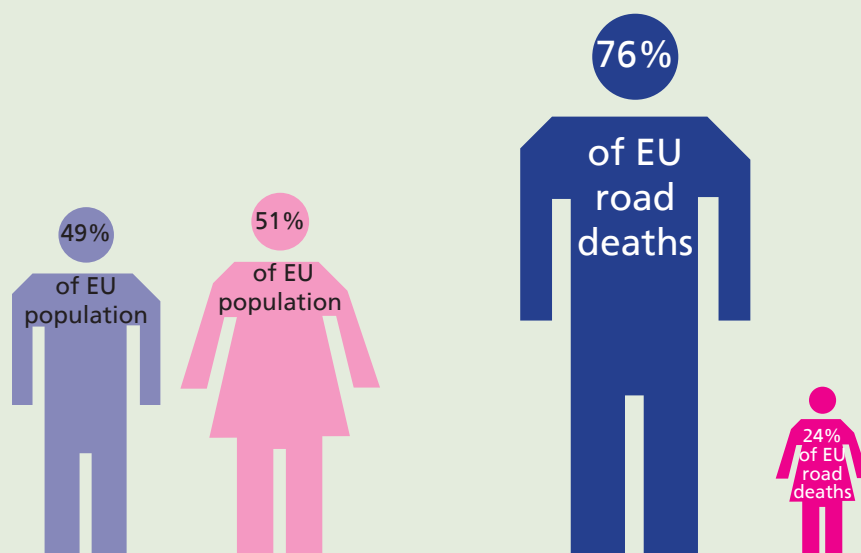


## 3| Risk on the roads: a male problem? The role of gender in road safety

Just under **30,400 people** were killed in 2011 in the EU27 in road collisions, approximately **7,200 females** and **23,200 males**. Females account for 51% of the total EU population but only **24%** of road deaths. This percentage has changed by only one percentage point since 2001, but the reduction in female deaths since then has been four percentage points greater than the reduction in male deaths. Males account for **76%** of people killed on the roads in the EU in 2011.

In the EU on average **95 men** are killed on the roads each year per million male population, compared with **28 women** per million female population. **Males have more than three times the death rate of females on the roads in the EU.** Hypothetically, if all EU road users used the roads like females in their respective countries do now, the road mortality rate across the EU would be about 20% lower than the average for the SUN countries, and even in the countries with the highest road mortality it would be no higher than it is in Germany now. Males are killed on the roads mainly as car drivers and motorcycle riders while females are killed mainly as pedestrians and car passengers.



There is extensive evidence to show that men have a higher rate of collisions than women. In addition to having a higher number of collisions, men incur their first collision earlier in their driving career and are more likely than women to be held to blame for the incident. Female drivers are less prone to risky driving behaviour, in particular speeding, and have more positive attitudes towards traffic regulations and safety.

These differences between men and women should be recognised and gender-differentiated policies developed in relevant areas.

### 3.1 The scale of the problem

#### 3.1.1 Female road deaths have fallen faster than male since 2001 in more than two thirds of the EU countries

**Spain** and **Hungary** scored the highest average annual percentage reductions in both male and female road deaths since 2001, **Estonia** the second best reduction in male. Only in Romania have the numbers of males and females killed on the roads increased since 2001 (by 0.1% and 0.3% respectively). A

group of 14 countries follow with reductions in male deaths above the EU average of 5.8%. These are **Portugal, Luxembourg, France, Ireland, the UK, The Netherlands, Slovenia, Germany, the Czech Republic, Denmark, Sweden, Italy, Austria and Switzerland.**

Fifteen countries – **Austria, Cyprus, the Czech Republic, Estonia, France, Germany, Hungary, Ireland, Italy, Slovenia, Portugal, Spain, Sweden, Switzerland** and the **UK** – achieved reductions in female deaths above the EU average of 6.1%. Across the EU, female deaths have fallen on average slightly faster than male between 2001 and 2011 (-6.1% and -5.8% respectively).

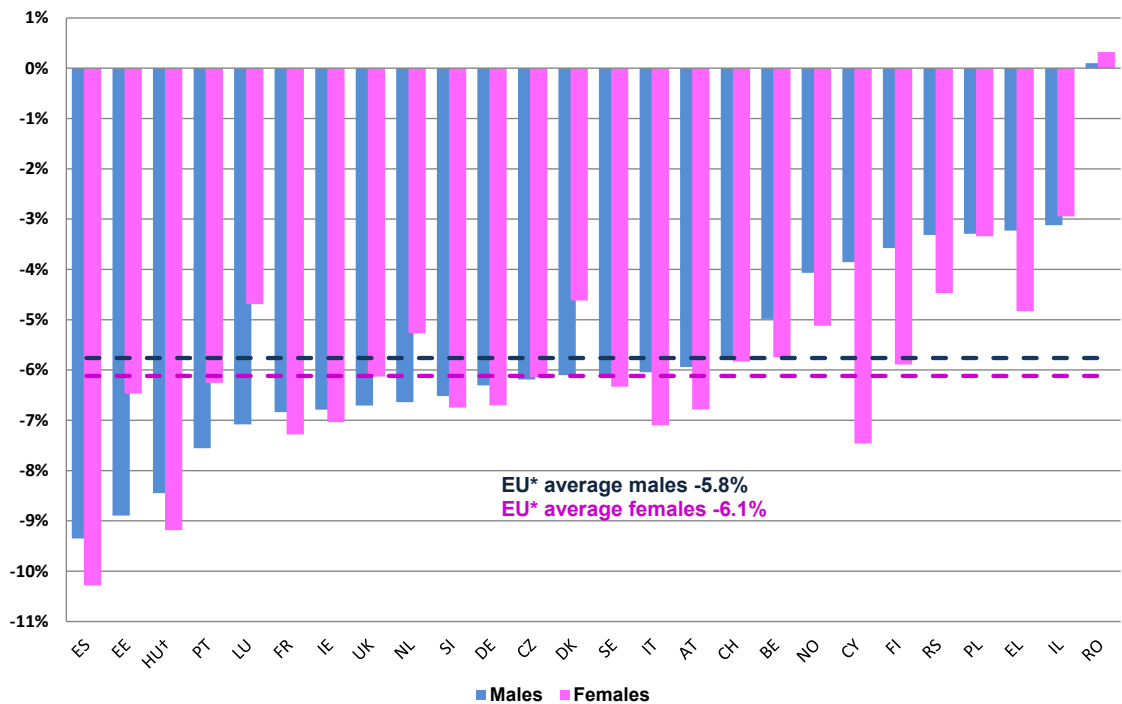


Fig. 26a: Average annual percentage change in female and male road deaths between 2001 and 2011 ranked by the reduction in male deaths.

