



CHATTOGRAM CITY ROAD SAFETY REPORT 2021 - 2023

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DECEMBER 2024

CREDITS (IN NO PARTICULAR ORDER)



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PREFACES

Dr. Sahadat Hossain

Mayor

Chattogram City Corporation



The safety of our roads is integral to the well-being and development of Chattogram, a vibrant city that stands as the economic backbone of Bangladesh. Yet, the impact of road crashes continues to cast a shadow over our community, claiming lives, causing injuries, and leaving lasting scars on countless families.

I am delighted to learn that under the partnership between the Chattogram City Corporation (CCC) and the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS), road safety intervention programs like road crash data collection and analysis, infrastructure improvement, capacity building and trainings are continuing with active support of the Chattogram Metropolitan Police (CMP) and Vital Strategies. In addition, the CCC and CMP have been collaborating to publish a road safety report annually with the technical support of BIGRS based on scientific analysis of crash data.

This report, detailing road crash data from 2021 to 2023, sheds light on the urgent road safety challenges we face and provides invaluable insights into how we can address them. The report reveals critical patterns, such as maps of high-risk locations, fatality trends, and the concentration of road fatalities on specific days of the week and during certain times of the day. These provide clear guidance on where we need to direct our efforts. High-risk areas, including key intersections and road corridors demand investments to prevent further loss of life. I strongly believe that, the findings of the report will help the City Corporation in taking sustainable and life-saving solutions for road safety.

As Mayor, I am dedicated to leading the efforts to transform Chattogram into a safer, more livable city. This requires collaboration between the local government, law enforcement, urban planners, civil society, and the public. Our collective aim should be to implement evidence-based solutions, strengthen regulations, and develop road infrastructure that prioritizes safety for all users. We must cultivate a culture of responsible road use and provide better protection for our most vulnerable citizens.

I would like to express my deepest gratitude to the CMP and Vital Strategies for their role in gathering and analyzing crash data and to all contributors who have made this report possible. Let this document not only inform but inspire decisive action. Together, we can reduce road injuries and fatalities, ensuring that the streets of Chattogram become safer for everyone.



Dr. Sahadat Hossain

PREFACES

Hasib Aziz

Police Commissioner
Chattogram Metropolitan Police



Road safety is one of the foremost responsibilities of law enforcement, and the Chattogram Metropolitan Police remains committed to safeguard the lives of all road users. Road crashes have a devastating impact not only on the victims and their families but also on the social and economic fabric of our community.

To improve the road safety situation in Chattogram, the CMP is collaborating with the CCC and the BIGRS. Since proper data plays a pivotal role in shaping intervention, the CMP and Vital Strategies jointly prepared the Chattogram City Road Safety Report 2021-2023. This report provides an in-depth analysis of road crash trends from 2021 to 2023, using data collected by the CMP, and highlights areas where we must focus our efforts to make Chattogram's roads safer.

This report underscores the importance of adopting a more strategic, evidence-based approach to road safety. By identifying the 10 highest-risk locations and road corridors, such as City Gate and A.G. Road, we now have a clear roadmap for targeted enforcement and road safety improvements.

However, tackling this issue will require not only stronger enforcement but also increased public awareness and engagement. It is crucial that we work together with CCC, community members, road safety advocates, and policymakers to prevent these avoidable tragedies.

I commend the collaborative efforts of the various agencies and organizations that contributed to this report, particularly the officers of the CMP for their diligent collection and analysis of road crash data. As we move forward, we are determined to improve our coordination with all stakeholders involved in road safety, from city corporation to public transport authorities. Together, we can reduce road fatalities, protect vulnerable road users, and create a safer environment for everyone who lives and travels in Chattogram.

This report serves as both a wake-up call and a guide for future actions. We must continue to work with determination, innovation, and a shared sense of responsibility to achieve our goal of safer roads for all.

A handwritten signature in black ink, appearing to read 'Hasib Aziz'.

Hasib Aziz

PREFACES

Sheikh Mohammed Touhidul Islam

Chief Executive Officer
Chattogram City Corporation



Road safety is a pressing concern for cities around the world, and Chattogram is no exception. As the second-largest city in Bangladesh and a major economic hub, the safety of our roads is of paramount importance, not only for the well-being of our citizens but also for the sustainable development of our city.

Unfortunately, road crashes claim far too many lives each year, leaving behind tragic losses for families and communities. To address this alarming crisis, the CCC has partnered with the BIGRS to save lives and reduce road crashes. I am delighted to learn that under this initiative, the CMP and Vital Strategies collaborated to compile a comprehensive road safety report based on crash data.

I would like to extend my heartfelt congratulations to them for this significant achievement. This report sheds light on our critical road safety challenges and provides a comprehensive overview of road crash data in Chattogram from 2017 to 2023. I am deeply concerned by the findings in this report. Vulnerable road users—pedestrians, cyclists, and motorcyclists—account for an overwhelming 83% of all fatalities, with pedestrians alone representing 58%. These numbers reflect the urgent need for targeted interventions to protect those most at risk on our roads.

The data also highlights other areas requiring immediate attention, including the prevalence of hit-and-run incidents and the concentration of fatalities during specific times of the day and week. This report goes beyond statistics, identifying the high-risk locations and road corridors where accidents are most frequent. It is imperative that we use this information to prioritize road safety measures in these areas.

Improving road safety requires a coordinated effort from all stakeholders. As a city authority, we must work together with law enforcement, urban planners, engineers, and road safety advocates to implement evidence-based solutions. This includes enforcing laws, enhancing road infrastructure, and promoting road safety to all citizens. I extend my appreciation to all those who have contributed to this important study. Let this report serve as a roadmap for the future, guiding our efforts to improve road safety in Chattogram and ensure a safer, more secure future for our citizens.

A handwritten signature in black ink, appearing to be 'Sheikh' followed by a stylized flourish.

Sheikh Mohammed Touhidul Islam

ACKNOWLEDGEMENTS

The successful completion of this report is a result of active collaboration among the Chattogram Metropolitan Police and the Chattogram City Corporation.

Noteworthy contributions were rendered by the Police Commissioner Mr. Hazib Aziz, BPM (Bar), CMP, along with the Additional Police Commissioner (Crime & Ops) Engineer Abdul Mannan Miah, BPM (Sheba), the Additional Police Commissioner (Traffic) Masud Ahmed, BPM, PPM and the Additional Police Commissioner (Admin & Finance) and Mr. A S M Mahatab Uddin, PPM (Sheba).

Mr. Sheikh Mohammed Tauhidul Islam, Chief Executive Officer, and Mohammad Shahin-ul-Islam Chowdhury, Superintendent Engineer, both from the Chattogram City Corporation, monitored and supported the data collection process.

The crash data collection management, data cleaning, analysis and report preparation were done by Kazi Md Shifun Newaz, Surveillance Coordinator of the Bloomberg Initiative for Global Road Safety (BIGRS), Chattogram with direct support and guidance from Mirick Paala, Senior Technical Advisor, Asia Region

This collaborative effort benefitted from the guidance and support of Quazi Helal Uddin, Md. Abdul Wadud, Sutapa Tasnim, Md Labib Tazone Utshab and Mahamudul Hasan of the BIGRS team. The data encoders, Mr Anwar Hossain and Mr. Ashik, contributed enormously to the process.

The team is also grateful to the officers in charge of all the police stations who extended their assistance throughout the initiative.

Deepest gratitude to the Accident Research Institute (ARI) of the Bangladesh University of Engineering and Technology (BUET) for the technical insights and support in various stages of the study.

Grant Ennis, Ezequiel Dantas, and Dr. Sara Whitehead lent their expertise in the meticulous review of the report.

The team sincerely thanks the BIGRS for its support, which made this report possible.

ABBREVIATIONS

ARF	Accident Report Form
BIGRS	Bloomberg Philanthropies Initiative for Global Road Safety
BPM	Bangladesh Police Medal
BRTA	Bangladesh Road Transport Authority
CCC	Chattogram City Corporation
CDA	Chattogram Development Authority
CDMS	Crime Data Management System
CEO	Chief Executive Officer
CMP	Chattogram Metropolitan Police
FIR	First Information Report
GD	General Diary
GIS	Geographic Information System
HQ	Headquarters
HRC	Hazardous Road Corridor
HRL	High-Risk Location
KM	Kilometre
NMV	Non-Motorized Vehicle
OC	Officer in Charge
PPM	President Police Medal
QGIS	Quantum Geographic Information System
WHO	World Health Organization

EXECUTIVE SUMMARY

This report presents an overview of Chattogram city's road safety situation. In this report, analyses of road crash fatalities and injuries from 2021 to 2023 were presented. The crash data were collected by the Chattogram Metropolitan Police (CMP).

Based on the data, fatalities in road crashes increased by almost 33% in 2023 compared to 2017. However, in recent years fatalities relatively stayed the same and only decreased slightly by 7% between 2021 and 2023. Of all road user groups, pedestrians suffered the most from fatal crashes, comprising 58% of all deaths. Vulnerable road users, which include pedestrians, cyclists, and motorcyclists, made up 83% of all fatalities, warranting more road safety interventions for these groups. On the other hand, 47% of total injured persons also involved vulnerable road users.

Pedestrians of almost all ages were at risk on the road. Pedestrian deaths were highest among 21-to-40, 41- 50 and 51-to-60-year- men successively and among 31-to-40, 51-to-60, and 01-to-10-year-old women. In general, men accounted for 80% of total deaths, with men aged 21 to 40 years making up the highest number of fatalities and grievous injuries as well. Men, especially those 21 to 40 years old, constituted the most motorcyclist deaths.

Hit-and-run driving was a common issue in Bangladesh. The data revealed that 36 percent of fatal crashes in Chattogram City involved hit-and-run cases.

There was no clear trend for crash fatalities by time-of-day and day-of-week from 2021 to 2023. In terms of time-of-day, fatalities were distributed throughout the day and night without any significant differences. This implies that risk exists any day and any time of the week.

Pedestrian and motorcyclist fatalities mostly involved large vehicles such as heavy trucks, buses, and minibuses. Additionally, a sizable portion of pedestrian fatalities was caused by light vehicles.

After conducting an in-depth spatial study on fatal crashes, 20 locations were identified as high-risk such as City Gate , Khejur Toal on Outer Rign Road, Kalamia Bazar Bus Stop, Barik Building Bus Stop, Notun bridge and CNB Circle intersection consecutively. The study also identified the 10 highest-risk road corridors. Among them top 4 corridors are A.G. Road, Arakan Road, M.A Aziz Road and CDA Avenue.



1. INTRODUCTION

Every year, over 1.19 million people die due to road crashes, making it one of the leading causes of death globally.¹ Low- and middle-income countries account for 92% of deaths.² Moreover, more than half of these deaths are among vulnerable road users — pedestrians, cyclists, and motorcyclists.³ Far from being mere numbers, these data represent lives lost that could have been prevented through effective and evidence-based road safety measures.

Chattogram, the commercial capital of Bangladesh, has seen a rapid rise in personal car ownership⁴ in recent years together with an increase in population, resulting in increased exposure and risk on the road network. The roads in Chattogram are vital to the city's economy as a major hub for trade and commerce, but they also present serious risks to drivers. The increasing quantity of vehicles and commuters in this port city has made road safety a top priority in the city.

It is in this context that the Chattogram government pledged to lower the number of road crash fatalities and serious injuries in the city. Working together with the BIGRS, one of their main activities was to collect and analyze road crash data, highlighting vulnerable road users and identifying high-risk locations in the city.

This report serves as the continuation of this effort presenting updated data analysis until 2023. It reflects the collaborative work of the CCC, the CMP, and the BIGRS team.

The report presents data and insights into the causes of crash fatalities, its trends, and patterns. It also aims to identify vulnerable groups and high-risk locations. The scope of the data mainly focuses on data from 2021 to 2023 although data from 2017 have also been included in a number of key statistics..

The ultimate goal of creating this report is to enable all road safety stakeholders to design, develop, and execute evidence-based interventions to save lives in Chattogram's roads.

1. WHO (World Health Organization). 2023. Global Status Report on Road Safety 2023.

2. WHO (World Health Organization). 2023. Global Status Report on Road Safety 2023

3. World Health Organization. (2021, June 21). Road Traffic Injuries Fact Sheets.

4. Bangladesh Road Transport Authority, Number of Registered Motor Vehicles in Bangladesh (Yearwise), Jul 2, 2020. <http://www.brta.gov.bd/site/page/74b2a5c3-60cb-4d3c-a699-e2988fed84b2/Number-of-registered-Vehicles-in-Whole-BD>

2. METHODOLOGY

Reliable and accurate data are essential to an effective and evidence-based approach to road safety. In Chattogram and throughout Bangladesh, the Bangladesh Police are mandated to collect, manage, and store crash data to support the government in improving road safety. The process below enumerates the activities taken in collaboration with the Bangladesh Police to facilitate the collection and compilation of the data presented in this report.

Data Source:

The primary source of this report's data is the crash data collected by the Bangladesh Police from 2017 to 2023. These data — mainly collected through First Information Reports (FIRs) — provide details on road crash incidents, the vehicles and persons involved, and the cause and result of these crashes. These reports are stored and managed by the CMP in each of the police stations throughout the city. The BIGRS team in Chattogram had collected the data from all police stations.

Encoders Training on Data Collection and Entry:

Two encoders were hired to support the data collection and digitization process. The encoders were trained to fill-up the Accident Report Form (ARF), to assign georeferencing for each road crash, and to digitize collected crash records in Epi Info. After a series of training, they were then sent to the police stations for data collection.

Crash Data Collection Process by the CMP:

Whenever a crash happens, the CMP responds to the crash scene. They complete a set of forms, including a post-mortem report, complainant form, and a registrar book. These are followed by the First Information Report (FIR), which is the same document used in reporting criminal incidents. Any individual who witnessed or was directly involved in the crash are expected to provide inputs to the FIR. The completed FIR is then entered into the Crime Data Management System (CDMS) and the hard copy of the FIR is stored in the respective police station.

After the filing of an FIR, a more thorough investigation follows, including an analysis of the crash's causal factors, the extent of injuries sustained, and other relevant details such as the condition of the vehicle.

Specific to road crash incidents, a supplementary form — referred to as the Accident Report Form (ARF) — is completed to collect specific crash details. The completion of the ARF has mostly been manual and is not standardized among all police stations. There are instances when the ARFs are not even collected.

