



Road Safety Performance Index Annual Conference
and Award Ceremony 2024

Wednesday 19 June, 2024

Powered Two Wheelers' key challenges in Greece and Europe

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Outline

- Key Aspects of Power-Two Wheelers' Safety
- Power-Two Wheelers' Problems and Measures in Greece
- Conclusions

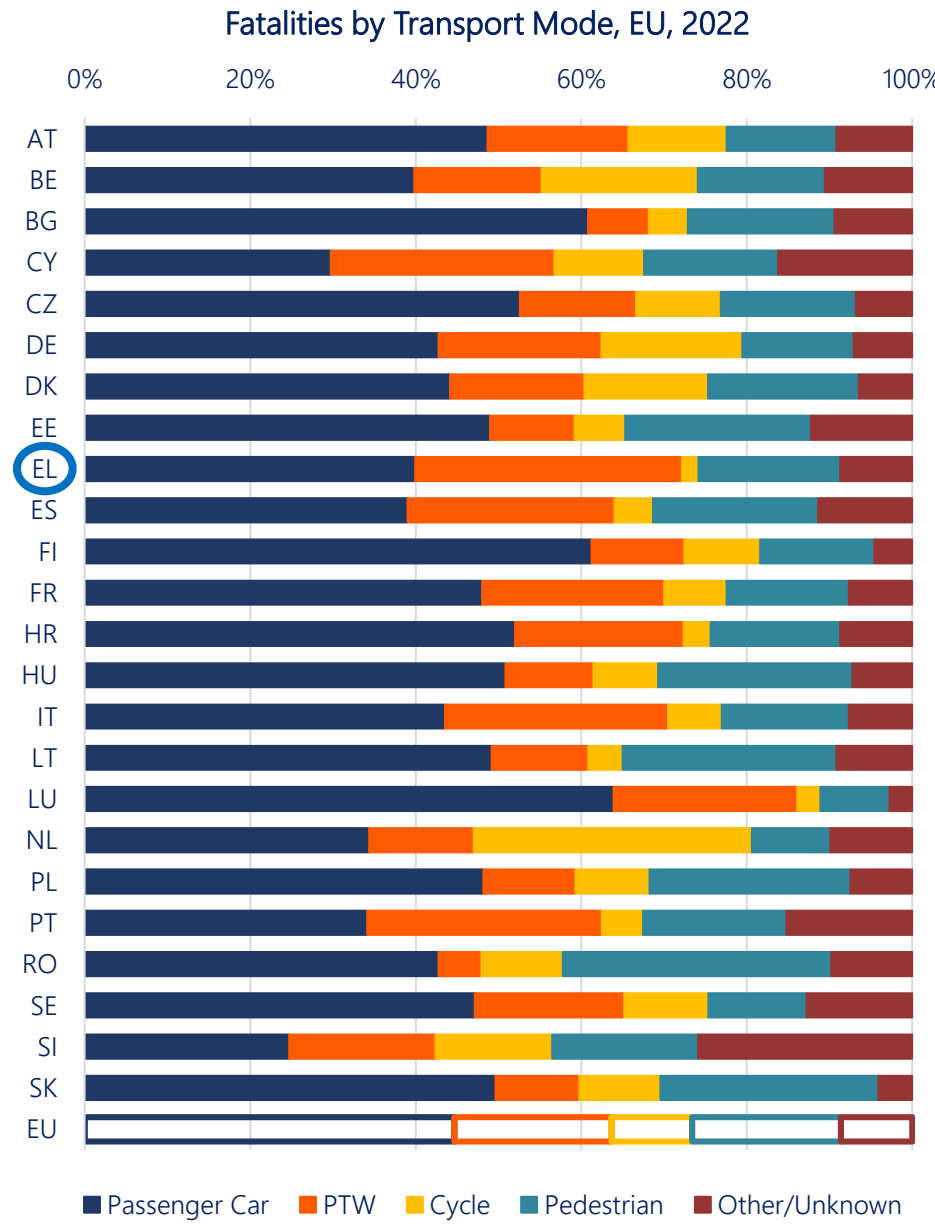


Key Aspects of Power-Two Wheelers' Safety

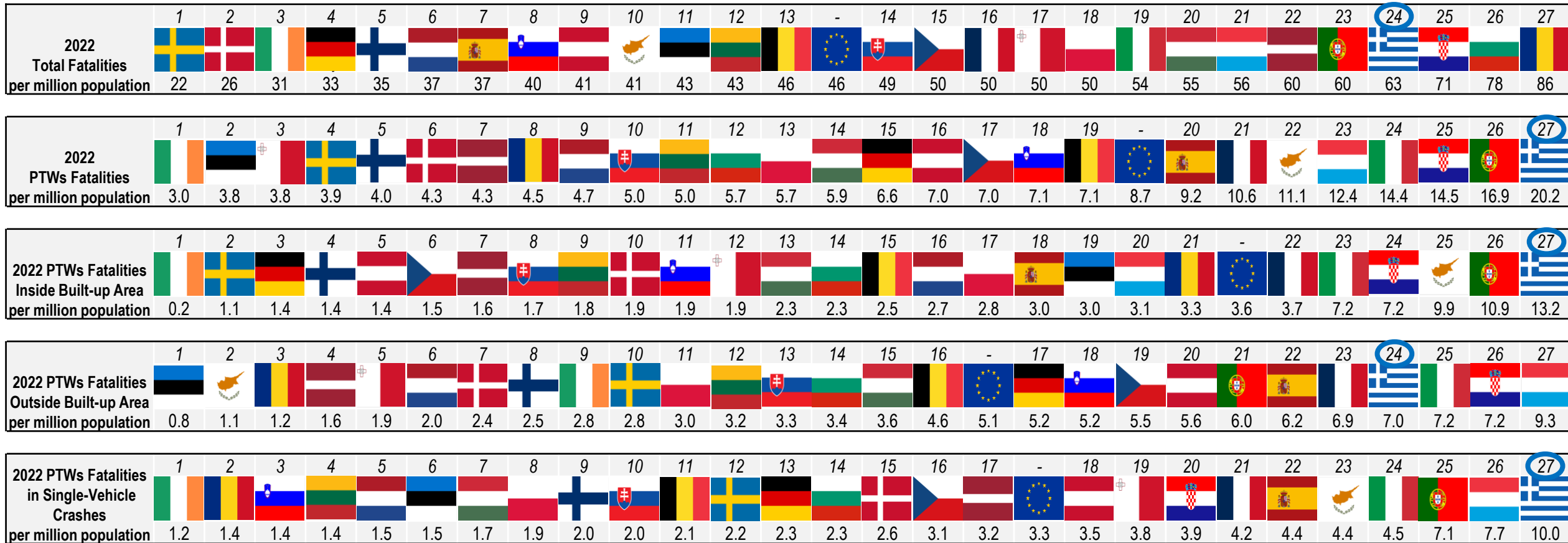


Fatalities by Transport Mode