*†HU (2003-2010). Note: Limitations of data have prevented the inclusion of Bulgaria, Latvia, Lithuania, Malta and Slovakia in Fig. 26a and Fig. 26b (see indicator box).*

EU\* = EU27 except BG, LV, LT, MT, SK.

The corresponding ranking by average percentage change in road mortality is shown in Fig.26b and is broadly similar to that in Fig.26a, indicating that differences between countries in the changes in the female and male populations have affected the ranking only slightly. The principal exception is Ireland, where the increase in population for both males and females (+19%) has brought Ireland into the 3<sup>rd</sup> and 4<sup>th</sup> position for reduction in female and male mortality respectively.

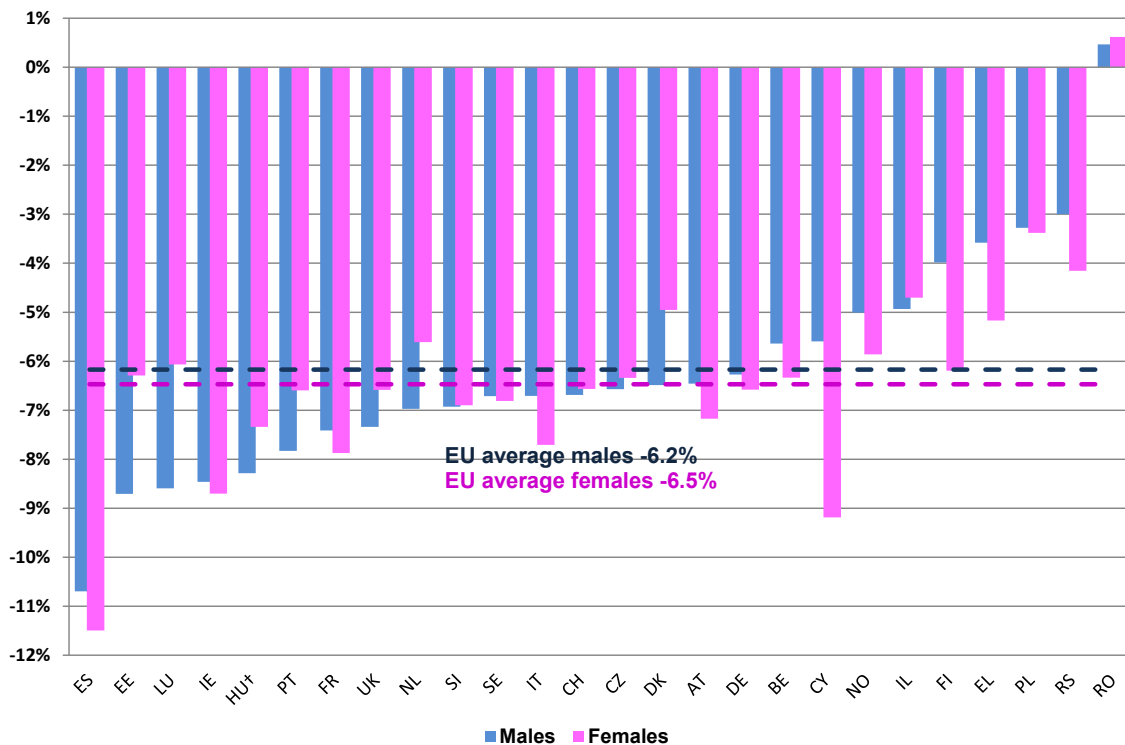


Fig. 26b: Average annual percentage change in female and male **road mortality** between 2001 and 2011. *†HU (2003-2010)*

### The indicator

The annual average percentage reductions in the numbers of **road deaths** among females and males between 2001 and 2011 are used as the main indicator in this PIN ranking (Fig.26a). To allow for the effect of changes in the population, the corresponding annual average percentage reductions in road mortality are shown in Fig.26b.

When available, the data were retrieved from CARE and completed or updated by the PIN Panellists. **The full dataset is available in the Annexes – Chapter 3.** The numbers of females and males killed in traffic are available only in 2009 in Bulgaria, from 2005 to 2010 in Slovakia and from 2007 to 2011 in Lithuania. Limitations of data between 2009 and 2011 have prevented the inclusion of Latvia. Malta is excluded from Fig. 26a, 26b and 27 because the number of males killed is below 20. Population figures were retrieved from the Eurostat database.

The safety of females and males on the road is expressed in terms of **mortality**, i.e. the number of females killed in road collisions divided by the female population in millions and similarly for males (Fig. 29). Unfortunately an estimation of time spent in traffic or the amount of travel by males and females is available in only a few countries. Exposure in traffic is therefore not taken into consideration here when comparing countries. Yet data available in Sweden, The Netherlands and the UK have shown that large differences in male and female mortality rates remain even after taking into consideration the fact that men use the roads more than women.

