

O&D Survey Guide Lines

SCOPE FOR PROFESSIONAL TRAFFIC DATA COLLECTION SERVICES

BACKGROUND:

ATD Northwest Inc. provides a unique service to the planning and development groups for traffic engineering organizations. We employ a license plate retrieval system to gather information regarding vehicular movement throughout a pre determined area. Gathering license plate information, obtaining the addresses of vehicle owners, and mailing out appropriate questionnaires provides a much safer technique for collecting travel habits on high volume freeways or arterials than pulling people over to the side of the road. ATD has conducted license plate surveys from Virginia to California over the past 20 years. We have developed safe, practical techniques to collect the data in a rapid and efficient manner.

Data Collection: We must first determine a suitable data retrieval site. We review published maps to locate appropriate over-crossings or side-of-the road locations to establish camera sites. Preliminary site surveys should be made as a follow-up to identify problems that do not show up on the map information. When possible, It is best to choose over-crossings with pedestrian walkways and easy access parking for a remote vehicle. If possible, avoid crossings that are too narrow, have high traffic volume, or have fencing obstructions. One "High-Speed Color Camera Package" is to be used for each traffic lane to be surveyed. When recording lanes in both directions, cameras are to be positioned on both sides of the crossing and it is important to make certain there is sufficient access to service both sides of the crossing.

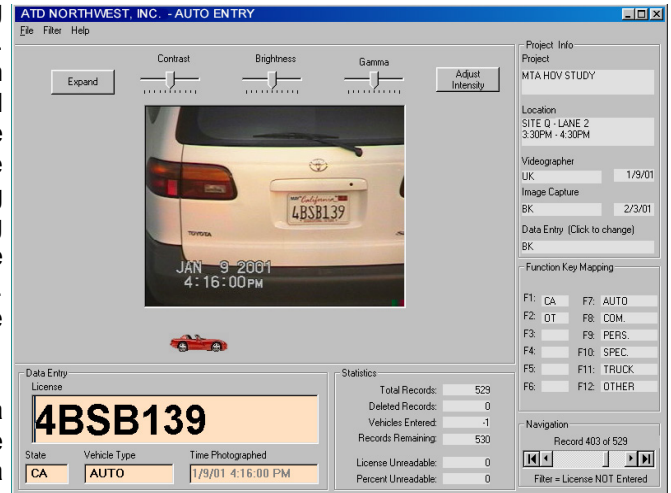
Highway encroachment permits are normally required when conducting surveys. Make certain such considerations are arranged for as early as possible. Local jurisdictions are very protective of their "turf" and respecting this concept can save a lot of trouble in the field. Be sure to notify DOT, police, sheriff and other personnel.

A van or small motorhome is suitable for use as a remote vehicle. However, a compact car is more practical for some camera locations. One person should be assigned to each camera location. For safety reasons, a minimum of two people are required during the set-up process. In addition, a qualified field supervisor is necessary to visit each site on a regular schedule in case of accident or malfunction. ATD field supervisors are equipped with all necessary equipment to repair or replace any of the ATD video equipment should a malfunction occur.

Safety cones and signs are normally required to mark off space for a remote vehicle and camera locations. If space is limited, flagging personnel may also be necessary. All individuals working at the recording site should be provided with reflective vests and helmets. We require that site personnel be issued written safety instructions prior to the survey date. On site safety instructions must be given.

Computer assisted data reduction is usually conducted at our ATD Redmond, WA facility. On occasion, a consultant may prefer to do manual data reduction and rent the data reduction equipment from ATD. "Data Reduction Packages" may be set-up at a location near the retrieval site one day prior to the survey date. A qualified field supervisor should coordinate the installation as well as provide equipment operation & data entry procedural training. For manual data entry, Individuals with data input and/or typing skills are best suited for the reduction process. An individual can usually enter between 150 and 200 license plates per station/hour. The ADT of the lanes and periods to be surveyed should be determined in advance in order to effectively estimate the number of data reduction packages and personnel required to input all data within a 48 hour period.

The data must be recorded and entered into a file that is compatible with the requirements of the authorizing state Department of Motor Vehicles. The computers provided with each reduction station allow the data to be stored on a 3.5 IBM formatted floppy disk or forwarded as a complete data base or spread sheet file. Contact the state DMV agency responsible for processing the vehicle plates prior to the survey date. Request written instructions detailing all data entry, formatting and storage requirements necessary to expedite the address label retrieval process. Confidentiality is required! Also make sure your client has legal access to the address files.



