

Road Safety and Traffic Accident Analysis in Highway The Cases of Savar Highway Thana and Keraniganj Nawabganj Thana

A Project and Thesis submitted in partial fulfillment of the requirements
for the Award of Degree of

Bachelor of Science in Civil Engineering

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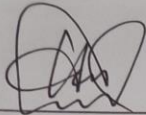


DEPARTMENT OF CIVIL ENGINEERING
DAFFODIL INTERNATIONAL UNIVERSITY

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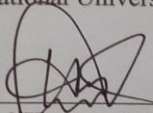
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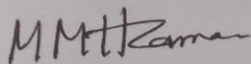
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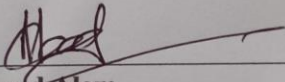
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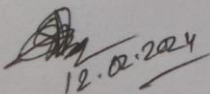
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This is to certify that this and thesis entitled "Road safety and traffic accident analysis in highway The cases of Savar highway thana and Keraniganj, Nawabganj Thana" is done by the following students and this work has been carried out by them in the Department of Civil Engineering under the Faculty of Engineering of Daffodil International University in partial fulfillment of the requirements for the degree of Bachelor of Science in Civil Engineering. The presentation of the work was held on august 2023.

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DEDICATION

Dedicated To Our Family Members

Abstract

Road safety refers to the concept of methods and solutions to protect road users from injury. These include road users such as pedestrians, cyclists, rickshaw and van drivers, public transport buses, trucks, etc. According to WHO, one million people die in road accidents every year. The rate of road accidents is much higher in underdeveloped countries than in developing countries. According to the latest World Health Ranking published in 2020 by the World Health Organization, Bangladesh ranks 88th among 183 countries in road accident death rate. Death rate per 1 lakh is 16.74. 19.89 percent road accidents in 2022 compared to 2021. And the loss of life has increased by 27.43 percent and only in the capital in 2022 the number of road accidents has increased by 97.70 percent compared to the previous year. 227 people were killed on the road in the last year in the capital. Among whom the number of pedestrians is 60.53 percent. In this paper, we have worked on highway roads in 3 areas of Dhaka city. We have collected road accident data for the past 6 months from Savar Highway Thana, Navagganj Thana and Keraniganj Thana of Dhaka district. We will investigate the accidents in this paper. In this paper we will discuss about the rescue from the accident as well as what should be done or the responsibility of us and the law enforcement agencies. Finally, we will discuss the future research.

Chapter 1

INTRODUCTION

1.1 General

Bangladesh is a developing country. Road accidents are a big problem at this time. Road after day Accidents increase. Because of this people lost their precious lives. There are many reasons road accident These are the main problems unskilled drivers, poor traffic rules and enforcement of their conditions, lustful overtaking competition, loss of people's awareness, non-certified vehicles available on the road etc. We have tried to analyze the volume of road accidents, parametric study of road accidents and provide analytical decisions, which help to save human lives. At the location of the accident, we mainly focused on things like traffic rules, safety signs, walkways, signal conditions, traffic flow, vehicle flow, number of human deaths and injuries, etc.

1.2 Problem Definition:

Global forecasts indicate that in the next ten (10) years developing countries will prefer Road accident rate in Bangladesh will increase significantly and thus tackling the safety issue emerges as a serious challenge. Absence of necessary transport safety professionals and resources. There are poor countries About forty (40) percent of the world's motor vehicles but deaths (86) percent. Rapid economic growth, increasing disposable income and urbanization are increasing the demand for rapid transportation in developing countries. As a result, the number of cars on the roads of developing countries is also increasing rapidly. Developing The countries are experiencing an annual growth rate of about sixteen (16) percent, doubling the vehicle fleet in five years. This factor, along with the region's high proportion of two- and three-wheeled motor vehicles and the relatively young age of the majority of the population, contribute to serious road accident casualties. These comments are particularly relevant for Bangladesh. (65) percent of road accidents in Bangladesh involve pedestrians. Thirty-five (35) percent of these pedestrian deaths are children. This is, in part, the result of a rapid increase in motorization without sufficient Lack of improvement of road safety strategy and implementation of preventive measures Fatalities are higher in low-income countries, where low-income countries have a much smaller share of the registered vehicle population.

1.3 Objectives

This research paper investigates some causes and issues of accidents on 3 highways around Dhaka.

Considering the present perspective, the basis of this research paper is indicated the following specific objectives:

1. Accident injury and fatality percentages.
2. Variety of location has the most accidents.

1.4 Organization of the thesis

This thesis paper discusses about 5 chapters:

Introduction

Bangladesh faces increasing road accidents due to unskilled drivers, poor traffic rules, competition, loss of awareness, and non-certified vehicles. Analyzing accident volume and parametric studies can help save lives. Factors such as traffic rules, safety signs, walkways, signal conditions, traffic flow, and vehicle flow are crucial.