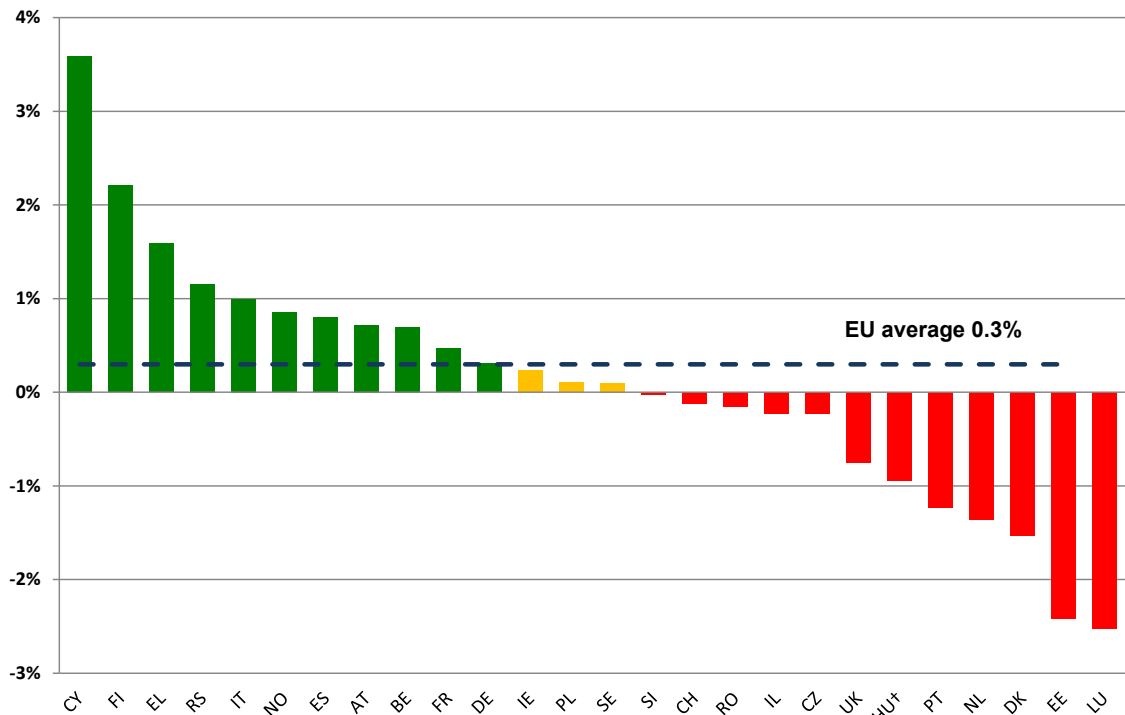


Fig.27. Amount by which the average annual percentage reduction in mortality of females exceeds the average annual percentage reduction in mortality of males over the period 2001–2011. †HU 2003-2010

On average in the EU27, road safety of females has, if anything, improved slightly faster than road safety of males since 2001. In **Cyprus**, the annual average reduction in road deaths among females is more than 3 percentage points higher than the corresponding reduction for males, and in **Finland** and **Greece** it is more than 2 and 1.5 percentage points higher respectively. In **Luxembourg**, **Estonia**, **Denmark**, **The Netherlands** and **Portugal**, the opposite is true and road safety of males has improved more than one percentage point faster than road safety of females. For all other countries, the two rates are within about 1 percentage point of each other.

*“Road safety education has been significantly upgraded in Cyprus in the decade 2001-2011 and I believe that the messages were better absorbed by the girls in the schools. I also believe that messages successfully reached the mothers, through their children. Similarly, road safety campaigns were better received by the female population. Additionally, there were specific road safety awareness activities targeted towards pregnant women and new mothers, which, I believe, contributed to the progress.”*

George Morfakis, road safety expert, Cyprus.

### 3.1.2 358,000 males and 113,000 females have been killed on EU roads since 2001

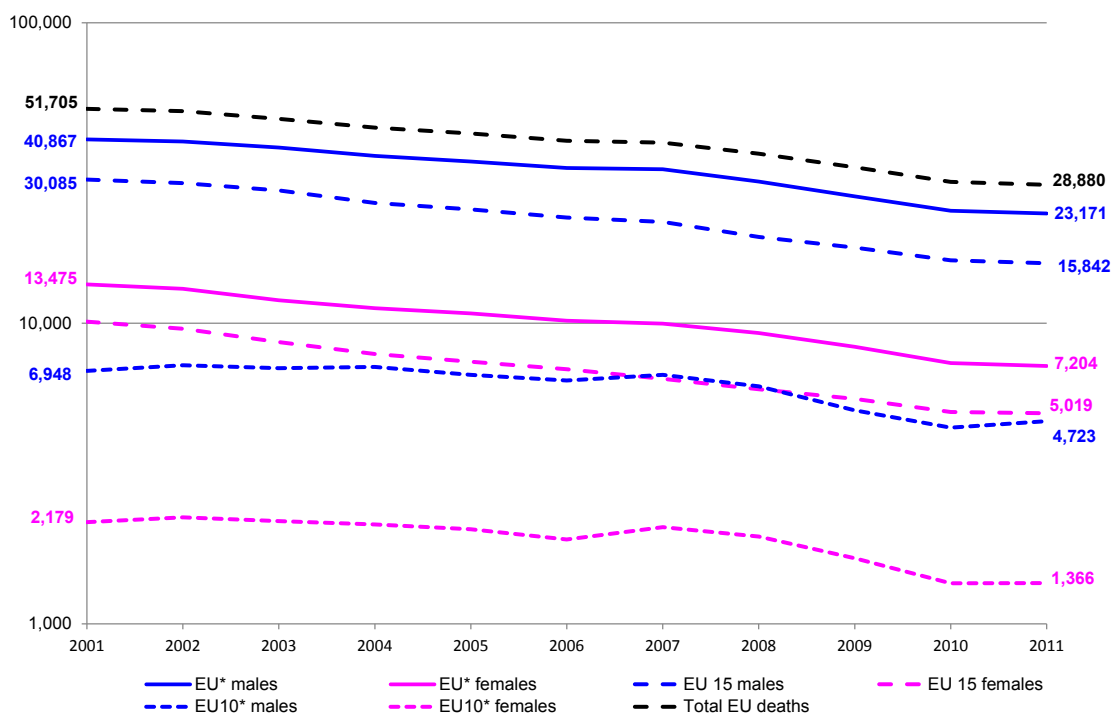


Fig. 28: Reduction in road deaths since 2001 in the EU 27, EU 15 and EU 10 for males and females separately. The logarithmic scale is used to enable the slopes of the various trendlines to be compared. \* Note: EU minus Bulgaria, Lithuania and Slovakia.