- Most fatalities in the EU concern **passenger cars** (45%)
- **PTW fatalities** in the EU account for 19%
- **Greece** has the highest percentage of PTW fatalities in the EU (32%)



Road Fatalities per Population Ranking



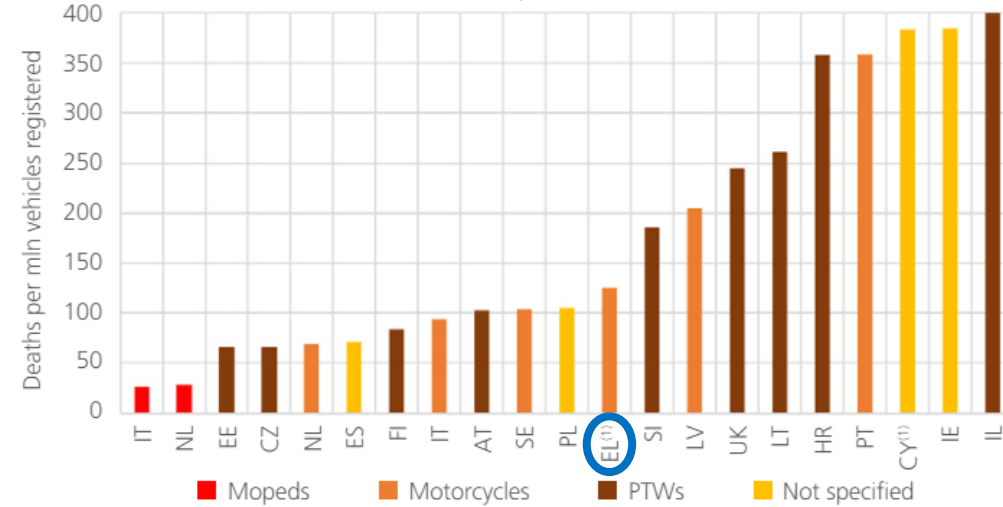
Notes: 2020 PTWs data for Ireland and Latvia, 2021 PTWs data for Malta
 Source: CARE database, Processing: [NTUA - Road Safety Observatory](#)

➤ In 2022, Greece had the **highest PTW fatality rate** in the EU (20.2 fatalities per million population), while the EU average was 8.7

