



Road Accident Scenario and safety measures in Yacharam

K.Aparna¹

M.Tech, Transportation Engineering,
Sree Dattha Engineering College (Autonomous)
Sheriguda

T.Pavan Kumar²

M.Tech, Transportation Engineering,
T.K.R Engineering College (Autonomous)
Hyderabad

Abstracts--- In industrialized nations around the world, accidents have been a significant social issue for more than 70 years. The number of traffic accidents in emerging nations like India has only significantly increased within the last ten years. The number of road accidents in Hyderabad, both inside and outside the city, is worrying, and appropriate preventative steps are not being implemented. One area in Hyderabad is selected for the road accident study. Various features of traffic accidents in Yacharam are presented in this research. Three years' worth of accident data were gathered from police stations (i.e., 2021-2023).

Keywords Alarming, Accidents, countermeasures

1. INTRODUCTION

India is regarded as South Asia's core. India is going through a significant shift in its economy and population, as well as increasing urbanisation and motorization. India has seven cosmopolitan cities: Hyderabad, Ahmadabad, Chennai, Delhi, Mumbai, Kolkata, and Bangalore. Injuries account for 11% of non-communicable disease-related deaths in India. Road traffic accidents are the cause of 81% of injuries and deaths (NCRB 2021).

Indian Accident Scenario

The traffic in India is diverse, with a high concentration of two-wheelers. The situation regarding safety is exacerbated by the mixed traffic circumstances. The severity of traffic accidents occurring at a startling rate. The number of accidents climbed with time, with 405,637 occurring in 2001 and 490,383 occurring in 2014—a year in which 138,258 people died. 60% of all accidents in India occur at night, even though only 15% of all travel occurs during the day. This implies that nighttime driving in India is eight times more dangerous than daytime transportation.

Study Area

The capital of the South Indian state of "Telangana" is Hyderabad. The area of Hyderabad is 650 square kilometres, or 250 sqmi. According to the 2014 Census, the population has surpassed 12 million. With a fast growth rate, the Hyderabad Metropolitan Development Authority (HMDA) is promoting itself as a great hub for administrative, financial, industrial, educational, medical, and cultural activities. There are five State Highways and three National Highways.

2. Objective of the Study

The major objectives of this study are-

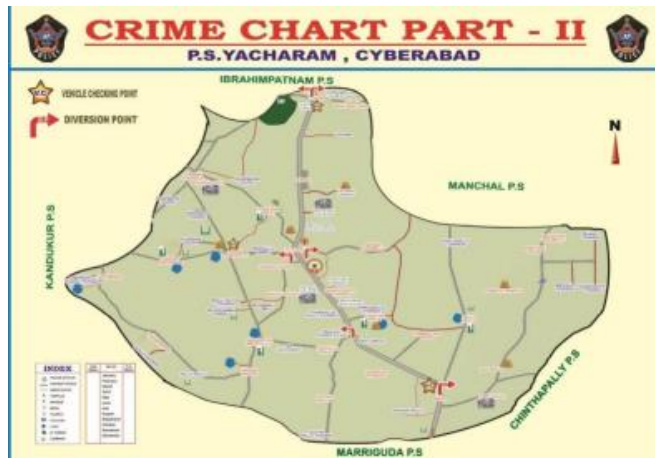
- To examine the distribution of vehicle damage, non-fatal, and fatal accidents that occurred between 2021 and 2023.
- Examining the reasons behind mishaps from 2021 to 2023.
- To report total accidents on an hourly basis.
- To offer safety precautions to lessen collisions involving pedestrians.

3. METHODOLOGY

The study includes reviews of available literature on road accidents, safety and prevention analysis. This process has helped for better conceptualization of the study for Cyberabad and Hyderabad. The preliminary survey are performed for identification of suitable study area namely Yacharam. These include selected areas police station accident data.

The Yacharam police station boundary map and road network map of this particular area are also being collected. From the present scenario of road accident around the world one can easily realize that how much, this sudden occurrence is crucial to mankind and how much it is necessary to study on this dangerous occurrence to save the mankind. Here in this chart Yacharam police station boundary area. The road accidents all over the world due to the high population density and huge pressure of vehicle on the road. And these Yacharam roads are generally busiest roads as it has some industries, high vegetation and rapidly developing town. It also

