Decatur, Georgia

Multimodal Transportation Impact Study Guidelines

ADOPTED June 19, 2017

City of Decatur

MULTIMODAL TRANSPORTATION IMPACT STUDY GUIDELINES

Contents

1.0 Introduction

The City of Decatur's 2010 Strategic Plan establishes key transportation policies to accommodate growth and balance travel modes. The Decatur Community Transportation Plan, adopted in 2008, as well as the 2010 Strategic Plan places greater emphasis on bicycles, pedestrians and transit in order achieve a system of complete streets and a multimodal community.

A Multimodal Transportation Impact Analyses (TIA) are a critical component of the administrative development review process. The purpose of an analytical study is to help City plan review staff identify the effect of a proposed development on the City's multimodal transportation system relating to capacity, level of service, and safety. The study, when required, shall address site circulation of pedestrians, bicyclists, transit, and vehicles; identify impacts of the development-generated traffic onto the existing multimodal network; and provide appropriate mitigation for safe and efficient movement of pedestrians, bicyclists, transit, and vehicles.

The City will use the most recent edition of the Highway Capacity Manual, published by the Transportation Research Board. The information contained within this guide is a supplement to the Highway Capacity Manual and shall be used to assist applicants, engineers, and City staff in implementing the traffic performance standard within code of ordinances.

These guidelines are periodically updated to reflect changes in City policies, the regulatory environment, and the state of the transportation impact analysis practice.

For additional information contact:

City of Decatur Public Works Department
Design, Environment, and Construction Division
2635 Talley Street
Decatur, Georgia 30030
tel: 404-377-5571

2.0 Applicability

When a development application is submitted, the City of Decatur Design, Environment and Construction Division will determine whether or not a transportation impact study is required based on the following criteria. If a transportation impact study is required, the City notifies the applicant of the requirement as part of comments on an application. A multimodal transportation impact study may be required at any of the following stages of development:

A. Application for a land use plan amendment
B. Application for a rezoning
C. Application for a subdivision
D. Application for a planned unit development
E. Application for a master site plan amendment
F. Application for a building permit.

The applicant may request a waiver from the multimodal traffic impact study in a written request to the City Commission. The City Commission may waive the requirement for the multimodal traffic impact study and may require the applicant to contribute to the City a sum equal to the cost of a study as determined by the City for general City transportation needs.

2.1 Criteria

A multimodal transportation impact study is required if any of the following conditions are met:

A. The proposed development has at least 30 dwelling units, 15,000 square feet of office space, or 10,000 square feet of commercial space.
B. The proposed development is a public or private school with a capacity of at least 100 students.
C. The proposed development is expected to generate 30 or more new vehicle trips during an AM or PM peak hour or 300 or more new vehicle trips in an average day.
D. The City Engineer determines a traffic impact study is necessary per the proposed development, site location, and surrounding area.

Trip generation shall be calculated based on the most current edition of the Institute of Transportation Engineers Trip Generation Manual. Trip estimates developed to identify the need for a TIS should not include trip reductions below ITE rates.

This page intentionally left blank.

3.0 Transportation Impact Study Scoping

Depending on the scale and extent of the proposed project the scope of a transportation impact study could range from a focused study, such as a simple intersection control type selection analysis for a proposed intersection, to a large –scale study, such as a complete analysis of all transportation facilities within a defined study area. The impact study scope will be drafted by the City and collaboratively reviewed and refined by traffic consultant and applicant teams. Advanced analysis such as travel demand model updates and micro simulation may be required for certain studies.

3.1 Scope of Study Area

The applicant shall receive approval of the scope of study area by the City Senior Engineer prior to conducting the multimodal traffic impact study. The TIS study area should include all transportation facilities that could be impacted by traffic generated by the project. This is generally determined by conducting an initial trip generation estimate and select zone analysis using the City's travel demand model to preliminarily assess the volume and distribution of project traffic. The City of Decatur Senior Engineer will establish the study area on a case by case basis depending on the unique characteristics of each individual project. The study area and TIS scope shall be amended if during the study, trip generation indicates that less or fewer intersections could be potentially impacted by the project.

3.2 Preparation

Multimodal traffic impact studies must be prepared by a registered Traffic Engineer (TE), Certified Professional Traffic Operations Engineer (PTOE), or Certified Transportation Planner (PTP or AICP CTP). Traffic impact studies may be prepared by a registered Civil Engineer (PE) that has demonstrated appropriate multimodal expertise to the satisfaction of the City Senior Engineer. It is the responsibility of the preparer to ensure all programs for conducting and reviewing traffic impacts studies are properly calibrated and validated for the study area prior to use.

3.3 Analysis Scenarios

Analysis scenarios shall be determined on a case by case basis depending on the unique characteristics of each project. Each scenario will include an evaluation of multimodal intersection and roadway segment LOS, Vehicle Miles Traveled, Induced Traffic, & Safety analysis. If the project as the potential to impact neighborhood traffic thresholds or modal priorities as established in the City's general plan an analysis of those will also be required :

1. Existing Conditions – The most recent available traffic conditions and physical geometry.
2. Project Trip Distribution – Multimodal Trip Generation, Distribution, and Assignment.
3. Existing+ Project Conditions – Existing Conditions & geometry plus project generated traffic and proposed geometric changes.
4. Cumulative Conditions – Future year traffic conditions reflecting identified build out.
5. Cumulative + Project Conditions – Cumulative Conditions plus project generated traffic and proposed geometric changes.