PTW Fatalities per Fleet and Veh-km

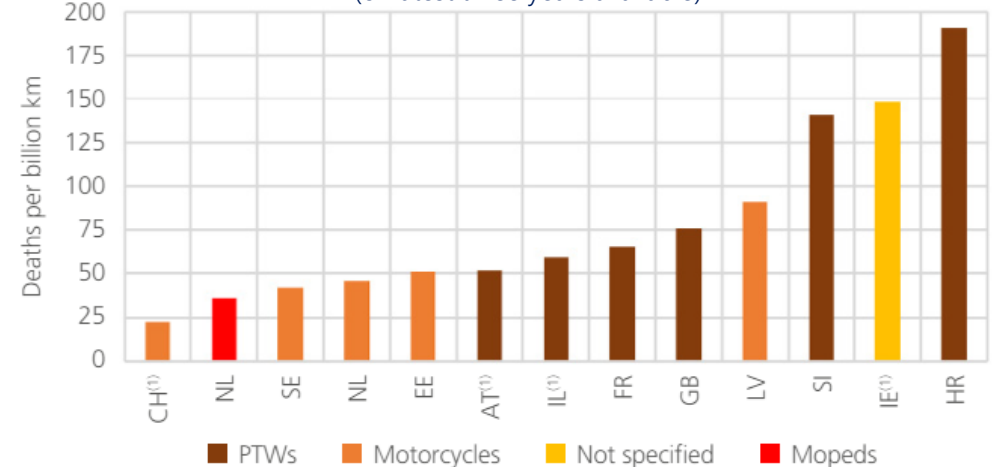
- When examining road fatalities per PTW fleet, the results **significantly differ** from fatalities per population, highlighting distinct risk factors and exposure levels specific to PTW users compared to the general population
- **Motorcycles and mopeds** are preferred by a large part of population in Greece, especially during summer months
- The proportion of motorcycles in the total vehicle fleet was **17%** in 2023, while mopeds represented another **14%**
- For more thorough analyses, **exposure data** related to the mobility of road users (travelled veh-km by vehicle type, etc.) are needed in order to better explain the road safety outcomes

PTW rider deaths per million PTWs registered over the period 2019-2021 (or latest three years available)



Source: ETSC 2023, PIN Flash 44

PTW rider deaths per billion km over the period 2019-2021 (or latest three years available)