Literature Review

Bangladesh faces high street accidents, causing 4500 deaths and 5,000 injuries. Street transportation is crucial for the economy, but increasing speed and accidents are undermining its benefits. A study aims to assess accident rates and mortality trends using police data.

Data Collection & Methodology

Bangladesh's dense population leads to frequent accidents, which are monitored through data collected from six range offices and a microcomputer-based Accident Analysis Package (MAAP) database. Data from highway police stations and Dhaka police stations over the last six months is discussed in this chapter.

Data Analysis

We collected data on road accidents from police stations in Dhaka District, analyzing 120 accidents over the last six months. We identified both normal and abnormal types, investigating all incidents to identify their causes.

Conclusion

The primary conclusions and additions suggested by the study's results.

Chapter 2

LITERATURE REVIEW

2.1 General

Bangladesh, a densely populated South Asian country, faces a significant road accident crisis that has become a severe public safety issue. With its rapidly growing population, urbanization, and an expanding fleet of vehicles, the country struggles to manage road safety effectively. Despite efforts to improve infrastructure and enforcement, road accidents continue to claim numerous lives and cause substantial economic losses each year.

Previous studies have researched by collecting accident data from online, following the study of (Faruqe, Shamsul et.al 2020). In some cases, they have only collected data from DMP, ARI, the other example of (Jianxin, Sifat, Rabbi et.al 2021). We have observed all the accidents by visiting the site in this paper.

2.2 Road Accident Crisis in Bangladesh

Causes of Road Accidents in Bangladesh:

1. **Poor Infrastructure:** Many roads in Bangladesh are in subpar condition, lacking proper maintenance and sufficient traffic management systems. Potholes, inadequate road markings, and insufficient lighting contribute to accidents, especially during adverse weather conditions.
2. **Reckless Driving:** One of the primary reasons for road accidents in Bangladesh is reckless driving. Drivers often disregard traffic rules, speed limits, and lane discipline, leading to a higher probability of collisions.
3. **Overloading:** Overloading of public transportation vehicles, including buses and trucks, is prevalent in the country. This practice puts significant stress on the vehicles and reduces their maneuverability, increasing the risk of accidents.
4. **Lack of Traffic Education:** A considerable number of drivers and pedestrians in Bangladesh lack adequate traffic education. Many drivers obtain licenses without proper training, leading to a lack of awareness of road safety guidelines.
5. **Weak Law Enforcement:** Although laws and regulations exist to maintain road safety, enforcement remains a challenge. Corruption and inadequate monitoring contribute to a culture of non-compliance, allowing traffic offenders to go unpunished.

According to some researchers and according to some previous studies mainly these 5 reasons cause road accidents in Bangladesh. Here is some example of the study (Julfiquer, et.al 2022). The another example is (Farzana, Faysal, et.al 2018).

2.3 Traffic Accident Trends in the Context of Bangladesh

Bangladesh, a nation having a territory of 1, 47,570 sq. Km. what's more, Populace of 160 million, has about 1.8 million mechanized and could be more than 4 million non-mechanized

vehicles. Street mishaps in Bangladesh guarantee, on a normal, around 4500 lives and harms another 5000 consistently. The cleared street organize in the nation has extended drastically since Autonomy, from 3000 km in 1971 to more than 55,000 km. Street transportation is a critical piece of the economy of Bangladesh. About 12% Gross domestic product and 20% of the yearly advancement-spending plan spent on transport; likewise, 9.4% of national business is in truth in the vehicle area. The national misfortune because of street accident is assessed at around 600 million USD consistently. As of late, great streets are being developed adding velocity to transportation and recurrence of the development of individuals. All the while number of street mishaps is additionally taking off high. Increment in street traffic and speeds have made streets even more undermining for people on foot and rickshaws. The financial and social expenses of street mishaps, wounds, and fatalities are undermining the monetary advantages of streets. In Bangladesh, street transport-related casualty rates are a lot higher than those are if inland water transport and railroads. That is the predicament with street transport from one viewpoint, it brings favorable circumstances in any case, on the other, it takes up important land and causes high mishap rates. Through the traffic accident situation is alarming for Bangladesh but it is clear that the number of total casualties, death and injuries are decreasing in recent years. Moreover, the traffic accident pattern is fond fluctuating with no specific trend. Following the study (Mohammad, Sohel, Shamsul et.al 2011).

In this study, an attempt has been made to assess road accident rates and mortality trends. Police reported accident data using total number, vehicle population, population, road length and vehicle kilometers.