Approximately **358,000** males and **113,000** females were killed in the EU27 as a consequence of road collisions over the years 2001-2011. In 2011 alone, 23,200 males were killed in 2011 alone (compared with 41,000 in 2001) and 7,200 females (13,500 in 2001). Female deaths have declined faster than male deaths in both the group of pre-2004 EU Member States (EU15) and the 10 countries that joined in 2004 (EU10) (see Table below).

|      | People killed in 2001 |        | People killed in 2011 |        | Reduction 2001-2011 |       |
|------|-----------------------|--------|-----------------------|--------|---------------------|-------|
|      | Females               | Males  | Females               | Males  | Females             | Males |
| EU27 | 13,475                | 40,867 | 7,204                 | 23,171 | 47%                 | 43%   |
| EU15 | 10,121                | 30,085 | 5,019                 | 15,842 | 50%                 | 47%   |
| EU10 | 2,179                 | 6,948  | 1,366                 | 4,723  | 37%                 | 32%   |

Reduction in female and male road deaths between 2001 and 2011

### 3.1.3 Males have three times the death rate of females on the roads in the EU

The indicator for all people hides big differences in road mortality rates between males and females (Fig. 29). In the EU on average **95** males are killed on the roads each year per million male population, compared with **28** females per million female population. Across Europe, females have a road mortality rate less than one-third that of males. Fig.29 shows that there is less variation in female road mortality between countries than in male so most of the variations in road mortality in the total population come from the variation in male mortality.

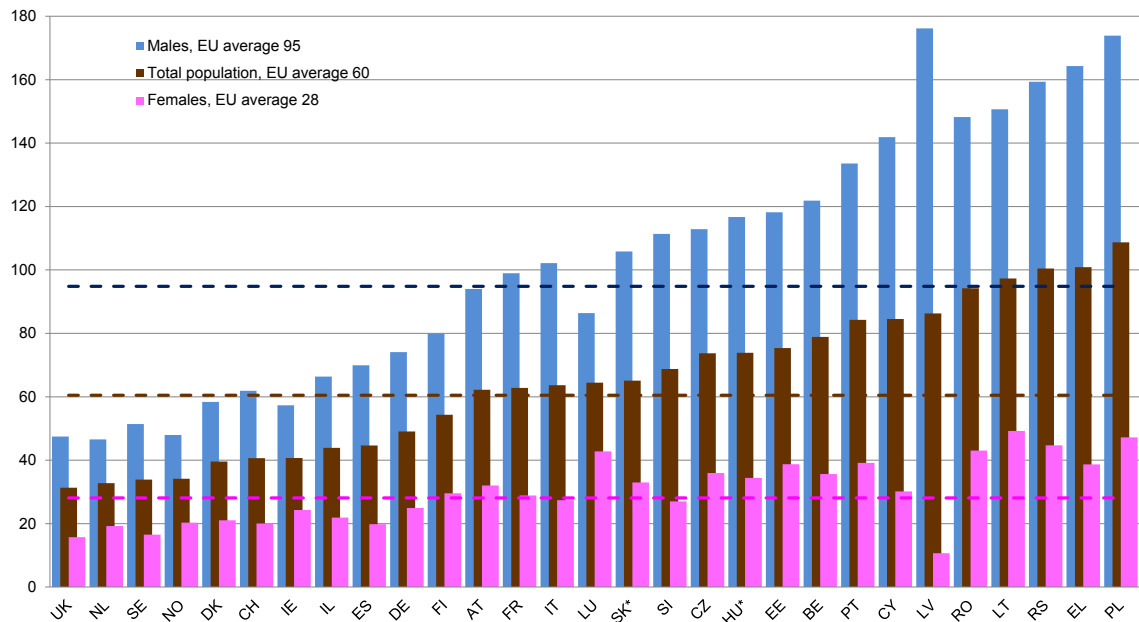


Fig. 29: Road deaths per million inhabitants in 2011 in total and by gender, ranked by the road mortality of the whole population. \*HU, SK: 2010.

For Malta the small numbers of deaths and the number with unrecorded gender prevent calculation of comparable mortality rates.

Hypothetically, if all EU road users used the roads like females in their respective countries do now, the road mortality rate across the EU would be about 20% lower than the average for the SUN countries, and even in the countries with the highest road mortality it would be no higher than it is in Germany now.

### Women Manifesto for Safer Roads

To mark the 2013 International Women's day on the 8<sup>th</sup> of March, the Road Safety Interministerial Delegation in France launched the "As long as there will be men" campaign inviting people to sign a Women Manifesto for Safer Roads. "75% of road deaths are men. Men we know, men we love. A husband, a companion, a son, a father, a friend. Speed does not scare them. Nor does fatigue. And they do not let a few drinks during the meal prevent them from taking the car. They drive well. They are in control. So they say. They have never had an accident. And it's true. Until one day. In the entourage of a man who takes the wheel or the keys of a motorbike, there is often a woman. You, me, a woman who can say no. I do not ride in this car. I get out at the next traffic light. Drive more slowly. Really slower. You are dangerous. Hand me the keys. But this woman is silent. She lets them. By tenderness, fatigue. Habit. We have the power to break the habit, we did, and in so many areas. We can all abandon the old role playing that sees men as conquerors and women as accommodating. Let's refuse to be accommodating. We will make the road safer for us, for them, the men we love. Our names are a promise. Let's engage them".

*Men represent 83% of the people sentenced for manslaughter on the roads in France.<sup>1</sup>*

<sup>1</sup> <http://securite-routiere.gouv.fr/medias-outils/les-chiffres-de-la-route/les-hommes-et-les-femmes-sur-la-route>

### 3.1.4 Males are mainly killed as car drivers and motorcycle riders while females are mainly killed as pedestrians and car passengers

Fig. 30a and 30b show the percentages of different types of road user among males and females respectively who were killed on the roads in the last three years. Across the EU the principal differences between the percentages for females and males are, perhaps not unexpectedly, that larger percentages of female than male deaths occur as pedestrians or car passengers, while larger percentages of male than female deaths occur as PTW users, car drivers and users of goods or public transport vehicles (the last probably mainly as goods vehicle users).

