ROAD ACCIDENT SCENARIO IN CYBERABAD AND HYDERABAD

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Abstract-- **In developed countries Road accidents has been a major social problem. Developing countries like India have started facing large number of road traffic accidents. Road traffic accidents in Hyderabad city are alarming rate and Proper preventive measures are need to taken .The road accidents study is done for outside the city and within the city. This paper presents various aspects of Road traffic accidents in LB nagar and Saifabad. Three years (i.e.2012-2014) police stations data is used. Nature of accident in both the areas is Hit from Back and Hit pedestrian .The data analysis is done in various categories. Accidents have been a major social problem in the developed countries of world for over fifty years. It is only in the past decade that developing countries like India have began to experience large increase in the number of road accidents taking place and having found it necessary to institute road safety programs. Road accidents in Hyderabad can be studied by identifying the high accidents occurred area having a peak rate. The road accidents study can be done in two areas of Hyderabad city. The project involves identifying of road accidents in seven variations and finally giving solutions. The two areas namely Hayathnagar and Safibabad are the mainly facing alarming road accidents. The road accidents study of two areas is done by conduction two types of data collections. Data collection is done from the police stations of two areas. Based on those data the suitable recommendations are given for Hyderabad city and also for Indian cities. By conducting some type of survey in remaining areas of Hyderabad can reduce and prevent road accidents.**

Keywords: Analysis, preventive Safety measure, road traffic Accidents, Hit from Back, Hit pedestrian.

I. INTRODUCTION

India is said to be heart of south asia. India is undergoing mjor financial and demographic transition coupled with increasing urbanization and motorization. In seven metropolitan cities in India namely Ahmadabad, Bangalor, Mumbai, Kolkata, Delhi, Chennai and Hyderabad. In India, 16% of deaths due to non-communicable diseases are due to injuries 80% of injuries death is due to road traffic accidents in the year 2013.)

Transportation system is meant for movement of people and goods from one place to another place safely. Thus safety is one of the main aspects of the transportation system. Motorization has been happening rapidly throughout the world. This has increased the mobility of the people from one place to other and the accidents also. Road accidents became a serious problem. Accidents are social problems affecting people in many ways. Serious losses caused by road accidents demand the attention of the society and call for the solution of the problem. The prevention of road accidents should not be considered as purely technical exercise. It involves many factors like government, educator, engineers, enforcement, voluntary organizations etc.

A multi-disciplinary approach is needed in understanding the problem. The road safety problem has been analyzed in many different ways. Prominent among them are in four 'C' element forms.

    i.   Carriageway (Road)
    ii.   Carriers (Vehicles)
    iii.   Captain of the carrier (Driver)

iv.   Climate (Environment)

Similarly the approach of the road safety has taken a three 'E' element form.

    i.   Engineering
    ii.   Enforcement
    iii.   Education

There are four opportunities for the application of road safety engineering.

1. Safety conscious planning of new road network and new developments
2. Incorporation of safety features in the design of new road
3. Improvement of safety aspects of existing roads to avoid future problems
4. Implementation of known hazardous locations on the road network

1.1 Accident Scenario in India

Indian road traffic condiation is of Heterogeneous with more presence of two wheelers. This imbalance traffic conditions make the safety situation worse**.** The accidents rate is alarming and the accident rate increased around from the 406000 to 500000 during 2001-2014 and 138,268 were killed. In India, 65% of total accidents take place during night through the night traffic is hardly 20 % of 24hours volume which means that the accident in India during night is eight times greater than the day traffic.

1.2 Study Area

Hyderabad is the capital city of the state of "Telangana" in South India. Hyderabad occupies 650square kilometers (250sqmi).The Hyderabad is one of the Metropolitan cites in India greater hub for Administrative, Financial, Industrial, Educational, Medical, Cultural activities resulting high growth rate. There are three National High- ways and five State Highways

II. OBJECTIVE OF STUDY

The main objectives of this study are-

➤ To analyze the distribution of fatal, non-fatal accidents took place.

➤ To apprise the causes of accidents.

➤ To study hourly incidents of total accidents.

➤ To provide safety preventive measures to reduce pedestrian's accidents.

II. LITERATURE REVIEW

General

Road accidents are not intentionally caused but occurs due to complex reason of   induced conditions due to

➤ Geometrical and surface conditions of the road

➤ Dynamic road worthy conditions of vehicle

➤ Physical and psychological condition of the drivers

➤ Environmental conditions

These literatures are considered because by using only police station data they have given some counter measures to reduce road accident.