2.4 Accident Reason

In two of the images, we can see insecure people crossing the path of traffic. On a highway, it is usually not recommended to cross the street with this risk. As a result, there are more accidents. The motorist in this instance is not at fault. Naturally, we should to make our way over the foot over bridge. The accident rate can be got lower if the Foot over Bridge is used effectively.



Figure-1: Risky Road Crossing (date-12-08-2023, location-Savar)



Figure-2: Risky Road Crossing (date-12-08-2023, location-Hemayetpur)

Chapter 3

DATA COLLECTION AND METHODOLOGY

3.1 General

Bangladesh is a densely populated country, there are many accidents here. Just by looking at the newspaper, we can see that accidents happen regularly. Its data is collected to monitor the accidents. Every accident is monitored and actionable measures are taken for future. The data reaches the researchers from the scene through several channels. Bangladesh Police has six range offices and regularly maintains a microcomputer based Accident Analysis Package (MAAP) database. We have collected this data directly from the highway police station. We have collected all the accident data of the last 6 months from the 3 police stations around Dhaka. In this chapter, the accident data collection system will be discussed in phases.

3.2 Site location

We looked into three different locations around Dhaka. Our substantial intention was to choose a location with higher traffic. There is more traffic because the highway near Dhaka usually gets busy. As a result, we had access to a lot more accident information and could conduct in-depth study.

