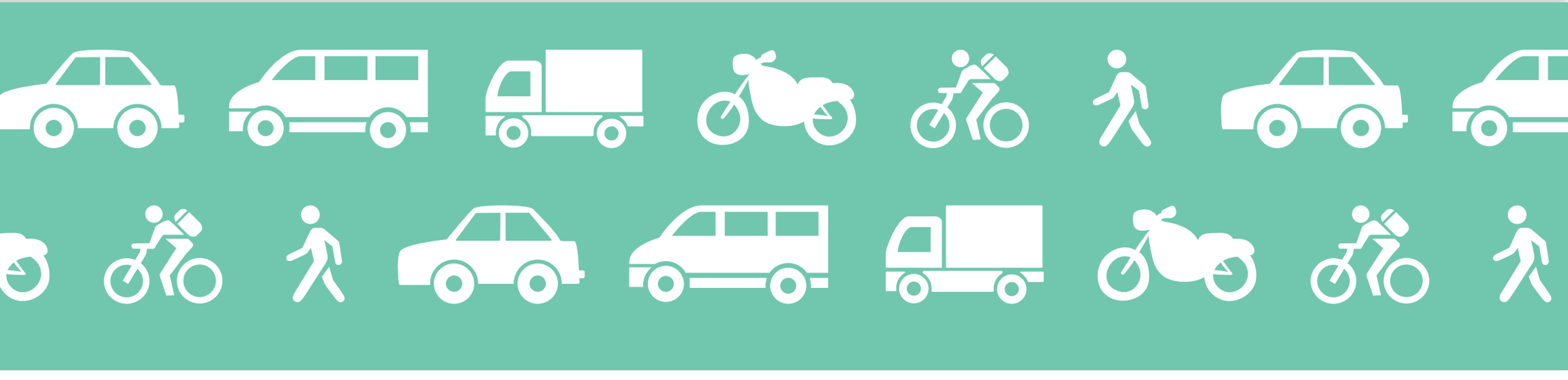
BELGIAN ROAD SAFETY KEY INDICATORS

2017



VIAS institute

FOREWORD

Every day, on average, two people lose their lives in traffic crashes on Belgian roads. Adding to this figure, 10 people are severely injured, and more than 100 are slightly injured. Nearly 1,000 crashes with only material damage also happen daily. Even though determining the causes of a particular road crash is not always easy, it appears that a multitude of factors have an impact on road safety and the total number of road crashes. These factors include mobility habits, driving ability, behaviour of road users, and the state of vehicles and infrastructure.

Given the multitude of factors which influence road safety, it is not always easy to gain full insight into the situation. This brochure seeks to take a step in that direction by compiling a range of information, not only on road traffic accidents, but also connected factors affecting crash risk. Most statistics have already been published in various reports from Vias institute (formerly BRSI) and other organisations. The added value of this brochure is that it groups them into a single document to be used as a convenient vade mecum by people interested in road safety.

The brochure's style is voluntarily brief. We have selected a few major themes in the field of road safety. For each theme, only a few key indicators and minimum comments are included: road crashes and victims, mobility and risk exposure, driving ability, road users' behaviour, infrastructure and enforcement. At the end of the brochure, interested readers will find the sources used and references for further reading on certain themes.

Vias institute hopes you enjoy reading this brochure!

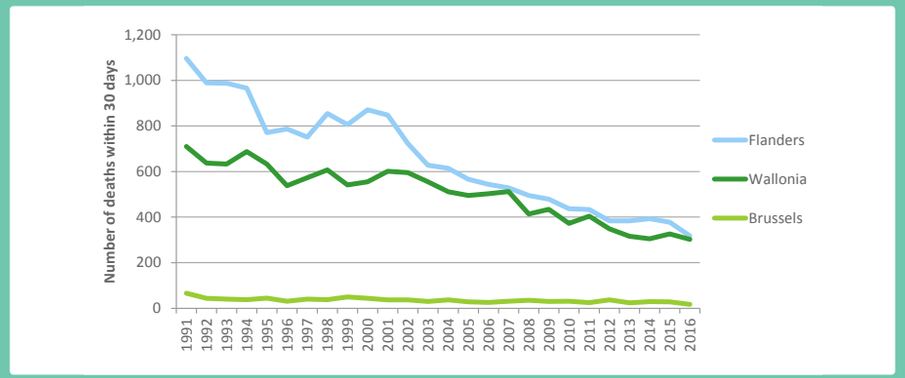
CONTENTS

1 Road fatalities

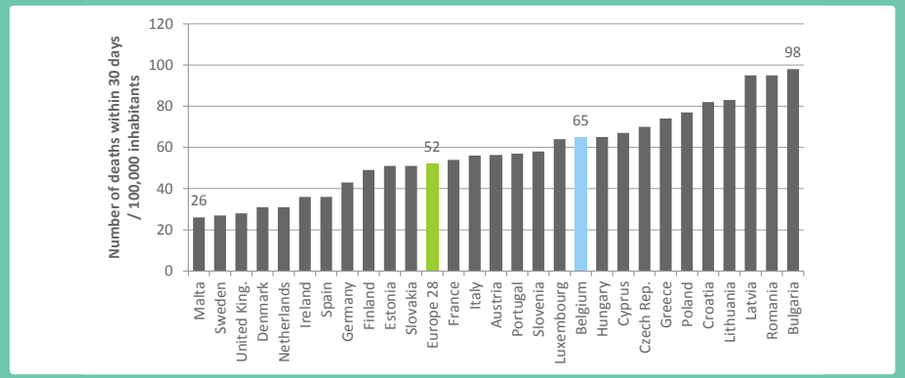
In Belgium, a “road fatality” refers to anyone who is killed at the scene of a traffic crash or who succumbs to injuries related to a road crash within 30 days. Those killed at the scene are recorded by the police, who are responsible for completing a road traffic accident analysis form and a report for any crash resulting in bodily injury. Anyone who dies in the following 30 days is recorded by the courts. All of the information is centralised by the federal public service Statistics Belgium, which calculates the total number of road traffic fatalities (or “deaths within 30 days”). The definition of “death within 30 days” is now a European standard, used to compare accident rates in different countries. Despite the constant increase in traffic volume on Belgian roads, the number of fatalities has been declining since the ‘70s.

1.1 Change in the number of deaths within 30 days

1.2 Change in the number of deaths within 30 days by region



1.3 International comparison – Deaths within 30 days by 100,000 inhabitants (2015)

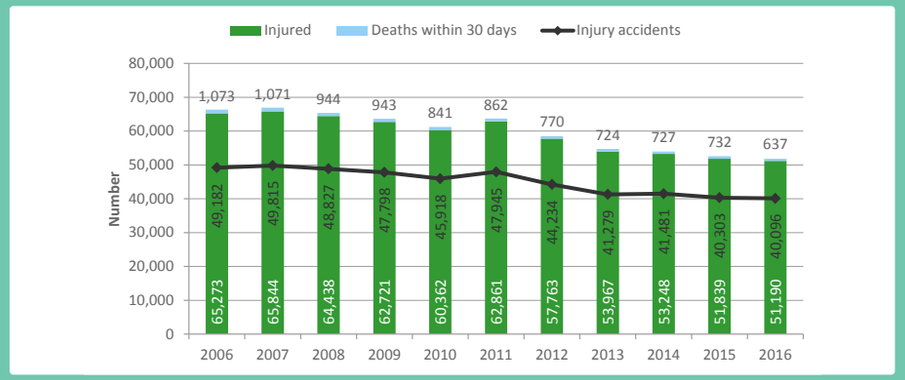


2 Road traffic crashes and victims

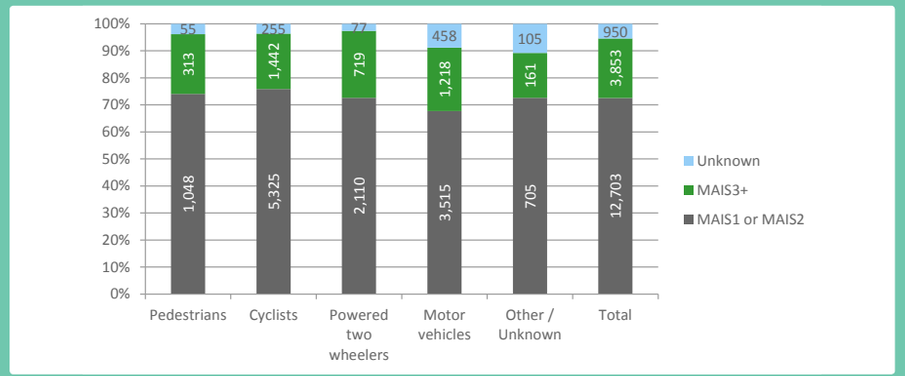
An effective road safety policy must ensure that the number of people injured on the road decreases. However, we do not know the exact number. Injuries are under-reported, mainly because the police are not always called to the scene of injury crashes as they should normally be. Official statistics significantly underestimate the number of vulnerable road users injured (pedestrians, cyclists, moped and motorcycle drivers) compared with the number of people injured among car drivers and passengers.

Vias institute no longer uses the old definition of seriously injured person, defined as a road traffic accident victim staying in hospital for at least 24 hours, as it is unreliable. It is indeed difficult for the police, who are not medically trained, to estimate at the scene of a road crash the seriousness of injuries and how long victims are likely to be in hospital. Vias institute now defines the severity of injury based on the AIS medical scale. Any victim whose most serious injury is associated with a score of 3 or more (MAIS3+) is considered severely injured. These are often injuries with long-term effects, of which many victims never fully recover.

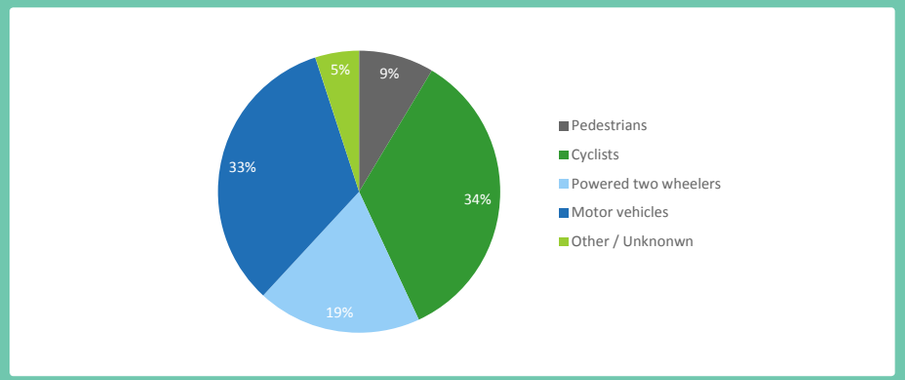
2.1 Change in the number of injury crashes, injured and killed road users



2.2 Distribution of hospitalized road victims according to their MAIS score (2011)



2.3 Distribution of MAIS3+ hospitalized road victims by transport mode (2009-2011)



3 Crash risk and severity

The risk of being killed or seriously injured of a category of road user is calculated by dividing the number of users killed or severely injured (MAIS3+) in the category considered by the number of kilometres covered by this category on our roads. The result is then standardised to compare with the average car driver's risk, set arbitrarily at 1. For example, this means that the risk of a pedestrian aged 6 to 14 being the victim of a road accident is 10.5 times greater than the risk of the average car driver travelling the same distance. Severity of road crashes is defined as the number of deaths within 30 days for every 1,000 recorded traffic crashes resulting in injuries. Like the number of fatalities, this indicator has also been declining since the '70s. There are significant geographical disparities: road traffic crashes are about twice as severe in Wallonia as in Flanders. The severity is lowest in the Brussels region. Traffic crashes involving only a single road user are more severe than other types, because speed probably plays a major role in this type of crash. Vehicle type is also important: the larger a vehicle, the more damage it will cause to the other party in a collision.

