

Road Safety: Strategies and Innovations in Europe

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The European Transport Safety Council

Projects

- Non-profit, international organization, members across Europe
- Dedicated to reducing deaths and injuries in transport
- Science and evidence-based approach
- More than 200 experts contribute to our work.



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Supported by:



20,418

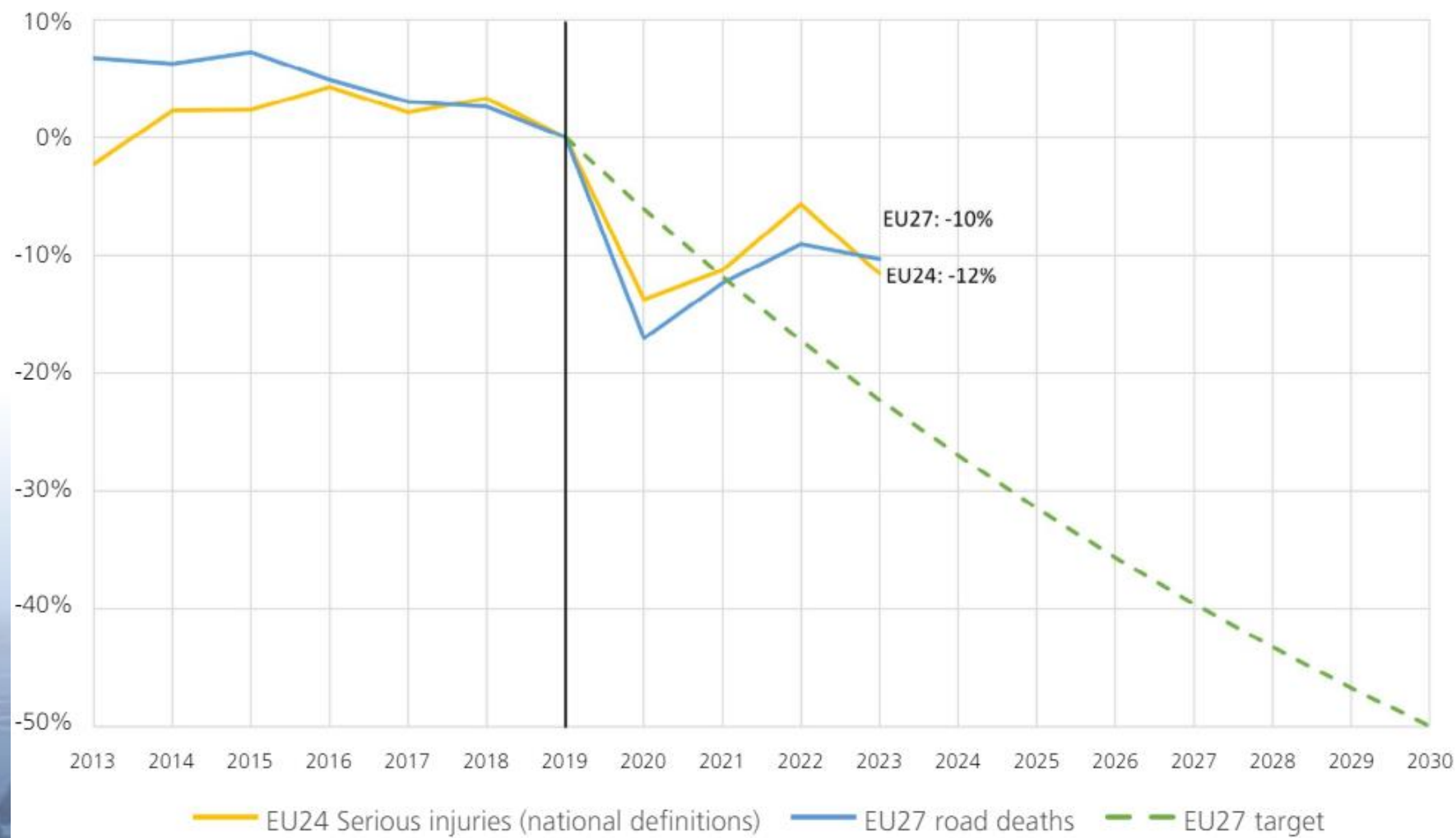
people died in road traffic
in the EU in 2023