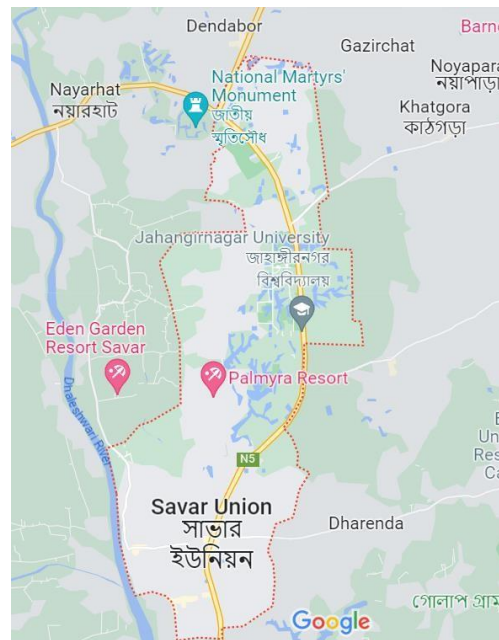


Figure-3: Savar Union, Ref-google map

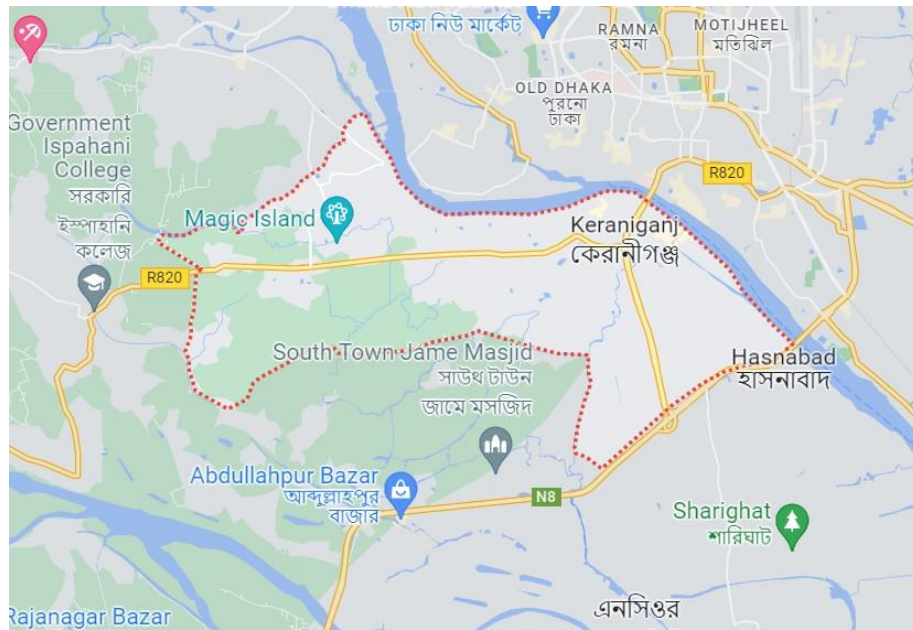


Figure-4: Keraniganj, Ref-google map

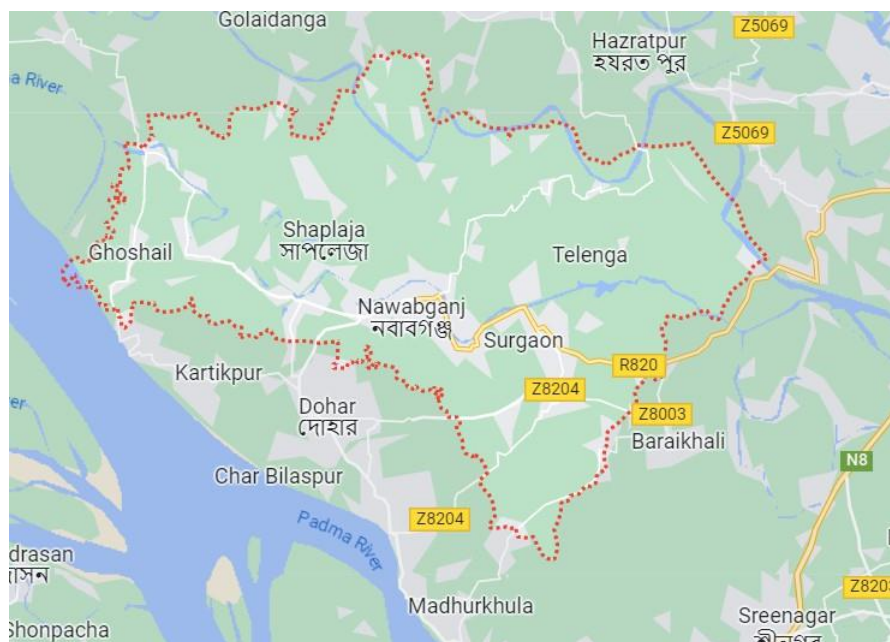
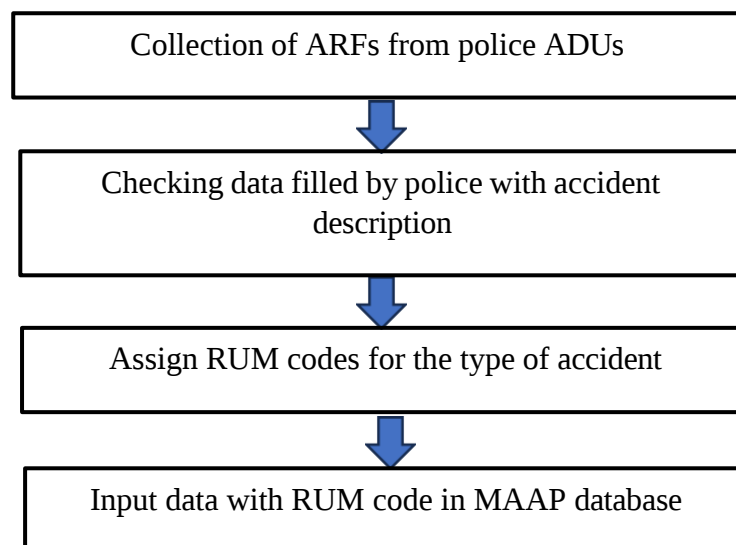


Figure-5: Nawabganj, Ref-google map

3.3 Accident data collection system in Bangladesh

In Bangladesh, Police is the central association for street accident information assortment and capacity. Accident information gathered by police gives fundamental data about the size of the accident issue in the nation. For every accident, the ARF is finished by a sub-auditor of police subsequent to visiting the occur spot. The ARF is then dispatched to the particular Mishap Information Units (ADU) where the data from ARF and area of the mishap is consolidated into MAAP. Ten territorial ADUs were set up during mid 1998. These units are answerable for preparing and investigation of mishap information of their locale. Also, an ADU was set up at police Central command's (HQ) to gather the national accident database and to examine mishap information at the national level. Information is sent from the provincial ADUs to the police HQ in delicate structure. The MAAP framework is utilized to dissect the mishap database and give an example of accidents in the nation. The Accident Research Institute (ARI) of BUET utilizes the MAAP database. This database was moved to the organization with the institutional joint effort of the Road Safety Cell (RSC) of BRTA and the Police office. The current road safety research and flow street examination work depend on this database. So as to reinforce the database data, it is essential to include new factors and approve different factors as separated from the ARFs. With the end goal of investigation and computerization, it is required to store mishap information in the coded structure. Organized coding is a fundamental necessity for mishap research and examination reason. Such coding should be possible either at the hour of filling the structures or during the information section process. Exact information with respect to coding is critical to the traffic security database improvement process. Road User Movement (RUM) codes, whenever applied cautiously, might be useful in conquering the issues related to mishap type coding. In such a manner, ARI is gathering ARFs from all ADUs to build up a rich mishap database framework by checking the ARFs and fill them with RUM codes including extra information, which are missing in police filled ARFs.



Figer : Ref -NRI

The Accident Research Institute (ARI) stores and keeps up the mishap database and use it for inquiring about, usage of security intercessions and other street wellbeing related purposes. Barely any dissected tables of street mishap and damage attributes of Bangladesh have been reported and laid out in the accompanying segment.

