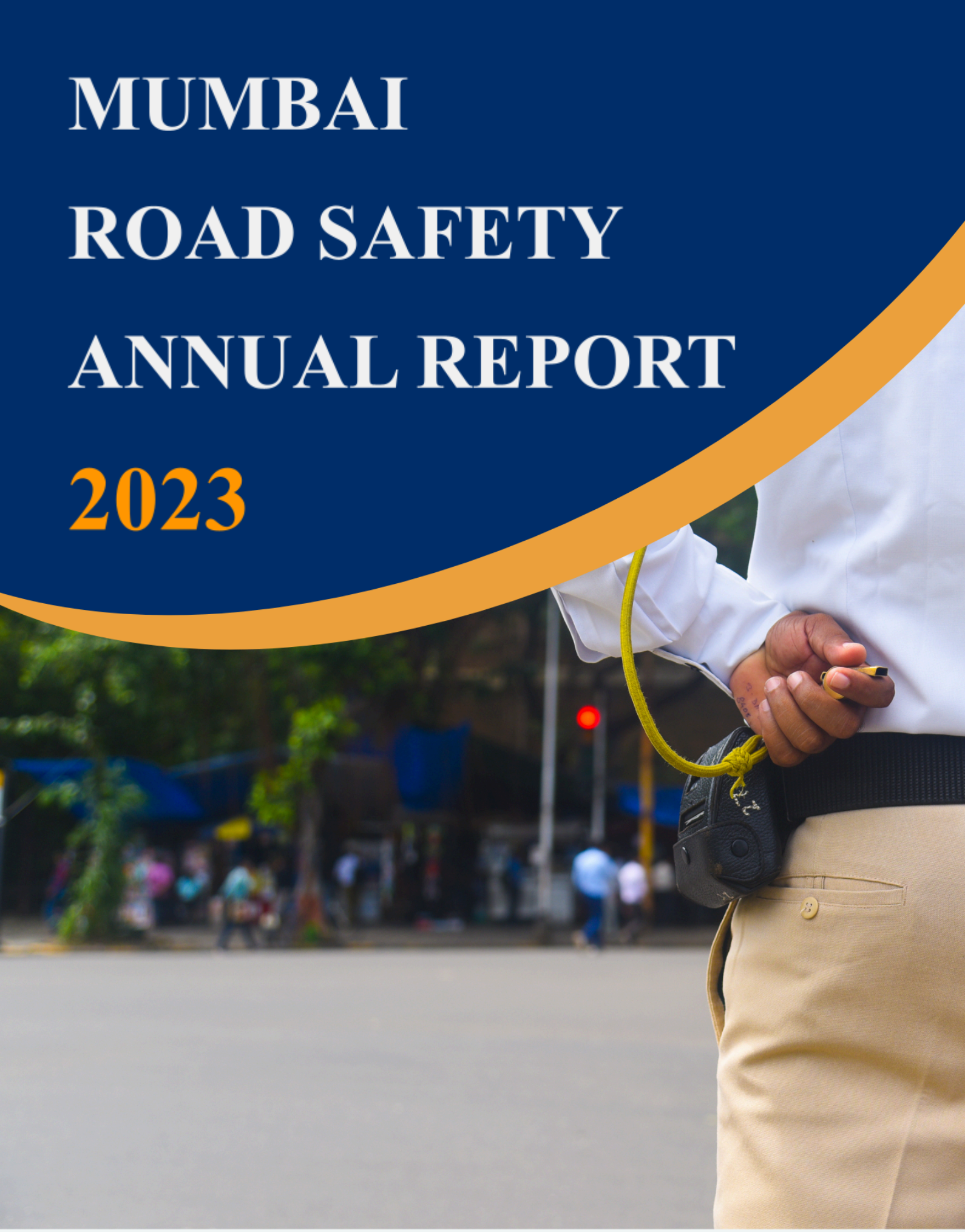
MUMBAI ROAD SAFETY ANNUAL REPORT 2023



Bloomberg Philanthropies | Initiative for Global Road Safety

REPORT BY:

TRAFFIC CONTROL BRANCH
MUMBAI POLICE

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PREFACE

Shri. Vivek Phansalkar, IPS
Commissioner of Police, Greater Mumbai
Maharashtra, India

The annual Mumbai Road Safety Report improves our understanding of road injuries as a multi-faceted and multi-sectorial issue. Globally, annual road deaths have fallen slightly to 1.19 million yearly. However, with more than two deaths occurring per minute, road safety remains a matter of utmost urgency in our contemporary society, impacting countless lives annually.

While road networks and smooth transportation are essential, we cannot neglect the lives lost on the roads due to road crashes. We must prioritize safer streets for all.

Vulnerable road users, pedestrians, cyclists, and motorcyclists, account for the largest share of road deaths, both globally and in our city. It underscores the urgent need for continued efforts to enhance road safety measures. In 2023, this group accounted for 89 % of road crash deaths in Mumbai.

The Mumbai Traffic Control Branch has been unwavering in its mission to reduce road deaths and ensure safer roads for all. Their enforcement drives and promotion of clasped-helmet use for both motorcyclists and pillion riders, as well as seat-belt use, have made a significant difference over the years.

I call upon all stakeholders to actively engage with the data and analysis in the report. This collective effort is crucial in planning evidence-based road safety engineering efforts and enforcement measures. By doing so, we can better understand and ensure the safety of pedestrians, cyclists, and other vulnerable road users.

The Mumbai Police is committed to making Mumbai roads safer for all users. Over the years, the Mumbai Traffic Control Branch (MTCB) has partnered with the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS) to achieve this goal.

I congratulate the Joint Commissioner of Police, Traffic, and BIGRS for releasing the eighth annual report and complimenting them on their joint efforts. I hope this report catalyzes meaningful dialogue, policy reforms, and evidence-based solutions to pave the way toward safe roads for all users.

Shri.Vivek Phansalkar, IPS

Shri. Anil Kumbhare, IPS
Joint Commissioner of Police, Traffic, Greater Mumbai
Maharashtra, India

Mumbai has seen a tremendous increase in road networks and vehicles in recent years. Unfortunately, with this expansion, we have also witnessed a rise in road crashes and fatalities. Road crashes across the city claimed the lives of 374 people and injured over 2,500 individuals in 2023.

Though there was a slight increase in fatalities in 2023, as compared to 2022, the number of deaths in 2023 is still lower than pre-pandemic levels.

Together, we can achieve our goal of zero fatalities on Mumbai roads. With robust surveillance systems for monitoring crashes and their causes, accessible pathways for vulnerable road users, efficient speed management on existing roads, and evidence-based, safer street designs of new roads, we can reduce road crashes.

To achieve our goal, the Mumbai Traffic Control Branch (MTCB) continues its partnership with the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS). With the technical support from BIGRS, we have completed our eighth Road Safety Annual Report and the data from this report will inform evidence-based interventions for road safety.

I encourage all stakeholders in the road safety domain to use this data-led report in their endeavors. The MTCB is committed to providing safe roads for all, which is integral to the development and inclusivity of our city.

Shri. Anil Kumbhare, IPS

ACKNOWLEDGEMENTS

The Mumbai Traffic Police has been working in association with the BIGRS since 2015. BIGRS partners provide technical assistance to the governments in Mumbai and Maharashtra to implement evidence-based interventions that have the potential to save lives.

We appreciate the initiative for their continuous support and engagement in making Mumbai roads safer. We gratefully acknowledge the financial support received from Bloomberg Philanthropies, which made the production of this report possible.

This report is the eighth Mumbai Road Safety Annual Report and was made possible with the supervision and direction of Hon. Shri. Vivek Phansalkar, IPS, Commissioner of Police, Mumbai. This report is the result of the support from the BIGRS technical partner, Vital Strategies.

Jagruti Karande (Surveillance Coordinator), BIGRS Maharashtra, was responsible for data management and analysis with support from Dr. Sara Whitehead, Ezequiel Dantas, Mirick Paala, Dr. Pratibha Pawar, Grant Ennis, and Lievanta Millar from Vital Strategies. Preeti Iyer, Sanjana Bhalerao, Nishant Sawant, Jagdish Sawant, and Yogesh Ambe from BIGRS Maharashtra contributed critical guidance and support throughout the process.

ABBREVIATIONS

ArcGIS	Aeronautical Reconnaissance Coverage Quantum Geographic Information System
BEST	Brihanmumbai Electric Supply and Transport
BIGRS	Bloomberg Philanthropies Initiative for Global Road Safety
BMC	Brihanmumbai Municipal Corporation
eDAR	e-Detailed Accident Report
EEH	Eastern Express Highway
FIR	First Information Report
HV	Heavy Vehicles
iRAD	Integrated Road Accident Database
JVLR	Jogeshwari-Vikhroli Link Road
LV	Light Vehicles
MHV	Medium-Heavy Vehicles
MORTH	Ministry of Road Transport and Highways
MTCB	Mumbai Traffic Control Branch
RTO	Regional Transport Office
UT	Union Territory
WEH	Western Express Highway

EXECUTIVE SUMMARY

Each year, at least 1.19 million people die due to road crashes globally. Low-and middle-income countries contribute to 92% of fatalities from these crashes.[1] In India, 1,68,491 fatal road crashes and 4,43,366 injuries were reported by the Police Departments of States and Union Territories (UTs) during 2022.[2] Maharashtra reported 15,224 deaths in 2022, which is an increase of 13% in deaths since 2021.[3]

Mumbai has reported 374 road crash deaths in 351 crashes in 2023, marking a 39% reduction since 2015. The death rate data shows that at least 3 people per 100,000 population died on Mumbai roads. Fatalities by road user types showed that two and three-wheeler occupants (48%) and pedestrians (40%) made up the majority of road crash deaths.

Males continued to account for 82% of the total deaths, with the 20-39 years age group making up the largest deaths in males 47%. Motorcyclist deaths were concentrated among the 20-29 years age group.

Hit-and-run events accounted for 38% of all fatal crashes in 2023, and the majority of victims (54%) were pedestrians. Many of these pedestrian deaths occurred at the intersection of the Sion-Panvel highway and Ghatkopar-Mankhurd Link Road, and Worli Seaface junction.

The intersection of Western Express Highway (WEH) and Sion Bandra Link Road and Baiganwadi Signal Junction were found to be the junctions with the most deaths and injuries. Additionally, Dr Babasaheb Ambedkar Marg and Ghatkopar - Mankhurd Link Road led with the most deaths and injuries per kilometer in 2023 (10 deaths/km).

This data highlights the need for a multi-pronged strategy to curb road crashes including measures such as reduced speed limits, an increase in the rate of challan repayment, enhanced enforcement of clasped motorcycle helmets and seat-belts along with more walkable streets, and safer pedestrian and cycling infrastructure. This report is intended to inform and provide guidance to all the city road safety stakeholders.

[1] ‘World Health Organization https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries
[2] 'MORTH, Road Accidents in India 2022. Ministry of Road Transport and Highways of India. https://morth.nic.in/sites/default/files/RA 2022 30 Oct.pdf
[3] Maharashtra Road Crash Report 2022, Highway Police Maharashtra State, https://highwaypolice.maharashtra.gov.in/wp-content/uploads/2023/10/mh-highwaytraffic-book-2022.pdf

INTRODUCTION

The COVID-19 pandemic changed our way of living and brought to light the importance of inclusive cities and health systems. The public health emergency that claimed over seven million lives globally forced us to evolve, take stock of our losses, and commit in urgency to saving lives.[4]

Each year, about 1.19 million people die due to road crashes globally. Low-and middle-income countries contribute to 92% of fatalities from these crashes.[5] In India, 1,68,491 fatal road crashes and 4,43,366 injuries were reported by the Police Departments of States and Union Territories (UTs) during 2022.[6] Maharashtra reported 15,224 deaths in 2022, which is an increase of 13% in numbers since 2021.[7]

Mumbai recorded 351 road crashes, causing 374 deaths in the year 2023. Almost 3 people died per 100,000 population. The number of crashes, injuries, and fatalities is probably underestimated, as not all cases are reported to the police department. These road crashes have an impact on everyone, especially pedestrians and motorcyclists who are the most vulnerable road users. With the increase in motor vehicles, road safety has become a serious public health issue in the country.

This report is an effort by the Mumbai Traffic Control Branch (MTCB) to disseminate the findings to all the local stakeholders working on road safety. It aims to present and analyze the road safety situation in Mumbai for the year 2023. It seeks to show the nature of road crash fatalities and injuries and to inform evidence-based programs and interventions in road safety.

Using the data provided in this report, police can be trained and deployed to target high-risk locations and optimize enforcement of road safety laws. Furthermore, they can employ strategies to protect the most vulnerable road users.

The report brings together different stakeholders with varied expertise and responsibilities to contribute to the road safety mission. Ultimately, the report will enable a systematic, shared, and informed approach to saving lives on the roads.

