

# Study on road safety from a gender perspective

Begoña Murguialday Martínez  
Verónica Paz Mena  
Itxasne Martínez Ojinaga  
Amaia Bosque Ahedo  
MURGIBE. Equality Consultancy

Study funded by: Directorate-General for Traffic Spanish  
Ministry of the Interior, 2022



Published by: Directorate-General for Traffic  
National Road Safety Observatory  
C/ Josefa Valcárcel No. 44  
28027 MADRID

Layout: RALI, S.A.

Catalogue of publications of the General State Administration: <http://cpage.mpr.gob.es/>

## Contents

- 5** 1. Introduction
- 7** 2. Methodology
- 9** 3. Literature review
- 19** 4. Descriptive analysis
- 59** 5. Recommendations
- 69** 6. Bibliography



# 1

## Introduction

Accident statistics show that a higher percentage of men are victims of traffic accidents: in Spain, in 2019, 79% of persons killed and 72% of persons hospitalised due to injury as a result of a traffic accident were men. In turn, the fatality rate per population was higher among men than women in all age groups. The greatest differences were seen in the 35-44, 45-54 and 55-64 age ranges, where the rate for men was nearly 7 times higher than that for women.

The higher number of men killed and injured in accidents has been linked in large part to their greater exposure to traffic compared to women (World Health Organization, 2002)<sup>1</sup>, and to the adoption of risk behaviours, such as speeding, alcohol consumption or lower use of seat belts<sup>2</sup>.

The World Health Organization report “*Gender and Road Traffic*”<sup>3</sup> stated in 2022 that there are differences between male and female drivers and called for the development of policies that take this perspective into account. It specifically points out that “[...] masculinity may be hazardous to health. Gender role socialisation and the association of masculinity with risk-taking behaviour, acceptance of risk and a disregard of pain and injury may be factors leading to hazardous actions on the part of men. These include, for example, excessive consumption of alcohol, drug use, aggressive behaviour to be in control of situations, and risky driving.”

There is sufficient evidence to show that men, and in particular young men, tend to behave more aggressively compared to women in most cultures, and this factor has a very significant impact on driving, encouraging more competitive and hostile behaviour and, consequently, increasing the likelihood of being involved in a traffic accident.

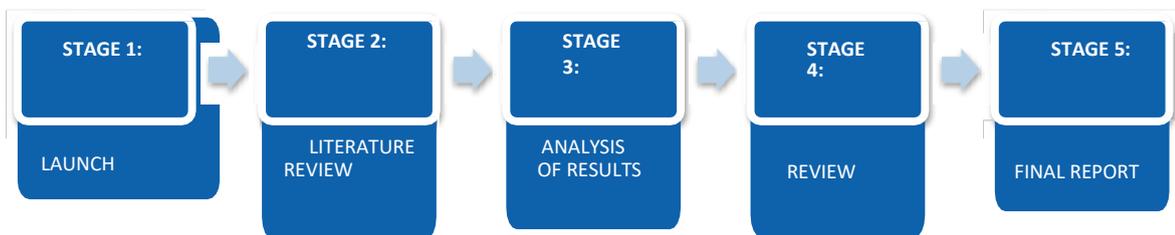
The report presented below aims to provide insight into road safety in Spain from a gender perspective. To this end, a literature review of existing studies on the subject has been prepared, along with a descriptive analysis of the road accident situation in Spain from a gender perspective, using data from 2015 to 2019. Lastly, a set of actions and recommendations are presented.

---

<sup>1</sup> World Health Organization. (2002). Gender and road traffic injuries.  
<sup>2</sup> ITF, 2021-Transport Innovation for Sustainable Development: A Gender Perspective  
<sup>3</sup> World Health Organization. <https://apps.who.int/iris/handle/10665/68887>



The study was conducted in five stages.



In the initial stage, the MURGIBE project coordination team held a meeting with the coordination team from the Directorate-General for Traffic, during which the following were established:

- Stages and timeline
- Working methodology
- Working tools

In stage 2, a review of existing literature on road safety from a gender perspective was conducted. Around 50 documents, publications, programmes, studies and actions were reviewed, of which 9 were selected as they were deemed relevant to the study proposed.

In stage 3, data provided by the Directorate-General for Traffic on accidents with victims between 2015 and 2019 were analysed, enabling a descriptive analysis of the information from a gender perspective to be carried out. In all cases, the information is provided according to gender.

In order to provide information from a gender perspective, firstly, vertical percentages (V%) were calculated to determine how men and women were distributed as independent groups with respect to each of the variables analysed. Secondly, horizontal percentages (H%) were calculated to analyse the differences between the sexes.

Stage 4 consisted of reviewing the results and the final stage consisted of preparing the report.



# 3

## Literature review

Below are the files for the selected documents, which provide more information on road safety from a gender perspective. Among other aspects, the data search focused on the following topics:

- A. Road safety from a gender perspective.
- B. The impact of mobility patterns and gender on the risk exposure of men and women and its possible link to accident rates.
- C. Attitudes and behaviours behind the wheel according to gender.
- D. The study of actions, interventions and policies implemented to improve road safety from a gender perspective, indicating their effectiveness or impact.

DOCUMENT 01.	
<b>TITLE</b>	<b>SINIESTRALIDAD VIAL Y GÉNERO [ROAD ACCIDENTS AND GENDER]</b>
<b>AUTHOR(S)</b>	FARAPI Consultancy. <a href="https://www.farapi.com/">https://www.farapi.com/</a>
<b>ENTITY</b>	EMAKUNDE/BASQUE WOMEN'S INSTITUTE.
<b>COUNTRY</b>	Spain
<b>LANGUAGE</b>	SPANISH
<b>TYPE OF PUBLICATION</b>	REPORT
<b>YEAR</b>	2009
<b>LINK</b>	<a href="https://www.emakunde.euskadi.eus/contenidos/informacion/gizonduz_dokumentuak/es_def/adjuntos/9_siniestralidad_vial_y_genero.pdf">https://www.emakunde.euskadi.eus/contenidos/informacion/gizonduz_dokumentuak/es_def/adjuntos/9_siniestralidad_vial_y_genero.pdf</a>
<b>Why the source has been deemed valid.</b>	<p>It is presented as a collection of points for reflection designed to be used in training activities on masculinity and risk reduction.</p> <p>It looks at risk behaviours related to road mobility from a gender perspective.</p>
<b>Conclusions regarding the topics</b>	<p>It addresses the first three topics:</p> <p style="text-align: center;">A. Road safety from a gender perspective.</p> <p style="text-align: center;">B. The impact of mobility patterns and gender on the risk exposure of men and women, and whether this is known, and its possible link to accident rates.</p> <p style="text-align: center;">C. Attitudes and behaviours behind the wheel according to gender.</p>
<b>Recommendations identified</b>	<p>Addressing the causes and consequences of the impact of different socialisation patterns on the <i>models of what it is to be a man or a woman</i> may help design proposals and solutions to reduce high road accident rates among young men.</p> <p>It provides thoughts, experiences and initiatives that could provide insight into how to continue to prevent high road accident rates among young men. For example, in New Zealand, the number of passengers is restricted among young people in order to reduce the number of traffic accident deaths.</p> <p>It also recommends that if the driver is a boy, the co-driver should be a girl, as it has been proven that if both the driver and co-driver are boys, the accident mortality rate is 3 times higher.</p>

DOCUMENT 02.

<b>TITLE</b>	<b>REPRESENTACIONES SOCIALES DE LA MASCULINIDAD Y AGRESIVIDAD EN EL TRÁNSITO. LA IRA AL CONDUCIR EN ARGENTINA [SOCIAL REPRESENTATIONS OF MASCULINITY AND AGGRESSIVENESS WHEN DRIVING. ROAD RAGE IN ARGENTINA]</b>
<b>AUTHOR(S)</b>	Aldo Merlino, Alejandra Martínez and Gabriel Escanés.
<b>ENTITY</b>	Universidad Siglo 21. CIECS-CONICET [Centre for Research and Studies on Culture and Society at the National University of Córdoba] Córdoba. ARGENTINA
<b>COUNTRY</b>	ARGENTINA
<b>LANGUAGE</b>	SPANISH
<b>TYPE OF PUBLICATION</b>	ARTICLE
<b>YEAR</b>	2011
<b>LINK</b>	<a href="http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&amp;pid=S0104-65782011000200014">http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&amp;pid=S0104-65782011000200014</a>
<b>Why the source has been deemed valid.</b>	<p>It concludes that certain representations concerning the demonstration and legitimation of masculinity are related to risk-oriented, speed-oriented and aggressive behaviours exhibited by male drivers, which are detrimental to vehicular order and road safety. In fact, many of the social representations concerning the definition of masculinity revolve around possessing the skills to operate machinery.</p> <p>To illustrate the discussion, the article refers to a research project in which a <i>road rage index</i> was developed, showing that men tend to drive with greater feelings of anger and irritability than women.</p>
<b>Conclusions regarding the topics</b>	<p>It addresses point C.</p> <p>Attitudes and behaviours behind the wheel according to gender.</p> <p>It addresses different existing social representations regarding driving and how gender stereotypes manifest themselves in road safety.</p> <p><i>What would you say about a man who does not want to drive or says he is afraid of driving?</i></p>
<b>Recommendations identified</b>	<ul style="list-style-type: none"> <li>· Implement road safety education programmes for children and teenagers to mitigate these social representations.</li> <li>· Review and adapt campaigns for toy cars, roads, lorries, motorcycles, etc., ensuring that the language, tone, voice-overs and images used do not promote aggressiveness, crashes, speeding etc., and that they are designed to teach children how to “use them properly”.</li> <li>· Launch awareness campaigns that promote what is considered feminine in terms of driving as something more positive and respectful that should be emulated: caution, respect for and compliance with rules, safety, patience, self-control, etc.</li> <li>· Campaigns aimed at young men and men in general that raise awareness of the cost of “reckless masculinity and manliness in driving”.</li> </ul>

DOCUMENT 03.	
<b>TITLE</b>	<b>AGENCIA NACIONAL DE SEGURIDAD VIAL. Disposición 152/2021 [NATIONAL ROAD SAFETY AGENCY. Provision 152/2021]</b>
<b>AUTHOR(S)</b>	OFFICE OF THE PRESIDENT.
<b>ENTITY</b>	NATIONAL ROAD SAFETY AGENCY
<b>COUNTRY</b>	ARGENTINA
<b>LANGUAGE</b>	SPANISH
<b>TYPE OF PUBLICATION</b>	REGULATORY PROVISION
<b>YEAR</b>	2021
<b>LINK</b>	<a href="https://www.boletinoficial.gob.ar/detalleAviso/primera/240981/20210219">https://www.boletinoficial.gob.ar/detalleAviso/primera/240981/20210219</a>
<b>Why the source has been deemed valid.</b>	<p>Approval has been given to incorporate a module into the compulsory course for obtaining a National Driving Licence that covers topics promoting values of equality and the delegitimation of violence against women with regard to driving, public roads, vehicle safety and everything related to the subject.</p> <p>The contents of training courses and the theory test will be adapted, and Driving Licence Issuing Centres will be subject to regular audits.</p>
<b>Conclusions regarding the topics</b>	<p>It addresses the following points:</p> <p>A: road safety from a gender perspective.</p> <p>D: the study of actions, interventions and policies implemented to improve road safety from a gender perspective, indicating their effectiveness or impact.</p>
<b>Recommendations identified</b>	<p>Incorporate equality training into the courses and exams for obtaining a driving licence.</p> <p><i>COURSE CONTENTS. Gender. Roles and stereotypes. Gender identity. Gender-based violence, types and forms of violence. Masculinity: patriarchy and heteronormativity. Myths about violence. Femicides, transvesticides, transfemicides and hate crimes. Resources, tools and ways to tackle violence on transport and when driving motor vehicles. Access and participation of women and diverse groups in the transport sector.</i></p>

## DOCUMENT 04.

<b>TITLE</b>	<b>AGE AND GENDER DIFFERENCES IN RISKY DRIVING: THE ROLES OF POSITIVE AFFECT AND RISK PERCEPTION. ACCIDENT ANALYSIS AND PREVENTION 43 (2011) 923–931</b>
<b>AUTHOR(S)</b>	Nancy Rhodessa,b,*; Kelly Pivikc
<b>ENTITY</b>	International Symposium on Accident Analysis & Prevention
<b>COUNTRY</b>	United States
<b>LANGUAGE</b>	ENGLISH
<b>TYPE OF PUBLICATION</b>	SCIENTIFIC ARTICLE
<b>YEAR</b>	2010
<b>LINK</b>	<a href="https://pubmed.ncbi.nlm.nih.gov/21376884/">https://pubmed.ncbi.nlm.nih.gov/21376884/</a>
<b>Why the source has been deemed valid.</b>	It identifies gender and age as the focus of the study on risky driving behaviour, which involves incorporating intersectionality.
<b>Conclusions regarding the topics</b>	<p>C. Attitudes and behaviours behind the wheel according to gender</p> <p>It discusses the main causes of accidents among young people (teenagers). It states that, in addition to inexperience being one of the main causes, there are also others such as excessive speed.</p> <p>The research focuses on analysing the motivations of teenagers in particular for engaging in this type of risky behaviour behind the wheel. They tend to overestimate their driving ability and are less able to recognise danger, which is why risk behaviours are more common.</p> <p>It highlights the “<i>Positive Affect</i>” theory: while boys see having a driving licence as a transitional step into adulthood from the outset, this is not a determining factor for girls. Furthermore, as with tobacco or alcohol consumption, engaging in risky behaviour behind the wheel reinforces their “acceptance” among peers, hence the “positive affect” theory, since the more they engage in this type of behaviour, the greater their acceptance within the peer group (among themselves) will be.</p>
<b>Recommendations identified</b>	<p>Always keep the “positive affect” in mind when it comes to the ability to make decisions behind the wheel. In other words, the perception of how we are seen by other people we take as our reference.</p> <p>In most cases, decisions made behind the wheel are based on experimental rather than rational attitudes, and it is therefore necessary to “<i>temper the positive emotions and high self-esteem of teenage boys behind the wheel</i>”.</p>

**DOCUMENT 05**

<b>TITLE</b>	<b>GENDER EFFECTS IN YOUNG ROAD USERS ON ROAD SAFETY ATTITUDES, BEHAVIORS AND RISK PERCEPTION</b>
<b>AUTHOR(S)</b>	Pierluigi Cordellieri, Francesca Baralla, Fabio Ferlazzo, Roberto Sgalla, Laura Piccardi, and Anna Maria Giannini.
<b>ENTITY</b>	Frontiers in Psychology
<b>COUNTRY</b>	United States
<b>LANGUAGE</b>	ENGLISH
<b>TYPE OF PUBLICATION</b>	SCIENTIFIC ARTICLE
<b>YEAR</b>	2016
<b>LINK</b>	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037216/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5037216/</a>
<b>Why the source has been deemed valid.</b>	It focuses on the effects of gender on male and female novice drivers.
<b>Conclusions regarding the topics</b>	<p>C. Attitudes and behaviours behind the wheel according to gender.</p> <p>It states that data collected on accident rates differ when a gender perspective is incorporated, especially with regard to young people.</p> <p>It states that while men tend to have traffic accidents as a result of failing to comply with safety regulations, women's accidents are due to judgment errors. It also points out that women are less likely to engage in risky driving behaviour. Furthermore, it states that various studies report that men:</p> <ul style="list-style-type: none"> <li>· Tend to see themselves as immune to traffic accidents.</li> <li>· Underestimate the risk to which they are exposed.</li> <li>· Overestimate their driving ability compared to women.</li> </ul> <p>With regard to women, there are now more accidents, and the main causes are:</p> <ul style="list-style-type: none"> <li>· Errors in driving and vehicle handling.</li> <li>· Not knowing the vehicle or how it works.</li> </ul> <p>Traffic accidents involving women are less likely to be related to alcohol consumption.</p>
<b>Recommendations identified</b>	Both men and women are capable of detecting risk, but the difference is that men are less concerned about this factor. Men are more likely to condone breaching traffic regulations and justify alcohol consumption. Prevention programmes should take this fact into account and focus on aspects that promote more careful driving behaviour.