Ideally, the ARFs are compiled at the police headquarters to be encoded into the MAAP5 software. Recently, this practice has changed as the Bangladesh Police introduced an online version of the MAAP5 enabling the police to directly encode the ARFs in the police station. The overall crash data collection process is shown below:

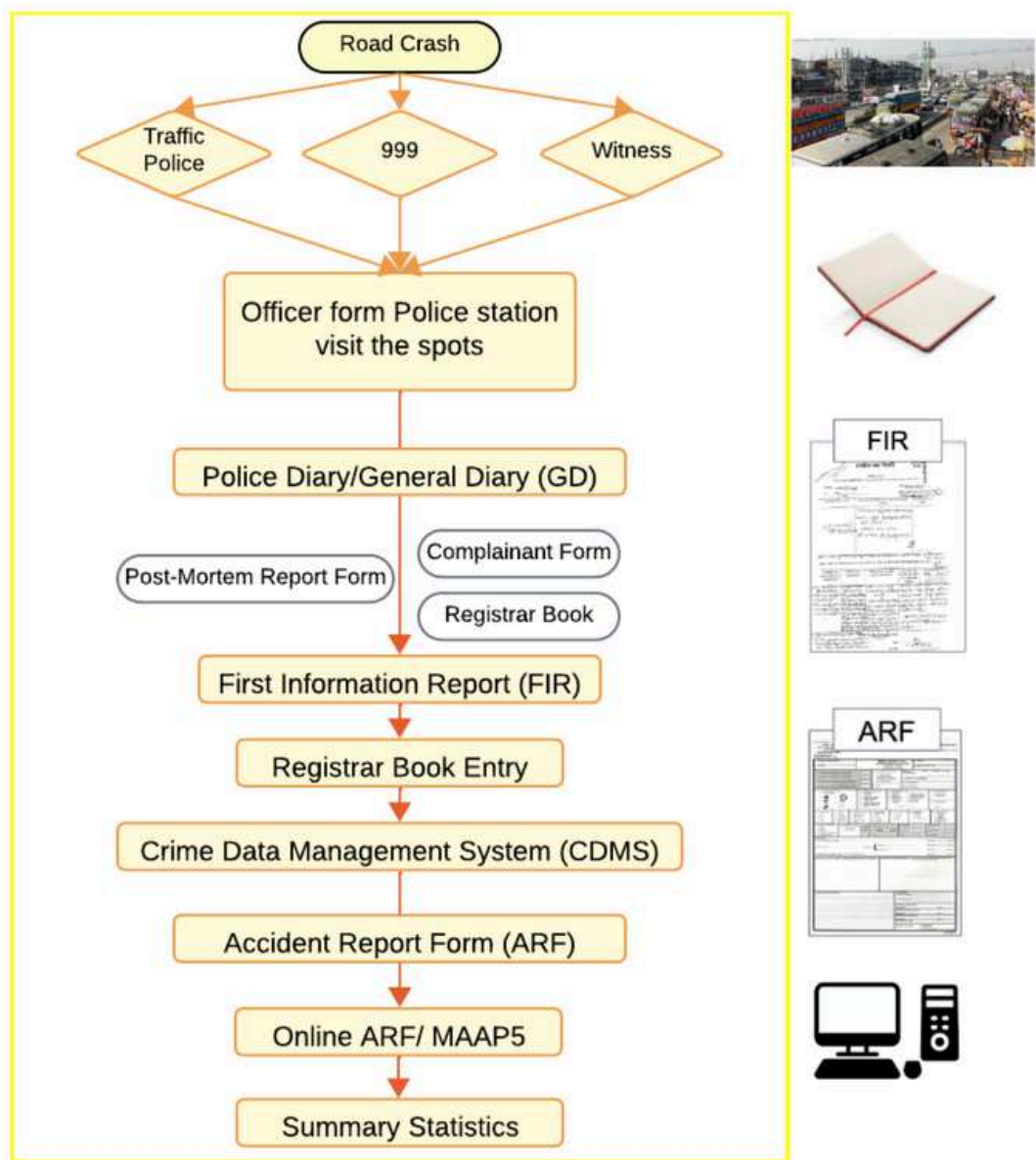


Figure 1: Methodology of crash data collection by police

Data Collection and Analysis for the Road Safety Report:

The data were compiled from each of Chattogram's 16 police stations (also called thana). In collaboration with the CMP and with the Officer-in-Charge in each police station, the team visited all the police stations to manually collect the crash data. Two data encoders gathered data by looking at the FIRs, General Diary, and logbooks to complete ARFs.

After completing ARFs from each station, they then digitized these records in a standardized form in Epi info. The key variables which were extracted followed international best practice. The road users were classified into distinct categories: pedestrians, motorcyclists, three-wheeler vehicle occupants, car occupants, and bicycle riders. After digitization in Epi Info, the records were exported as Excel sheets.

All attribute data of fatal crashes for the years 2021 to 2023 have been analyzed and illustrated in charts, maps, and tables. A spatial database was also prepared by adding georeferencing attributes (latitude and longitude) to all crashes and analyzed through the Quantum Geographic Information System (QGIS). Various maps were produced to identify crash-prone locations and corridors. Everything is reported and presented in this publication for further use.

A flowchart of the methodology is presented below:

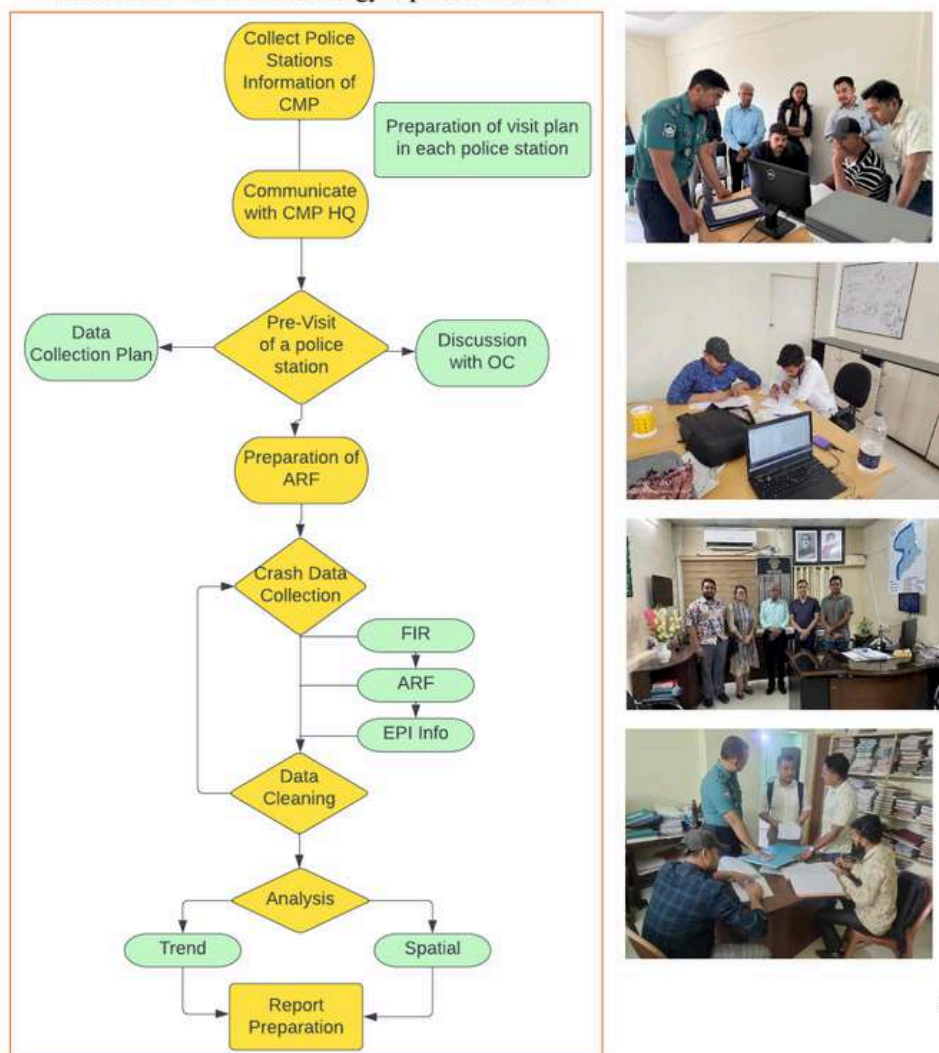


Figure 2: Process of crash data collection and analysis for study

Limitation:

Not all crash events are reported by the public to the police, and police only complete documentation for cases proceeding to prosecution. This results in significant underreporting that needs to be addressed through data improvement programs. The lack of standardized definitions, coding, and data collection methods for variables required the team to review all available documentation regarding a certain crash record. Accuracy of crash location documentation is also lacking, which necessitated the team to approximate crash locations based on provided descriptions. Information concerning weather conditions, road geometry, speed, helmet, and seat belt usage, as well as potential alcohol involvement, is absent. It is observed that standardized crash documentation forms (ARF) are not universally used in most police precincts. The data provided in this report are based on initial police reports. These reports primarily adhere to legal requirements and, as a result, do not always include all the details required for road safety. Certain details not captured in initial reports might surface in later reports compiled by police.



3. ROAD SAFETY SITUATION IN CHATTOGRAM CITY

Number of crashes and casualties in Chattogram City, 2017-2023

A total of 525 fatal crashes occurred in Chattogram city from 2017 to 2023, resulting in 569 fatalities. Grievous injuries and simple injuries were significantly lower than fatalities, implying underreporting.

Table 1: Number of Crashes per Severity in Chattogram City, 2017 to 2023

Crash Statistics in Chattogram City, 2017-2023				
Year	Fatal Crash	Grievous Crash	Simple Crash	Total Crash
2017	60	14	0	74
2018	65	19	1	85
2019	58	17	1	76
2020	66	21	0	87
2021	94	33	0	127
2022	89	27	0	116
2023	93	25	1	119
Total	525	156	3	684



Table 2: Number of Crash Injuries per Severity in Chattogram City, 2017-2023

Casualty Statistics in Chattogram City, 2017-2023				
Year	Fatalities	Total Grievous Injuries	Total Simple Injuries	Total Casualties
2017	72	34	5	111
2018	76	43	4	123
2019	61	54	10	125
2020	67	46	2	115
2021	103	78	14	195
2022	94	78	8	180
2023	96	76	7	179
Total	569	409	50	1028

Fatalities and fatalities rate per 100,000 population, 2017-2023

Based on the recorded figures, crash fatalities and fatality rates increased by 33% from 2017 to 2023. There was a slight decrease from 2018 to 2019 as well as from 2021 to 2023. At the same time, there was a sharp increase from 2019 to 2021, even at the height of the pandemic mobility restrictions. These variations in figures could not just be changes in risks in the road network but also inconsistencies in data collection and should be investigated further.

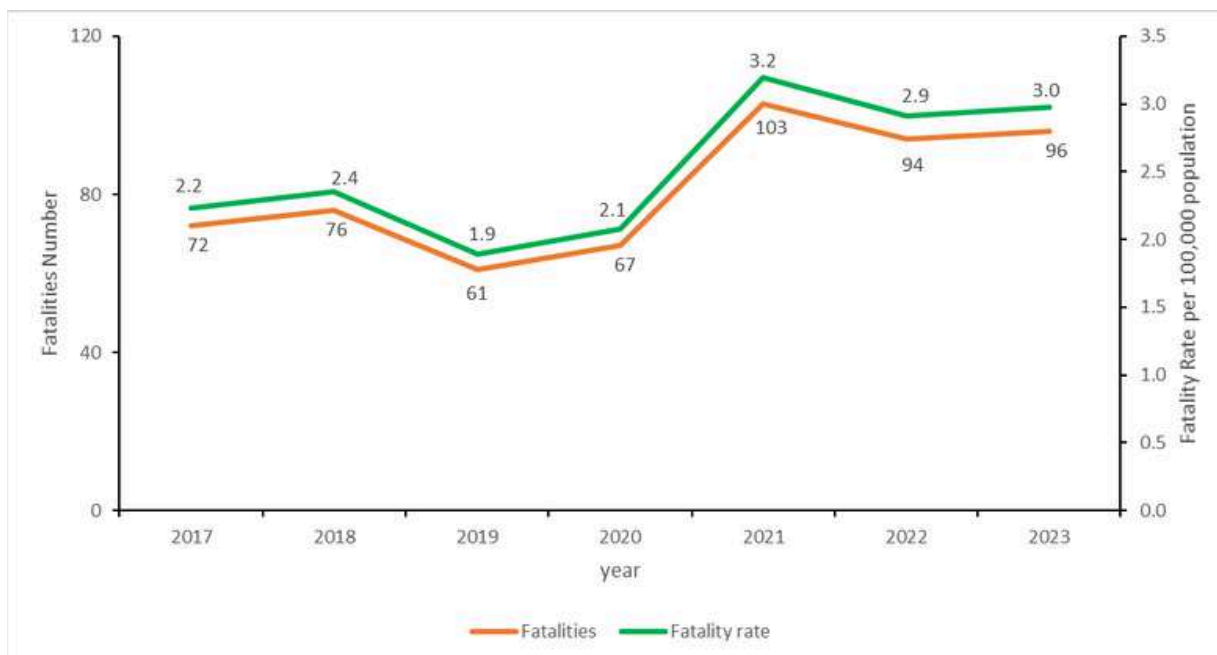


Figure 3: fatalities and fatality rates per 100,000 populations, 2017-2023

Grievous Injury and Rate per 100,000 population, 2017-2023

The total number of grievous injuries and grievous injury rates from 2017 to 2023, showed a gradually increasing trend but a slight decline in 2020 (1.4 per 100,000 population before reaching a peak of 2.4 in 2021). From 2017 to 2023, the grievous injury rate increased by 59% in Chattogram. The population of Chattogram was extracted from the population and housing census of 2022.⁵



Figure 4: Grievous injuries and grievous injuries Rate per 100,000 population, 2017-2023



5. [https://sid.portal.gov.bd/sites/default/files/files/sid.portal.gov.bd/publications/01ad1ffe_cfef_4811_af97_594b6c64d7c3/PHC_Preliminary_Report_\(English\)_August_2022.pdf](https://sid.portal.gov.bd/sites/default/files/files/sid.portal.gov.bd/publications/01ad1ffe_cfef_4811_af97_594b6c64d7c3/PHC_Preliminary_Report_(English)_August_2022.pdf)

Reported Deaths in all police stations, 2017-2023

There are 16 police stations (Thana) in the Chattogram Metropolitan Police area covering the whole city. All the police stations collect crash data through FIRs, the CDMS, and ARFs. Figure 5 presents the total fatalities for the year 2023 along with the average fatalities for the year between 2020 and 2022.

According to the table and graph, among the police stations 9 were found with more or equal fatalities in 2023 than the average of 2020-2022. Those are Akbar Shah, Chandgaon, Bakolia, Haliashahar, Kotwali, Patenga, Pahartali, Panchlaish, Khulshi and Sadarghat. police stations had the highest total in both categories successively while Chawk Bazar had the lowest. Akbar Shah and Haliashahar stations recorded around two times more fatalities than the average value.

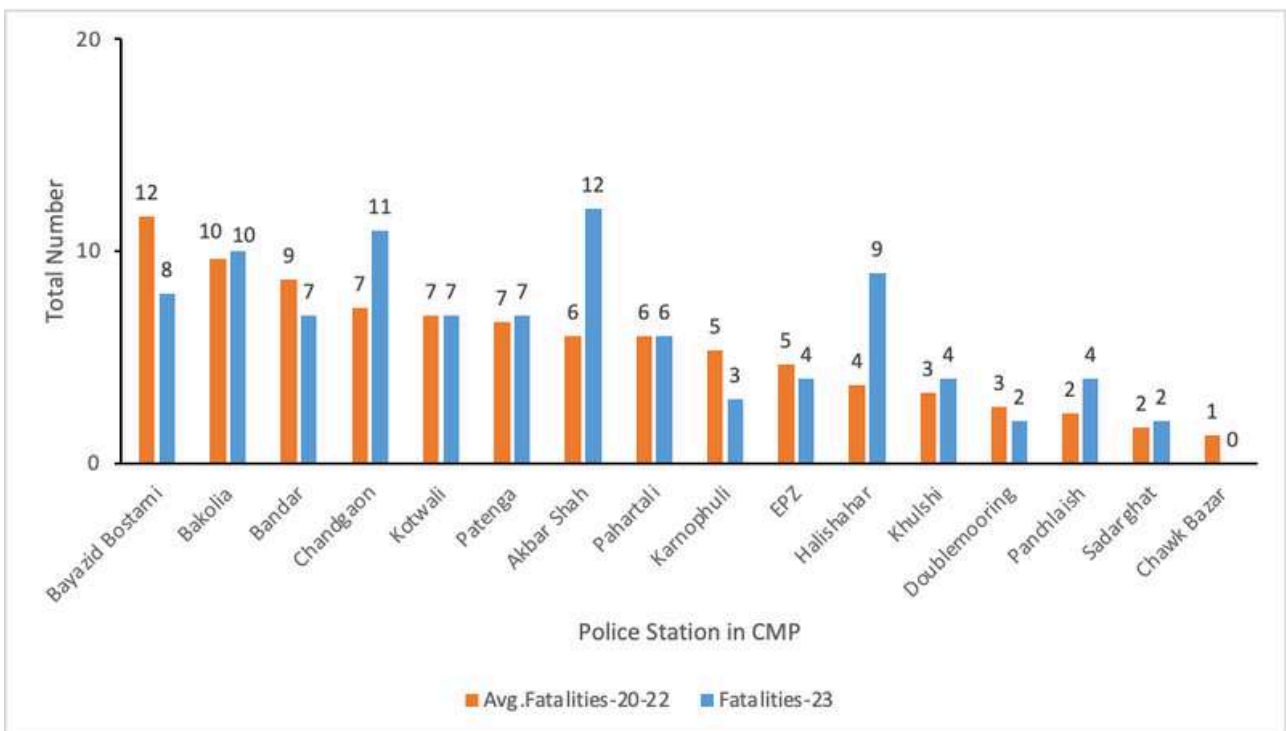
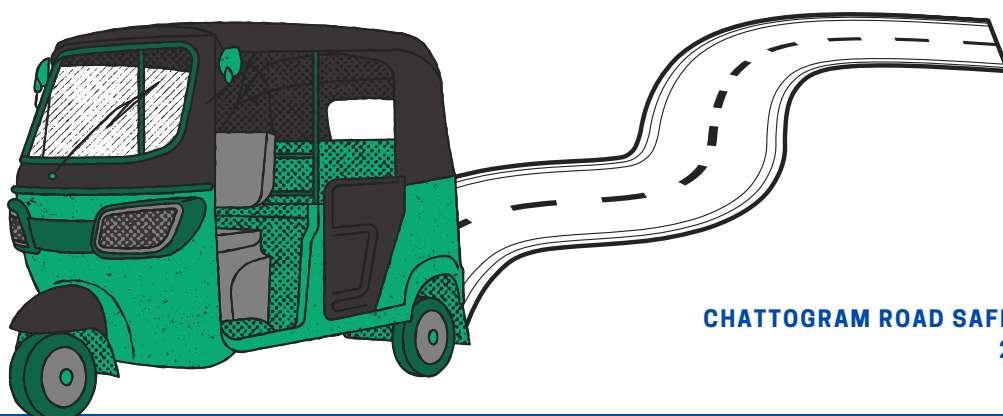


Figure 5: Fatalities in all police stations of CMP

The number of deaths and injuries are presented in Table A.1 and Table A.2 consecutively in the appendix section according to the police stations.



