AN AUTOMATED VEHICLE COUNTING SYSTEM: COUNTING VEHICLES IN DIFFERENT LANES.

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An Automated Vehicle Counting System is a kind of Intelligent Vehicle Counting System. The system's scope in research and development is considerably broad due to the presence of vast unexplored areas. The work has been commercialized significantly and systems already exist in some countries, but there is no such system in Sri Lanka.

This research work focuses on counting vehicles in different lanes of roads. The report proposes an automated vehicle counting system that solves the problems encountered in manual vehicle counting systems. The system facilitates counting of vehicles in different lanes of roads. The proposed system consists of four main stages. First it takes the background image and applies line detection techniques to detect the lane markers. Then it defines different regions for each lane in both background and main images and subtracts the background image to obtain the image with only vehicles in each lane. Finally, edge detection techniques are used to segment vehicles in each lane.

The algorithms are used to link the lane markers of the road and to count vehicles. These algorithms are based on image processing techniques.

The proposed system has been implemented in Matlab 7.0 environment and tested for its validity. The test results show an overall accuracy of 83%.