**DOCUMENT 06.**

<b>TITLE</b>	<b>STATE OF THE ROAD</b>
<b>AUTHOR(S)</b>	Center for Accident Research and Road Safety (Queensland)
<b>ENTITY</b>	Center for Accident Research and Road Safety (Queensland)
<b>COUNTRY</b>	Australia
<b>LANGUAGE</b>	ENGLISH
<b>TYPE OF PUBLICATION</b>	ARTICLE
<b>YEAR</b>	2013
<b>LINK</b>	<a href="https://www.yumpu.com/en/document/read/40544140/road-safety-advertising-fact-sheet-centre-for-accident-research-">https://www.yumpu.com/en/document/read/40544140/road-safety-advertising-fact-sheet-centre-for-accident-research-</a>
<b>Why the source has been deemed valid.</b>	It looks at the design of road safety campaigns and how they should play a key role in prevention. It does not focus specifically on gender perspective, but has been deemed relevant because of the importance it places on campaigns as an awareness-raising tool and on their designs.
<b>Conclusions regarding the topics</b>	<p>D: The study of actions, interventions and policies implemented to improve road safety.</p> <p>It is a fact that advertising campaigns have a direct impact on accident rates, which is why they recommend:</p> <ul style="list-style-type: none"> <li>· Assessing the impact of road safety campaigns as an important part of traffic statistics.</li> <li>· Designing specific safety campaigns, and making them realistic and relatable, so that people can identify with the different situations.</li> <li>· Identifying the target audience and making them active participants in these campaigns. For example, campaigns aimed at men must take into account that their driving attitudes stem from their desire for group acceptance.</li> <li>· Ensuring that people identify with the situations presented.</li> <li>· Ensuring that campaigns recur frequently, not just at certain times, but with a certain degree of continuity.</li> </ul>
<b>Recommendations identified</b>	<p>Asses the impact of prevention campaigns on each target audience: young men and women, older people, etc.</p> <p>It is stressed that campaigns must be very realistic.</p>

**DOCUMENT 07.**

<b>TITLE</b>	<b>WHO IS SAFER ON THE ROAD, MEN OR WOMEN?</b>
<b>AUTHOR(S)</b>	Florentina Burclau, Alina; González Carvajal, Karla
<b>ENTITY</b>	The World Bank (Transport for Development)
<b>COUNTRY</b>	United States
<b>LANGUAGE</b>	ENGLISH
<b>TYPE OF PUBLICATION</b>	ARTICLE
<b>YEAR</b>	2021
<b>LINK</b>	<a href="https://blogs.worldbank.org/transport/who-safer-road-men-or-women">https://blogs.worldbank.org/transport/who-safer-road-men-or-women</a>
<b>Why the source has been deemed valid.</b>	It focuses on the fact that women are less safe on the roads, regardless of whether are drivers, passengers or pedestrians.
<b>Conclusions regarding the topics</b>	<p>A: Road safety from a gender perspective</p> <p>It presents a number of facts that explain why women are less safe on the roads from a road safety perspective:</p> <ol style="list-style-type: none"> <li>1) Cars are designed by men, for men. The injuries sustained by female drivers as a result of an accident differ from those sustained by male drivers (especially in terms of skeletal injuries).</li> <li>2) Men die on the roads as drivers, and women are killed as pedestrians and passengers.</li> <li>3) Men are involved in traffic accidents earlier in their driving career, they drive faster, they exhibit risky driving behaviour and they have less regard for traffic regulations.</li> </ol> <p>Despite such clear data, policies fail to include measures that take this perspective into account. It is necessary to analyse how campaigns affect men and women differently: for example, men tend to believe that messages about danger have an impact on others (not on them). Women, on the other hand, do identify with the messages.</p> <p>Key finding: women are less safe on the roads despite exhibiting safer behaviours.</p>
<b>Recommendations identified</b>	<p>Design road safety communication campaigns with the target audience in mind.</p> <p>Assess the impact of road safety campaigns from a gender perspective and improve data collection with regard to road safety.</p>

## DOCUMENT 08.

<b>TITLE</b>	<b>PERSPECTIVA DE GÉNERO EN CAMPAÑAS PREVENTIVAS DE SEGURIDAD VIAL Y DROGAS [GENDER PERSPECTIVE IN PREVENTION CAMPAIGNS REGARDING ROAD SAFETY AND DRUGS]</b>
<b>AUTHOR(S)</b>	Paricio-Esteban, María-Pilar; Sandra Femenía-Almerich, Sandra; Puchalt-López, María
<b>ENTITY</b>	Revista <i>Profesional de La Información</i> [ <i>Information Professional Journal</i> ]
<b>COUNTRY</b>	SPAIN
<b>LANGUAGE</b>	SPANISH
<b>TYPE OF PUBLICATION</b>	SCIENTIFIC ARTICLE
<b>YEAR</b>	2021
<b>LINK</b>	<a href="https://revista.profesionaldelainformacion.com/index.php/EPI/article/view/86419">https://revista.profesionaldelainformacion.com/index.php/EPI/article/view/86419</a>
<b>Why the source has been deemed valid.</b>	It analyses prevention campaigns regarding the consumption of addictive substances and road safety in Spain between 2011 and 2020 from a gender perspective and provides insight into how women are represented in these campaigns.
<b>Conclusions regarding the topics</b>	<p>D: The study of actions, interventions and policies implemented to improve road safety from a gender perspective, indicating their effectiveness or impact.</p> <p>Findings indicate that there are fewer women in the campaigns, which may make it difficult for them to identify with the issue of addictive substances.</p> <p>The article notes that most campaigns aimed at young people (aged 25-35) are male-oriented and points out that this could be related to adapting campaigns to the at-risk population, with regard to both legal and illegal substances. In both emotional and rational messages, there is a higher proportion of men, reinforced by the use of real images and sounds, with creative strategies and resources of an informative and emotional nature.</p> <p>The reinforcement of gender stereotypes and traditional female roles is also noted.</p>
<b>Recommendations identified</b>	A more gender-inclusive approach to campaigns regarding road safety and the consumption of addictive substances is deemed necessary in order to increase women's identification with them.

DOCUMENT 09.	
<b>TITLE</b>	<b>BRIDGING THE GENDER GAP IN VEHICLE OCCUPANT SAFETY ASSESSMENTS</b>
<b>AUTHOR(S)</b>	Astrid Linder
<b>ENTITY</b>	International Transport Forum
<b>COUNTRY</b>	FRANCE
<b>LANGUAGE</b>	ENGLISH
<b>TYPE OF PUBLICATION</b>	ARTICLE
<b>YEAR</b>	2021
<b>LINK</b>	<a href="https://www.itf-oecd.org/sites/default/files/docs/transport-innovation-sustainable-development-gender.pdf">https://www.itf-oecd.org/sites/default/files/docs/transport-innovation-sustainable-development-gender.pdf</a>
<b>Why the source has been deemed valid.</b>	It questions vehicle safety features and discusses how they are not designed with gender in mind.
<b>Conclusions regarding the topics</b>	A: Road safety from a gender perspective. It basically states that the bodies responsible for standardising vehicle safety features use male standards. For example, the dummies used in crash tests are based on male bodies, and not female ones, which means that the consequences of a traffic accident can be different for women.
<b>Recommendations identified</b>	Raise awareness of the fact that there is a difference between safety features for women and those for men. Adapt vehicle safety features to male and female bodies: change the standards used, as is done for minors.

# 4

## Descriptive analysis

Below is a descriptive analysis of accident rates according to gender, based on accident data for 2015-2019 from the National Register of Traffic Accident Victims<sup>4</sup>.

For this analysis, victims were grouped into two categories:

- a) persons killed and hospitalised due to injury,
- b) persons injured but not hospitalised.

Obviously, all the information presented is disaggregated by gender.

Firstly, it should be noted that the aforementioned Register identifies 3 types of users in an accident:

- A. Drivers.
- B. Passengers.
- C. Pedestrians.

The analysis focuses on the reality of these three figures and provides insight into the situation from a gender perspective and related trends. As regards the time period, statistical data for 2015 to 2019 are included.

In order to prepare this section, a series of variables were selected. Of all the variables in the register, the following were considered:

- Age of victims.
- Type of area (urban or interurban).
- Mode of transport.
- Type of area and mode of transport.
- Mode of transport and age.
- Type of user involved (driver, passenger, pedestrian).
- Driver and mode of transport.
- Rate of seat belt use among people driving cars and vans.

<sup>4</sup> Order INT/2223/2014, of 27 October, governing the communication of information to the National Register of Traffic Accident Victims.

- Rate of helmet use among motorcyclists and cyclists.
- Alcohol and drug test results.
- Driver offences.
- Pedestrian offences.

Finally, it should be noted that the analysis of the information in this section was carried out in relation to the following indicators:

- Concentration indices: refers to the vertical percentages by gender that explain the concentration of women among women, and of men among men (in the vertical % analysis tables).
- Distribution indices: this is the horizontal percentage, the ratio of men to women, which explains the comparison between the two sexes (in the horizontal % analysis tables).

## KEY FINDINGS

The results have been summarised below, taking into account the *type of user (driver, passenger or pedestrian)*, the *type of victim (killed or hospitalised due to injury/injured but not hospitalised)* and *gender*.

### VICTIMS



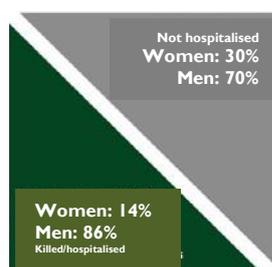
The most serious accident victims (those killed and hospitalised due to injury) were primarily men (72%). In the case of victims who were not hospitalised, 59% were men and 41% were women.

The mode of transport used by victims who were killed or hospitalised varied between the sexes: men were more likely to be travelling by motorcycle (35%) or car (28%), while women were more likely to be travelling by car (41%) or as a pedestrian (36%).

With regard to the type of user, men accounted for 86% of the total number of drivers killed or hospitalised, while women accounted for 14%. In the case of victims travelling as passengers, women represented 59% and men 41%. On foot, women accounted for 50% of the most serious victims, as did men.

For men, the percentage of victims killed/hospitalised was higher on interurban roads (56%) than urban roads (44%). In the case of women, more victims were recorded on urban roads (52%).

### DRIVERS



Among drivers, the most serious accident victims (those killed and hospitalised due to injury) were primarily men (86%), while women represented 14%. In the case of victims who were not hospitalised, 70% were men and 30% were women.

Among women, cars were the mode of transport that accounted for the highest number of victims who were killed or hospitalised (59%). Among men, it was motorcycles (45%), followed by cars (28%).

With regard to alcohol and drug consumption, and for both types of victims, the highest positivity rates were recorded among men, for both alcohol and drugs.

Women had a positivity rate of 8% for alcohol, while for men it was 21%. For drugs, the positivity rate was 8% for women and 14% for men.

As regards seat belt use, among victims who were killed/hospitalised while driving cars and vans, women wore seat belts more than men (93% compared to 83%).

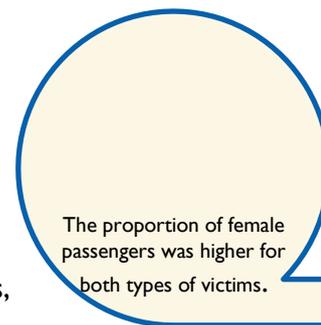
With respect to helmet use: among victims travelling on motorcycles or bicycles, the rate of helmet use was lower for women, especially among victims who were killed or hospitalised: women (86%) and men (92%).

## PASSENGERS



59% of passengers killed or hospitalised were women, compared to 41% who were men. Among victims who were not hospitalised, women accounted for 63%.

In absolute terms, more women were killed or hospitalised as passengers than as drivers, while for men, the opposite was true.



## PEDESTRIANS



Pedestrians were the type of user with the greatest balance in terms of victims by gender. In the case of persons killed or hospitalised, men and women accounted for 50% each, while for persons who were not hospitalised, the proportion of women was slightly higher (54%).

Among victims who were killed or hospitalised, women had lower offence rates than men (32% compared to 48%).

For women, the most common offence was not crossing at a pedestrian crossing, and for men, in addition to the above, it was standing or walking on the road in breach of the rules.

Presented below is a summary of the key results in table form (for all victims, drivers, passengers and pedestrians), followed by a breakdown of the results by type of variable analysed (gender, age of victims, etc.).

GENERAL INFORMATION	Victims killed or hospitalised		Not hospitalised	
	Women	Men	Women	Men
Gender	Accounted for 28%	Accounted for 72%	Accounted for 41%	Accounted for 59%
Age of victims	Between 25 and 54 years old	Between 35 and 54 years old	Between 21 and 44 years old	
Type of area	Urban	Interurban	Urban	Urban
Mode of transport	Car Pedestrian	Motorcycle Car	Car Pedestrian	Motorcycle Car
Type of user involved	Drivers: Accounted for 14% Passengers: Accounted for 59% Pedestrians: Accounted for 50%	Drivers: Accounted for 86% Passengers: Accounted for 41% Pedestrians: Accounted for 50%	Drivers: Accounted for 30% Passengers: Accounted for 63% Pedestrians: Accounted for 55%	Drivers: Accounted for 70% Passengers: Accounted for 37% Pedestrians: Accounted for 45%
Urban road and mode of transport	Pedestrian	Motorcycle Pedestrian	Car Pedestrian	Motorcycle Car
Interurban road and mode of transport	Car	Car Motorcycle	Car	Car Motorcycle
Mode of transport and age	All ages: Car Up to 17 years old and over 35: Pedestrian	All ages: Car Up to 17 years old: Pedestrian, Car Between 21 and 64 years old: Motorcycle	All ages: Car Between 21 and 64 years old: Car and Motorcycle	All ages: Car Between 21 and 64 years old: Motorcycle
Alcohol and drug test results among drivers	8% tested positive for alcohol 8% tested positive for drugs	21% tested positive for alcohol 14% tested positive for drugs	4% tested positive for alcohol 2% tested positive for drugs	11% tested positive for alcohol 5% tested positive for drugs
% of driver offences	36%	36%	20%	21%
% of pedestrian offences	32%	48%	20%	29%

## REALITY OF DRIVERS

VARIABLES ANALYSED	Victims killed or hospitalised		Not hospitalised	
	Women	Men	Women	Men
Gender	Accounted for 14%	Accounted for 86%	Accounted for 31%	Accounted for 69%
Mode of transport	Car	Motorcycle/Car	Car	Motorcycle/Car
Rate of seat belt use: CARS AND VANS	93% wore a seat belt	83% wore a seat belt	99% wore a seat belt	97% wore a seat belt
Rate of helmet use: MOTORCYCLISTS AND CYCLISTS	86% wore a helmet	92% wore a helmet	91% wore a helmet	93% wore a helmet
Alcohol and drug test results	8% tested positive for alcohol 8% tested positive for drugs	21% tested positive for alcohol 14% tested positive for drugs	4% tested positive for alcohol 2% tested positive for drugs	11% tested positive for alcohol 5% tested positive for drugs
Driver offences	Allegedly no offence in 64% of cases.	Allegedly no offence in 64% of cases.	Allegedly no offence in 80% of cases.	Allegedly no offence in 79% of cases.

23

## REALITY OF PASSENGERS

VARIABLES ANALYSED	Victims killed or hospitalised		Not hospitalised	
	Women	Men	Women	Men
Gender	Accounted for 59%	Accounted for 41%	Accounted for 63%	Accounted for 37%

## REALITY OF PEDESTRIANS

VARIABLES ANALYSED	Victims killed or hospitalised		Not hospitalised	
	Women	Men	Women	Men
Gender	Accounted for 50%	Accounted for 50%	Accounted for 54%	Accounted for 46%
Type of road	Urban		Urban	
Pedestrian offences	No offence in 68% of cases.	No offence in 52% of cases.	No offence in 80% of cases.	No offence in 71% of cases.

## GENDER

72% of victims killed or hospitalised in a traffic accident between 2015 and 2019 were men, and 28% were women. In the case of victims who were not hospitalised, 59% were men, while 41% were women.

Below is an analysis of all traffic accident victims between 2015 and 2019 according to gender and the types of victim selected (persons killed/hospitalised and persons not hospitalised). Among victims who were killed or hospitalised, the proportion of men was higher than that of women: 72% men, 28% women. However, in the case of victims who were not hospitalised, the proportion of women increased to 41%, while men represented 59%.

