

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM, KARNATAKA-590014



A PROJECT REPORT ON

“Automatic control and collision avoidance in BRT (Bus Rapid Transport) system”

**Submitted in Partial fulfillment of the requirements of the degree of
BACHELOR OF ENGINEERING**

In

Dept. of Electronics and Communication Engineering

For the academic year

2009-2010

By

Prashanth M(1BT06EC050)

Jeril Joseph(1BT06EC022)

Arunnath P K(1BT06EC009)

Nidhin Narayanan(1BT06EC046)

Under the guidance of

Mr. Basavaraj G K

Asst.Prof, Dept of ECE



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

B.T.L.INSTITUTE OF TECHNOLOGY Bangalore-560 099

ABSTRACT

In Delhi and in many other cities, we have BRT (Bus Rapid Transport system) in which we have separate lanes for buses. Buses ply only on these lanes and these lanes are separated from the rest of the road by barriers.

We propose to make these buses to be automatically driven and the role of the driver only limited as in case of trains.

We fit the vehicle with distance sensors (like ultrasonic sensors/IR sensors which are something like parking sensors) and an embedded processor or a controller (here ARM7 processor).

These sensors continuously monitor the distance from the vehicle and the barriers or other vehicles. The speed and steering of the vehicle are controlled by the processor.

If the vehicle gets too close to one of the barriers, the vehicle is automatically steered in the opposite direction. And if there is any obstacle in the front, the brake is automatically applied.

As an extension of it, we can integrate a GPS module in it too. We could define where exactly the stop is, so that the vehicle can continuously run until the stop comes.

So, this system would greatly improve the security of the vehicle. This would save a lot of lives.

It would also considerably decrease the time of travel. This would let the public transport system make a lot more attractive and thereby reducing the traffic.

Here we make just a prototype not considering many practical aspects of the actual system. We demonstrate this system by controlling DC motors which can be later varied to control the transmission system of the vehicle.