[4] 'World Health Organization https://data.who.int/dashboards/covid19/deaths?n=c
[5] ‘World Health Organization https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries
[6] 'MORTH, Road Accidents in India 2022. Ministry of Road Transport and Highways of India. https://morth.nic.in/sites/default/files/RA 2022 30 Oct.pdf
[7] Maharashtra Road Crash Report 2022, Highway Police Maharashtra State, https://highwaypolice.maharashtra.gov.in/wp-content/uploads/2023/10/mh-highwaytraffic-book-2022.pdf

METHODS

Mumbai has partnered with the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS) to reduce crashes, injuries, and deaths. One element of this work is to enhance road safety surveillance systems for better management of crash data to reduce crashes, injuries, and deaths. In Mumbai, the surveillance system is composed of different actors collecting and using data to understand where, when, how, and why crashes occur, gauge who is most vulnerable to crashes, address road crash risks, and prevent fatalities and injuries. The agencies involved in this system include the MTCB, the Regional Transport Office (RTO), the Brihanmumbai Municipal Corporation (BMC), Department of Health, among other relevant stakeholders. The following report presents an analysis of the MTCB's 2023 road crash injury data. It represents a process of digitizing existing data and mapping, analyzing, and compiling road crash deaths and injuries.

Data Sources

Road crash data in Mumbai comes from police crash reports which were compiled and maintained by the MTCB. Crashes were first documented by the investigating police station using a narrative-based form called the First Information Report (FIR). The FIR contains information on the crash circumstances, victims involved, manner and behavior of the accused at the time of the crash, witnesses' statements if any, the autopsy report of any fatal victim, and technical reports of the vehicle, along with internal investigation. Using FIRs, the selected details were summarized by the investigating police station monthly in a tabular format (commonly referred to as the "data sheet") and submitted to the MTCB headquarters.

At the MTCB headquarters, the summarized information was reviewed to avoid duplicate reporting before they were tallied manually. These tallies were compiled to prepare monthly and annual reports for the state and national levels. For this report, FIR summaries served as the foundation for digitizing the dataset, encompassing both fatal and non-fatal injury crashes. The digitization process was conducted using the EpiInfo, an open-source software. To ensure the accuracy and consistency of the data, the digitized summaries were meticulously compared with the MTCB's database. This comparison was crucial for identifying and addressing any discrepancies. Through this rigorous process, we aimed to uphold the highest standards of data integrity and reliability.

Analysis

The data from the EpiInfo software was exported into Microsoft Excel for performing the analyses. All the crash records were analyzed and compiled into summary statistics as shown in the tables and figures in the report. The road user types were grouped into the following categories: pedestrians, motorized two and three-wheeler occupants, four-wheeler occupants, and cyclists. The high-risk locations were mapped using the Aeronautical Reconnaissance Coverage Quantum Geographic Information System (ArcGIS) tool. The blackspot junction list was created based on the definition recommended by MORTH.

Limitations

The current data sheet summary formats can be inadequate, and some variables are inconsistently or rarely captured. The information on crash location is not precise and is manually pinned based on the available description of the location in the FIR. Information on helmet use, seatbelt use, and alcohol use are unavailable.

RESULTS

TREND IN ROAD CRASH DEATHS AND INJURIES

Fatal Crashes and Deaths, 2010 - 2023

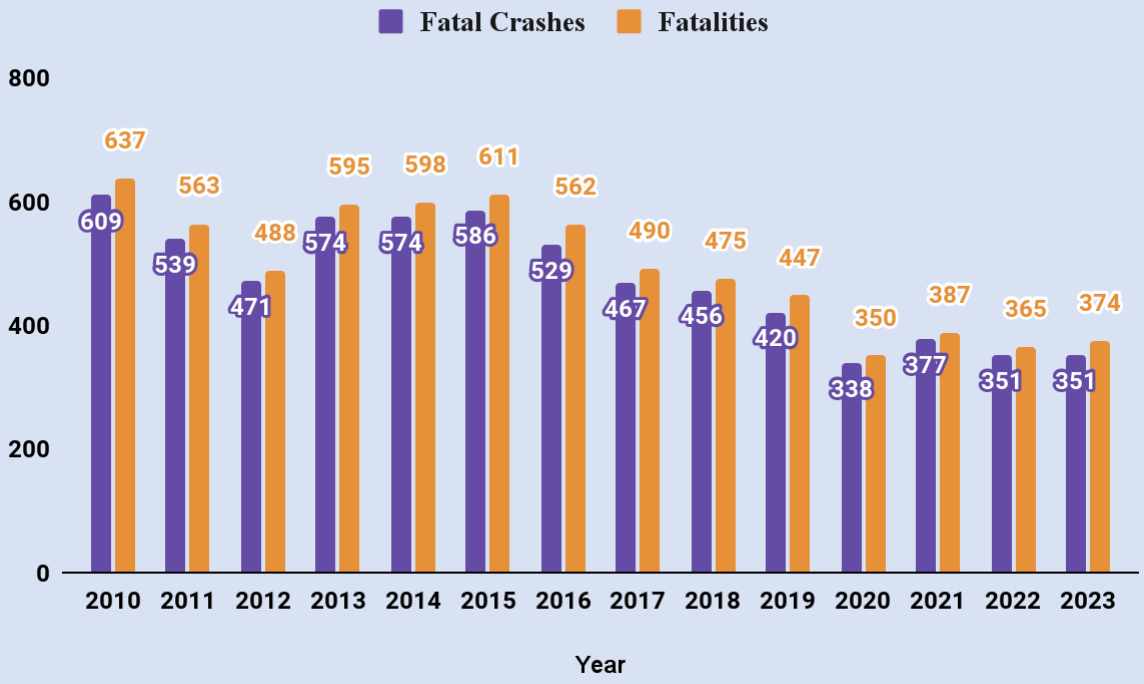


Figure 1

Overall, Mumbai has seen a decline of 40% in road crashes and 39% in road crash fatalities since 2015. In 2023, 374 persons were killed in 351 fatal road crashes. This translates to at least 1 person dying on Mumbai's roads every day in the year. The recorded road crash fatalities in 2023 slightly increased from 2022, however, it went down by 13% compared to the average of the three most recent non-pandemic years (years 2022, 2019, and 2018).

Road Crash Fatality Rates, 2011 - 2023

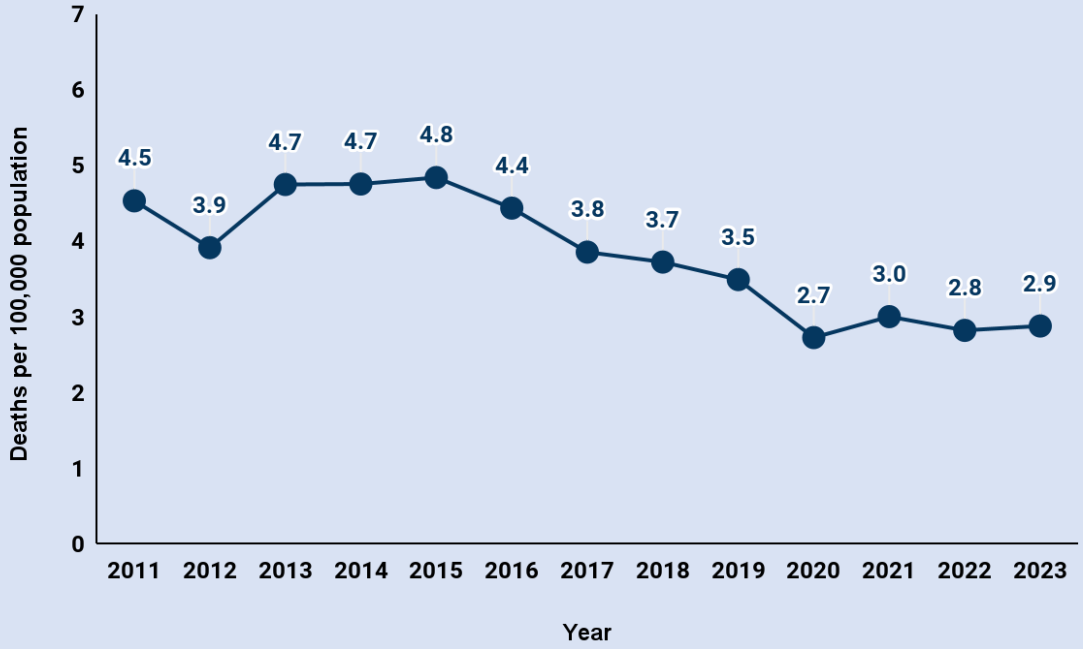


Figure 2

The road crash death rate fell by 40% in 2015. However, it's important to note that almost 3 persons per 100,000 population were killed in road crashes in Mumbai in 2023. The 2023 death rate slightly increased compared to 2022, however, it was still 13% lower than the average number of fatalities for the three recent non-pandemic years (2022, 2019, and 2018).

Injuries and Injury Crashes, 2010 - 2023

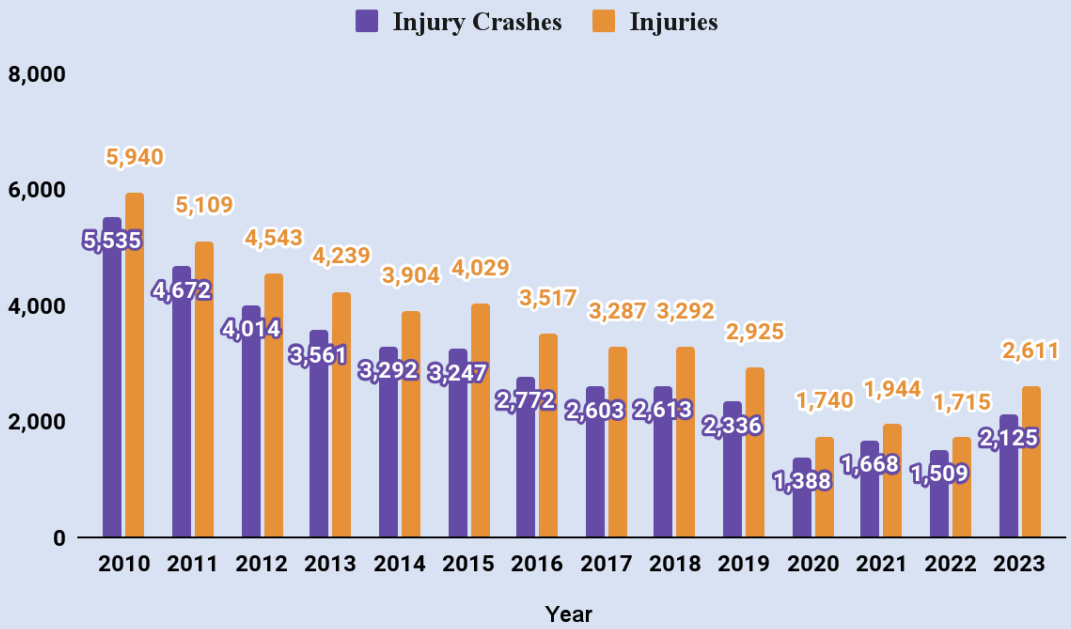


Figure 3

A total of 2,611 people were injured in 2,125 crashes in Mumbai, in 2023. This is equal to at least 7 people getting injured every day in Mumbai. Similar to road crash deaths, road crash injuries have increased in 2023 compared to 2022. However, the number of injuries in 2023 was also almost equal to the average number of recorded injuries in the three recent non-pandemic years (2022, 2019, and 2018).

