

# Time wise assessment of road traffic accidents (RTA) in Mysore city

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## Abstract

The main purpose of this study is the existence of time-wise road traffic accidents in Mysore City. The accident is frequently at a higher rate in the peak hours of day time and would be moderately lesser in the night time. In this study, mainly methodology is used collected secondary data of one-year January- December 2013 from Mysore city traffic police recorded reports. with the help of GPS point plotting the location of time-wise occurrence of accidents has been split into five time zones i.e. 06 am to 10 am, 10 am to 02 pm, 02 pm to 06 pm, 06 pm to 10 pm, 10 pm to 06 am and digitization of toposheet for study area roads map using Arc Gis software. In the year 2013, time accounts to 27.38% Highest accidents have occurred across the city between 06.00 pm to 10.00 pm and time accounts to 09.64% Lowest accidents have occurred across the city between 10.00 pm to 06.00 am. The location of accidents in Mysore City is studied based on time to analyze the major reasons for the accidents. Road users in Mysore city need healthier and safer road travel. Data on road traffic accidents in Mysore city are very poor. Police records are the only source of information but, many accident cases are never stated while others are settled confidentially. The fewer data on accident reports at Mysore city police stations are revealing of an absence of consciousness of accident reporting. Based on police data it is not all conceivable to make a monotonous analysis and consequently, it is terrible to implement safety actions.

**Keywords:** Traffic Accidents; traffic police; Time wise; Global Positioning System; GIS

## Introduction

The accidents cost approximately about 3% of India's GDP. To bring down this huge burden on the Indian economy (Pardeep Singh and Deepak Dalal.2018). In 2017, the time-wise between 6:00 pm and 9:00 pm noted the highest number of road accidents, accounting for 18.4 % of the total accidents in India. The 2nd highest time-wise of a day was between 3:00 pm and 6:00 pm found 17.7%. As per the data, afternoon and evening, times are the most dangerous times to be on the road. Road traffic accidents (RTAs) have turned

out to be a huge global public health and development problem (Goswami A., and Sonowal R.) Traffic accidents have enormously grownup newly and are classified as the third cause of prediction deaths in 2020. Traffic accidents are threatening the life of the public and the economy of the countries. On the 11th of September, 2001, the twin towers of the World Trade Center were overcome and newly recorded that over three thousand people were killed. Not many people know that roughly the same number of people die every day on roads worldwide.

This fact does not involve at least the thirty thousand others injured. These compiles to over one million people getting killed and between 20-50 million flatterng unwell in road accidents each year. Road traffic injuries are a major public health issue globally (Mohammed et.al 2019). drivers’ fault accounted for 78% of total accidents, 76.5% of total injuries, and 73.7% of total fatalities in 2013 (Singh S.K .2017). Good road design and traffic management, improved vehicle standards, speed control, the use of seat belts and helmets, and the enforcement of alcohol limits (Margie et al., 2004). During 2010 the slots with high rates of road accidents were 15:00–18:00 hours, 09:00–12:00 hours, and 18:00–21:00 hours. The distribution of the total accidents during night time (6 PM to 6 AM) and daytime (6 AM to 6 PM) is approximately in the ratio of 2:3 i.e. about 40 percent during night time and 60 percent during the day time (Road Accidents in India. 2010). In 2013, the total number of road accidents that happened in rural areas was more than that in the urban areas; the former accounting for 54.2% (2,63,593) and the latter accounting for 45.8 % (2,22,883) of total accidents. Rural areas had more fatalities (61.8 %) than urban areas (38.2%). The number of persons injured was also more in rural areas (59.8 %) as compared to urban areas (40.2 %) (Road Accidents in India.2013).

**Objective**

- To assessment the distribution of Time-wise road traffic accident in the year 2013 in Mysore city.

**Methodology**

This study Mainly methodology is used to collect secondary data from Mysore city traffic police recorded accident reports of exactly one-year from January to December 2013. With the help of GPS points plotting the location of the time-wise occurrence of accident maps. The time has been split into five time zones i.e. 06 am to 10 am, 10 am to 02 pm, 02 pm to 06 pm, 06 pm to 10 pm, 10 pm to 06 am, and digitization of toposheet 1973 for study area roads map using Arc GIS software. The more understand for this study analyzed the data with help figures and graphs.