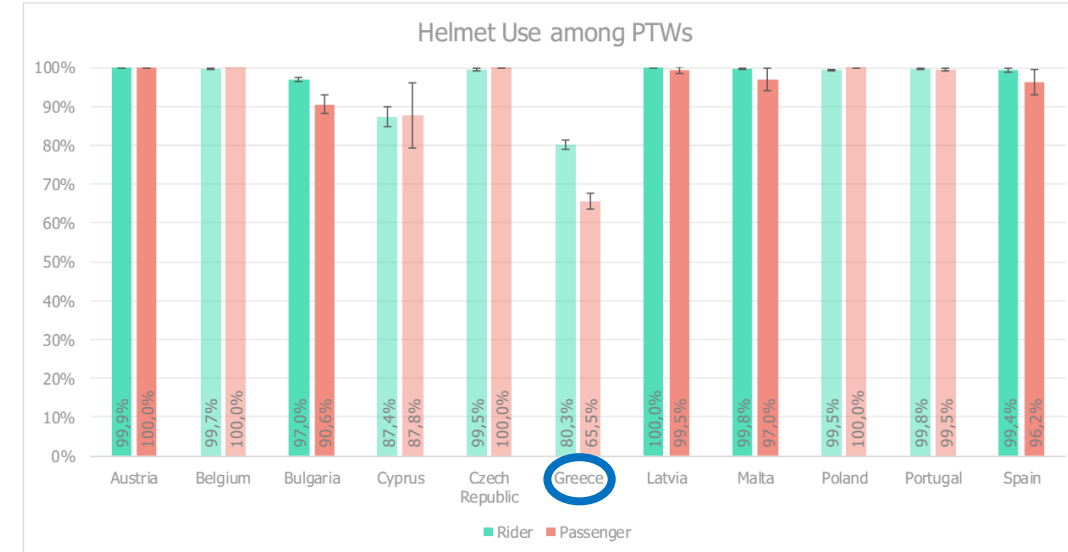


Source: ETSC 2023, PIN Flash 44

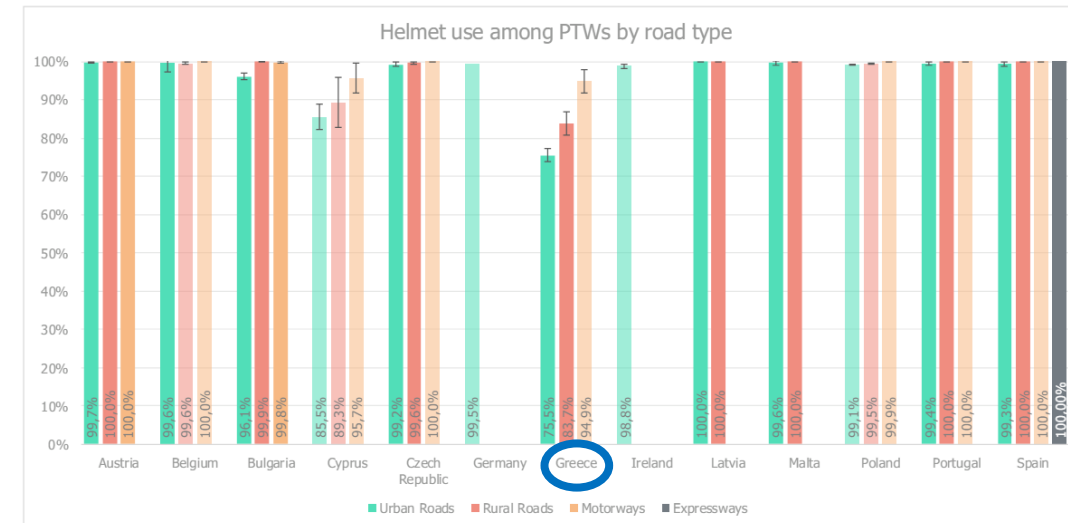


Helmet Use among PTWs

- In almost all countries the helmet use is **very high** (>95%) for both riders and passengers, **except Greece**, where only 80,1% of riders and 63,5% of passengers use a helmet when riding a PTW, followed by Cyprus
- In most of the countries, the prevalence of helmet use is **almost same on motorways and rural roads**, except Greece
- In **Bulgaria and Greece**, KPIs on **urban roads** are lower than those observed on the other types of roads, with the highest difference being identified in Greece (only a 76% of drivers use helmet when travelling on urban roads)



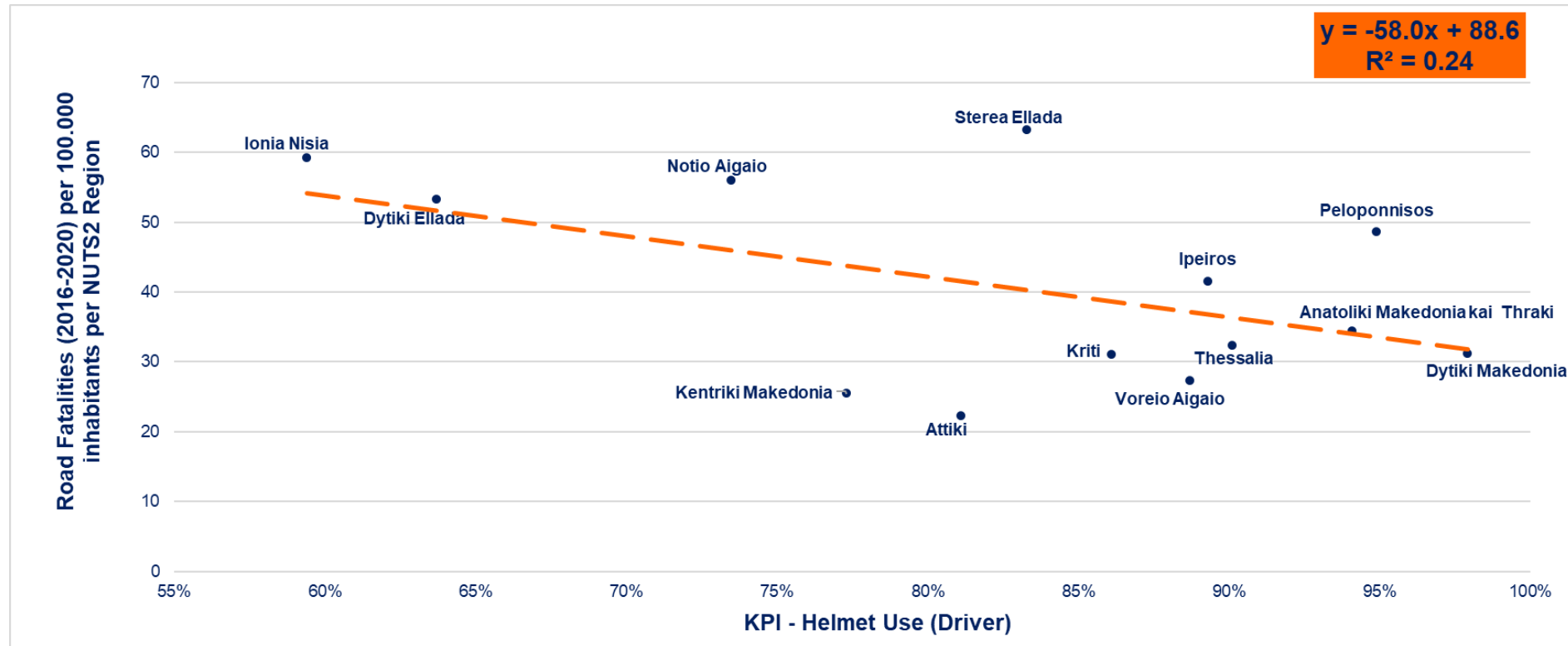
*Note: Countries with deviations in the methodology are shown with light colours (no weighting for Poland / Minimum total sample size not achieved for Belgium and Cyprus / Minimum sample size for motorways not achieved for Czech Republic, Greece and Portugal)



