

§5-6 TRAFFIC IMPACT STUDIES

§5-6-1 PURPOSE AND INTENT

Understanding the demands placed on the community's transportation network by development is an important dimension of assessing the overall impacts of development. All development generates traffic, and it may generate enough traffic to create congestion and thus require the community to invest more capital funds into the transportation network in the form of new roads, traffic signals and intersection improvements. Traffic congestion results in a number of problems, including economic costs due to delayed travel times, air pollution and accidents. By requiring traffic impact studies for proposed developments meeting certain thresholds, the county [city] will be better able to determine the transportation demands of development proposals and provide for reduction of adverse impacts on the transportation system.

§5-6-2 OBJECTIVES

The County [City] finds that requiring a traffic impact study for proposed developments that meet certain thresholds will help to achieve the following objectives:

- (a) Forecast additional traffic associated with new development, based on accepted practices.
- (b) Determine the improvements that are necessary to accommodate the new development.
- (c) Allow the local government to assess the impacts that a proposed development may have and assist the local government in making decisions regarding development proposals.
- (d) Help to ensure safe and reasonable traffic conditions on streets after the development is complete.
- (e) Reduce the negative impacts created by developments by helping to ensure that the transportation network can accommodate the development.
- (f) Protect the substantial public investment in the street system.
- (g) Provide information relevant to comprehensive planning, transportation planning, transit planning and the provision of programs and facilities for traffic safety, road improvements, transportation demand management, pedestrian access and other transportation system considerations.

§5-6-3 SHORT TITLE

This Ordinance shall be known and may be cited as the Traffic Impact Study Ordinance.

§5-6-4 DEFINITIONS

Discretionary development proposal: Any application for a change of land use intensity district, preliminary plat, conditional use permit or certificate of appropriateness. For purposes of this ordinance, a determination of applicability shall be made at the first discretionary development proposal encountered.

[\[See Commentary\]](#)

Horizon Year: Unless otherwise specified or approved by the Land Use Officer, the horizon year shall be twenty years into the future from the year during which a traffic impact study is being prepared.

Internal trips: Trips that are made within a multi-use or mixed-use development, by vehicle or by an alternate mode, such as walking.

Level of Service (LOS): A quantitative and qualitative measure of how well traffic flows on a given street or highway. Level of Service relates to such factors as highway width, number of lanes, percentage of trucks, total traffic volume, turning movements, lateral clearances, grades, sight distance, capacity in relation to volume, travel speed and other factors which affect the quality of flow. Level of Service is typically summarized by letter grades described as follows:

Level "A" is a condition with low traffic volumes, high speeds and free-flow conditions.

Level "B" is a condition with light traffic volumes, minor speed restrictions and stable flow.

Level "C" is a condition with moderate traffic volumes, where speed and maneuvering are restricted to a limited degree by the amount of traffic.

Level "D" is a condition with heavy traffic operating at tolerable speeds, although temporary slowdowns in flow may occur.

Level "E" is a condition of very heavy flow and relatively low speeds. Under Level "E" the traffic is unstable and short stoppage may occur.

Level "F" is a condition of extremely heavy flow, with frequent stoppage and very slow speeds. It is an unstable traffic condition under which traffic often comes to a complete halt.

New trips: Total vehicle trips, minus pass-by trips, minus internal trips, if applicable.

Pass-by trips: Vehicle trips which are made by traffic already using the adjacent roadway and entering the site as an intermediate stop on the way to another destination.

Peak hour: 7:00 a.m. to 8:00 a.m., or 8:00 a.m. to 9:00 a.m. or the highest four fifteen minute increments within such time period for the a.m. peak hour; 4:00 p.m. to 5:00 p.m., 5:00 p.m. to 6:00 p.m. or the highest four fifteen-minute increments within such a time period for the p.m. peak hour.