3.4 Recent Accidents

The images of a couple of the incidents are shown below; these are the accidents that occurred a few days ago. Major roadway accidents are depicted in each and every image. We might notice a variety of accidents here. Pictures of certain head-on collisions are available; in these incidents, the damage is greater. Accidents caused by overtaking are more likely to cause the vehicle suffer more damages. Accidents involving high speed can happen.



Figure-6: Accident Picture,(date:15-08-2023, location :Aricha)



Figure-7: Accident Picture,(date:15-08-2023, location :Keraniganj)



Figure-8: Accident Picture,(date:15-08-2023, location:Nawabganj)



Figure-9: Accident Picture, (date:25-08-2023, location :Nawabganj)

Chapter 4

DATA ANALYSIS

4.1 General

we are dealing with road Accidents, our main source of data is police stations.

We have collected road accident data of last 6 months from Savar Highway Thana, Nawabganj Thana and Keraniganj Thana of Dhaka District. We have worked with the data of 113 accidents. We have tried to find the types and causes of all the accidents. Some of these are normal and some are abnormal. Many types of road accidents happen every day, some of them are a little unusual. We have investigated all the accidents.

4.2 COLLECTED DATA

Date	Accident location	Type of car	Injured person	Injured	Die	Accident reason
03-03-23	Tangail	Bus and bus	4	4	0	Bus hits bus
05-03-23	Tangail	Truck	2	2	0	Truck hits lane
07-03-23	Tangail	Truck	2	1	1	Truck coming from the front hits leguna
07-05-23	Arica	Mini car	1	0	1	Hit passer
09-05-23	Arica	pickup	2	2	0	Lane change high speed and hits passer
13-05-23	Arica	Truck	1	0	1	High speed and hit a passer die one person on the spot
14-05-23	Arica	Truck	1	0	1	Hit passer with high speed one the spot die one person
17-05-23	Arica	Car	1	1	0	Hit passer
20-05-23	Arica	Bus and bike	1	0	1	Bus hit bike with high speed
27-05-23	Ashulia	Bus and bike	2	1	1	Two bus hit a bike ans bike passenger injured and die
28-05-23	Ashulia	Truck	2	2	0	Truck lost control and hits
30-05-23	Arica	Truck	3	2	1	Truck lost control and hits

Date	Accident location	Type of car	Injured person	Injured	Die	Accident reason
20-03-23	Arica	Leguna	3	3	0	Lost control
21-03-23	Arica	Truck	2	2	0	Hits a tree
23-03-23	Arica	Truck	1	0	1	Lost control and hits a
01-02-23	Savar	Bus	2	2	0	Bus hits a rishka
03-02-23	Savar	bus	1	0	1	A passer road crossing
04-02-23	Ashulia	Auto	3	3	0	Auto lost control
12-03-23	Arica	Bus	2	1	1	Bus hits a bike
12-01-23	Keraniganj	Cng	4	3	1	Cng lost control and falls into a pit
14-01-23	Keraniganj	truck	2	2	0	Filled with sand a truck lost control and falls a pit
14-01-23	Keraniganj	Cng	2	0	2	Cng loss control
15-01-23	Keraniganj	Bike	2	0	2	Bike lost the control
16-01-23	Keraniganj	Truck	2	1	1	Loss control and upside
17-01-23	Keraniganj	Bike	3	2	1	Bike hits another bike
19-01-23	keraniganj	Bus	2	02	2	Bike overtaking a bus
20-01-23	keraniganj	Cng	4	3	1	Frontly hits
22-01-23	Keraniganj	Auto	4	4	0	Hits another auto
25-01-23	Keraniganj	Truck	2	2	0	Upside down
28-01-23	keraniganj	Truck	2	1	1	Hit a passer
02-02-23	keraniganj	Truck and bus	3	2	1	Bus hits the truck
03-02-23	Keraniganj	Car and bike	2	0	2	Car hits the bike and spot die 2
10-02-23	Keraniganj	Truck	4	3	1	Truck hits cng
14-02-23	Keraniganj	Auto and cng	6	6	0	Forntly hits auto and cng and deeply injured people
15-02-23	Keraniganj highway	Truck	2	0	2	Loss control and hits a wall