*Note: Countries with deviations in the methodology are shown with light colours (Minimum sample requirements not achieved for motorways of Belgium, Cyprus, Czech Republic, Greece, Portugal / no weighting for Germany, Ireland and Poland)



Helmet Use and Road Fatalities - Greek Regions (NUTS2)



Source: ELSTAT, field measurements
Processing: [NTUA - Road Safety Observatory](#)

- Negative linear relationship (R-squared=0.24 → moderate correlation) between the KPI for helmet use and road fatalities per population in 13 Regions of Greece, suggesting that **lower helmet use is associated with an increase in road fatality rate**

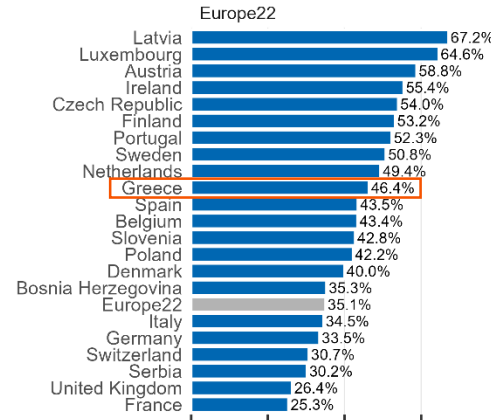


Self-declared Behaviour

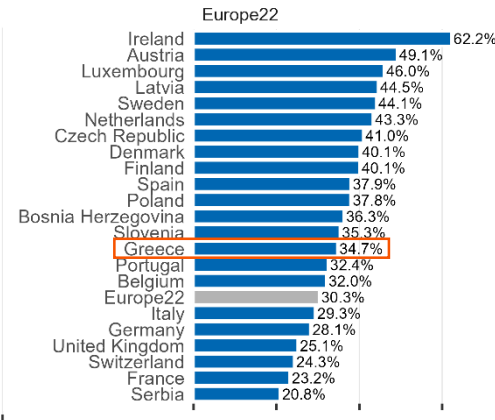
➤ The most frequent unsafe behaviours reported by PTW riders are:

1. **speeding outside built-up areas**
Europe: 35.1% < Greece: 46.4%
2. **riding too fast for the road/traffic conditions at the time**
Europe: 30.3% < Greece: 34.7%
3. **riding without a helmet**
Europe: 24.5% < Greece: 27.7%
4. **distraction**
Europe: 20.7% > Greece: 16.0%
5. **drink and riding**
Europe: 19.4% > Greece: 12.6%
6. **drugs**
Europe: 17.1% > Greece: 5.0%

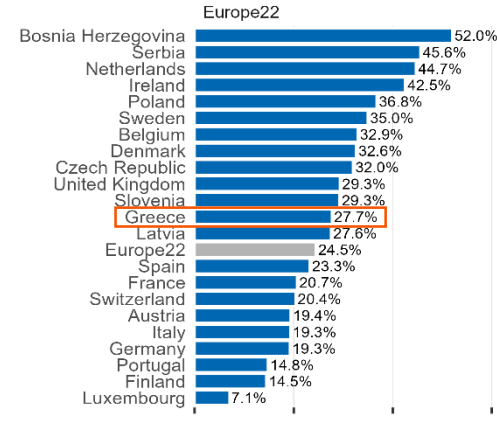
Ride faster than the speed limit outside built-up areas (except motorways/freeways)



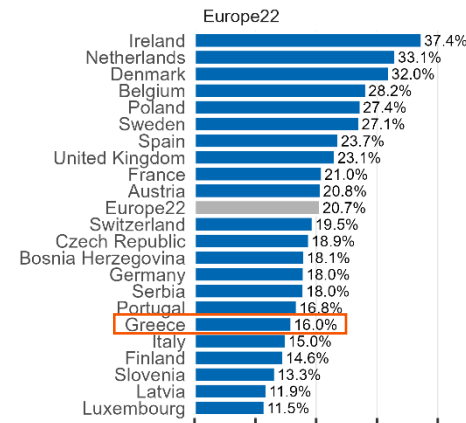
Ride too fast for the road/traffic conditions at the time (e.g., poor visibility, dense traffic, presence of vulnerable road users)