**Table I.**

No. of male and female traffic accident victims (totals 2015-2019)

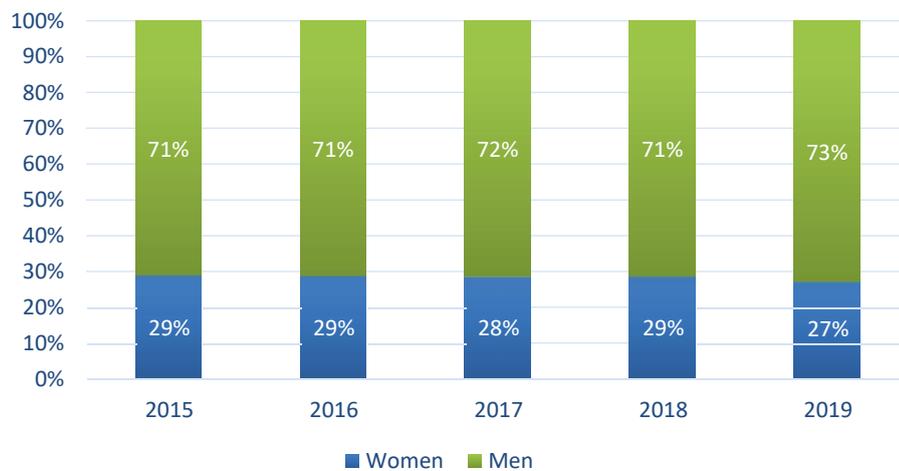
	Killed/hospitalised		Not hospitalised		Total
	Women	Men	Women	Men	
2015	3,219	7,937	51,390	73,194	135,740
2016	3,314	8,224	54,208	75,930	141,676
2017	3,230	8,111	52,843	75,886	140,070
2018	3,060	7,656	53,424	75,778	139,918
2019	2,799	7,542	52,794	77,434	140,569
<b>Total</b>	<b>15,622</b>	<b>39,470</b>	<b>264,659</b>	<b>378,222</b>	<b>697,973</b>

24

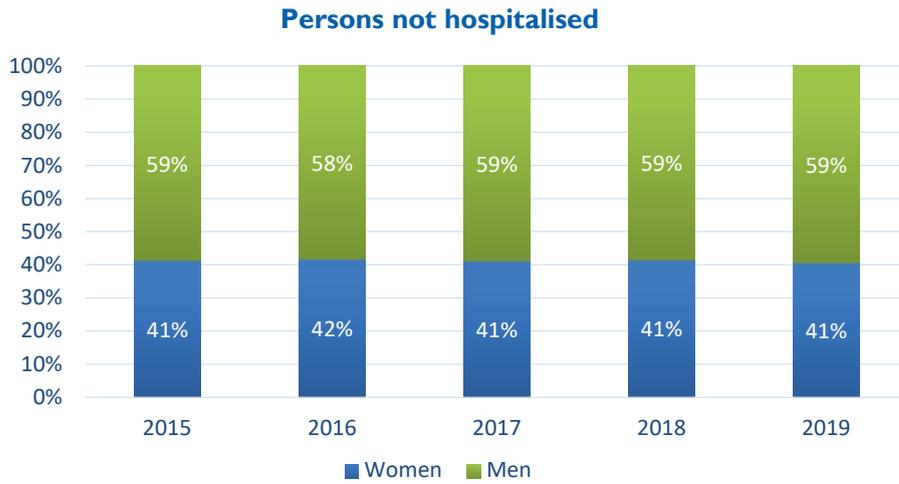
**Graph I.**

% of male and female traffic accident victims (totals 2015-2019)

### Persons killed/hospitalised



**Graph 2.**



Source: prepared by the author.

The distributions of each type of victim among men and women are shown below:

**Table 2.**

Traffic accident victims according to type and gender (vertical %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	6%	10%	6%	10%	6%	10%	5%	9%	5%	9%
Not hospitalised	94%	90%	94%	90%	94%	90%	95%	91%	95%	91%

Source: prepared by the author.

The comparison between the two sexes shows that the proportion of victims killed/hospitalised who were women fell slightly from 2015 (29%) to 2019 (27%).

**Table 3.**

Traffic accident victims according to type and gender (horizontal %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	29%	71%	29%	71%	29%	72%	29%	71%	27%	73%
Not hospitalised	41%	59%	42%	58%	41%	59%	41%	59%	41%	60%

Source: prepared by the author.

## AGE OF VICTIMS

*Among women, 55% of victims who were killed or hospitalised were between 25 and 64 years old, and among men, 56% were aged between 25 and 54.*

*In the 25-54 age bracket, the number of men who were killed/hospitalised was more than 3 times higher than that of women.*

When age is analysed (Table 4), we can see that in the 25-54 age bracket, the number of men who were killed/hospitalised was more than 3 times higher than that of women.

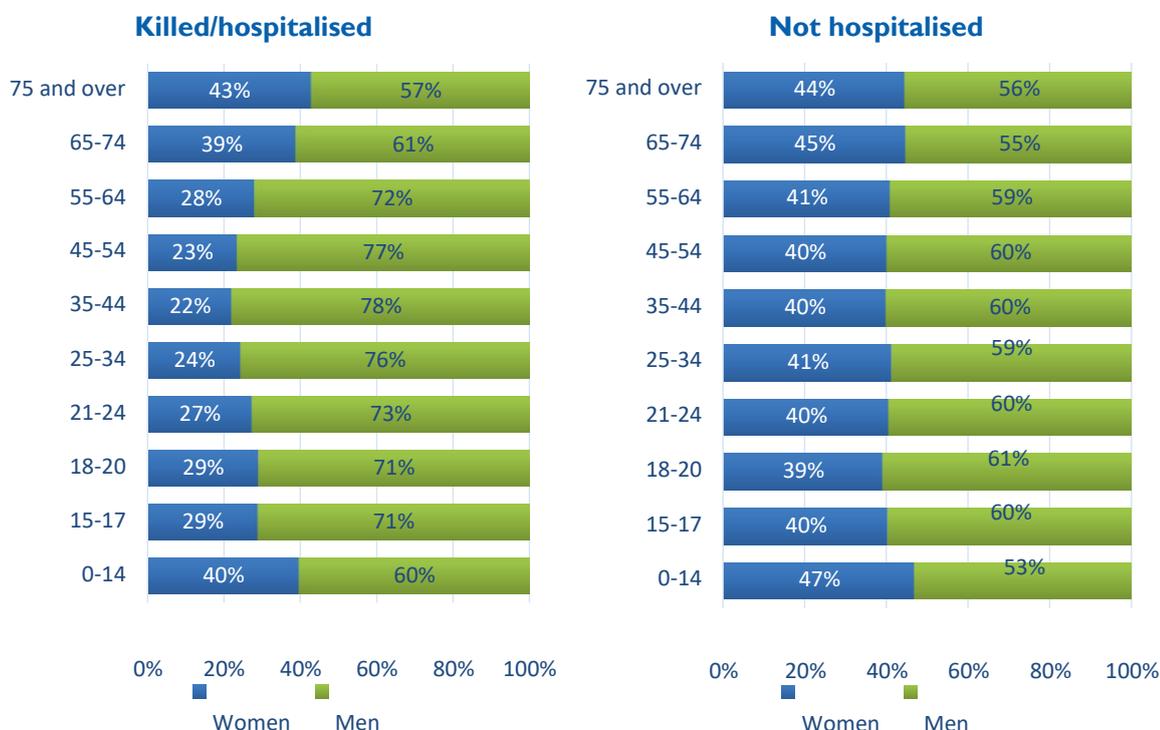
**Table 4:**  
No. of male and female traffic accident victims according to age (cumulative data 2015-2019)

Age	Killed/hospitalised		Not hospitalised		Total
	Women	Men	Women	Men	
0-14	729	1,113	14,966	17,039	33,847
15-17	429	1,060	6,944	10,296	18,729
18-20	699	1,715	14,003	21,896	38,313
21-24	964	2,572	23,049	33,897	60,482
25-34	2,198	6,852	57,247	81,628	147,925
35-44	2,150	7,645	52,346	79,153	141,294
45-54	2,243	7,355	39,992	59,925	109,515
55-64	1,894	4,889	24,522	35,534	66,839
65-74	1,898	3,003	14,447	17,929	37,277
75 and over	2,193	2,934	10,253	12,840	28,220
<b>Total</b>	<b>15,397</b>	<b>39,138</b>	<b>257,769</b>	<b>370,137</b>	<b>682,441</b>

*Note: Cases where age is not recorded in the register have not been taken into account.*

**Table 4.**

% of male and female traffic accident victims according to age (cumulative data 2015-2019)



Source: prepared by the author.

The concentration index, which measures the situation of men and women as independent groups (without comparing them to the other sex) is shown in the table below. The highest percentages of victims who were killed or hospitalised were recorded in the 25-54 age bracket for men, and the 25-54 and 75 and over age brackets for women. There were no significant differences from 2015 to 2019 in terms of age group and gender.

**Table 5.**

Victims killed/hospitalised according to age and gender (vertical %) (2015-2019)

Age	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
0-14	5%	3%	5%	3%	5%	3%	5%	3%	4%	3%
15-17	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%
18-20	4%	4%	5%	5%	5%	4%	5%	4%	5%	4%
21-24	6%	7%	7%	7%	6%	7%	6%	6%	6%	6%
25-34	15%	18%	14%	17%	15%	19%	14%	17%	14%	17%
35-44	15%	20%	14%	20%	14%	19%	14%	20%	13%	19%
45-54	14%	18%	14%	19%	15%	19%	15%	19%	15%	20%
55-64	12%	12%	12%	12%	13%	12%	12%	13%	12%	13%
65-74	12%	8%	12%	7%	12%	7%	13%	8%	12%	8%
75 and over	15%	8%	14%	8%	13%	7%	5%	3%	15%	7%

Source: prepared by the author.

With regard to victims who were not hospitalised, the highest proportion of victims were aged between 25 and 44.

**Table 6.**

Victims not hospitalised according to age and gender (vertical %) (2015-2019)

Age	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
0-14	6%	5%	6%	5%	6%	5%	6%	5%	6%	4%
15-17	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
18-20	6%	6%	6%	6%	5%	6%	5%	6%	5%	6%
21-24	10%	10%	9%	9%	9%	9%	9%	9%	9%	9%
25-34	23%	23%	23%	22%	22%	22%	22%	22%	22%	22%
35-44	20%	22%	20%	22%	20%	21%	21%	22%	20%	21%
45-54	15%	16%	15%	16%	16%	16%	16%	17%	16%	17%
55-64	9%	9%	9%	9%	10%	10%	10%	10%	10%	10%
65-74	6%	5%	5%	5%	6%	5%	6%	5%	6%	5%
75 and over	4%	4%	4%	4%	4%	4%	4%	3%	4%	4%

Source: prepared by the author.

However, when comparing the figures for the two sexes in each age group, the proportions of men and women who were killed or hospitalised were similar in the 15-64 age groups between 2015 and 2019 (women accounted for between 20% and 31% of these victims), with smaller gender differences in the 0-14, 65-74 and 75 and over age groups.

28

**Table 7.**

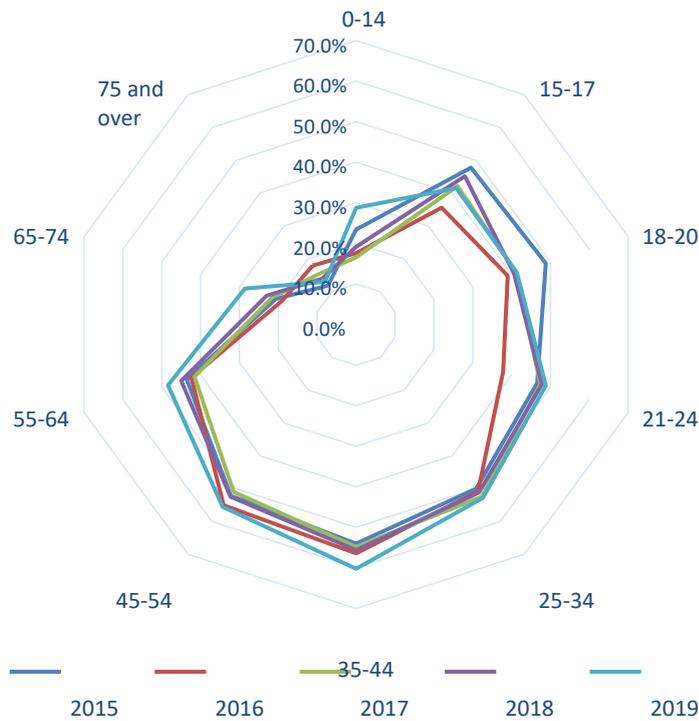
Victims killed/hospitalised according to age and gender (horizontal %) (2015-2019)

Age	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
0-14	38%	62%	41%	59%	42%	58%	40%	60%	36%	64%
15-17	26%	74%	32%	68%	29%	71%	27%	73%	29%	71%
18-20	26%	74%	31%	70%	29%	71%	30%	70%	29%	71%
21-24	27%	73%	31%	69%	26%	74%	26%	74%	26%	74%
25-34	25%	75%	25%	75%	24%	76%	24%	76%	24%	76%
35-44	23%	77%	22%	78%	23%	77%	22%	78%	20%	80%
45-54	24%	76%	23%	78%	25%	76%	24%	76%	22%	78%
55-64	28%	72%	29%	71%	29%	71%	28%	73%	26%	74%
65-74	40%	60%	41%	60%	39%	61%	39%	62%	36%	64%
75 and over	44%	56%	41%	59%	42%	58%	43%	57%	44%	57%

Source: prepared by the author.

**Graph 3.**

Percentage difference between men and women killed/hospitalised according to age (2015-2019)



Source: prepared by the author.

Among victims who were not hospitalised, the differences between the sexes were smaller, and unlike with those who were killed or hospitalised, these differences did not exceed 25%.

**Table 8.**

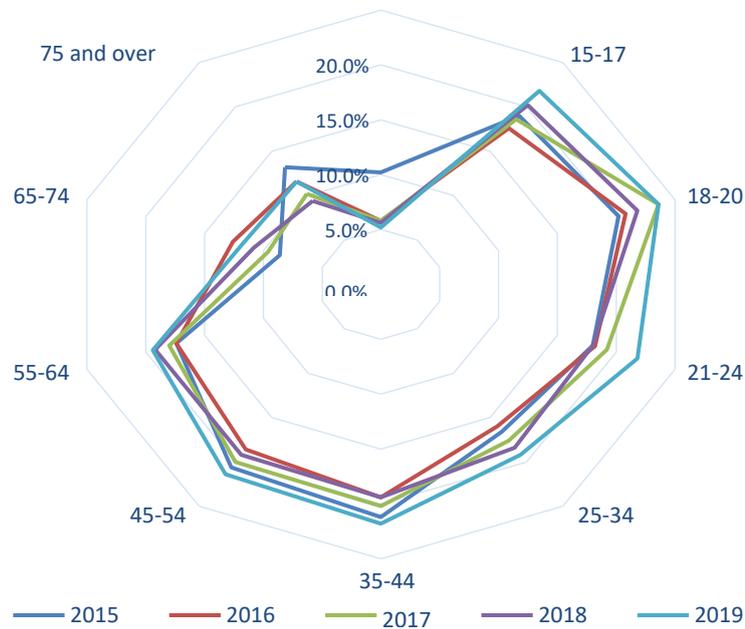
Victims not hospitalised according to age and gender (horizontal %) (2015-2019)

Age	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
0-14	45%	55%	47%	53%	47%	53%	47%	53%	47%	53%
15-17	41%	60%	41%	59%	41%	59%	40%	60%	39%	61%
18-20	40%	60%	40%	60%	38%	62%	39%	61%	38%	62%
21-24	41%	59%	41%	59%	40%	60%	41%	59%	39%	61%
25-34	42%	58%	42%	58%	41%	59%	41%	59%	40%	60%
35-44	39%	61%	40%	60%	40%	60%	40%	60%	39%	61%
45-54	40%	60%	41%	59%	40%	60%	40%	60%	39%	61%
55-64	41%	59%	41%	59%	41%	59%	40%	60%	40%	60%
65-74	46%	54%	44%	56%	45%	55%	45%	55%	44%	56%
75 and over	43%	57%	44%	56%	45%	55%	45%	55%	44%	56%

Source: prepared by the author.

**Graph 4.**

Percentage difference between men and women not hospitalised according to age (2015-2019)



Source: prepared by the author.