Peak-hour trip generation study: A study by a qualified professional of one or more actual developments of similar land use and development characteristics which provides empirical data on the actual number of trips entering and exiting said development(s) during the a.m. and p.m. peak hour. A peak-hour trip generation study shall consist of a.m. and p.m. peak hour traffic counts by direction (entering and exiting) on at least three separate weekdays if the study is based on only one similar development, or at least one a.m. and p.m. traffic count for three different actual developments. The results of actual traffic counts from peak-hour trip generation studies may be adjusted to discount pass-by trips as provided in this Resolution [Ordinance].
Professionally accepted: Published by the Institute of Transportation Engineers, or prepared by a qualified professional under work supervised by the County [City], or prepared by a qualified professional and accepted by the Land Use Officer.

Qualified professional: For purposes of conducting traffic impact studies as may be required by this Ordinance, a qualified professional shall mean a registered professional engineer with experience in traffic engineering. For purposes of conducting peak hour trip generation studies, a qualified professional shall mean a registered professional engineer with experience in traffic engineering, or another professional approved by the Land Use Officer based on education and experience to conduct such trip generation studies.

Traffic impact study: An analysis and assessment, conducted by a qualified professional, that assesses the effects that a discretionary development proposal's traffic will have on the transportation network in a community or portion thereof. Traffic impact studies vary in their range of detail and complexity depending on the type, size and location of the proposed development.

Trip: A single or one-directional travel movement with either the origin or destination of the trip inside the study site.

Trip generation: An estimate of the number of vehicle trips that will be generated due to the new development, which is calculated based on the type and amount of land uses in the proposed development and professionally accepted trip generation rates for each such land use. Trip generation may be expressed on an average daily basis or average peak hour (a.m., p.m. or both).

§5-6-5 THRESHOLDS OF APPLICABILITY

A traffic impact study shall be required for any discretionary development proposal which is expected to generate more than one hundred (100) new trips during an a.m. or p.m. peak hour or more than seven hundred and fifty (750) new trips in an average day, as determined in accordance with this Ordinance.

[\[See Commentary\]](#)

§5-6-6 EXEMPTIONS

- (a) A traffic impact study is not required if a discretionary development proposal is initiated by the County [City].
- (b) A discretionary development proposal may be exempted from the traffic impact study requirement by the Land Use Officer if a prior traffic impact study for the subject property has been submitted to the county [city] and the proposed development is substantially similar to that for which the prior traffic impact study was conducted.
- (c) Any development of regional impact that complies with rules of the Georgia Regional Transportation Authority shall be exempt from this Resolution [Ordinance].

§5-6-7 TRIP GENERATION DATA

The source for trip generation rates for the purposes of this Ordinance shall be "Trip Generation" published by the Institute of Transportation Engineers (ITE), most recent edition, unless otherwise approved by the Land Use Officer. Determinations of whether this ordinance applies shall be made based on application of data from ITE Trip Generation, which may change from time to time, or as otherwise approved by the Land Use Officer.

§5-6-8 DETERMINATION OF APPLICABILITY

At the time a discretionary development proposal is filed, or during any pre-application meeting if possible, the Land Use Officer shall determine whether a traffic impact study shall be required according to this Ordinance. The Land Use Officer shall calculate the expected trip generation of the proposed development using professionally accepted trip generation rates or other data

and compare it to the thresholds specified in this ordinance to determine whether a traffic impact study is required.

Applicants for discretionary development proposals shall provide sufficient information about the development proposal (e.g., number of dwelling units, square footage of buildings, number of employees, land area of the development, etc.) for the Land Use Officer to apply professionally accepted trip generation rates to the proposed development. The Land Use Officer shall not accept a discretionary development proposal for processing unless it contains the data on the proposed development necessary to apply available trip generation rates.

§5-6-9 CASES WHERE DATA ARE NOT AVAILABLE

In the event that information submitted by the applicant of the discretionary development proposal is sufficient to calculate the trip generation that would be expected to result from the proposed development, but trip generation rates or other data are not available or in sufficient quantity of studies to make a determination of applicability under the terms of this Ordinance, this Section shall apply.