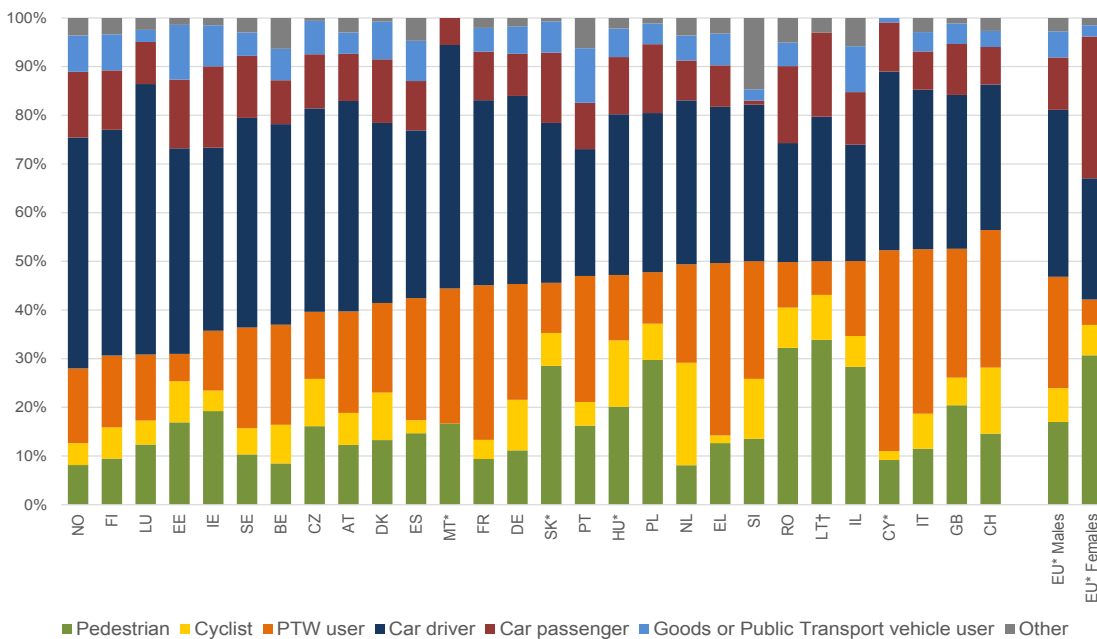


Fig. 30a: Percentage share of different types of road user, among **male road deaths**. Average of the last three years available, with countries ranked by percentage of those killed who were vulnerable road users (pedestrians, cyclists or PTW users).

\*CY, HU, MT, SK, average of the last two years available 2009, 2010. †LT average of the last two years available 2010-2011. EU\* = EU27 except BG, EE, LV

Unfortunately an estimation of time spent in traffic or the amount of travel by females and males is available in only a few countries. Exposure in traffic is therefore not taken into consideration here in comparing countries. Yet data available in Sweden, The Netherlands and the UK have shown that large differences in female and male mortality rates remain even after taking into consideration the fact that men use the roads more than women.

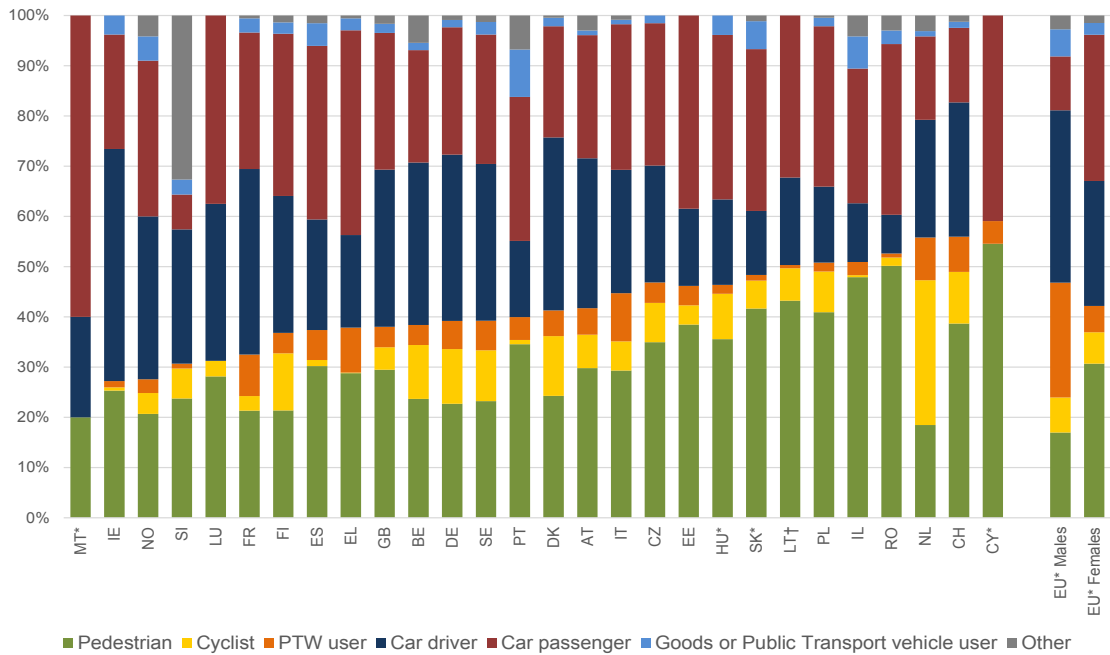


Fig. 30b: Percentage share of different types of road user, among **female road deaths**. Average of the last three years available, with countries ranked by percentage of those killed who were vulnerable road users (pedestrians, cyclists or PTW users).