Road crash deaths by road user type, 2017-2023

Pedestrians were the most impacted road users from 2017 to 2023. Pedestrian fatalities increased by 70% from 2020 to 2023. Following pedestrians, the second most vulnerable road user were two and three-wheeler occupants. Motorcyclist deaths increased by 90% from 2020 to 2023.

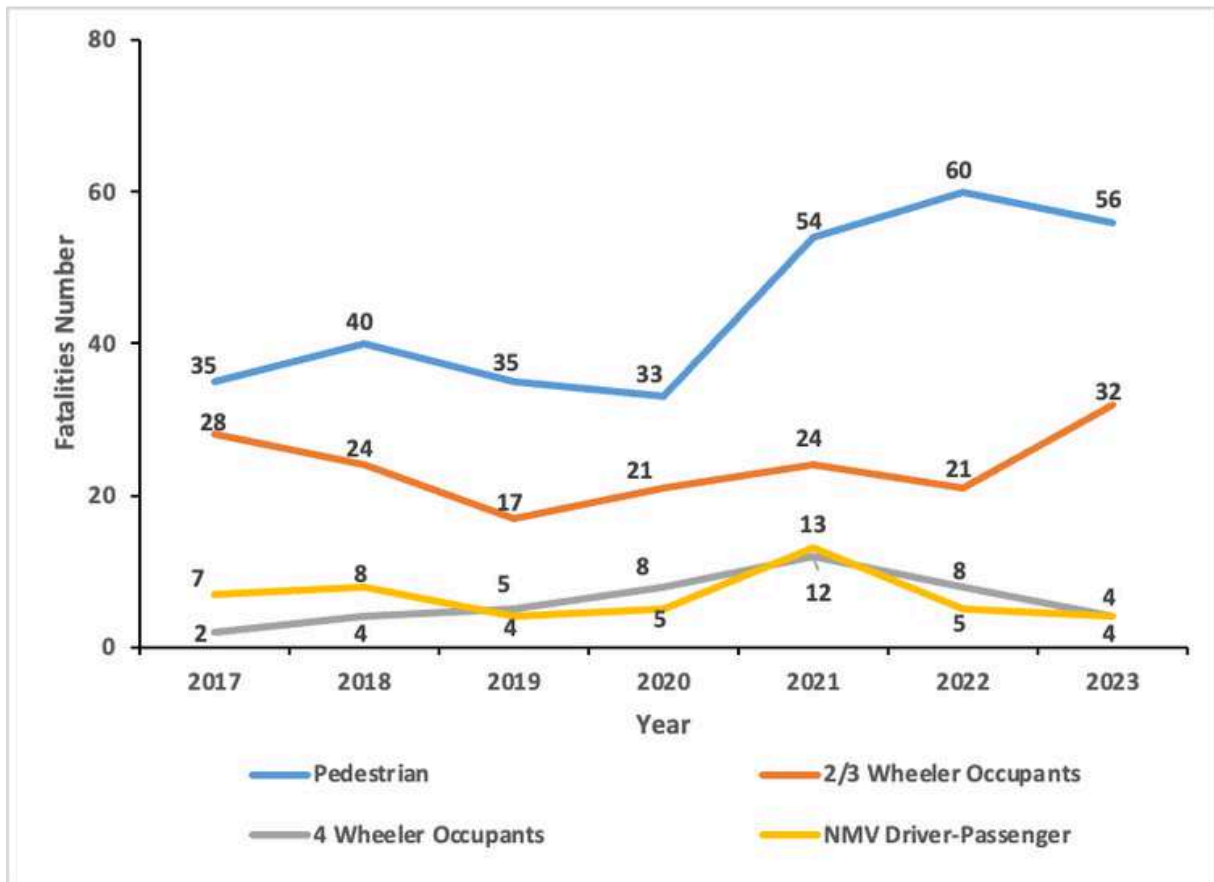


Figure 6: Road crash deaths by road user type, 2017-2023

Furthermore, pedestrians accounted for the majority (58%) of the total deaths in Chattogram. On the other hand, motorcyclists represented 17% of deaths.



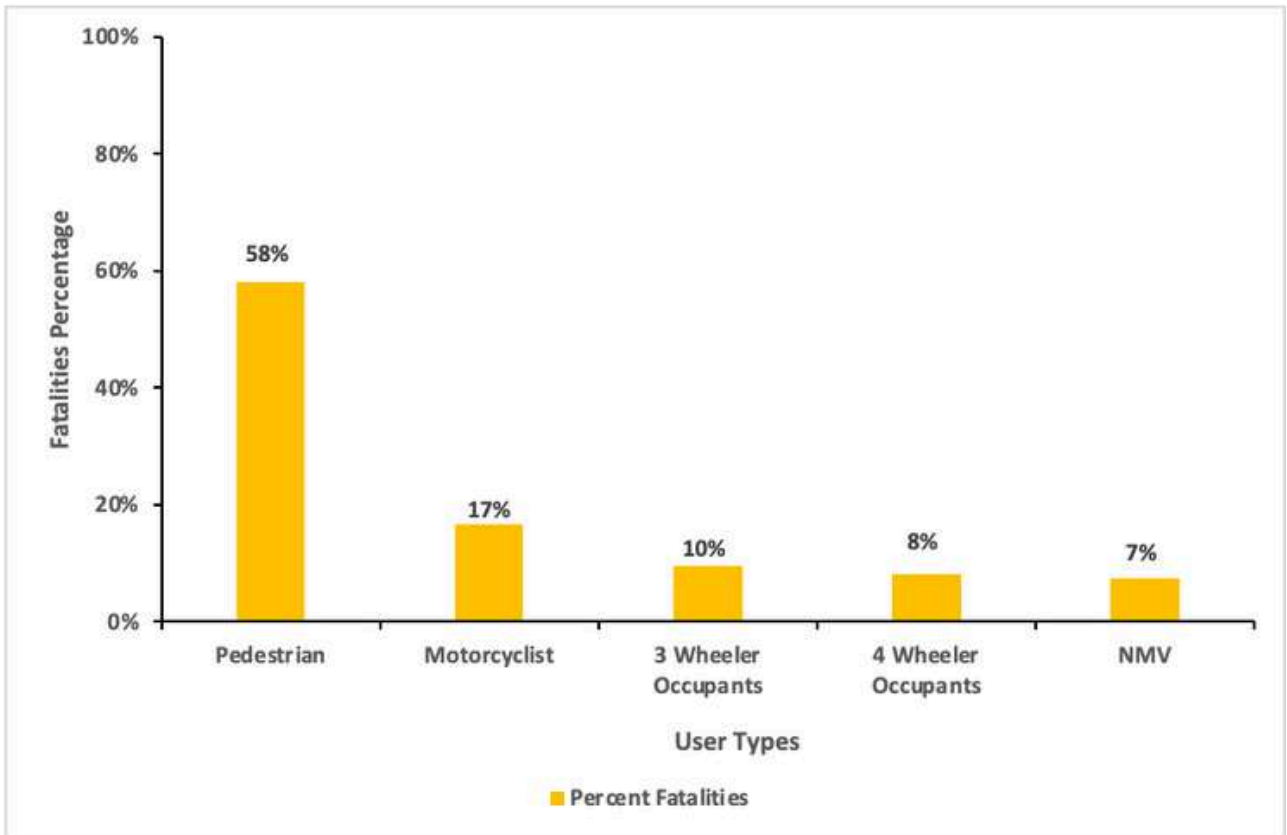


Figure 7: Deaths by road user type, 2021-2023



Road crash injuries by road user type, 2017-2023

Grievous injuries by road user type showed severe variation for all road users. The data should be inspected further to determine actual trends.

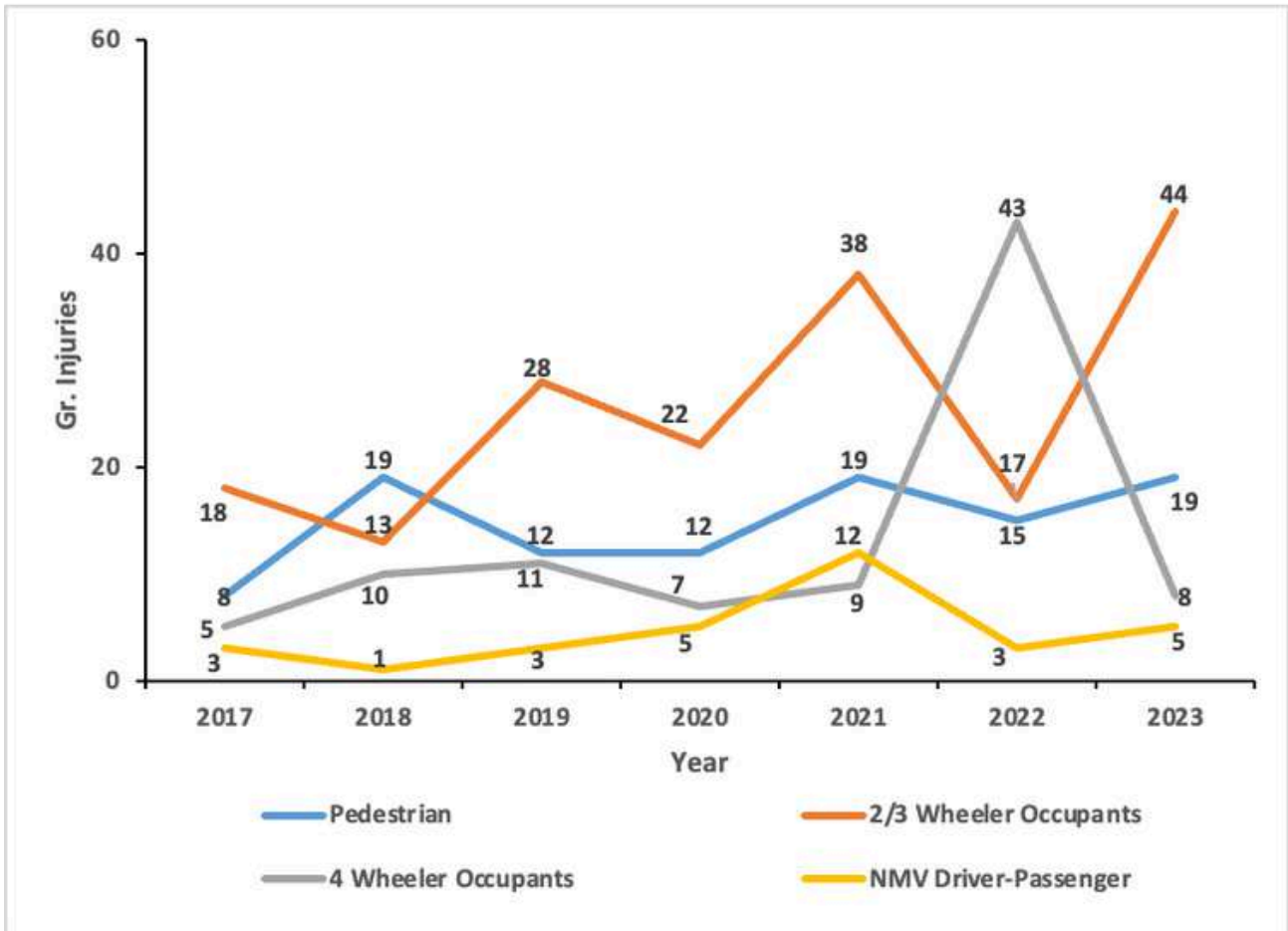


Figure 8: Road crash Grievous Injuries by road user type, 2017-2023



The highest share of grievous injuries were three wheeler occupants (28%), four wheeler occupants (26%), and pedestrians (23%).

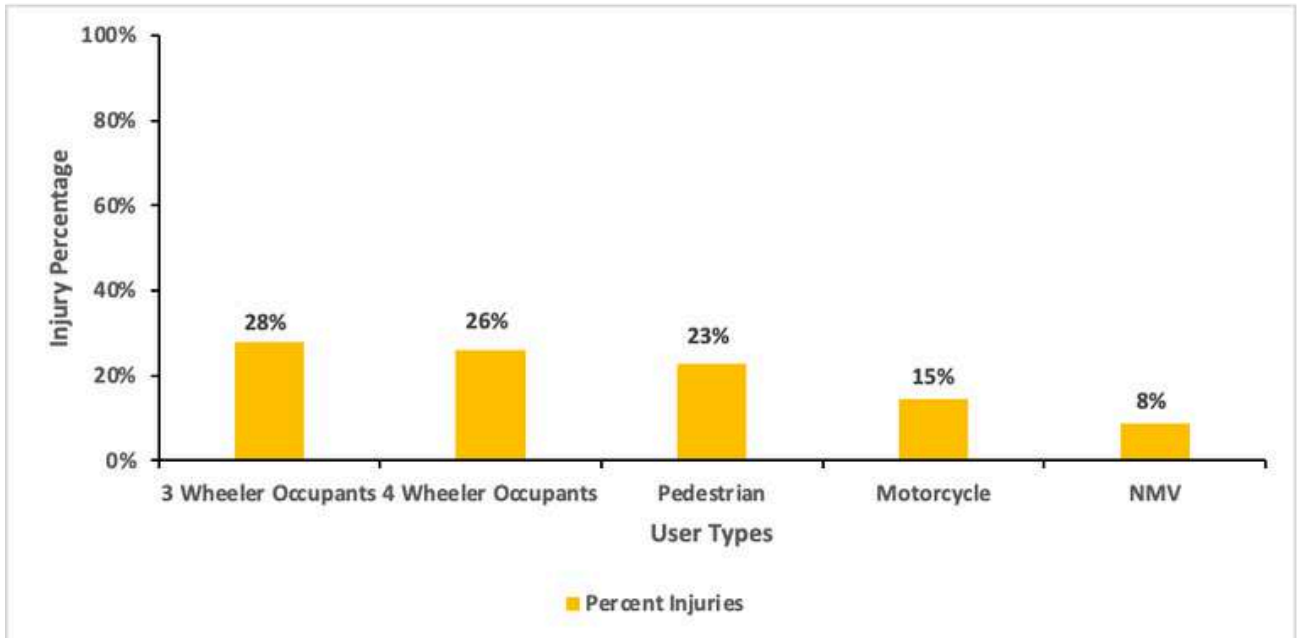


Figure 9: Road crash Grievous Injuries by road user type, 2021-2023



Fatalities by Gender, 2021-2023

Among all fatalities in 3 years, 234 were men and 57 were female. So, men accounted for 80% of all road crash fatalities in the year 2021-2023 while women accounted for 20% which could indicate increased exposure for men

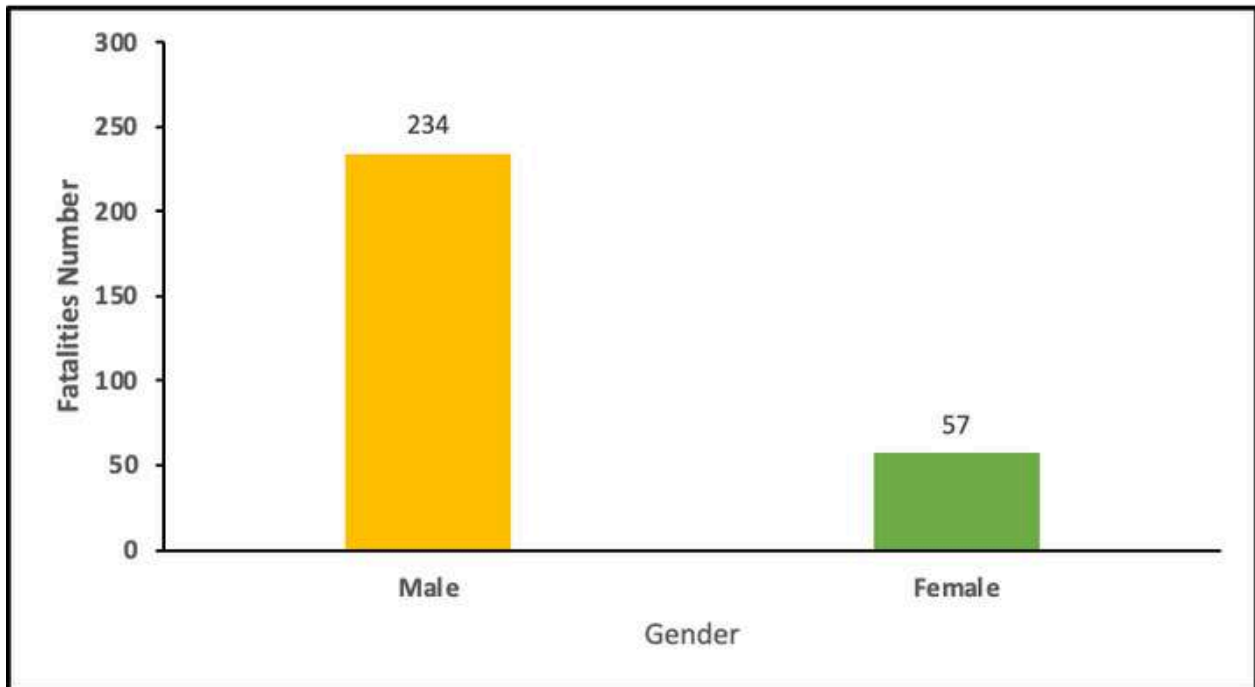


Figure 10: Fatalities by Gender, 2021-2023

Technical Note: There was no mention of 2 deceased person's gender.



