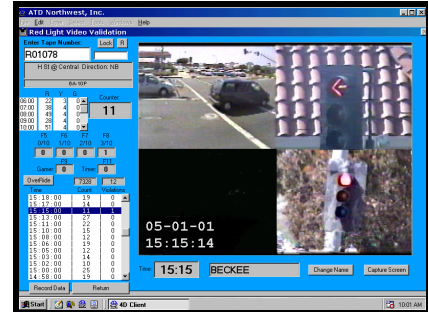


Photo Red Light Automated Enforcement Needs Assessment Survey

SCOPE FOR PROFESSIONAL TRAFFIC ENGINEERING SERVICES

Background:

ATD Northwest Inc. provides a unique service to the Automated Red Light Enforcement Community. We do not provide or install automated red light enforcement equipment or services. However, a number of independent cities, counties & states as well as suppliers of such equipment use our red-light assessment service to determine the most effective sites within a city to install their systems. We have evaluated over 1000 sites in various cities across the United States during the past two years. The procedures we recommend to accomplish these goals are as follows.



Red Light Running Validation Services

- 1) Have local officials review the city traffic engineering data with respect to intersection accident data, past ticketing information, average daily traffic, peak traffic hours, signal location and signal timing for each specific intersection under evaluation.
- 2) Since each signalized intersection may have as many as eight approaches for a possible red-light infraction, the city must first visually inspect the targeted locations to verify the activity for each approach.
- 3) After a visual inspection, one must determine which of the possible throughput or left-turn approaches has the greatest potential for reduction of red light running violators.
- 4) Then select and identify a number of these approaches for a more detailed videotape analysis of each approach. ATD will set up temporary video cameras on a corner of the intersection to simultaneously observe the approach stop bar and the controlling signal head. Each approach is recorded for a period of 12 to 24 hours. The videotape is then analyzed to determine the total volume of traffic in the approach on a minute-by-minute basis. (Although the entire record is available, some clients only want to analyze the peak traffic periods in the interest of economy.) The number of violators is counted for a specific period of time. The infractions can be measured with respect to the current legal criteria by determining whether the suspect vehicle crosses the stop bar within 0.1 second, 0.2 second, or 0.3+ second after the stop signal is activated. The signal head can also be evaluated as to the length of time each phase of the signal head is active.
- 5) We evaluate the approach to determine the traffic volume in relationship to the signal timing. We want to know if most of the traffic arrives just as the signal changes to red, whether the signal changes when there is very little traffic approaching, or if the queue has emptied when the signal changes to red. A significant red light running problem may be corrected by a phase adjustment in signal timing!

Final Report & Recommendations

We provide a final report to the city government or private consultant identifying each approach that has been evaluated with our recommendations concerning the approach. If it is indeed discovered that a significant number of violations are detected, we provide our client cities with the names, addresses and contact persons for a number of red light enforcement companies. We will assist the community in preparing bid specifications for obtaining bids on enforcement activities if desired.

If requested, we will provide a review of a number of cities that have successfully implemented red light enforcement programs. We will provide reports detailing the effects on traffic flow, traffic safety, the re-

duction in red light running accidents, and the effects upon the severity of injuries encountered when accidents do occur. We will also provide names and phone numbers of red light program personnel so that you may solicit up-to-date information regarding their programs.

Various cities have negotiated different approaches to pay for the red light running enforcement systems. Some cities have received enough revenue from these installations to completely finance the systems and even provide for a modest surplus of funds. Some red-light enforcement companies suggest that a viable approach may have as few as 10 violators while others recommend a minimum of 25 violations per day.

Some cities request that surveys be run for several days. We do not usually recommend this practice because it is costly and does not provide much additional information. During past performance, we have discovered that variations in violations from day-to-day do not usually exceed more than plus/minus a few vehicles.

Professional Services – Fee Estimates

We will provide pricing information with respect to your specific requirements. Please provide us with the total number of approaches, the hours to be recorded for each approach, and the hours to be analyzed for each approach. Indicate whether the data is to include the number of violations only or if traffic volume plus violations is wanted. When possible, we can achieve some savings by using a three-camera system with one camera observing the stop bar and two zoom cameras observing the signal heads which control the through-put traffic and the left turn traffic. Slight changes may be incurred due to field evaluation of the intersections.

Insurance

ATD Northwest carries insurance that is compatible with most cities throughout the U.S. Certificates of Insurance will be provided before contract acceptance.

License & Encroachment Permits.

ATD Northwest will comply with the requirements for all city departments in accordance with contract requirements. We will arrange with the city DPW and Police Departments for the proper permits to conduct our studies.

Alternative Studies

Speed Assessment:

For course speed assessment we can establish a fiducial mark that enables us to measure approximate vehicle speed from the video image. If more precise speed assessment is desired, we can also conduct a radar or laser speed assessment study on a parallel program while the red-light assessments are taking place. A separate system is required. A wide-angle picture of the vehicle, the license plate of the vehicle, and the speed of the vehicle are recorded in a quad/split image on the video tape recorder. Time and Date information is also recorded for reference purposes. This data is not for enforcement purposes but only to determine the magnitude of excess speed situations. A final report is generated which provides data on the volume of traffic, the number of violators the maximum violation speed and the average speed of all vehicles.

Stop Sign Violations:

We can conduct a stop sign violation assessment by positioning a video system to observe the stop bar and check if a full-stop was made, a rolling stop, or no stop at all. We can also collect license plate data if desired.

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