\*CY, HU, MT, SK, average of the last two years available 2009, 2010. †LT average of the last two years available 2010-2011. EU\* = EU27 except BG, EE, LV

### 3.1.5 Male share of road deaths far outweighs their percentage of population

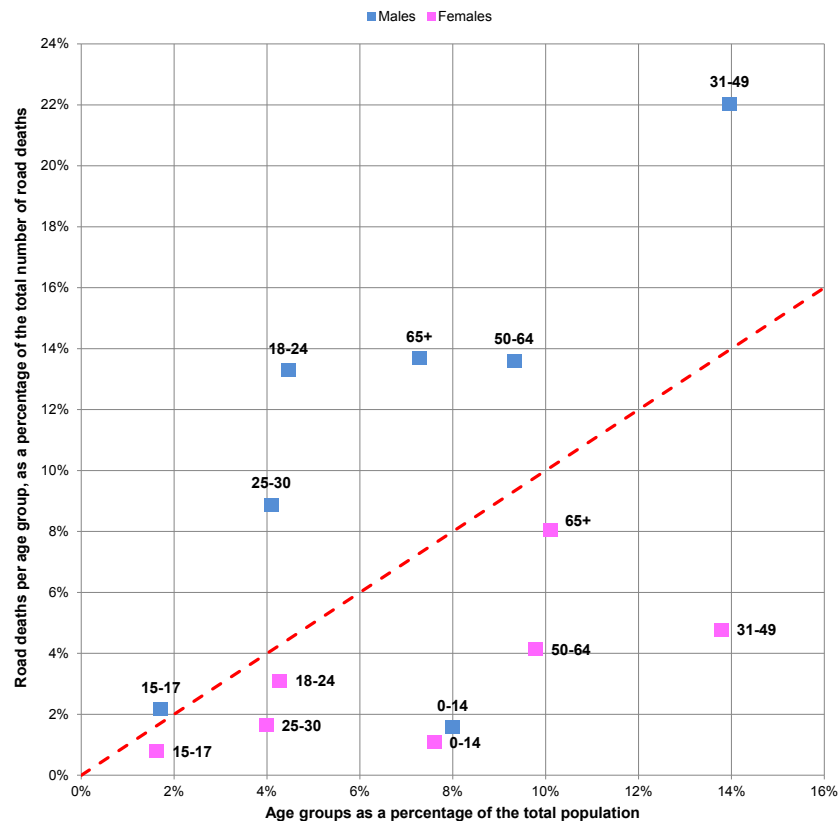


Fig 31. Road deaths in EU27, by gender and age group as a percentage of all road deaths for that particular age group and gender, plotted against the corresponding percentage of the population in the last three years available.



**Males represent 49% of the EU population but 76% of road deaths.** Fig. 31 illustrates how the overrepresentation of males differs between the age groups 0-14, 15-17, 18-24, 25-30, 31-49, 50-64 and 65+. It is appreciable first in the 15-17 age group and is at its greatest in the 31-49 age group, and successively lower in the 50-64 and 65+ age groups. These differences may well be related to access to motor vehicles and in the 65+ age group to the longevity of women and the frailty of the oldest women.

### 3.2 Research shows males to be more prone to risky road behaviours

There is extensive evidence to show that men have a higher rate of collisions than women. The difference between the sexes in terms of the number of deaths resulting from road collisions is similarly marked. Chipman *et al* (1992), for example, show that men have double the number of collisions (per 1,000 drivers) than women. Waller *et al* (2001) also note that in addition to having a higher number of collisions, men incur their first collision earlier in their driving career and are more likely than women to be held to blame for the incident. Norris *et al* (2000) and others attribute this greater level of collision-proneness to higher driving speeds among men and less regard for traffic laws<sup>2</sup>. Male drivers seem to be more prone to risky driving behaviour than female drivers. In the UK, for example, Home Office statistics show that in 2002 88% of all recorded driving offences, and 83% of speeding offences, were committed by men.<sup>3</sup>

Waylen and McKenna (2002) note that the pattern of road collision involvement also differs between the sexes. Men are more likely than women to be involved in collisions that occur on bends, in the dark or those that involve overtaking. Women, on the other hand, have a greater frequency of collisions occurring at junctions than men. This supports the suggestion by Storie (1977) that men are more at risk from collisions involving high speed while women are more likely to be involved in collisions resulting from perceptual judgment errors.

The growing proportion of women drivers is usually attributed to the changing role of women in society. There is much to suggest that, with more women driving, road traffic may become safer. Women have been shown to commit fewer traffic offences and to be involved in collisions less often than men (even after exposure is controlled for). Similar differences are evident regarding male and female involvement in accidents in the home and workplace. The differences have persisted over the years. This does not seem to confirm the concerns of some specialists claiming that, as more and more women drive, they may adopt a male style of driving leading to an increase in collisions involving women as drivers.

Studies have shown women drivers to have more positive attitudes than their male counterparts towards traffic regulations and safety. Additionally, in the framework of the SARTRE 4 survey, respondents were asked about their attitude towards the use of speed limitation devices, event data recording devices, alcohol interlocks and fatigue detection devices. For each of these ITS technologies the women respondents showed a more positive attitude than the men.<sup>4</sup>

In terms of the three main risk factors on the roads (speeding, drink driving and failure to wear a seatbelt), a higher incidence of these behaviours was observed among males than among females in a number of research papers.

<sup>2</sup> The Social Issues Research Centre (2004), Sex differences in driving and insurance risk.

<sup>3</sup> Ibid.

<sup>4</sup> SARTRE (2012) European road users' risk perception and mobility

### 3.2.1 Compliance with posted speed limits

According to the SafetyNet Collision Causation Database, men are more often involved in collisions caused by high speed and incorrect direction (including running off the road)<sup>5</sup>.

Men also showed a more positive attitude towards speeding in the SARTRE study of driver attitudes, with 29% of men survey respondents saying that driving 20km/h over the speed limit in a residential area would make driving a more pleasant experience, compared with 23% of women, and 6% of men compared with 3% of women admitting that they 'very often' or 'always' speed in residential areas. A corresponding difference was apparent in levels of risk perception: 19% of men said the risk of being involved in a collision when driving 20km/h over the speed limit in a residential area would not increase, compared with 15% of women<sup>6</sup>.

In terms of attitude towards speeding and speed enforcement, a UK study from 2006 showed that women had a more positive attitude towards safety cameras than men, including a better awareness of their road safety benefits, and their life-saving and collision-reduction potential.<sup>7</sup> This positive attitude towards safety cameras was also reflected in a higher preference for increasing the number of cameras in the area close to the respondents' homes.

It is interesting to note that both of these attitudinal studies also observed an effect of the respondents' age on their attitude towards speeding and speed enforcement, with older drivers of both sexes revealing more rule-accepting/abiding attitudes than their younger counterparts.