Road Accident Scenario in Kolkata: A spatio temporal study by Amith Ghosh and Suman Paul, (2009).Kolkata is a metropolitan city ,the traffic accident situation in Kolkata police station is really alarming and the loss of lives are property damages are expressed. In this city has high population density and huge pressure of vehicles on road. Data on accidents were collected from Lal Bazar, Police Head Quarters in the city from three years (i.e. 2007-2009).In this study they have taken only police station data, It was found that a total 7217 accidents occurred during this period. Accident data analysis is done. From the data they have concluded that 25% victims are between ages 18 to 30 years, 82% victims are the pedestrians only,21% bus and truck are mostly involved in accidents. To minimize the accidents at greater extent by providing round hump to slow down the fast moving vehicles, installing good signal system, preventing the U-turn, eliminating the irregular sopping of auto-rickshaw at intersections and installing road divider to prevent lane changing activities, introducing raised hump with vertical post, side walk for pedestrians and control of road side parking. Identification and analysis of accident black spots using Geographic information System by Liyamol isen, Shibu A and Saran M.S,(2013).the Kerala Road Safety Authority(KRSA) found that maximum number of accidents black spots are in Alappuzha and Erankulam districts. Data collection is done in two types primary data and secondary data. Three years data is collected (i.e. 2010-2012).The primary data collected from field road inventory survey, traffic volume count, speed and delay study. The secondary data is collected from State Crime Records Bureau (SCRB), Trivandrum. From the data using GIS the black spots are identified developing weighted severity index method (WSI).From that six black spots are identified in Alappuzha district and 10 black spots are identified in Ernakulam were done using ARCGIS. Some suggestions are given for Alappuzha

district like to increase the number of lanes from two lanes to four lanes, provide footpath on both sides of the road for pedestrians, provide adequate drainages, provide separate bus bays for avoiding delay of other vehicles at the bus stops, take suitable geometric modifications to reduce speed of vehicle and repair pot holes for the safety of vehicle users. Similarly for Ernakulam district like to provide necessary road signs and markings, provide sufficient road way width, remove illegal construction from the road, provide adequate sight distances. Estimation of influence on type of collision for road accidents using logits models in Cyberabad-Hederabad-India by Dr.M.Kumar and A.Ramesh, (2014).Hyderabad is a metropolitan city mixed traffic conditions. In Hyderabad Accident rate is really alarming. Data collection is done from the various police stations. Three years data is collected (i.e. 2009-2011) From the data yearly comparison, monthly variation of accidents during (2010 to 2011), Nature of accidents occurred and causes of accidents is done. From the data analysis Logistic Regression is used for development of models based on severity and chi-square test results for severity and type of collision (fatal) are developed. Conclusion of the study is observed that day time accidents are marginally lesser than night time accidents. More number of accidents occurred in Balanagar division, the Rear end Severity (fatal) in accidents seem to be very less with a odds ratio of -0.022 and not much during 2009-2011.

III. EXPERIMENTAL INVESTIGATIONS

The case study involves accident data analysis for Cyberabad and Hyderabad. The field survey is performed for study areas namely LB nagar and Saifabad These include selected areas police station accident data.
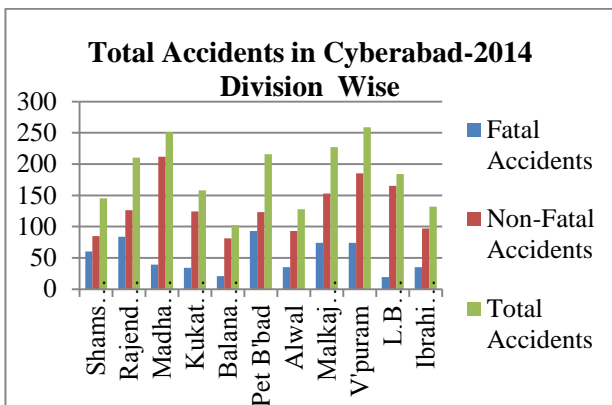
Fig1: Total no. of Accidents Occurred in Cyberabad Division Wise

Total Accidents in Cyberabad-2014			
Month wise			
Month	Fatal	Non-fatal	Total accidents
January	91	212	303
February	65	184	249
March	83	203	286
April	82	176	258
May	97	186	283
June	79	207	286
July	71	185	256
August	83	178	261
September	`	173	250
October	77	204	281
November	91	217	308
December	90	185	275
Grand Total	986	2310	3296
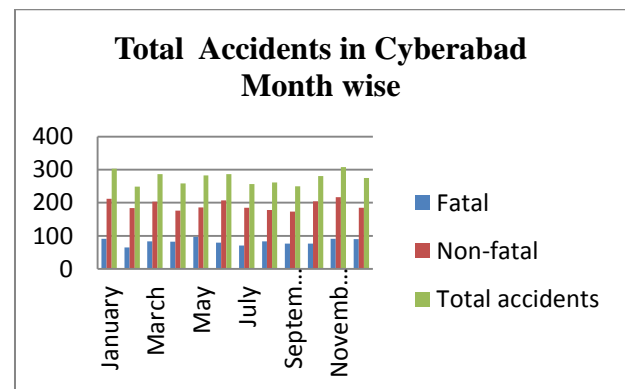
Fig 3: No. of Accidents Occurred in Cyberabad Month Wise