DEATHS AND INJURIES BY ROAD USER TYPE

Trends in Road Crash Deaths by Road User Type, 2015 - 2023

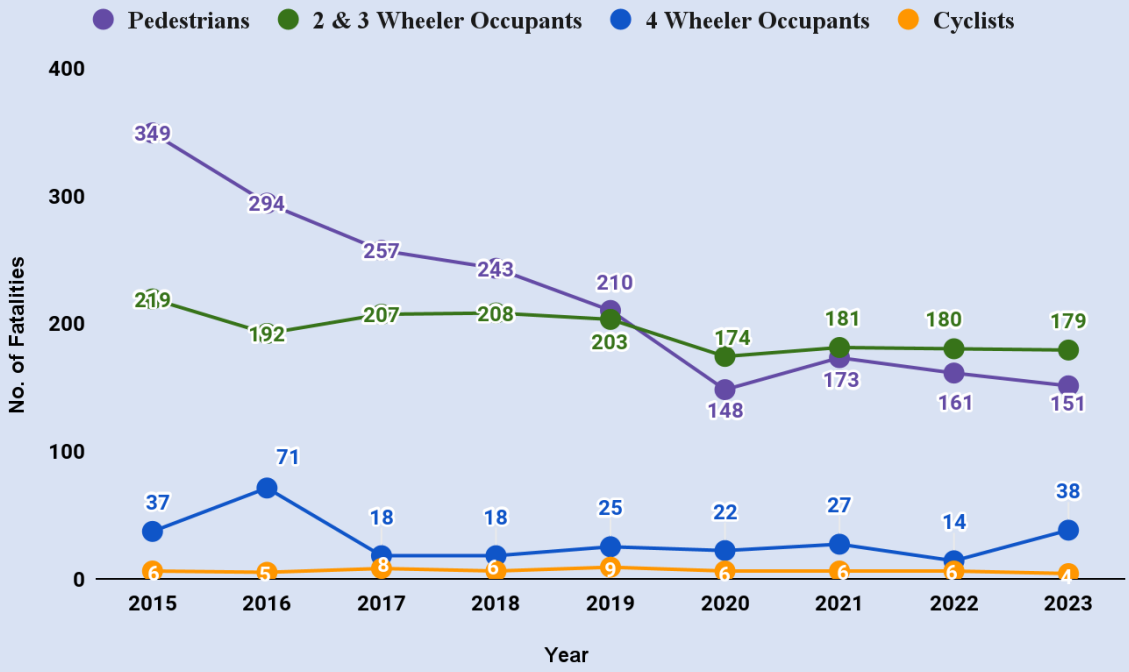


Figure 4
** Unknown road users deaths (n=2) are not included.*

Two and three-wheeler occupants constituted 48% of the road crash deaths in 2023. Out of 179 deaths of two and three-wheeler occupants, 165 were two-wheeler riders and 14 were three-wheeler (auto rickshaw) occupants. There was a 57% decline in pedestrian deaths since 2015.

Road Crash Deaths by Road User Type, 2023

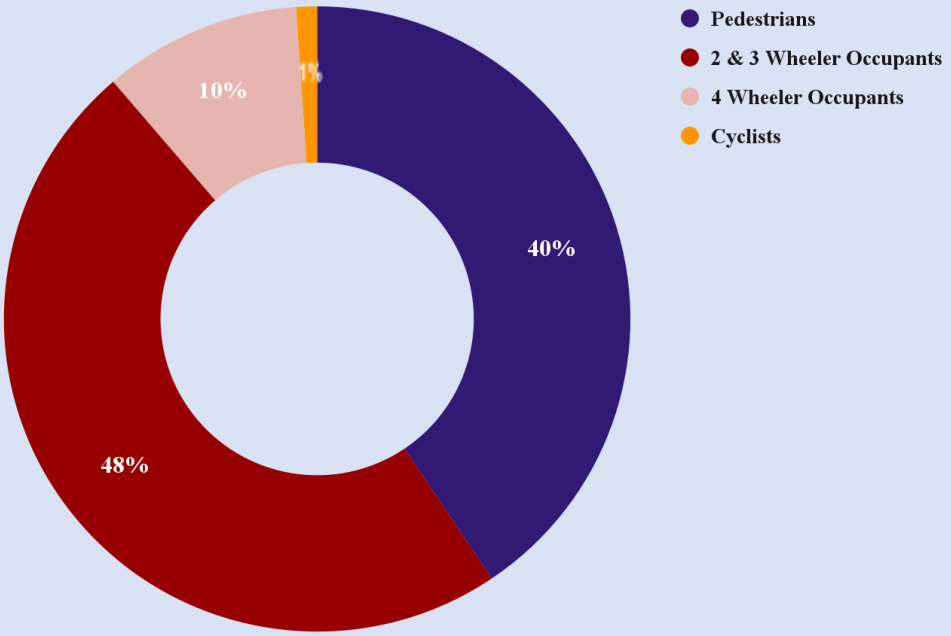


Figure 5
**Unknown Road Users (1%) not included.*

Two and three-wheeler occupants (48%) and pedestrians (40%) contributed the most in road crash fatalities in 2023. Pedestrians, two and three-wheeler occupants, and cyclists comprised 89% of fatalities.

Non-Fatal Injuries by Road User Type, 2023

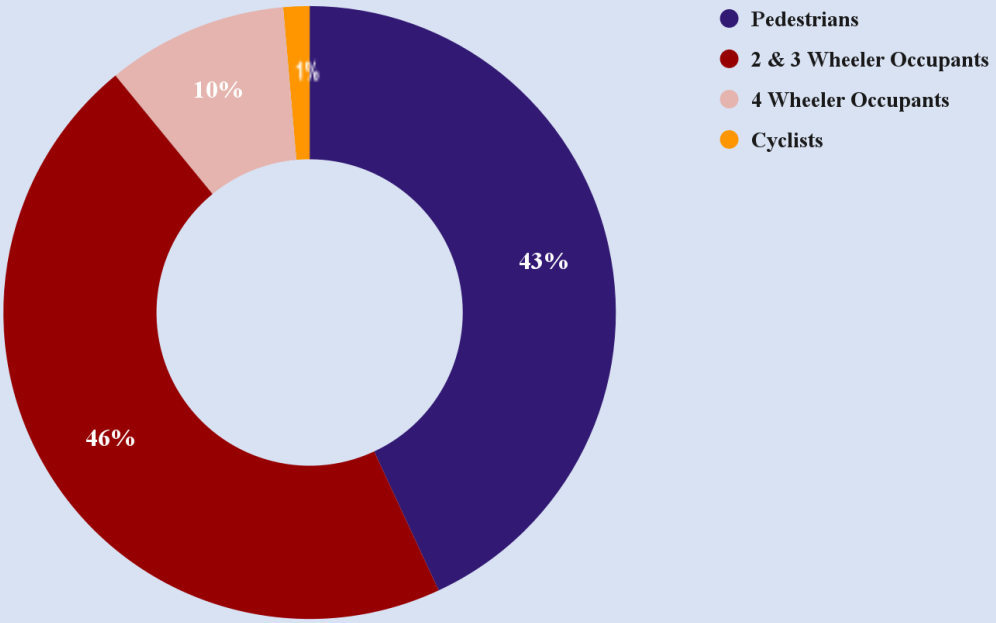


Figure 6
**Unknown Road User (n=4,0 %) not included.*

Similar to fatalities, two and three-wheeler occupants (46%) and pedestrians (43%) contributed the most in road crash injuries in 2023. Pedestrians, two and three-wheeler occupants, and cyclists comprised 90% of non-fatal injuries.

DEATHS AND INJURIES BY AGE AND GENDER

Road Crash Fatalities by Gender, 2023

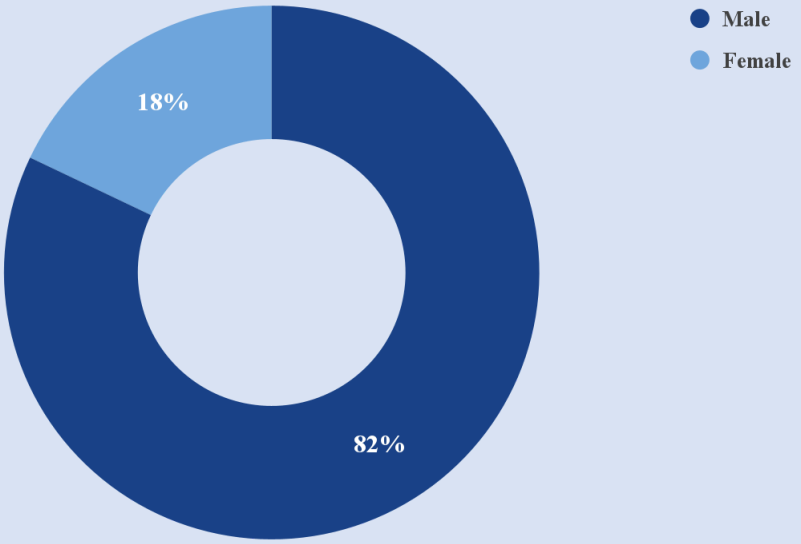


Figure 7

Men accounted for 82% of road crash deaths in 2023 while women accounted for 18% of road crash deaths.

Road Crash Injuries by Gender, 2023

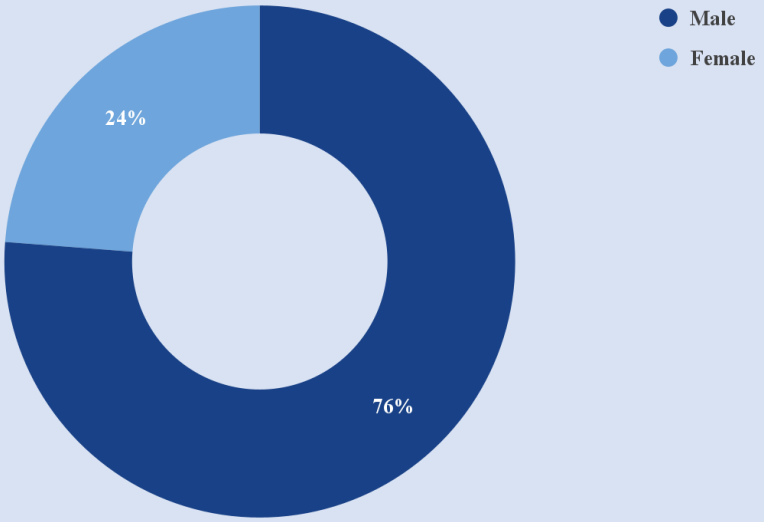


Figure 8

Men accounted for 76% of non-fatal road crash injuries while women accounted for 24% of non-fatal road crash injuries. The proportion of females affected by road crashes was relatively higher for injuries (24%) than for fatalities (18%).

Road Crash Deaths by Age Group and Gender, 2023

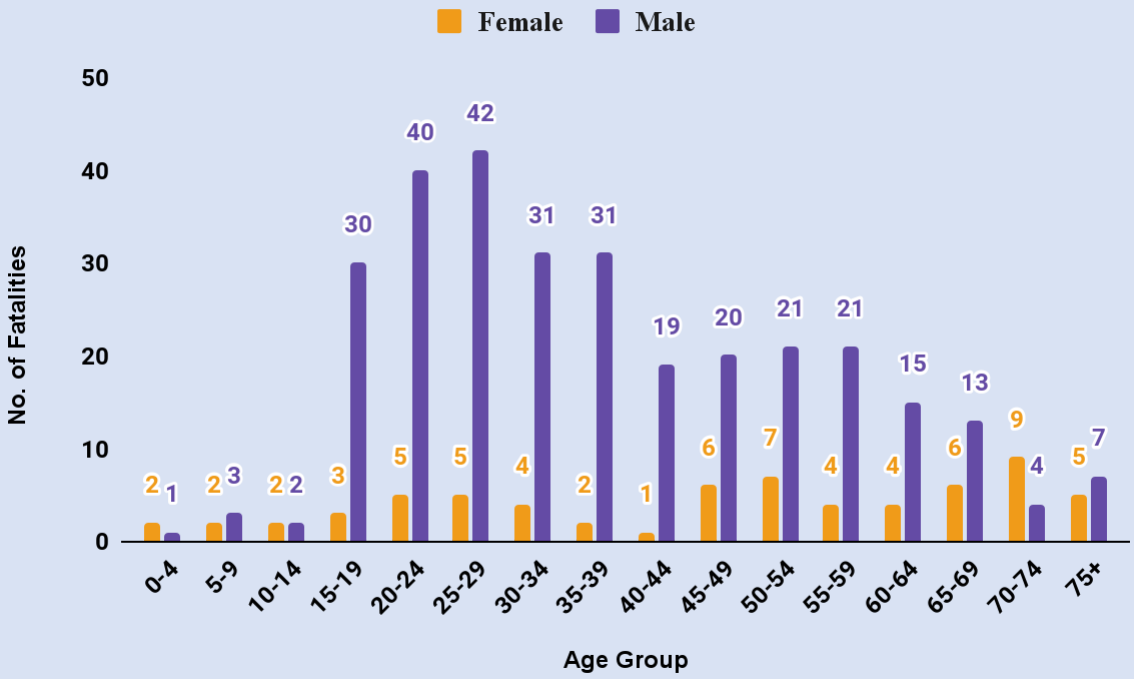


Figure 9

**7 male victims with unknown age are not included*

Men aged 20 to 39 years old made up 47% of the total road crash deaths in men. On the other hand, the frequency of women's deaths was seen to be more in the age group of 70 years and above.