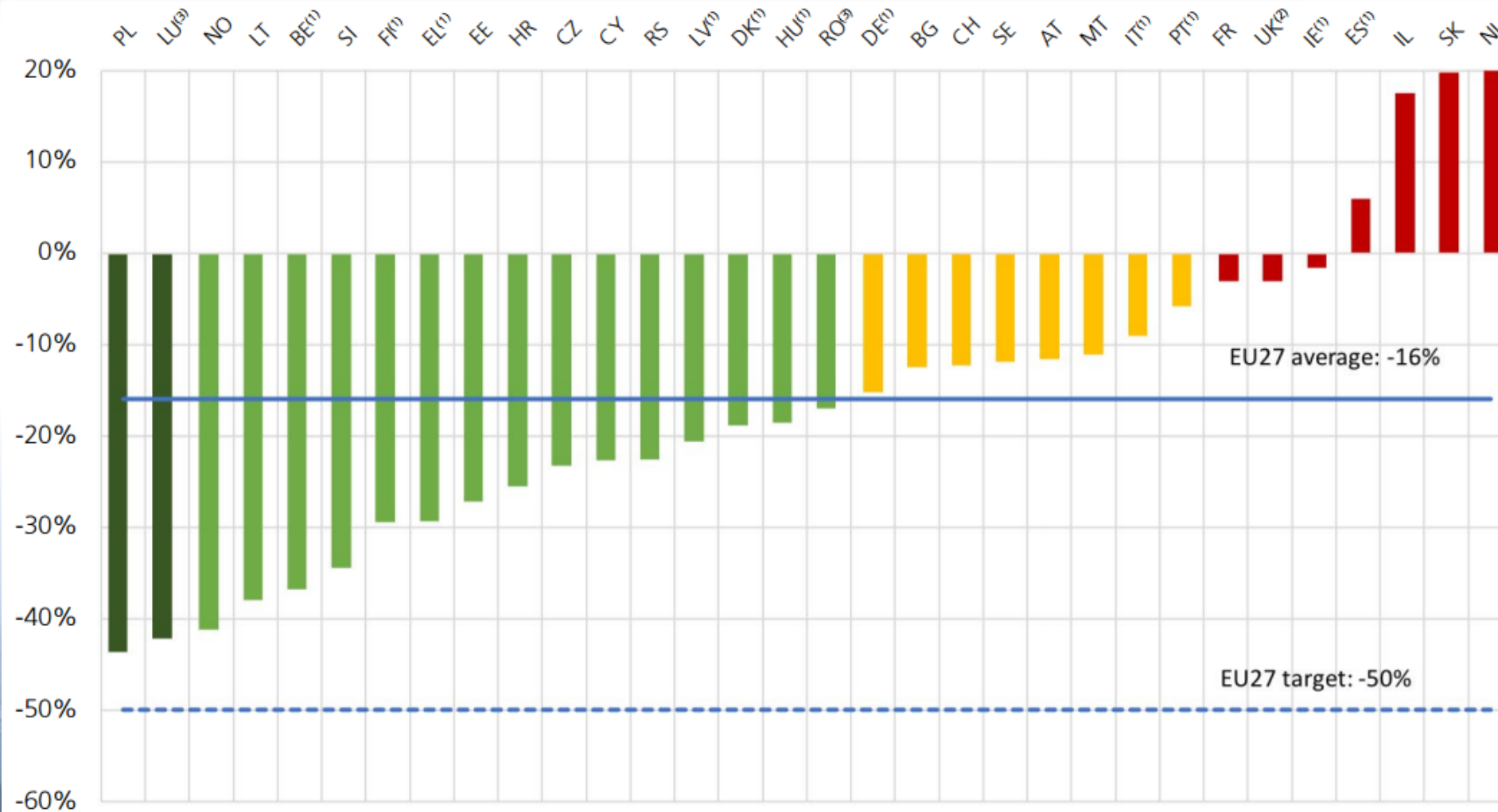
110,000

seriously injured in the EU
in 2019 (MAIS 3+)