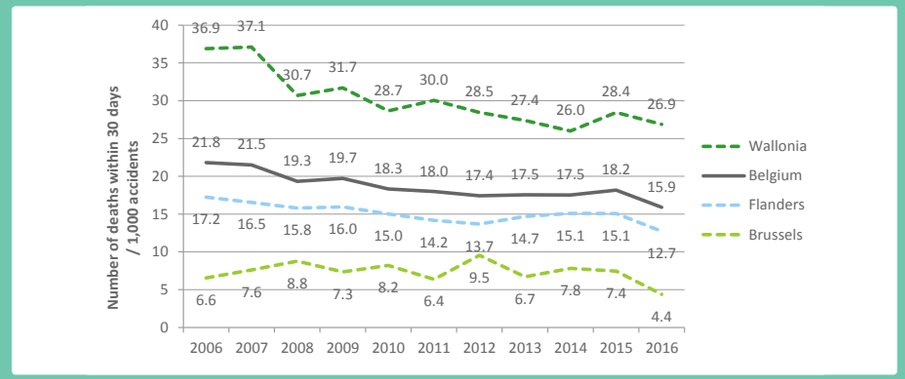
3.1

Relative risk of being killed or severely injured (MAIS3+) by mode of transport and age (2007-2011)

Age	Road user type						All users
	Pedestrian	Cyclist	Moped - Motorcycle	Car driver	Car passenger	Passenger bus & tram	
6-14	10.5	18.9			0.3	0.03	1.6
15-17	7.7	10.5			1.4	-	4.1
18-24	4.9	8	72.6	4.3	2.5	-	4.6
25-44	4.7	12.5	55.8	0.8	0.9	0.3	1.7
45-64	6.2	21.6	41.5	0.7	0.5	1.3	2.1
64-74	12	92.6		1.1	1.3	1	4.4
75+	27.5	122.9		3.4	3.1	7.1	10.9
All age groups	8.1	23	57	1	1	0.6	2.5

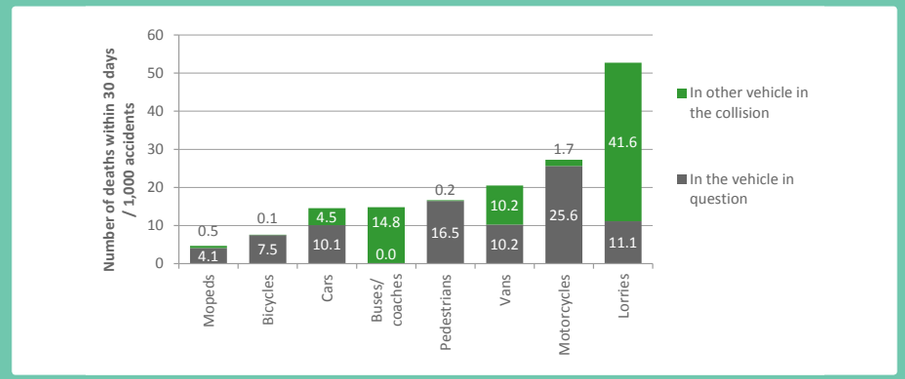
3.2

Change in crash severity in Belgium and in the three regions



3.3

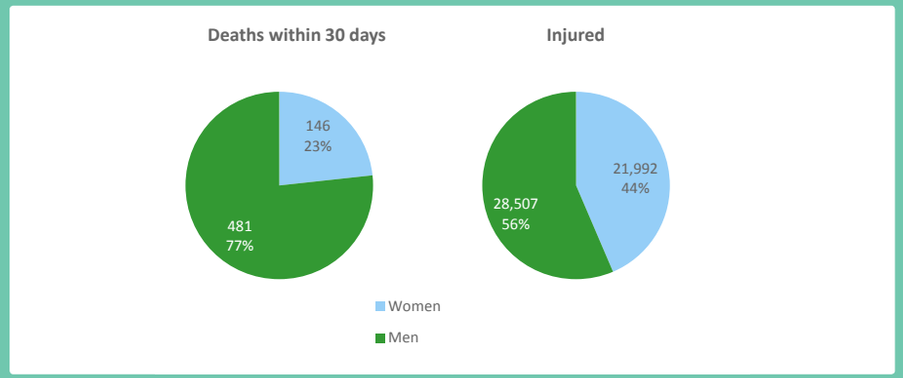
Crash severity by type of road user involved (2016)



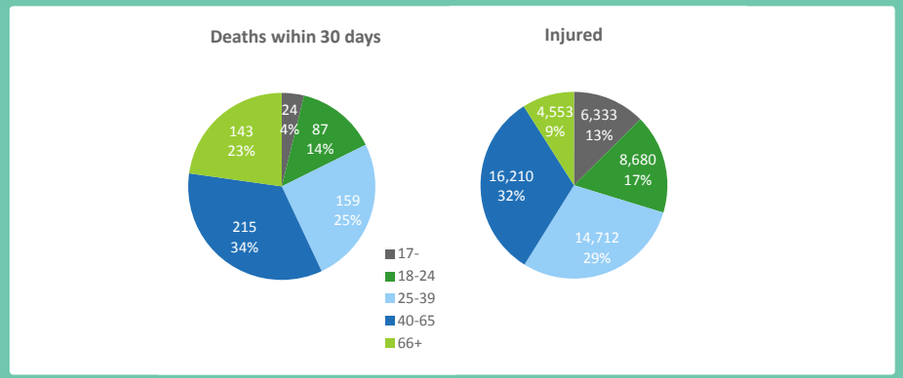
4 Age and gender of victims

Men and women, as well as young and elderly people, do not behave the same way in traffic. Some people spend more time on the roads than others, and some adopt more dangerous behaviours. These two factors, exposure and risk of road crash, explain the disparities observed amongst different age groups and genders in accident statistics. Most road casualties are men. Young people aged between 15 and 30 are much more at risk of being injured or killed than other age groups, which explains the high number of victims in this age range. However, the difference in risk between young people and other age groups has decreased in the last ten years.

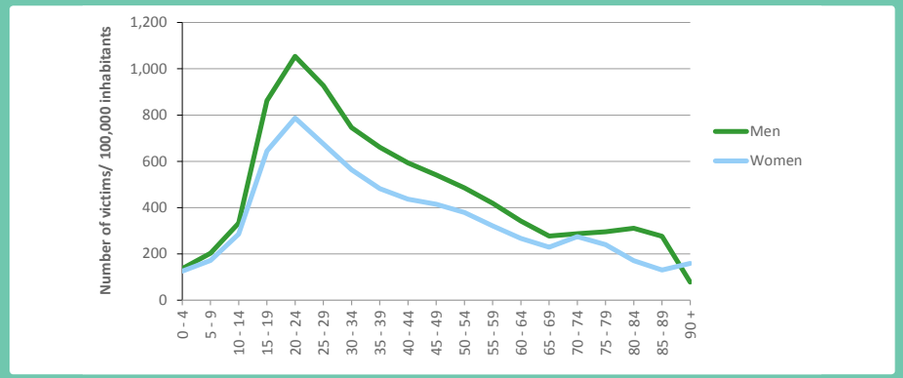
4.1
Distribution of killed and injured road users by gender (2016)



4.2
Distribution of killed and injured road users by age (2016)



4.3
Number of casualties per 100,000 inhabitants by age group and gender (2016)

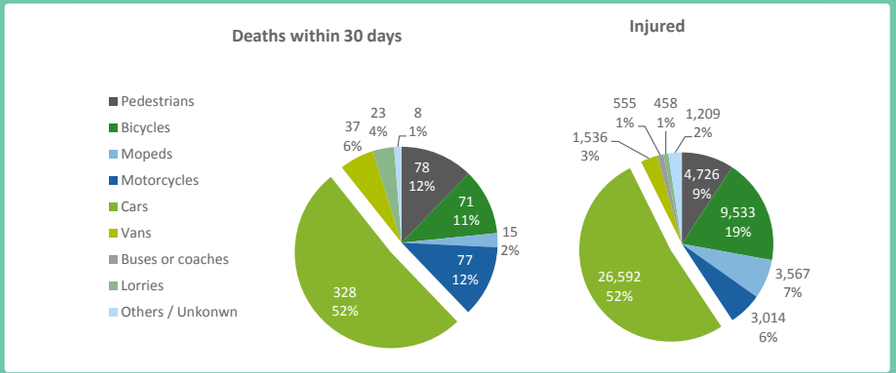


5 Mode of transport of victims

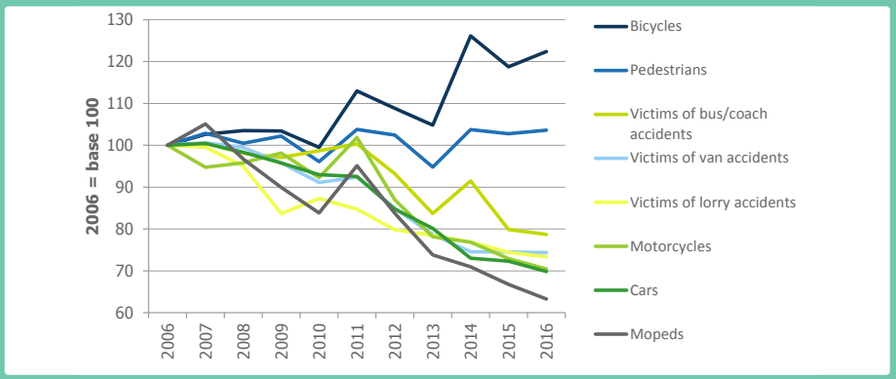
Mode of transport influences the likelihood of being a victim of a road traffic crash. Car drivers are the most frequent casualties in absolute number, because cars dominate our roads. In graph 5.2, values are arbitrarily standardised at 100 for 2006. The values for other years therefore represent the percentage of change from 2006. Given that in bus/coach, van or HGV road crashes, frequently it is the other party that is injured or killed, the change in total numbers of casualties recorded in these collisions is represented in the graph.

Between 2013 to 2014, there was a noticeable increase in traffic crashes involving cyclists; this uptick can be explained by an improvement in the registration of these collisions. Since 2014, self-reported road crashes by victims at police stations are included in road traffic collision statistics along with police records. It is known that crashes involving only a cyclist are not always reported to the police. By taking into account self-reported crashes at police stations, traffic crash counts are closer to actual numbers, especially for cyclists. Finally, since 2010 a rise in the recorded number of cyclists as crash victims can be explained by a few non-exclusive factors: better registration of this type of crash, an increase in the number of cyclists, or perhaps a deterioration of road safety for cyclists.