Road Crash Death Rates by Age Group and Gender, 2023

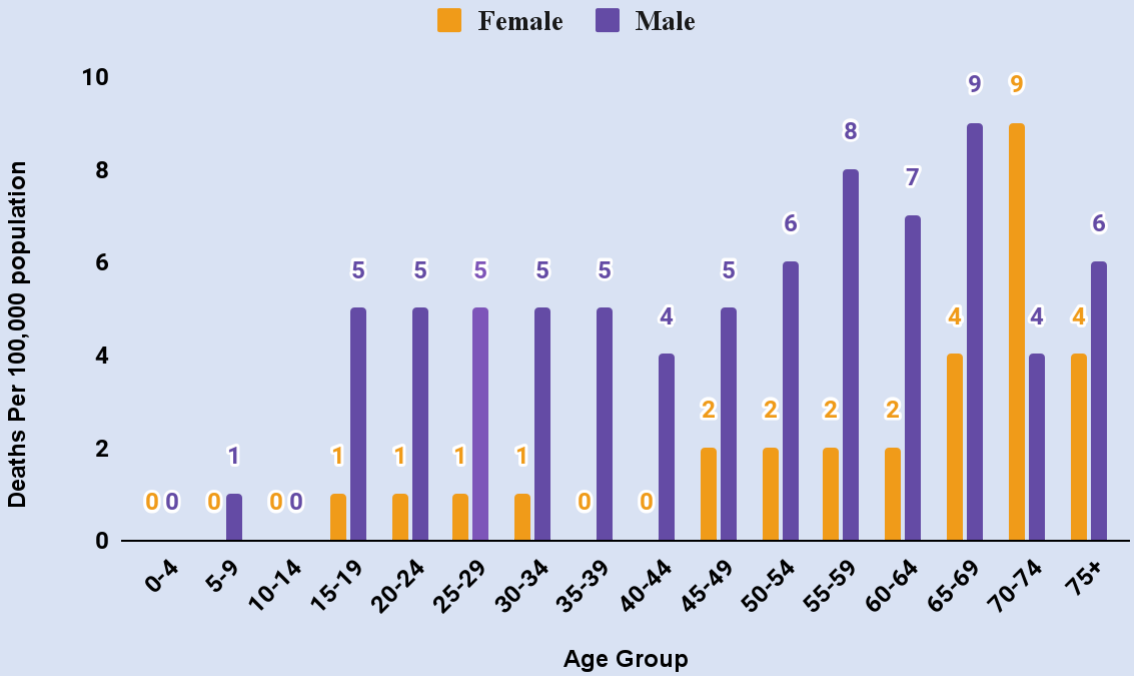


Figure 10

The death rates per 100,000 population were higher in the ages 55 to 69 years in men and 70 to 74 years in women.

Non-Fatal Road Crash Injuries by Age Group and Gender, 2023

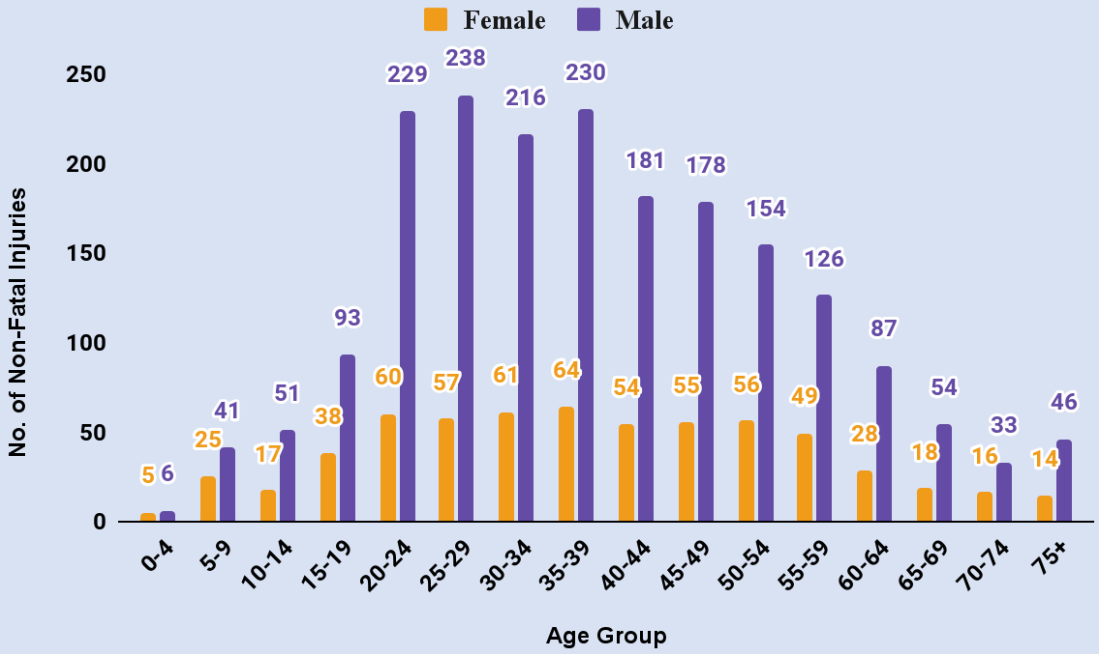


Figure 11

*Victims with unknown age and gender are not included (n=31)

Road crash injuries were most common among men in the age group of 20 to 39 years and women in the age group of 20 to 54 years.

Non-Fatal Road Crash Injury Rates by Age Group and Gender, 2023

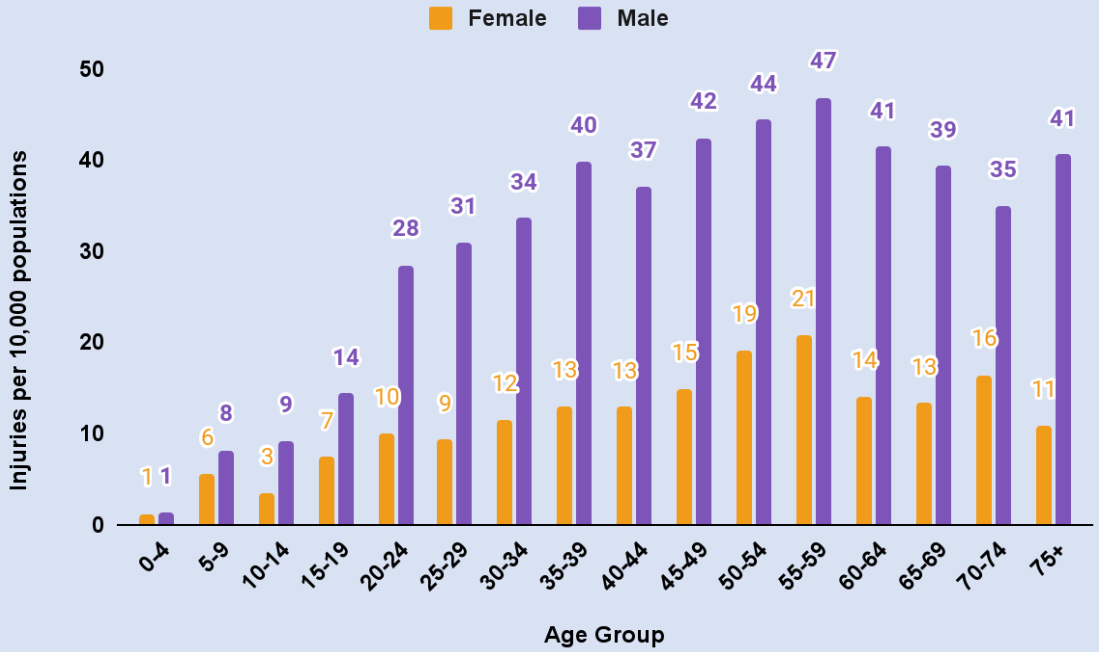


Figure 12

Unlike road crash injuries, the injury rates per 100,000 population were higher in the ages 45 and above.

Motorcyclist Deaths by Age and Gender, 2023

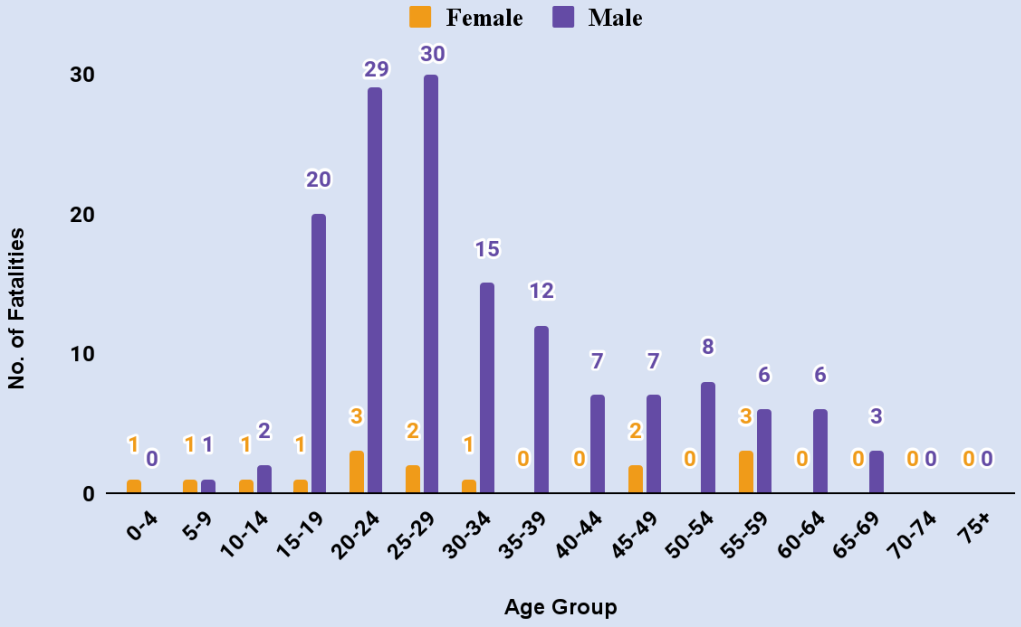


Figure 13
**Motorcyclists with unknown age and gender are not included (n=4)*

Men in the age group of 20 to 29 years accounted for 41% of all male motorcyclists who died in a crash. Men aged 15 to 19 years old were also killed more frequently compared to other age groups.

Motorcyclist Death Rates by Age and Gender, 2023

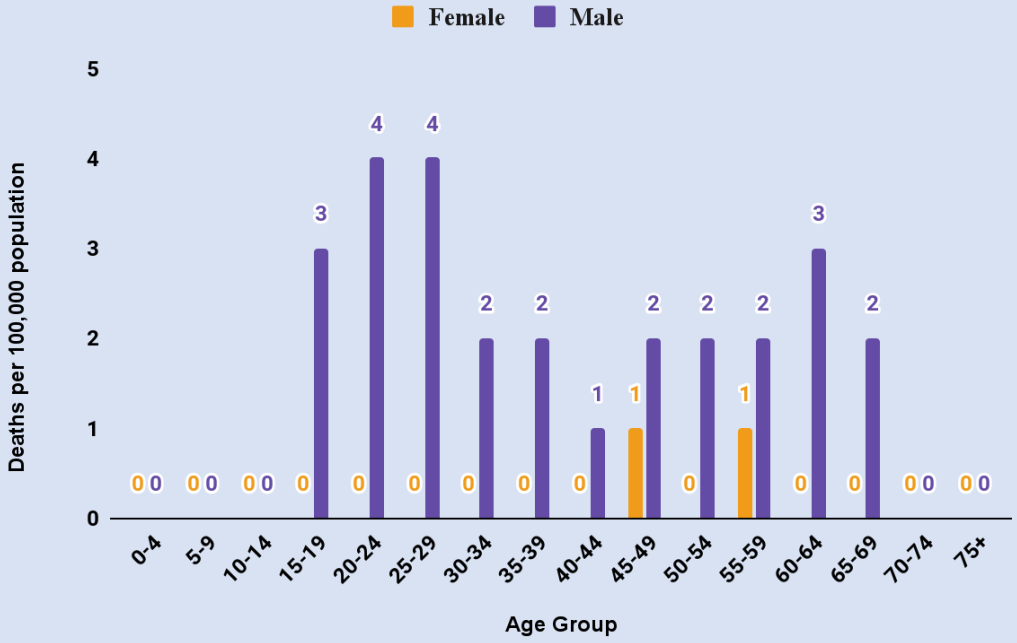


Figure 14
Men aged 20 to 29 had a higher death rate compared to other age and gender groups.