Road safety progress 2013-2023

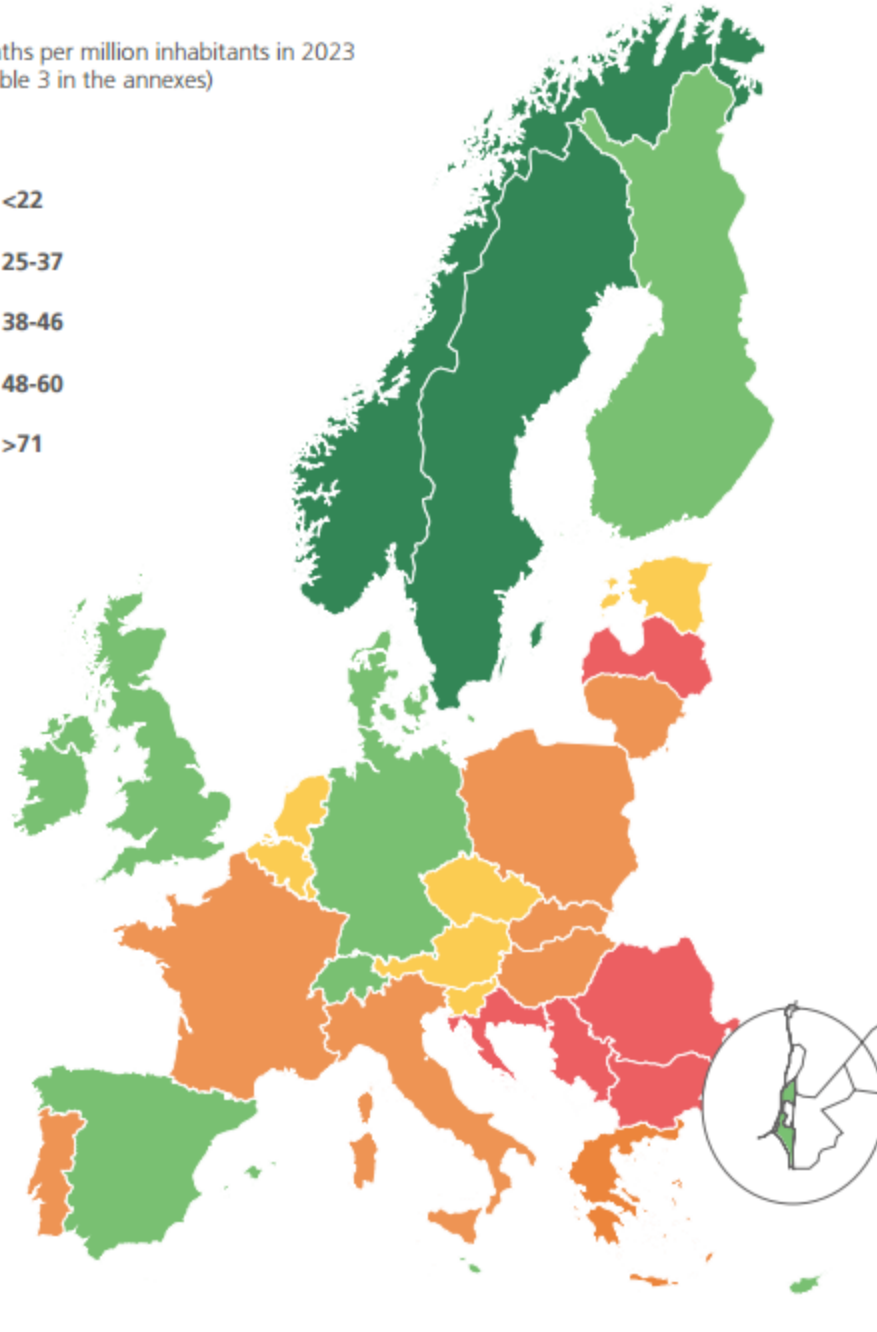
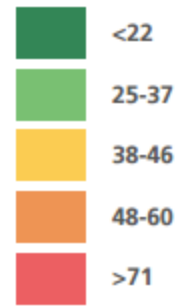


