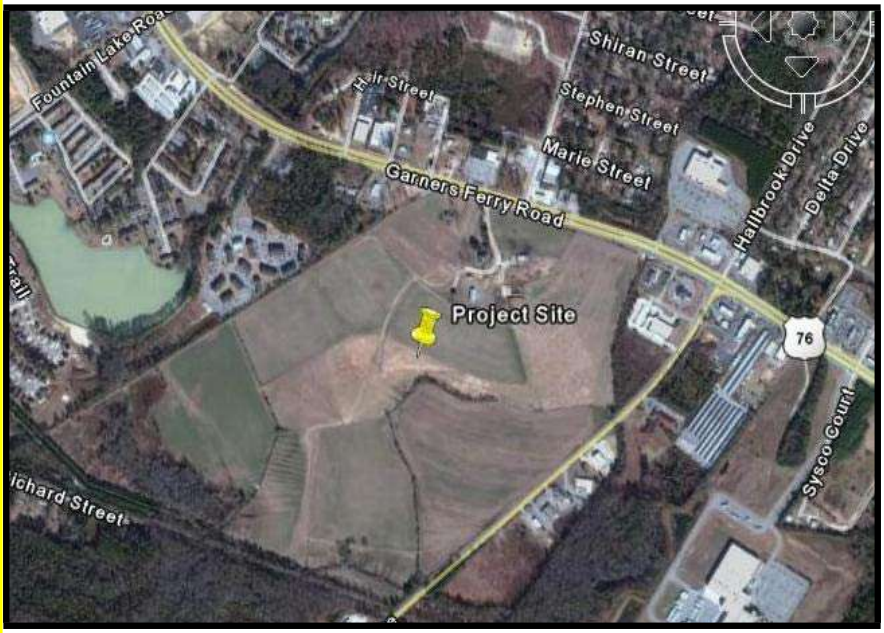

Image taken from Google Earth©

6A GENERAL

A traffic impact study (TIS) is a specialized engineering study that evaluates the effects of a proposed development on traffic conditions in an area. These studies help developers and government agencies identify the potential traffic impacts of a development and means to mitigate these impacts both on- and off-site. The District Traffic Engineer (DTE) will evaluate the study, therefore early contact with the Department by the developer is recommended. A TIS will be required for large developments such as major shopping centers, large planned-unit developments, industrial complexes, and other projects that would generate 100 or more trips during the peak hour of the traffic generator or the peak hour of the adjacent street. A change or expansion at an existing site that results in an expected increase of 100 or more trips or if the DTE determines that the proposed development will have a significant impact on the operations at the proposed access points even if the site generates fewer than 100 trips will also require a TIS. The estimate of the number of trips for the sites will be based on the latest edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. In Table 6-10 are examples of land use size thresholds that might be expected to generate 100 peak hour trips that may be used to determine whether a study will be required *(based on 7th Edition of the ITE Trip Generation Manual)*. In some instances, thresholds for rural areas and small cities may need to be lower than for urban areas.

Use latest edition

Table 6-10: Guidelines for Determining the Need for an Impact Study

Land Use	100 Peak Hour Trips*
Single Family Home	90 units
Apartments	150 units
Condominiums/Townhouses	190 units
Mobile Home Park	170 units
Shopping Center – Gross Leasable Area (GLA)	6,000 sq. ft.
Fast Food Restaurant With drive-in – Gross Floor Area (GFA)	3,000 sq. ft.
Gas Station with Convenience Store	7 fueling positions
Banks w/drive-in (GFA)	2,000 sq. ft.
General Office	67,000 sq. ft.
Medical/Dental Office	29,000 sq. ft.
Research & Development	71,000 sq. ft.
Light Industrial / Warehousing (GFA)	185,000 sq. ft.
Manufacturing Plant (GFA)	144,000 sq. ft.

*Rates/Equations used to calculate above thresholds are for the P.M. Peak hour of the adjacent street.