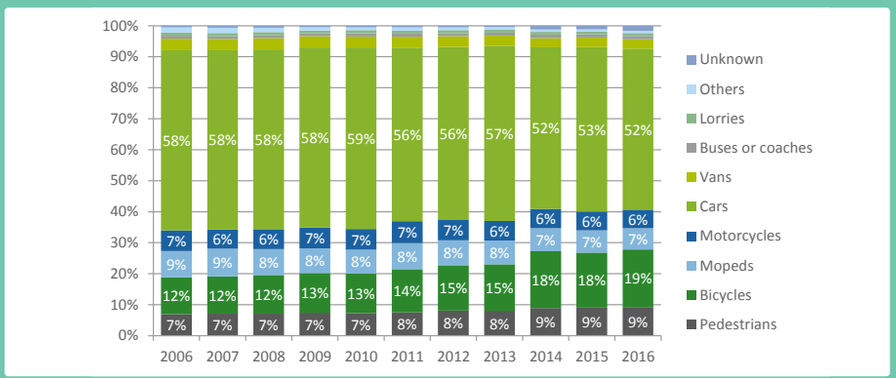
5.1
Distribution of road crash victims by mode of transport (2016)



5.2
Change in number of casualties by mode of transport



5.3
Change in distribution of road crash victims (killed and injured) per mode of transport



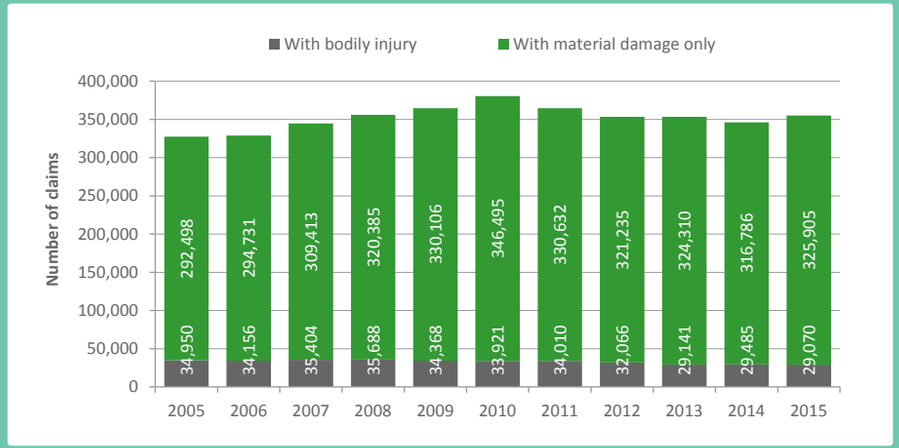
6 Traffic crashes resulting only in material damage

Fortunately, most road traffic crashes that occur on Belgian roads do not cause bodily injury. The number of crashes resulting only in material damage cannot be estimated based on police reports, as the police are not always called to the scene of this type of crash. Insurance data can fill this gap. By comparing the number of people with civil liability insurance for “Tourism and business”, known to be at fault or partially at fault in a claim with the total number of vehicles insured this way, we can define claim frequency. Therefore, claim frequency is the percentage of vehicles (insured) which caused a crash during the year. By multiplying this frequency by the total number of cars in circulation, we obtain an estimate of the total number of crashes caused by vehicles covered by “Tourism and business” civil liability insurance. According to insurance data, crashes resulting in material damage represent just over 90% of claims.

To determine the total number of crashes resulting only in material damage, one would have to add collisions involving vehicles insured in other ways (for example, motorcycles and utility vehicles), vehicles insured abroad, and uninsured vehicles (for example, bicycles). However, these data are not easily available, if at all. Crashes involving a single vehicle without comprehensive insurance, or those with amicable agreement without going through their insurance company are not covered in insurance statistics.

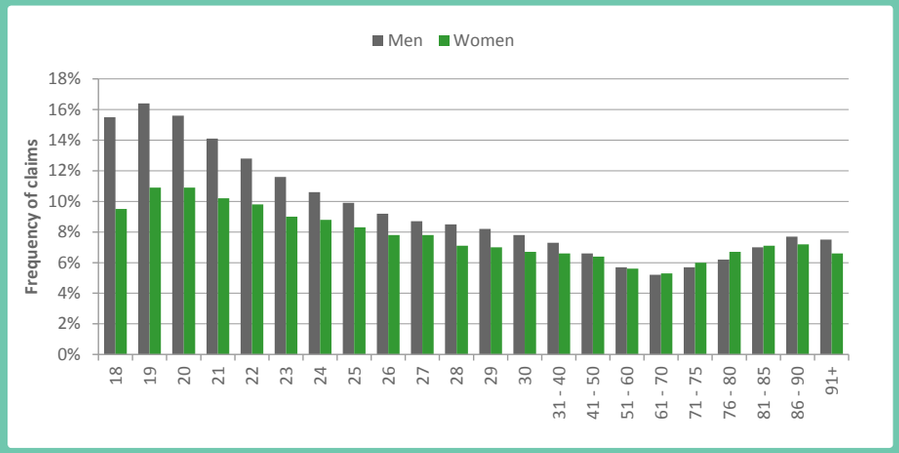
6.1

Change in the number of claims concerning vehicles covered by civil liability insurance “Tourism and business”



6.2

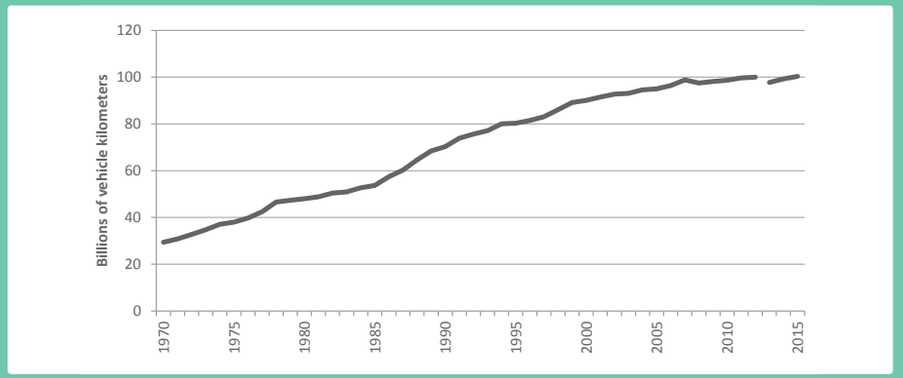
Frequency of claims concerning vehicles covered by civil liability insurance “Tourism and business” by age and gender (2015)



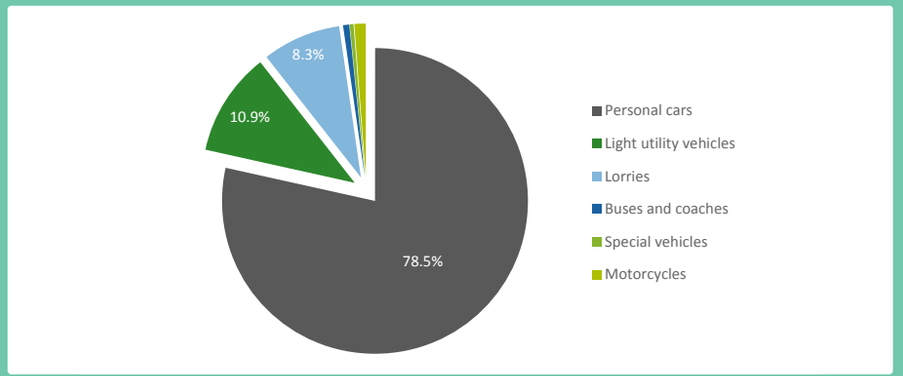
7 Volume of motor vehicle traffic

Traffic volume directly influences the number of road traffic collisions in a country. It is therefore important to consider this factor when estimating accident risk. The number of vehicle kilometres travelled is the total distance covered by motor vehicles. This indicator is frequently used to qualify road traffic accident statistics and compare risks between several different geographical entities. Passenger kilometre travelled is a similar indicator, obtained by multiplying vehicle kilometres travelled by the number of vehicle occupants. It is an indicator of exposure to the risk of becoming a road crash victim.

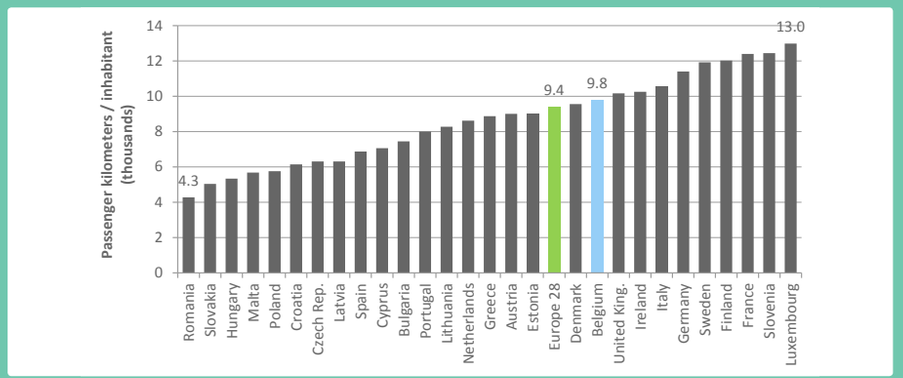
7.1 Change in the number of vehicle kilometres travelled



7.2 Distribution of vehicle kilometres travelled across different types of vehicle (2015)



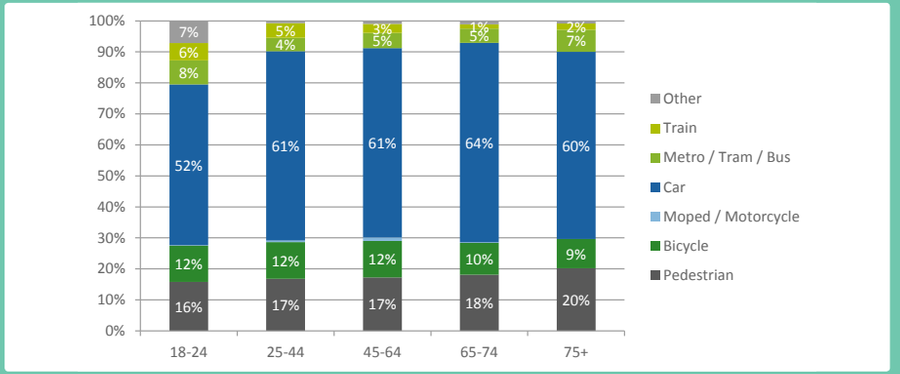
7.3 International comparison – Numbers of car passenger kilometres travelled per inhabitant (2014)



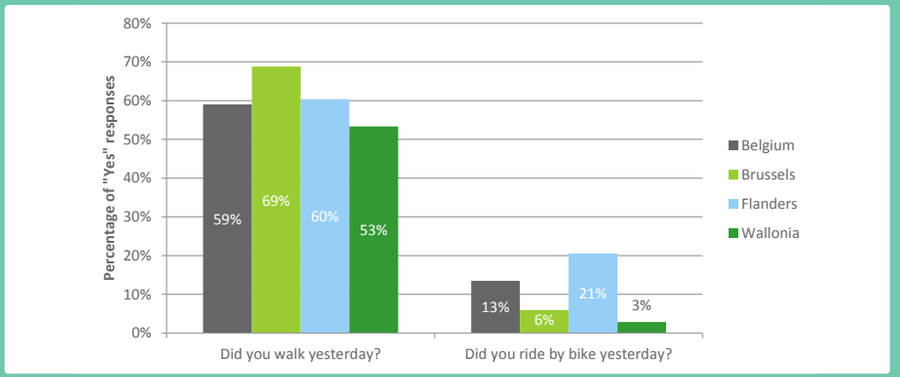
8 Volume of non-motor vehicle traffic

Volume of non-motor vehicle traffic (cyclists, pedestrians) is not exactly known. Non-motor vehicles are neither registered nor insured, which make it very difficult to regularly track their volume. Estimates of the volume of pedestrian traffic are based on observations and mobility surveys, such as the MONITOR survey; results are shown on this page. It should be noted that MONITOR is a survey focussing on Belgian households; travel in Belgium by non-residents is therefore not taken into account.