30

### TYPE OF AREA

*For men, the percentage of victims killed/hospitalised was higher on interurban roads (56%) than urban roads (44%). In the case of women, more victims were recorded on urban roads (52%).*

*On interurban roads, 75% of victims killed/hospitalised were men and 25% were women. On urban roads, men accounted for 68% and women represented 32%.*

**Table 9.**

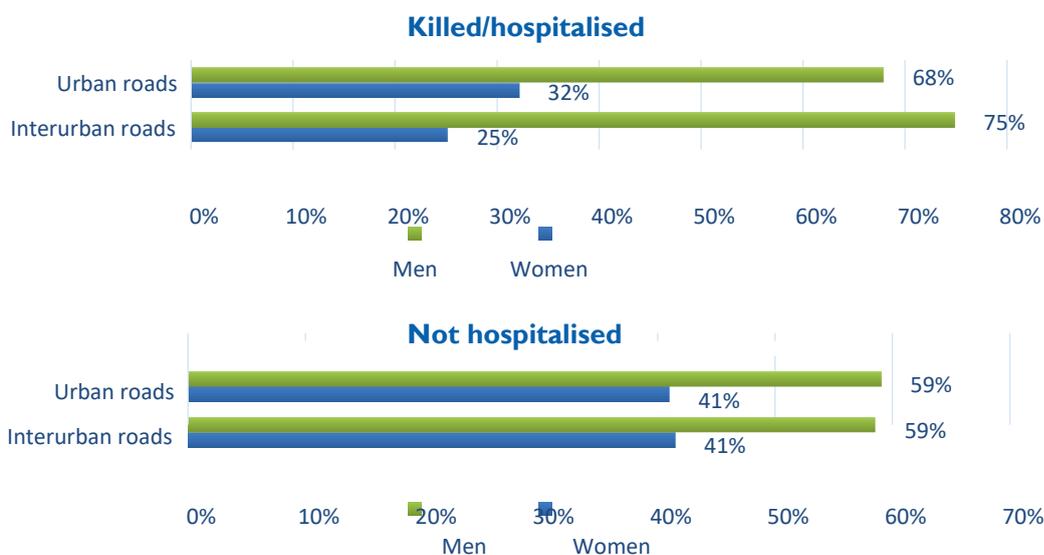
Type of area according to gender and type of victim (cumulative data 2015-2019)

Type of area	Killed/hospitalised		Not hospitalised		Total
	Women	Men	Women	Men	
Interurban	7,465	22,234	106,052	149,745	285,496
Urban	8,157	17,236	158,607	228,477	412,477
<b>Total</b>	<b>15,622</b>	<b>39,470</b>	<b>264,659</b>	<b>378,222</b>	<b>697,973</b>

Note: Cases without information on the type of area have not been taken into account.

**Graph 5.**

% distribution according to gender, type of victim and type of area



31

With regard to the concentration of men and women killed or hospitalised according to the type of area, interurban roads accounted for the highest number of male victims throughout the years.

**Table 10.**

No. of victims each year according to type of area and gender (absolute data) (2015-2019)

Killed/hospitalised	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Interurban	1,493	4,489	1,648	4,688	1,545	4,536	1,545	4,536	1,339	4,197
Urban	1,726	3,448	1,666	3,536	1,685	3,575	1,685	3,575	1,460	3,345
Total	3,219	7,937	3,314	8,224	3,230	8,111	3,230	8,111	2,799	7,542
Not hospitalised	W	M	W	M	W	M	W	M	W	M
Interurban	19,880	28,030	21,550	29,693	21,710	30,529	22,117	30,943	20,795	30,550
Urban	31,510	45,164	32,658	46,237	31,133	45,357	31,307	44,835	31,999	46,884
Total	51,390	73,194	54,208	75,930	52,843	75,886	53,424	75,778	52,794	77,434
<b>Total victims</b>	<b>54,609</b>	<b>81,131</b>	<b>57,522</b>	<b>84,154</b>	<b>56,073</b>	<b>83,997</b>	<b>56,484</b>	<b>83,434</b>	<b>55,593</b>	<b>84,976</b>

Source: prepared by the author.

In terms of persons who were killed or hospitalised, there was a higher percentage of male victims on interurban roads than urban roads, with no significant variations by year. With regard to victims who were not hospitalised, the differences between the sexes were smaller.

**Table II.**

No. of victims each year according to type of area and gender (% distribution) (2015-2019)

Killed/hospitalised	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Interurban	25%	75%	26%	74%	25%	75%	25%	75%	24%	76%
Urban	33%	67%	32%	68%	32%	68%	33%	67%	33%	67%
Not hospitalised	W	M	W	M	W	M	W	M	W	M
Interurban	42%	59%	42%	58%	42%	58%	42%	58%	41%	60%
Urban	41%	59%	41%	59%	41%	59%	41%	59%	41%	59%

Source: prepared by the author.

## MODE OF TRANSPORT

The mode of transport used by victims who were killed or hospitalised varied between the sexes: men were more likely to have an accident while travelling by motorcycle (35%) or car (28%), whereas women were more likely to have an accident while travelling by car (41%) or as a pedestrian (36%). In the case of victims who were not hospitalised, the most notable mode of transport for both sexes was the car.

Among victims who were killed or hospitalised due to injury, the proportion of men was higher for most modes of transport. Of particular note were the high percentages of male victims travelling on motorcycles (89%), bicycles (88%) and in goods vehicles (85%). On the other hand, women were the main victim on buses (63%) and accounted for 50% of victims travelling as pedestrians and 37% of those travelling in cars.

The highest percentages of women who were killed or hospitalised corresponded to those travelling in cars (41%) and on foot (36%). Among men, the highest rates corresponded to motorcycles (35%) and cars (28%). However, in the case of victims who were not hospitalised, women were more likely to be travelling by car (65%), while men were more likely to be travelling by car (44%) or motorcycle (27%).

**Table 12a.**

No. of men and women according to type of victim and mode of transport  
(cumulative data 2015-2019)

Mode of transport	Killed/hospitalised		Not hospitalised		Total
	Women	Men	Women	Men	
Pedestrian	5,582	5,677	33,332	27,957	72,548
Bicycle	449	3,228	6,002	27,187	36,866
Moped	626	2,551	11,168	25,304	39,649
Motorcycle	1,738	13,525	26,465	99,931	141,659
Car	6,380	10,985	170,098	163,459	350,922
Goods vehicle	457	2,552	8,191	26,633	37,833
Bus	207	123	7,323	3,220	10,873
<b>Total</b>	<b>15,439</b>	<b>38,641</b>	<b>262,579</b>	<b>373,691</b>	<b>690,350</b>

Note: Cases without information on the mode of transport have not been taken into account.

**Table 12b.**

% of men and women according to type of victim and mode of transport  
(cumulative data 2015-2019)

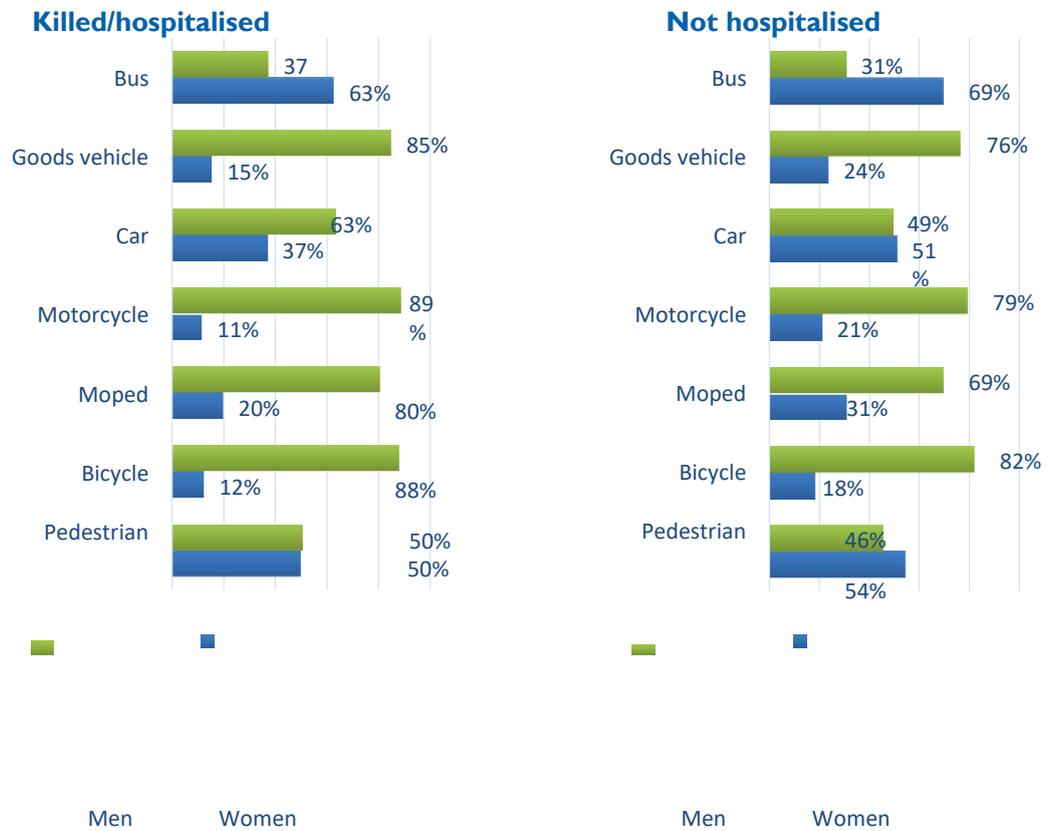
Mode of transport	Killed/hospitalised		Not hospitalised	
	Women	Men	Women	Men
Pedestrian	36%	15%	13%	8%
Bicycle	3%	8%	2%	7%
Moped	4%	7%	4%	7%
Motorcycle	11%	35%	10%	27%
Car	41%	28%	65%	44%
Goods vehicle	3%	7%	3%	7%
Bus	1%	0%	3%	1%

Note: Cases without information on the type of road have not been taken into account.

Among victims who were killed or hospitalised due to injury, the proportion of men was higher for most modes of transport. Of particular note were the high percentages of male victims travelling on motorcycles (89%), bicycles (88%) and in goods vehicles (85%). On the other hand, women were the main victim on buses (63%) and accounted for 50% of victims travelling as pedestrians and 37% of those travelling in cars.

**Graph 6.**

% distribution according to gender, type of victim and mode of transport (cumulative data 2015-2019)



Looking at the same data and their evolution year on year, we can see that for both men and women, the number of victims killed/hospitalised while travelling by car has been decreasing since 2016. There has also been a significant drop in the number of persons killed/hospitalised while travelling by moped.

34

**Table 13.**

Victims killed/hospitalised according to type of transport and gender (absolute data) (2015-2019)

Mode of transport	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	1,190	1,166	1,164	1,196	1,128	1,151	1,108	1,101	992	1,063
Bicycle	91	618	95	708	94	674	82	595	87	633
Moped	131	593	139	540	142	524	115	473	99	421
Motorcycle	365	2,561	318	2,703	347	2,786	338	2,700	370	2,775
Car	1,284	2,226	1,424	2,314	1,339	2,317	1,242	2,145	1,091	1,983
Goods vehicle	97	606	76	545	118	494	89	458	77	449
Bus	32	19	58	46	34	16	56	30	27	12

Source: prepared by the author.

**Table 14.**

Victims killed/hospitalised according to type of transport and gender (horizontal %) (2015-2019)

Mode of transport	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	51%	50%	49%	51%	50%	51%	50%	50%	48%	52%
Bicycle	13%	87%	12%	88%	12%	88%	12%	88%	12%	88%
Moped	18%	82%	21%	80%	21%	79%	20%	80%	19%	81%
Motorcycle	13%	88%	11%	90%	11%	89%	11%	89%	12%	88%
Car	37%	63%	38%	62%	37%	63%	37%	63%	36%	65%
Goods vehicle	14%	86%	12%	88%	19%	81%	16%	84%	15%	85%
Bus	63%	37%	56%	44%	68%	32%	65%	35%	69%	31%

35

**Table 15.**

Victims not hospitalised according to type of transport and gender (absolute data) (2015-2019)

Mode of transport	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	6,525	5,550	6,802	5,838	6,640	5,614	6,739	5,359	6,626	5,596
Bicycle	1,123	5,114	1,152	5,447	1,203	5,799	1,247	5,348	1,277	5,479
Moped	2,386	5,385	2,419	5,325	2,195	5,103	2,051	4,766	2,117	4,725
Motorcycle	4,624	18,042	5,174	19,171	5,266	20,063	5,558	20,927	5,843	21,728
Car	33,376	32,450	35,166	33,604	34,252	32,771	34,427	32,504	32,877	32,130
Goods vehicle	1,790	5,341	1,709	5,224	1,675	5,421	1,579	5,412	1,438	5,235
Bus	1,331	645	1,517	613	1,390	556	1,537	673	1,548	733

Source: prepared by the author.

**Table 16.**

Victims not hospitalised according to type of transport and gender (horizontal %) (2015-2019)

Mode of transport	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	54%	46%	54%	46%	54%	46%	56%	44%	54%	46%
Bicycle	18%	82%	18%	83%	17%	83%	19%	81%	19%	81%
Moped	31%	69%	31%	69%	30%	70%	30%	70%	31%	69%
Motorcycle	20%	80%	21%	79%	21%	79%	21%	79%	21%	79%
Car	51%	49%	51%	49%	51%	49%	51%	49%	51%	49%
Goods vehicle	25%	75%	25%	75%	24%	76%	23%	77%	22%	79%
Bus	67%	33%	71%	29%	71%	29%	70%	31%	68%	32%

Source: prepared by the author.

## TYPE OF USER INVOLVED

While men accounted for 86% of victims who were killed or hospitalised due to injury as drivers, women represented 59% of victims travelling as passengers and 50% of victims on

### a) Drivers

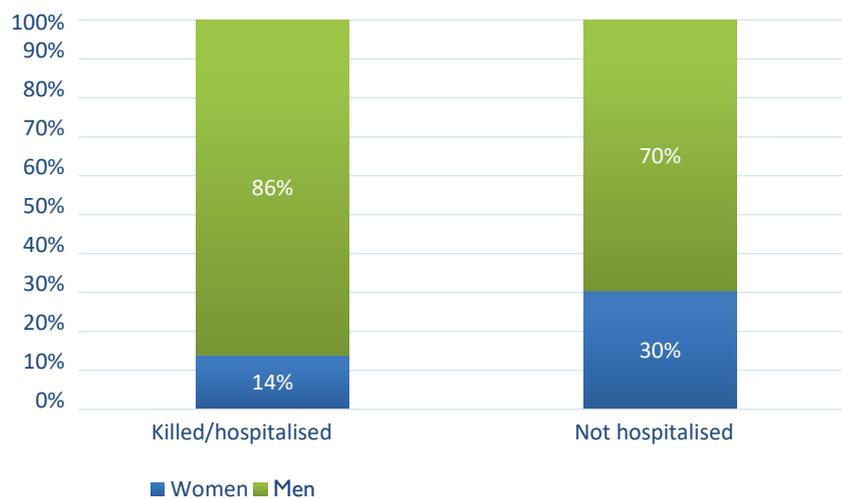
The number of men killed or hospitalised was 6 times higher than that of women; in the case of victims not hospitalised, women accounted for a third.

**Table 17.**

	Women	Men	Total
Killed/hospitalised	4,839	30,131	34,970
Not hospitalised	125,124	287,724	412,848
<b>Total</b>	<b>129,963</b>	<b>317,855</b>	<b>447,818</b>

**Graph 7.**

% of male and female drivers (cumulative data 2015-2019)



Source: prepared by the author.

**Table 18.**

**Drivers according to type and gender (vertical %) (2015-2019)**

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	4%	10%	4%	10%	4%	10%	4%	9%	4%	9%
Not hospitalised	96%	90%	96%	90%	96%	90%	97%	91%	96%	91%

Source: prepared by the author.

### b) Passengers

59% of passengers killed or hospitalised were women, a higher figure than the percentage of women in relation to the total number of victims who were killed or hospitalised (30%). With regard to non-hospitalised victims who were travelling as passengers, women accounted for 63%, compared to the 40% they represented among all victims of this severity.

More women were killed or hospitalised as passengers than as drivers, while for men, the opposite was true.

