Application Note D

Traffic Monitoring Using the Doppler Radar Non-Contact Speed Sensor

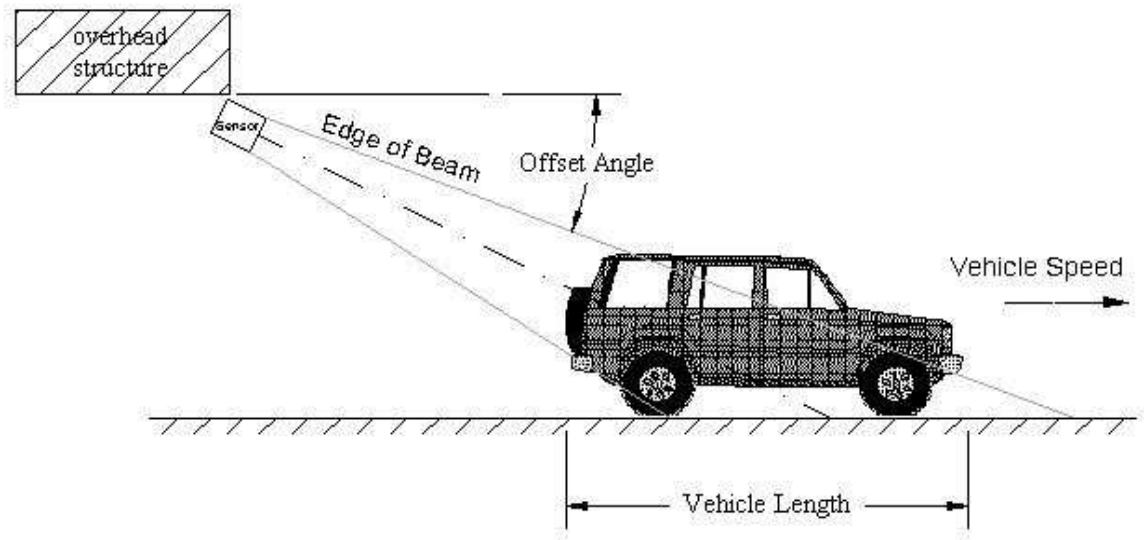

Figure 1 - Freeway Test Setup

In this application, the Doppler Speed Sensor was used to monitor traffic on a highway in a single lane. The data collected using the sensor was used in counting vehicles, measuring their speeds and performing approximate vehicle classifications.

Test Setup

The sensor was mounted on an overpass, pointing down toward the roadway at approximately a 30° angle from the horizontal. This angle was chos en because it allowed the sensor to see the complete width of the lane, without tracking vehicles in adjacent lanes. The sensor output was sampled by a counter channel on a Data Acquisition System, which converted the frequency output of the speed sensor to mph and corrected for the offset angle. The test was also monitored using a video camera.

Example Data

An excerpt of the test data is shown in Figure Two which demonstrates that the vehicle speeds can be measured as well as vehicle counts. Notice that longer vehicles can be distinguished from shorter vehicles by the length of time that the sensor was locked allowing approximate classification of vehicles.

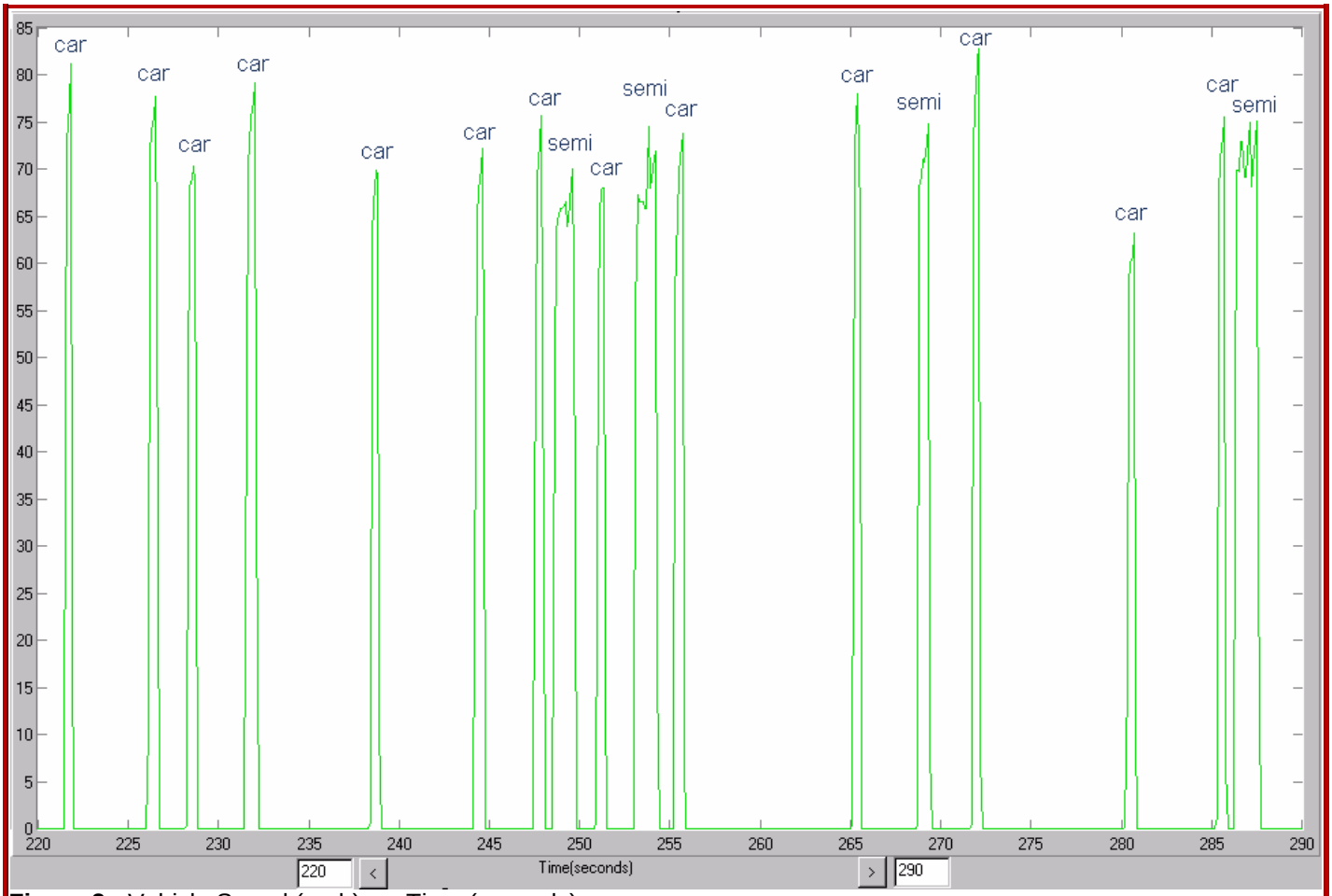

Figure 2 - Vehicle Speed (mph) vs. Time (seconds)