**Discussion and Results**

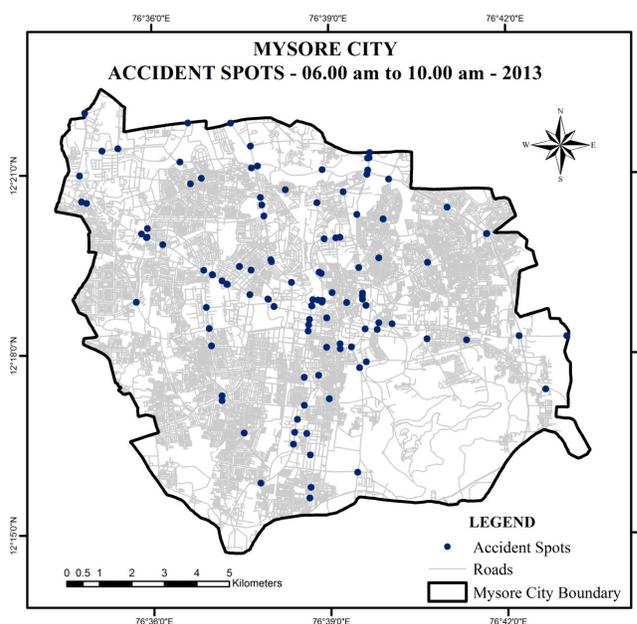
Accidents do tend to display a specific trend as per the time of the day. The number of accidents occurring during the day is more than night time. In this study, the time of the occurrence of accidents has been split into five time zones as follows:

- 06 am to 10 am
- 10 am to 02 pm
- 02 pm to 06 pm
- 06 pm to 10 pm

- 10 pm to 06 am

The location of accidents in Mysore City is studied based on time to analyse the major reasons for the accidents. The accident is usually at a higher rate in the peak hours of a day and would be comparatively lesser in the nighttime. Different maps are presented for each time zones to assess the peak time for the accidents.

*Accidents from 06.00 am to 10.00 am*

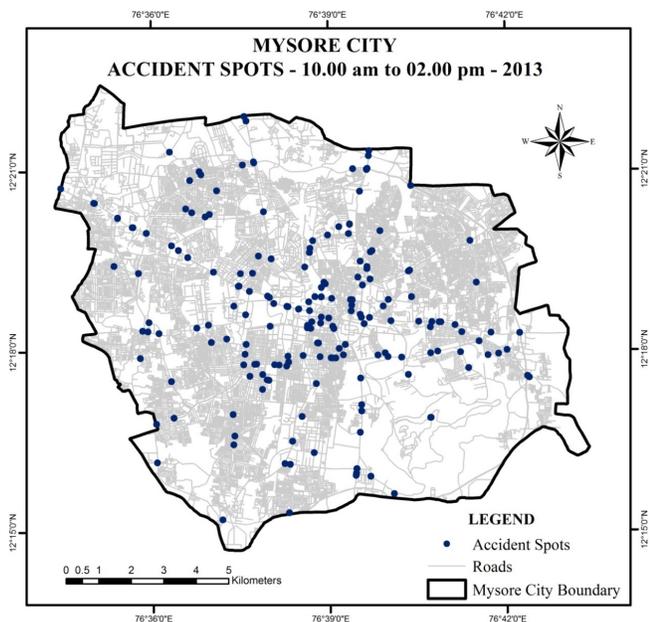


**Fig. 1.** Location of accidents from 06.00 am to 10.00 am in Mysore City (2013)

Figure 1 represents the location of accidents that occurred during the morning hours of 06 am to 10 am in Mysore City in the year 2013. It is the time when schools, colleges, and offices start functioning for the day and hence make it the peak hours for the traffic. 133 accidents have occurred across Mysore City in the year 2013 between 06.00 am and 10.00 am. Accidents are occurring at this time account for 14.75% of the total accident.

The main reason for the accidents in this time is over-speeding as the people rush to their colleges and offices ignoring the traffic rules. These kinds of accidents are seen more towards the junctions in the major roads. Accidents have occurred more at the central part of the city and at various junctions along the Hunsur Road, KRS Road, and Nanjangud Road.