Injuries by Gender, 2021-2023

For injuries, men accounted for 70% of all grievous injuries from 2021 to 2023 while women accounted for 30%.

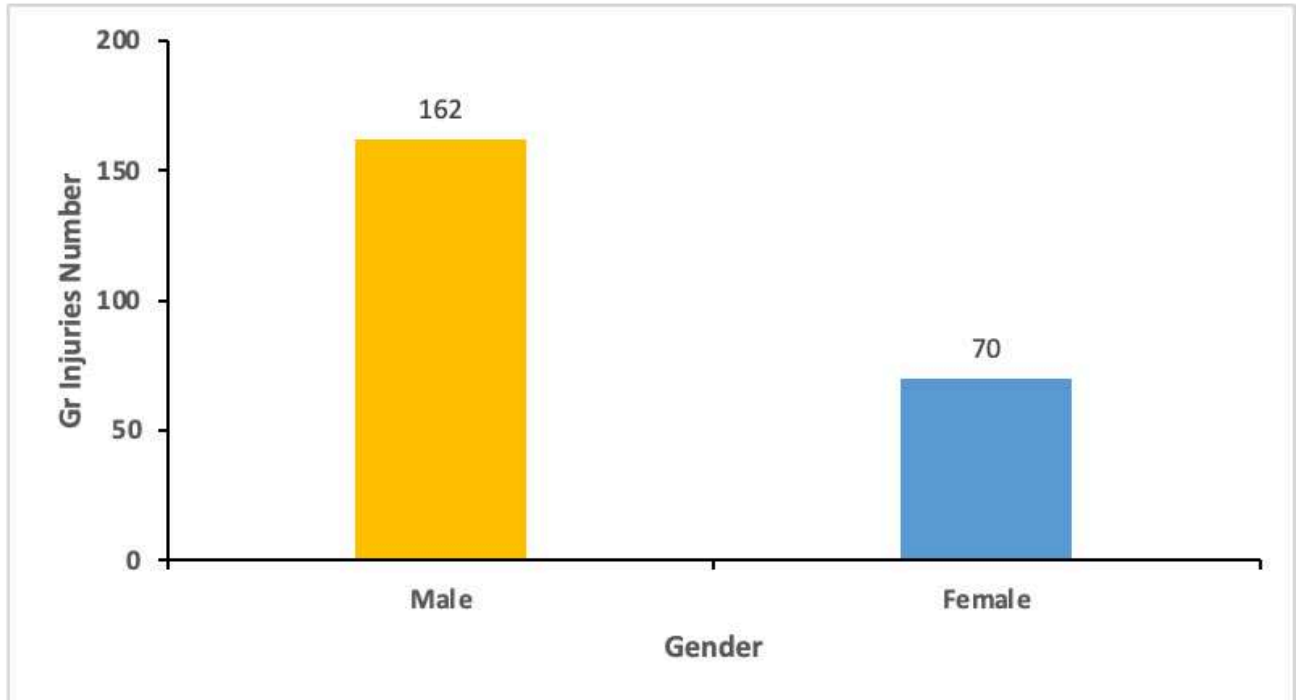


Figure 11: Grievous Injuries by Gender, 2021-2023.



Deaths by age group and gender, 2021-2023

Males ages 21 to 40 were the most impacted by road crash fatalities from 2021 to 2023. Following them were males aged 11 to 20 years old and males 41 to 50 years old. Female fatalities were lower overall than males but female fatalities were more distributed evenly across all aged groups.

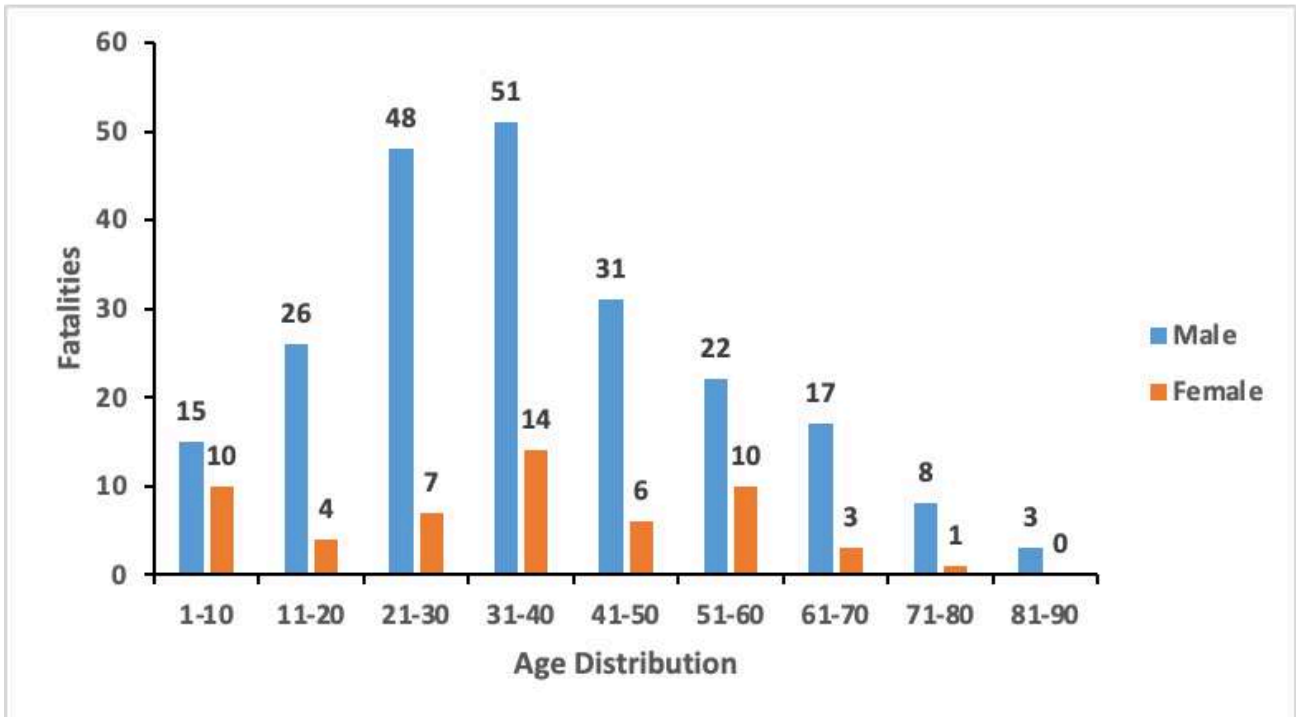


Figure 12: Deaths by age group and gender, 2021-2023

Note: In a few cases age was not included during FIR preparation. So, special importance needs to be given to victims' age entry.



Grievous injuries by age group and gender, 2021-2023

Similar to fatalities by age and gender trends, males aged 21 to 30 were the most impacted by risk. This was followed by males aged 31 to 40 and 11 to 20. On the other hand, females aged 21 to 30 were the most impacted female age group. This was followed by females aged 11 to 20.

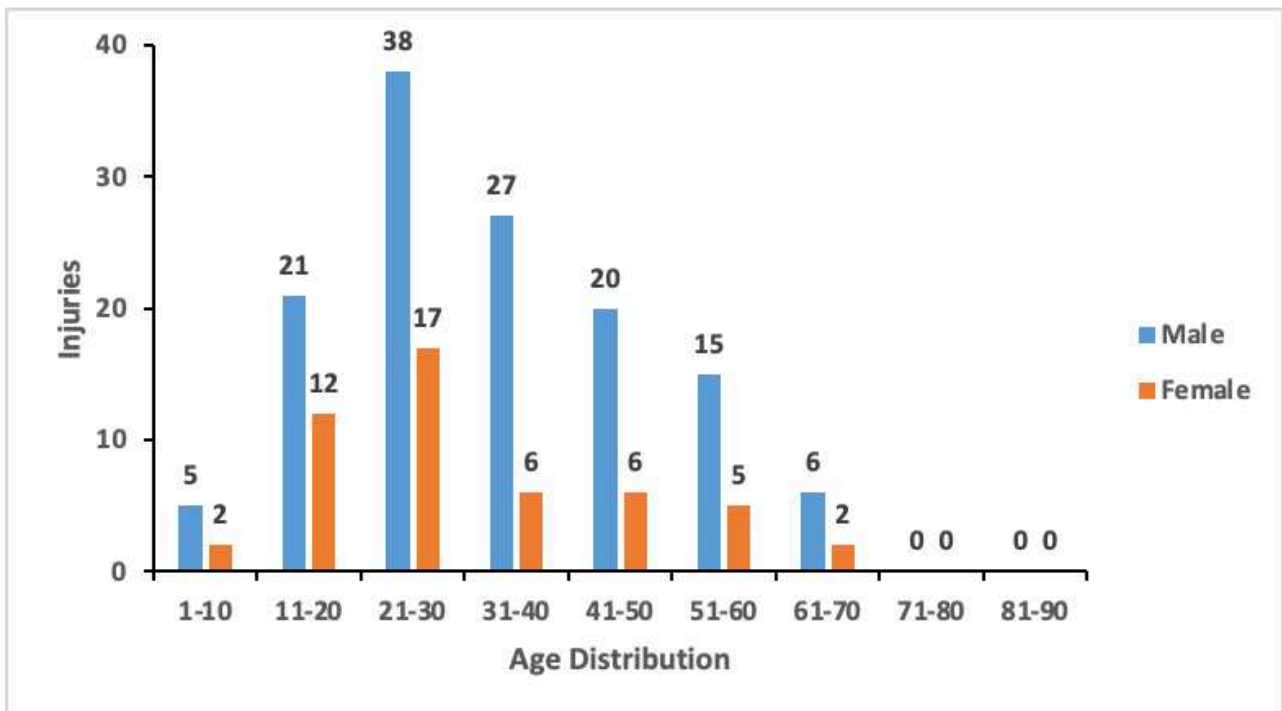
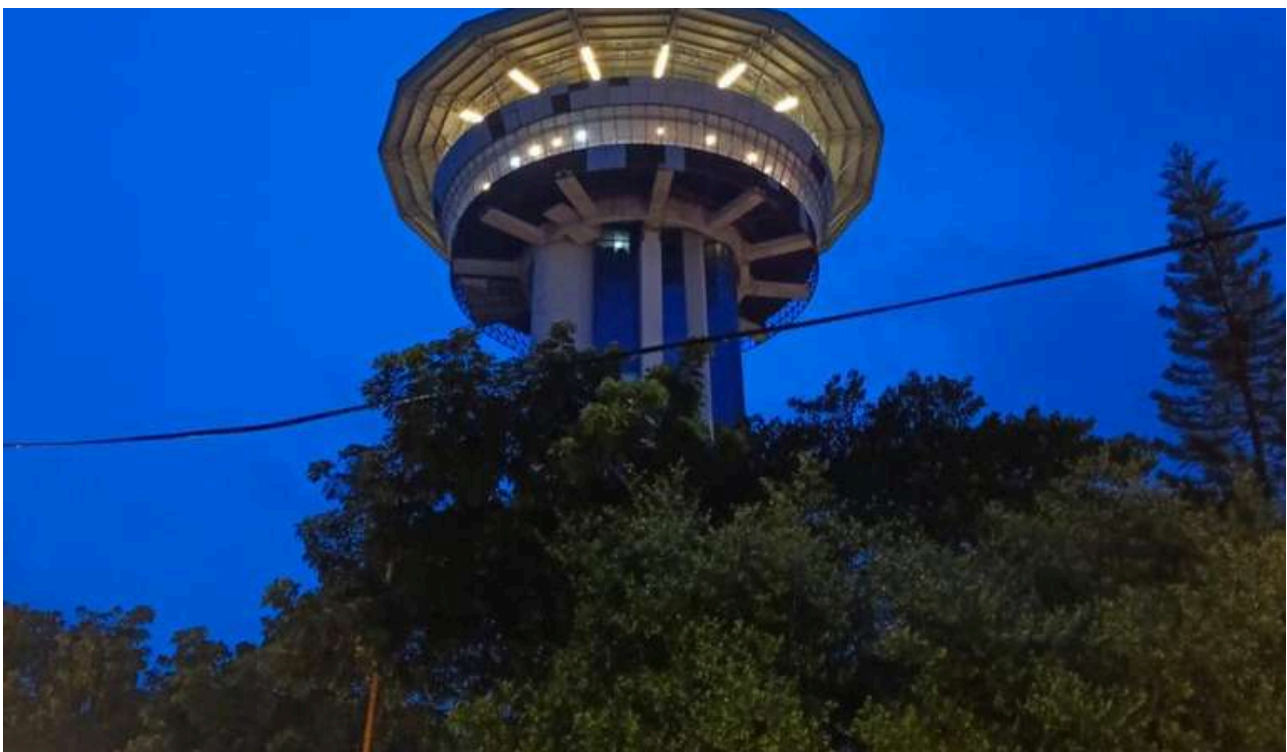


Figure 13: Grievous injuries by age group and gender, 2021-2023



Pedestrian deaths by age group and gender, 2021-2023

Pedestrians were the most vulnerable road users in Chattogram City having 58% of the total deaths. Pedestrian fatalities by age were distributed evenly across almost all age groups. This shows that each age group by gender faces similar risks as a pedestrian. This also indicates that walking is a common mode of travel and implies the importance of designing safe pedestrian infrastructure. Inclusive design of pedestrian facilities and speed management would be effective in improving pedestrian safety.