Date	Accident location	Type of car	Injured person	Injured	Die	Accident reason
21-02-23	Keraniganj highway	Bus	2	2	0	Bus hits a mini car
22-02-23	keraniganj	Bike and cng	1	0	1	Frontly hits bike and cng
28-02-23	keraniganj	Bike	2	0	2	Lost the control
02-03-23	Keraniganj	Truck	2	0	2	Truck hits a wall
04-04-23	Arica	Truck	2	2	0	Truck hits lane
04-04-23	Arica	Truck	1	0	1	Truck hits a passer
05-04-23	Arica	Truck	2	1	1	Truck lost control
06-04-23	Arica	Car	1	0	1	Hits a passer
07-04-23	Arica	Car	2	2	0	Frontly hits bike and car
06-04-23	Arica	Leguna	1	0	1	Leguna hits a passer
08-04-23	Arica	truck	2	2	0	Lost control
12-04-23	Arica	Bus	4	4	0	Bus hits the car
12-04-23	Arica	Truck	1	1	0	Lost control
15-04-23	Savar road	Bus	1	0	1	Hits someone while crossing the road
17-04-23	Ashulia bazar	Auto	2	2	0	Auto upside down
19-04-23	Ashulia	Truck	3	1	2	With full speed truck upside down
20-04-23	Ashulia	Bike	1	0	1	Lost control and die on the spot
21-04-23	Savar	Truck and truck	2	1	1	Face to face hits
22-04-23	savar	Bus	1	0	1	Bus hits a paseer with high speed
23-04-23	Savar	Bike and truck	2	0	2	Truck hits the bike
24-04-23	Arica	Bus	1	1	0	Bus hits a shop injured one
26-04-23	Aricha	Bike	1	1	0	Bike hits a passer

Date	Accident location	Type of car	Injured person	Injured	Die	Accident reason
28-04-23	Arica	leguna	1	1	0	Hits the lane
30-04-23	Arica	Truck	2	1	1	Hits passer
04-05-23	Aricha	Bus	10	10	0	Hits lane
05-05-23	Aricha	Bike	1	0	1	Loss control
07-05-23	Arica	Bus	3	0	3	With full speed bus hits
11-05-23	Arica	Bus	5	3	2	Frontly hits
15-05-23	Arica	Tuck	1	0	1	Hits a passenger
17-05-23	Arica	Bus	8	8	0	Hits wall
02-02-23	Nawabganj	Truck	2	0	1	Truck lost the control
05-02-23	Nawabganj	Bus	14	14	0	Face To face hits two buss
07-02-23	Nawabganj	Car	1	0	1	Hits a passer
11-02-23	Nawabganj	bike	2	0	2	Lost the control
18-02-23	Nawabganj	Bike	1	0	1	Bike hits a bus frontly
23-03-23	Nawabganj	Truck	2	1	1	Hits wall with high speed
24-03-23	Nawabganj	Bus	2	0	2	Bus hits car
26-03-23	Nawabganj	Car	1	0	1	Car loss the control
27-03-23	Nawabganj	Mini T	2	1	1	Hits a passer
03-03-23	Nawabganj	Auto	1	1	0	Lost control
05-03-23	Nawabganj	Mini B	9	9	0	Bus hits a wall
07-03-23	Nawabganj	Cng	4	3	1	Face to face hits
12-03-23	Nawabganj	Cng	3	3	0	Face tho face hits
21-03-23	Nawabganj	Auto	3	1	2	Bus back hits a auto
22-03-23	Nawabganj	Bus	12	12	0	Bus hits wall
02-04-23	Nawabganj	Auto	2	2	0	Two auto hits
02-04-23	Nawabganj	Cng	3	3	0	Hits a tree
04-04-23	Nawabganj	bike	2	0	2	Two bikes hits frontly
09-04-23	Nawabganj	Truck	2	0	2	Die 2 persons

Date	Accident location	Type of car	Injured person	Injured	Die	Accident reason
10-04-23	Nawabiganj	Bike	1	1	0	Bikes hits wall
11-04-23	Nawahbganj	Cng	2	1	1	Cng frontlY hits olbus
15-04-23	Keiranigianj	Truck	2	2	0	Truck loss control
16-04-23	Keraniganj	Truck	3	3	0	Truck hits auto
19-04-23	Keraniganj	Bus	4	4	0	Hits a wall
23-04-23	Keraniganj	Truck	5	2	3	Hits bus and truck
01-05-23	Arca	Bus	1	0	1	Bus hits a passer
03-05-23	Arica	Bus	1	0	1	Two bus and bike hits
07-05-23	Arica	bike	1	0	1	Bike hits lane
07-05-23	Arica	Bike	2	2	0	Bike lost the control
10-05-23	Arica	Truck	2	2	0	Truck loss the control
11-05-23	Arica	Bus	12	12	2	Loss the control
12-05-23	Arica	Bus	3	2	1	Bus hits truck
12-05-23	Arica	bike	2	0	2	Lost the control
13-05-23	Arica	truck	1	0	1	Truck hits the lane
13-05-23	Arica	Bike	2	2	0	Bus hits bike
15-05-23	Arica	Leguna	2	2	0	Hits the lane
16-05-23	Arica	Truck	1	0	1	Hits a passer
19-05-23	Arica	Bus	11	11	0	Loss the control
21-05-23	Arica	Bus	1	1	0	Hits a ;paseer
25-05-23	Arica	Bus	3	2	1	Lost the control
26-05-23	Arica	truck	2	0	2	Lost the control
27-05-23	Arica	Truck	3	0	3	Truck hits leguna
30-05-23	Arica	Leguna	1	0	1	Hits a passer
02-06-23	Aricha	Leguna	1	1	0	Loss control and hits lane

