

**General:**

According to the Provisions of the Daphne Land Use & Development Ordinance, Article 10-9, Traffic Impact Analysis, "A traffic impact analysis shall be required for proposed high density and high intensity developments. Said analysis shall be performed by a credentialed professional [with experience] to perform such service. The results and any corrective measures necessary shall be included as part of, and in addition to, the requirements for preliminary subdivision plat and/or site plan review and approval."

This document is a policy guide that specifies the minimum standards for a Traffic Impact Analysis referred to herein as Traffic Impact Study or TIS. Each Traffic Impact Study shall be completed by a licensed Professional Engineer in the State of Alabama with experience/expertise in traffic impact and traffic operational studies.

**1. Purpose and Need**

- A. To determine the appropriate locations, spacing, and design of access points necessary to mitigate the traffic and operations impacts on the public roadway.
- B. To determine the need for any improvements to the adjacent and nearby roadway system to maintain a satisfactory level of service and safety and to protect the function of the public roadway system while providing appropriate and necessary access to the proposed development.

**2. When is a Traffic Study Required?**

A Traffic Impact Study shall be required as a part of a site plan review, preliminary plat review and/or access permit review for any proposed development that meets the following criteria:

- A. The proposed development is expected to generate greater than 100 vehicles per hour during its peak hour of operation based upon trip generation estimates included in the most recent version of the Institute of Transportation Engineers (ITE) Trip Generation Manual.
- B. The development access plan proposes a change in the traffic control of an adjacent intersection including:
  - i. Installation or removal or relocation of a stop or yield sign of an existing public street.
  - ii. Installation, removal or relocation of a traffic signal installation.

- iii. Changes in the timing and/or phasing of an existing traffic signal or signal system.
- iv. Installation, or modification to a modern roundabout or other intersection control design.

C. When the proposed development does not meet the conditions of subsections A or B but is deemed necessary by the City Engineer.

The following Chart illustrates typical land uses that generate approximately 100 trips during the peak hour and will require a TIS based upon the criteria in item 2A above.

<b>Typical 100 Trip Generating Uses</b>	
<b>Land Use</b>	<b>Density</b>
Residential – Single Family	100 Homes
Residential – Apartments/Condos	150 Homes
Residential – Assisted Living	300 Beds
Free Standing Discount Store	20,000 ft <sup>2</sup>
Shopping Center	25,000 ft <sup>2</sup>
Supermarket	13,000 ft <sup>2</sup>
Fast Food Restaurant	2,000 ft <sup>2</sup>
High-Turnover Sit-Down Restaurant	6,000 ft <sup>2</sup>
Coffee/Donut Shop w/drive thru	2,500 ft <sup>2</sup>
Gas Station w/Convenience Market	1,000 ft <sup>2</sup> / 6 fueling positions
Bank w/drive thru	5,000 ft <sup>2</sup>
Pharmacy w/drive thru	9,000 ft <sup>2</sup>
Hotel	150 Rooms
General Office	35,000 ft <sup>2</sup>
Medical Dental Office	25,000 ft <sup>2</sup>
General Light Industrial	125,000 ft <sup>2</sup>
Manufacturing	110,000 ft <sup>2</sup>

### 3. Mandatory Pre-Study Conference

Prior to commencing a traffic study, the designated project traffic engineer shall contact the City Engineer to discuss the parameters of the TIS. On a case-by-case basis, the City Engineer will determine the required study area, required analyses, and development scenarios to be included in the Traffic Impact Study. This meeting should be conducted as early as possible in the development process. The City of Daphne is not responsible for any negative impacts on the development schedule as a result of adhering to the Traffic Study requirements.

**Contact the City Engineer, Joshua Newman, P.E., CFM**

**Phone: 251-620-1703**

**E-mail: JNewman@Daphneal.com**

### 4. Traffic Study Format

All Traffic Studies shall adhere to the following formatting. Section 1. Introduction and Background Information, Section 2. Existing Traffic Conditions, Section 3. Development Traffic Conditions, Section 4. Future Traffic Conditions (Post Development), Section 5. Traffic Impact Analysis, Section 6. Conclusion and Section 7. Appendix.

SECTION 1. **Introduction and Background Information** – This section shall state the name and type of traffic study, the sources used to develop the study, the purpose of the study, the name and type of development that is the subject of the study, the analyses conducted in the study, the development/analysis scenarios included in the study, site location map, a list of study intersections, and any further relevant information.

SECTION 2. **Existing Traffic Conditions** – This section shall address existing traffic conditions at the time of the study. The Existing Conditions Section shall include existing traffic count data, analysis summaries conducted at existing study locations, and any relevant information to identify and quantify existing traffic conditions/operations.