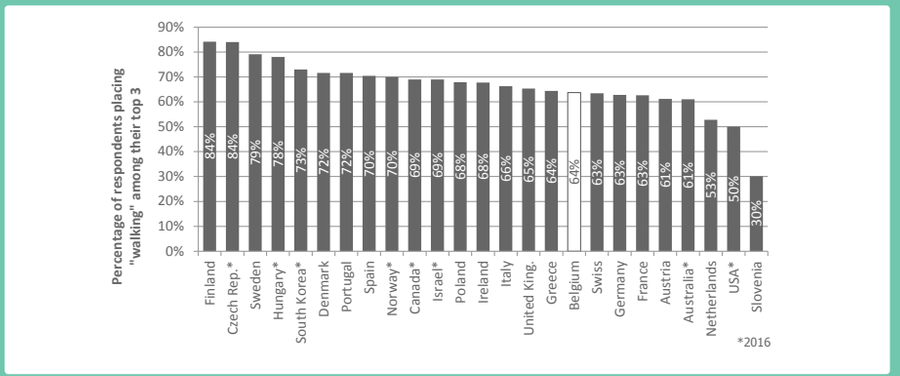
8.1 Distribution of travels across transport modes by age (2016)



8.2 Declared walking practice and bicycle use (2016)



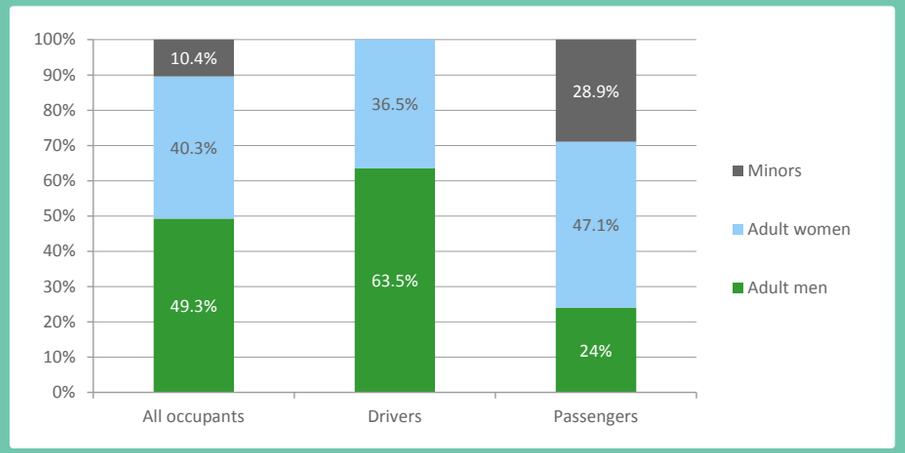
8.3 International comparison - Percentage of respondents placing “walking” among their top 3 most used modes of transport in the past 12 months (2015/2016)



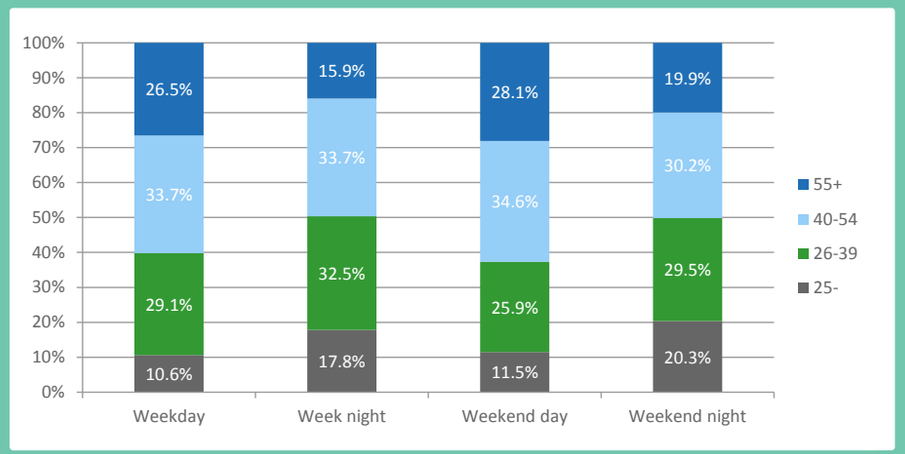
9 Age and gender of car drivers

The age and gender of car drivers travelling on Belgian roads do not match with the general population. In particular, we observe under-representation of women amongst car occupants, especially amongst drivers. The proportion of different age groups in traffic varies considerably depending on the time of the week; the share of young drivers is higher at night (10 p.m. to 6 a.m.) than during the day. These variations must be considered when interpreting variations in the number of road crashes in terms of gender and age.

9.1
Proportion of men, women and minors amongst car occupants (2015)



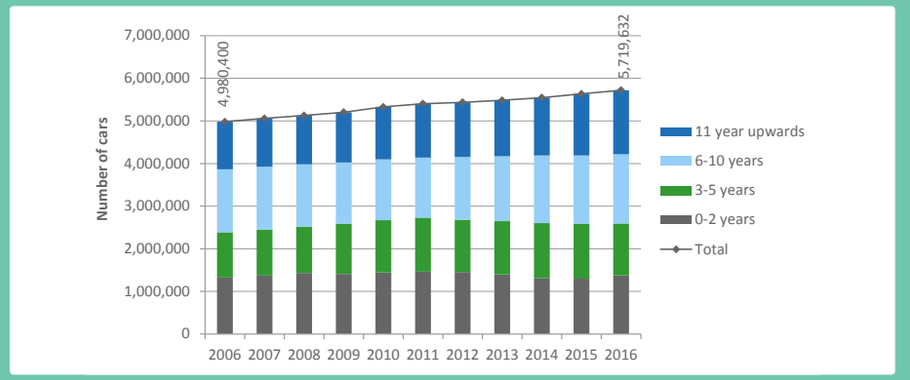
9.2
Distribution of car drivers by age group and time of the week (2015)



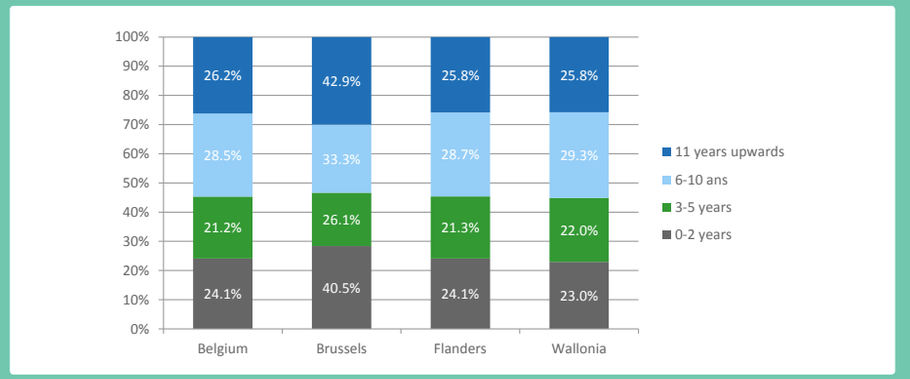
10 Vehicle fleet

Number and safety level of vehicles travelling on roads influence road safety. Newer car model most often contain active or passive safety technologies, such as seatbelt reminders, side airbags and electronic stability control; they are likely to prevent road traffic crashes or reduce the severity. The number of personal cars is increasing in Belgium. Even though the share of new vehicles has slightly decreased since 2012, Belgium still has one of Europe's newest vehicles.

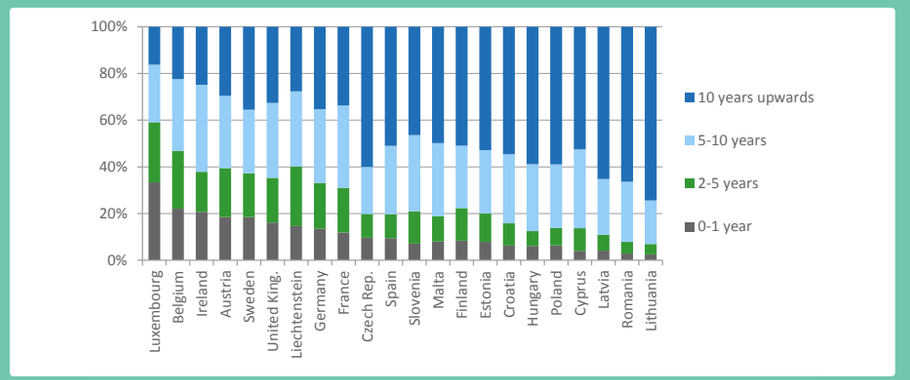
10.1 Change in the number and distribution of personal cars by age



10.2 Distribution by age of personal cars by region (2016)



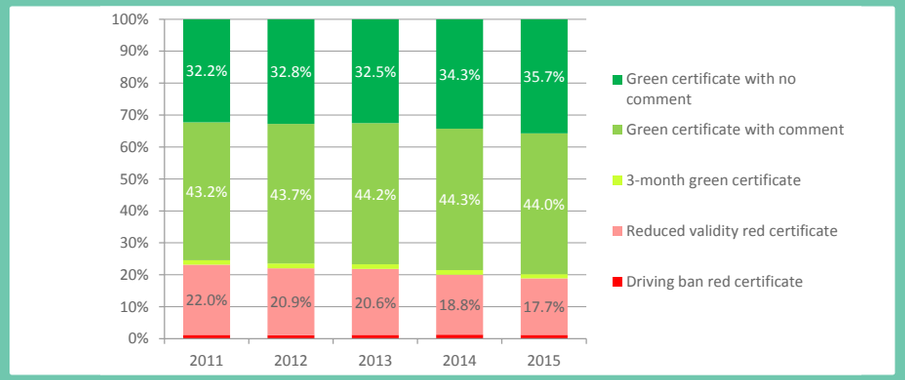
10.3 International comparison – Distribution of personal cars by age (2015)



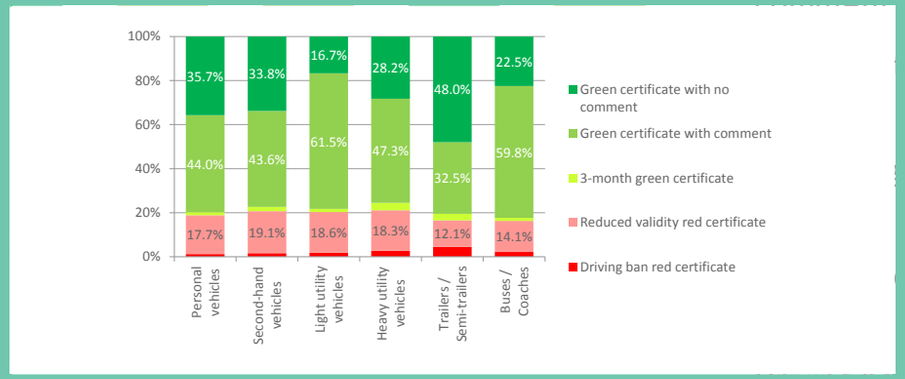
11 Vehicle inspection

The quality and safety of personal cars, utility vehicles and buses operating on public roads are checked regularly during a vehicle inspection. Every year, more than 4,500,000 vehicles undergo these assessments through companies which are members of the GOCA (an association of companies approved to assess vehicles and driving licences). A vehicle will receive a green inspection certificate when it does not have any technical defects which could endanger the driver or other road users. Otherwise, a red inspection certificate will be issued, which still gives owners another chance to have their vehicles reassessed once defects have been repaired.