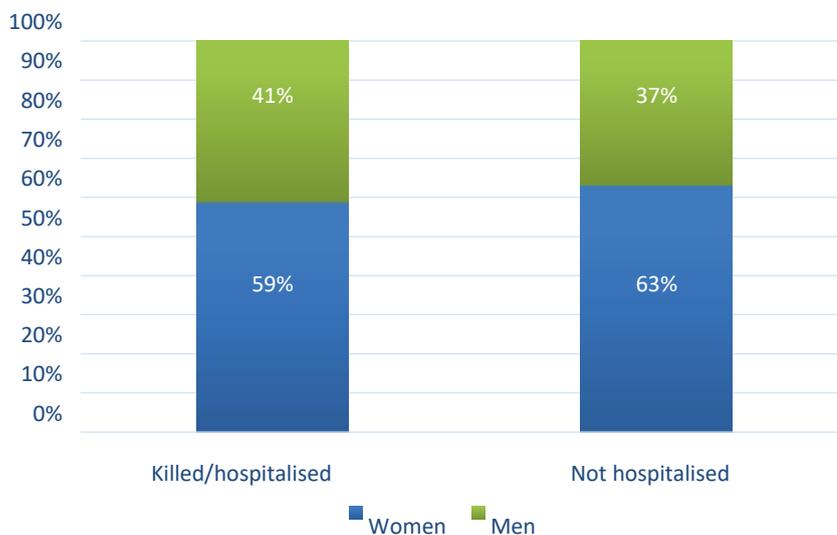
**Table 19.**

**Passengers according to type and gender (cumulative data 2015-2019)**

	Women	Men	Total
Killed/hospitalised	5,196	3,660	8,856
Not hospitalised	106,179	62,518	168,697
<b>Total</b>	<b>111,375</b>	<b>66,178</b>	<b>177,553</b>

**Graph 8.**

**% of male and female passengers (cumulative data 2015-2019)**



Source: prepared by the author.

**Table 20.**

Passengers according to type and gender (vertical %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	5%	6%	5%	6%	5%	6%	5%	5%	4%	5%
Not hospitalised	95%	94%	95%	94%	95%	94%	95%	95%	96%	95%

Source: prepared by the author.

**Table 21.**

Passengers according to type and gender (horizontal %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	57%	43%	59%	41%	59%	41%	60%	40%	59%	42%
Not hospitalised	62%	38%	63%	37%	63%	37%	63%	37%	64%	37%

Source: prepared by the author.

### c) Pedestrians

Victims travelling as pedestrians saw the greatest balance in terms of gender. In the case of persons killed or hospitalised, men and women accounted for 50% each, while for persons who were not hospitalised, the percentage of women was slightly higher (54%). The proportion of women was higher among pedestrians than among victims as a whole (drivers, passengers and pedestrians), where they accounted for 30% of persons killed or hospitalised, and 40% of those not hospitalised.

38

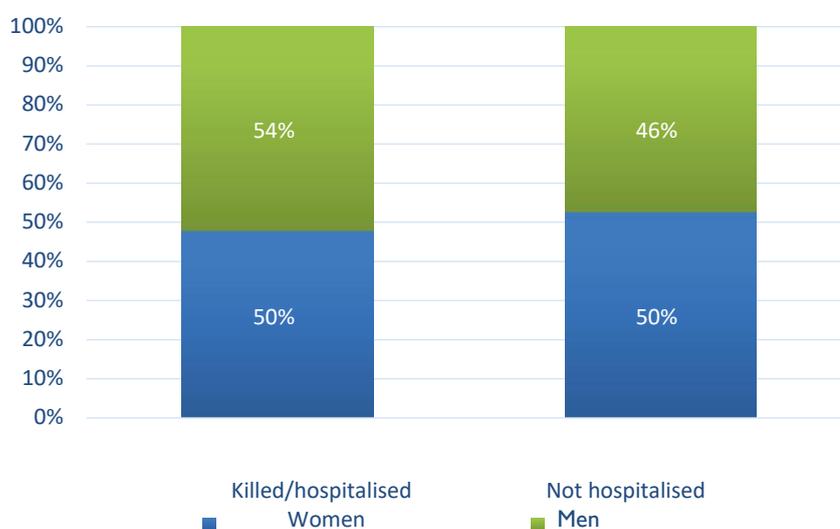
**Table 22.**

Pedestrians according to type and gender (cumulative data 2015-2019)

	Women	Men	Total
Killed/hospitalised	5,582	5,677	11,259
Not hospitalised	33,332	27,957	61,289
<b>Total</b>	<b>38,914</b>	<b>33,634</b>	<b>72,548</b>

**Graph 9.**

% of male and female pedestrians (cumulative data 2015-2018)



Looking at the year-on-year trends, there was a decrease in the proportion of victims who were killed or hospitalised for both men and women.

**Table 23.**

Pedestrians according to type and gender (vertical %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	15%	17%	15%	17%	14%	16%	14%	17%	13%	16%
Not hospitalised	85%	83%	85%	83%	86%	84%	86%	83%	87%	84%

Source: prepared by the author.

**Table 24.**

Pedestrians according to type and gender (horizontal %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	51%	50%	49%	51%	50%	51%	50%	50%	48%	52%
Not hospitalised	54%	46%	54%	46%	54%	46%	56%	44%	54%	46%

Source: prepared by the author.

## TYPE OF AREA (URBAN OR INTERURBAN) AND MODE OF TRANSPORT

On urban roads, 63% of female victims were travelling on foot, and in the case of men, 41% were travelling by motorcycle and 26% were on foot. On interurban roads, 72% of female victims were recorded as being in a car, and in the case of men, 42% were in cars and 30% were on motorcycles.

If we look at the proportion of men and women by mode of transport and type of area among victims who were killed or hospitalised, it is worth noting the following:

- On urban roads, there were high percentages of male victims travelling on motorcycles (88%), bicycles (83%) and in goods vehicles (82%). On the other hand, women were the main victim on buses (68%) and as pedestrians (53%).
- On interurban roads, the gender differences were greater with regard to bicycles (men accounted for 92% of victims), motorcycles (men accounted for 89%) and goods vehicles (men accounted for 85%). There were more female victims on buses (56%).

The following data show the relationship between the type of area (urban or interurban), the mode of transport, and the type of victim.

Looking at the number of women killed/hospitalised, it is worth noting that 63% of victims on urban roads were on foot, while on interurban roads, they were recorded as being in a car (72%). Meanwhile, in the case of men, the data show that the victims killed or hospitalised on urban roads were primarily motorcycle users (41%) and pedestrians (26%), and on interurban roads, they were car (42%) and motorcycle users (30%).

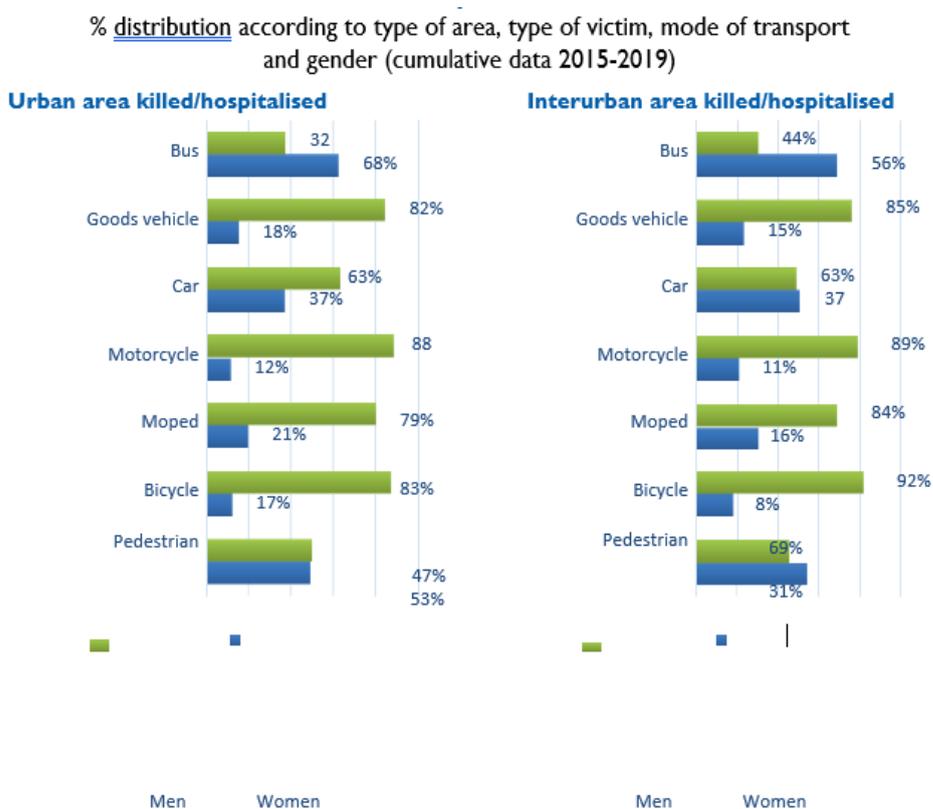
**Table 25.**

Type of area, mode of transport, victim and gender  
(cumulative absolute data 2015-2019)

	Urban				Interurban			
	Killed/hospitalised		Not hospitalised		Killed/hospitalised		Not hospitalised	
	W	M	W	M	W	M	W	M
Pedestrian	5,045	4,454	32,216	26,375	537	1,223	1,116	1,582
Bicycle	307	1,506	5,127	18,405	142	1,722	875	8,782
Moped	483	1,776	10,132	21,987	143	775	1,036	3,317
Motorcycle	943	6,945	21,605	75,701	795	6,580	4,860	24,230
Car	1,105	1,907	78,357	72,595	5,275	9,078	91,741	90,864
Goods vehicle	53	244	3,082	7,746	404	2,308	5,109	18,887
Bus	128	61	6,447	2,531	79	62	876	689

If we look at the proportion of men and women by mode of transport among victims who were killed or hospitalised, it is worth noting that on urban roads, there were high percentages of male victims travelling on motorcycles (88%), bicycles (83%) and in goods vehicles (82%). On the other hand, women were the main victim on buses (68%) and as pedestrians (53%). If we focus on interurban roads, the gender differences were greater with regard to bicycles (men accounted for 92% of victims), motorcycles (men accounted for 89%) and goods vehicles (men accounted for 85%). On these roads, the only mode of transport with more female victims was the bus (women represented 56%).

**Graph 10.**



An analysis of the evolution of the number of victims who were killed or hospitalised on interurban roads between 2015 and 2019 shows a significant drop in the number of victims on mopeds for both sexes, an increase in the number of victims on motorcycles, and a decrease in the number of victims in cars.

With regard to urban roads, there has been a decrease in the number of victims on foot, on mopeds and in cars for both sexes, and an increase in the number of male victims on bicycles and motorcycles.

**Table 26.**

No. of persons killed/hospitalised on interurban roads according to gender and type of transport (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	112	241	129	277	96	229	88	251	112	225
Bicycle	32	338	25	371	33	354	21	318	31	341
Moped	32	194	37	156	29	163	27	145	18	117
Motorcycle	163	1,264	146	1,302	152	1,347	155	1,315	179	1,352
Car	1,051	1,812	1,180	1,946	1,110	1,900	1,023	1,756	911	1,664
Goods vehicle	88	539	69	494	100	447	80	419	67	409
Bus	1	4	41	30	7	3	26	23	4	2

Source: prepared by the author.

**Table 27.**

No. of persons killed/hospitalised on urban roads according to gender and type of transport (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	1,078	925	1,035	919	1,032	922	1,020	850	880	838
Bicycle	59	280	70	337	61	320	61	277	56	292
Moped	99	399	102	384	113	361	88	328	81	304
Motorcycle	202	1,297	172	1,401	195	1,439	183	1,385	191	1,423
Car	233	414	244	368	229	417	219	389	180	319
Goods vehicle	9	67	7	51	18	47	9	39	10	40
Bus	31	15	17	16	27	13	30	7	23	10

Source: prepared by the author.

With respect to victims who were not hospitalised, there has been an increase in both male and female victims on interurban roads since 2015 for all modes of transport, except mopeds, which have seen a decrease in victims, and buses, which have not seen any notable changes.

On urban roads, the number of non-hospitalised victims on motorcycles increased for both sexes between 2015 and 2019, while the number of victims in cars and on mopeds decreased.

**Table 28.**

No. of persons not hospitalised on interurban roads according to gender and type of transport (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	196	286	214	302	252	339	231	317	223	338
Bicycle	154	1,648	158	1,624	180	1,892	182	1,780	201	1,838
Moped	218	673	246	697	228	681	174	646	170	620
Motorcycle	875	4,267	928	4,607	1,000	4,952	1,027	5,091	1,030	5,313
Car	17,124	17,037	18,724	18,373	18,721	18,446	19,167	18,686	18,005	18,322
Goods vehicle	1,079	3,674	1,014	3,675	1,062	3,846	1,039	3,957	915	3,735
Bus	150	129	183	131	175	113	213	193	155	123

Source: prepared by the author.

**Table 29.**

No. of persons not hospitalised on urban roads according to gender and type of transport (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	6,329	5,264	6,588	5,536	6,388	5,275	6,508	5,042	6,403	5,258
Bicycle	969	3,466	994	3,823	1,023	3,907	1,065	3,568	1,076	3,641
Moped	2,168	4,712	2,173	4,628	1,967	4,422	1,877	4,120	1,947	4,105
Motorcycle	3,749	13,775	4,246	14,564	4,266	15,111	4,531	15,836	4,813	16,415
Car	16,252	15,413	16,442	15,231	15,531	14,325	15,260	13,818	14,872	13,808
Goods vehicle	711	1,667	695	1,549	613	1,575	540	1,455	523	1,500
Bus	1,181	516	1,334	482	1,215	443	1,324	480	1,393	610

Source: prepared by the author.

The following data reflect information that supports the above. However, data on victims who were killed/hospitalised while travelling by bus show a higher proportion of female victims in both types of area.

**Table 30.**

% of persons killed/hospitalised on interurban roads according to gender and type of transport (horizontal %)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	32%	68%	32%	68%	30%	71%	26%	74%	33%	67%
Bicycle	9%	91%	6%	94%	9%	92%	6%	94%	8%	92%
Moped	14%	86%	19%	81%	15%	85%	16%	84%	13%	87%
Motorcycle	11%	89%	10%	90%	10%	90%	11%	90%	12%	88%
Car	37%	63%	38%	62%	37%	63%	37%	63%	35%	65%
Goods vehicle	14%	86%	12%	88%	18%	82%	16%	84%	14%	86%
Bus	20%	80%	58%	42%	70%	30%	53%	47%	67%	33%

Source: prepared by the author.

**Table 31.**

% of persons killed/hospitalised on urban roads according to gender and type of transport (horizontal %)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	54%	46%	53%	47%	53%	47%	55%	46%	51%	49%
Bicycle	17%	83%	17%	83%	16%	84%	18%	82%	16%	84%
Moped	20%	80%	21%	79%	24%	76%	21%	79%	21%	79%
Motorcycle	14%	87%	11%	89%	12%	88%	12%	88%	12%	88%
Car	36%	64%	40%	60%	35%	65%	36%	64%	36%	64%
Goods vehicle	12%	88%	12%	88%	28%	72%	19%	81%	20%	80%
Bus	67%	33%	52%	49%	68%	33%	81%	19%	70%	30%

Source: prepared by the author.

In the case of non-hospitalised victims on interurban roads, the greatest differences between the sexes over these years occurred when the mode of transport involved was a bicycle (9 out of 10 victims were men), motorcycle or moped (nearly 8 in 10 victims were men). Buses and cars saw a greater balance in terms of gender.

**Table 32.**

% of persons not hospitalised on interurban roads according to gender and type of transport (horizontal %)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	41%	59%	42%	59%	43%	57%	42%	58%	40%	60%
Bicycle	9%	92%	9%	91%	9%	91%	9%	91%	10%	90%
Moped	25%	76%	26%	74%	25%	75%	21%	79%	22%	79%
Motorcycle	17%	83%	17%	83%	17%	83%	17%	83%	16%	84%
Car	50%	50%	51%	50%	50%	50%	51%	49%	50%	50%
Goods vehicle	23%	77%	22%	78%	22%	78%	21%	79%	20%	80%
Bus	54%	46%	58%	42%	61%	39%	53%	48%	56%	44%

Source: prepared by the author.

With regard to non-hospitalised victims on urban roads, pedestrians and cars saw the greatest balance between the sexes, while the data show that there was a higher proportion of female victims on buses (as with victims who were killed/hospitalised), and the proportion of men was higher for all other modes of transport.

**Table 33.**

% of persons not hospitalised on urban roads according to gender and type of transport (horizontal %)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	55%	45%	54%	46%	55%	45%	56%	44%	55%	45%
Bicycle	22%	78%	21%	79%	21%	79%	23%	77%	23%	77%
Moped	32%	69%	32%	68%	31%	69%	31%	69%	32%	68%
Motorcycle	21%	79%	23%	77%	22%	78%	22%	78%	23%	77%
Car	51%	49%	52%	48%	52%	48%	53%	48%	52%	48%
Goods vehicle	30%	70%	31%	69%	28%	72%	27%	73%	26%	74%
Bus	70%	30%	74%	27%	73%	27%	73%	27%	70%	31%

Source: prepared by the author.

