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# A study on Accident Prone Devices to Control Road Accidents

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## *Abstract:*

*In the present era, the number of accidents are increasing in number and one of the reason to control with the help of the accident prone devices. The present study, deals with the review of the various accident prone areas, the reason behind the accident i.e. the speed, the vehicle issue, the irregularity and the driving of the drivers. The road accidents can cause both the economically as well as health destruction. The objective of the present paper is to explore the relationship between the occurred accidents and the intersection areas. The absolute difference will basically give the motion the frame. Hence the accident severity value has been included to remark the accident prone location. The devices are used for the study on the accident prone devices for the control of the road accidents. Hence it is reviewed that the future implementation is a lot more important for the control and measure of the road accidents.*

***Keywords***: *Accident Prone, Accident severity, Accident prone location, intersecting areas*

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**Introduction**

Road transportation is one of the best benefits provided to everyone by the facilitation of the movement of goods and individual. The road transportation help the individual to enable the unlimited accesses of economic markets, jobs, education and health care which conclusively provide the direct as well as indirect influence on health of the population of country.

In today's era of time day by day there is increase in the road accidents because of the several issues considered. In this case, traffic management is one of the serious issue for the society as well as their economy. Road traffic accidents are critical in urban and non-urban areas but it is interesting to assess the accident in urban areas rather than non-urban areas because the number of accidents in the urban areas are more. The accidents can be studied with the help of the two different approaches i.e. the prevention and the treatment. The treatment includes the accident statistics to evaluate High Crash Road Segments. Whereas in the prevention approach one can include the effective factors and indices on the occurrence of accident so as to recognize the segments which are very significantly prone towards the accident.

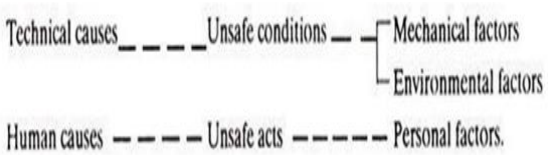


**Figure 1 - Cause of Accident**

**Speed Detection Techniques**

- **Radar Detectors** – The radar detectors are one of the technology used by the law enforcement agencies which is helpful in measuring the speed of a moving vehicle use a Doppler radar to beam a radio wave at vehicle. But it is less accurate and radio interference.


**Figure 2 - Radar Detector**

- **Lidar Detector** - It is also known as laser detector which is a passive device considered to detect and observe the infrared emission for the detection of the speed and warn motorists that their speed is measured. It is low in cost but cannot be used while a police car is in motion as it require the operator to actively target each of the vehicle.

Figure 3 – Lidar Detector

**Features of Accident Prone devices**

- Mechanical origins of factors
- Personal Protective Devices
- Leading Acid Valve
- Defective Agencies or devices
- Broken Safety Guards

**Review of Literature**

**Stanatiadis (1990)** detailed about relationship between the numbers of accident occur at the intersection areas and the elderly drivers and also discussed that certain factors of intersection traffic will influence the driver age more rather than the other drivers. The conclusion specifies that the elderly drivers is more than that of the other drivers with the consideration of certain circumstances.

**Froggatt and Smiley (1964)** stated about the accident proneness reviewed by the psychological

research workers in 1926. This paper basically focus on the work and theory of reason behind the accident proneness suited so readily recognized as an explanation fact. The author concluded by giving the hypothesis of an individual variation in responsibility as more accurate and the better agreement with the relevant data of the accident proneness.

**Keerthi, Shanmukh and Sivaram (2013)** covers the technologies that how the accident is detected and also updated with the victim status. It is also discussed in the paper that with the detection of the time laps the death rate will also detected. With the use of technique like GPS and GPRS on can easily locate the position of the accident. The future aspects is also focused where it is define that one need to have more structures like pre analysis of driver and then the vehicle get started.

**Goel and Sachdeva (2014)** stated about the increasing number of road accidents by the identification of accident prone locations on road stretch. The present paper study depends upon the data of road accident of the selected stretch of NH-1 linking Delhi-Ambala-Amritsar Road. The distance of 50 km stretch within RD 98 km to 148 km containing the data for 4 years i.e. 2007-2010. Hence the entire field study is conducted for the comparison of the analysis with their field result.

**Jhumat (2014)** discussed about the method for the determination of vehicle speed in the case of accident prone areas with the help of video frames which is captured from the camera fined on the road. The method is applied for the calculation of the velocity of the vehicle. The method comprises of motion of image, threshold is perform, and the isolated points are removed using the morphological operations. The future work is discussed on the basis of reducing the percentage error and the development method.

**Ivan et al. (2015)** stated that other than all other non-behavioral factors, one of the significant factor that influence the accident risk is low light conditions. The focus of the paper is to detect the low light condition on the traffic accidents in the city of Cluj-Napoca, Romania. Conclusively it is detailed that the assessment of the traffic accidents amount risk under the low light conditions and was evaluated by sum of hazards, vulnerability and susceptibility. Hence it is determined that light and speed are one of the main factors in accidents.

**Semnarshad et al. (2017)** analyzed that with the increase number of vehicles the rate of accident is also increase. The objective of the research paper is to determine the safety oriented threshold of the International Roughness Index (IRI) to understand the accident Prone Segments with the use of new segmentation method. So as to advance the identification of the accident prone system, will conclusively result the accurate segmentation and efficient reduction in the number of accidents on highways. The outcome principal is to preserve the most deteriorated segments with the consideration of budget constraints.

**Machsus et al. (2017)** discussed about the safety analysis on road at the area of west side of Achmad Yani Road Surabaya. The research is on the basis of survey of the secondary data of traffic accidents. The primary data include traffic data, geometric road data and the relevant supporting data. The stages like preparation stage, data collection, analysis and discussion and later the conclusion. The conclusion is done on the basis of survey and research on the traffic accident so as to measure the safety of road accidents.

## Conclusion

The present study deals with the control and measure of road accidents with the help of accident prone devices. As the number of accidents are increasing immensely and can be increasing with the increasing year. Hence the review included the prone devices, the vehicular speed factor, the driving of the drivers, the conditions like low light etc. All can be detected with the help of the accident prone devices which need a lot more updates and development so as to decrease the road accident and their effect on the country development..

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