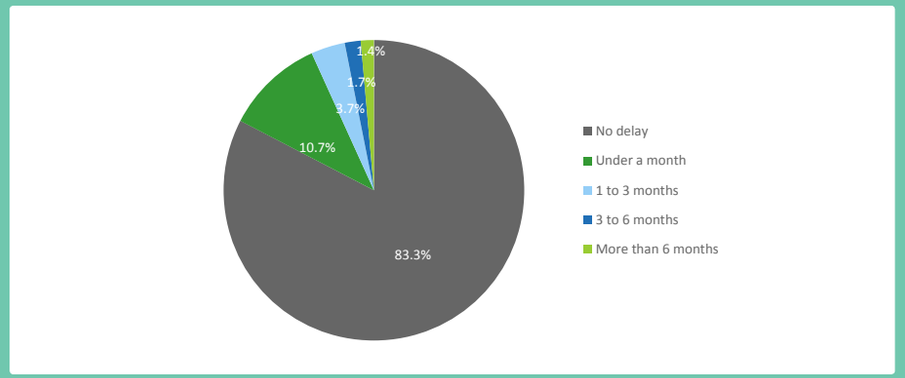
11.1 Change in vehicle inspection results for the personal vehicle category



11.2 Vehicle inspection results by type of vehicle (2016)



11.3 Percentage of vehicles presented late at the vehicle inspection (2016)

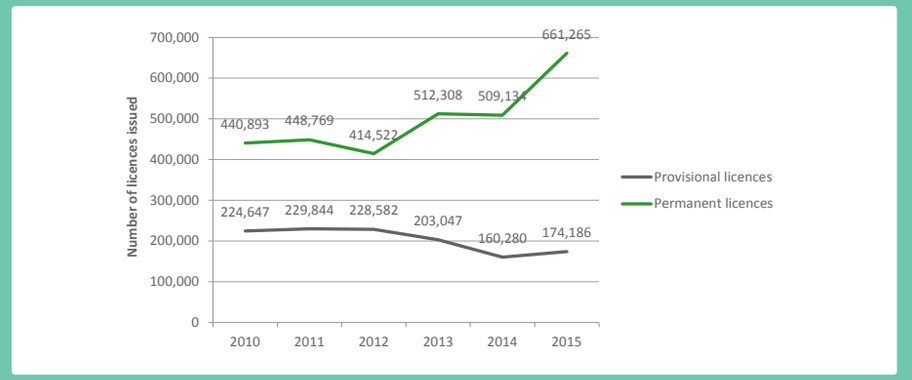


12 Possession of driving licence

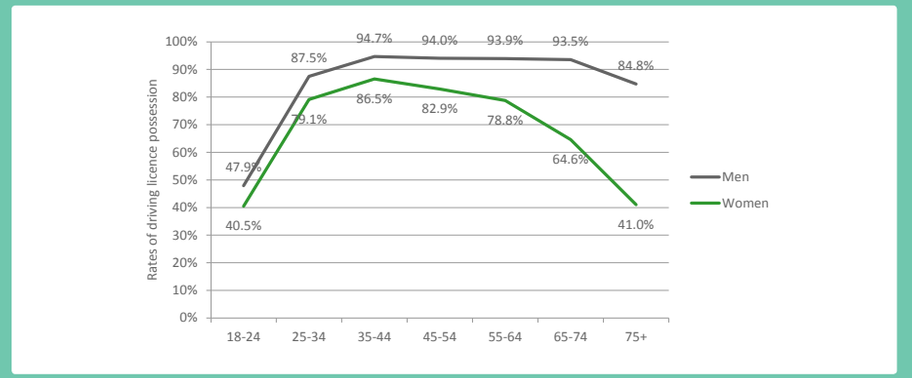
A high percentage of Belgians over 16 hold a driving licence. Since 2012, the central databank ("Banque Carrefour") has collected information on the issue of licences. The indicator "number of licences issued" covers all licence categories as well as first issues, changes of category and duplicates.

As of 15th January 2015, the Banque Carrefour has recorded 7,659,797 active B licences. However, this is a slight overestimation of the real situation; licences are not always deleted from the database when their holders die. Therefore, to determine the rate of licence possession amongst the elderly, we produce an estimate based on the Beldam survey. This estimate indicates that the difference in rates of licence possession amongst men and women is high amongst the elderly but smaller amongst the young.

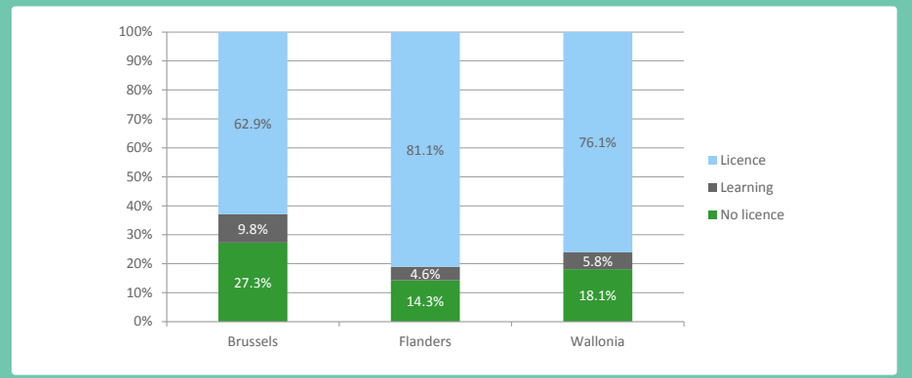
12.1 Change in the number of driving licences issued



12.2 Rates of driving licence possession by age and gender (2012)



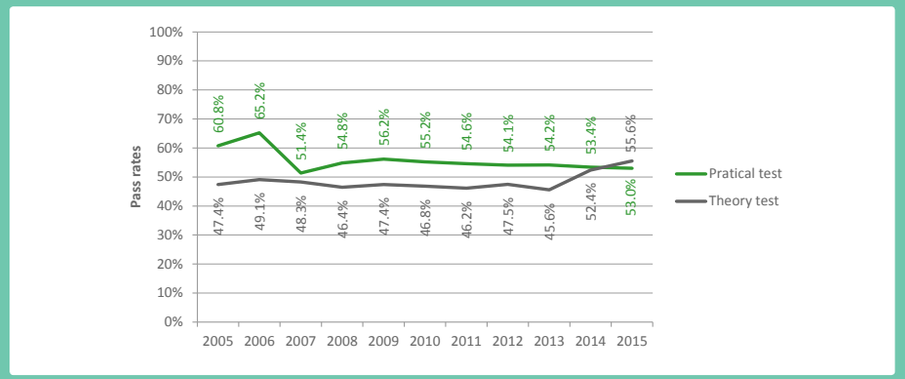
12.3 Rates of driving licence possession amongst people aged 18 or over by region (2012)



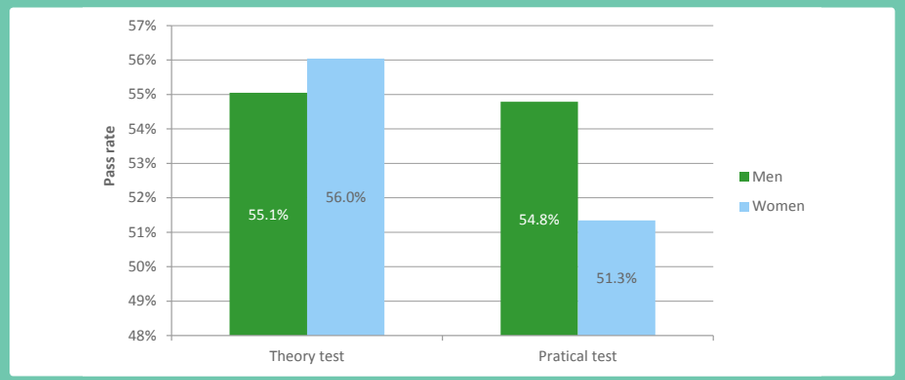
13 Driving tests

To assess their ability to drive, future drivers of motor vehicles must take driving tests. Licence B, taken by the vast majority of candidates, concerns cars (with maximum authorised mass not exceeding 3,500 kg and number of seats fewer than 8, not including the driver's seat). The driving test formula has changed several times in the last few years. The current theoretical Licence B exam contains 50 questions, of which the candidate must be able to answer 41 correctly to pass. Until 2006, the practical test included an exercise on private ground; passing this part would grant access to an exam on public roads. The statistics for passing the practical test on this page only include the "public road" part of the test.

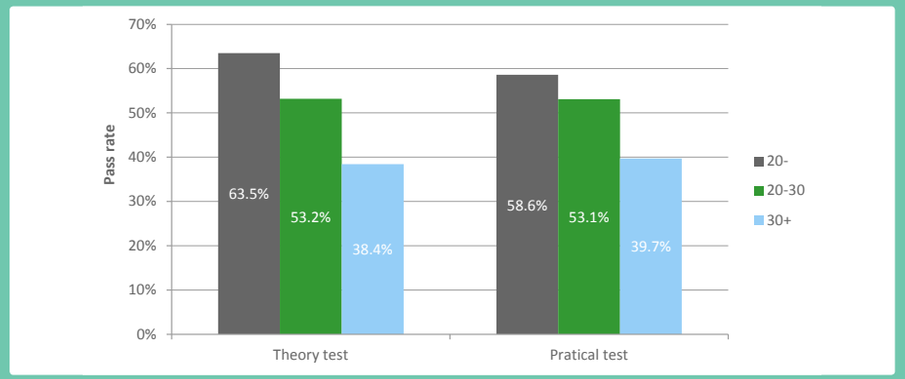
13.1 Change in Licence B pass rates



13.2 Licence B pass rates by gender (2015)



13.3 Licence B pass rates by age (2015)

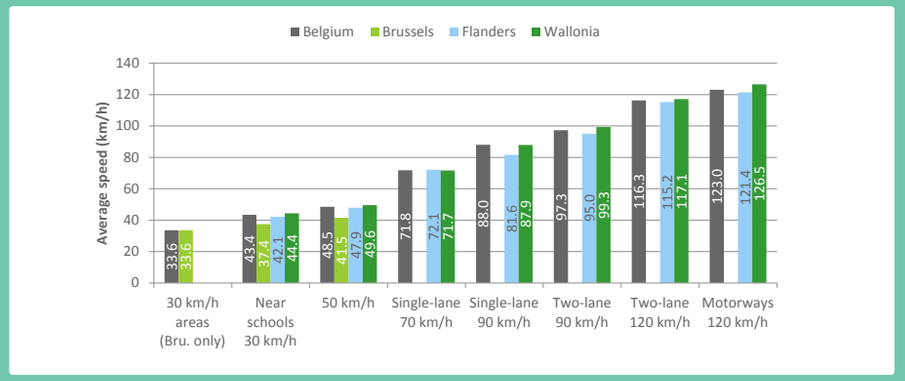


14 Speeds

Speed influences both the risk of a road traffic crash and the crash severity. It is therefore important to monitor traffic speeds to assess the level of safety on roads. Free flow traffic speed is the speed chosen by drivers when they are not impeded by constraints in terms of traffic volume or infrastructure. It is measured on straight roads, without traffic congestion, without speed bumps, without crossroads or bends nearby. It is a good indicator of the risk taken by drivers. An average free flow speed close to or greater than the speed limit indicates the existence of speed violations and the potential for hazardous situations on the road.

