DATA COLLECTION SERVICES

Traffic Volume

As part of our traffic engineering services, data collection is often needed. STE provides both machine and manual counts depending on the count period (e.g., turning movement counts versus daily or seasonal trends). STE owns a wide variety of equipment that can be placed on any project quickly. STE uses compact and lightweight counters that use directional, lane subtraction and normal methods for volume counts. STE performs thorough quality control (QC) checks on the data. QC checks include looking for atypical patterns or unexplained zeroes. STE can provide 24 hour volumes, 15 minute volumes, total volume plots, directional volume plots, and peak hour analysis information. Various reports can be performed depending on client's preference.

Vehicle Classification

STE provides vehicle classification data for any project. Because of our pavement engineering background, STE understands the importance of properly collected classification data. Classification data is used in establishing structural and geometric design criteria, computing expected highway user revenue, computing capacity (i.e., effect of commercial vehicles), determining axle factors for machine counts, freight mobility studies, etc. Vehicle classification will also be very important in future pavement designs as agencies progress toward implementation of the AASHTO MEDPG.

STE owns a wide variety of equipment that can be placed on any project quickly. STE have personnel with hands-on experience in placing equipment, interpreting data, and producing results as well as nationally recognized experts in classification and weight-in-motion (WIM) technologies. STE uses compact and lightweight classifiers that classify multiple lanes. There are several classification schemes available. The default is FHWA 13 bin scheme F but STE can also utilize a provided user defined scheme like length bins. STE follows internal QC/QA checks to ensure data quality by analyzing data integrity, realistic values, and equipment malfunctions. Various reports can be performed depending on client's preference.

Turning Movement Counts

STE is well equipped to collect turning movement counts. On most transportation engineering studies, STE collects turning movement counts to analyze the existing conditions as well as impacts due to new developments. STE uses either pneumatic tube counters, technicians or a combination of both for turning movement counts. STE positions our technicians at the intersections, within the public right-of-way, in order to accurately document individual right, left and through movements for each direction. Multiple templates allow a choice of standard studies, including FHWA and event classifications, or user definable data. A complete range of turning movement data and user defined event studies can be collected, retrieved and printed.

Vehicle Speed, Headway, and Gap Information

STE collects vehicle speed, headway and gap information, which are used for pedestrian access and circulation studies. STE's traffic recorders and radar guns (speed studies) are utilized for these studies. STE provides technical support for traffic data collection using video systems and provide the actual data collection utilizing subcontracting vendors.

Travel Time and Delay Studies

STE evaluates the quality of traffic movement along a route and determines the locations, types, and extent of traffic delays by using a moving test vehicle. This study method is used to compare operational conditions before and after roadway or intersection improvements have been made. STE also this as a tool to assist in prioritizing projects by comparing the magnitude of the operational deficiencies (such as delays and stops) for each project under consideration. Typically, this study is performed by driving designated routes during peak travel periods and timing the interval between selected cross roads. STE also uses GPS when conducting travel time and delay studies, which is very cost-effective.

Sight Distance Studies

Sight distance is defined as the length of roadway visible to a driver. STE determines the minimum distances required from various references, physically measure sight distance and record observations, and analyze the results. .

Traffic Flow Parameters

At any given time, there are thousands of vehicles on our roadways that interact with each other and impact the overall movement of traffic. STE calculates factors such as flow, peak hour factor, density, headway, spacing, gap, and clearance for any project.

Weigh-In-Motion

STE has extensive experience with Weigh-in-Motion (WIM) equipment. STE can help clients in evaluating WIM sites, project planning, installation of WIM equipment, data analysis, and in developing long term maintenance and operation plans. STE understands the end product of WIM equipment and its importance in pavement design and transportation planning. STE is familiar with all WIM technologies including load cell, bending plate, and piezo systems. WIM equipment can collect volume, classification, and weight. STE follows internal QC/QA control checks to ensure data quality by analyzing data integrity, realistic values, and equipment malfunctions. Various reports can be performed depending on client's preference.