



# RESEARCH PROJECT CAPSULE [18-4SS]

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TECHNOLOGY TRANSFER PROGRAM

## ITE Trip Generation Modification Factors for Louisiana

### JUST THE FACTS:

**Start Date:**

July 1, 2017

**Duration:**

24 months

**End Date:**

June 30, 2019

**Funding:**

TT-Fed/TT-Reg

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### POINTS OF INTEREST:

Problem Addressed / Objective of  
Research / Methodology Used  
Implementation Potential

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### PROBLEM

Using data from studies conducted in the United States over the last 50-60 years, the Institute of Transportation Engineers (ITE) has published trip generation rates for different land uses. Over time, observations from new studies have been incorporated and general land uses have been broken down into more specific categories. However, improved accuracy of estimated trip generation rates has not occurred.

This research project addresses an ongoing concern among DOTD officials that the estimation of traffic impact on proposed land use developments is sometimes incorrectly assessed using the ITE trip generation rates. The concern is that overestimation of trip generation rates leads to demands on developers that discourage site development or wasteful spending. The user guide for the ITE trip generation manual suggests adjusting these published "average" rates based on local characteristics of a site.

### OBJECTIVE

The objective of this study is to develop modification factors to ITE trip generation rates for land uses in Louisiana. With help from the Project Review Committee, one or two land uses will be selected for this study.

### METHODOLOGY

Past studies have shown that surrounding land use characteristics affect trip generation rates. The approach adopted in this project is to select variables that reflect the impact of this surrounding land use on trip generation rates, establish a statewide database of these variables in a geographic information system (GIS), and then use that GIS as the medium of inquiry to identify modification factors to the ITE trip generation rates for a particular site.

Factors that influence trip generation rates for each selected land use will be identified, along with data sources for variables related to these factors. The methodology of identifying and presenting trip generation rate modification factors must be capable of expansion to other land uses for subsequent studies without involving massive amounts of manual data collection.

Prior studies that have investigated differences between ITE trip generation rates and actual site observations have typically relied on manual traffic counts, supplemented with automated traffic counts where possible. One method of automated traffic counting entails using Bluetooth technology to estimate number of generated trips by land use. If determined to be feasible for this study, this technology could provide a highly cost-effective manner for estimating generated trips.

Statistical analyses will be performed to compare estimated trip rates with those in the ITE trip generation manual. If statistically different, modification factors can be developed for each category of surrounding land use. If appropriate databases are included in a GIS, then input of a particular surrounding land use at a specific location can lead to a trip rate modification factor for that site.

## IMPLEMENTATION POTENTIAL

Since this study is directly related to ongoing DOTD concerns regarding accuracy of traffic estimates and the impact of proposed development, implementation of a successful model is practically certain. Although the model developed in this study will be based on only one or two land uses, subsequent studies may address additional land uses with the same methodology.



Figure 1  
Example of site plan