Pedestrian Fatalities by Age and Gender, 2023

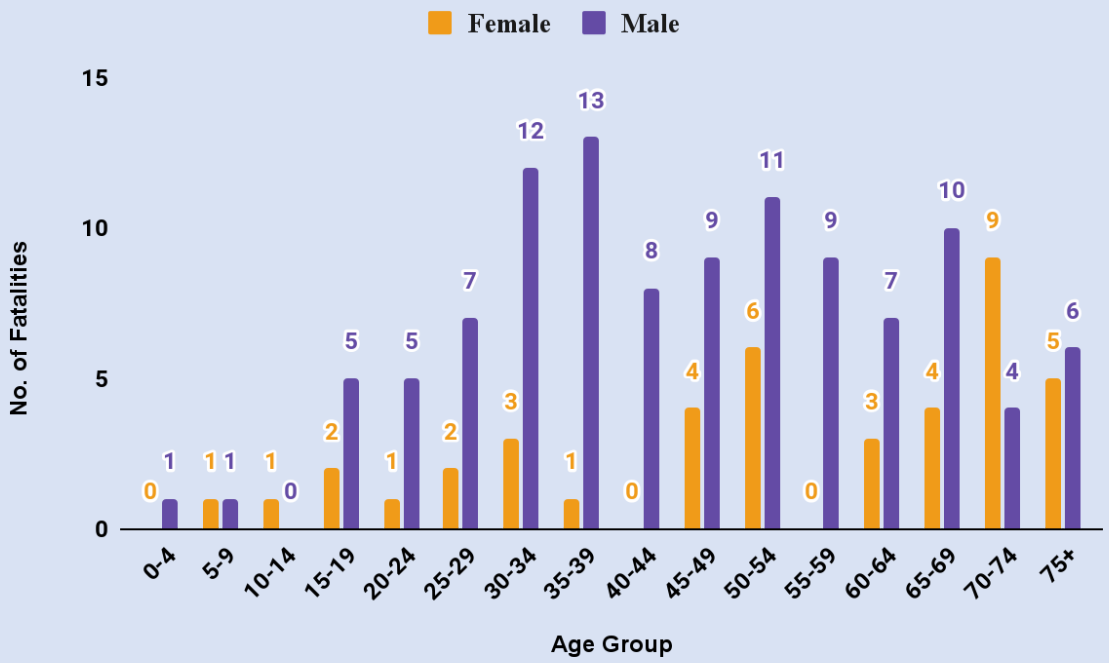


Figure 15
**Pedestrians with unknown age and gender are not included (n=1)*

Among male pedestrians, those belonging to the 30 to 39 yrs and 50 to 54 yrs age groups were dying more frequently compared with other age groups. Among female pedestrians, those aged 70 to 74 years were dying more frequently compared to other age groups.

Pedestrian Fatality Rate by Age and Gender, 2023

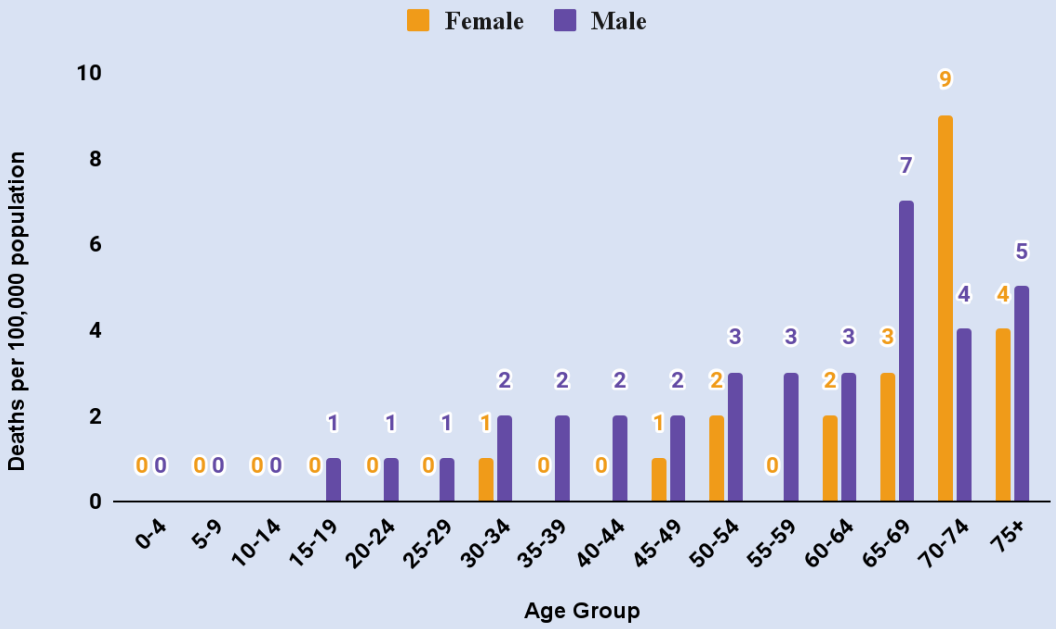


Figure 16

The proportion of male pedestrians who were 65 years or older were dying at a higher rate than younger males. Female pedestrians above the age group of 70 were more vulnerable than younger female pedestrians.

IMPACTING DRIVERS AND VEHICLE TYPES

Impacting Drivers in Fatal Crashes by Gender, 2023

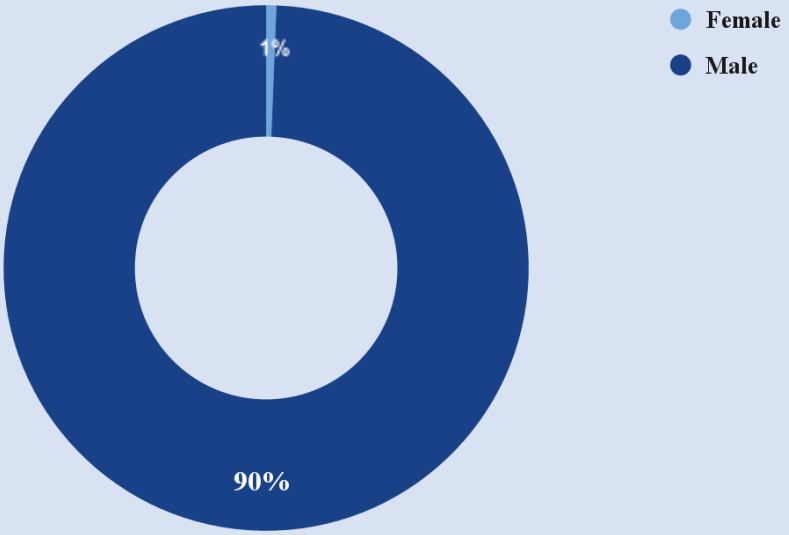


Figure 17
**Cases with unknown driver gender excluded, (n=32)*

In 2023, 90% of the drivers who caused the impact were male.

Impact Drivers in Fatal Crashes by Age, 2023

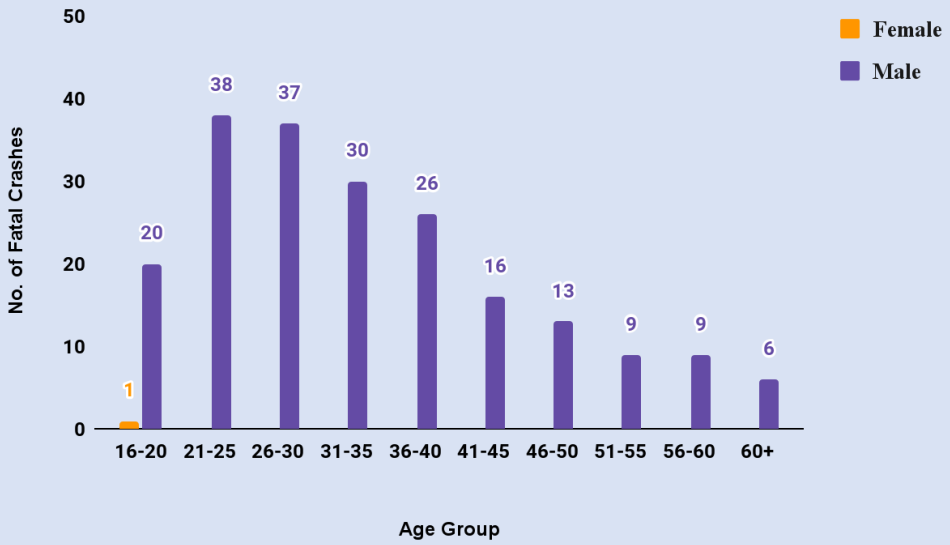


Figure 18
**Drivers with unknown age excluded (n=144)*

Men aged 21 to 30 years were more frequently causing impacts than the rest of the other age groups.

Hit-and-Run Drivers in Fatal Crashes, 2023

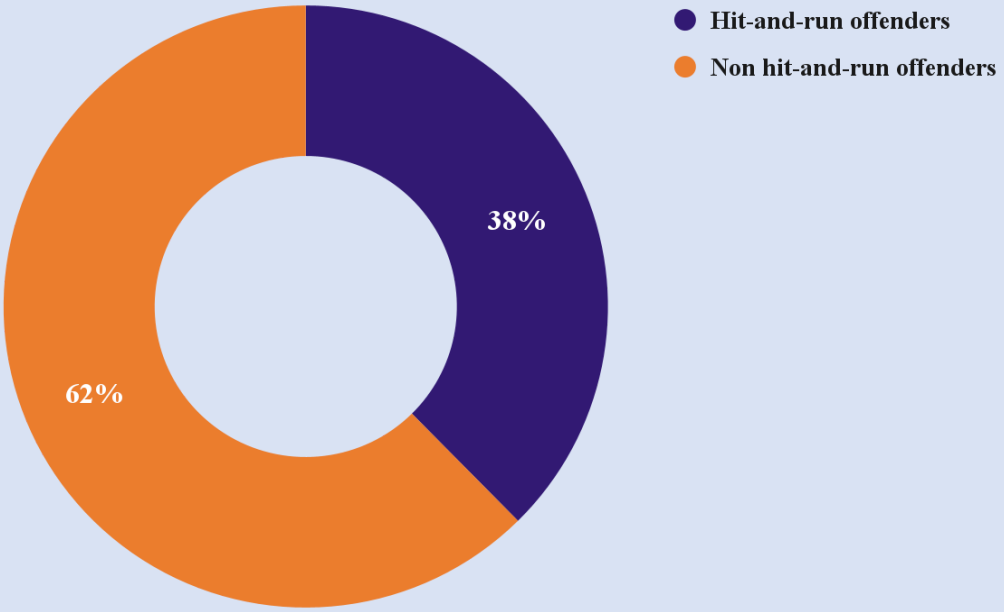


Figure 19

Hit-and-run cases accounted for 38% of all fatal road crashes in Mumbai in 2023.

Hit-and-Run Fatal Crash Victims by Road User Type, 2023

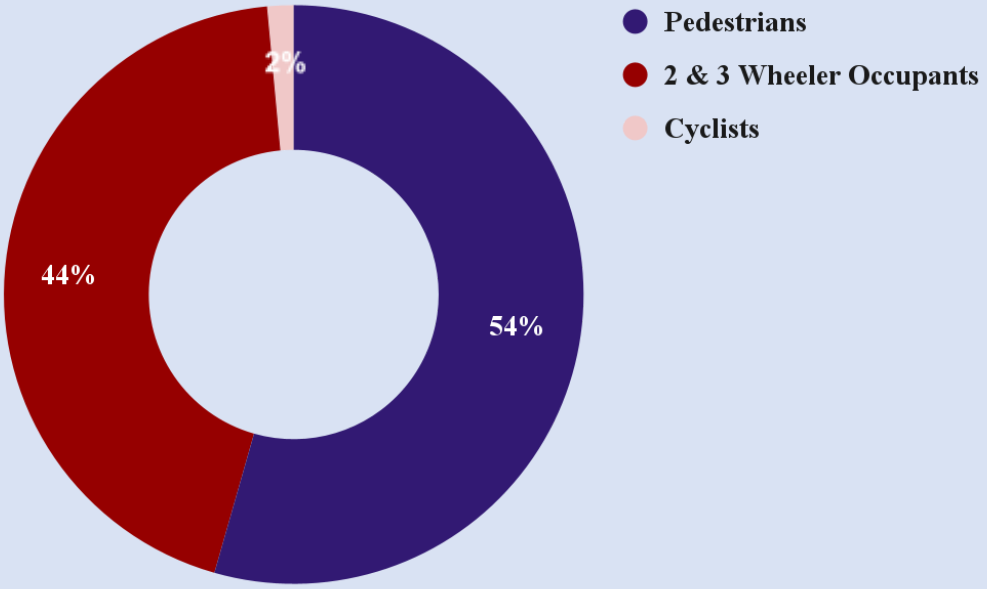


Figure 20

In 2023, hit-and-run drivers killed vulnerable road users, primarily pedestrians (54%) and motorcyclists (44%). The share of road users affected by hit-and-run was similar to that of 2022.

Distribution of Impacting Vehicles to Fatal Crash Victims, 2023

Victim/Impacting Vehicle	Auto Rickshaw	Bus	LV	HV	MHV	Two - Wheelers	Single vehicle crash	Cyclist	Missing	Total
Pedestrians	7	13	37	28	11	32	0	1	22	**151**
Motorcyclists	3	12	11	55	8	21	39	0	16	**165**
Three-wheeler occupants	3	2	2	2	0	0	4	0	1	**14**
Four-wheeler occupants	0	3	6	3	3	1	22	0	0	**38**
Cyclists	0	1	2	1	0	0	0	0	0	**4**
Missing	0	0	0	1	0	0	1	0	0	**2**
Total	**13**	**31**	**58**	**90**	**22**	**54**	**66**	**1**	**39**	**374**

Table 2

Pedestrian deaths were largely caused by cars (25%), two-wheelers (21%), and heavy vehicles (19%). Motorcyclists were often killed by heavy vehicles on the road (33%). Often, motorcyclists crashed on their own in single-vehicle crashes (24%). Among the impacting vehicles, heavy vehicles were usually the ones who impacted other road users (24% out of all fatalities).

