



Case Study: Traffic classification and spot speed surveys using smart camera technology.

The ability to count the number of vehicle, classify them into a number of classes and to estimate their spot speed in real time is of great use to traffic planners and engineers. Smart CCTV has developed a survey solution capable of acquiring data for up to 7 days from the roadside and delivering the data back in almost real time (the data for 09:00 to 09:15 could be available by 09:20 back at your office).



In many cases (as shown in the picture above) the counting / classification and spot speed estimation camera is combined with smart ANPR cameras to give journey times for the different types of vehicles along specific sections of road.

We are able to provide from one Counting / Classification camera, data from 2 lanes of traffic which consists of the total number of vehicles per class by lane and their estimated speed. This is available as metadata in a .csv file format or in graphical form.

An example of the data over a 24 hour period is shown below in the figure below. The traffic was divided into for classes of vehicle based on the size of the vehicle:

Cycles (Both motor and pedal)

Cars and Light Vans

Light Goods vehicles

Large Vehicles



In this application we were able to provide infra red illumination at night time (it was an unlit section of road). As can be seen from the graph, the speed of motor cycles and their numbers falls off overnight to zero. This is due to the fact that they were too small and fast to be identified with the IR illumination but we were able to count / classify and estimate spot speed for all of the other classes through the whole 24 hour period.

Historically traffic surveys have only been able to be done for 12 hours due the amount of video data acquired and the human effort required to enumerate. Our use of the latest image processing techniques allow us to reduce the data load as the count / class speed information is much less data intensive than video and to remove the need for human enumeration.

For more information on our smart camera, image processing based traffic survey solutions please contact

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