A TIS shall be under the direct charge of and sealed by a registered South Carolina Professional Engineer with expertise in traffic engineering. An impact study shall analyze traffic conditions for the existing year conditions, build-out year background "no build" conditions, and build-out year "build" conditions. The study will be used to assess the need for changes in traffic control devices and roadway improvements necessary to accommodate the new development traffic. The study must also justify the proposed access plan and demonstrate the effects of the development on public roadways. The developer of a site will be responsible for making roadway improvements and installing traffic control devices that may be necessary due to the impacts of the new development. These include impacts through the influence area of the development and not limited to those in front of the development. The Department may also require road improvements by the developer without a TIS.

6B STUDY REQUIREMENTS

The DTE should be contacted before a TIS is began to discuss the requirements and determine the scope of the study. The method used for analysis should be based on the 2006 edition of ITE's "Transportation Impact Analysis for Site Development." In general, the SCDOT requires the following information be contained in a TIS:

Contact County TE for scope also

1. **Study Area -** Description of the study area including surrounding land uses and expected development in the vicinity that would influence future traffic conditions. The study area shall include the intersections immediately adjacent to the development and those identified by the DTE. These intersections may include those not immediately adjacent to the development if significant site traffic could be expected to impact the intersection. If intersections impacted by the development are within a coordinated traffic signal system, then the entire system shall be analyzed. If the signal system is very large, a portion of the system may be analyzed if approved by the DTE. A study area site map showing the site location is required.

Obtain trips from approved developments from County TE

2. **Proposed Land Use -** Description of the current and proposed land use including characteristics such as the number and type of dwelling units, gross and leasable floor area, number of employees, accompanied with a complete project site plan (with buildings identified as to proposed use). A schedule for construction of the development and proposed development stages should also be included.
3. **Existing Conditions -** Description of existing traffic conditions including existing peak-hour traffic volumes adjacent to the site and levels of service for intersections in the vicinity, which are expected to be impacted. Existing traffic signal timings should be used. In general, AM and PM peak hour counts should be used, but on occasion other peak periods may need to be counted to determine the effects of school or special event traffic. In some cases, pedestrian counts will be required. Data should be adjusted for daily and seasonal variations. Existing counts may be used if taken within 12 months of the submittal of the TIS. In most cases, counts should be taken when school is in session unless otherwise determined by the DTE. Other information that may be required as determined by the DTE may include, but not limited to, crash data, stopping sight distances, and 50th and 85th percentile speeds.

PHF is overall for each peak hour from existing counts.

Percent heavy vehicles is by movement for each peak hour from existing counts

4. **Future Background Growth -** Estimate of future background traffic growth. If the planned completion date for the project or the last phase of the project is beyond 1 year of the study an estimate of background traffic growth for the adjacent street network shall be made and included in the analysis. In general, the growth factor will be determined from local or statewide data. Also included, is the state, local, or private transportation improvement projects in the project study area that will be underway in the build-out year and traffic that is generated by other proposed developments in the study area.
5. **Estimate of trip generation -** The site forecasted trips should be based on the most recent edition of the *ITE Trip Generation Manual*. A table should be provided in the report outlining the categories and quantities of land uses, with the corresponding trip generation rates or equations, and the resulting number of trips. The reason for using the rate or equation should be documented. For large developments that will have multiple phases, the table should be divided based on the trip generation for each phase. Any reductions due to internal trip

Use latest edition

capture and pass-by trips, transit use, and transportation demand management should be justified and documented. All trip generation and trip reduction calculations and supporting documentation shall be included in the report appendix.

6. **Trip Distribution and Traffic Assignment -** The distribution (inbound versus outbound, left turn versus right turn) of the estimated trip generation to the adjacent street network and nearby intersections shall be included in the report and the basis should be explained. The distribution percentages with the corresponding volumes should be provided in a graphical format.

Provide SimTraffic results for turn lanes

7. **Analysis and Estimate of Impact -** A capacity analysis should be performed at each of the study intersections and access intersection locations (signalized and unsignalized) in the vicinity of the development. Intersection analysis shall include LOS determination for all approaches and movements. The levels of service will be based on the procedures in the latest edition of Transportation Research Board's *Highway Capacity Manual*. Coordination analysis will be required for the signal systems or portion of the signal systems analyzed.