- (a) The Land Use Officer shall first determine if: (1) professionally acceptable trip generation rates applicable to the subject development exist from other reputable sources, such as the Journal of the Institute of Transportation Engineers; (2) other trip generation studies of similar developments are available; or (3) professionally acceptable trip generation rates for one or more similar land uses can be used in making the determination of applicability. If the Land Use Officer is able to provide such information and determines it is professionally reputable, then the Land Use Officer shall use said data to make the determination of applicability. The Land Use Officer shall have no more than ten (10) working days to comply with the provisions of this paragraph, when it applies.
- (b) In the event the Land Use Officer is unable to make a determination of applicability, the Land Use Officer shall notify the proposed applicant in writing that professionally accepted trip generation rates are not available for purposes of making a determination of applicability.
- (c) Upon receipt of notice described in paragraph (b) of this Section, the applicant for a discretionary development proposal shall have thirty (30) days to have a qualified professional prepare and submit a peak-hour trip generation study as defined by this ordinance.

§5-6-10 SPECIFICATIONS FOR PEAK-HOUR TRIP GENERATION STUDIES

- (a) Discounting of pass-by trips. The peak-hour trip generation study may subtract from the empirical data on actual vehicle trips those trips that are reasonably considered to be “pass-by” trips as defined by this Resolution [Ordinance], using professionally accepted assumptions about the percent of pass-by trips approved by the Land Use Officer.
- (b) Reduction for internal trips in multi-use or mixed use developments. In calculating the new trips generated from a proposed development containing multiple uses or mixed uses, a qualified professional with the approval of the Land Use Officer may apply a percentage reduction to the total vehicle trips shown in any peak hour trip generation study to account for internal trips, as defined in this Resolution [Ordinance], so as to account for (discount) the number of internal trips reasonably

expected to occur in such multi-use or mixed use development. Said reduction shall not exceed twenty-four percent (24%) of total trips generated.

§5-6-11 SCOPING MEETING

Once it is determined that a traffic impact study is required, a scoping meeting may be held with the developer or his or her consultant and the appropriate representatives of the county [city]. It will be the responsibility of the developer or his or her consultant to initiate this meeting. The purpose of this meeting is to discuss the availability of site-specific information concerning the development, available forecasts of traffic volumes, and to ensure the applicant understands the content requirements for traffic impact studies.

§5-6-12 REQUIRED CONTENTS OF A TRAFFIC IMPACT STUDY

A traffic impact study must evaluate the adequacy of the existing transportation system to serve the proposed development and determine the expected effects of the proposed development on the transportation system. The traffic impact study must provide adequate information for county [city] staff to evaluate the development proposal and, when appropriate, recommend conditions of approval.

The qualified professional preparing the traffic impact study is encouraged to coordinate preparation with local staff and staff from other jurisdictions, as appropriate, to ensure that all necessary components are included in the traffic impact study and to reduce revision and review time.

In order to be reviewed, the traffic impact study shall include at least the following minimum components:

- (a) Title Page. A title page listing the name of the proposed development and its location.
- (b) Table of Contents. A table of contents outlining the study shall be provided.
- (c) Certification. The study shall be signed and stamped by a qualified professional.
- (d) Executive Summary. An executive summary, discussing the development, the major findings of the analysis and any recommendations made by the qualified professional.
- (e) Vicinity Map. A vicinity map showing the location of the proposed project in relation to the transportation system of the area.
- (f) Study Area Map. A map of the traffic impact study area. For purposes of this ordinance, the traffic impact study area shall be determined according to trip generation rates as follows. In the event there is a difference as a result of applying peak and total trips, the more restrictive requirement (larger study area) shall apply.

