



General Safety Regulation and Pedestrian Safety Regulation

Review of the Regulations – Safety Way forward

**Directorate-General for Internal Market,
Industry, Entrepreneurship and SMEs**
Automotive and Mobility Industries Unit

*Internal market,
Industry,
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Regulation (EC) No 661/2009

- Main **type-approval requirements** for the **General Safety** of motor vehicles, trailers, components and separate technical units
- Contains **detailed implementing measures** that are EU or UNECE Regulations for defined vehicle categories
- Phase-in mostly completed since 11/2014
 - Electrical Safety, Electronic Stability Control, Advanced Emergency Braking on trucks and buses, Tyre Pressure Monitoring, Driver Safety-Belt Reminder, ISOFIX, ...



Regulation (EC) No 78/2009

- Type-approval of motor vehicles with regard to the **protection of pedestrians** and other vulnerable road users
- Includes **passive safety requirements** for **bumper** (leg impact) and **bonnet** (adult and child head impact)
- Also acquired important **data for monitoring** (hip to bonnet leading edge and head on windscreen)
 - Luxembourg has not provided any monitoring data, despite obligation and multiple requests from Commission



General Safety Reporting

- General Safety Regulation requires to **report** to the **European Parliament** and the **Council**
- Commission has been undertaking a study with TRL (published March 2015):
 - **Review of possible considerations for legislation**
 - **New safety features that meet CARS 2020 criteria and the Road Safety 2011-2020 policy orientations**
 - **Indicative cost-benefits for about 50 analyzed measures, creating 'short list' for General Safety**



Pedestrian Safety Reporting

- Pedestrian Safety Regulation requires to **report technical developments** (e.g. enhanced passive safety features, brake assist and other active safety technologies) that may provide **improved protection to vulnerable road users.**
- Incorporated in the 2015 TRL study as well



Stakeholders that have been consulted (2014 – 2016)

- ACEA (car industry)
- CLEPA (supplier industry)
- ETRMA (tyre industry)
- ETSC (transport safety)
- Euro NCAP (consumer testing)
- Transport & Environment
- Transport for London
- ...
- Member States



Measures to be included

- Autonomous Emergency Braking
- Emergency Braking Display
- Intelligent Speed Adaptation
- Lane Keeping Assist
- Driver Distraction/Drowsiness Monitoring
- Safety-Belt Reminder (all seats)
- Frontal Impact Crash Program
- Side Impact Crash Program
- Rear Impact Crash Program
- Alcohol Interlock Device Installation
- Crash Event Data Recorder
- Tyre Pressure Monitoring
- Truck Front End Design Program
- Truck Rear Underrun Protection
- Truck Lateral Protection
- Bus Fire Safety Program
- Pedestrian/Cyclist Detection
- Head impact on A-pillar/windscreen
- Reversing Detection



Introduction of Member State's obligation to only permit the sale and entry into service

- Of certain type-approved Replacement Components
- Of type-approved Child Restraint Systems



Review of General Safety Regulation

- Main items



Autonomous Emergency Braking

- Technology widely available and improving
- Make mandatory for M1 and N1 vehicles (derived from M1)
- **1/9/2020** moving obstacle
- **1/9/2022** stationary obstacle
- ... for new types
- **Plus 2-year** period for new vehicles
- All N1 vehicles **2-year offset** to the above dates



Emergency Braking Display

- Exists in R13-H, R13 and R48, common technology
- Make mandatory for M and N vehicles
- **1/9/2020** for new types
- **1/9/2022** for new vehicles



Intelligent Speed Adaptation

- Current technology based on sign recognition
- Need to work on infrastructure requirements (i.e. integrated approach)
 - Initial technology based on best-effort recognition and map-data
 - Suggest to switch to harmonised speed limit beacons (or other ITS solutions, t.b.d.)
- Make mandatory for M and N vehicles
- **1/9/2022** for new types
- **1/9/2026** for new vehicles



Lane Keeping Assist

- Technology widely available and improving
- Make mandatory for M1 and N1 vehicles (derived from M1)
- **1/9/2020** for new types
- **1/9/2022** for new vehicles
- All N1 vehicles **2-year offset** to the above dates



Driver Distraction/Drowsiness Monitoring

- Technology neutral, testing protocol to be determined, but with several phases linked to the improving sophistication of the detection systems
- Make mandatory for M and N vehicles
- Application dates to be coupled with AEB and LKA



Safety-Belt Reminder on all seats

- Technology widely available
- Make mandatory for all front and rear seats of M1 and N1 vehicles
- Make mandatory for all front seats of N2, N3, M2 and M3 vehicles
- **1/9/2018** for new types
- **1/9/2020** for new vehicles



Frontal Impact Crash Program

- Currently only Off-Set Impact R94 is performed
 - Only for $M1 \leq 2500$ kg maximum mass
- Expand scope to all M1 and N1
- **1/9/2022** new types - **1/9/2026** new vehicles
- Addition of Full-Width crash test R137 for M1
- **1/9/2020** new types – **1/9/2022** new vehicles
- Addition of Small-Overlap crash test for M1
- **1/9/2022** new types – **1/9/2026** new vehicles