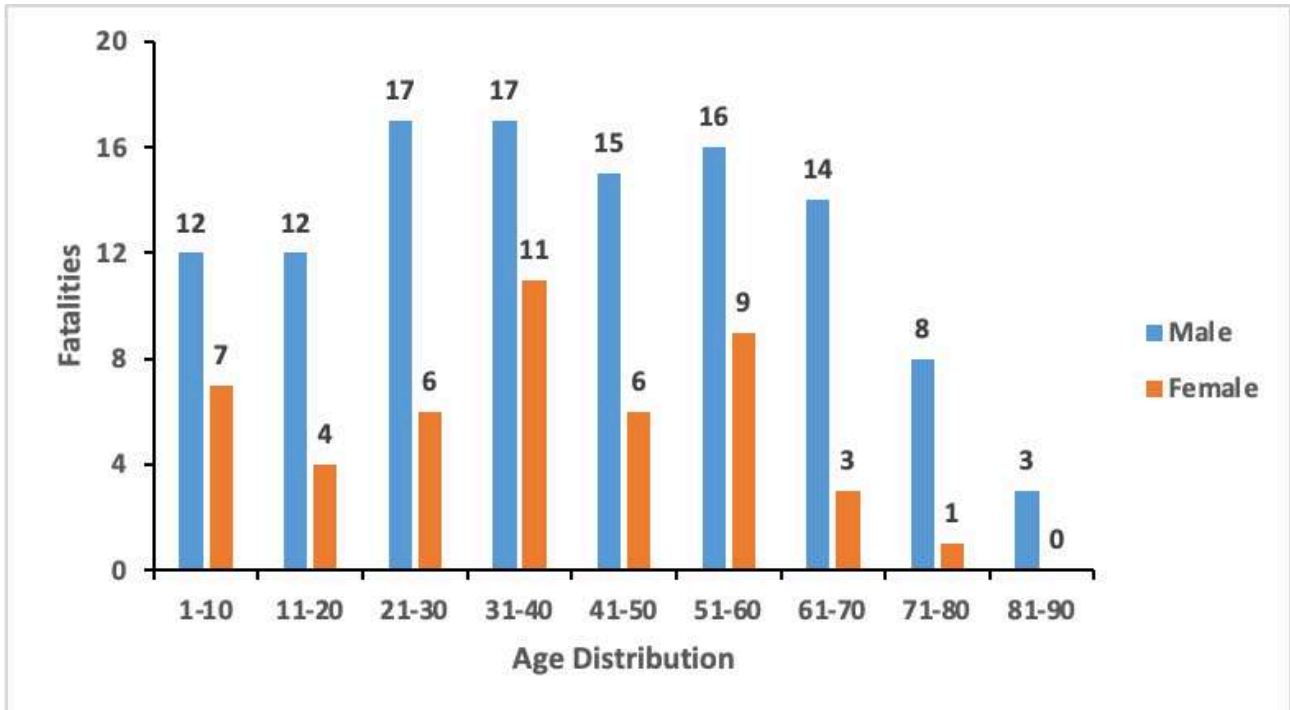


Figure 14: Pedestrian deaths by age group and gender, 2021-2023



Pedestrian grievous injuries by age group and gender, 2021-2023

Figure 20 represents the age distribution of grievously injured pedestrians. Almost all aged pedestrians were injured due to road crashes in the last three years but 11 to 20 year old male pedestrians were the highest. The variation in injury distribution however is more of a reflection of underreporting of injuries and requires further investigation.

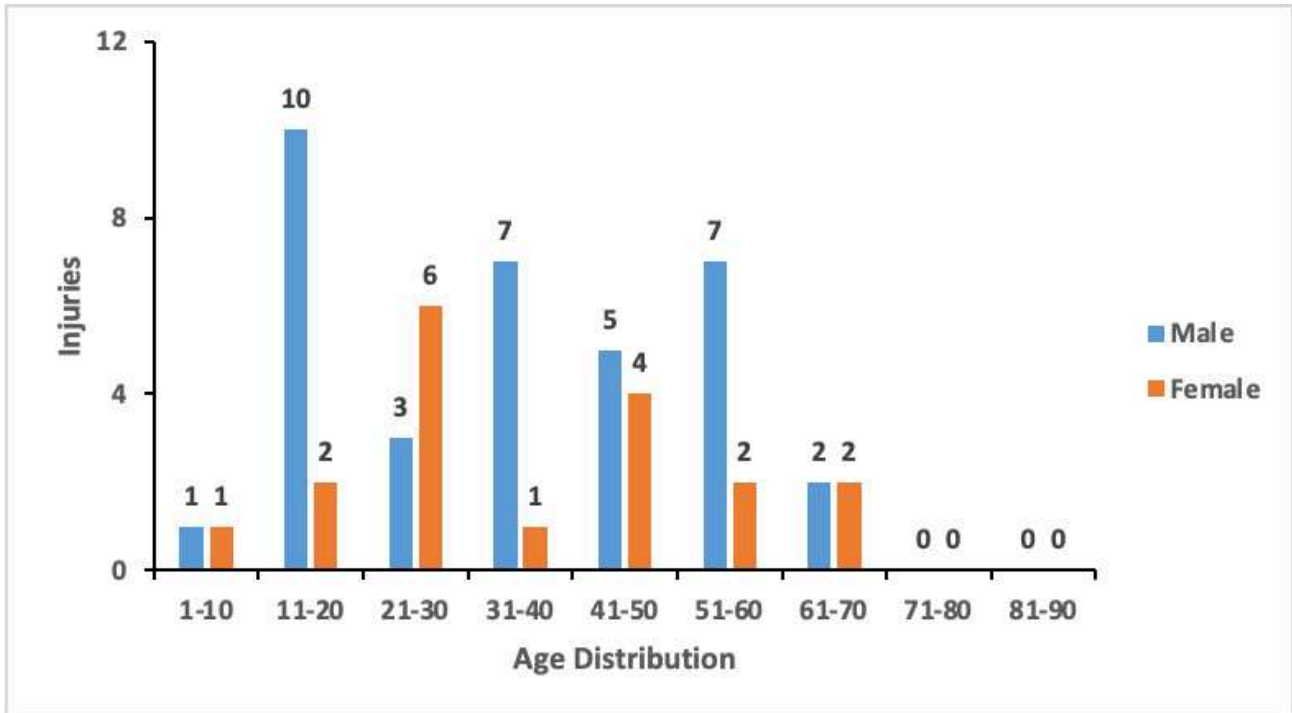


Figure 15: Pedestrian grievous injuries by age group and gender, 2021-2023



Motorcycle Deaths by Age Group, 2021-2023

Motorcyclist deaths were the highest among people 21 to 40 years old. The majority of motorcyclist deaths were men and accounted for around 95% of motorcyclist deaths. Only one motorcyclist death among females was recorded and could be due to travel patterns and mode choice by women in Chattogram but also, underreporting.

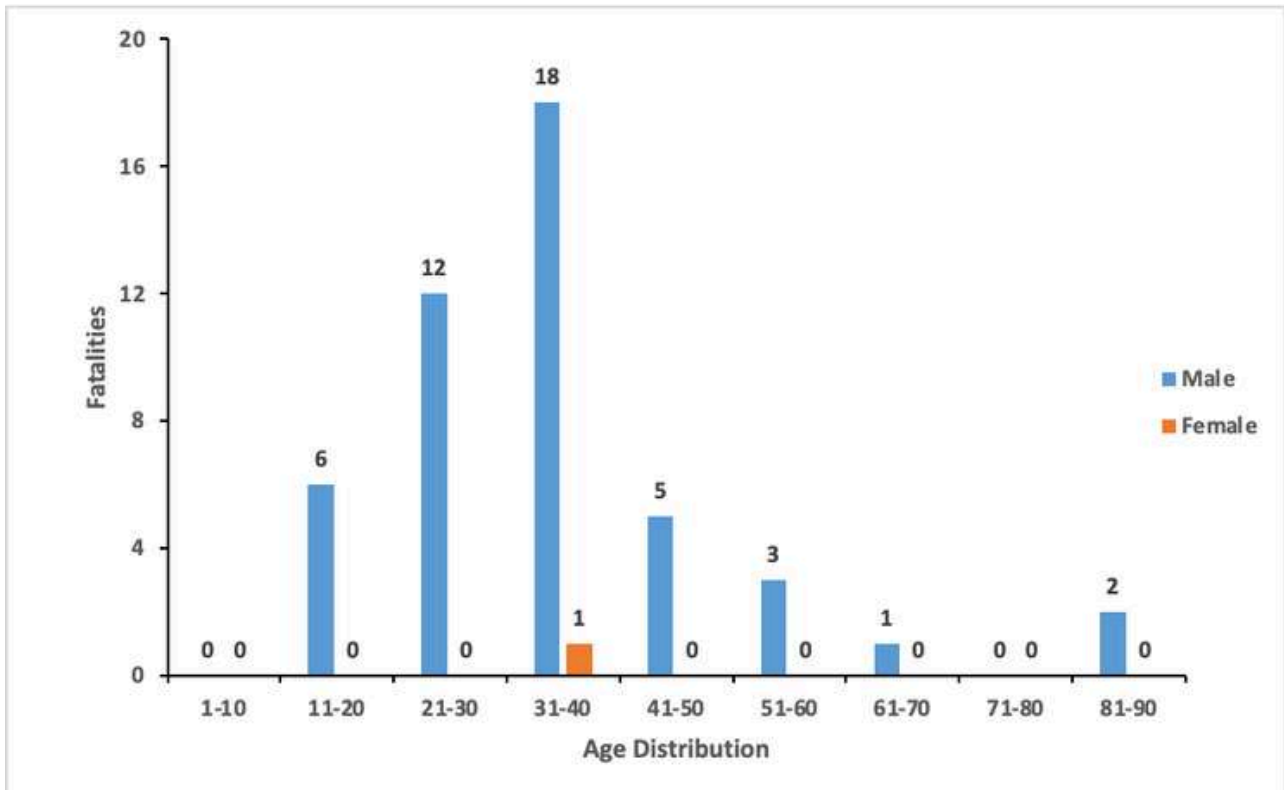


Figure 16: Motorcycle Deaths by Age Group, 2021 - 2023



Motorcycle Grievous Injuries by Age Group, 2021-2023

Among all grievous injuries, 95% of motorcyclists were male though female injuries were also recorded, especially among the 21-30 year old age group.

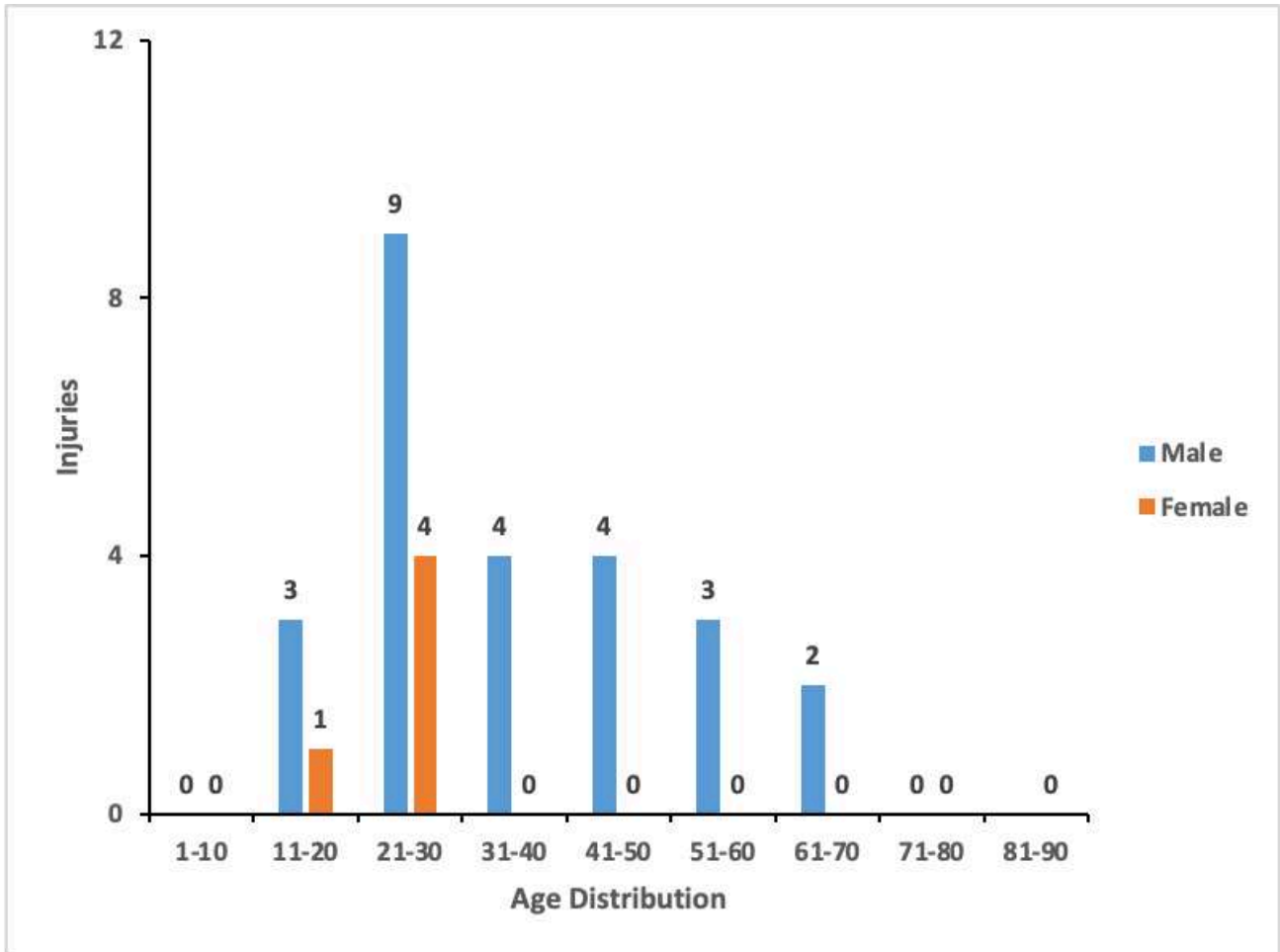


Figure 17: Motorcycle grievous injuries by Age Group, 2021 - 2023



Hit-and-Run in Fatal Crashes Scenario, 2021-2023

64% of crashes were hit and run crashes in Chattogram from 2021 to 2023. These were identified when the driver and vehicle information were not present in the FIR. Among all hit-and-run cases, 82% of collision types were hit pedestrians which could indicate both the large number of pedestrian fatalities but also how they were usually the victim of hit-and-run crashes.

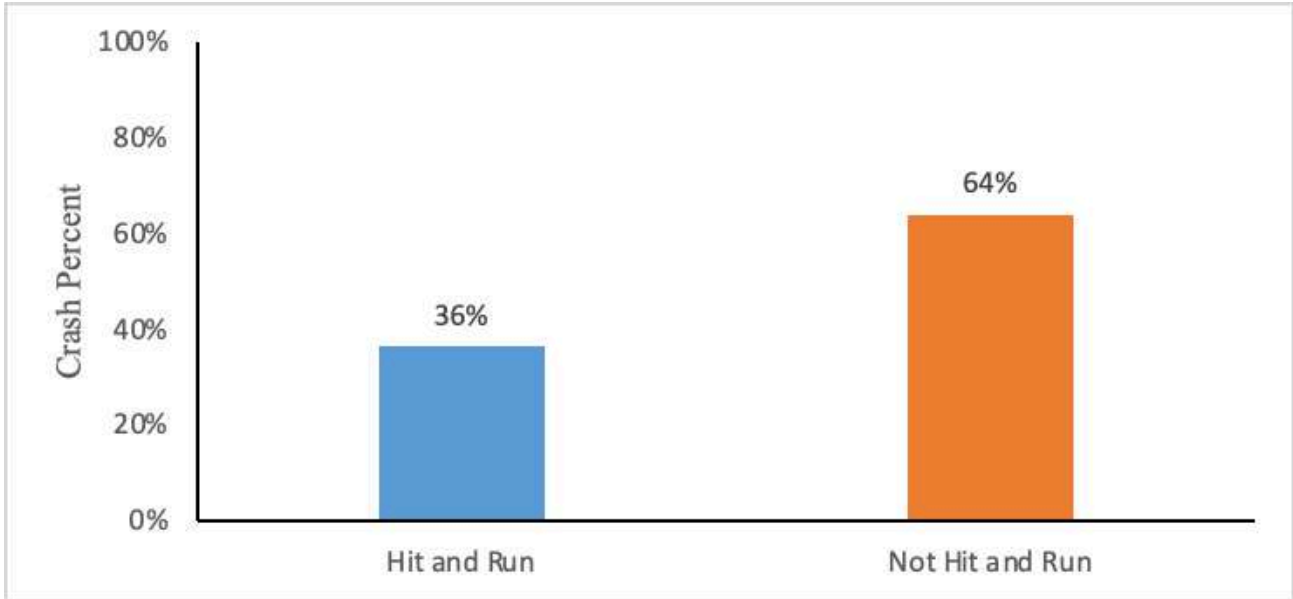


Figure 18: Hit and Run in fatal crashes, 2021-2023



Fatal Crashes and Fatalities by Month, 2021-2023

From 2021 to 2023, crash fatalities were the highest from April to June and December. These months coincided with the Eid and year-end holidays. People would usually travel to visit friends and family during these holidays, increasing exposure on the road as well as fatalities. Fatalities and serious injuries decreased during the remaining months especially from July to November however, it was difficult to determine whether this was because of changes in travel patterns by road users or a reflection of the quality of data.