Road safety progress 2013-2023



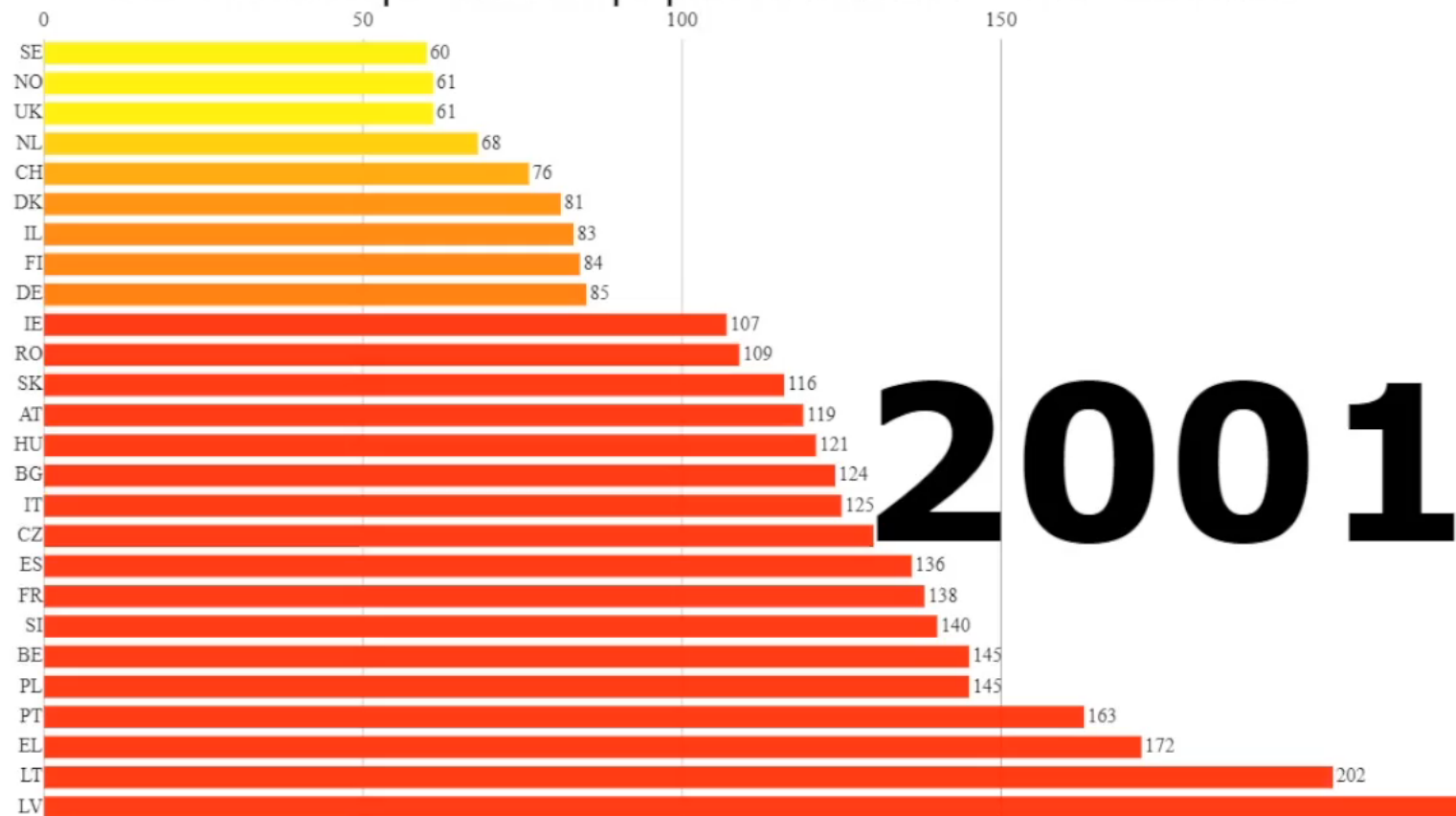
MAP 2:

Road deaths per million inhabitants in 2023
(Fig.6, Table 3 in the annexes)



EU road mortality over the last 20 years

Road deaths per million population in ETSC PIN countries



EU Policy Framework

The EU actors



Road safety competences of the EU

- Vehicle safety: **Exclusive competence (EU)**
- Infrastructure safety and driver behaviour: **shared competence (EU and Member States)**
- **Principle of subsidiarity** – only action at EU level if cannot be achieved by the Member States.



