

“Advance Road Safety For Ghat Road’s At Hairpin Bend”

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Abstract- “Speed Kills” , but still people don’t care enough to act safe while driving on road. Road traffic accidents and deaths caused by them are most critical issues now a days. It is also impacting the country’s economy. Research in this paper includes, important issues like road accident and their impacts, causes of this accident, effect of accident, prevention and control that we can improve this situation. Also it is not safe now a days to cross the ghat while having any long journey. Percentage of accident in ghat area is increasing day by day. Severity of this accidents are non-reparable. Road traffic accidents (RTA) are responsible for 1.2 million deaths worldwide each year. So it is first important to control this scenario and have some safety measures in ghat area. This paper includes some solutions and ideas to improve safety in ghat areas.

Keywords- Road safety, ghat section, accident.

INTRODUCTION-

Dr. R. Adams Cowley in 1961, recognizes that consultants will have a poorer chance of survival if they are not delivered to determine the care within one hour from time of accident. Mostly, in the hilly areas of Northern India (Uttarakhand) accidents due to poor development of national highways and hazard zones. In India the rate of accidents in ghat section is increasing day by day. In India 1 out of 6 serious victim’s dies, but in the U.S.A. the figure is 1:200. It will become the third largest contributor to the Global burden of the disease. It is estimated that 60,000 are killed on the roads every year.

- Preventive measures
- Engineering measures
- Enforcement of regulation.
- Educators of public in traffic laws.

Road design, road lighting, penance of the defective vehicles taken to decrease the rate of accidents. Speed control, traffic control, training and supervision, section observance of law and regulation and medical check up to all these points were included in the enforcement of regulation. It is necessary to provide education related to traffic laws to educate the road user regarding the necessary safety precaution taken while using the road.

2.1 Some road conditions responsible for accident

- Road crossing
- Potholes
- Damaged road
- Diversions
- Illegal speed breakers
- Merging of rural road with highways
- Signal crossing
- Narrow width of road at bridge section
- Ghat section

2.2 What is ghat roads?

Ghat Roads are access routes into the mountainous with number of hairpin bends, which is very risky as compare to normal routes. So chances of accidents in ghat section is more because of narrow road width, sharp bends, improper camber, valley side etc



Fig1.1 hairpin bend

2.3 What is Road Accident in Ghat section?

While driving on roads at ghat section many drivers faces accident which results them into serious injuries or even death the main reason behind this accident is curves and bends of roads while turning in Ghats. It becomes difficult to see vehicles coming from other lane

and turning drivers usually have to assume a way for turning at such critical section this creates a great risk of life other reason for accident in Ghat section is that only one vehicle can turn at turnings at a time. While driving on roads at ghats section many drivers faces accidents which result them into serious injuries or even death. The main reason behind this accidents is curves and bends of road while turning in ghats. It becomes difficult to see vehicle coming from other lane at turning. If two vehicles comes face to face while turning it creates a chance of accidents and it becomes difficult to handle. At night, due to no streetlights it becomes a difficult task of driving on ghats and especially while turning. It becomes more difficult at night to make a turn as vehicle coming from another side of road is not visible due to obstruction and darkness.

2.4 Causes of road accidents in ghat section-

1. This happens while a vehicle tries to overtake other vehicle when entering village town and suddenly a road divider starts.
2. For increasing number of accident is overloading vehicle
3. So many times while driving drivers are drunk
4. Lack of connectivity between villages Occur due to drivers losing control over the vehicle at sharp bends
5. 25% of accident have occur because of drunken driving.
6. Also the enforcement of police is weak
7. Topography nature of ground is another reason for spread in accident.
8. It is observed that 50% accidents have occurred while negotiating the sharp bends.
9. A majority of drivers are not properly trained and many drivers not even have their licence.
10. Basic elements in accident on road user's vehicle road and its condition environmental factors etc.
11. Drivers pedestrian's element of surprise passenger vehicle defects road condition Road design whether animal's other causes are also the cause of accident.