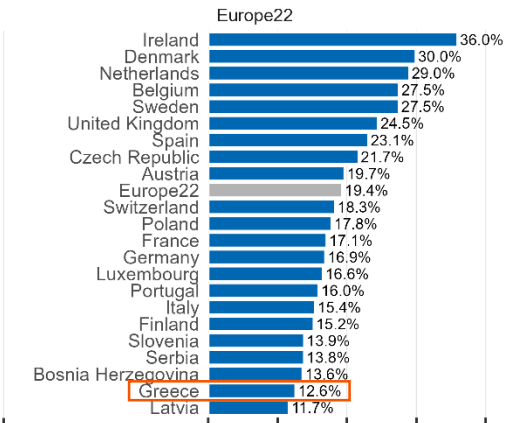
Ride without a helmet



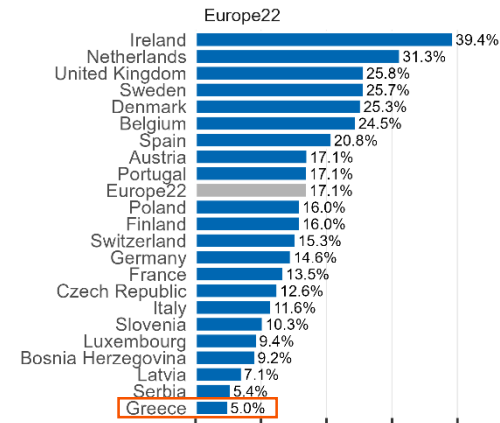
Read a message or check social media/news while riding



Ride when you may have been over the legal limit for drinking and driving



Ride within 1 hour after taking drugs (other than prescribed or over the counter medication)



% at least once (last 30 days)

Reference population: motorcyclists and moped riders at least a few days a month

Source: Vias institute. (2024). ESRA3 dashboard.

<https://www.esranet.eu/en/dashboard>



Perceived Safety

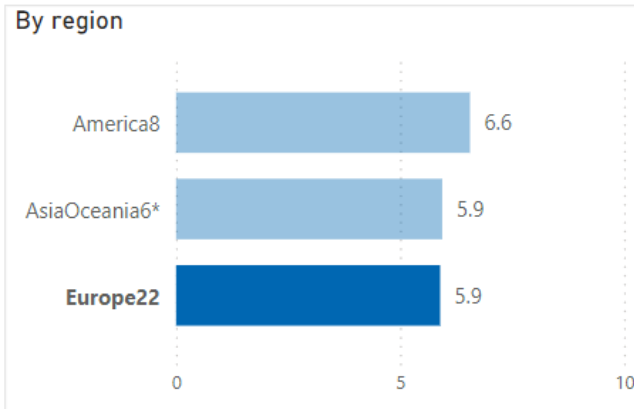
How safe or unsafe do you feel when using the following transport modes?

Moped rider/motorcyclist

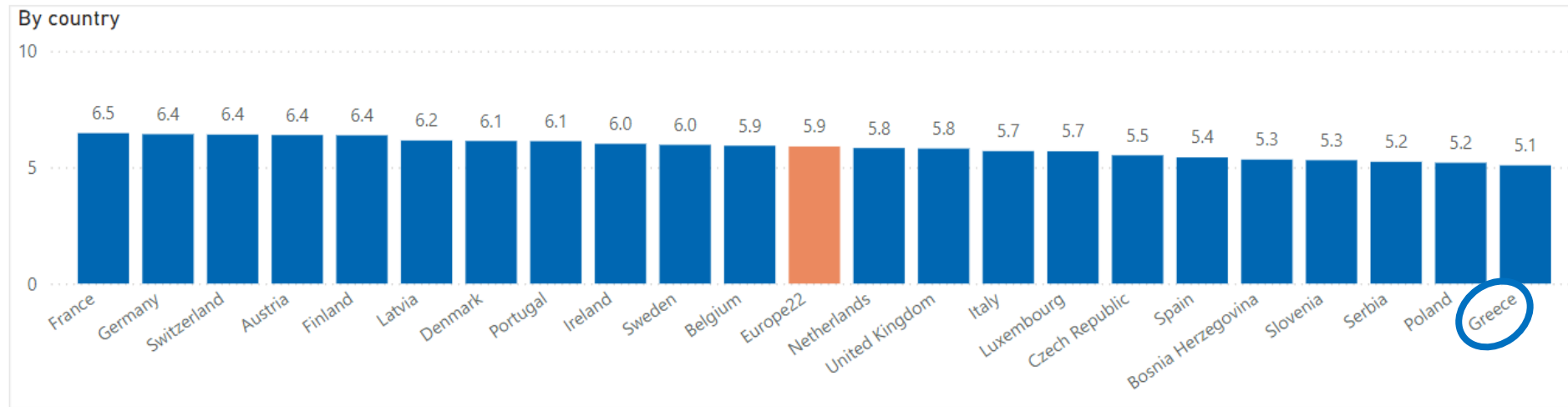
Mean score of a 11-point scale, where 0 = very unsafe & 10 = very safe