STUDY AREA SIZE REQUIREMENTS

PEAK HOUR TRIPS GENERATED	DAILY TRIPS GENERATED	DISTANCE FROM PERIMETER OF PROPOSED DEVELOPMENT ALONG ROADS
100 - 150	750 – 1,500	½ mile
151 - 500	1,501 – 5,000	1 mile

§5-6 Traffic Impact Studies
Model Land Use Management Code

501 – 1,000	5,001 – 10,000	2 miles
1001 or more	10,001 or more	3 miles

- (g) Inventory of Transportation Facilities in the Study Area. A description of transportation facilities in the study area, including roadway names, locations and functional classifications, intersection lane configurations and traffic control (including signal timing), existing rights-of-way, transit routes and stops (if any), pedestrian and bicycle facilities and planned transportation system improvements. An existing lane configuration sketch shall be submitted for all roadways and intersections within the study area.
- (h) Site Plan and Development Data. A complete description of the proposed development, including a site plan, with the best available information as to the nature and size of each proposed use and the proposed location and traffic control of all proposed access points, including the distance from all proposed access points to adjacent accesses and/or streets, including those across a street right-of-way from the subject development.
- (i) Existing Traffic Volumes. Peak and total daily traffic volumes on all arterial, collector and local streets within the study area. Traffic counts should, as a rule, not be more than one year old when the report is prepared. Traffic counts between one and three years old may be used if factored to the current year. Traffic counts older than three years will not be accepted.
- (j) Facility Performance. Existing performance of the transportation system, including Levels of Service (LOS) and Volume/Capacity ratios (V/C) for all intersections and road segments, as appropriate, within the study area.
- (k) Trip Generation. Complete trip generation figures for all aspects of the proposed development. The source for trip generation rates shall be "Trip Generation" published by the Institute of Transportation Engineers (ITE), most recent edition, unless otherwise approved by the Land Use Officer. For developments expected to generate more than thirty (30) trucks per day, the trip generation data shall include separate figures for trucks. If phased development is proposed, the study shall include projections for the year that each phase of the development is planned to be complete. The traffic impact study shall also include trip generation data for any pending and approved developments that would affect the study area. The county [city] shall facilitate the review of applicable files by a qualified professional to determine the names and development characteristics of pending and approved developments in the study area.
- (l) Trip Distribution and Assignment. Trip distribution for the proposed development. For developments expected to generate more than thirty (30) truck trips per day, the study shall include separate trip distribution figures for trucks.
- (m) Forecast Traffic Volumes Without the Development. Forecast traffic volumes without the development, on all arterial, collector and local roads within the study area, in the year that the proposed development is planned to commence, and in the horizon year. Qualified professionals should consult city transportation staff for information to determine the most appropriate sources or methods of determining future traffic volumes. If phased development is proposed, the traffic impact study shall include projections for the year that each phase of the development is planned to be complete.
- (n) Forecast Performance Without the Development. Forecast performance, including Levels of Service (LOS) and Volume/Capacity (V/C) ratios of the transportation system without the development in the year that each phase is planned to be complete and in the horizon year.