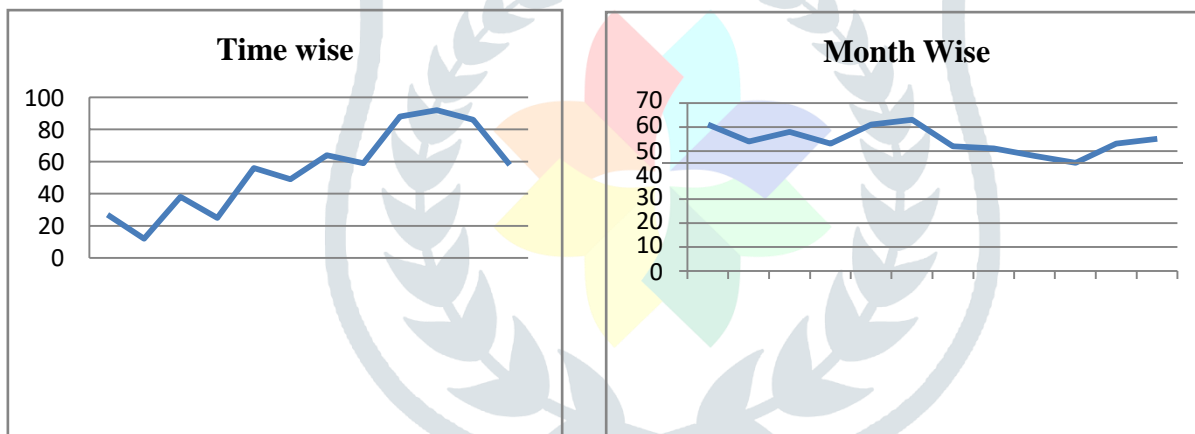
connected to the National high way.

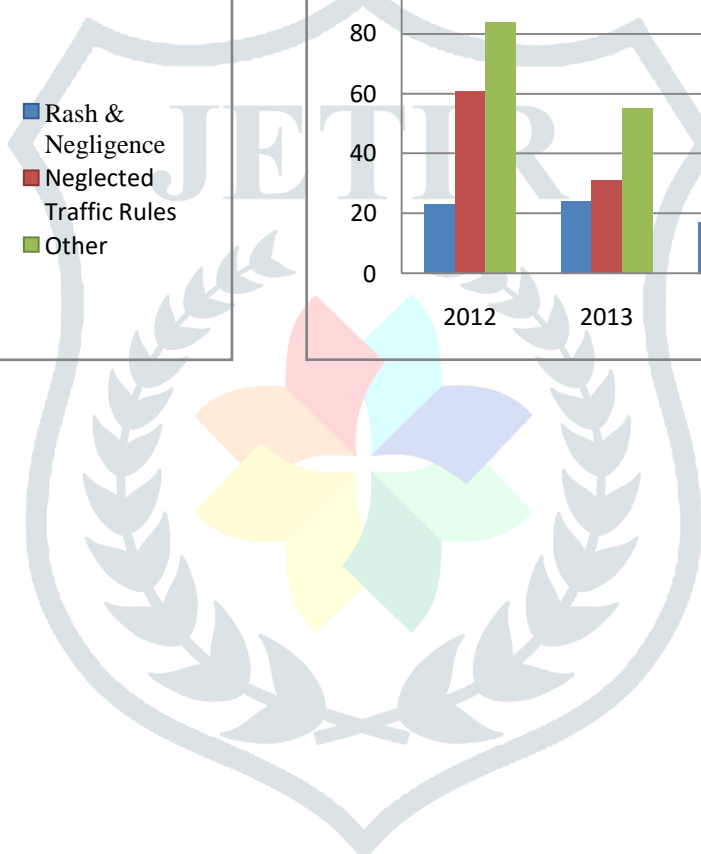
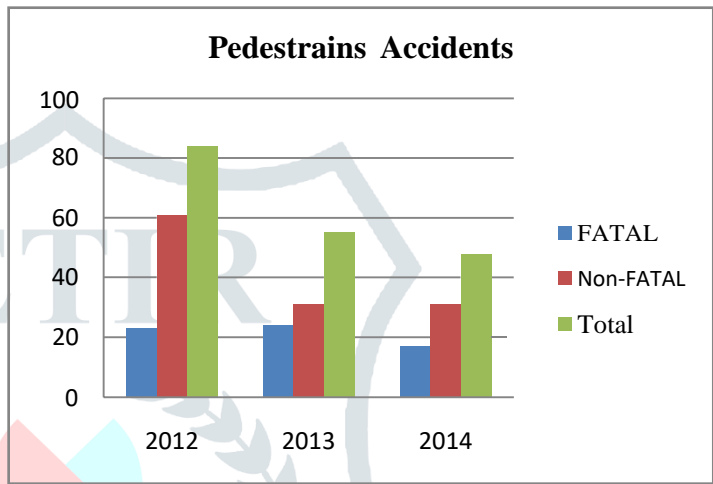
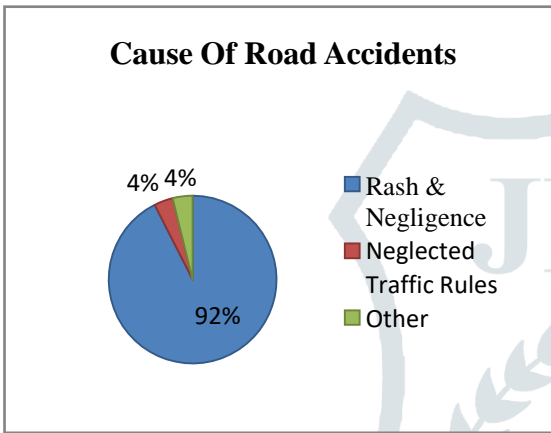
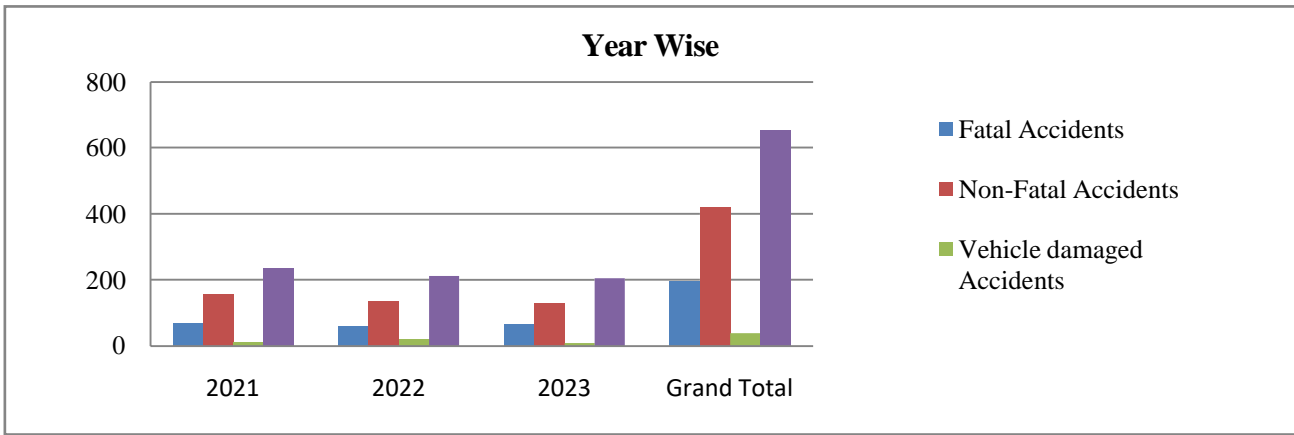