Reference population: all road users who used this specific transport mode in the past 12 months

Based on internet access panel survey



* AsiaOceania6 mean does not include Armenia, Kyrgyzstan, and Uzbekistan due to different methodology



Source: Vias institute. (2024). ESRA3 dashboard.
<https://www.esranet.eu/en/dashboard>

- In all the examined countries the safety perception scores for moped riders and motorcyclists do not exceed 6.5 points (10: very safe), indicating that PTW riders **do not consider these transport modes to be safe enough**
- Among European countries, the **lowest safety perception** scores for motorcycles correspond to **Greece** (5.1)



Power-Two Wheelers' Problems and Measures in Greece



Key issues

- Insufficient **control of traffic violations** on:
 - riders speeding
 - helmet use
 - inappropriate behaviour of drivers
- Lack of proper road **infrastructure** contributing to PTW safety:
 - inappropriate junction settings (inside urban areas)
 - lack of proper road markings and traffic signs
 - lack of appropriate guardrails
- Lack of **targeted road safety measures** and programmes for PTW safety



Causes

- The **causes of motorcycle crashes** could be attributed to:
 - failure to follow speed limits
 - failure to use defensive driving techniques
 - careless/ aggressive behaviour of other drivers
- Low rates of **helmet** and other protective equipment use
- High number of **professional PTWs** (couriers, deliveries) with inappropriate behaviour
- A relative high number of young people riding mopeds or motorcycles **without driving licence**



PTW at the National Strategy

Target for the Reduction of Road Crash Casualties

Killed Motorcyclists	Target			Target (% reduction)			Lives to be saved (annually)	
	Baseline year 2019	2025	2030	Baseline year 2019	2025	2030	2025	2030
	247	148	84	-	40%	66%	99	163

Target for Improving Road Safety Performance Indicators

Key Performance Indicators	Baseline year 2022	Target 2025	Target 2030
Helmet use	79%	>90%	>95%

Necessary actions for PTW safety (1/2)

- **City-wide 30km/h speed limits**
 - Power two wheelers are slower and avoid crashes
 - All vehicles are slower and PTWs are safer
 - Other VRUs are also safer
- **Increase helmet use**
 - Increase of traffic controls on helmet use
 - Awareness campaigns
 - Target professional and tourists riders
- Development of an **integrated system** for the management of traffic violations
- **Road infrastructure interventions** for PTWs (use of bus lanes, PTW advance stop lines, intersections, etc.)



Necessary actions for PTW safety (2/2)