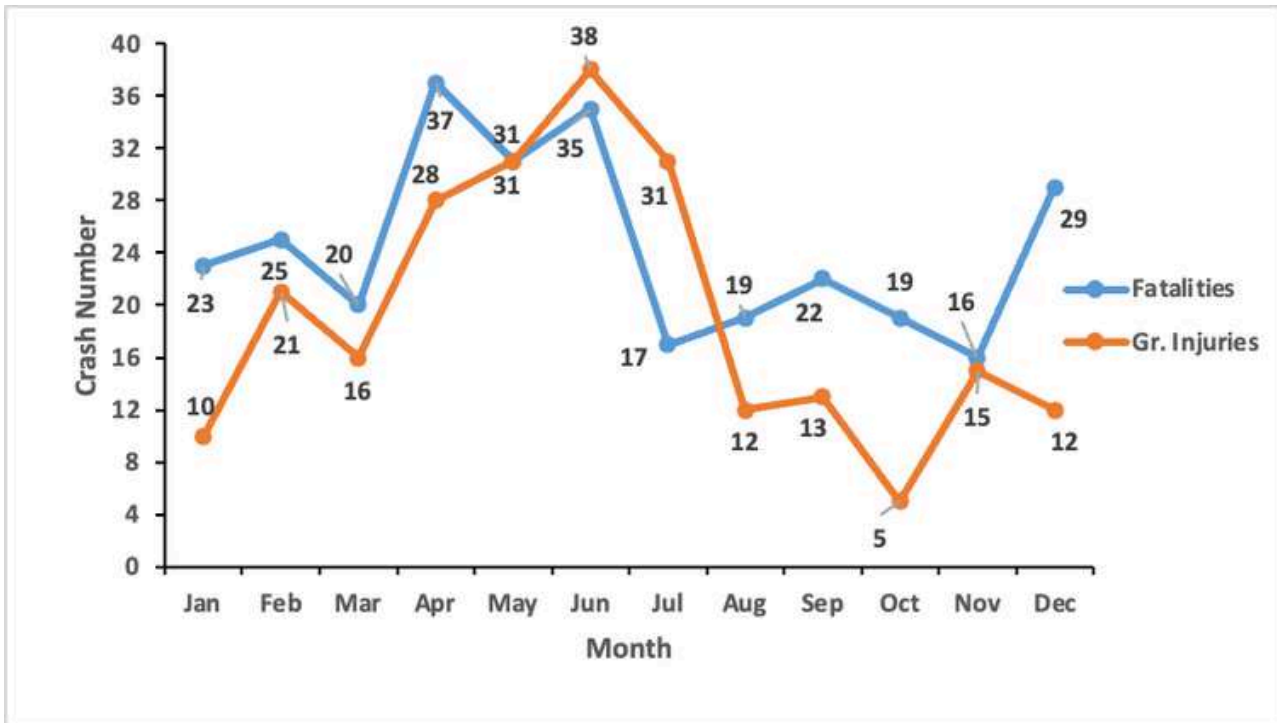


Figure 19: Fatalities and grievous injuries by month, 2021-2023



Time-of-Day, Day-of-Week Distribution of Fatalities, 2021-2023

There was no clear trend for crash fatalities by time-of-day and day-of-week from 2021 to 2023. While Friday had the highest number of fatalities, fatalities during the days of the week had small differences from each other. In terms of time-of-day, fatalities were also distributed throughout the day and night without any significant differences. This implies that risk exists any day and any time of the week.

Table 3: Road Crash Deaths by Time and Day, 2021-2023

Day Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
00:00-00:59	2	0	0	1	2	3	2	10
01:00-01:59	2	1	1	0	0	1	0	5
02:00-02:59	1	3	1	1	0	3	1	10
03:00-03:59	1	2	1	0	1	1	2	8
04:00-04:59	2	1	0	0	0	1	0	4
05:00-05:59	4	3	2	1	0	3	1	14
06:00-06:59	2	3	0	1	3	5	1	15
07:00-07:59	3	1	0	3	1	3	2	13
08:00-08:59	0	1	4	2	0	0	0	7
09:00-09:59	1	1	0	0	3	1	3	9
10:00-10:59	1	3	2	1	1	2	0	10
11:00-11:59	2	0	1	1	1	3	0	8
12:00-12:59	5	2	1	3	0	2	1	14
13:00-13:59	2	1	2	3	5	2	1	16
14:00-14:59	1	1	1	3	1	4	1	12
15:00-15:59	0	2	2	0	0	4	1	9
16:00-16:59	1	3	2	1	1	3	3	14
17:00-17:59	1	4	4	3	4	2	3	21
18:00-18:59	5	0	1	3	1	0	5	15
19:00-19:59	1	0	3	5	0	3	1	13
20:00-20:59	4	0	4	2	2	2	4	18
21:00-21:59	3	4	1	0	3	1	2	14
22:00-22:59	2	5	2	1	7	2	4	23
23:00-23:59	1	1	1	0	4	2	1	10
Total	47	42	36	35	40	53	39	292

Technical Note: Time was not mentioned in one of the cases reported

Time-of-Day, Day-of-Week Distribution of Grievous Injuries

Friday and Sunday had the highest number of injuries. It was also evident that injuries were recorded more during the daytime. It should be noted that these figures need further verification as serious injuries are severely underreported.

Table 4: Grievous injuries by Time and Day, 2021-2023

Day Time	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
00:00-00:59	2	0	0	0	0	1	3	6
01:00-01:59	0	0	0	1	0	0	0	1
02:00-02:59	0	0	0	0	3	1	1	5
03:00-03:59	0	0	0	0	3	1	3	7
04:00-04:59	0	0	0	0	0	0	0	0
05:00-05:59	5	2	2	4	0	3	0	16
06:00-06:59	3	0	0	1	1	5	0	10
07:00-07:59	0	3	0	5	1	10	11	30
08:00-08:59	0	0	0	0	1	0	1	2
09:00-09:59	1	1	2	3	0	0	11	18
10:00-10:59	1	0	2	1	0	1	0	5
11:00-11:59	3	1	1	0	1	0	0	6
12:00-12:59	3	0	0	1	4	0	2	10
13:00-13:59	0	0	0	8	1	3	1	13
14:00-14:59	0	1	1	0	1	1	0	4
15:00-15:59	1	0	0	1	0	6	2	10
16:00-16:59	1	4	2	0	1	3	0	11
17:00-17:59	0	2	4	0	7	1	2	16
18:00-18:59	5	1	2	0	1	5	8	22
19:00-19:59	2	0	0	4	0	5	0	11
20:00-20:59	0	2	1	1	1	1	2	8
21:00-21:59	2	2	1	0	1	0	3	9
22:00-22:59	0	2	0	0	6	1	0	9
23:00-23:59	0	0	0	0	2	0	1	3
Total	29	21	18	30	35	48	51	232

Vehicle Involvement in Fatalities

Heavy vehicles and trucks were the number one killer of pedestrians and motorcyclists. Additionally, a significant number of pedestrians were also killed by buses and minibuses.

Table 5: Road User Interaction Matrix of Fatalities, 2021-2023

Impacting Vehicle Road User	Heavy Truck	Bus & Minibus	Car, Jeep & Pick-Up	Microbus	Motorcycle	CNG-Taxi & Tempoo	Other	Total
Pedestrian	37	29	18	3	9	15	4	115
Motor Cycle	34	5	4	1	0	0	1	45
CNG-Taxi & Tempoo	6	6	0	2	2	8	0	24
Bicycle	2	3	0	0	0	0	0	5
Rickshaw & M.Rickshaw	14	2	1	1	0	1	0	19
Car, MicroBus & Pickup	2	0	4	0	0	0	0	6
Heavy Truck	5	0	0	0	0	1	0	6
Bus, Minibus	2	9	1	0	0	0	0	12
Total	102	54	28	7	11	25	5	232



4. LOCATIONS AND CORRIDORS:

High-risk road locations were identified using OpenStreetMap and analysed using Quantum Geographic Information System-QGIS.

High-Risk Locations (HRL), 2021-2023

The top 20 high-risk road locations in Chattogram were identified based on the number of road crash fatalities (see Table 6). Each location was within a 250-metre radius of area and had at least four fatalities in 3 years. The point cluster method of QGIS was used to analyze the High-Risk Locations (HRL) and locations were inspected further to identify the crashes within a 250-meter radius.

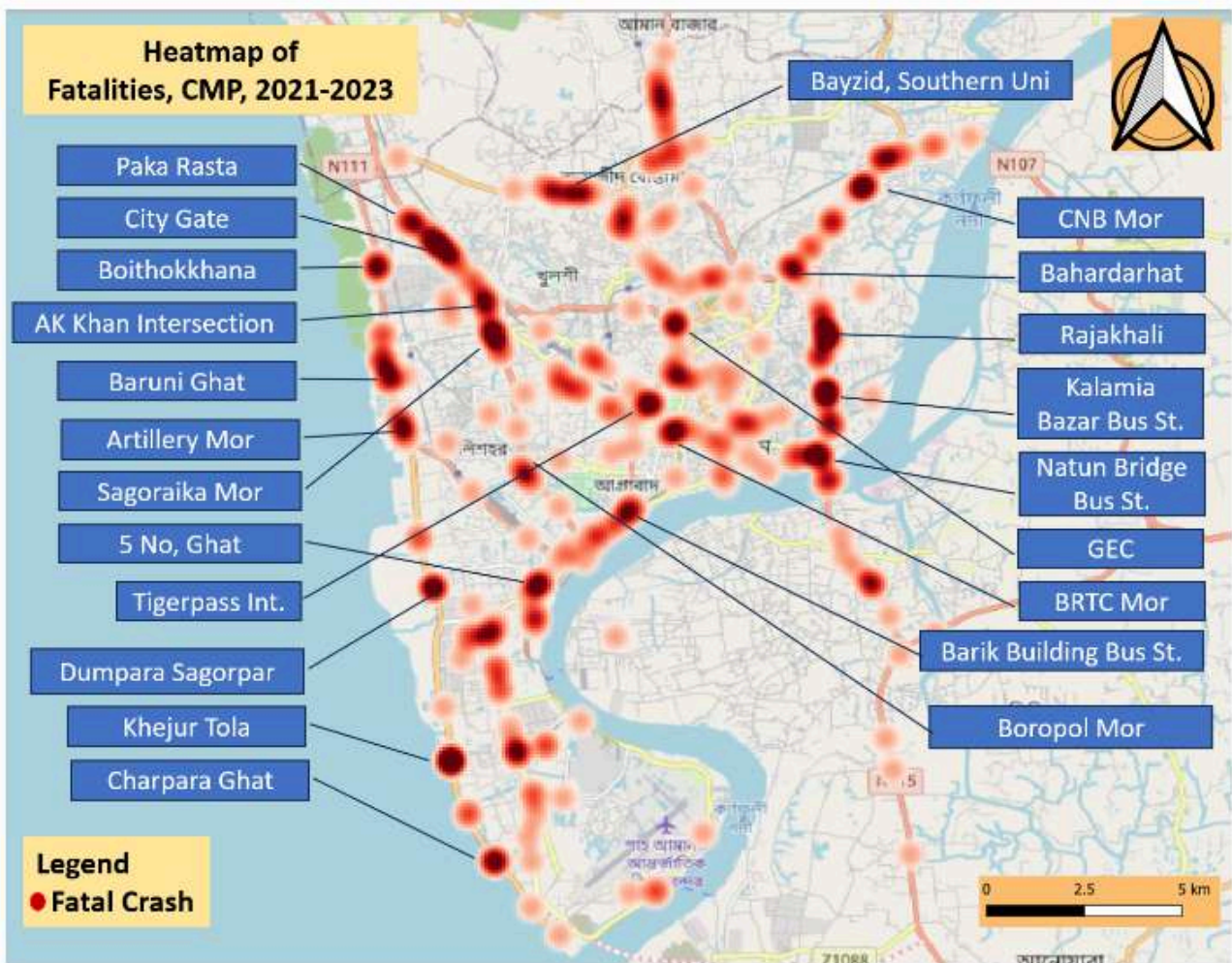
Table 6: Top 20 HRL in CMP, 2021-2023

SI	Location Name	Fatalities	SI	Location Name	Fatalities
1	City Gate	8	11	GEC Intersection	4
2	Khejur Tola	6	12	Bayzid, Southern University	4
3	Barik Building Bus Stop	5	13	Charpara Ghat	4
4	CNB Mor	5	14	Boropol	4
5	Kalamia Bazar Bus Stop	5	15	Boithokkhana	3
6	Natun Bridge Bus Stop	5	16	BRTC Mor	3
7	AK Khan Intersection	4	17	Dumpara Sagorpar	3
8	5 No, Ghat	4	18	Artillery Mor	3
9	Rajakhali	4	19	Baruni Ghat	3
10	Tigerpass Intersection	4	20	Paka Rasta	3

Given the table, the City Gate area recorded the highest number (8) of fatalities. This was followed by Khejur Tola on Outer Ring Road where 6 fatalities occurred. In addition, 5 fatalities were placed in 4 locations such as Kalamia Bazar Bus Stop, Barik Building Bus Stop, Notun Bridge and CNB Circle intersection consecutively.

All hazardous road locations are shown in Map 1 according to the fatalities heatmap.

Map 1: Hazardous Road Locations (Heatmap) in CMP, 2021-2023



High-Risk Corridors (HRC)

Table 7 presents the top 10 high-risk road corridors. Fatalities were plotted on a map and the corridors with the highest fatalities were ranked based on the fatalities per kilometre. Corridors that had at least more than one fatality per kilometre of road were considered high-risk road corridors.

Table 7: Top 10 High-risk Road Corridors in CMP, 2021-2023

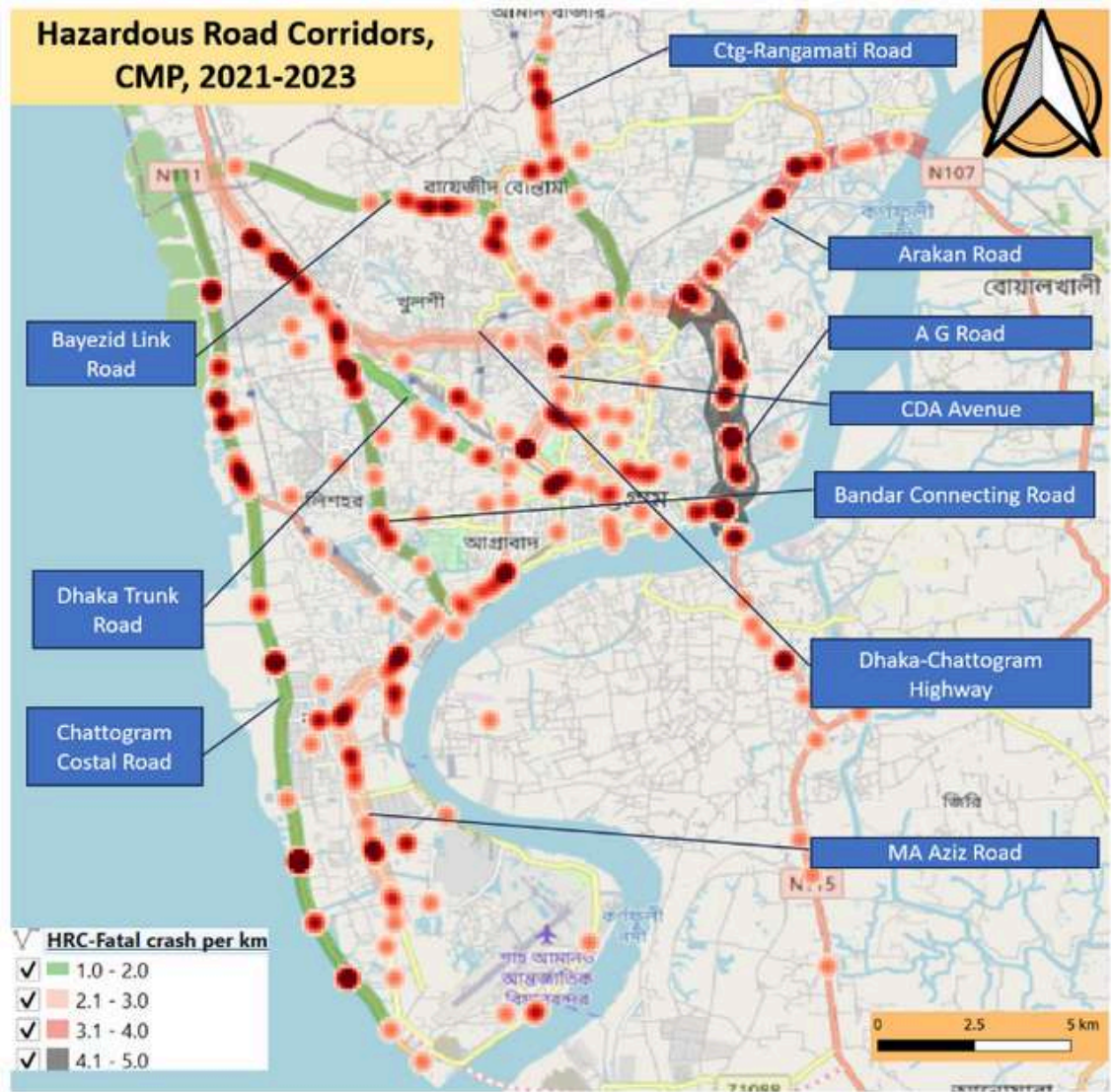
HRC Rank	Road Name	Starting	Ending	Km	Fatalities	Fatalities per km
1	A.G Road	Markazul Ulum Jame Mosque	Bahaddarhat	4.94	24	4.9
2	Arakan Road	CDA Square	Kalurghat Bridge Start	5.9	20	3.4
3	M.A Aziz Road	Patenga City Corporation Mohila College	Saltgola Crossing	5.41	17	3.1
4	CDA Avenue	Bahaddarhat	Tigerpass	5.21	16	3.1
5	Dhaka-Chattoagram Highway	Bayzid Link Road Intersection	GEC Circle	8.55	23	2.7
6	Bandar Connecting Road	Alangkar Circle	Nimtoli Biswa Road Bus Stop	5.5	12	2.2
7	Bayezid Link Road	Dhaka-CTG Intersection	Bayezid Road	5.63	12	2.1
8	Chattoagram Costal Road	Port Link Road Rounabout	Bangabandhu Tunnel Roundabout	18	37	2.1
9	Dhaka Trunk Road	Alangkar Circle	Dewanhat Bus Stop	4.1	8	2.0
10	Chattoagram - Rangamati Highway	Muradpur Bus Stop	BRTC Bus Depot, Borodighir par	7.5	12	1.6

A.G road was found as the most hazardous corridor where more than 4 fatalities occurred in the last 3 years. Moreover, Arakan Road, M.A Aziz Road, and CDA Avenue had at least 3 fatalities per kilometer.