12AM-2AM	January	September
2AM-4AM	February	October
4AM-6AM	March	November
6AM-8AM	April	December
8AM-10AM	May	
10AM-12PM	June	
12PM-2PM	July	
2PM-4PM	August	
4PM-6PM		
6PM-8PM		
8PM-10PM		
10PM-12AM		

4.RESULTS AND DISCUSSION

The results are given for three i.e. 2021-2022-2023 for Yacharam area.





More number of accidents occurred in the month of June. Were as not only in the month of June even in the month of January and May with little variations. High number of accidents occurred during 6PM-8PM duration. But if we observe clearly are can notice that during 4PM-6PM, 6PM-8PM and 8PM-10PM duration time accidents rate is increased gradually. Total accidents rate is compared with three years data. From that fatal and non-fatal accidents are increased and vehicle damaged accidents are decreased. The causes of accidents are rash and negligence manner is 92.5%, neglecting traffic rules is 3.6% and other causes id 3.8% are occurred. In victim vehicles profile 2Wheelers takes first position and cars takes second position. In accused vehicles profile Lorries and Cars are highly involved in accidents.2Wheelers takes second position, Buses and DCMs takes third posi- tion. The pedestrians involvement in accidents is reduced well compared to 2021-2022.But not much variation between 2022 and 2023.Fatal accidents is reduced.

Perception Study:

A perception study being done in those areas which are identified as the accident black spot to get the perception about the causes of frequent occurrence of accident based on the view of the dwellers of that particular area as well as the daily commute. 74 This below picture describes about the blackspots at the YACHARAM PS Jurisdiction.