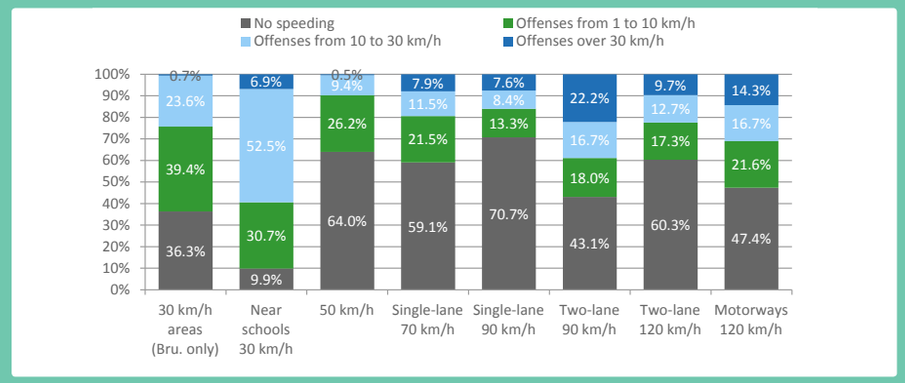
14.1

Average free flow speed of cars by region and speed regime (2015)



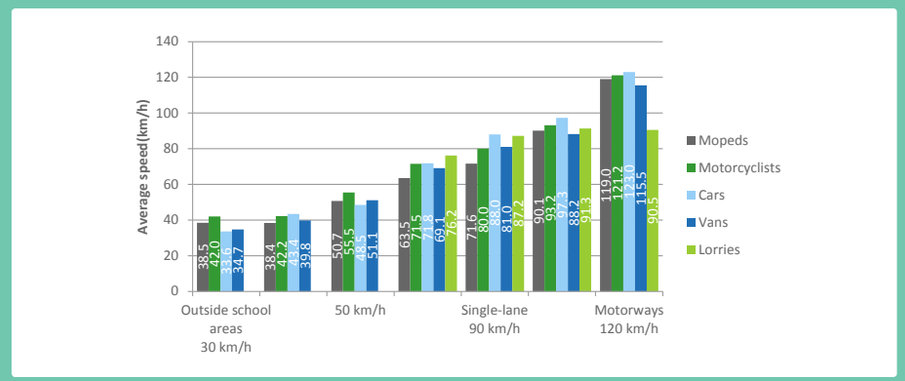
14.2

Speeding offenses of cars by speed limit (2015)



14.3

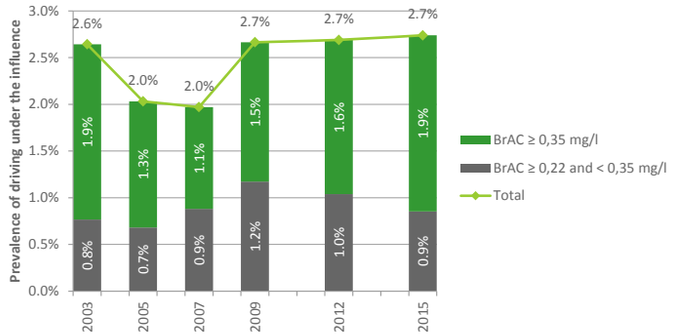
Average free flow speed by vehicle type and speed regime (mopeds and motorcycles: 2012, light trucks: 2013, cars and trucks: 2015)



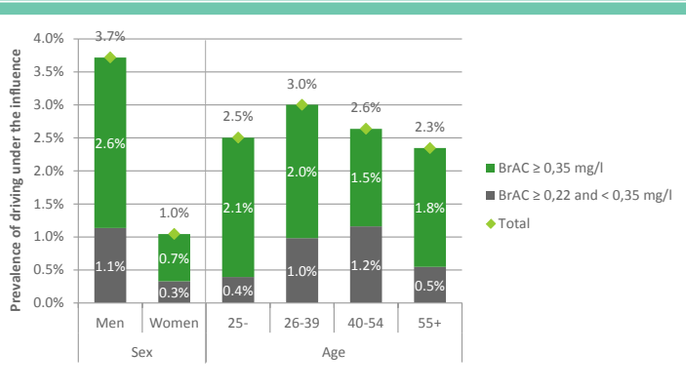
15 Driving under the influence of alcohol

Alcohol considerably alters the ability to drive; it therefore increases the risk of a traffic crash. In Belgium, a person is considered to be driving under the influence of alcohol when the alcohol concentration in their breath is greater than or equal to 0.22 mg/l (equivalent to 0.5 g/l of blood). In conjunction with the police, Vias institute regularly measures the evolution of drink driving behaviour. The prevalence of driving under the influence of alcohol is the percentage of alcohol offenders among drivers controlled at random by the police. This prevalence varies significantly according to the time of the week, and the age and the gender of the driver.

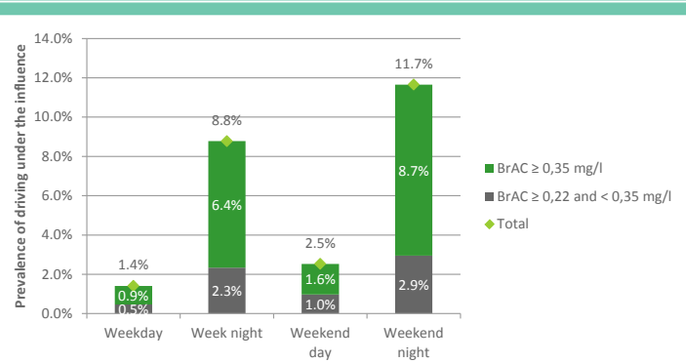
15.1 Change in prevalence of driving under the influence of alcohol among car drivers



15.2 Prevalence of driving under the influence of alcohol by age and gender of the car driver (2015)



15.3 Prevalence of driving under the influence of alcohol among car drivers according to the time of the week (2015)

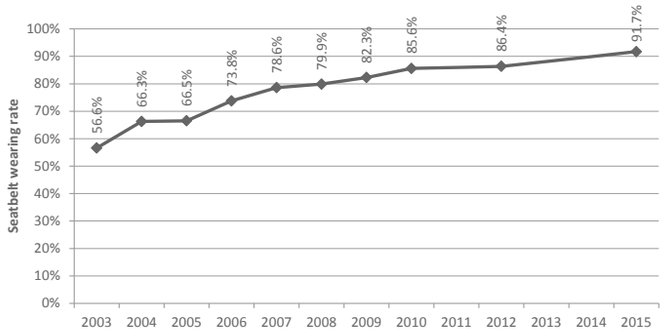


16 Seatbelt wearing rate

The seatbelt is one of the key passive safety devices seeking to reduce the consequences of a road crash. Its use has been compulsory in Belgium since 1975 for the driver and front passenger, and since 1991 for back seat passengers. Belgian behaviour statistics only currently focus on seatbelt wearing rates for front seats, but surveys have shown that this rate is much lower for back seats.

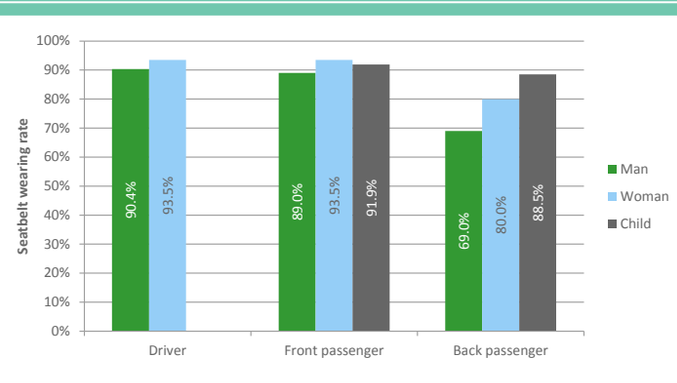
16.1

Change in seatbelt wearing rates amongst car drivers and front seat passengers



16.2

Seatbelt wearing rates amongst according to the place occupied in the car and the gender (2015)



16.3

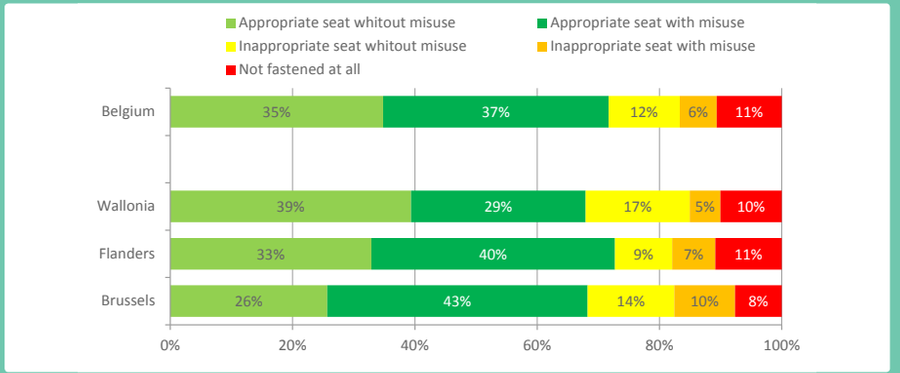
International comparison – (Self-reported) Seatbelt wearing rates by car drivers (2015/2016)

17 Child restraint systems

Children passengers measuring less than 135 cm must travel in suitable restraint devices. As children grow, they will successively use a baby seat facing the back, a seat facing the front, and then a booster seat. Selecting the appropriate device is important, as well as using the device correctly. Examples of misuse include seats incorrectly fitted to the vehicle or in the wrong position, an airbag not deactivated in front of a back seat, or straps not tight enough or not placed at the right place.

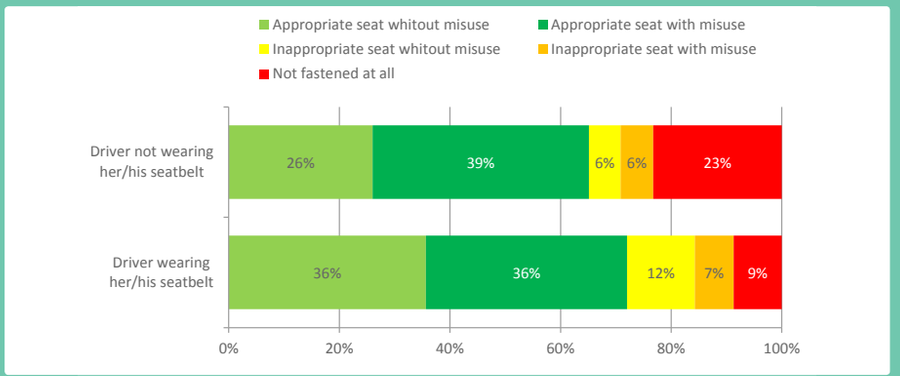
17.1

Rates of use of child restraint systems by region (2014)



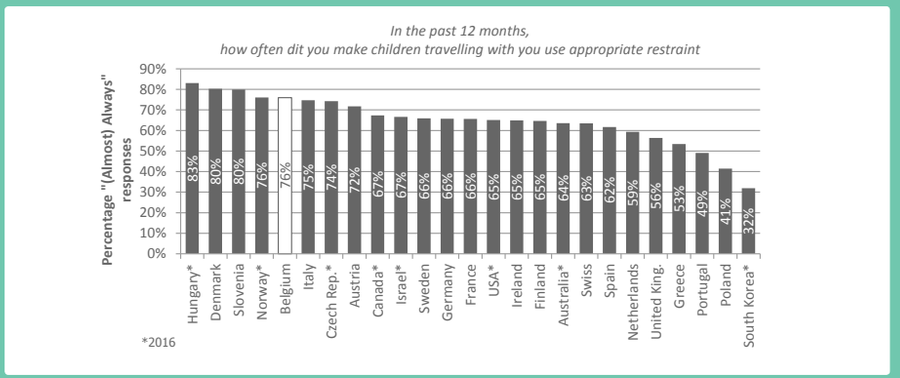
17.2

Rates of use of child restraint systems according to whether the driver is wearing their seatbelt (2014)