Distribution of Impacting Vehicles to Non-Fatal Crash Victims, 2023

Victim/Impacting Vehicle	Auto rickshaw	Bus	LV	HV	MHV	Two - Wheelers	Single vehicle crash	Cyclist	Others	Missing	Total
Pedestrians	118	62	320	53	79	458	0	1	2	30	**1123**
Motorcyclists	73	42	415	102	66	193	54	0	0	14	**959**
Three-wheeler occupants	22	9	113	22	14	15	39	0	0	3	**237**
Four-wheeler occupants	3	9	107	25	21	8	75	0	0	4	**252**
Cyclists	7	0	14	2	1	8	0	0	0	2	**34**
Others	0	0	1	0	1	1	0	0	0	0	**3**
Missing	0	0	1	0	1	0	0	0	0	1	**3**
Total	**223**	**122**	**971**	**204**	**183**	**683**	**168**	**1**	**2**	**54**	**2611**

Table 3

Pedestrians were frequently injured by motorcyclists (41%) and car drivers (29%). Motorcyclists were frequently injured by cars (43%) and other motorcycle riders (20%). Among the impacting vehicles, light vehicles caused the most (37%) of the injuries.

LV - Light vehicle (includes Car, Jeep, Van, Taxi)
MHV - Medium heavy vehicle (includes Tempo, Tractor, Truck, Lorry)
HV - Heavy vehicle (includes Heavy articulated vehicles, Trolleys)

Fatal and Non-Fatal Injury Crashes by Month, 2023

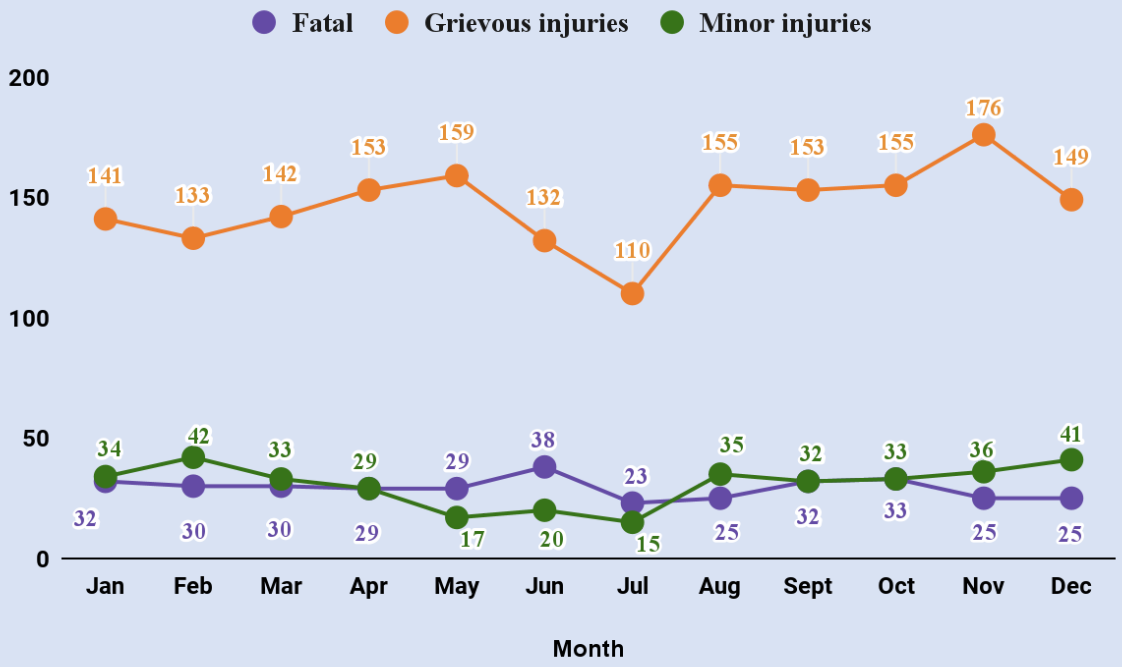


Figure 21

There was no clear pattern seen in any type of the crashes across the years. The drop and rise in road crashes in July and November, respectively, need further study.

Road Crash Deaths by Time and Day of Week, 2023

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Grand Total
01:00-01:59	5	4	2	2	2	5	4	**24**
02:00-02:59	6	0	1	1	3	2	1	**14**
03:00-03:59	1	3	1	1	3	4	0	**13**
04:00-04:59	3	0	1	2	3	3	1	**13**
05:00-05:59	2	2	0	1	5	0	6	**16**
06:00-06:59	2	4	2	2	1	0	1	**12**
07:00-07:59	4	0	0	2	1	0	4	**11**
08:00-08:59	5	0	5	1	1	3	0	**15**
09:00-09:59	1	0	4	1	2	3	1	**12**
10:00-10:59	1	1	2	1	1	3	1	**10**
11:00-11:59	4	1	5	4	1	2	1	**18**
12:00-12:59	4	2	2	2	4	1	1	**16**
13:00-13:59	2	1	1	3	4	4	5	**20**
14:00-14:59	5	1	3	0	2	4	2	**17**
15:00-15:59	0	4	0	3	0	2	6	**15**
16:00-16:59	2	4	1	3	2	2	1	**15**
17:00-17:59	4	3	3	1	0	0	4	**15**
18:00-18:59	4	5	3	1	1	0	3	**17**
19:00-19:59	5	1	2	4	2	2	2	**18**
20:00-20:59	1	0	1	5	2	3	2	**14**
21:00-21:59	3	3	3	2	7	0	1	**19**
22:00-22:59	4	0	2	2	5	2	1	**16**
23:00-23:59	1	0	0	1	3	3	4	**12**
24:00-24:59	4	3	1	4	3	2	5	**22**
Total	**73**	**42**	**45**	**49**	**58**	**50**	**57**	**374**

Table 4

Fatalities often occurred on Monday nights between 01:00 to 03:00 hours and on Friday nights between 21:00 to 23:00 hours.

Road Crash Injuries by Time and Day of Week, 2023

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Grand Total
01:00-01:59	15	18	13	15	8	12	16	**97**
02:00-02:59	14	13	3	9	8	6	17	**70**
03:00-03:59	12	4	8	8	11	7	5	**55**
04:00-04:59	16	8	4	3	4	1	10	**46**
05:00-05:59	13	8	9	9	6	5	9	**59**
06:00-06:59	6	9	13	7	11	8	14	**68**
07:00-07:59	18	15	12	12	12	14	17	**100**
08:00-08:59	18	10	8	14	14	7	5	**76**
09:00-09:59	18	11	16	15	14	23	22	**119**
10:00-10:59	17	16	32	19	21	17	14	**136**
11:00-11:59	21	22	14	22	20	19	21	**139**
12:00-12:59	17	35	17	12	8	25	22	**136**
13:00-13:59	27	27	12	19	9	17	14	**125**
14:00-14:59	28	18	18	21	24	19	14	**142**
15:00-15:59	19	21	24	20	14	13	30	**141**
16:00-16:59	24	11	17	13	16	14	16	**111**
17:00-17:59	21	21	27	16	15	13	29	**142**
18:00-18:59	22	13	19	13	19	27	17	**130**
19:00-19:59	21	23	15	7	22	6	18	**112**
20:00-20:59	12	16	29	33	18	18	15	**141**
21:00-21:59	15	15	17	13	18	13	13	**104**
22:00-22:59	22	11	15	13	21	22	12	**116**
23:00-23:59	24	12	17	13	22	29	23	**140**
24:00-24:59	14	15	9	11	21	12	24	**106**
Total	**434**	**372**	**368**	**337**	**356**	**347**	**397**	**2611**

Table 5

On weekdays the injuries occurred prominently on Tuesdays between 12:00 to 13:00 hours. On weekends the frequency was higher post 15:00 hours.

Fatal & Non-Fatal Injuries attributed to Drink Driving, 2015 - 2023

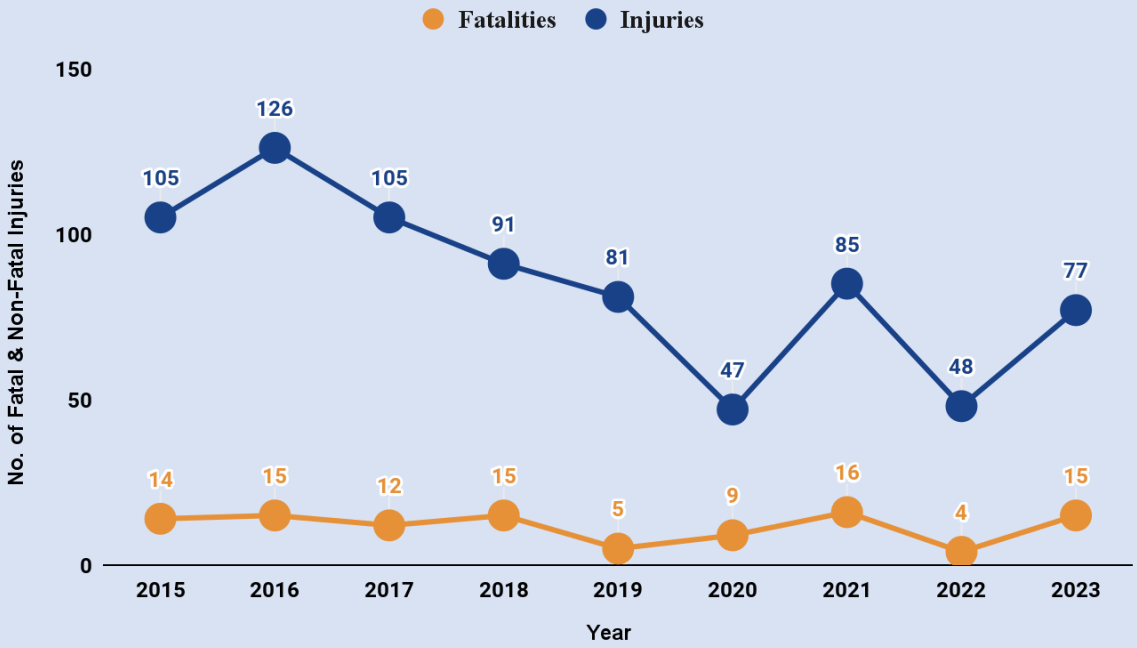


Figure 22

Deaths and injuries attributed to drink-driving went up in 2023 compared to 2022. These numbers only show all reported drink-driving crashes in Mumbai city and can to an extent, be underreported.