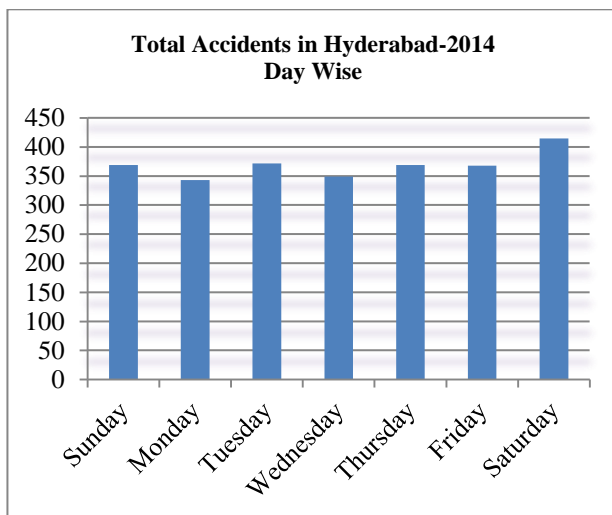| Total Accidents in Hyderabad-2014	
Day wise	
Day	Total Accidents
Sunday	369
Monday	343
Tuesday	372
Wednesday	349
Thursday	369
Friday	368
Saturday	415
Grand total	**2585**

421

Fig 4: No. of Accidents Occurred in Hyderabad Day Wise

IV. CONCLUSION

In Monthly wise Accident Report the Non-fatal accidents rate is peak in the month of November, Fatal accidents are is peak in the month of December. In Hourly wise Accident Report high number of accidents occurred during 12am-2am duration time with two hours interwell.In Yearly wise Accident Report the variations in Non-fatal accidents increased and Fatal accidents rate is decreased. Nature of Accident Report shows Hit from Back cases are high and Hit pedestrian are in peak levels. In victim vehicles profile Accident Report 2wheelers, cars and LCV are highly involved in road accidents. In accused vehicles profile Accident Report Cars, 2wheelers,Buses and LCV are highly .

V RECOMMENDATIONS

Common Recommendations for both areas:

- According to the favorable weather conditions speed limits are need to maintain.
- Every year after rainy season road conditions are need to check because of rainfalls roads may get damaged. So road repairs are need to done. vehicle tyres are also need to check.
- ITS technology system is to be introduced in city outskirts also. Because to create a better awareness and to control road accidents upto some extent.
- Need to check traffic signal system isproperly implemented are not.
- Proper street lights and traffic indicators are needed to provide in city outskirts during night times.
- During peak period duration temporary traffic

barriers are provided for free left and right.
- Pavement Geometric modification is needed to do according to its road t r a f f i c conditions.
- Traffic rules are to be following very strictly .If not the fine amount should be increase and the license should be canceled.
- Raised humps are needed to provide with marking to slowdown the fast moving vehicles.
- Interceptors are to be fixed to monitor speed limits of moving vehicles.
- Make a note that the vehicle is regularly checked and maintained.
- 2Wheelers vehicles count is increasing day by day due to this traffic volume is also reaching peak levels. So need to provide private buses for offices to reduce 2Wheelers count on roads.
- Pedestrians signals are to be introduced in city outskirts also for good visibility
- Cross walks tracks are provided for both sides of the road.
- Need to introduce raised hump with vertical post for pedestrians crossing. For good visibility during night time.
- Separate lane is provided for 2Wheelers and Cars.
- Ensure sure that vehicle headlights and taillights are in working condition or not.
- Speed control is maintained according to the present traffic conditions.
- Limit and control self night driving.
- Eliminate Irregular stopping of auto-rickshaws are to be needed.
- Control Road side parking according to traffic conditions.
- Provide Proper free left

VI REFERENCES

1. Amith Gosh and Suman Paul (2013), "Road Accident Acenario in Kolkata: A spatio-temporal Study", European journal of applied Engineering and science research.
2. Basri Lenjani,Salih Krasniqi,Njlazi Gashi,Ilaz Bunjaku and Thaxhedin Zaim (2012),"Frequency of Road Accidents in Prishtina in the Period 2007-2010"
3. Dr.M.Kumar and A.Ramesh (2014), "Estimation of Influence on type of Collection for Road Accidents using Logit models in Cyberabad – Hederabad - India", Institute of research Engineers and doctor.
4. G.Kondal Rao (2013), "Road Traffic Safety Mangement in India-analysis-Exploring

Solutions"International Journal pr Application or Innovation in Engineering & Management(IJAIEM)

5. Guler yalcin (2013), "Non-spatial analysis for the road traffic accidents", Lumen international conference Logos University Mentality education Novelty (LUMEN).

6. "Highway Engineering" by S.K.Khanna and C.E.G.Justo, Nem Chand & Bros (2011).

7. "Hyderabad Wikipedia"

8. IRC:53-(2012) Road Accident recording forms A1 and A4

9. Mark Richmund DE LEON , Nelson DOROY , Hussein LIDASAN and Jun CASTRO(2013), "Black spots Cluster Analysis of Motorcycle Accidents"

10. Mohamad Ghazali Masuri,Khairil Anuar MD Isa & Mohd Tahir (2012), "Children,Young and Road Environment:Road Traffic Accident" in Kuching,Malayasia.Procedia-Social and Behavioral Science

11. YU Qing-yuan(2013), "Causes and Prevention Measures of Secondary Rear-end Accidents in the Rescue of Highway Traffic Accidents.