Near term analysis maybe scoped for individual projects with significant near term development or infrastructure improvements in the vicinity.

4.0 Content of Impact Study Document

The multimodal traffic impact study shall include at a minimum:

a. Proposed Development
    i. Site location
    ii. Land use and intensity
    iii. Site plan
    iv. Multimodal on-site circulation
    v. Development phasing and timing
b. Study Area Conditions
    i. Study area
    ii. Existing land use
    iii. Multimodal site accessibility
    iv. Existing pedestrian, bicycle, transit, and vehicular network
    v. Driveway locations
c. Existing Conditions
    i. Roadway characteristics including number of lanes, roadway classification, posted and designed speeds, etc.
    ii. Transit, pedestrian, and bicycle facilities
    iii. Traffic control devices and intersection characteristics
    iv. Traffic volumes including the morning peak, afternoon peak and daily volumes
    v. Level of service and level of traffic stress for segments and intersections
    vi. Safety characteristics including average speeds, sight distances and accident history, etc.
d. Projections
    i. Site multimodal traffic for a 5 year horizon including trip generations, distributions, and assignments, etc.
    ii. Study area multimodal traffic for a 5 year horizon including trip generations, distributions, and assignments, etc.
    iii. Site multimodal parking and loading needs

e. Multimodal Traffic Analysis
    i. Multimodal site access
    ii. Level of service analysis and level of traffic stress analysis for segments and intersections
    iii. Intersection analysis
    iv. Safety analysis
    v. Pedestrian considerations
f. Recommendations
    i. Traffic control and intersection improvements
    ii. Safety improvements
    iii. Pedestrian, bicyclist, and transit improvements
g. Site Mitigation
    i. Steps taken to address existing or imposed multimodal transportation impacts
h. Appendix
    i. Traffic counts

5.0 Conditions Analysis

Data at specific locations not already collected by the City will need to be collected as part of individual impact studies, consultants should inventory what data is already available and scope any necessary data collection.

5.1 Existing Volumes

Average Daily Traffic (ADT) segment counts are collected in 15 or 5 minute intervals for a period of no less than 24 hours. Volumes used for segment analysis should be based on the average of the entire count period. Peak hour intersection movement counts are collected in 15 minute intervals during the required peak hours identified from the segment counts. All traffic volumes are collected during clear environmental conditions, during regular school session, with no adjacent construction activities or special events. It is the responsibility of the consultant to validate traffic counts prior to their use in the analysis.

Vehicle Volumes

Peak hour intersection vehicle movements are collected in UTDF (Universal Traffic Data Format). In order to calculate pedestrian intersection levels of service, intersections with protected/permissive phasing shall have the volume of permissive left turns by each left turn movement counted in addition to the total left turn volumes. At intersections where right turns on red (RTOR) are permitted, the volume of right turns on red by each right turn movement counted in addition to the total of right turn volumes. If any form of testing or research indicates pedestrian LOS is not sensitive to the expected volume of permissive left or right turn on red movements, these volumes may be estimated based on professional judgment in lieu of counting.

Bicycle Volumes

Peak hour intersection bicycle volumes are collected by the approach direction to the intersection (ie.. EB, WB, NB, SB). If any form of testing or research indicates that bicycle LOS is not sensitive to the expected volume of bicycles, these volumes may be estimated based on field observations and professional judgment in lieu of counting.

Pedestrian Volumes

Segment pedestrian flow rates can either be counted or estimated based upon adjacent peak hour intersection movements. Pedestrian movements shown in the figure below need to be counted or estimated in order to calculate pedestrian level of service. If any form of testing or research shows that pedestrian LOS is not sensitive to the expected pedestrian volumes, these volumes may be estimated based on field observations and professional judgment in lieu of counting.

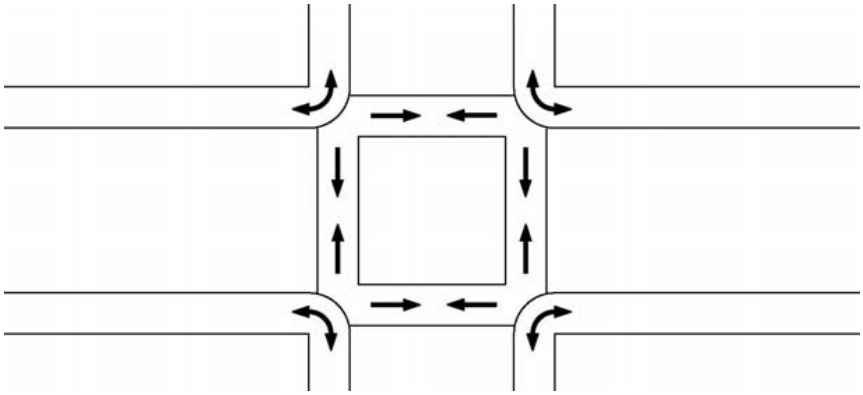

Figure 1: Peak Hr. Pedestrian Movements

5.2 Project Volumes

Currently there is limited data on project specific multimodal trip generation, therefore the consultant and City staff will be required to use a great deal of professional judgment based on methodologies and data presented in the Transportation Engineers' (ITE) Trip Generation Handbook, locally collected multimodal trip generation, research on mixed-use trip generation, mode splits predicted from the City's travel demand model, and other resources.