Violations involved in Fatal and Non-Fatal Injury Crashes, 2023

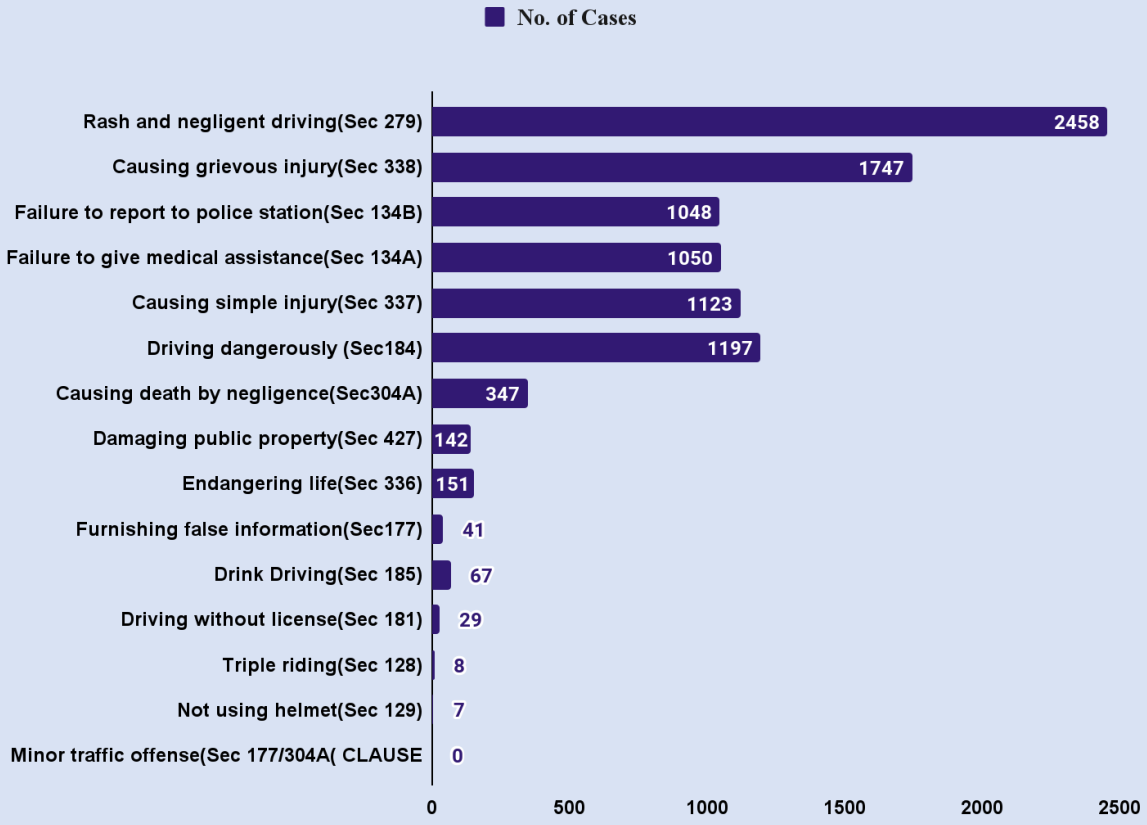
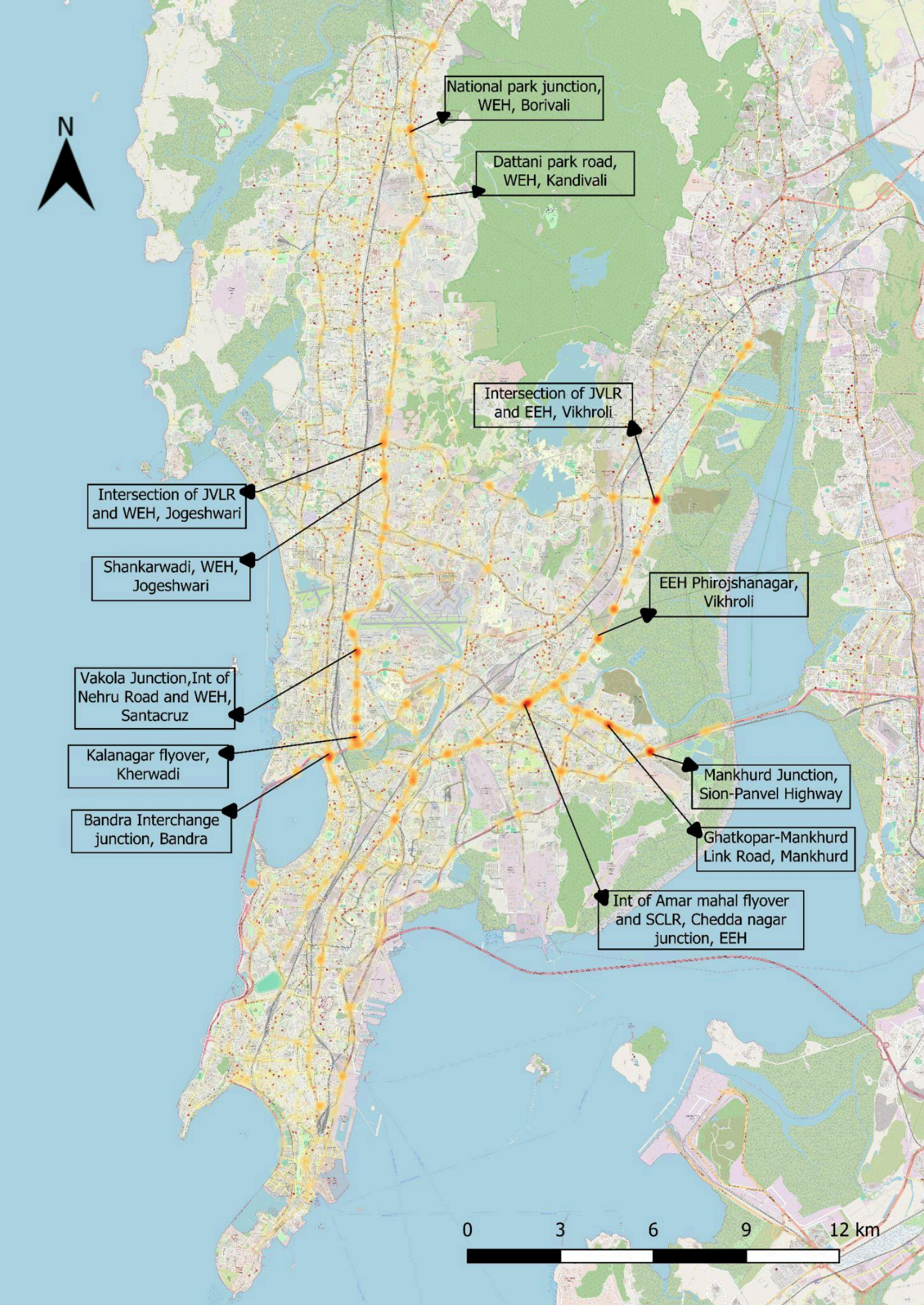


Figure 23
List of causes associated with fatal or injury crashes cited in 2023.

DISTRIBUTION OF DEATHS AND INJURIES BY LOCATION

Heat Map Of Fatal And Injury Crashes, 2021 – 2023

The following heat map shows the density of fatal and injury crashes throughout Mumbai in the past three years. The crash frequency is reflected in the "heat" indicating a higher frequency of fatal crashes. This provides a visual map of high-risk locations throughout Mumbai, which helps identify priorities for targeted enforcement and engineering interventions.


N
National park junction, WEH, Borivali
Dattani park road, WEH, Kandivali
Intersection of JVLR and EEH, Vikhroli
Intersection of JVLR and WEH, Jogeshwari
Shankarwadi, WEH, Jogeshwari
EEH Phirojshanagar, Vikhroli
Vakola Junction,Int of Nehru Road and WEH, Santacruz
Kalanagar flyover, Kherwadi
Bandra Interchange junction, Bandra
Mankhurd Junction, Sion-Panvel Highway
Ghatkopar-Mankhurd Link Road, Mankhurd
Int of Amar mahal flyover and SCLR, Chedda nagar junction, EEH
0
3
6
9
12 km

Blackspot Junctions, 2021 - 2023

Rank	Name_of_Junction	Fatal & Serious Injury Crashes 2021-2023 within 250mt radius	Fatalities 2021-2023 within 250mt radius
1	Intersection of WEH and Sion Bandra Link Road (Kalanagar Junction) Bandra East	45	13
2	Baiganwadi Signal Junction, Deonar, Mumbai	37	10
3	Intersection of WEH and Jawaharlal Nehru Road, Santacruz East	38	5
4	Towards Sea Link, Mahim Cause Way Junction, Near Bandra Chowky, U-Bridge, WEH	34	5
5	Intersection of Sion Panvel Highway and Ghatkopar - Mankhurd Link Road, Mankhurd	34	15
6	Amar Mahal Junction, Tilak Nagar Ghatkopar	33	11
7	Kherwadi Junction Signal, After Bus Stop of Kherwadi, WEH, Bandra East	30	7
8	Intersection of EEH and JVLR, Kanjurmarg East	29	12
9	Intersection of WEH and JVLR, Jogeshwari East	27	6
10	Intersection of Sion Bandra Link Road and BKC Main Road, Bandra East	26	9
11	Sion Circle Junction, Sion	25	6
12	Sanjay Gandhi National Park Junction, Borivali East	22	8
13	Chedda nagar junction, Ghatkopar East	22	4
14	Intersection of SV Road and Ram Mandir Road	21	4
15	Intersection of Lady Jamshedji road and Old Cadel Road	21	4
16	Intersection of Eastern Freeway and Ghatkopar - Mankhurd Link Road	20	1
17	Priyadarshini Junction, Chunabhatti	20	7
18	Godrej Ghodagate Signal, Thane- Mumbai Way, Vikhroli East	20	3
19	Intersection of WEH and Nehru Road, Vile parle East	20	3
20	Veer Kotwal Udyan chowk, Dadar west	19	3

Table 7

The intersection of WEH and Sion Bandra Link Road, and Baiganwadi Signal Junction recorded the most deaths and injuries in the past three years.

***Technical note**: Fatal and serious injury crashes and fatalities were searched within 250 meters of radius for each junction for the past three years.*

EEH - Eastern Express Highway
WEH - Western Express Highway
JVLR - Jogeshwari Vikhroli Link Road

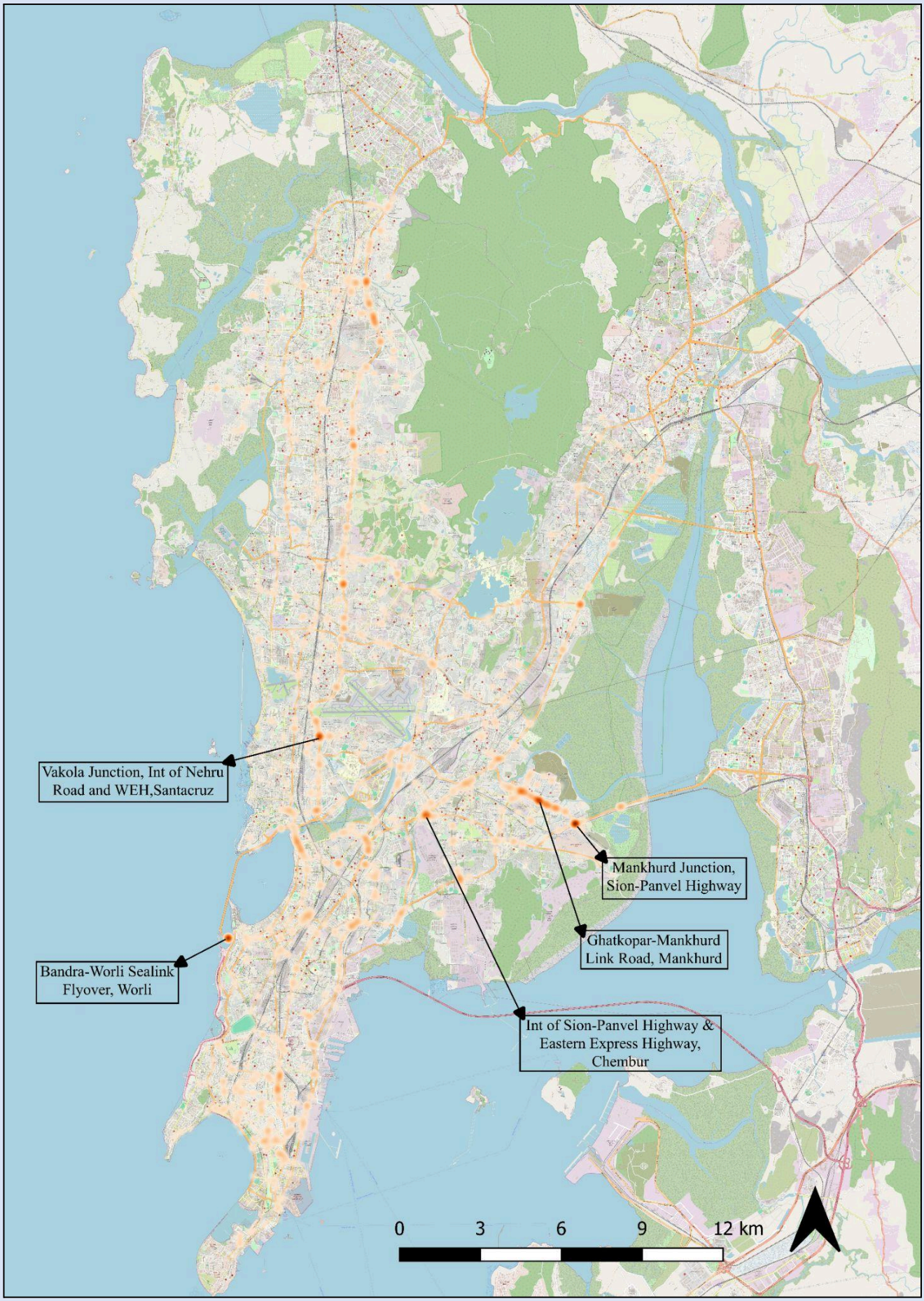
High Risk Corridors, 2021 - 2023

Rank	Road Name	Deaths per Km	Injuries per Km	Deaths and Injuries per Km	Fatalities 2021-23	Serious Injuries 2021-23	Total
1	Dr. Babasaheb Ambedkar Road (1.22km)	10	35	45	12	43	55
2	Ghatkopar - Mankhurd Link Road (4km)	3	17	20	12	68	80
3	Western Express Highway (25.33km)	4	10	14	102	259	361
4	Jogeshwari - Vikhroli Link Road (10.6km)	3	8	11	29	83	112
5	Eastern Express Highway (23.55km)	3	6	9	64	129	193
6	Swami Vivekanand Road (25km)	1	6	7	19	146	165
7	New Link Road (10km)	1	6	7	8	59	67
8	Sion Panvel Highway (9.1km)	1	6	7	11	53	64
9	Senapati Bapat Marg (11km)	1	4	5	10	41	51
10	Andheri Kurla Road (7km)	0	5	5	3	38	41
11	Bandra Kurla Complex Road (3.7km)	1	4	5	5	16	21
12	Santacruz – Chembur Link Road (6.45km)	1	3	4	5	20	25
13	Lal Bahadur Shastri Marg (21km)	0	3	3	7	71	78
14	Western Express Highway, Service Road (20km)	0	2	2	5	37	42
15	Eastern Freeway (16.8km)	1	1	2	18	20	38