**Fig. 2.** Location of accidents from 10.00 am to 02.00 pm in Mysore City (2013)

*Accidents from 10.00 am to 02.00 pm*

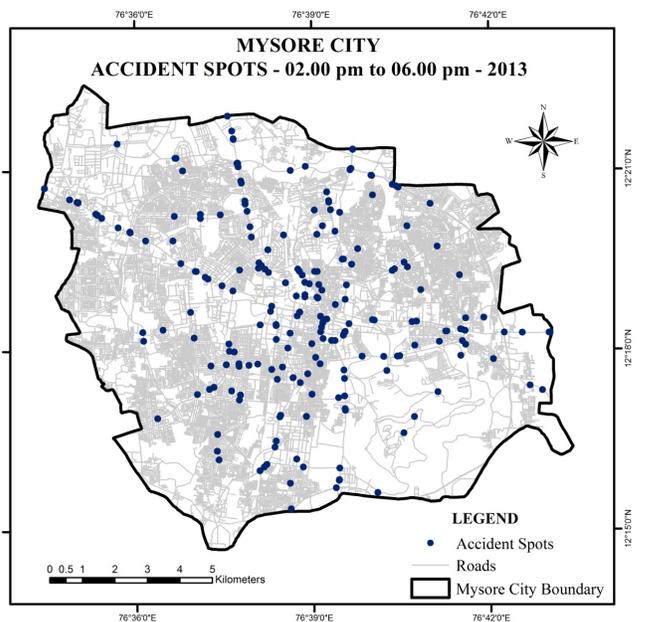
Figure 2 represents the location of accidents that occurred during the peak hours of 10.00 am to 02.00 pm in Mysore City in the year 2013. It is the time when schools, colleges, and offices have started functioning and those who are late will be rushing in a hurry, and when most of the commercial and goods vehicles join traffic. In the year 2013, 202 accidents have occurred across the city between 10.00 am and 02.00 pm accounting for 22.39% of the total accident.

The reasons for the accidents in this time are over-speeding and ignoring signal lights as the people rush to their colleges and offices. These kinds of accidents are seen more towards the junctions in the major roads. Locations of the accidents are spread across the central part of the city and at various junctions along the Hunsur Road and Bannur Road.

*Accidents from 02.00 pm to 06.00 pm*

Figure 3 represents the location of accidents occurred during the peak hours of 02.00 pm to 06.00 pm in Mysore City in the year 2013. In the year 2013, 233 accidents have occurred across Mysore City between 02.00 pm and 06.00 pm. Accidents occurring in this time account to 25.38% of the total accident.

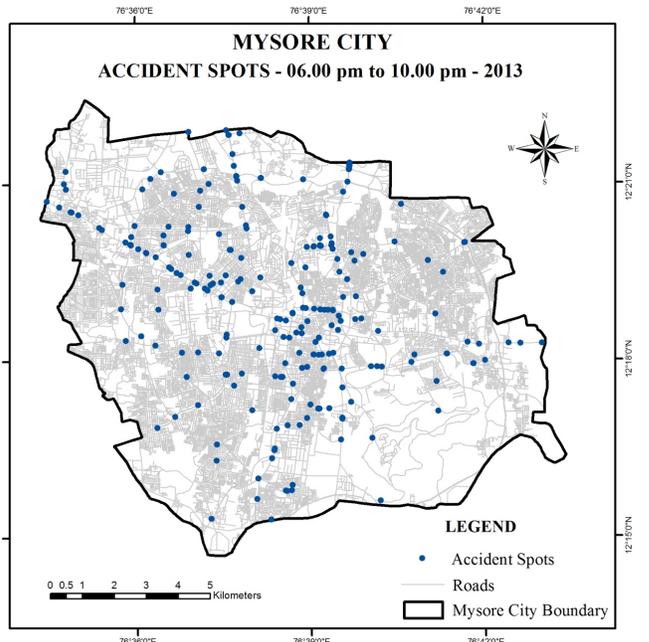
The reasons for the accidents in this time are the heavy traffic congestions as the children and the working people leave the schools and offices respectively to reach back home. These accidents are more in the junctions in the major roads, bus stops, and near schools and colleges. Locations of the accidents are spread across the central part of the city and at



**Fig. 3.** Location of accidents from 02.00 pm to 06.00 pm in Mysore City (2013)

various junctions along the Hunsur Road and KRS Road.

