

# MECHATRONIC INDUCED CLAMPER OF ROAD ACCIDENTS (M.I.C.R.A)

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## ABSTRACT

Roads are human tragedy. They involve high human suffering and monetary costs in terms of untimely deaths, injuries and loss of potential income. Although we have taken many initiatives and are implementing various road safety improvement program the overall situation is revealed by data is far from satisfactory. During the calendar year 2011, there were close to 5 lakh road accidents in India which, resulted in more than 1.5 lakh person. These numbers translate intone road accident every minute, and one road accident death every 4 minute. Unfortunately, more than half the victims are in economically active age group of 25-65 years. The loss of the main bread winner can be catastrophic.

Many of countries have curbed the menace of road accidents by adopting a multipronged approach to road safety. The government alone cannot tackle road safety problems. There is a need for active involvement of all stake holders to promote policy reform and implementation of road safety measures and our project aims at the same. The traffic police play an important role and are much efficient in handling such problems. They only need a support from the pedestrians and a new invention on how we can control the death figures. Our project gives the best alternative to deal with this type of problems. Addressing road safety is comprehensive manner underscores the need to involve multiple agencies and sectors like health, transport and police. The present study provides the magnitude and various dimensions of road accidents in India.

**Keywords:** Accidents, Death figures, Road safety, Accident prevention, Pedestrian safety, Comprehensive study, Accident classification.

## I. MOTIVATION BEHIND IDEA

**TABLE1: Recent Accidental Statistical Data**

Year	Number of Accidents		Number of Persons		Accident Severity
	Total	Fatal	Killed	Injured	
2009	486384	110993	125660	515468	25.8
2010	499628	119558	134513	527512	26.9
2011	497686	121618	142485	511394	28.6

The total fatalities shown in the facts and figures published by the ministry of road and transport of India invoked us to reduce them [1].

## II. PROJECT DEFINITION

For our project we would be using counting sensors, the automatic barriers used in toll booth, red LED lights. As we all know that it is very risky to drive in Ghats as there are many chances of accidents on blind turns. So the main concept behind this project is that when a car is passing through the blind turn the sensors sense the cars and sends the signals to the other part of the road and the barriers at the other end gets closed till the car passes from the turn. The counting sensors used counts the number of cars passing through that point on a high density road in Ghats then the light at the other end starts to blink so that the driver at the other end gets cautioned about the no. of cars coming from the other side. So by using this concept many accidents can be stopped.

### 2.1 Project Components

**TABLE 2: Components Description.**

COMPONENTS	SPECIFICATIONS
AUTOMATIC BARRIER	Barrier Cabinet size: L:460mm x W:405mm x H:1340mm Barrier Base Foundation 600mm SQ. x 450mm deep ELECTRICAL REQUIREMENTS 6 amp, 3 wire, 230v, 50hz, single phase
Bi-directional wireless People Counter (PRx20W1 – PTx20-1)	Power supply: 2 x 1.5V AA Available RF frequencies: 868 MHz, 915 MHz and 2.4 GHz Wireless range: 30 m / 100 feet Power consumption: approximately 120Ua Battery life: approximately 1 year Maximum count value: 999999

## III. WORKING

### 3.1 Detecting the Presence of Car

Sensor Development International offers a solution to detect the presence of car and measure their proximity relative to a specific object. The measurement indicates the number of car that has moved close to a certain object and how long have they remained in that particular area. This information is sent to a local or remote



**REFERENCES**

- [1] <https://data.gov.in/keywords/indian-road-accident-data/>
- [2] <http://www.sdinternational.nl/>
- [3] Vehicle Detection Using AMR sensors-Honeywell
- [4] Alternative Vehicle Detection Technologies For Traffic Signal Systems: Technical Report by Dan Middleton, et al, Texas Transportation Institute.