- (o) Forecast Traffic Volumes With the Development. Forecast traffic volumes with the development, on all arterial, collector and local roads within the study area, in the year that the proposed development is planned to commence and in the horizon year.
- (p) Forecast Performance With the Development. Forecast performance, including Levels of Service (LOS) and Volume/Capacity (V/C) ratios of the transportation system with the development in the year that each phase is planned to be complete and in the horizon year.
- (q) Sight Distance. A safety analysis of the site accesses and an assessment whether adequate sight distances are provided at driveways and streets abutting the development.
- (r) Operational Characteristics. Analysis of prevailing operating speeds, if significantly different than speed limits, right and left turn lane warrants, queue lengths, acceleration and deceleration lanes including lengths and tapers, throat lengths, channelization, and other characteristics of the site accesses, which exist and may be needed, as appropriate. The traffic impact study shall address whether driveways and intersections are located and spaced safely and designed to accommodate expected traffic volumes and maneuvers. The operational characteristics analysis shall also evaluate the turning and traveling characteristics of the vehicles that will be using the proposed development and the adequacy of the geometrics of the existing and proposed roadway (public and/or private) configurations to accommodate these characteristics.
- (s) On-site Circulation. The traffic impact study shall address whether on-site vehicular and pedestrian circulation and parking layouts are safe and efficient.
- (t) Significant Impacts. Analysis as appropriate of any potential adverse or controversial effects of the proposed development on the transportation system in the area. Examples of possible effects include, but are not limited to, infiltration of non-residential traffic into residential neighborhoods, traffic noise, creation of potential for traffic violations, conflicting turning movements with other driveways, any new pedestrian or bicycle transportation needs arising from the development, etc.
- (u) Mitigation Measures and Costs. Listing of all intersections and road segments that are forecasted to be Level of Service "E" and "F" in the horizon year, or if phased, in the years that each phase is planned to be complete, and an identification and description of specific mitigation measures including signal, turn lane, or other warrant analyses as appropriate and necessary to bring these intersections and road segments into compliance with a Level of Service "D" or other county [city] -adopted Level of Service for said road segment or intersection.

If roadway improvements are needed, the study shall show a drawing at an engineering scale of one inch equals twenty feet (1" = 20') for all recommended lane configurations.

If signalization is warranted by the traffic signal warrants outlined in the Manual on Uniform Traffic Control Devices (MUTCD), a warrant analysis shall also be conducted as a part of the traffic impact study. If a traffic signal is warranted, the warrant package in the study shall show a drawing at an engineering scale of one inch equals twenty feet (1" = 20') detailing the signal design and phasing plans.

The estimated cost associated with implementing all such mitigation measures shall be provided in the traffic impact study. The traffic impact study may take into account any city/county/state

approved roadway, traffic signalization and other improvements in determining mitigation measures and providing recommendations.

- (v) Alternative transportation. Alternative transportation (sidewalk, bicycle, transit) needed as a result of the study.
- (w) References. A listing of all technical documents and resources cited or consulted in preparing the traffic impact study.
- (x) Technical Appendix. Relevant technical information, including but not limited to: copies of raw traffic count data used in the analysis, calculation sheets and/or computer software output for all LOS and V/C calculations in the analysis, and warrant worksheets for signals, turn lanes, signal phasing, etc. used in the analysis.

§5-6-13 ADDITIONAL TECHNICAL SPECIFICATIONS

The Land Use Officer is further authorized to promulgate and require the use of additional technical specifications for conducting traffic impact studies, which shall be consistent with analysis methods included in the most recent Highway Capacity Manual, Manual on Uniform Traffic Control Devices, and/or Traffic Access and Impact Studies for Site Development: A Recommended Practice (Washington, DC: Institute of Transportation Engineers, 1991), as may be amended or republished from time to time.

§ 5-6-14 COSTS AND FEES

The county [city] assumes no liability for any costs or time delays (either direct or consequential) associated with the preparation and review of traffic impact studies. There shall be no application review fee for a traffic impact study.

§5-6-15 SUBMITTAL AND REVIEW OF STUDY

The applicant for the proposed development or the qualified professional shall submit one electronic copy of the traffic impact study and technical appendix, five (5) paper copies of the traffic impact study and one paper copy of the technical appendix to the Land Use Officer. The Land Use Officer may at his or her discretion submit copies of the report to applicable review agencies which may include the Georgia Department of Transportation, the Georgia Regional Transportation Authority, an adjacent local jurisdiction and/or metropolitan planning organization or regional development center. Within ten (10) working days of receipt of a traffic impact study, the Land Use Officer shall review all calculations and analyses and determine if they are complete, reasonable, understandable, consistent and fully explained. The conclusions presented in the traffic impact study shall be consistent with and supported by the data, calculations and analyses in the report. Calculations, graphs, tables, data and/or analysis results that are contrary to good common sense or not consistent with and supported by the data will not be accepted. In such events, the Land Use Officer shall return the traffic impact study to the development applicant for correction.