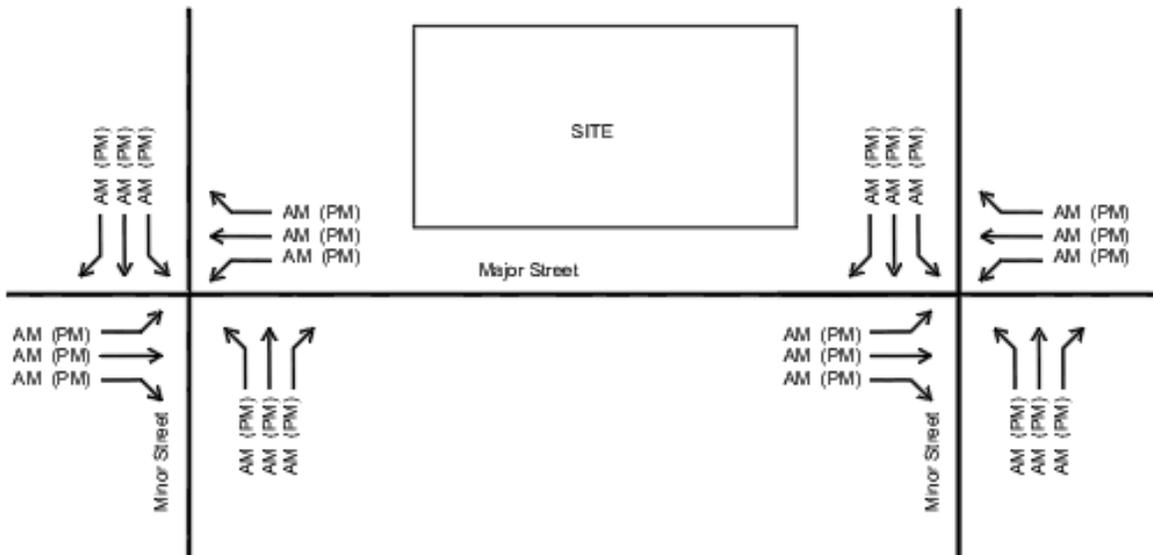
- A. Existing traffic counts – Traffic count data collected for any traffic study shall be conducted within one year of the date the study is submitted to the City. Intersection traffic data shall include a minimum of four (4) hour traffic turning movement counts during peak periods. The applicant or their engineer shall contact the City Engineer to verify traffic counts required and the study locations.
- B. Seasonal traffic adjustments – The tourist season often impacts area traffic volumes. In certain situations, an applicant may be allowed to submit traffic data that is collected outside of the tourist season. In these cases, a seasonal traffic data adjustment may be applied to account for seasonal

traffic volume fluctuations. The applicant or their engineer shall contact the city to discuss the conditions and to determine the appropriate action to take regarding seasonal traffic adjustments.

- C. School traffic adjustments – Traffic count data should be collected on days in which normal school traffic is likely to occur. Traffic count data should not be collected when school is not in session or not at normal operation levels.

Existing traffic volumes shall be presented in a graphical format with volumes for each period analyzed. The following figure illustrates the required format for the traffic volume data graphic.

**Sample Figure  
Existing Traffic Data**

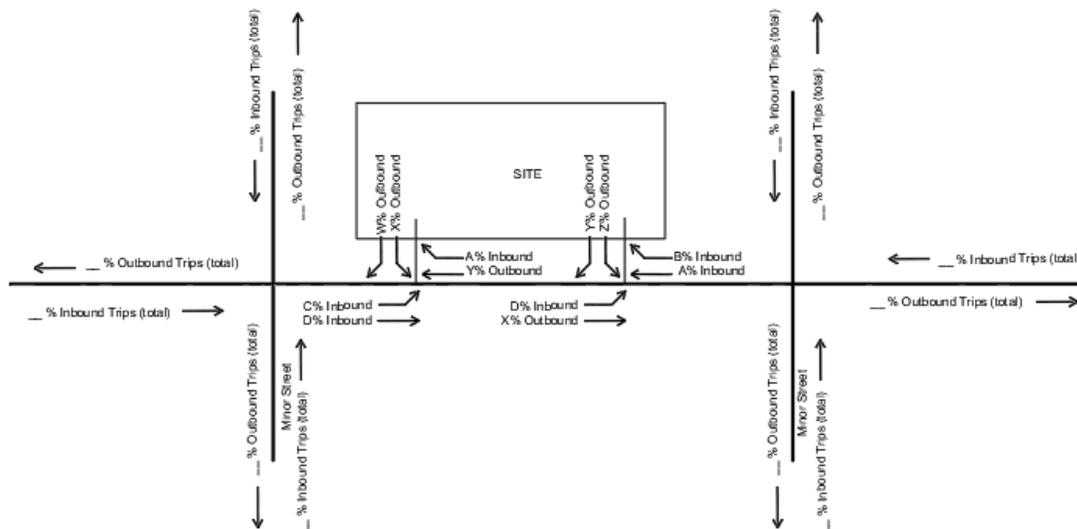


SECTION 3. **Development Traffic Conditions** – This section shall outline the proposed development characteristics and the forecast traffic associated with the development. It shall include the development land use and density, the trip generation estimates associated with the proposed land use, the driveway distribution of development traffic, and the direction of approach of site generated traffic. This section shall also clearly state the development horizon year and any intermediate analysis scenarios required between the study year and the development build out.