4.3 Analysis

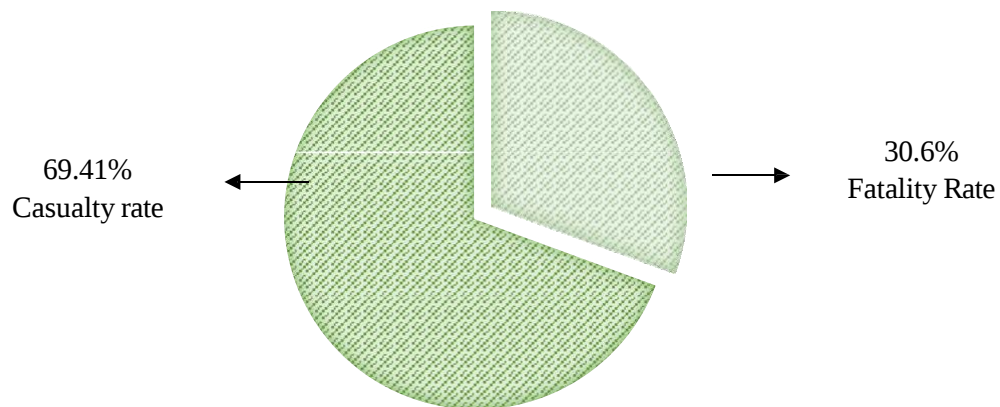


Figure-10: Casualty and Fatality Rate

We have dealt with 110 accidents, with a total of 304 casualties. 211 people were injured and 93 people died. Here the rate of injured is 69.41% and the rate of death is 30.6%. If we calculate according to the statistics, it can be seen that the rate of injured is almost half of this. Compared to the developed world, the ratio is very high.

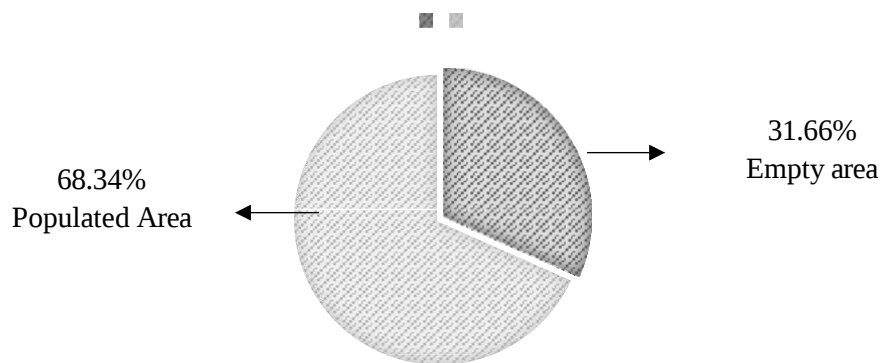


Figure-11: Cover Area

If you calculate according to place, it can be seen that accidents are more in populated areas, such as market, school and college areas. Generally, the accident rate is higher in those areas where there is a lot of traffic. 68.34% of the accidents happened in the populated areas and the remaining 31.66% of the accidents happened in empty places.

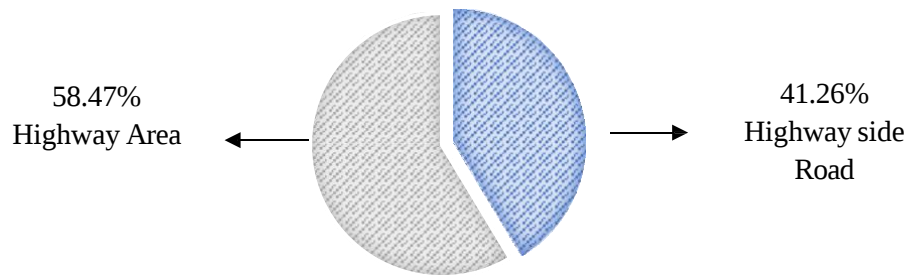


Figure-12: Accident Proportions

Most of the accidents we have dealt with usually happened on the highways. 82.57% of the total accidents happened on the highways and the remaining 17.43% of the accidents happened on the side roads of the highways, which connect the small markets with the highways.