## MODE OF TRANSPORT AND AGE

Among persons up to 17 and over 64 years of age, the number of pedestrian victims was higher than that of car users for both sexes. However, among people aged 21 to 64, victims travelling by car predominated, except in the case of men, where motorcycles accounted for the greatest number of victims.

Regarding victims who were killed or hospitalised, it is worth noting the following:

- Among pedestrians, the percentage of female victims increased with age, rising from 40% among minors up to 17 years old to 54% among those over 64.
- Among cyclists and motorcyclists, male victims predominated in all age brackets, with the highest figures being in the 35-64 age bracket (men accounted for 89% of victims travelling by bicycle and 90% of those travelling by motorcycle) and the 64 and over age bracket (94% of victims on bicycles and 96% of those on motorcycles).

With regard to victims who were killed or hospitalised, and in absolute terms, cars were the most common mode of transport involved in accidents for both men and women in general. However, in the up to 17 and over 64 age brackets, the number of pedestrian victims was higher than that of car users for both men and women, and among men aged 21 to 64, motorcycles accounted for the greatest number of victims.

**Table 34.**  
Persons killed/hospitalised according to gender and mode of transport  
(cumulative data 2015-2019)

	Up to 17 years old		18-20		21-34		35-64		65 or older	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	496	739	142	163	472	559	1,864	1,926	2,520	2,188
Bus	1	2	8	1	31	14	64	47	100	56
Bicycle	46	269	30	92	102	406	233	1,858	36	559
Moped	96	434	59	262	162	629	277	905	22	301
Motorcycle	47	215	68	360	649	3,989	922	8,392	23	500
Car	424	435	365	766	1,604	3,161	2,654	4,633	1,253	1,913
Goods vehicle	30	42	20	34	92	478	213	1,742	92	246

Source: prepared by the author.

The number of non-hospitalised victims travelling by bicycle, moped, motorcycle and goods vehicle was far higher for men than women in all age brackets. Women outnumbered men as victims travelling by bus or on foot from the age of 21 onwards, and as victims travelling by car in the following age brackets: up to 17 years old, 21 to 34 years old, and 35 to 64 years old.

**Table 35.**

Persons not hospitalised according to gender and mode of transport  
(cumulative data 2015-2019)

	Up to 17 years old		18-20		21-34		35-64		65 or older	
	W	M	W	M	W	M	W	M	W	M
Pedestrian	4,787	5,888	1,360	1,097	5,147	3,943	12,617	9,404	8,393	6,594
Bus	346	274	141	80	855	377	3,291	1,389	2,364	983
Bicycle	546	3,029	387	1,484	2,103	5,845	2,665	13,646	185	2,325
Moped	1,374	3,614	1,299	3,748	4,251	9,024	3,867	7,205	106	1,340
Motorcycle	785	1,862	1,001	3,033	11,222	35,628	12,740	55,263	191	2,675
Car	13,157	11,492	9,356	11,498	54,023	52,736	76,635	69,177	12,633	14,761
Goods vehicle	728	862	342	712	2,045	6,683	4,179	16,429	632	1,585

47

Source: prepared by the author.

## DRIVERS AND MODE OF TRANSPORT

*Men accounted for 75% of victims who were killed/hospitalised as drivers (women represented 25%). Among women, cars were the mode of transport that accounted for the highest number of victims who were killed or hospitalised (59%). Among men, it was motorcycles (45%), followed by cars (28%).*

Below are the absolute and cumulative data for drivers in the period 2015-2019 according to the two types of victims. Of particular note are the differences between the two sexes among persons driving any type of vehicle. Among women, cars were the mode of transport that accounted for the highest number of victims who were killed or hospitalised (59%). Among men, it was motorcycles (45%), followed by cars (28%).

**Table 36.**

No. of drivers killed/hospitalised and not hospitalised according to gender and type of transport (2015-2019)

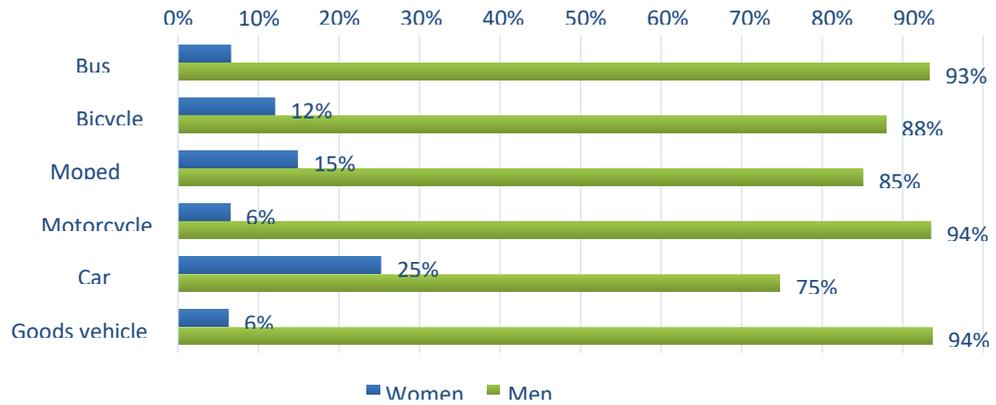
	Killed/hospitalised		Not hospitalised	
	W	M	W	M
Bus	2	28	79	549
Bicycle	442	3,223	5,881	26,992
Moped	424	2,418	8,631	23,723
Motorcycle	922	13,281	17,597	97,037
Car	2,824	8,361	88,678	115,349
Goods vehicle	139	2,068	3,035	20,173

Source: prepared by the author.

The proportion of men who were killed or hospitalised while driving cars was 75%. For the other modes of transport, the gender imbalance increased as the proportion of male drivers who were victims rose, reaching its highest level for motorcycles and goods vehicles (94% respectively).

**Graph 11.**

% distribution of drivers killed/hospitalised according to mode of transport and gender

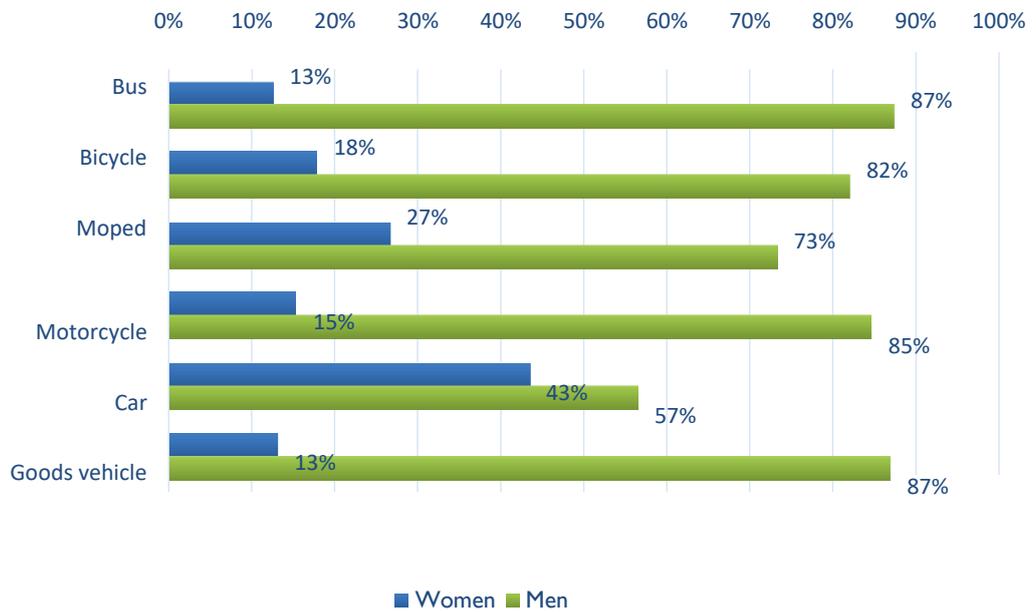


Source: prepared by the author.

48

**Graph 12.**

% distribution of drivers not hospitalised according to mode of transport and gender



Source: prepared by the author.

Looking at the trend over time (2015-2019), among women and for both types of victims, the proportion of car drivers who were victims decreased, while the proportion of motorcyclists increased. Among men, the proportion of motorcycle victims increased.

**Table 37.**

% concentration of drivers killed/hospitalised according to gender and type of transport (vertical %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Bus	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bicycle	9%	11%	9%	12%	10%	11%	9%	10%	10%	11%
Moped	9%	10%	9%	8%	10%	8%	9%	8%	8%	7%
Motorcycle	19%	43%	17%	44%	19%	45%	19%	46%	24%	48%
Car	61%	29%	64%	29%	58%	29%	59%	29%	55%	27%
Goods vehicle	2%	8%	2%	7%	4%	7%	4%	7%	3%	7%

Source: prepared by the author.

**Table 38.**

% concentration of drivers not hospitalised according to gender and type of transport (vertical %) (2015-2019)

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Bus	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bicycle	5%	9%	5%	10%	5%	10%	5%	9%	5%	9%
Moped	8%	9%	7%	9%	7%	8%	6%	8%	7%	8%
Motorcycle	13%	32%	14%	33%	14%	34%	15%	35%	16%	36%
Car	72%	41%	72%	42%	72%	40%	72%	40%	70%	40%
Goods vehicle	3%	7%	3%	7%	3%	7%	2%	7%	2%	7%

Source: prepared by the author.

## RATE OF SEAT BELT USE AMONG PEOPLE DRIVING CARS AND VANS

Women were more likely to have been wearing a seat belt across both types of victims: 93% of women who were killed or hospitalised and 99% of women who were not hospitalised had been wearing a seat belt, compared to 83% and 97% of men, respectively.

The data shown below refer to the rate of seat belt use specifically among victims who were drivers of cars or vans.

Firstly, data from 2015 to 2019 show that victims who were killed/hospitalised were less likely to have been wearing a seat belt than those who were not hospitalised. As regards gender, men who were killed/hospitalised had a lower rate of seat belt use (83%) than women (93%). Meanwhile, women who were not hospitalised had a higher rate of use than men, reaching 99% in 2019.

**Table 39.**

Rate of seat belt use among car and van drivers killed/hospitalised according to gender (2015-2019).

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	94%	83%	93%	84%	92%	82%	92%	83%	95%	83%
Total	556	1,510	579	1,592	518	1,582	497	1,485	434	1,360
Not hospitalised	99%	96%	99%	97%	99%	97%	99%	97%	99%	97%
Total	13,720	17,709	14,554	18,981	14,588	18,624	14,969	18,925	13,950	18,077

Note: Only cases in which it was known whether a seat belt was worn were considered when calculating the rates of seat belt use. Source: prepared by the author.

## RATE OF HELMET USE AMONG MOTORCYCLISTS, MOPED RIDERS AND CYCLISTS

Among victims who were riding a motorcycle, moped or bicycle, the rate of helmet use was lower for women, especially among victims who were killed or hospitalised: women (86%) and men (92%).

50

Among motorcyclists, moped riders and cyclists involved in accidents, the data show that men had a higher rate of helmet use than women.

Looking at the evolution of the data, the rate of helmet use has increased in recent years for both sexes and types of victims. Among victims who were killed or hospitalised, the rate of use for men rose from 91% in 2015 to 93% in 2019, and for women it rose from 87% to 89%.

**Table 40.**

Rate of helmet use among motorcyclists and cyclists killed/hospitalised according to gender (2015-2019).

	2015		2016		2017		2018		2019	
	W	M	W	M	W	M	W	M	W	M
Killed/hospitalised	87%	91%	84%	92%	86%	93%	83%	91%	89%	93%
Total	321	3,341	289	3,457	313	3,562	281	3,315	306	3,279
Not hospitalised	91%	93%	91%	92%	90%	92%	90%	93%	93%	95%
Total	4,621	22,565	5,189	24,324	5,102	25,046	5,161	24,895	4,913	23,868

Note: Only cases in which it was known whether a helmet was worn were considered when calculating the rates of helmet use. Source: prepared by the author.

## ALCOHOL AND DRUG TEST RESULTS AMONG DRIVERS

Women had a lower positivity rate than men behind the wheel, both with regard to alcohol tests (among victims killed or hospitalised: 8% for women and 21% for men) and drug tests (among victims killed or hospitalised: 8% for women and 14% for men).

For both men and women, drug and alcohol positivity rates were higher among victims who were killed/hospitalised than among those who were not hospitalised.

Set out below are the data on alcohol and drug test results for drivers who were victims of traffic accidents between 2016 and 2019.

51

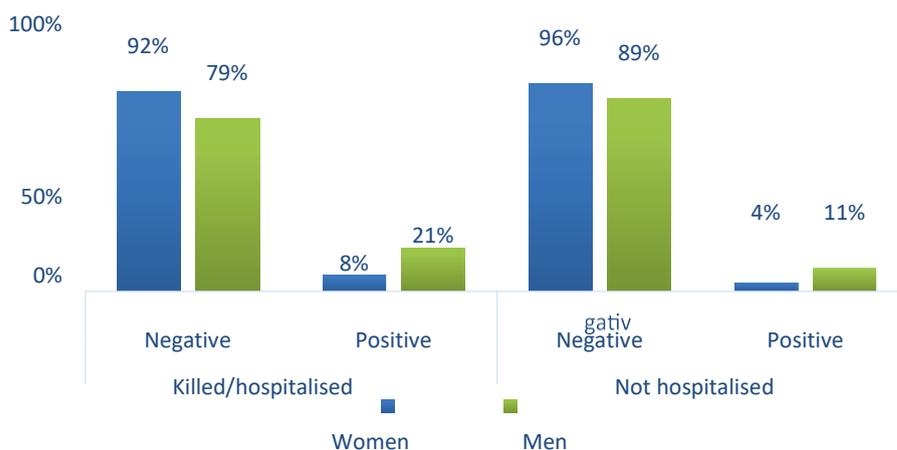
### ALCOHOL TEST RESULTS

With regard to alcohol test data for drivers involved in accidents, we can see that:

- Among both types of victims, women had lower alcohol test positivity rates.
- Among victims who were killed/hospitalised, the positivity rate for women was lower than that for men (8% for women and 21% for men). Furthermore, the evolution of the data shows that the alcohol positivity rate for women is decreasing, having fallen from 11% in 2016 to 6% in 2019. Among men, the alcohol positivity rate remained above 21%.
- Among victims who were not hospitalised, the positivity rates by gender were lower, and the percentages of positive cases among women were also lower than among men.

**Graph 13.**

Alcohol test results among drivers according to type of victim and gender (cumulative data 2016-2019)



**Table 41.**

Alcohol test results among drivers killed/hospitalised according to gender (absolute data 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	167	1,004	187	1,132	220	1,154	189	1,167
Positive	20	283	16	302	15	262	11	326
<b>Total</b>	<b>187</b>	<b>1,287</b>	<b>203</b>	<b>1,434</b>	<b>235</b>	<b>1,416</b>	<b>200</b>	<b>1,493</b>

Note: Only cases in which there is documented evidence have been considered.

Source: prepared by the author.

**Table 42.**

Alcohol test results among drivers killed/hospitalised according to gender % (2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	89%	78%	92%	79%	94%	82%	95%	78%
Positive	11%	22%	8%	21%	6%	19%	6%	22%
<b>Total</b>	<b>187</b>	<b>1,287</b>	<b>203</b>	<b>1,434</b>	<b>235</b>	<b>1,416</b>	<b>200</b>	<b>1,493</b>

Note: Only cases in which there is documented evidence were considered when calculating the alcohol test result percentages.

Source: prepared by the author.

**Table 43.**

Alcohol test results among drivers not hospitalised according to gender (absolute data 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	5,096	10,558	5,383	11,460	6,033	12,559	6,258	13,379
Positive	195	1,312	197	1,354	231	1,452	288	1,664
<b>Total</b>	<b>5,291</b>	<b>11,870</b>	<b>5,580</b>	<b>12,814</b>	<b>6,264</b>	<b>14,011</b>	<b>6,546</b>	<b>15,043</b>

Note: Only cases in which there is documented evidence have been considered.

Source: prepared by the author.

**Table 44.**

Alcohol test results among drivers not hospitalised according to gender % (2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	96%	89%	97%	89%	96%	90%	96%	89%
Positive	4%	11%	4%	11%	4%	10%	4%	11%
<b>Total</b>	<b>5,291</b>	<b>11,870</b>	<b>5,580</b>	<b>12,814</b>	<b>6,264</b>	<b>14,011</b>	<b>6,546</b>	<b>15,043</b>

Note: Only cases in which there is documented evidence were considered when calculating the alcohol test result percentages.