EU Strategic Framework for Road Safety 2021- 2030

LONG-TERM OBJECTIVE

Safe System and zero road deaths by 2050

MID-TERM OBJECTIVE

decrease by 50% the number of deaths and serious injuries by 2030

EU Road Safety Policy Framework 2021- 2030

- ‘Vision Zero’ for 2050: no one should be killed or seriously injured on EU roads by 2050.
- 2030 targets:
 - -50% road deaths compared to 2019
 - - 50% serious injuries compared to 2019
- Safe System approach
- 5 pillars
- 8 Key Performance Indicators
- European Coordinator for Road Safety (Mr. Kristian Schmidt)

8 Key Performance Indicators

Indicator

Definition

Speed

% of vehicles travelling within the speed limit

Safety belt

% of vehicle occupants using the safety belt or child restraint system correctly

**Protective
equipment**

% of riders of powered two wheelers and bicycles wearing a protective helmet

Alcohol

% of drivers driving within the legal limit for blood alcohol content (BAC)

Distraction

% of drivers NOT using a handheld mobile device

Vehicle safety

% of new passenger cars with a Euro NCAP safety rating equal or above a predefined threshold

Infrastructure

% of distance driven over roads with a safety rating above an agreed threshold

Post-crash care

Time elapsed in minutes and seconds between the emergency call following a collision resulting in personal injury and the arrival at the scene of the collision of the emergency services

PIN project and PIN Award

Every summer the country is honored by the PIN Award which was most successful in improving one of the performance indicators



Safe System approach

- People make mistakes
- People are vulnerable
- Shared responsibility between stakeholders
- All parts of the system must be strengthened;
if one part fails, road users are still protected

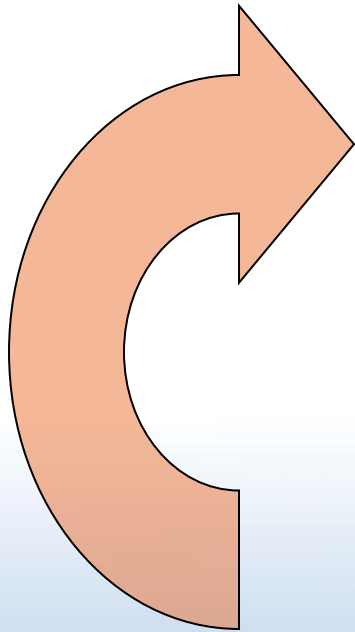


Paradigm shift

A **Safe System** starts with a shift in thinking:

- Ethical imperative: no human should be killed or seriously injured as a result of a road collision
 - Ethical imperative accepted = no longer blame the victim or the driver; the system must be changed

Shared responsibility



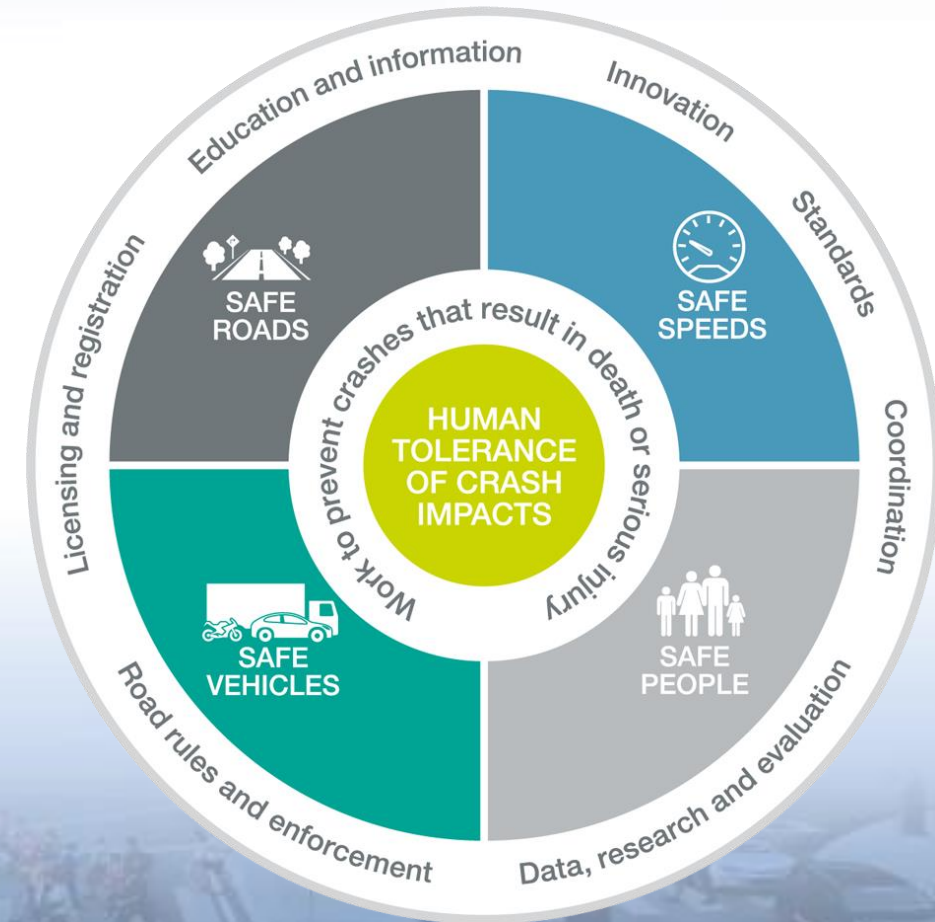
System designers responsible for the design, operation and use of the road transport system and responsible for the level of safety within the entire system.