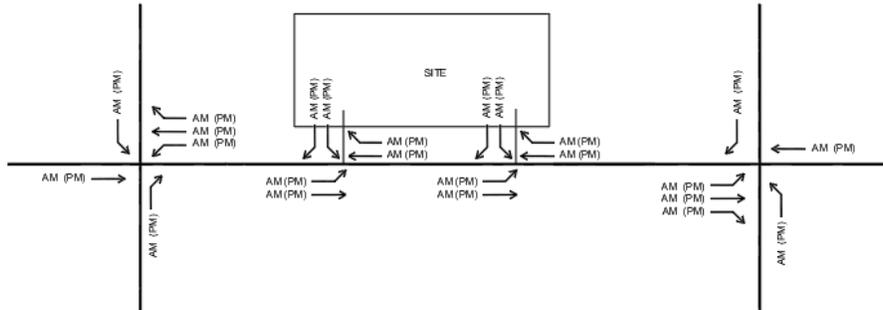
- A. Trip Generation Estimates – The latest edition of **Trip Generation Manual** by the Institute of Transportation Engineers shall be utilized to determine trip generation estimates. In the event ITE Trip Generation Estimates do not provide rate information for the proposed development land use, the applicant shall submit trip generation estimate documentation to the City Engineer for consideration. It is the right of the City of Daphne to require further trip generation information including but not limited to traffic data from similar developments to support the proposed trip generation rates by the applicant or their engineer.

Site generated traffic and the direction of approach shall be illustrated in graphical format and included in the Traffic Study. The following figures illustrate the format of the required graphics.

**Sample Figure  
Driveway Distribution**



## Sample Figure Site Generated Traffic

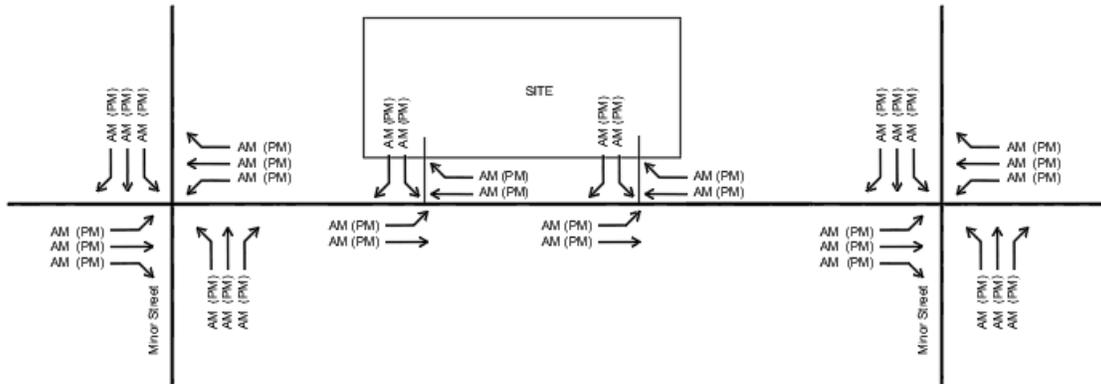


SECTION 4. **Future Traffic Conditions (Post Development)** – This section shall outline the projected traffic conditions with the proposed development in place and occupied. This section shall include the development horizon year (build out year), background traffic growth rates (if required), and future post development traffic volumes for each future year scenario (typically five (5) years from build out year) studied.

- A. Background Traffic Growth – Background traffic growth is required to be included for developments that will be completed more than one year from the time of the traffic impact study. Background traffic growth rates may be determined using historical traffic growth rates within the area adjacent to the study area. The applicant or their engineer shall submit the proposed background growth rate to the City Engineer for approval prior to submission of the traffic study.

Forecast traffic volumes shall be presented in a graphical format with volumes for each period analyzed. The following figure illustrates the required format for the traffic volume data graphic.

## Sample Figure Future Traffic Volumes



SECTION 5. **Traffic Impact Analysis** – This section of the approach shall compare traffic operations analyses from the existing conditions (pre-development) to future conditions (post development). This section shall include traffic capacity analyses, traffic signal warrant evaluations (if applicable), turn lane warrant evaluations, and recommended roadway improvements.

- A. Traffic Capacity Analysis – The traffic capacity analysis shall be conducted following methods outlined in the latest edition of the **Highway Capacity Manual** by the Transportation Research Board.
- B. Traffic Signal Warrant Analysis – The traffic signal warrant analysis shall be conducted following methods outlined in the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)** by the Federal Highway Administration.
- C. Turn Lane Warrant Analysis – The turn lane warrant analysis shall be conducted following methods outlined in **NCHRP Report 457** by the Transportation Research Board.

SECTION 6. **Conclusion** – The final section of the report document shall include a summary of all the facts and findings of the report. In lieu of a final conclusions section, an executive summary at the beginning of the report would also be acceptable.

SECTION 7. **Appendix** – The applicant or their engineer shall include all supporting documentation for the calculations and conclusions stated in the report. This shall include traffic count data and any calculations/software outputs made as a part of the report.