Source: prepared by the author.

## DRUG TEST RESULTS

As with the data on alcohol, for drug tests, women had lower positivity rates than men behind the wheel with regard to both types of victims.

Among victims who were killed or hospitalised, 8% of women tested positive for drugs, compared to 14% of men. Among these victims, the proportion of women who tested positive has remained stable since 2016, while the percentage of men who tested positive has increased (rising from 12% in 2016 to 16% in 2019).

Among victims who were not hospitalised, the proportion of women rose slightly (from 1% in 2016 to 2% in 2019), while the proportion of men increased to a greater degree (going from 2% in 2016 to 6% in 2019).

**Graph 14.**

Drug test results among drivers according to type of victim and gender (2016-2019)



**Table 45.**

Drug test results among drivers killed/hospitalised according to gender (absolute data 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	115	882	133	1004	172	1103	121	1012
Positive	10	122	10	148	15	188	10	187
<b>Total</b>	<b>125</b>	<b>1,004</b>	<b>143</b>	<b>1,152</b>	<b>187</b>	<b>1,291</b>	<b>131</b>	<b>1,199</b>

Note: Only cases in which there is documented evidence have been considered.

Source: prepared by the author.

**Table 46.**

Drug test results among drivers killed/hospitalised according to gender (% 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	92%	88%	93%	87%	92%	85%	92%	84%
Positive	8%	12%	7%	13%	8%	15%	8%	16%
<b>Total</b>	<b>125</b>	<b>1,004</b>	<b>143</b>	<b>1,152</b>	<b>187</b>	<b>1,291</b>	<b>131</b>	<b>1,199</b>

Note: Only cases in which there is documented evidence were considered when calculating the drug test result percentages.

Source: prepared by the author.

**Table 47.**

Drug test results among drivers not hospitalised according to gender (absolute data 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	1,989	4,904	2,013	5,157	2,545	6,798	2,379	6,451
Positive	16	110	26	205	68	471	44	388
<b>Total</b>	<b>2,005</b>	<b>5,014</b>	<b>2,039</b>	<b>5,362</b>	<b>2,613</b>	<b>7,269</b>	<b>2,423</b>	<b>6,839</b>

Note: Only cases in which there is documented evidence have been considered.

Source: prepared by the author.

**Table 48.**

Drug test results among drivers not hospitalised according to gender (% 2016-2019)

	2016		2017		2018		2019	
	W	M	W	M	W	M	W	M
Negative	99%	98%	99%	96%	97%	94%	98%	94%
Positive	1%	2%	1%	4%	3%	7%	2%	6%
<b>Total</b>	<b>2,005</b>	<b>5,014</b>	<b>2,039</b>	<b>5,362</b>	<b>2,613</b>	<b>7,269</b>	<b>2,423</b>	<b>6,839</b>

Note: Only cases in which there is documented evidence were considered when calculating the drug test result percentages.

Source: prepared by the author.

## DRIVER OFFENCES

*Male drivers had a similar proportion of offences to women among victims who were killed or hospitalised, and a slightly higher proportion of offences among victims who were not hospitalised.*

Below are the data on offences committed by drivers who were victims of traffic accidents.

Male drivers committed a higher number of offences than female drivers in terms of both victims who were killed or hospitalised and those who were not hospitalised. However, men and women had a similar proportion of offences among victims who were killed or hospitalised, and men had a slightly higher proportion of offences than women among victims who were not hospitalised.

Among women, the most common offence committed by victims who were killed or hospitalised was *partially encroaching on the oncoming lane* (11%), and the most common offences committed by victims who were not hospitalised were *failing to maintain a safety gap* (8%) and *failing to observe another priority regulation* (5%).

Among men, the most common offence committed by victims who were killed or hospitalised was once again *partially encroaching on the oncoming lane* (9%), and the most common offence committed by victims who were not hospitalised was *failing to maintain a safety gap* (7%). **55**

**Table 49.**  
Driver offences according to type of victim and gender  
(cumulative data 2015-2019)

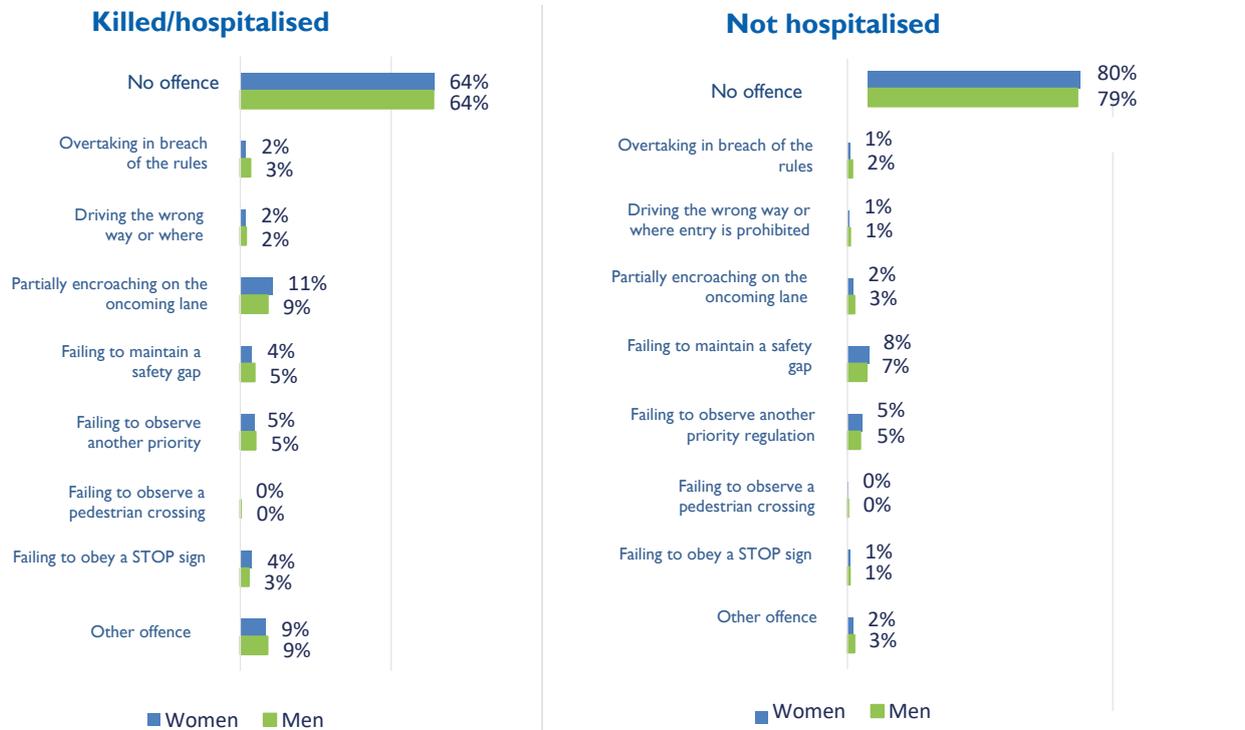
	Killed/hospitalised		Not hospitalised	
	W	M	W	M
No offence	2,084	12,041	59,579	127,660
Overtaking in breach of the rules	62	622	593	2,907
Driving the wrong way or where entry is prohibited	54	353	476	1,614
Partially encroaching on the oncoming lane	349	1,718	1,541	4,251
Failing to maintain a safety gap	123	886	5,888	11,501
Failing to observe another priority regulation	161	949	4,093	7,724
Failing to observe a pedestrian crossing	10	44	157	472
Failing to obey a STOP sign	122	526	702	1,535
Other offence	279	1,694	1,536	4,236

Note: Only cases in which it is known whether an offence was committed are included.

Source: prepared by the author.

**Graph 15.**

Driver offences according to type of victim and gender (% concentration 2015-2019)



## PEDESTRIAN OFFENCES

*Among victims who were killed or hospitalised, women had lower offence rates than men (32% compared to 48%).*

*Among victims who were killed or hospitalised, the most common offence was not crossing at a pedestrian crossing (16% for women, 20% for men).*

With regard to pedestrian offences, we can see that, as in the case of drivers, higher offence rates were recorded among victims who were killed or hospitalised (32% for women and 48% for men) than among those who were not hospitalised (20% for women and 29% for men), with the rates for women being lower than those for men.

Among victims who were killed or hospitalised, the most common offence was not crossing at a pedestrian crossing (16% for women, 20% for men). In second place for women was ignoring traffic lights (6%), and for men it was standing or walking on the road in breach of the rules (15%).

Among victims who were not hospitalised, only 20% of women and 29% of men had committed an offence. The most common offence for both sexes was not crossing at a pedestrian crossing.

**Table 50.**

**Pedestrian offences according to type of victim and gender  
(cumulative data 2015-2019)**

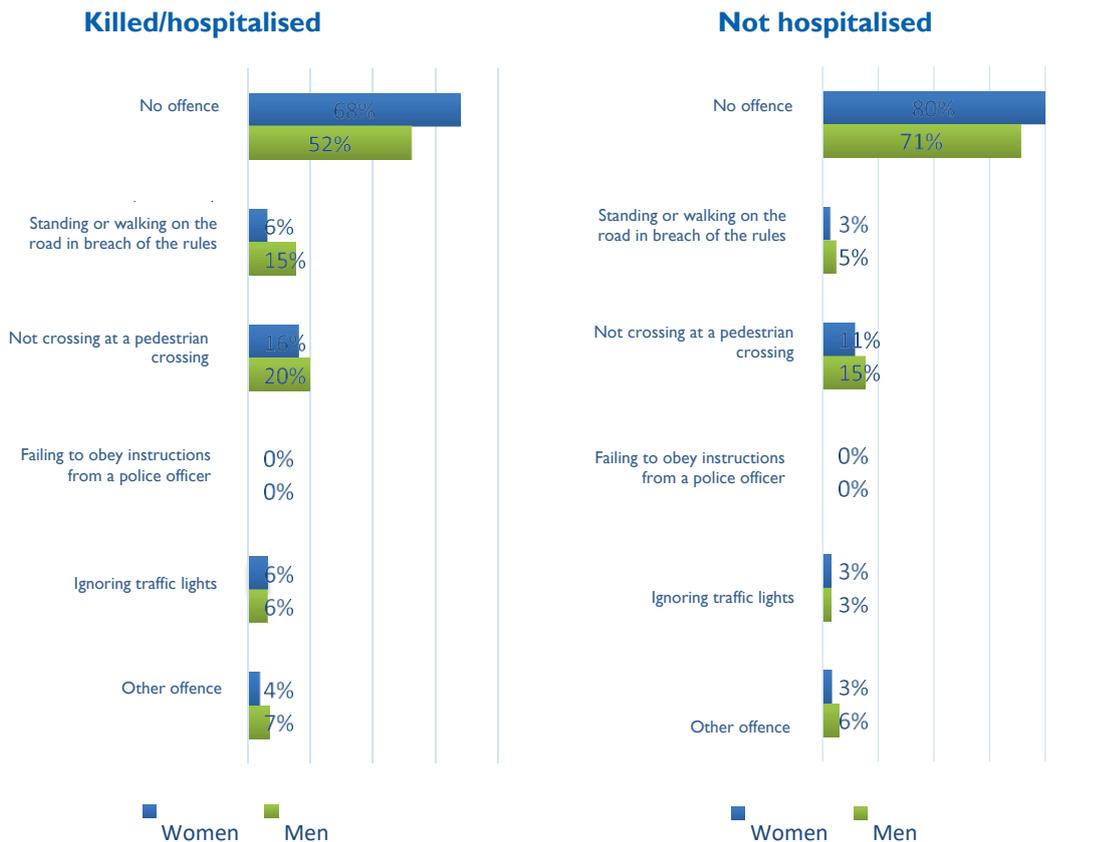
	Killed/hospitalised		Not hospitalised	
	W	M	W	M
No offence	2,677	2,154	17,007	12,356
Standing or walking on the road in breach of the rules	237	627	550	806
Not crossing at a pedestrian crossing	632	812	2,417	2,632
Failing to obey instructions from a police officer	2	2	7	6
Ignoring traffic lights	242	240	623	527
Other offence	147	286	663	1,033

Note: Only cases in which it is known whether an offence was committed are included.

Source: prepared by the author.

**Graph 16.**

**Pedestrian offences according to type of victim and gender (% concentration 2015-2019)**





# 5

## Recommendations

Set out below are a series of actions, strategies and recommendations that have emerged from the literature review and the results of the descriptive analysis.

These actions have been divided into areas of work or intervention:



- Education
- Road safety education and training
- Campaigns
- Research
- Public policies



## Education

This section includes proposals that are more closely linked to changing values and changing the models of what it is to be a man or a woman, which are constructed from birth through different socialising agents, including the family and educational environment.

- Develop education materials and programmes/workshops that challenge certain representations of the concept of *masculinity* as synonymous with risk-oriented behaviours (not respectful of rules, taste for danger, etc.), both in educational settings and informal spaces for young men. Working with Leisure Centres would be a good opportunity. It would also be a good idea to take advantage of parties, concerts, etc.
- Develop awareness programmes aimed specifically at groups of men, which rethink the model of “*masculinity*” as synonymous with risk-oriented behaviours and look at its negative impact on the roads. These programmes could be implemented in business or work environments, or as part of occupational risk prevention programmes.
- Work with teenagers and young adults to identify and eliminate practices and behaviours that are socially important in their passage into adulthood, but which are linked to risk behaviours and personal and social destruction. The “*Positive Affect*” theory suggests that we have “rites of passage”, and that the ultimate goal of these behaviours is not to feel like an outsider among peers. In this case, among young men, as with tobacco or alcohol consumption, engaging in risky behaviour behind the wheel reinforces their “acceptance” among peers. It will be important to address these issues among groups of young men in particular.



## Road safety education and training

This section includes proposals that are directly related to road safety education and to the processes and people involved in training and overseeing training for obtaining and renewing a driving licence.

- Incorporate compulsory gender modules into driving tests and programmes for obtaining and renewing a driving licence. These modules should promote behaviour linked to caution, respect for rules, non-violence, peace, patience, etc., and challenge the social representation of masculinity as synonymous with risk, aggressiveness, speed, etc.
- Organise gender awareness workshops aimed at professionals working at driving schools or teaching centres for different licences. A minimum number of hours of equality training may also be required as additional cross-disciplinary training in order to become a driving instructor.
- Incorporate values, examples and proposals into different Road Safety Education programmes to counteract social representations and stereotypes that link men to more aggressive behaviours behind the wheel. It is important to focus on the positive aspects of respect, caution and calm when travelling on the roads, whether as a driver, passenger or pedestrian.
- Include empowerment techniques for women in road safety education courses, such as improving their vehicle knowledge and their ability to “act and react”.



## Campaigns

It is proposed that campaigns be very specific and that messages be clearly differentiated by age (children, teenagers, young people, adults, older people) and gender whenever possible, in order to achieve positive results.

- Launch awareness campaigns focusing on the positive driving practices and road behaviour of women that ensure the safety of both themselves and those around them (patience, obeying signs, no speeding, safety, self-control, careful with passengers, etc.). Break the stereotype that “*they are worse drivers*” and focus the message on the fact that their way of travelling on the roads is more positive and a more interesting model to emulate.
- Campaigns with clear messages aimed at young men and men in general that raise awareness of the cost to society and to their own lives of engaging in risky driving behaviour.
- Specific campaigns for young men aimed at curbing their “taste for danger” and dismantling the perception of seeing “no risk” as an element of masculinity that leads to group acceptance, emphasising the cost to lives, healthcare and resources for society as a whole.
- Promote campaigns that value a quieter and calmer pace of life, identifying the negative effects that fast-paced, aggressive and noisy lifestyles have on people’s health. Focus on the positive driving practices of women: patience, self-control, respect for rules, etc. Perhaps develop messages in collaboration with the Ministry of Health in order to convey this idea of a healthy quality of life.
- Review and adapt campaigns for toy cars, lorries, motorcycles, roads, etc., ensuring that the language, tone, voice-overs and images used do not promote aggressiveness, crashes, speeding etc., and that they are designed to teach children how to “use them properly”.

It is also important to work on improving the definition, design and collection of appropriate information in many registers, studies and reports. To this end, training in gender issues for professionals who deal with this information is essential.

It is also worth noting the lack of existing research on road safety from a gender perspective.