17.3

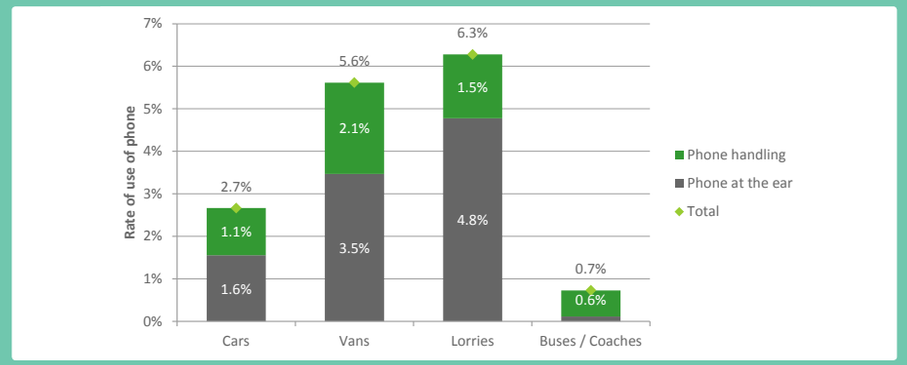
International comparison – (Self-reported) Rates of use of child restraint systems (2015/2016)



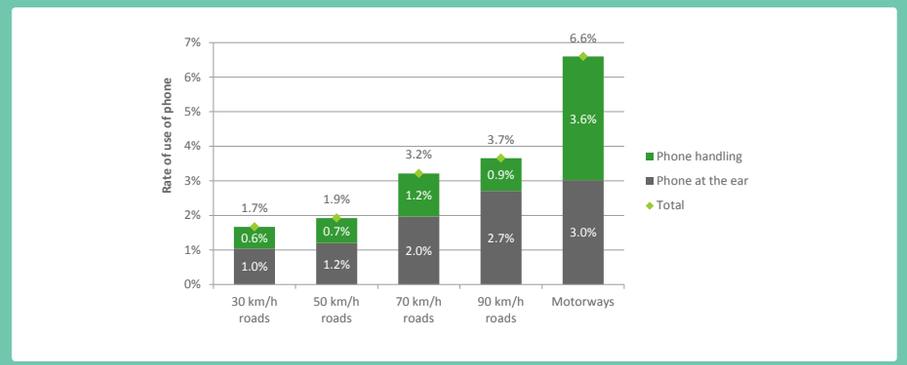
18 Use of mobile phone without hands-free kit while driving

Using a mobile telephone at the wheel – with or without a hands-free kit – is a key cause of distraction. Talking on the telephone causes cognitive, auditory and, without a hands-free kit, physical distraction. Writing a SMS or consulting a phone application also generates visual distraction. Using one's telephone at the wheel without hands-free kit is banned in Belgium. The rate of use of mobile phones has been determined by observing drivers from the side of the road. It represents the percentage of drivers engaged in this distracting behaviour, at a given time in Belgium. This rate must not be confused with the percentage of people who do sometimes make a call at the wheel, which is much higher than represented in Figure 18.1

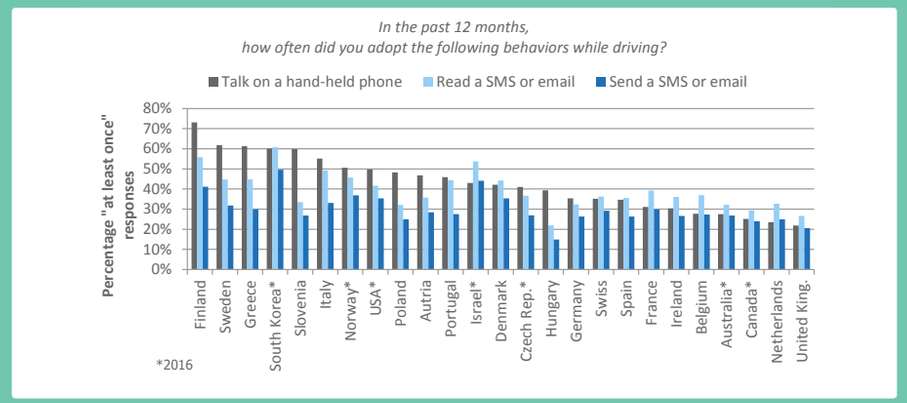
18.1 Rates of use of hand held mobile phone by type of vehicle (2013)



18.2 Rates of use of hand held mobile phone by gender (2013)



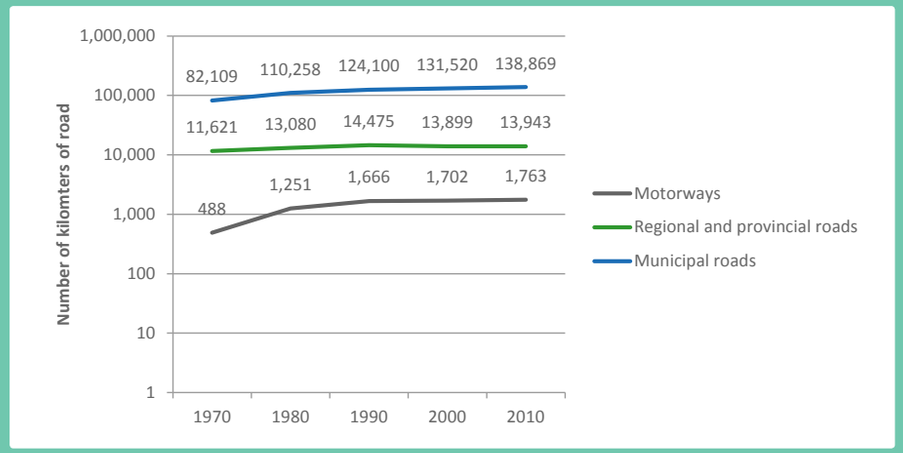
18.3 International comparison – Percentage of people who reported having handled their phone while driving at least once during the last 12 months (2015/2016)



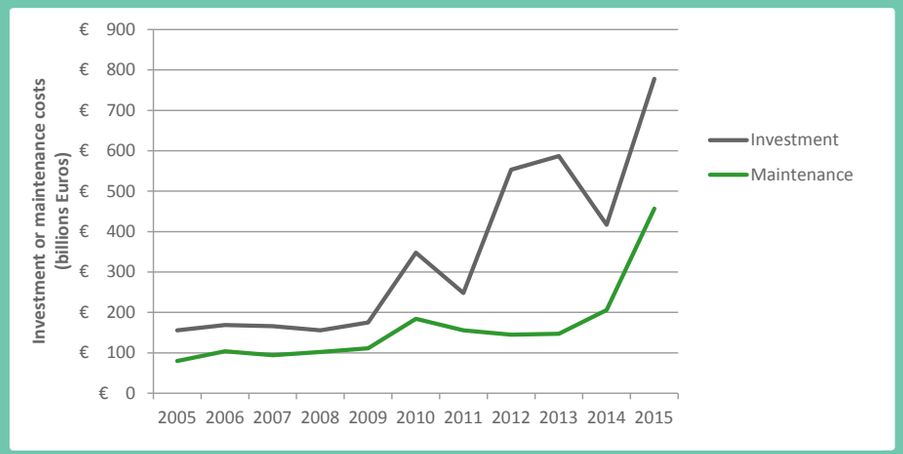
19 Road infrastructure

The state of the road network and safety infrastructure is an important aspect of road safety. However, it is very difficult to obtain centralized information on the state of the road network, because the vast majority of the network is made up of municipal roads, which are managed locally. Even though the Belgian road network has seen few new developments since the '90s compared with previous periods, investment and maintenance costs are high. In terms of length, municipal roads account for the large majority of roads in the country. Motorways only account for just over 1% of road length, but contain a greater volume of traffic. To show all types of roads, in Figure 19.1, we are using a logarithmic y-scale in which each graduation represents a difference of a factor of 10.

19.1
Change in length of the road network by type of road



19.2
Change in expenditure on investment and maintenance of the road network

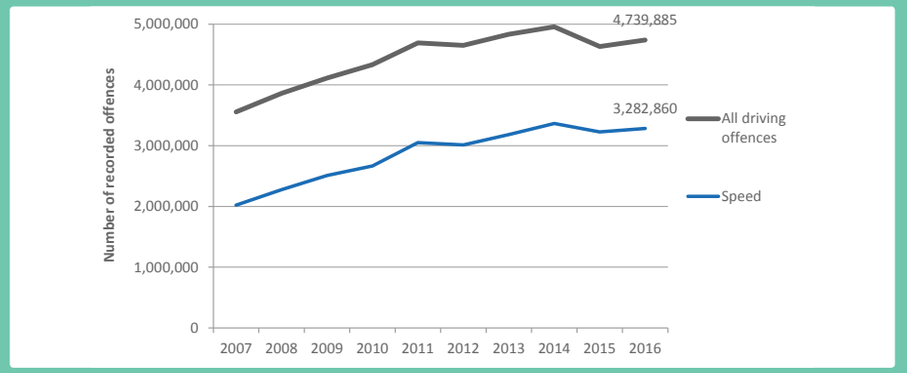


20 Offences recorded by the police

Criminal policy seeks to dissuade road users from breaching traffic laws. The number of recorded offences depends not only on the number of actual offences, but also on the resources allocated by the police and the technical feasibility of detecting an offence. The statistics shown on this page concern offences recorded by the federal police and local police zones which have led to immediate perception or a report. Therefore, other types of offence, such as municipal administrative sanctions are not included. Most recorded offences are due to excessive speed.