Road users responsible for following the rules set by the system designers.

If the users fail to comply system designers required to take further steps to counteract people being killed or injured.

Safe System elements

- Safe speeds
- Safe roads
- Safe vehicles
- Safe people
- (Post crash care)



1. Safe speeds

Speed remains a very important risk factor. It has a greater effect on the number of accidents and injury severity than almost all other known risk factors.

Speeding influences:

1. Severity of the injury
2. Probability of a crash

ITF/OECD (2018) Speed and Crash Risk



Safe speeds

A combination of measures:

- Safe and credible speed limits
- Traffic calming, self-explaining/enforcing infrastructure
- Enforcement and Campaigns
- Speed-related performance indicator + targets
- Vehicle technologies
 - ISA Intelligent Speed Assistance and
 - AEB Automated Emergency Braking



Setting safe and credible speed limits

According to the Safe System:



on rural roads without a median barrier



on rural roads with median and side barriers

→ **90% of all collisions would not end in a road death or serious injury.**

Standard speed limits on rural roads (EU)

70

Belgium (Flanders), Sweden

80

Cyprus, Denmark, Finland, France (undivided roads since 1/7/18), Ireland, Malta, Netherlands, Switzerland, Norway

90

Belgium (Wallonia), Bulgaria, Czech Republic, Estonia, France (divided roads) Greece, Croatia, Hungary, Italy, Luxembourg, Latvia, Lithuania, Poland, Portugal, Romania, Slovenia, Slovakia, Spain

100

Austria, Germany, Ireland, UK

**Source: EC*

2. Safe roads

- Traffic calming
- Self-explaining roads
- Self-enforcing infrastructure



EU Directive on road infrastructure safety management (RISM) 2019

Aim: *Integrate safety in all phases of planning, design and operation of road infrastructure (outside urban areas, limited to certain roads)*

Requires EU Member States to apply **four instruments**:

- Road Safety Impact Assessments
- Road Safety Audits
- Network-wide Road Safety Assessment
- Road Safety Inspections

Network Wide Road Assessment

- Systematic and proactive risk mapping assessing ‘in-built’ safety of roads. Also **ex-post** evaluation of high risk sites.
- The results → basis for targeted road inspections or remedial action.
- Helps inform decision makers on further investment and development in the highest risk areas.

Enhanced Safety for VRUs

- Take vulnerable road users (VRUs) into account in all road safety management procedures.
- European Commission to develop quality requirements for VRUs.

Common Specifications for Road Markings and Signs

- For readability and detectability + easier to roll out cooperative, connected and automated mobility systems.



3. Safe vehicles

EU General Safety Regulation (GSR, updated 2019)

- **15** new vehicle safety measures mandatory on all new vehicles





EUROPEAN
COMMISSION

Brussels, 17.5.2018
COM(2018) 286 final
2018/0145 (COD)

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on type-approval requirements for motor vehicles and their trailers, and systems, components and separate technical units intended for such vehicles, as regards their general safety and the protection of vehicle occupants and vulnerable road users, amending Regulation (EU) 2018/... and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009

(Text with EE)

{SEC(2018) 286}

**A REGULATION AS
IMPORTANT FOR SAVING
LIVES AS THE SEATBELT**

2019: Update of the General Safety Regulation (GSR)

At least **25,000** deaths

And **140,700** severe injuries

on the road could be prevented

over the period **2022-2037**

according to analysis by TRL

<https://bit.ly/2IN9ltl>

3 phases:

