The NPD (Number Plate Detection) system is an image processing technology. This type of system is widely used in Traffic control areas, tolling, parking area etc. It is one of the necessary systems designed to detect the vehicle number plate. With the development of this system, it becomes easy to keep a record of the increasing number of vehicles and use it whenever required. The main objective is to design an efficient vehicle identification system by using vehicle number plate. The system inputs a vehicle image and separates the number plate from the rest of the image. The captured images are then extracted by using the segmentation process. Optical character recognition is used to identify the characters. The system is implemented and simulated on MATLAB and performance is tested on real images.