All these corridors are illustrated in Map 2.



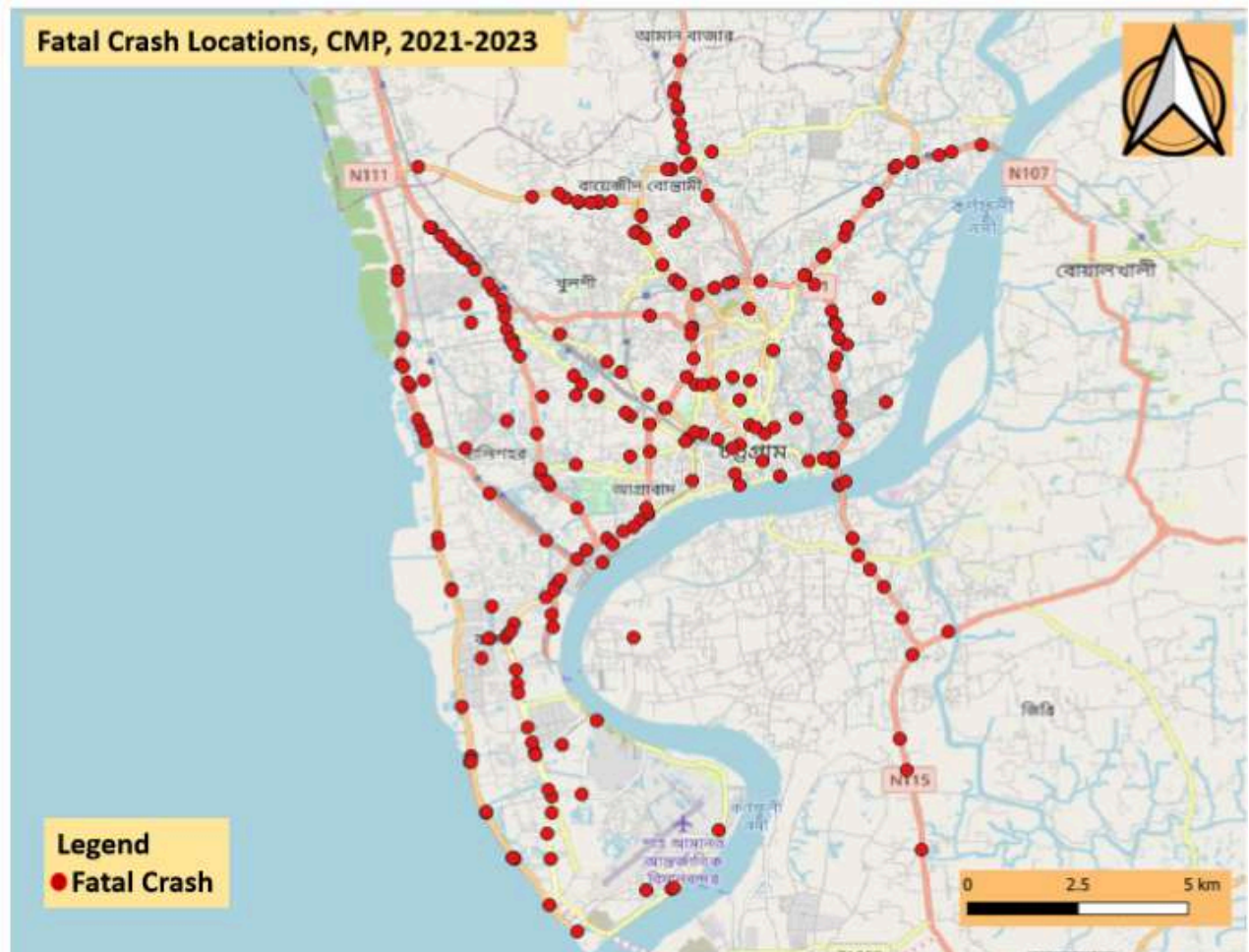
Map 2: Hazardous Road Corridors (along with fatality heatmap) in CMP, 2021-2023



5. SPATIAL ANALYSIS OF CRASH IN CMP, 2021-2023

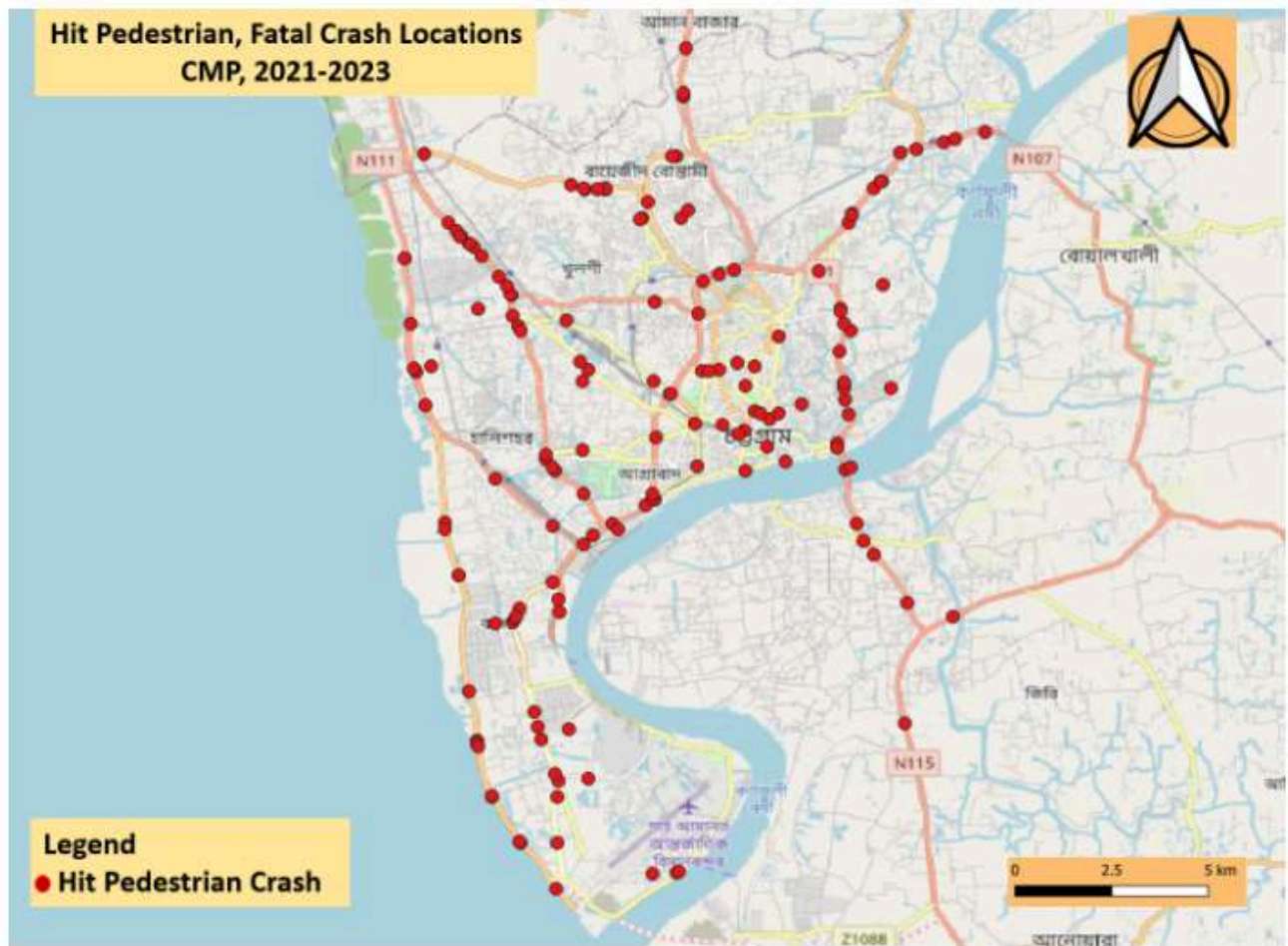
All fatal crash locations in the Chattogram Metropolitan Area

Map 3: Fatal crash locations in Chattogram Metropolitan Area



Hit pedestrian fatal crash locations in Chattogram Metropolitan Area

Map 4: Heat pedestrian fatal crash locations in Chattogram Metropolitan Area



Heat map of hit-pedestrian fatalities in Chattogram Metropolitan Area

A heatmap based on pedestrian fatalities was produced and presented in Map 5 and Table 8.

Map 5: Heat map of hit-pedestrian fatalities in Chattogram Metropolitan Area

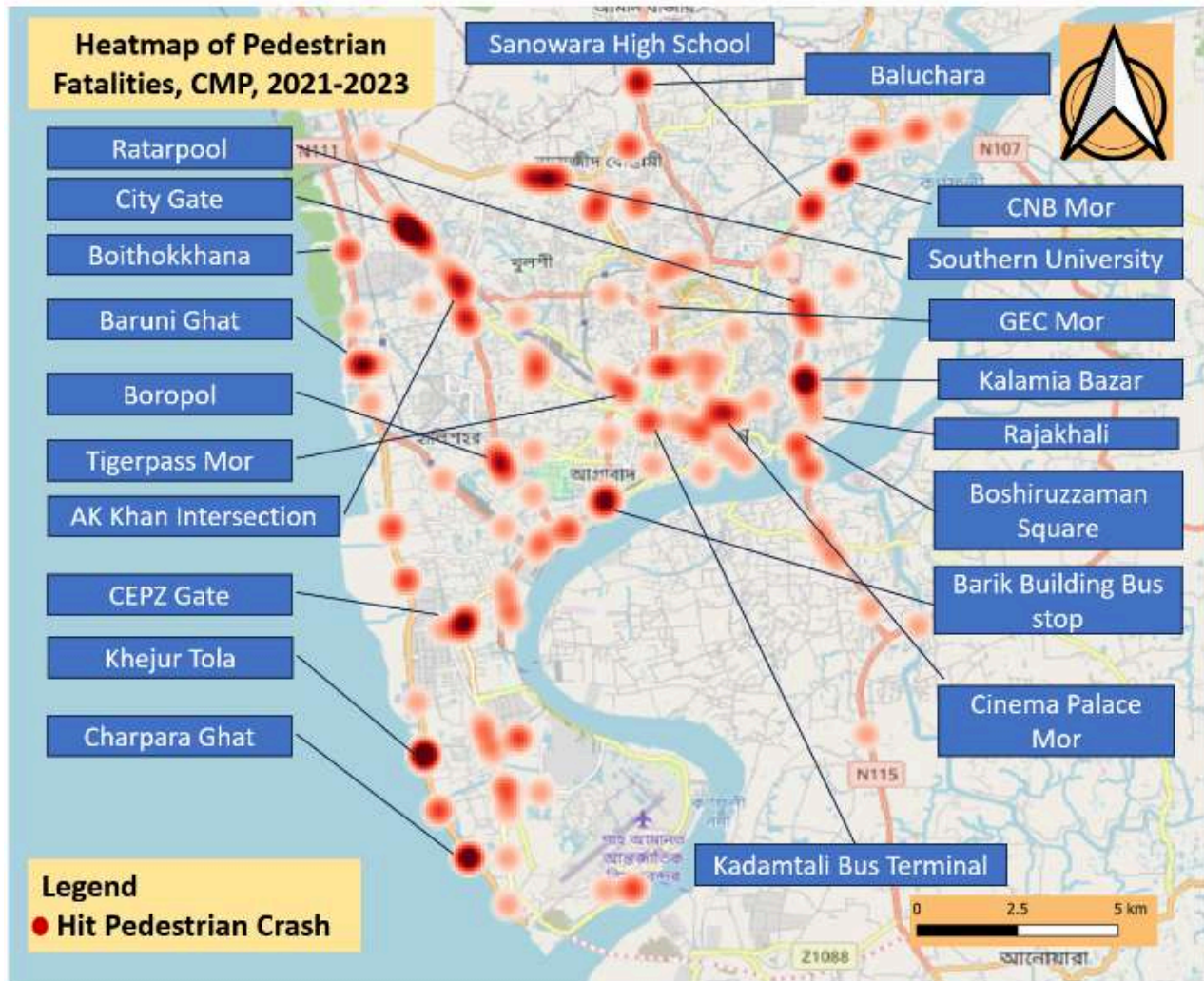


Table 8: Vulnerable locations for pedestrians (Heatmap) in CMP, 2021-2023

Sl	Location Name	Fatalities	Sl	Location Name	Fatalities
1	City Gate	7	11	Southern University	3
2	Khejur Tola	5	12	CNB Mor	3
3	Charpara Ghat	4	13	Barik Building Bus stop	3
4	CEPZ Gate	4	14	Sanowara High School	3
5	Baruni Ghat	4	15	Cinema Palace Mor	3
6	Boropol	4	16	Boithokkhana	2
7	Kalamia Bazar	4	17	Boshiruzzaman Square	2
8	AK Khan Intersection	3	18	Tigerpass Mor	2
9	Ratarpool	3	19	Kadamtali Bus Terminal	2
10	Baluchara	3	20	Rajakhali	1



**Chattogram
Metropolitan Police**

Heat map of motorcycle crash fatalities in Chattogram Metropolitan Area

A heatmap based on motorcyclist fatalities has been prepared and significant sights have been identified in Map 6 and Table 9.

