



To ensure statistical significance, the demand presence accuracy and error will be calculated over time intervals that contain a minimum of one hundred, protected turning movements. These performance specifications will be achieved with adequate detection coverage to sample the driver-behavior pattern of vehicles at the stop line. The calculation of the demand presence error will not include turning movements where vehicles do not pass through the detectors, or where they stop short or stop beyond the combined detection zones. Vehicle lane change anomalies will be excluded from the calculations.

2.9 Count and Speed Detection Performance

Count and speed measurements typically are closer to the sensor than the stop line and occur while the phase is in motion. The position of the detectors allows for greater vehicle separation and better data collection.

The detection module will accurately count multiple vehicles with more than 98% accuracy under all operating conditions for approaching traffic. The count measurement will include more than 100 vehicles in the sample to ensure statistical significance. These specifications will apply to vehicles that travel through the complete detector and shall not include partial detection situations created by lane-changing maneuvers.

The detection module will accurately measure average (arithmetic mean) speed of multiple vehicles with more than 98% accuracy under all operating conditions for approaching traffic. The average speed measurement will include more than 100 vehicles in the sample to ensure statistical significance. The detection module will accurately measure individual vehicle speeds with more than 98% accuracy under all operating conditions for vehicles approaching the sensor. These specifications will apply to vehicles that travel through the complete detector and will not include partial detection situations created by lane-changing maneuvers.

2.10 Video Processing

The sensor will include a compact, color, zoom camera, designed to meet the performance requirements of the traffic intersection environment. A custom aperture and sunshield will ensure consistent high-quality video is available in all weather, lighting, and traffic congestion conditions.

The color video output will provide graphics overlay that indicates the current real-time detector state. The detection module will process a maximum of ninety-nine (99) virtual detection objects placed anywhere in the field of view. An operator-defined Label, visible in the processed video, will be able to show an identifying location title of the camera field of view, various operational system parameters such as time of day, date, IP address, baud rate, processing load index, the state of any detector output, and the state of any detector input.

Snapshot images will be transferred using one of the following options: a. Uncompressed black and white bitmap, b. JPEG black and white image, c. Uncompressed color bitmap, d. JPEG color bitmap. The quality of snapshot images transferred will be user selectable.

It will be possible to stream video from the detection module. It will be possible to save the streamed video files to a network computer hard drive for replay. The compressed video stream will also contain the detector state information that can be overlaid on the video at the operator's request. A single workstation will be able to access and view the compressed digital video stream.

2.11 Radar Processing

The sensor will include rugged, easily adjusted radar, designed to meet the performance requirements of the traffic intersection environment. The intelligent decision logic will use radar information in adverse conditions, such as