*Accidents during 06.00 pm to 10.00 pm*



**Fig. 4.** Location of accidents from 06.00 pm to 10.00 pm in Mysore City (2013)

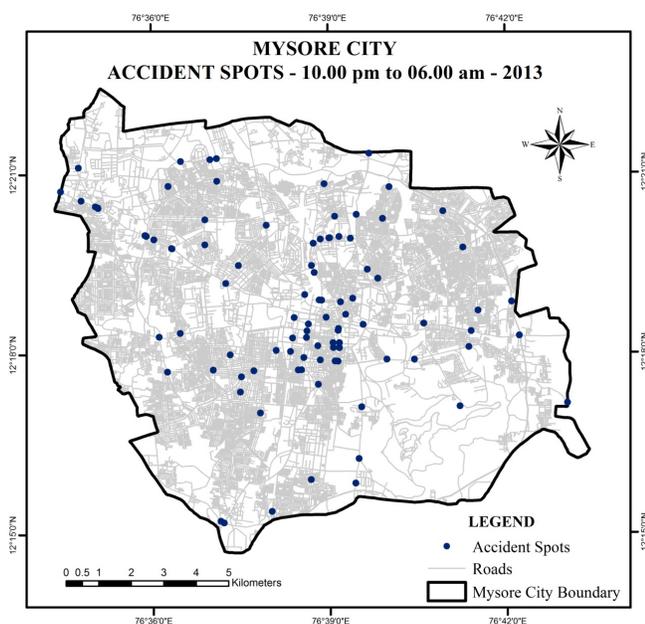
Figure 4 represents the location of accidents occurred during the peak hours of 06.00 pm to 10.00 pm in Mysore



City in the year 2013. In the year 2013, 247 accidents have occurred across the city between 06.00pm to 10.00pm.

Accidents are occurring in this time account to 27.38% of the total accident. The reasons for the accidents in this time zone are the heavy traffic congestions as the working people offices respectively to reach back home, rush in evening along with poor lighting, this gives a clear indication that proper traffic management along with proper street lighting. These accidents are more in the junctions in the major roads, curve roads, and bus stops. Locations of the accidents are spread across the central part of the city and at various junctions along the Hunsur Road and Irwin Road.

*Accidents from 10.00 pm to 06.00 am*



**Fig. 5.** Location of accidents from 10.00 pm to 06.00 am in Mysore City (2013).

Figure 5 represents the location of accidents occurred during the peak hours of 10.00 pm to 06.00 am in Mysore City in the year 2013. It is the time when traffic density and vehicle density is very low. In the year 2013, 87 accidents have occurred across the city between 10.00 pm to 06.00 am.

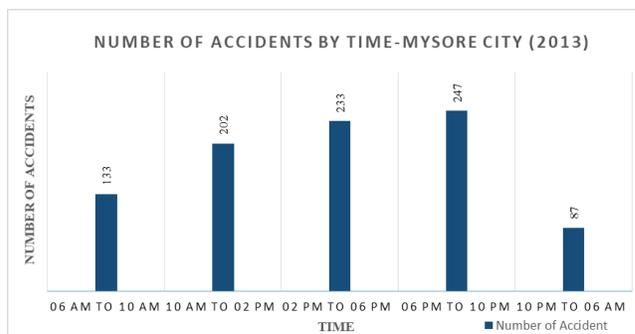
Accidents are occurring in this time account to 09.64% of the total accident. The reasons for the lower accidents in this time zone are vehicle density is low people’s not going to this time because bad light and night time not like driving. These accidents are more in the signal junctions in the major roads, curve roads. Locations of the accidents are spread across the central part of the city and at various junctions along the Hunsur Road.

Table 1 shows the details of the accidents that occurred in different time zones in Mysore City in the year 2013. From

**Table 1.** Number of accidents concerning time in Mysore city (2013)

Sl. No.	Time	Number of Accident
1.	06.00 am to 10.00 am	133
2.	10.00 am to 02.00 pm	202
3.	02.00 pm to 06.00 pm	233
4.	06.00 pm to 10.00 pm	247
5.	10.00 pm to 06.00 am	87
<b>Total</b>		<b>902</b>

Source: Traffic Police Stations



**Fig. 6.** Number of accidents based on the time of occurrence in Mysore city (2013)

the corresponding Fig.6, it is observed that 247 accidents occurred between 06.00 pm and 10.00 pm, which is the highest, compared to accidents in other time zones. The major reason for the increased rate of accidents at this time is that the density of vehicles is higher as the people return home from their colleges and offices and other people add it for shopping. 87 accidents have occurred between 10.00 pm and 06.00 am, marking the least number of accidents as the vehicle density is lower compared to other timings.

**Conclusion**

The analysis shows that the distribution of time wise road accidents in Mysore city in 2013. Accidents are relatively constant and high from 06.00 pm to 10.00 pm and variable but low during mid-night 10.00 pm to 06.00 am. There are several factors responsible for accidents but the drivers’ fault is the most important factor in 2013. the main cause for this is that the problem of road traffic accidents does not belong to any definite agency, moreover at central or state, or local government levels. the accountability of dealing with the various aspects of problems including road tediousness test for vehicles, the design of road networks and roads, urban planning, the introduction and enforcement of road safety legislations, and post-crash medical care is divided among many different agencies, sectors, and groups. Present efforts to report the problems of road safety are negligible in contrast to



what should be done. Road users in Mysore city deserve better and safer road travel.

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