LOS for all movements

HCM not percentile delay

8. **Access Management Standards -** The report shall include a map and description of the proposed access including any sight distance limitations, adjacent driveways and intersections, and a demonstration that the number of driveways proposed is the fewest necessary and that they provide safe and efficient traffic operations.

Document sight distances on plat

9. **Traffic signalization**: If a traffic signal is being proposed, a signal warrant analysis shall be included in the study. The approval of a traffic signal on projected volumes may be deferred until volumes meet warrants given in the MUTCD. The developer should make any laneage improvements during construction so that if in the horizon year a signal is warranted, one may be installed with little impact to the intersection.

10. **Mitigation and alternatives -** The traffic impact study should include proposed improvements or access management techniques that will mitigate any significant changes in the levels of service. The DTE will be responsible for final determination of mitigation improvements required to be constructed by the applicant.

Include analyses with improvements

The applicant shall provide all supporting information to the department. Electronic copies of supporting data may be submitted along with printed documents and could expedite the review process. This information may include traffic volumes, capacity analysis, and signal warrant analysis files from software packages. The electronic files that are submitted should be named to identify the contents.

When conditions indicate that there is no need to prepare a TIS, the developer may submit a waiver request to the DTE explaining the purpose of the waiver and providing the necessary supporting information.

The following checklist is used by the SCDOT in the review process and can aid in the preparation of a traffic impact study. This checklist shows the minimum requirements for a traffic impact study to be complete and does not certify or guarantee adequacy or approval. The DTE may require additional requirements during the review process, or during the initial meeting with the developer. Incomplete traffic studies will not be reviewed and will be immediately returned to the permittee.

Traffic Impact Study Technical Completeness Checklist

Analyst Requirements

☐ Yes ☐ No South Carolina PE Stamp and Signature

☐ Yes ☐ No **Introduction and Executive Summary**

Existing Conditions

☐ Yes ☐ No Study Area Descriptions and Roadway Classifications
☐ Yes ☐ No Analysis Period Correct (AM, Mid-day, PM and/or Saturday)
☐ Yes ☐ No Existing Traffic Operations (LOS, Volumes, Speed Limits, Crash Data, Etc.)
☐ Yes ☐ No Other projected transportation improvements in the study area

Impacts

☐ Yes ☐ No Trip Generation Summary (ITE Trip Generation Manual, latest edition)
☐ Yes ☐ No Trip Distribution and traffic assignment (assumptions justified)
☐ Yes ☐ No LOS Analysis: Background traffic growth and site build out (Identify existing and background LOS deficiencies)
☐ Yes ☐ No Analysis of Sight Distance at Access Points

Mitigation

☐ Yes ☐ No Identify need for Turn Lanes, Capacity and Storage Length
☐ Yes ☐ No Identify need for Signalization
☐ Yes ☐ No Identify Measures to Mitigate LOS deficiencies

Figures

☐ Yes ☐ No Vicinity Map
☐ Yes ☐ No Site Plan and Proposed Land Use
☐ Yes ☐ No Existing Peak hour volumes (counts conducted within he last 12 months)
☐ Yes ☐ No Projected Background Peak Hour Volumes
☐ Yes ☐ No Trip Distribution % Including Added Project Peak Hour Volumes
☐ Yes ☐ No Project Build-Out Volumes
☐ Yes ☐ No Existing and Recommended Lane Configurations
☐ Yes ☐ No Intersection LOS (existing, background, build, mitigated) (Figure or Table or both)

Tables

☐ Yes ☐ No Trip Generation
☐ Yes ☐ No Intersection LOS (existing, background, build, mitigated) (Figure or Table or both)

Other

☐ Yes ☐ No Technical Appendix (e.g. HCM and Synchro Analysis Reports, Trip Generation and Trip Reduction Calculations, Signal Warrant Analysis, and etc.)
☐ Yes ☐ No Copies of any Reference Material