2.5 Effects-

- Death
- Injury
- Permanente Disability
- Temporary disability
- Vehicular damage
- Road damage



3. METHODOLOGY-

3.1 Use of C.C.T.V and L.C.D screen rather than mirror.

The use of cctv and LCD screen method most preferred as it create a clear and distinct view of vehicles coming from the other side. It does not make any distraction to drivers while driving. Its big size display the driver can easily keep an eye on the movement of the vehicles coming towards them and can make proper use of brakes acceleration and timing avoiding any accident. This technique is as same as watching a car in side mirror of a car but in a large screen with the use of camera fitted on the turning point. Due to its simple technique it is beneficial to use large number of places and even in critical cross section of roads.

Using mirror rather than CCTV and LED screen method has many side effect such as reflection of sun rays which can distract the driver's attention. At night due to insufficient light it does not create an image in the mirror of the opposite road. It also becomes more complicated to set the mirror at an given angle so that the vehicles at the opposite side of the road will be reflected and image can be seen in the mirror. Setting the mirror at a given angle also has a demerit, such as the headlight of the vehicle at opposite side of the road will fall on the mirror and will be reflected towards the vehicle on the either side. Also during the rainy season due to the presence of water and moist in the mirror it doesn't allows the observer to see the reflected image of the vehicles in that mirror.

3.2 working

As shown in fig 3.1

a)vehicle come from left side of hill can be capture by CCTV cam 'A' and display into LCD screen 'A', so due to this driver can get idea about vehicle comes from right side of hill

b)vehicle come from right side of hill can be capture by CCTV cam 'B' and display into LCD screen 'B', so due to

this driver can get idea about vehicle comes from left side of hill

By above technique driver get prior idea about upcoming vehicle from other side of hill at hairpin bend and avoid collision with vehicle comes from other side of hill

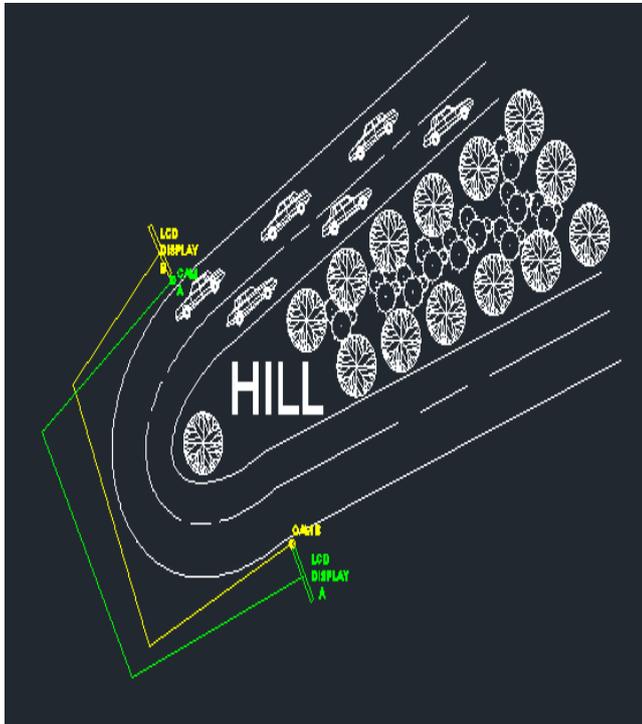


Fig. 3.1 Use of C.C.T.V and L.C.D screen

4. CONCLUSION-

In this study, we got to know about the accident which occurs on the road at Ghat section. We understand the causes and effect of accidents and then founded out a solution introducing a new technique to avoid such accident.

The new technique consists of two CCTV cameras and two LCD screen which displays the live scene captured from the CCTV. This help in reducing the accidents and to enjoy the safer ride.

Life is important than any other thing, once gone cannot be regained. So, to save this valuable life, this method have important role. It can help Road users at Ghats from being killed in a serious injury.

5. REFERENCES-

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