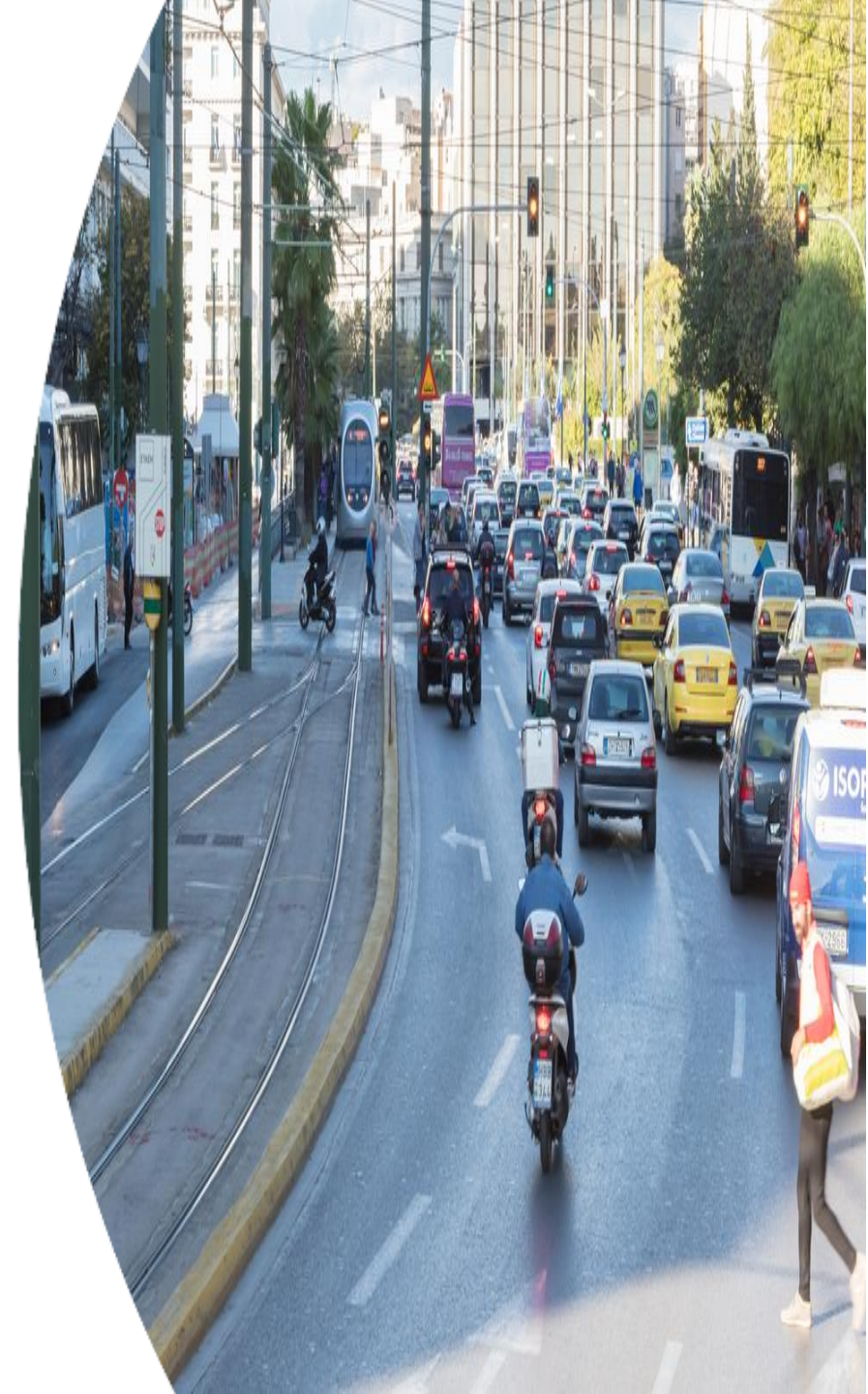
- **Improvement of PTWs' behaviour**
 - Improvement of education and driving licence exams
 - Stricter exams for motorcycle driving licences
 - Lifelong training / awareness of PTWs
 - Increase of controls on speeding and driving without licence
- Lifelong **training / awareness of other drivers** on their behaviour towards PTWs
- **Improvement of professional PTWs' safety** (couriers, deliveries)
- Implementation of an **integrated road safety policy** for PTWs
 - Target setting and selection of specific measures
 - Systematic monitoring of the measures implementation and of the targets
 - Strengthening road safety management within the local Authorities



PTW Filtering

(under examination)

- With the new Road Traffic Code, the **filtering of PTWs will be legalized**
- Filtering is allowed in road axes with **maximum speed limit of 50 km/h**
- When the PTW is filtering, its speed **must not exceed the speed of the cars by 20 km/h** or more



Conclusions



**SAFETY
FIRST**

Conclusions - Europe

More than 3.800 PTW riders were killed on European roads in 2022, representing **19% of all road fatalities**; targeted action is needed:

- Introduction of **city-wide 30kmh speed limits**
- **Roads should be forgiving**, and attention should be given to roadside safety design and road surface markings to limit the severity of trauma for PTWs
- **Advanced Rider Assist Systems** (e.g. Electronic Stability Control, Forward Collision Warning) could help reduce PTW crashes
- The **conspicuousness** of PTWs can be improved by the use of add-on driving lights, Daytime Running Lights and reflectors, reflective colours etc.
- **Pre-licence training** of car drivers to detect & identify PTWs
- **Promotional campaigns** on: wearing helmets, use of protective clothing, risky behaviour, paying attention to PTWs presence



Conclusions - Greece

- The rate of PTWs' fatalities in road crashes is especially high in Greece, leading to the **high need for further measures** to be taken.
- The **integrated action plan** should focus on the reduction of PTW crashes comprising:
 - Introduction of city-wide 30kmh speed limits
 - Systematic traffic law enforcement
 - Adjustment of road infrastructure
 - Improvement of driving licence system
 - Incentives for acquiring protective equipment
- Development of **road safety culture** not only for drivers and riders, but also for the Authorities involved in the design, implementation and monitoring of PTW safety policies.





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