South Carolina Department of Transportation
Traffic Engineering Guidelines

NUMBER: TG-21

SUBJECT: Mitigation of Traffic Impacts

BACKGROUND: The Department's Access and R oadside Management Standards (ARMS) Manual (October, 1996 edition) was revised in 2008 by Traffic Engineering with several updates being made, including the addition of a chapter on traffic impact studies. This chapter provides guidance in determining when a traffic impact study is required and what should be included in the study. Since the updated ARMS manual became effective on July 1, 2008, the Department has received inquiries about specific criteria for determining when mitigation of traffic impacts is required. The manual provides no specific criteria for determining when mitigation improvements are required and places this responsibility upon the District Traffic Engineer. This guideline provides criteria for determining when mitigation of traffic impacts is necessary.

GUIDELINE: Based on geometric design criteria provided in the SCDOT Roadway Design Manual (SCRDM) for various roadway types, the acceptable LOS shall be C (or better) for the peak traffic (design) hour of the study area roadway system in lieu of other locally preferred thresholds. For the purpose of this guideline, the acceptable LOS C shall apply to all roadway types, including rural arterials regardless of terrain, and local roads and streets.

In areas where baseline, or existing, levels of service are at or below the acceptable LOS, the baseline LOS shall be maintained or improved after development. If the baseline LOS is F and the location is in a congested urban area, the District Traffic Engineer shall determine the mitigation. The baseline LOS shall include all committed (funded) road improvements and all non-site traffic, but exclude the traffic to be generated by new development.

For mitigation at a development's direct access points, turn lane requirements shall be determined by using Chapter 5 of the ARMS manual and Chapter 9 of the SCRDM. Also, consideration should be given to any intersection where the crash experience, existing traffic operations, sight distance restrictions (e.g., intersection beyond a crest vertical curve), or engineering judgment indicates a significant conflict related to turning vehicles.

Approved: Rob Perry — 12-21-2018

Director of Traffic Engineering — Date

Original Guideline Signed on December 5, 2008

GUIDE FOR ANDERSON COUNTY TIS STUDY AREA

June 2023

Number of intersections

100-150 peak hour trips – site accesses plus one (1) maybe two (2) intersections

150-300 peak hour trips – site accesses plus one to two (1-2) maybe three (3) intersections

300+ peak hour trips – TBD

Exceptions

Specific land uses or sites may call for larger study areas with more study intersections than listed above.

TIA Checklist

ANDERSON COUNTY SC TIS CHECK LIST

Development:		Date reviewed:	
TIS engineer/date:		DOT discussion:	
Client:		Site description:	
County staff:		Note:	* = Spot check only

	TASK	OK?	Comments
Existing/No Build	Existing volume figure has correct existing counts*		
	Growth rate supported by info in report and applied correctly		
	Approved development volumes in figure = info given*		
	No Build Traffic adds up?		
Trip Generation Table	Correct Land Use Code and equations		
	Trip generation calculations - size and use match site plan		
	Internal capture calculations*		
	Pass-by referenced correctly (10% cap or ITE)		
	Pass-by calculations*		
	Columns add up to totals*		
Traffic Assignment/Build	Distribution percentages reasonable and add up		
	Site traffic in / outs match trip gen		
	Pass-by distribution reasonable?		
	Pass-by assigned correctly*		
	Build traffic adds up?		
Synchro - HCM	Volumes match figures*		
	Existing laneage matches figure or aerial*		
	Timing/phasing (dual lefts => prot only)*		
	PHF, HV %, volumes match counts*		
	Laneage matches for all peak hours/analysis periods for all existing, background, build-out, and improved Synchro files*		
Warrants	Signal warrant volumes/other inputs are correctly entered*		
	Turn lane warrant - graph shown		
Report	Synchro reports match document tables* LOS and delay by movement		
	SimTraffic reports match tables* 95% queue for turn lanes		
	Figures match Synchro reports: laneage and volumes		
	Figures match report recommendations		
	Text recommendations match (exec sum, analysis, rec sections)		