#### Speed Dating: driving too fast is not sexy

A new campaign under the *Go For Zero* Road Safety Initiative in Belgium aims to debunk a positive image of speed. In July 2012, a 'speed dating' campaign was launched, together with a popular women's magazine called "Flair", to see whether women passengers find speeding men attractive. The winners went on a 'speed date' with their chosen date on an off-road drive at high speeds. The women did not know their date was in fact an actor and it was part of a road safety experience. Upon exiting the vehicle, all respondents disapproved of the behaviour of their speeding date. The reactions of the women's participating were recorded and subsequently used in radio spots or displayed on posters along the highways. A snapshot: *"I cannot date a man who plays with other people's lives"* or *"Driving too fast turns me off completely."*

<http://www.goforzero.be/fr/rouler-trop-vite-a-me-refroidit-compltement/home/speeddating/speeddate>

#### eCall for women

In 2008, Fondazione ANIA, together with the Italian Ministry of Equal Opportunities launched a project aimed at women entitled "Pink Box" (Scatola Rosa): an in-vehicle system which can send an emergency call in case of a collision or the need of assistance. The "Pink Box" can contact a central emergency unit at any time, while satellite-determined vehicle location can be sent to the Police or emergency services or roadside assistance services. Approximately 2,500 devices have been fitted so far.

[http://www.fondazioneania.it/Fondazione\\_Ania/La\\_sicurezza\\_Personale\\_1.html](http://www.fondazioneania.it/Fondazione_Ania/La_sicurezza_Personale_1.html)

<sup>5</sup> ERSO (2012) Traffic Safety Basic Facts 2012 - Gender

<sup>6</sup> SARTRE (2012) European road users' risk perception and mobility

<sup>7</sup> Corbett, C. and Caramlau, I. (2006) 'Gender differences in responses to speed cameras: typology findings and implications for road safety'. in *Criminology and Criminal Justice: An International Journal* 6(4), 411-433.

### 3.2.2 Driving under the influence of alcohol, drugs or both

The European research project DRUID investigated the prevalence of alcohol and other psychoactive substances – such as illegal drugs and some prescription medicines – among drivers. Alcohol had the highest incidence of all psychoactive substances, with men in the 35-49 and 50+ age groups showing the highest prevalence of drinking and driving. Among women, a relatively higher prevalence of alcohol was found in the same two age groups: 35-49 and 50+. However, men in the 25-35 age group showed the highest incidence of consuming alcohol among drivers killed or seriously injured in collisions. The DRUID report also notes that it was mainly among older female drivers that psychoactive medicinal drugs were detected, particularly during daytime hours.<sup>8</sup>

*Men represent 92% of drivers involved in a fatal drink and drive collision in France.*<sup>9</sup>

In terms of the attitudes towards drinking and driving, the SARTRE study reports that 11% of the men surveyed said they could drink and drive provided they were careful, compared with 6% for women. SARTRE respondents in the 17-24 age group seemed most likely to agree with the above statement. Unsurprisingly, the study also reports an association between drivers admitting to drinking and driving and the belief that they can do so provided they are careful. Moreover, the self-reported responses provided in the SARTRE survey are consistent with women being less likely than men to drink and drive when over the legal BAC limit.<sup>10</sup>

A study of alcohol consumption and its effects on driving in the UK found the groups of men and women most likely to be at risk of harm from their drinking are older adults and those with higher incomes, although young people are often perceived as a greater problem because they drink more in one session, often just at the weekends<sup>11</sup>. Although men are still the majority, over the years 2003-2010 women's convictions for drink driving are increasing as a proportion of all convictions whilst male rates are falling.

*“Whilst binge drinking among young people is an issue in the UK they usually do not then get in their cars after drinking alcohol, whilst the older drivers often do – especially the women – and we suggest that they do not know how much alcohol there is in a glass of wine (their preferred drink) especially as wine is getting stronger in terms of alcohol content and glass sizes are getting bigger”.*

Heather Ward, University College London, UK.

### 3.2.3 Seatbelt wearing

In Switzerland, the Council for Accident Prevention (bfu/bpa) found a significant gender gap in terms of seatbelt wearing rates. Seat belt roadside counts showed that in 2012 96% of women use their seatbelts, whether travelling as a driver or as a passenger, whereas only 89% of men do so when driving and only 84% when they are passengers.<sup>12</sup>

A similar difference was previously found in Belgium, but has recently been found to have narrowed encouragingly while belt-wearing by both males and females has increased.<sup>13</sup>

<sup>8</sup> DRUID (2012) Final Report: Work performed, main results and recommendations.

<sup>9</sup> <http://securite-routiere.gouv.fr/medias-outils/les-chiffres-de-la-route/les-chiffres-de-la-vitesse>

<sup>10</sup> SARTRE (2012) European road users' risk perception and mobility.

<sup>11</sup> Beuret, K., Corbett C. And Ward, H. (2012), Drinking among British women and its impact on their pedestrian and driving activities: A review of the literature.

<sup>12</sup> [http://www.bpa.ch/French/medien/Pages/2012\\_07\\_10.aspx](http://www.bpa.ch/French/medien/Pages/2012_07_10.aspx)

<sup>13</sup> Riguelle, F (2013), National behavioural study, .seat belt wearing rates 2012 (in French: *Mesure nationale de comportement, port de la ceinture de sécurité 2012*), Belgium Road Safety Institute.

*“Since we have started estimating seatbelt wearing rates through roadside counts, we have noticed that the gap is decreasing. In 2005, 70% of female drivers and 72% of female passengers wore their seatbelts, while only 65% of male drivers and 57% of male passengers were doing so. In 2012, 89% of female drivers and 86% of female passengers were belted, compared with 86% of male drivers and 82% of male passengers. We believe that awareness campaigns, coupled with increased market penetration of seat belt reminders have contributed to increased compliance levels for males.”*

Yvan Casteels, Belgian Road Safety Institute

### 3.2.4 Use of hand-held mobile phones

In Germany, more men than women are breaking the law when it comes to using the mobile phone while driving.

