

City of Charleston Traffic Impact Study Preparation Guide

Note: This is an informational guide only. Additional requirements beyond the scope of this document may be required by the City of Charleston Department of Traffic and Transportation. The requirements of the Traffic Impact Study should be coordinated with City Staff.

- A. TIA Threshold Requirements – Based on *TRC Manual* (2021)
- a. A Traffic Impact Study is required when a development includes one or more of the following:
 - i. A drive-through service window
 - ii. More than six fuel dispensing units
 - iii. More than 10,000 square feet of non-residential building coverage in existing and/or new buildings
 - iv. Five or more acres
 - v. The requirement of a variance from the driveway spacing requirements of Article 3, Part 3 of the Zoning Ordinance
 - vi. A restaurant with more than 4,000 square feet of gross floorarea
 - vii. SINGLE- or two-family dwellings in which the total area ultimately to be developed permits 45 or more dwelling units

These types of developments shall require a Traffic Impact Study unless the Department of Traffic and Transportation deems that a Traffic Impact Study is not required on the basis of the Department's prior studies, analysis, and evaluation of existing or proposed transportation facilities.

Similarly, and depending on the type and size of a single- or two-family development, the Department of Traffic and Transportation may require a basic level of traffic study as opposed to a full Traffic Impact Study.

Additional components of a Traffic Impact Study may be required as deemed necessary.

A traffic impact study or other traffic analysis may be required for any project submitted to the Technical Review Committee if determined by Traffic and Transportation that the project impacts vehicular, bicycle, pedestrian, transit, or other mode of transportation in any way.

Source: *TRC Manual*

- B. TIA Requirements – Based on SCDOT *ARMS Manual* (Updated May 2020)
 - a. Coordinate the study area and parameters with Traffic and Transportation staff
 - i. Existing signal timings to be used for signalized intersections
 - b. Study Area
 - i. Include description of existing (if applicable) and proposed land use characteristics such as:
 - 1. Dwelling units
 - 2. Square footage
 - 3. Fueling positions
 - 4. Number of employees
 - c. Existing, No Build, Build conditions analysis – other conditions for analysis including phasing and additional horizon years may be required by Traffic and Transportation staff
 - d. Existing Conditions
 - i. Study area descriptions and roadway classifications
 - ii. Analysis periods – AM and PM peak hours at minimum. Other periods, such as MIDDAY, Saturday, School PM, etc. may be required by Traffic and Transportation staff
 - iii. Traffic counts should be performed within 12 months of the traffic study and performed when school is in session
 - 1. Data should be adjusted for daily and seasonal variations such as summer traffic, COVID-19, etc.
 - 2. Pedestrian counts may be required for high foot traffic areas
 - iv. Additional information such as crash data, speed data, stopping sight distance may be required by Traffic and Transportation staff
 - e. Future Background Traffic
 - i. Estimate future background traffic growth based on available local and statewide data
 - ii. Include any projected approved development traffic in the study area – coordinate with Traffic and Transportation staff
 - iii. Include any transportation improvement projects in the study area which will likely be complete by the No Build and Build analysis year
 - f. Trip Generation
 - i. Based on most recent version of ITE *Trip Generation Manual*
 - ii. Provide table with pertinent data
 - 1. If phased, divide table to include trip generation by phase
 - 2. Document internal capture and pass-by trips
 - a. Internal capture limited to 20% of the lesser value between entering and exiting trips (SCDOT District 6 standard)
 - b. Pass-by trips limited to 10% of projected adjacent street traffic (SCDOT District 6 standard)
 - c. Document and justify trip reductions due to other modes (transit, bicycle, pedestrian, etc.)
 - iii. Provide daily trips, note if requirements of City Transit Accommodations Ordinance (Zoning Article 3, Part 15) are applicable
 - g. Trip Distribution
 - i. Document basis for distribution of project trips
 - ii. Provide distribution percentages in a graphical format

- h. Intersection Analysis – Include study area intersections and all site access locations
 - i. Include LOS determination based on the latest edition of the *Highway Capacity Manual* (Transportation Research Board)
 - ii. Identify any existing, background, and Build LOS deficiencies
 - 1. Mitigate deficiencies by identifying need for turn lanes, signalization, additional capacity, etc.
 - a. If traffic signal is proposed, include signal warrant analysis
 - 2. Identify improvement in LOS gained by the mitigating strategies, as necessary
 - iii. Note if requirements of City Transit Accommodations Ordinance (Zoning Article 3, Part 15) are applicable
 - iv. If optimization of signal timings is recommended, provide the recommended signal timing cycle lengths and phase splits to City staff as a separate memo
- i. Driveway Analysis
 - i. Driveway locations and design details should meet SCDOT *ARMS Manual* and City of Charleston Zoning Ordinance requirements
 - ii. Analyze the need for turn lanes at the site access point by using the figures in the latest edition of the SCDOT *Roadway Design Manual*
 - 1. Include the turn lanes in the analysis if they are necessary
- j. Appendix
 - i. Provide technical information (Synchro, Figures, Signal Warrant Analysis, etc.)
 - ii. Provide copies of any reference material

Updated: June, 2021