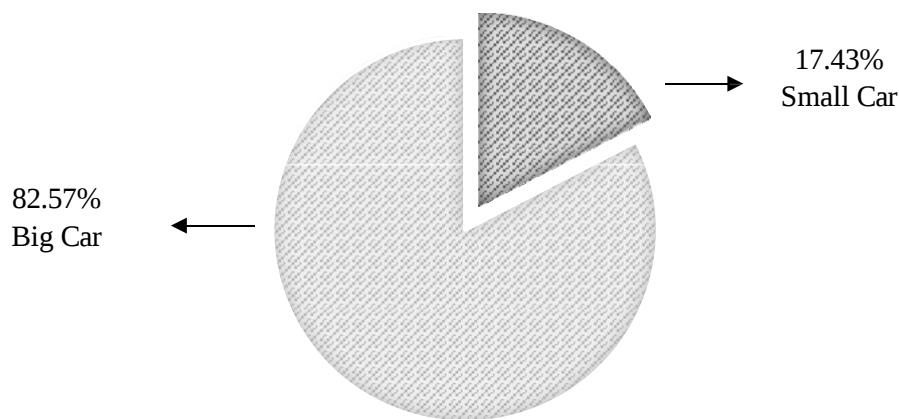


Figure-13: Vehicles Engaged

According to the type of vehicle, more or less all vehicles are found. However, the damage is more in big vehicles. Because there are relatively more passengers in big vehicles, the number of casualties is high. According to our observations, we have two bus accidents, the number of casualties is very high. Since the bus moves at a high speed, the number of casualties in the accident is very high. I did Lada. Where 58.47% of big cars and remaining 41.26% of small cars have suffered accidents.

According to our observation, 55.89 percent of the accidents occurred due to speed. Accidents occurred due to reckless driving. When accidents occur due to speed, the amount of damage is relatively high. Most of the cars are completely crushed.

We have noticed several accidents involving these small vehicles like rickshaws, bicycles, vans etc. Most of the times these small vehicles have been crushed. Maybe a small vehicle mistakenly entered the highway and was hit by a large vehicle like bus, truck, covert van etc. So, we can say that small vehicles on the highway can be the cause of accidents many times. Mostly because of the reckless speed of big cars, small cars are involved in accidents.

Chapter 5

CONCLUSION

5.1 General

Dhaka Metropolitan Police (DMP) is the main Government approved legitimate hotspot for gathering mishap data. Under announcing, under-recording and inappropriate interpretation of mishap detailing structures are a portion of the significant disadvantages for mishap information assortment.

- a) The absolute number of auto collisions is decreasing and somewhere in its range 2007 and 2012; Car accidents (48%) decreased. The total number of auto collisions is down eleven percent over the year.
- b) Sixty three percent (63%) of the mishaps occurred where there was no traffic control.
- c) Twenty nine percent (29%) of the mishaps occurred at convergence zones and T-intersections were the most powerless intersection type.
- d) Seventy three percent (73%) mishaps happened on partitioned roadways or where just single direction traffic development existed.
- e) Eighty seven percent (87%) of the mishaps happened on straight street areas. In light of the experience assembled during the investigation and discoveries of the examination, it is prescribed that joining current advances (for example utilizing GIS strategies rather than MAAP5 programming) in assortment and recording of information is essential. The commonness of underreporting is a typical creating nation issue and it is prescribed to direct additionally nitty gritty examination on this theme.

5.2 Conclusion

Chapter 4 details all of our research's data calculations, including death rate, injury rate, car size, etc. We shall talk about place, causes and good side, negative side, etc. in this chapter.

The majority of accidents are caused by unconsciousness, as may be observed by looking at the fatality rate in collisions. Many accidents can be avoided if you exercise a little awareness. If you notice, older people tend to be more unconscious, and women and older people both have greater death rates. We need to focus more on this awareness. The accident rate will only decline if people are aware of them.

Other factors that contribute to accidents include driving while inattentive, unfit vehicles, driving too fast, etc. The administration and the law department ought to be informed in this situation. 57 lakh 41 thousand 863 automobiles have been registered in the nation as of May. More than 5 to 6 lakhs of these automobiles are unfit. The administration should, of course, be aware of this problem. If necessary, harsh penalties should be used. In addition, fast-moving cars ought to be stopped. Accidents can only be decreased with the right precautions.

5.3 FUTURE STUDY

As the world advances and becomes more computer dependent, we will shed light on more challenges in the future additionally to our research. This will allow us to tweak our method and incorporate it into software. On the road, microchips corresponding to CCTV cameras should be implanted. The speed of the car is determined by this microchip. It is simple to detect the vehicle's speed and take preventative action by updating the software. This system was long introduced in developed nations.

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