

# HOV STUDIES AND VEHICLE OCCUPANCY SURVEYS

## SCOPE FOR PROFESSIONAL PASSENGER COUNT AND ANALYSIS

### **BACKGROUND:**



From time to time there is a need to determine the number of people traveling in an automobile or other vehicle. For instance, we may want to understand the number of vehicles that are traveling in non-HOV lanes that could be traveling in an HOV lane. Conversely, how many vehicles that are traveling in an HOV lane are violating the concept?

High speed video cameras are set-up on an overpass or at the side-of-the-road to observe the front seats of vehicles traveling on the highway. Through the use of near infrared technology, we can observe the number of occupants traveling in the front seats of the vehicles

quite well unless a little child is really slouched down in a sleeping position. We can count the number of vehicles passing a check point and the number of vehicles with two or more individuals in the front seat.

On the other hand, we have determined that video cameras or IR cameras are not suitable to determine the total number of occupants in all seats of a moving vehicle. We have run numerous tests to determine a statistical average of the occupants of a vehicle when there are one, two or three occupants in the front seat. We have not been able to arrive at any statistical conclusions because of the large number of SUV vehicles, vans and dual-cab trucks traveling on the highway have tinted side windows. We have experimented with near IR, IR and UV sensors, all to no avail!

Another area in which video or IR cameras is useful is in determining the current rider ship of busses or train cars. Miniature cameras are located over the entrance or exit doors of the vehicle to observe the number of people entering or leaving the passenger compartment at each stop. For marketing purposes, information may be acquired as to the approximate age of the individuals, their sex, and the possibility of ethnic background. We can achieve an accurate record as to the total number entering or leaving the vehicle at a particular stop and also summarize the total number of passengers at any given time during the entire transit route.

Passenger movements at a bus stop or train terminal may also be of value to the system planner. We can determine how long it takes to load or unload the vehicle, how many people are leaving the stop completely or how many are transferring to other vehicles.

Portable video surveillance systems provide archival data over a 24 hour or longer period of time that is extremely difficult to obtain or cost prohibitive when conducted by traditional man-on-the-street observations.

When you have a unique need for passenger analysis, give us a call. We just might come up with a unique solution to your requirement.

### **ATD NORTHWEST INC.**

18080 NE 68TH Street, Suite A-150, Redmond, WA 98052 \* Tel: 425-558-0359 \* Fax: 425-558-9413 E-Mail: [atd@atdnw.com](mailto:atd@atdnw.com)