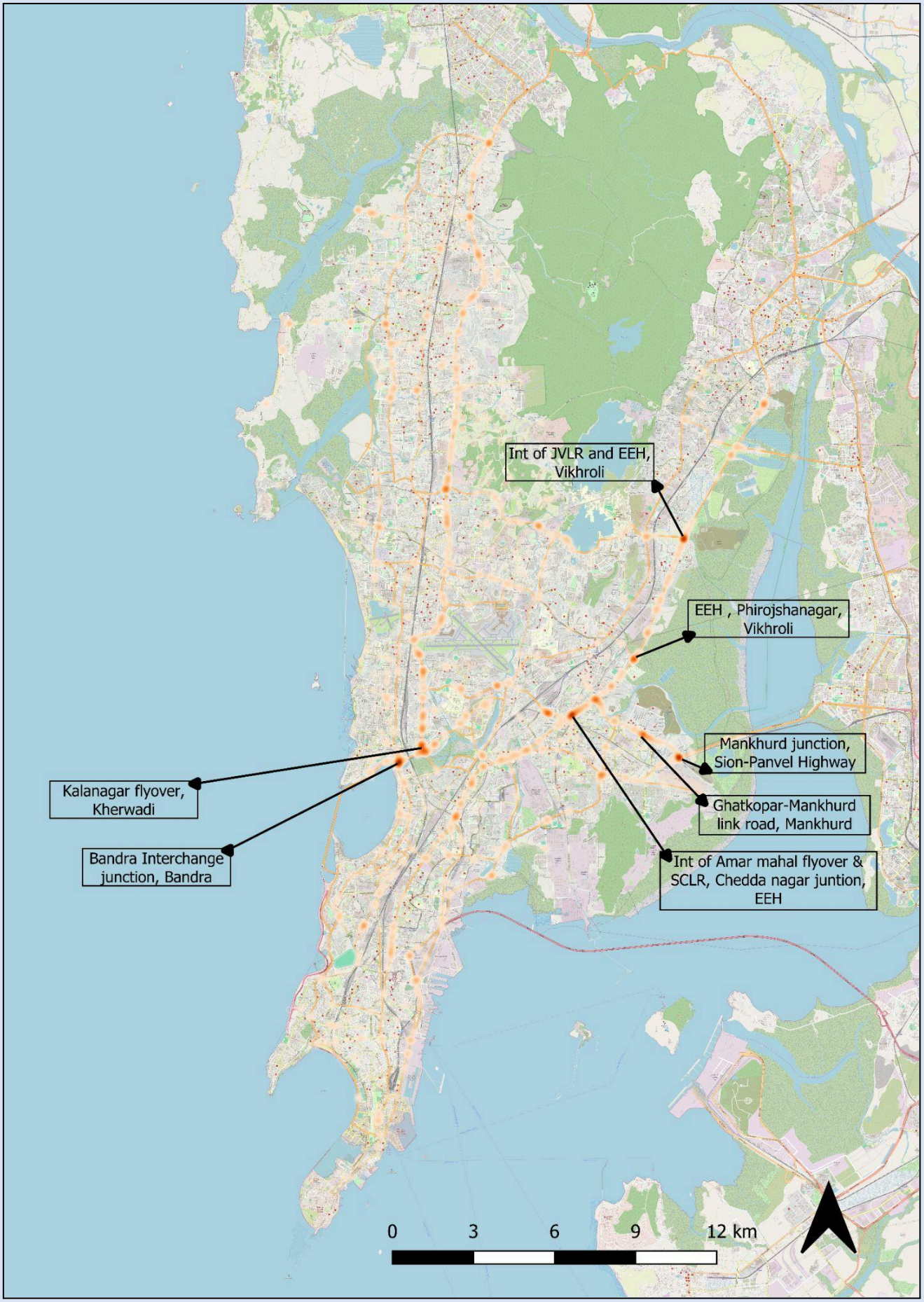
Table 6

Dr. Babasaheb Ambedkar Marg continues to record the most deaths per kilometer for the second year in a row. Meanwhile, Ghatkopar - Mankhurd Link Road recorded a rise in deaths and injuries per kilometer, ranking it 2nd in 2023.

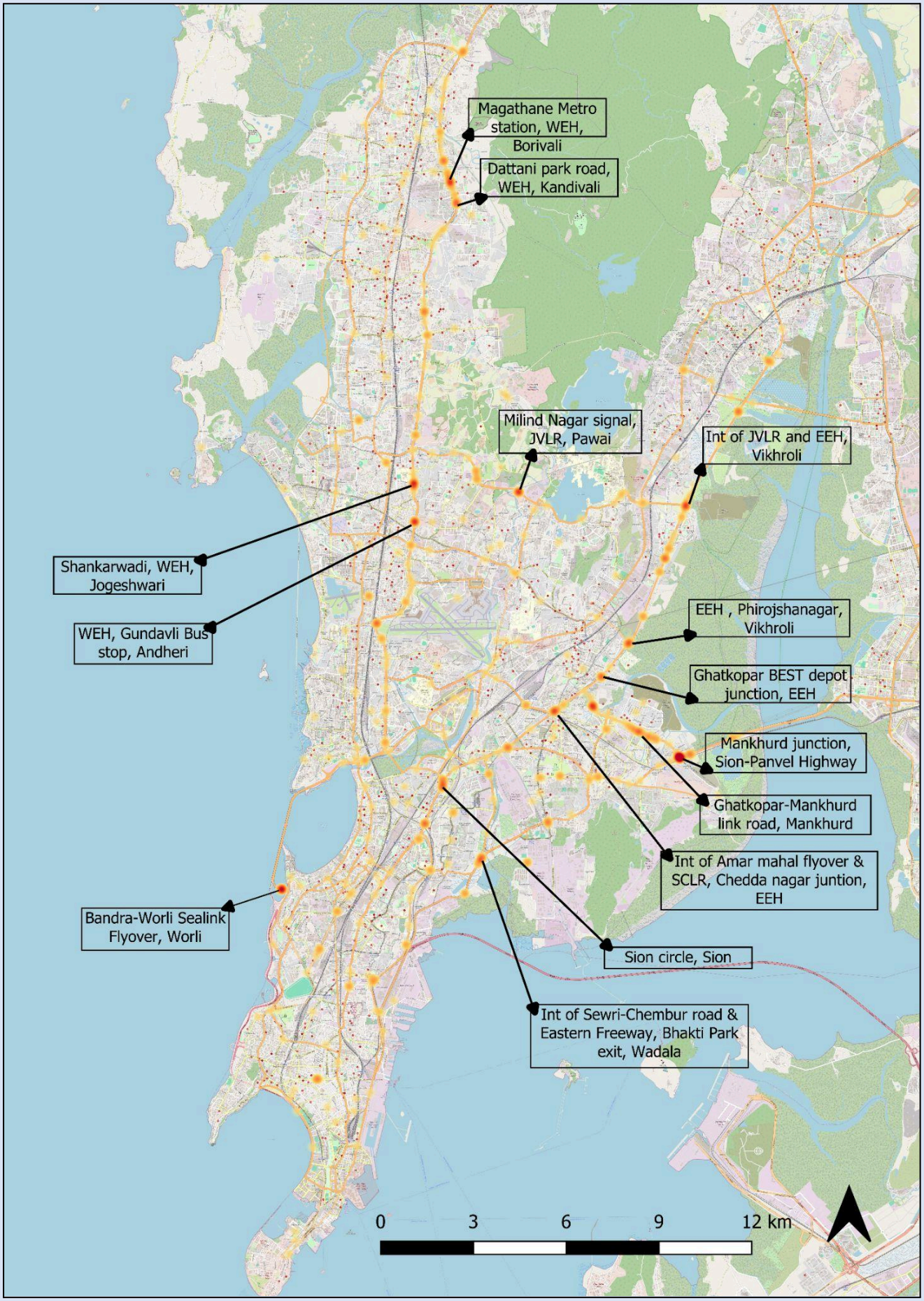
Heat map of Pedestrian Fatal and Injury crashes 2021 - 2023



Heat map of Motorcyclists' Fatal and Injury crashes 2021 - 2023



Heat map of Hit and Run Fatal crashes 2021 - 2023

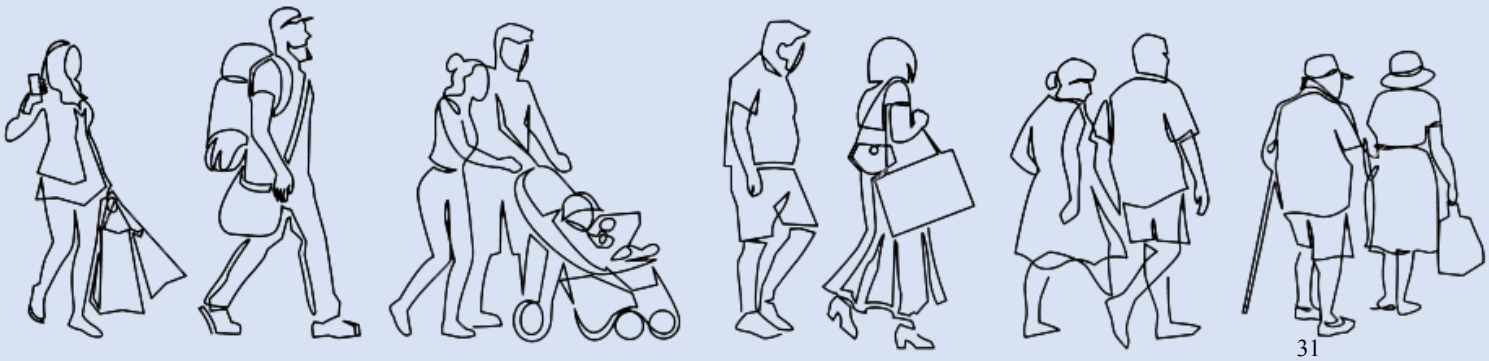


Black Spot Junctions for Pedestrian Hit-and-Run Fatalities 2021 - 2023

Rank	Junction Name	Pedestrian hit and run fatalities 2021-2023 within 250 mt radius
1	Intersection of Sion Panvel Highway and Ghatkopar - Mankhurd Link Road	7
2	Worli Seaface Junction, Worli	5
3	Amar Mahal Junction, Tilak Nagar, Ghatkopar	4
4	Priyadarshini Junction	4
5	WEH near Dattani Park Bus Stop, Kandivali East	4
6	Baiganwadi Signal Junction, Deonar	4
7	Intersection of EEH and JVLR, Kanjurmarg East	4
8	Sion Circle Junction	4
9	Sanjay Gandhi National Park Junction, Borivali East	3
10	Intersection WEH and Thakur village road Kandivali East	3
11	Gundavali Bus Stop, Andheri East	3
12	Narayan Bodhe Chowk, EEH, Vikhroli East	3
13	Sonapur Signal Crossing	3
14	Intersection of LBS Marg and AGLR Ext. Road (near Shreyas bus stop) (on LBS)	2
15	Intersection of New Link road and Yogi Nagar Marg	2

Table 1

Pedestrian fatalities caused by hit-and-run crashes were prominent in the above-listed locations. These locations need further investigation for planning and implementation of preventive measures.



Road User Fatalities by Road User Type and Zone, 2023

Zone	Cyclist	Four Wheeler Occupants	2&3 Wheeler Occupants	Pedestrian	Not Known	Grand Total
Port	1	1	6	7	1	16
Zone I	0	0	1	8	0	9
Zone II	0	1	3	9	0	13
Zone III	0	2	6	4	0	12
Zone IV	0	6	19	9	0	34
Zone IX	1	5	5	9	0	20
Zone V	0	2	9	11	0	22
Zone VI	0	4	36	20	0	60
Zone VII	0	6	26	17	1	50
Zone VIII	0	2	17	8	0	27
Zone X	1	0	12	12	0	25
Zone XI	1	1	10	14	0	26
Zone XII	0	8	29	23	0	60
Total	**4**	**38**	**179**	**151**	**2**	**374**

Table 8

Two and three-wheeler occupants' deaths were most frequent in Zone VI and Zone XII. Furthermore, pedestrian deaths more often occurred in Zone XII than in the rest of the zones.

Note: *Zone is the sub-head administration authority of a group of police stations in Mumbai.*

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