- Improve the collection of data from a gender perspective, providing adequate training to the actors involved in this process, and highlight the need to review accident data.
- Always analyse statistical information and information contained in studies and reports from a gender perspective.
- Assess the impact of road safety campaigns from a gender perspective, analysing their link to the difference between men and women.
- Investigate the association between the current male model, the pattern of male identity construction, and the identification of masculinity with reckless behaviour when driving cars, motorcycles, etc.
- Taking into account the differences between *male and female drivers*, conduct a specific study on the behaviours, realities and profiles of these people.
- With regard to *passengers*: assess the impact of gender on this role by highlighting this position in accidents.
- With regard to *pedestrians*: explore different behaviours according to gender.
- Always identify victims who were killed or hospitalised in terms of their level of responsibility for the accident: whether or not they were responsible in some way.



## Public policies

This study has enabled us to compile a list of best practices in relation to the design of public policies and strategies that incorporate a gender perspective into road safety, for the purpose of analysing their potential transferability.

There are few public policies on this subject, but some proposals are listed below:

- Zero tolerance drug and alcohol policies.
- Limit the number of male and female passengers among young people in order to reduce the number of traffic accident deaths, especially at weekends and at night.
- Design safety features in accordance with the different physical characteristics of men and women, e.g. seat belts for pregnant women.
- Continue to improve public transport connectivity to minimise the use of vehicles as much as possible at certain times: festivals, concerts, at night, recreational areas for young people, etc.

## List of Graphs

Graph 1.	% of male and female traffic accident victims (totals 2015-2019)	24
Graph 2.	% of male and female traffic accident victims according to age (cumulative data 2015-2019)	27
Graph 3.	Percentage difference between men and women killed/hospitalised according to age (2015-2019)	29
Graph 4.	Percentage difference between men and women not hospitalised according to age (2015-2019)	30
Graph 5.	% distribution according to gender, type of victim and type of area	31
Graph 6.	% distribution according to gender, type of victim and mode of transport (cumulative data 2015-19)	34
Graph 7.	% of male and female drivers (cumulative data 2015-2019)	36
Graph 8.	% of male and female passengers (cumulative data 2015-2019)	37
Graph 9.	% of male and female pedestrians (cumulative data 2015-2018)	39
Graph 10.	% distribution according to type of area, type of victim, mode of transport and gender (2015-19)	41
Graph 11.	% distribution of drivers killed/hospitalised according to mode of transport and gender	48
Graph 12.	% distribution of drivers not hospitalised according to mode of transport and gender	48
Graph 13.	Alcohol test results among drivers according to type of victim and gender (cumulative data 2016-19)	51
Graph 14.	Drug test results among drivers according to type of victim and gender (2016-2019)	53
Graph 15.	Driver offences according to type of victim and gender (% concentration 2015-2019)	56
Graph 16.	Pedestrian offences according to type of victim and gender (% concentration 2015-2019)	57

## List of Tables

Table 1. No. of male and female traffic accident victims (totals 2015-2019).....	24
Table 2. Traffic accident victims according to type and gender (vertical %) (2015-2019) .....	25
Table 3. Traffic accident victims according to type and gender (horizontal %) (2015-2019) .....	25
Table 4. N° of male and female traffic accident victims according to age (cumulative data 2015-19) .....	26
Table 5. Victims killed/hospitalised according to age and gender (vertical %) (2015-2019) .....	27
Table 6. Victims not hospitalised according to age and gender (vertical %) (2015-2019).....	28
Table 7. Victims killed/hospitalised according to age and gender (horizontal %) (2015-2019).....	28
Table 8. Victims not hospitalised according to age and gender (horizontal %) (2015-2019) .....	29
Table 9. Type of area according to gender and type of victim (cumulative data 2015-2019) .....	31
Table 10. N° of victims each year according to type of area and gender (absolute data) (2015-2019).....	31
Table 11. N° of victims each year according to type of area and gender (%distribution) (2015-2019).....	32
Table 12a. N° of men and women according to type of victim and mode of transport (cumulative data 2015-2019) .....	33
Table 12b. % of men and women according to type of victim and mode of transport (cumulative data 2015-2019).....	33
Table 13. Victims killed/hospitalised according to type of victim and mode of transport (cumulative data 2015-2019) .....	34
Table 14. Victims killed/hospitalised according to type of transport and gender (horizontal %) (2015-2019).....	35
Table 15. Victims not hospitalised according to type of transport and gender (absolute data) (2015-2019).....	35
Table 16. Victims not hospitalised according to type of transport and gender (horizontal %) (2015-2019) .....	35
Table 17. Drivers according to type of victim and gender (cumulative data 2015-2019) .....	36
Table 18. Drivers according to type and gender (vertical %) (2015-2019).....	37
Table 19. Passengers according to type and gender (cumulative data 2015-2019) .....	37
Table 20. Passengers according to type and gender (vertical %) (2015-2019) .....	38
Table 21. Passengers according to type and gender (horizontal %) (2015-2019).....	38
Table 22. Pedestrians according to type and gender (cumulative data 2015-2019).....	38
Table 23 Pedestrians according to type and gender (vertical %) (2015-2019) .....	39
Table 24 Pedestrians according to type and gender (horizontal %) (2015-2019).....	39

Table 25. Type of area, mode of transport, victim and gender (cumulative absolute data 2015-2019).....	40
Table 26. No. of persons killed/hospitalised on interurban roads according to gender and type of transport (2015-2019) .....	42
Table 27. No. of persons killed/hospitalised on urban roads according to gender and type of transport (2015-2019).....	42
Table 28. No. of persons not hospitalised on interurban roads according to gender and type of transport (2015-2019).....	43
Table 29. No. of persons not hospitalised on urban roads according to gender and type of transport (2015-2019).....	43
Table 30. % of persons killed/hospitalised on interurban roads according to gender and type of transport (horizontal %).....	44
Table 31. % of persons killed/hospitalised on urban roads according to gender and type of transport (horizontal %).....	44
Table 32. % of persons not hospitalised on interurban roads according to gender and type of transport (horizontal %) .....	45
Table 33. % of persons not hospitalised on urban roads according to gender and type of transport (horizontal %).....	45
Table 34. Persons killed/hospitalised according to gender and mode of transport (cumulative data 2015-2019).....	46
Table 35. Persons not hospitalised according to gender and mode of transport (cumulative data 2015-2019) .....	47
Table 36. No. of drivers killed/hospitalised and not hospitalised according to gender and type of transport (2015-2019) .....	47
Table 37. % concentration of drivers killed/hospitalised according to gender and type of transport (vertical %) (2015-2019) .....	49
Table 38. % concentration of drivers not hospitalised according to gender and type of transport (vertical %) (2015-2019).....	49
Table 39. Rate of seat belt use among car and van drivers killed/hospitalised according to gender (2015-2019).....	50
Table 40. Rate of helmet use among motorcyclists and cyclists killed/hospitalised according to gender (2015-2019) .....	50
Table 41. according to gender (absolute data 2016-2019).....	52
Table 42. Alcohol test results among drivers killed/hospitalised according to gender % (2016-2019) .....	52
Table 43. Alcohol test results among drivers not hospitalised according to gender (absolute data 2016-2019).....	52
Table 44. Alcohol test results among drivers not hospitalised according to gender % (2016-2019) .....	52
Table 45. Drug test results among drivers killed/hospitalised according to gender (absolute data 2016-2019).....	53
Table 46. Drug test results among drivers killed/hospitalised according to gender (% 2016-2019).....	54
Table 47. Drug test results among drivers not hospitalised according to gender (absolute data 2016-2019) .....	54
Table 48. Drug test results among drivers not hospitalised according to gender (% 2016-2019) .....	54
Table 49. Driver offences according to type of victim and gender (cumulative data 2015-2019).....	55
Table 50. Pedestrian offences according to type of victim and gender (cumulative data 2015-2019).....	57



# 6

## Bibliography

69

- C. P., Ortiz Escalante, S., Ciocoletto, A., Fonseca, M., Casanovas, R., & Valdivia, B. (2021). *Movilidad Cotidiana con Perspectiva de Género: Guía metodológica para la planificación y el diseño del sistema de movilidad y transporte*. Buenos Aires: CAF.
- A. Hennessy, D., L. Wiesenthal, D., Wickens, C., & Lustman, M. (2004). The Impact of Gender and Stress on Traffic Agressions: Are we really that different? En J. P. Morgan, *Focus on Agression Research* (págs. 157-174). Nova Science Publisher. Inc.
- Aldred, R., Johnson, R., Christopher Jackson, & Woodcock, J. (2021). How does mode of travel affect risks posed to other road users? An analysis of English road fatality data incorporating gender and road type. *Injury Prevention, Vol. 27, Issue 1.*, 71-76.
- Al-Rashid, M. A., Nahiduzzaman, K., Ahmed, S., Campisi, T., & Akgün, N. (2020). Gender-Responsive Public Transportation in the Dammam Metropolitan Region, Saudi Arabia. *Sustainability, Vol 12*, Art. 9068.
- Amarasingha, N., & Dissanayake, S. (2014). Gender differences of young drivers on injury severity outcome of highway crashes. *Journal of Safety Research. Vol 49*, 113-120.
- Arce, D., Casas, J., & Defranza, J. (2017). *Evaluación Implícita de Conductas de riesgo en la Conducción: Diferencias de Género*. Mar de Plata: Universidad Nacional de Mar de Plata - Facultad de Psicología - Tesis de Grado.
- Bardelli, M. G., Szczyry, R., & Verdaguer, F. (s.f.). *El género, un factor determinante en la siniestralidad vial*. Ciudad Autónoma de Buenos Aires: XVII CONGRESO ARGENTINO DE VIALIDAD Y TRANSITO.
- Basarić, V., Vujičić, A., Mitrović Simić, J., Bogdanović, V., & Saulić, N. (2016). Gender and Age Differences in the Travel Behavior – A Novi Sad Case Study. *Transportation Research Procedia. Vol. 14*, 4324-4333.
- Briolotti, A., Colanzi, I., Martinez, A., & Soria, L. (2015). Estudio de las ciencias sobre las causas de la siniestralidad vial según conductor y peatón, género y edad. En F. d. Psicología, *Memorias del V Congreso Internacional de Investigación de la Facultad de Psicología de la Universidad Nacional de La Plata* (págs. 875-884). La Plata: Facultad de Psicología (UNLP).

- Camino López, M., González Alcántara, O., & Fontaneda, I. (2017). Gender Differences in Commuting Injuries in Spain and Their Impact on Injury Prevention. *BioMed Research International*.
- Cátedra Universidad – Empresa EDUARDO BARREIROS “AUTOMÓVIL Y MOVILIDAD SOSTENIBLE”. (2017). *Mujeres conductoras en España. Implicación en accidentes de tráfico y comparación con los conductores varones*. Madrid: Sección de Publicaciones de la E.T.S. Ingenieros Industriales de la U.P.M.
- Cordellieri, P., Baralla, F., Ferlazzo, F., Sgalla, R., Piccardi, L., & Giannini, A. (2016). Gender Effects in Young Road Users on Road Safety Attitudes, Behaviors and Risk Perception. *Frontiers in Psychology*. Vol 7, Art. 1412.
- Cordellieri, P., Baralla, F., Ferlazzo, F., Sgalla, R., Piccardi, L., & Giannini, A. M. (2016). Gender Effects in Young Road Users on Road Safety Attitudes, Behaviours and Risk Perception. *Frontiers in Psychology*, 7(1412), 1-11.
- Duchène, C. (2011). Gender and Transport. *International Transport Forum. Discussion Paper N°11*.
- Durán Segura, M., Cantón Cortés, D., & Castro Ramírez, C. (7 de Mayo de 2009). Patrones de cambio en la conducción de las mujeres. *International Journal of Psychological Research*. Vol. 2. N° 1, 54-66.
- Fernández Poncela, A. (2012). Representaciones sociales: mujeres al volante ¿Peligro constante? *Iberóforum. Revista de Ciencias Sociales de la Universidad Iberoamericana*. Vol. VII, N° 14, 1-34.
- Fesvial y Lumileds (Philips). (2021). *¿Qué importancia damos a la iluminación del vehículo? Conocimiento y opinión de los conductores sobre la iluminación de los vehículos y su implicación en la seguridad vial*.
- Galdstein, R., Di Leo, P. F., & Ramos Margarido, S. (2011). Género, violencia y riesgo en el tránsito. La dominación masculina en los discursos de automovilistas de la ciudad de Buenos Aires. *Physis. Revista de Saúde Coletiva, Rio de Janeiro*, 21, 695-720.
- Gaona Pisonero, C., & Martínez Pastor, E. (2009). Análisis de género de las campañas de publicidad de la Dirección General de Tráfico. *Revista Iconol4*. N° 13, 195-213.
- GIZONDUZ; EMKUNDE;. (2009). *Siniestralidad vial y género*. Farapi S.L.
- Gobierno de Chile. Ministerio de Transportes y Telecomunicaciones. (2018). *Política de Equidad de Género en Transportes. Hacia un sistema de transportes para todos y todas*. Santiago de Chile.
- Gobierno de la Ciudad de México. Secretaría de Movilidad. (2019). *Plan Estratégico de género y movilidad*. Ciudad de México.
- Government Offices of Sweden. (1997). *Vision Zero Program*.
- Hidayati, I., Tan, W., & Yamu, C. (2020). How gender differences and perceptions of safety shape urban mobility in Southeast Asia. *Transportation Research Part F* 73, 155-173.
- ITF. (2021). *Transport Innovation for Sustainable Development: A Gender Gap*. Paris: OECD Publishing.
- Merlino, A., Alejandra Martinez, & Escanés, G. (2011). Representaciones sociales de la masculinidad y agresividad en el tránsito. La ira al conducir en Argentina. *Barbarói: Revista do Departamento de Ciências Humanas e do Departamento de Psicologia*, 199-217.

- Montoro González, L., Lijarcio Cárcel, J., Bosó Seguí, P., López Osma, C., Martí-Belda Bertolín, A., & Mirabet Lis, E. (s.f.). *Proyecto Savima: Barómetro de Salud Vial de Conductores Mayores. Análisis de la siniestralidad vial en personas mayores (2011-2015)*. SAVIMA. Salud Vial en Mayores.
- Morán Pellitero, R. (2018). *Estudio y Propuesta de un Plan de Seguridad Vial en la Policía Nacional. Máster Universitario en Prevención de Riesgos Laborales*. Universidad Miguel Hernández.
- Noguera Cundar, A., Moreno Barriga, M., Bastidas Alarcon, F., & Moreno Barriga, F. (2019). Evaluación de factores de riesgo como el género y antigüedad del permiso de conducción en la posibilidad de provocar accidentes de tránsito. *Ciencia Digital. Conocimiento Global. Publicación 8. Vol.3 N° 1*.
- Onieva García, M., Martínez Ruiz, V., Lardelli Claret, P., Jiménez Moleón, J., Amezcua Prieto, C., Luna del Castillo, J., & Jiménez Mejías, E. (2016). Gender and age differences in components of traffic-related pedestrian death rates: exposure, risk of crash and fatality rate. *Injury Epidemiology*, 3:14.
- Paricio-Esteban, M.-P., Sandra Femenía-Almerich, S., & Puchalt-López, M. (2021). Perspectiva de género en campañas. *Profesional de la información*, 30.
- Presidencia de la Nación. (2021). Agencia Nacional de Seguridad Vial. *Boletín Oficial de La República de Argentina*, Disposición 152/2021.
- Ramboll Smart Mobility. (2021). *Gender and (smart) mobility*. Helsinki: Ramboll and Roban Konna.
- Rhodes, N., & Pivik, K. (2010). Accident Analysis and Prevention 43. *Elsevier*, 923-931.
- Rissanen, R., Ifver, J., Hasselberg, M., & Berg, H. (20 de Enero de 2020). Quality of life following road traffic injury: the impact of age and gender. *Quality of Life Research*, págs. 29: 1587–1596.
- Salladarre, F., Le Bonnac, R., & Bel, M. (2021). Robotaxis or autonomous shuttles? The role of urban representations and mobility habits in tomorrow's mode choice in France.
- Sengoelge, M., Laflamme, L., & El-Khatib, Z. (2018). Ecological study of road traffic injuries in the eastern Mediterranean region: country economic level, road user category and gender perspectives. *BMC Public Health*, 18:236.
- The Social Issues Research Centre. (2004). *Sex differences in driving and insurance risk. An analysis of the social and psychological differences between men and women that are relevant to their driving behaviour*. Oxford: SIRC.



Josefa Valcárcel, 44 - 28027  
Madrid