*“The German traffic law prohibits the use of a hand-held mobile phone while driving a motor vehicle or riding a bicycle, with fines for motorists of 40 EUR and one demerit point. “In 2011 there were 450,000 vehicle users who violated this law, 73% of whom were male.”*

Jacqueline Lacroix, German Road Safety Council

### 3.2.5 Gender and pedestrian behaviour

A study published in 2007 investigates the relationship between gender, age and driver status and pedestrian intentions to cross the road in risky situations. The results suggest that in the age group 25-59 women are less likely to cross in risky situations than men. In the under-25 and 60+ age groups, gender was not found to have a significant effect.<sup>14</sup>

## 3.3 Improved protection for women in cars

The crashworthiness of cars has until recently mainly been developed based on an average male, as the most frequently used crash test dummy is based on an ‘average’ male human body. A very small female-based dummy is used in some crash tests. But as yet no dummy representing an average female has been used. The ‘EvaRid’, a smaller ‘female’ dummy is under development to improve the occupant protection of women in rear-end crashes.

Seat and seatbelt design should also be improved to take account of gender differences. Women are more subject to whiplash injuries than men. The explanation is not yet fully known. But apart from weight and stature, several differences exist related to muscle strength and vertebrae in the neck. Belted elderly females are more likely to suffer from chest injuries in cases of frontal or side impact, as they are more subject to osteoporosis.

*“Manufacturers are starting to accommodate these anthropometric characteristics in various ways, such as seat and seatbelt design and airbag design, but more research is needed. Progress has been too slow in this area.”*

Anders Kullgren, Folksam, Sweden.

<sup>14</sup> Holland, C., Hill R. (2007) The effect of age, gender and driver status on pedestrians’ intentions to cross the road in risky situations. Collision Analysis and Prevention vol. 39

### 3.4 Recommendations to Member States and EU institutions

Females account for 51% of the total EU population but only 24% of road deaths. Gender differences should be recognised when developing road safety policies.

- Fully integrate gender perspectives into all policy-making, implementation and research related to road safety to maximise safety benefits to both males and females;
- Achieve effective legislation and enforcement in particular against speeding, drink driving and the non-use of protective equipment (seat belts and helmets) where male drivers are over-represented;
- Improve training systems to take account of the different trajectories of learning and gaining experience among young male and female drivers;
- Consider gender differentiated levels of risk to users in the design of footways, pedestrian crossing facilities and road junctions;
- Improve data collection systems and provide statistics on gender differentiated mobility, thus providing measures of exposure to risk for males and females as pedestrians, especially among children and older people, as public transport passengers, and as users of vehicles of all other kinds;
- Continue to research the main determinants of gender differences in road risk with a view to designing more effective countermeasures;
- Support research on the adaptability of occupant protection devices to the biomechanical characteristics of the occupant;
- Assess the appropriateness of pedestrian protection devices to biomechanical characteristics of struck pedestrians;
- Support research on the gender-specific needs in rehabilitation following a road collision;
- Promote, encourage and widely disseminate the results of research into the effects of prescription drugs, especially among older women, on driving.

## PIN Panel

|                     |  |
|---------------------|--|
| Austria (AT)        | Klaus Machata, Jennifer Bogner, Road Safety Board (KfV)                        |
| Belgium (BE)        | Heike Martensen, Yvan Casteels, Belgian Road Safety Institute (IBSR/BIVV)      |
| Bulgaria (BG)       | To be appointed  |
| Czech Republic (CZ) | Jindric Fric, Petr Pokorny, Transport Research Centre (CDV)                    |
| Cyprus (CY)         | Irene Manoli, Ministry of Communications, George Morfakis, Road Safety Expert  |
| Denmark (DK)        | Jesper Sølund, Danish Road Safety Council                                      |
| Estonia (EE)        | Dago Antov, Tallin University of Technology                                    |
| Finland (FI)        | Petri Jääskeläinen, Central Organization for Traffic Safety                    |
| France (FR)         | Manuelle Salathé, National Interministerial Road Safety Observatory            |
| Germany (DE)        | Jacqueline Lacroix, German Road Safety Council (DVR)                           |
| Greece (EL)         | George Yannis, Technical University of Athens                                  |
| Hungary (HU)        | Peter Holló, Institute for Transport Sciences (KTI)                            |
| Ireland (IE)        | Michael Rowland, Yaw Bimpeh, Road Safety Authority                             |
| Israel (IL)         | Shalom Hakkert, Ran Naor Foundation for Road Safety Research                   |
| Italy (IT)          | Carla Messina, Domenico Pugliese, Ministry of Transport                        |
| Latvia (LV)         | Aldis Lama, Ministry of Transport  |
| Lithuania (LT)      | Vidmantas Pumputis, Ministry of Transport                                      |
| Luxembourg (LU)     | Roland Kayser, Ministry for Sustainable Development and Infrastructure         |
| Malta (MT)          | David Sutton, Malta Transport Authority  |
| Netherlands (NL)    | Peter Mak, Ministry of Transport   |
| Norway (NO)         | Rune Elvik, Institute of Transport Economics (TOI)                             |
| Poland (PL)         | Ilona Buttler, Motor Transport Institute (ITS)                                 |
| Portugal (PT)       | João Cardoso, National Laboratory of Civil Engineering (LNEC)                  |
| Romania (RO)        | Mihai Călinoiu, Romanian Traffic Police  |
| Serbia (RS)         | Jovica Vasiljevic, Road Traffic Safety Agency                                  |
| Slovakia (SK)       | Petra Groschová, Ministry of Transport   |
| Slovenia (SI)       | Vesna Marinko, Traffic Safety Agency   |
| Spain (ES)          | Pilar Zori, DGT, Ministry of Interior  |
| Sweden (SE)         | Anna Vadeby, National Road and Transport Research Institute (VTI)              |
| Switzerland (CH)    | Stefan Siegrist, Yvonne Achermann, Swiss Council for Accident Prevention (bfu) |
| U.K. (GB)           | Louise Lloyd, Transport Research Laboratory (TRL)                              |

## PIN Observers

|             |  |
|-------------|--|
| Greece (EL) | Stelios Efstathiadis, Road Safety Institute<br>Panos Mylonas |
| Italy (IT)  | Lucia Pennisi, Automobile Club d'Italia (ACI)                |

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The Road Safety Performance Index (PIN) programme receives financial support from Volvo Group, Volvo Trucks, the Swedish Transport Administration, the Norwegian Public Roads Administration and Toyota Motor Europe.

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