1.NAKKAGUTA THANDA This is the village between YACHARAM and THAKKELLAPELLY THANDA. The road which is passing through this village recorded much number of accidents. The road was straight about 1KM and the Speed limit is 60KMPH.Many vehicle users not following the displayed speed limit, due to the over speeding the Accidents are happening in this area.

2.DAVID MEMORIAL COLLEGE It is located in between YACHARAM and NAKKAGUTTA. It is college zone where the road is with ups and downs with straight pavement about 0.5KM. as it is straight speed is increasing because of this Accidents are happening.

3.THAMMALONIGUDA GATE It is located in between THAKKELLAPALLY THANDA and MALL as the curve seen in below picture the sign boards are provided one side of the road and another side is not provided. Due to this the vehicles are passing with overspeed, leads to accidents.

4.THAKKELLAPELLYGATE (SLAB BRIDGE): This SLAB-BRIDGE is located in between CHINTHAPATLA GATE and THAKKELLAPELLY GATE. As the slab-bridge was constructed because the STREAM is passing through it. On the road there no proper sign boards are provided. One sign board is covered with vegetation. As we see in the below picture HANDRAILS (parapet wall) were damaged due to Road Accidents. Improper road maintenance works and user negligence found as major reasons for accidents.

5.BALAGRAM EYE HOSPITAL: It is located in between NAKKAGUTTA THANDA and THAKKELLAPELLY THANDA. It is straight and slight slope due to this slope vehicles are passing with higher rate of speed. Over-speed is the major reason for occurrence of accidents. In this area no sign boards and no warning signs were provided to control the speed of vehicles.





5.RECOMMENDATIONS

Recommendations for Yacharam

- Proper road markings are need to give and it should be visible in all times.
 - Make sure that vehicle headlights and taillights are working properly are not.
 - Control speeds are to be maintained according to the present traffic conditions.
 - Limit self night driving.
 - Proper awareness is required.
 - Need to avoid improper dividers.
 - At peak periods duration extra traffic observers are required.
 - Need to follow traffic rules very strictly.
 - Raised humps are provided to slowdown the fast moving vehicles.
- Speed radars are provided to monitor speed limits of moving vehicles.
 - Irregular stopping of auto-rickshaws are to be eliminated.
 - Road side parking is to be controlled.
 - Need to provide proper free lift.
 - 2Wheelers vehicles are increasing day by day due to this traffic volume is also increasing. So need to provide private buses for offices to reduce 2Wheelers count on roads.
 - Driving licenses should only be issued to those who have passed through a series of driving test.
 - Need to provide raised pedestrians (cross walks) marking is given for visibility.
 - Sidewalks tracks are provided for both sides of the road
 - Geometric pavement modification is needed to do according to its road traffic conditions.
 - Strictly traffic rules are to be follow.
 - Proper traffic signs and markings are needed to provide.
 - Raised humps are needed to provide with marking to slow-down the fast moving vehicles.
 - Speed radars are to be fixed to monitor speed limits of moving vehicles.
 - Raised speed humps and cross walks are need to design together and marking is given to slow fast moving vehicles.

6.REFERENCES

1. Amith Gosh and Suman Paul (2013), "Road accident scenario in Kolkata: A spatio-temporal study", European journal of applied Engineering and science research.
2. B.Ramakrishnan (1985), "How much safe are our Indian Roads?" journal of transportation Management.
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. Guler yalcin (2013), "Non-spatial analysis for the road traffic accidents", Lumen international conference Logos University Mentality education Novelty (LUMEN).
5. "Hyderabad Wikipedia"
6. "Highway Engineering" by S.K.Khanna and C.E.G.Justo, Nem Chand & Bros (2011).
7. Kadiyali, L.R., T.V.Gopaldaswami, P.R.Lakshmi kantham, U.N.Pathak and A.K.Sood (1983), "Effect of road characteristics on accident rates on rural highways in India", Highway Research Bulletin.
8. Liyamal Isen, Shibu A, Saran M.S (2013), "Identification and analysis of accidents black spots using Geographic information system", International journal of innovation research in science Engineering and technology.
9. Murat Karacasu, Arzu Er, Safak Bilgic, Hasan B.Barut (2011), Variations in traffic accidents on Seasonal, Monthly, Daily and Hourly Basis: Eskisehir case", Procedia social and behavioral science.
10. Pillai B.B and Joseph.K (2011), "Cause and consequences of road accidents in Kerala", International Journal of Research in IT and management.
11. "Traffic Engineering and Transport Planning" by Dr.L.R.Kadiyali, Khanna publishers (2012).