Pricing Elements: When a traffic consultant or government project engineer is considering the use of an origin & destination study for his planning purposes, he must generate at least a rough estimate for the costs of such a program. Although it is difficult to come up with an exact estimate for a video license plate survey, we believe that one must consider seven elements to develop a good first cut. (1.) First, the purpose of the survey must be carefully considered and a task order generated which establishes the work to be done. (2.) Next, there is the field data collection process. (3.) After the data has been collected, it must be entered into a computer data base so that it may collated and processed. (4.) The data disks must then be analyzed and matched to an existing state license plate data file and an address tape must be generated. (5.) A brochure, maps, & envelopes must be designed & printed. (6.) A mailing house must then apply the address labels to the envelopes, provide the necessary postage and mail the brochures to the recipient. (7.) The return answers must be tabulated into a computer data base, processed, and a final report generated.

Purpose & Design: As data collection and processing company, ATD Northwest is not in a position to estimate the costs for this part of a study since the variables include the level of talent of the engineering consultants that are to be utilized and the number of hours assigned to the task.

License Plate Data Collection: The factors that enter into the data collection costs include the distances to the data collection sites which involve freight costs, travel time, air fare, car rental, per diem, etc. The actual nature of the site will determine the cost of equipment rental, day or night surveillance, traffic volume, the number of lanes to be surveyed, safety requirements, and manpower costs. A rough estimate of the data collection costs can be determined by calculating \$2,000 per lane per day. If one is to conduct two studies in the same area on succeeding days such as a weekday study in combination with a weekend study, then a cost reduction of about 10% is in order for the second day. Highway encroachment permits are required and cost about \$150.00 (Please..Please..Call us for a computer generated cost estimate when you know the actual location, time and volumes of the site for your study!)

License Plate Data Analysis: Once the data has been collected on video tape, it is important to process it in a rapid and concise manner. We utilize a data reduction center that employs as many stations as needed to reduce the data and enter it into a compatible computer format within a 48 to 72 hour period after the data has been collected. It will cost about \$0.30 per plate to perform this data entry process. Under normal survey conditions, about 5% of the traffic data is lost because of factors such as "no plates", obscuration, lane changes, out-of-state plates etc. For most studies, an additional 15% of the traffic is recorded, classified and analyzed but not used for mail-outs. This loss is attributed to trucks, commercial vehicles, government vehicles, possibly RV units etc. This leaves about 80% of the traffic volume for mail-out processing. Sometimes, the project manager will elect to process only part of the plates which have been collected. Perhaps he will arrange to collect data all day but will only authorize data reduction for the peak hours of traffic in one or both directions. This will depend upon the response rate he desires. (When two directions are recorded, from 25% to 40% of the traffic may be duplicates and will be discarded.)

State data Processing: The cost of obtaining the address information from the state will depend upon each individual survey and the relationship with the state officials. (Often it is provided free of charge to government agencies) Confidentiality Agreements are required in all cases!

Brochure & Envelope Printing: Printing of Outgoing & Return Envelopes, the Brochures & maps will cost from \$0.50 to \$1.00 per set.

Mail Out Processing: Some projects only require the level of detail such as Zip Code, Street or Neighborhood analysis. This information can be obtained directly from the address labels and mail-outs are not required! When mail-outs are desired, applying labels, postage and processing to the brochures or questionnaires will cost somewhere between \$0.70 to \$0.95 per mailer. (Calculate 80% of the selected traffic volume)

Return Mail: For return mail, one must obtain a postal permit (approximately \$100) and design the return address in accordance with postal requirements. Return postage is \$0.44 per piece. Handling costs are \$0.30 each. (Calculate 25% to 30% return pieces.)

Result Tabulating: Tabulating the results from the mail-outs will cost about \$1.00 per piece depending upon the number of questions and the detail. (Calculate 30% to 40% Returns of the total Mail-outs)

Result Analysis: Client in-house or consultant traffic engineers analyze the results of the survey and makes recommendations. (Cost ?)

ATD NORTHWEST, INC.