§5-6-16 RECOMMENDATIONS FOR MITIGATION OF IMPACTS

Within ten (10) working days of receipt of a completed traffic impact study, the Land Use Officer shall complete his or her review the study and submit to the applicant all recommendations for mitigation measures as stated in the traffic impact study and include any interpretations or recommended conditions of approving the discretionary development proposal that will mitigate traffic impacts of the proposed development.

§5-6-17 DETERMINATION OF PROJECT AND SYSTEM IMPROVEMENTS

The Land Use Officer shall determine which mitigation measures constitute “project” improvements and which mitigation measures constitute “system” improvements within the context of the Georgia Development Impact Fee Act of 1990.

In the event that a particular improvement is called for in the traffic impact study or recommended by the Land Use Officer, and the Land Use Officer is unable to uniquely attribute the recommendation as a project or system improvement or finds that such improvement has characteristics of both a project improvement and a system improvement, the Land Use Officer shall determine the proportion of the cost of such improvement that can reasonably be attributed to the development as a project improvement, and the portion of such improvement that can reasonably be considered a system improvement.

[\[See Commentary\]](#)

§5-6-18 CONDITIONS OF DEVELOPMENT APPROVAL FOR PROJECT IMPROVEMENTS

Upon the determination of project improvements needed to mitigate the traffic impacts of the discretionary development proposal as provided in this ordinance, the Land Use Officer shall recommend that the project improvements be completed by the developer as conditions of approval of the discretionary development proposal.

§5-6-19 SYSTEM IMPROVEMENTS

When the Land Use Officer recommends improvements as a condition of a development proposal that the Land Use Officer determines are wholly or partially “system” improvements, the Land Use Office may include such recommendations in the recommended conditions of approval for the discretionary development application. The development applicant and the city [county] in the case of system improvements shall have the following options:

- (a) The applicant for a discretionary development proposal may voluntarily agree to pay for the cost of providing the system improvements, or a pro-rated share of the cost of said system improvements that are reasonably attributed to the subject development, as determined by the county [city].
- (b) If the mitigation measure is a system improvement that is specifically listed in the county’s [city’s] capital improvement element of the comprehensive plan as an impact fee-eligible system improvement, then the development applicant may agree to install the system improvement and the county [city] may agree to provide an impact fee “credit” or partial credit pursuant to the Development Impact Fee Ordinance.
- (c) The county [city] may determine that the road impact fee required by the county’s [city’s] Development Impact Fee Ordinance is sufficient with regard to mitigating the need for system improvements generated by the proposed development and approve the subject development without conditions relative to system improvements. In such cases, the county [city] may subsequently use the traffic impact study for future long range transportation planning efforts and may consider the recommendations of the traffic impact study in a future update of its

- transportation system plan, capital improvement plan and/or the capital improvement element of the comprehensive plan.
- (d) In the case of an application for discretionary development proposal before the Board of Commissioners [Mayor and City Council], the county [city] may find that the proposed development will provide substantial adverse impacts on the transportation system. The county [city] may find further that the existing transportation system is insufficient to serve the proposed development and that despite the applicant's payment of a development impact fee, the county [city] is unable to provide adequate transportation facilities within a reasonable amount of time after the impacts of said development would occur. Given such findings, the Board of Commissioners [Mayor and City Council] may reduce the development density or intensity to the degree that the impacts of the development proposal do not degrade transportation facilities below adopted Level of Service Standards, require a phasing of the development in a manner that adequate public facilities will be provided publicly or privately, or in cases where such other alternatives do not address the adverse impacts, deny an application for a discretionary development proposal.

§5-6-19 APPEAL

An applicant for a discretionary development proposal may appeal a decision of the Land Use Officer in the administration and interpretation of this Ordinance to the Board of Zoning Appeals in accordance with Section 1-10 of this Code.