Map 6: Heat map of motorcycle crash fatalities in Chattogram Metropolitan Area

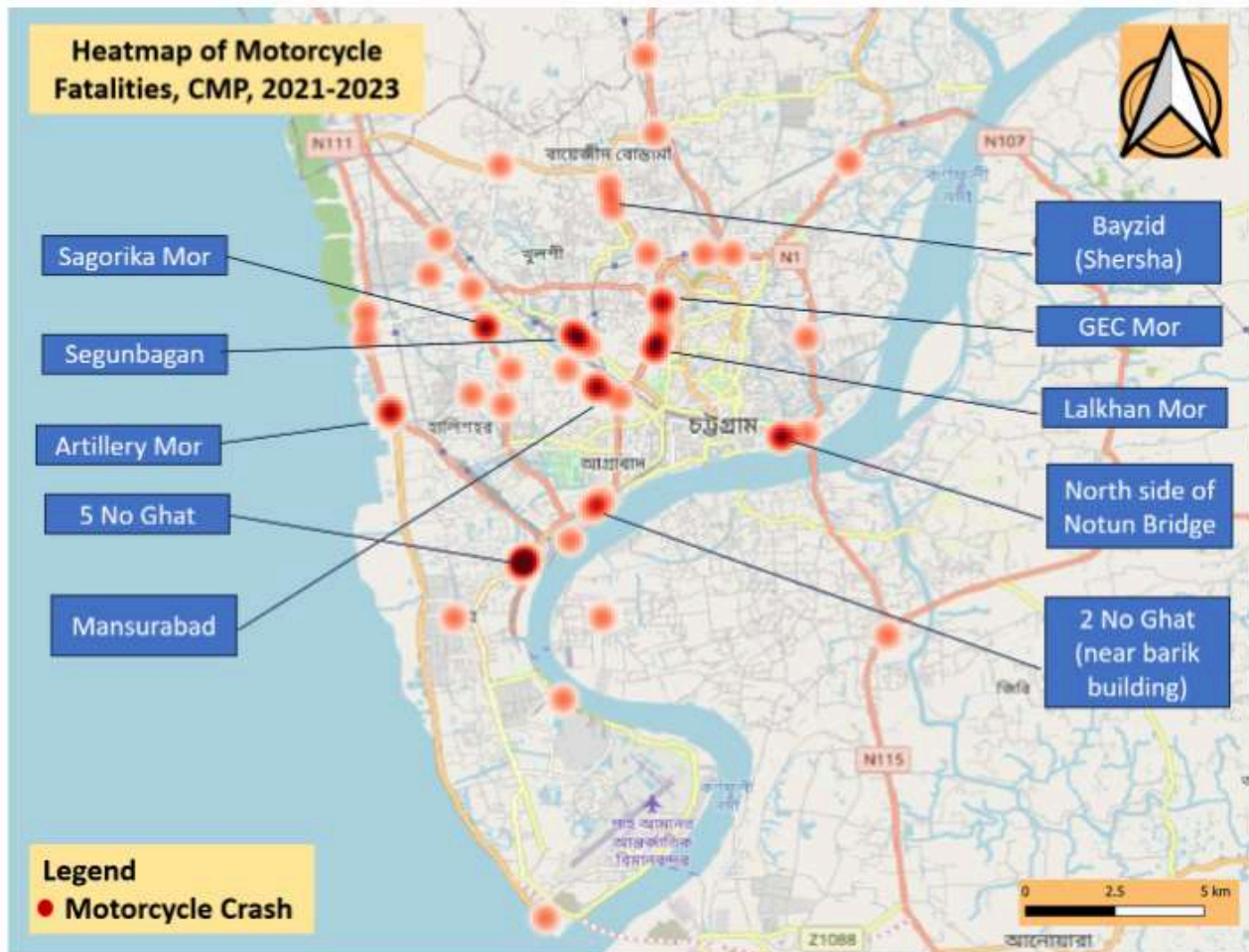
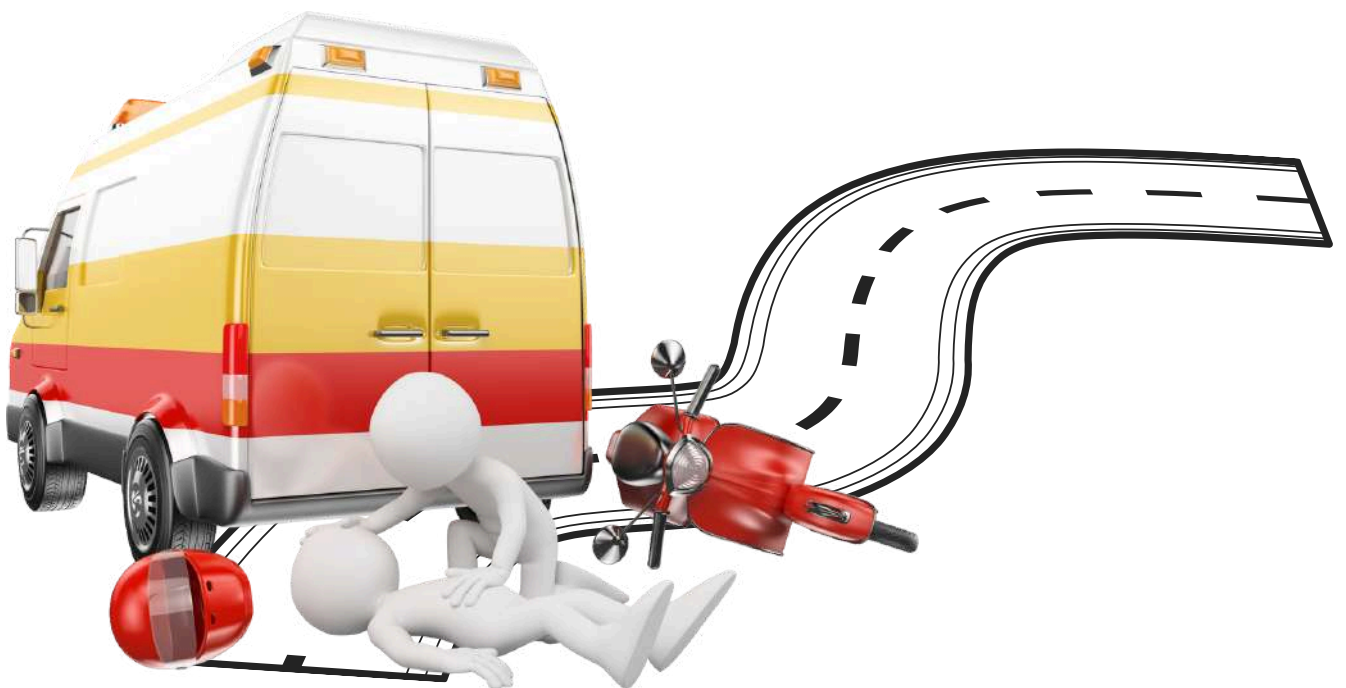


Table 9: Vulnerable locations for motorcyclists (Heatmap) in CMP, 2021-2023

Sl	Location Name	Fatalities	Sl	Location Name	Fatalities
1	5 No Ghat	4	6	North side of Notun Bridge	2
2	Artillery Mor	2	7	Segunbagan	2
3	Sagorika Mor	2	8	Mansurabad	2
4	GEC Mor	2	9	2 No Ghat (near barik building)	1
5	Lalkhan Mor	2	10	Bayzid (Shersha)	1



6. SUMMARY

This report presented analysis of crash data in Chattogram. Key findings from the report are enumerated below:

- Pedestrians were the most vulnerable road user group, accounting for 58% of the total deaths in Chattogram. Pedestrian deaths increased by 60% from 2017 to 2023. Following pedestrians were motorcyclists who accounted for 17% of deaths.
- The highest-risk locations were the City Gate area, Khejur Toal on Outer Ring Road, Kalamia Bazar Bus Stop, Barik Building Bus Stop, Notun Bridge and CNB Circle intersection consecutively. The highest-risk corridors are A.G Road, Arakan Road, M.A Aziz Road and CDA Avenue.
- 36% of Hit-and-Run crashes are observed in CMP and among them, 82% of cases were hit pedestrians.
- The overall trend in fatal crashes and deaths saw an increase from 2017 to 2023, with a small reduction in 2019 and 2020. After that, the death trend rose sharply from 2020 to 2021. Moreover, fatality rates per 100,000 increased from 2.2 to 3 between 2017 and 2023 resulting in a 36% increase in seven years. This variability of the number of recorded fatal crashes should further be investigated as this might be caused by underreporting.
- Akbar Shah police station had the highest number of crash reports in 2023 and from 2017-2023 as well, followed by Chandgaon and Bakolia.
- Pedestrian fatalities were spread almost evenly across age groups, indicating how pedestrian fatality risk is present throughout the population in Chattogram.
- Men accounted for 80% of all road crash fatalities from 2021 to 2023; women accounted for the remaining 20%. On the other hand, 70% of grievously injured persons were male and 30% were female.
- Fatalities were highest among young males between the ages of 21 to 40 from 2021 to 2023. Following them were males aged 11 to 20 years old and males 41 to 50 years old. Female deaths are lower overall compared to male deaths but were highest in the 31-to-40 age group. The lack of records of female deaths could be due to underreporting.
- During the years 2021 to 2023, the fatalities occurred most frequently from March to June and November to December. This could be associated with the Eid festival and year-end vacation, both times of higher mobility. It could also be underreporting of fatal crashes for the rest of the months.
- Pedestrian and motorbike fatalities were most commonly caused by large vehicles such as heavy trucks, buses and minibuses. Additionally, a sizable portion of pedestrian fatalities were caused by light vehicles as well like cars, jeeps, CNG taxis & tempo.

7. PROGRESS SINCE PREVIOUS REPORT

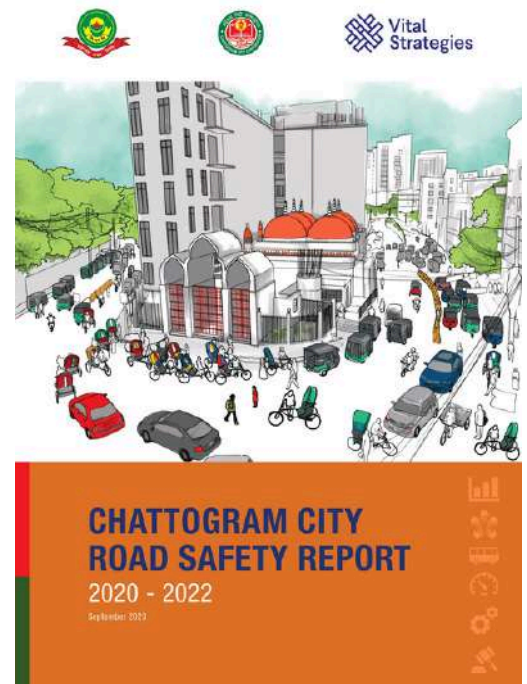
The first-ever evidence based report based on the police crash database was published on 24 September 2023 with the guidance and active support of the CMP and CCC. This publication was welcomed by the stakeholders and was published in newspapers.

After the publication of the report, a number of activities were initiated by the CMP and CCC. [MP1] Such as:

1. The CMP engaged more police officers for the Tiger Pass intersection, the highest-risk location especially after 4 pm to 12 pm.
2. For the sustainability of the crash data surveillance system, CMP and CCC signed a Data Sharing Agreement on 07 May 2024 and decided to work together for road safety in Chattogram City.
3. CMP assigned an officer to monitor the crash data management by the police stations and to implement the data sharing agreement.
4. CCC also began to provide more information on each high-risk location.
5. A data linkage study combining data from the Chattogram Medical College and the CMP was initiated and is ongoing.
6. Both CCC and CMP agreed to establish a dedicated unit for crash data surveillance shortly.
7. The World Resource Institute (WRI) team also evaluated the high risk locations and already took few locations for the design implementation.
8. CCC is planning to prepare a Development Project Proposal (DPP) taking the report as a basis for the road safety improvement work in Chattogram city along with Chattogram Metropolitan Police.



Trial of Kaptai Rastar Matha intersection by the Chattogram City Corporation, and Chattogram Metropolitan Police



8. NEXT STEPS

Following the findings from the report, a few next steps are recommended:

- A further investigation of high-risk locations for pedestrians should be prioritised, given that they are the most vulnerable group in road crashes. Evidence-based interventions that ensure pedestrian safety should be implemented. Examples include fully pedestrianising key roads, junctions, and plazas⁶, reducing the number of lanes,⁷ narrowing vehicle lanes,⁸ widening footpaths, constructing raised crosswalks,⁹ ensuring continuous footpaths,¹⁰ implementing curb extensions,¹¹ placing speed humps,¹² and installing pedestrian islands.¹³ There should also be a focus on speed reduction near schools, bazaars, and residential areas.
- Safer forms of mobility should be prioritised and more efforts should be made to make communities walkable and bikeable, with less prioritisation of motorised vehicle travel (cars, trucks, and motorbikes). The public transport system in the city is not standardised and bus drivers compete with each other for passengers or goods. Improvements in public transportation operations should be explored.
- The high number of heavy vehicles causing fatalities should be a cause of concern and should be addressed. Interventions should include infrastructure treatments to reduce speeds such as lane narrowing, speed humps, and other interventions, combined with strict police enforcement of speed limits.
- Institutional arrangements should be established that enable stakeholders to work together toward road safety. The CCC, CMP, the Chattogram Development Authority (CDA), Bangladesh Road Transport Authority (BRTA), and other stakeholders should be able to meet regularly regarding road safety and should collaborate and align to ensure roads are safe in Chattogram. This measure also includes increasing public engagement and participation in road safety.
- Based on the Data Sharing Agreement signed between CMP and CCC, CMP and CCC should establish a road safety unit exclusively for monitoring the crash data collection, data quality, road safety intervention implementation, speed management, risk factor control, and so on. In addition, Metro Road Safety Committee meetings should continue regularly so that stakeholders can coordinate and collaborate.
- The national crash database must be identified and scaled up in Chattogram. Processes and adequate training must be provided to ensure that this road safety report is produced and published annually. Finally, related capacity-building to support the scaling-up of the database must be provided.

6. Transportation Alternatives. Open Streets Forever The Case for Permanent 24/7 Open Streets. October 12, 2021

7. Strupp, Julie. Heard of “road diets?” Here’s why fewer lanes can actually be faster—and safer. November 9, 2018

8. Banerjee, Subha Ranjan and Ben Welle. Bigger Isn’t Always Better: Narrow Traffic Lanes Make Cities Safer. December 6, 2016

9. America Walks. “Walkability Wins Part Twenty: Accessibility, Raised Crosswalks and Road Diets!” August 16, 2023

10 Slaughter, Jason. “The Dutch Solution for Safer Sidewalks: Continuous Sidewalks”. Dec 2, 2019.

11. National Association of City Transportation Officials. “Curb Extensions,” July 11, 2013.

12. Sebastian, Simone. “Speed Humps Save Lives: New study finds significant drop in injuries to kids.” SFG, April 1, 2004.

13. Roger Rudick. “SF Needs Pedestrian Refuge Islands to Save Lives.” SB, December 14, 2017.

APPENDIX A

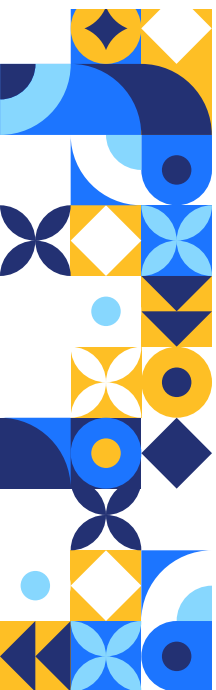
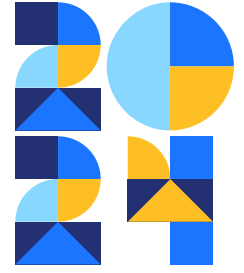
Table A.1: Fatalities in all police stations, CMP

SL	Police Station	Fatalities (2017-2023)	Fatalities (2020-2022)	Fatalities (2023)	Fatalities Avg. (2020-2022)
1	Bayazid Bostami	64	29	10	10
2	Halishahar	62	35	8	12
3	Kotwali	54	18	12	6
4	Akbar Shah	49	22	11	7
5	Pahartoli	47	26	7	9
6	Patenga	36	21	7	7
7	Chandgaon	36	18	6	6
8	Khulshi	36	16	3	5
9	Panchlaish	33	7	4	2
10	Bakolia	31	20	7	7
11	Chawk Bazar	28	11	9	4
12	Doublemooring	26	10	4	3
13	Bandar	25	14	4	5
14	EPZ	21	8	2	3
15	Karnophuli	16	5	2	2
16	Sadarghat	5	4	0	1
	Total	569	264	96	88

APPENDIX A

Table A.2: Grievous Injuries in all police stations, CMP

SL	Police Station	Gr. Injuries (2017-2023)	Gr. Injuries (2020-2022)	Gr. Injuries (2023)	Gr. Injuries Avg. (2020-2022)
1	Bayazid Bostami	56	24	23	8
2	Halishahar	18	7	8	2
3	Kotwali	27	8	8	3
4	Akbar Shah	36	4	7	1
5	Pahartoli	30	20	7	7
6	Patenga	14	7	7	2
7	Chandgaon	32	24	5	8
8	Khulshi	25	15	3	5
9	Panchlaish	12	3	3	1
10	Bakolia	59	36	2	12
11	Chawk Bazar	4	0	2	0
12	Doublemooring	17	3	1	1
13	Bandar	19	17	0	6
14	EPZ	10	5	0	2
15	Karnophuli	44	27	0	9
16	Sadarghat	6	2	0	1
	Total	409	202	76	67



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