Vehicle Volumes

Vehicle volume trip generation is to be estimated using the most recent edition of ITE Trip Generation Manual. Upon approval from the City Senior Engineer local trip generation rates are also acceptable and preferred if those rates are developed following the method established in the current version of the ITE Trip Generation Handbook and appropriate validation is provided to support them. Because ITE Trip Generation rates are based on vehicle trips as opposed to person trips, modal split factors should not be used to reduce vehicle trip generation calculations. Modal conversion factors can be used as prescribed in the ITE Trip Generation Handbook.

Pedestrian, Bicycle, and Transit Volumes

At this time there is little information on multimodal trip generation, therefore professional judgment should be used in estimating project pedestrian, bicycle, and transit trip rates. Multimodal trip generation rates should be derived from the current edition of the ITE Trip Generation Handbook. In some cases it may be necessary to collect local data to estimate multimodal trip generation; in these cases the methodology prescribed in the current version of the ITE Trip Generation Handbook should be used. If any form of testing or research indicates pedestrian, bike, or transit LOS is not sensitive to the expected volumes, these volumes may be estimated by applying the identified buildout mode split values.

5.3 Neighborhood Traffic Analysis

Projects which include new local residential streets or have trips forecasted on collector or local residential streets will typically be required to evaluate the impact of neighborhood traffic conditions. Project impacts are considered significant if the maximum ADT exceeds or the project adds traffic to a neighborhood already exceeding the ADT threshold.

Street Classification	Maximum ADT	Maximum Speed
Collector	1,500	25 mph
Local	500	25 mph

A monitoring program shall be a standard mitigation measure for all projects with a potentially significant impact on neighborhood traffic conditions. Because it's not feasible to estimate speed impacts, follow-up monitoring programs will be the primary method for estimating impacts on neighborhood speeds. Unless there are any documented events or conditions that could affect observed baseline speeds it shall be assumed that any increase in neighborhood speeds after the project is occupied is attributed to the project.

This page intentionally left blank.

6.0 Mitigation Measures

When significant impacts are identified as part of the traffic impact analysis, mitigation measures shall be included to address those impacts. The impact study should establish the nexus between the project and the mitigation measures. The traffic study's description of each mitigation measure should include the following:

1. Comparison table of impacted locations listing conditions (i.e. LOS, VMT, etc.) with and without mitigation.
2. Figure schematically depicting location and nature of each mitigation measure and description of implementation feasibility (i.e. ROW requirements, constructability, etc.).
3. If specifically scoped, cost estimation of each mitigation measure, timing / phasing of measures, and equitable share calculation.

6.1 Strategies

Development of mitigation measures should follow the City's Community Transportation Plan Goals & Objectives of supporting environmentally sound technological advancement, supporting a shift in modes of transportation, and establishing landscaped & livable street corridors. For example if a project creates a vehicle capacity impact at an intersection, mitigation measures that would reduce vehicle demand generated by the project, such as enhanced bike & pedestrian facilities or improved transit service, should be considered before measures that would increase vehicle capacity.

6.2 Equitable Share Responsibility

Equitable share calculations are not applicable to safety and neighborhood impacts. Also in circumstances where the project is receiving substantial benefit from the identified mitigation measure and that measure would not have otherwise been considered if the project was not proposed, the project should take full share responsibility. Examples of these types of circumstances include but are not limited to.

- A new access point for a project where upgraded control and/or associated striping at that intersection is an identified mitigation measure.
- A mitigation measure is identified within a generally built out area where there are no planned transportation improvements.

Multimodal Level of Service & Capacity Impacts

For level of service and capacity mitigation, equitable share responsibility shall be calculated based upon the percent of project trips forecasted on the impacted facility for the corresponding analysis & time period. In cases where the impact is primarily attributed to a specific component of the facility, such as a left turn lane, it may be more appropriate to calculate the percent of project trips forecasted on the specific impacted component of the facility as opposed to the whole facility.

Neighborhood Impacts

Because the objective in mitigating neighborhood impacts is to reduce volume and speed as opposed to increasing capacity, monetary equitable share responsibility may not applicable. When existing and/or forecasted neighborhood traffic volumes are within thresholds and added project traffic causes total volumes or speeds to exceed those thresholds, the project shall be fully responsible for installing traffic calming measures to reduce volumes and/or speeds to below the maximum thresholds. When existing and/or forecasted neighborhood traffic volumes are already exceeding thresholds and added project traffic worsens an already deficient condition, the project shall be fully responsible for installing traffic calming measures to offset only the volume and/or speed increased as a result of the project.