1 st phase 6 July 2022: new type approval (new models) 6 July 2024: registration of new vehicles	2 nd phase 7 July 2024: new type approval 7 July 2026: registration of new vehicles	3 rd phase 7 Jan 2026: new types approval 7 Jan 2029: registration of new vehicles
Intelligent Speed Assistance	AEBS with VRU Detection (cars and vans only)	Direct Vision (trucks and buses)
Alcohol Interlock Installation Facilitation	Enlarged Head Impact Zone (cars+vans)	Event Data Recorder (trucks and buses)
Driver drowsiness and Attention Warning	Advanced driver distraction Warning	
Emergency Lane Keeping Systems (cars and vans only)		
Reversing Detection		
Emergency Stop Signal		
Rear and side Underrun (Trucks)		
VRU Detection warning (trucks and bus)		
Event Data Recorder (cars and vans)		

Intelligent Speed Assistance (ISA) in GSR

- Mandatory for all new vehicles, including trucks
 - 2022 (new models) / 2024 (current models)
- Feedback through the accelerator pedal or beeps when over the limit
- Default **ON**
- Camera reading signs, mandatory. Digital maps with speed limit, optional
- Switch-off function, overridable by the driver (with no limitation!)
 - Speed limit information may still be provided
- Review clause to adapt to technical progress

Combined benefits

Top speeds are curtailed, so:

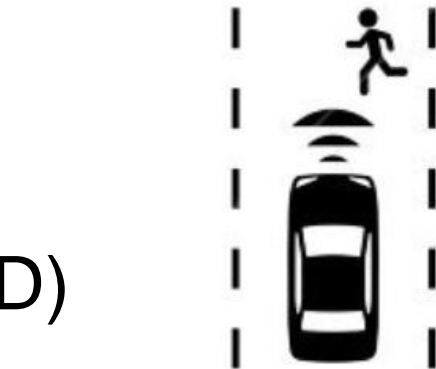
- AEB will have more opportunity to prevent crashes
- When there are crashes, occupant protection systems have greater chance of preventing harm

$$1+1=3$$

Synergies between systems

Safety features share components:

- 1) avoiding a collision with a pedestrian (AEB-PED)
- 2) reading speed signs (ISA)
- 3) monitoring road markings (LKA)



Systems mandatory on trucks

- **BSIS**: Blind Spot Information System (cyclist in blind spot, when truck is about to turn)
- **MOIS**: Moving Off Information System
- **AEBS** detecting pedestrians
- **Direct vision**: « enhance the direct visibility of vulnerable road users from the driver seat, by reducing to the greatest possible extent the blind spots in front of and to the side of the driver”



Autonomous Cars

CARS
CONFERENCE ON
ASIA ROAD SAFETY 2024
"Safer Journey, Sustainable Future"

2-4 SEPTEMBER 2024 | PUTRAJAYA INTERNATIONAL
CONVENTION CENTRE (PICC),
PUTRAJAYA



The way to autonomous cars
makes driving safer



The road to automation needs investigation

- human factor issues: driver overestimation, misunderstanding and misuse + driver disengagement from the driving task;
- systems that can be and are activated in situations that they cannot cope with – e.g. unseparated highways with roundabouts;
- a lack of transparency over the design, capabilities and effectiveness of systems;
- questions over regulatory oversight, over-the-air updates that change functionality, and driver training.

4. Safe people

- Enforcement of traffic rules
- Education and information
- Awareness campaigns



EC Road Safety Package

Published by the European Commission (March 2023)

Three different proposals for:

- Driving Licence Directive (revision)
- Cross Border Enforcement Directive (revision)
- Driver Disqualification Directive (new)

EU Driving Licence Directive (proposal)

- 'Novice' drivers for 2 years = 0 alcohol and drugs
- Accompanied driving as from 17 for cars
- Updated training: new in-vehicle safety technologies, greater attention to active modes.
- Medical Fitness: overhaul of medical conditions, checks & new use of alcohol interlocks for dependents.



Cross Border Enforcement Directive

- Strengthen the enforcement chain and adapt existing EU mutual assistance procedures to deal with cross border road traffic offences
- CBE Portal
- Extension of scope to include new offences
- Financial Support for enforcement activities
- Not included: action to improve the enforcement of the main offences at a national level



How to reach the 2030 EU Road Safety Targets?

- Create an urgency for change
- Convince and involve all stakeholders
- Provide strong Leadership

THANK YOU!

www.etsc.eu

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