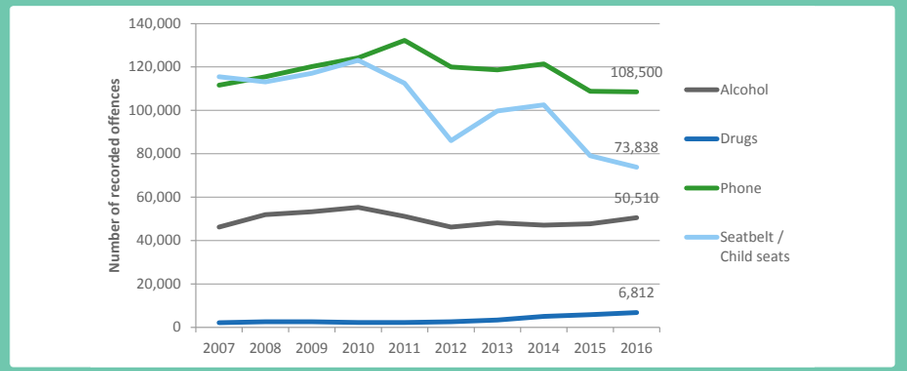
20.1

Change in the total number of offences recorded by the police and the number of speed-related offences



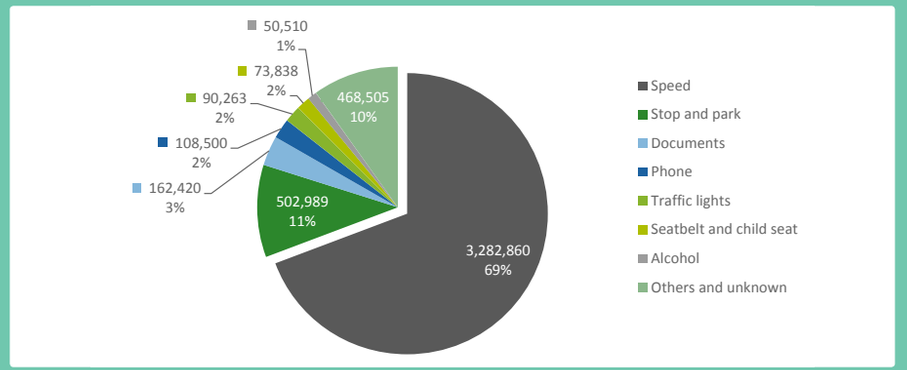
20.2

Change in the number of offences recorded by type of offence (excluding speed)



20.3

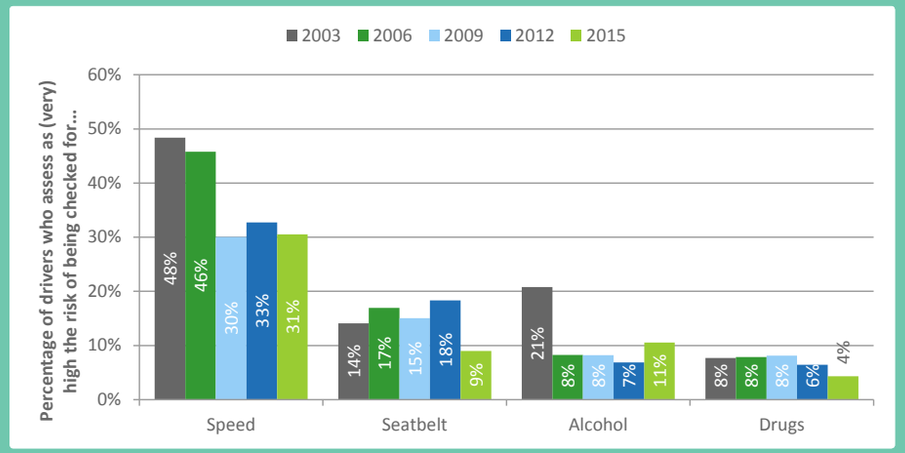
Distribution of offences recorded by the police according to types (2016)



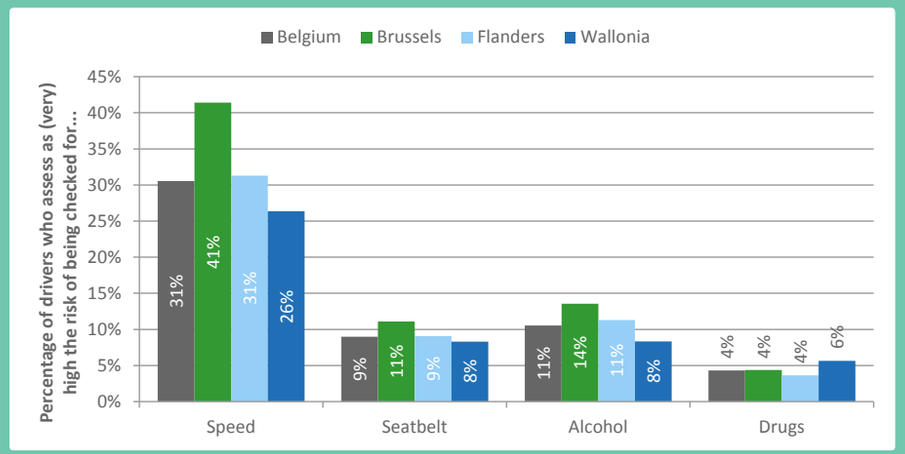
21 Perceived risk of being checked

The perceived risk of being checked is the likelihood from the drivers' perspective that their road behaviour will be checked. This subjective feeling not only depends on the actual number of checks, but also on the communication of these checks, their methods and their visibility. A highly perceived risk is important to dissuade drivers from committing traffic offences.

21.1 Change in the Perceived risk of being checked by type of offence



21.2 Perceived risk of being checked by region of residence (2015)



SOURCES

1. Road fatalities

1.1, 1.2: Federal Public Service Economy / Statistics Belgium

1.3: CARE database (DG Mobility and Transport), International Transport Forum, national sources and Eurostat via European Commission

2. Road traffic crashes and victims

2.1: Federal Public Service Economy / Statistics Belgium

2.2, 2.3: REKOVER database (Federal Public Service Health, IMA, Vias institute, Free University Brussels (VUB))

3. Crash risk and severity

3.1: BELDAM, Federal Public Service Economy / Statistics Belgium, Vias institute

For more information:

- Martensen, H. (2014). @RISK: Analysis of the risk of serious or fatal injuries in traffic according to age and mode of transport. Brussels, Belgium: Belgian Road Safety Institute

3.2, 3.3: Federal Public Service Economy / Statistics Belgium

4. Age and gender of victims

4.1, 4.2, 4.3: Federal Public Service Economy / Statistics Belgium

5. Mode of transport of victims

5.1, 5.2, 5.3: Federal Public Service Economy / Statistics Belgium

6. Traffic crashes resulting only in material damage

6.1, 6.2: Assuralia

7. Volume of motor vehicle traffic

7.1, 7.2: Federal Public Service Mobility and Transport

7.3: International Transport Forum, Eurostat via European Commission

8. Volume of non-motor vehicle traffic

8.1, 8.2: MONITOR survey

8.3: ESRA (E-Survey of Road Users' Attitudes)

For more information:

- Torfs, K., Meesmann, U., Van den Berghe, W., & Trotta, M. (2016). ESRA 2015 – The results. Synthesis of the main findings from the ESRA survey in 17 countries. ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Belgian Road Safety Institute

9. Age and gender of car drivers

9.1, 9.2: Vias institute

SOURCES

10. Vehicle fleet

10.1, 10.2: Federal Planning Bureau

10.3: Eurostat

11. Vehicle inspection

11.1, 11.2, 11.3: GOCA

12. Possession of driving licence

12.1: Federal Public Service Mobility and Transport

12.2, 12.3: BELDAM survey

13. Driving tests

13.1, 13.2, 13.3: GOCA

14. Speeds

14.1, 14.2, 14.3: Vias institute

For more information:

- Trotta. M. (2016). What do we learn from GPS-data on road speeds? Behavioural measurement: speed outside urban areas 2015. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety
- Temmerman P. (2016). Speed(ing) in built-up area. Results of the BRSI behavioural survey speed in built-up areas in 2015. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety
- Riguelle, F., & Roynard, M. (2014). Do vans drive too fast? Results of the first speed survey of vans in Belgium - Summary. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety
- Temmerman, P., & Roynard, M. (2015). Motorcycle speed survey 2014. Results of the first motorcycle speed survey in Belgium. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety

15. Driving under the influence of alcohol

15.1, 15.2, 15.3: Vias institute

For more information:

- Focant N. (2016). Drinking and driving … Do we do it too much? National behavioural survey “Driving under the influence of alcohol” 2015. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety

SOURCES

16. Seatbelt wearing rate

16.1, 16.2: Vias institute

For more information:

- Lequeux Q. (2016). What about the seatbelt use? Results of the seatbelt behaviour measurement 2015. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety

16.3: ESRA (E-Survey of Road Users' Attitudes)

For more information:

- Trotta, M., Meesmann, U., Torfs. K., Van den Berghe, W., Shingo Usami, D., & Sgarra, V. (2017). Seat belt and child restraint systems. ESRA thematic report no. 4. ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Belgian Road Safety Institute

17. Child restraint systems

17.1, 17.2: Vias institute

For more information:

- Roynard, M. (2015). Are children transported safely? National behavioural survey on the use of child restraint systems 2014. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety

17.3: ESRA (E-Survey of Road Users' Attitudes)

For more information:

- Trotta, M., Meesmann, U., Torfs. K., Van den Berghe, W., Shingo Usami, D., & Sgarra, V. (2017). Seat belt and child restraint systems. ESRA thematic report no. 4. ESRA project (European Survey of Road users' safety Attitudes). Brussels, Belgium: Belgian Road Safety Institute

18. Use of mobile phone without hands-free kit while driving

18.1, 18.2: Vias institute

For more information:

- Riguelle, F., & Roynard, M. (2014). Driving without hands. Use of mobile phone and other objects while driving on Belgian roads. Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety

18.3: ESRA (E-Survey of Road Users' Attitudes)

For more information:

- Trigoso J., Areal A., & Pires C. (2016). Distraction and fatigue. ESRA thematic report no. 3. ESRA project (European Survey of Road users' safety Attitudes). Lisbon, Portugal: Prevenção Rodoviária Portuguesa

SOURCES

19. Road infrastructure

19.1: Federal Public Service Mobility and Transport, Federal Public Service Economy / Statistics Belgium

19.2: International Transport Forum, OECD

20. Offences recorded by the police

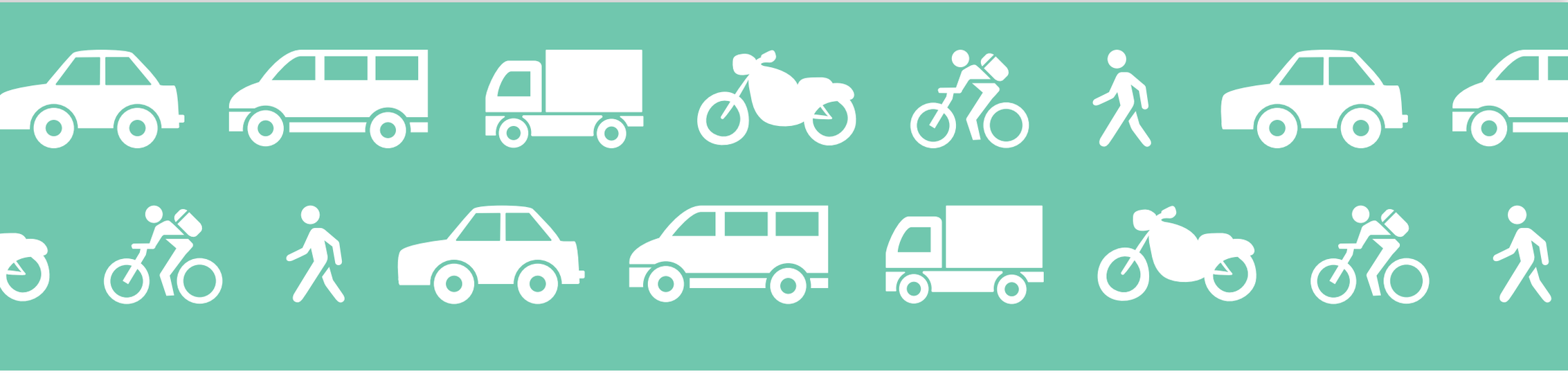
20.1, 20.2, 20.3: Federal police/PFP/DGR/DRI - BIPOL

21. Perceived risk of being checked

21.1, 21.2: Vias institute

For more information:

- Meesmann, U. & Schoeters, A. (2016). How do car drivers look at road safety? Results of the fifth national attitude measurement on road safety of the Belgian Road Safety Institute (2015). Brussels, Belgium: Belgian Road Safety Institute – Knowledge Centre Road Safety



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