Side Impact Crash Program

- Currently only Side Impact R95 is performed
 - Exemption for vehicles with high seating positions (SUVs)
- Expand scope to all M1 and N1
- **1/9/2020** new types – **1/9/2022** new vehicles
- Addition of Pole Side Impact crash test R135
- **1/9/2020** new types – **1/9/2022** new vehicles
- Addition of Far-Side occupant protection
 - Test protocol needs to be established
- **1/9/2022** new types – **1/9/2026** new vehicles



Rear Impact Crash Program

- Currently no rear impact is performed
- Addition of Rear Impact crash test R34
- Make mandatory for M1 and N1 vehicles
 - Test depending on location of the fuel storage, fuel supply lines and/or high voltage components
- **1/9/2022** new types – **1/9/2024** new vehicles



Alcohol Interlock Device Installation

- CEN Standard 504536-7 (device interface)
- Make mandatory for M and N vehicles
- Based on vehicle manufacturer schematic device installation information
 - Installation Sheet – developed by CENELEC in cooperation with Commission, device manufacturers and vehicle manufacturers, tailor-made so it can be incorporated in EU legislation
- **1/9/2020** new types – **1/9/2022** new vehicles



Crash Event Data Recorder

- Technology widely available
 - Consider harmonisation with US Part 563 prescriptions
- Cost-effective measure for accident investigation and road safety research
- Make mandatory for M1 and N1 vehicles
- **1/9/2020** new types – **1/9/2022** new vehicles



Tyre Pressure Monitoring

- Should be capable of detecting over a wide range of road and environmental conditions
- Should not be possible to deactivate
- Safety net for M1/N1 to detect less than 1.5 bar or to detect incorrect set/reset attempt
- Should cover any tyre of approved size, including after-market (different brand) replacement tyres
- Delete clause "...vehicle shall be tested with the tyres installed on the vehicle according to the vehicle manufacturer's recommendation..."
- Make mandatory for M, N and O vehicles
- **1/9/2020** new types – **1/9/2022** new vehicles



Review of General Safety Regulation

- Trucks and buses



Truck Front End Design Program

- Focus on Direct Vision requirements (Blind Spots)
 - Facilitation through DG MOVE's Masses and Dimensions Directive (EU) 2015/719 amending 96/53/EC
- Review if UNECE Regulation 93 on Front Underrun Protective Devices is still fit for purpose?
- Is a Frontal Crash Test (full scale or on restraint system level) appropriate?
- **Suggested approach:**
Commitment in Articles to carry out a study



Truck Front End Design Program

- Focus on Direct Vision requirements (Blind Spots)
 - Facilitation through DG MOVE's Masses and Dimensions Directive (EU) 2015/719 amending 96/53/EC
- To research if Direct Vision can be completely offset by Camera or Detection Systems
 - No benefit from / no link to Directive (EU) 2015/719
- In principle, Camera and Detection Systems should be (only) complimentary measures
- Make mandatory for M2, M3, N2 and N3 vehicles
- **1/9/2020** new types – Camera and Detection
- **1/9/2028** new types – Direct Vision



Truck Front End Design Program

- **1/9/2020** new types – Camera and Detection
- **1/9/2028** new types – Direct Vision
- Why this approach and these dates? Anticipation of Recital 5 of Directive (EU) 2015/719
 - Enabling vehicles to have a new cab profile ... Once improved safety requirements for longer cabs have been developed, consideration can be given to whether it is appropriate to apply them to vehicles which do not benefit from the length extension.



Truck Rear Underrun Program

- Geometric alignment with M1 vehicles and higher forces
- Improved measures focussing on HGV, Buses and their trailers
- Work under UNECE is well advanced
- 03 Series of amendments to UNECE Regulation 58
- **1/9/2019** new types – **1/9/2021** new vehicles



Truck Lateral Protection Program

- Reduction of very broad exemptions that are currently allowed
 - Vehicles designed and constructed for special purposes where it is not possible, for practical reasons, to fit lateral protection devices
- Improved measures focussing on HGV and their trailers
- Work under UNECE is ongoing
- 02 Series of amendments to UNECE Regulation 73
- **1/9/2019** new types – **1/9/2021** new vehicles



Bus Fire Safety Program

- CNG/LNG Release Valve requirements and Fire Suppression requirements
- Work under UNECE is well underway
- CNG: 02 Series of Amendments to UNECE Regulation 110
- **1/9/2018** new types – **1/9/2019** new vehicles
- Fire suppression: 07 Series of amendments to UNECE Regulation 107
- **1/9/2020** new types – **1/9/2021** new vehicles



Review of Pedestrian Safety

- Protection of other vulnerable road users
- Refer directly to UNECE Regulation 127, however, take into account the following:



Pedestrian/Cyclist Detection

- Technology is available, may need to be improved
- Make mandatory for M1 and N1 vehicles (derived from M1)
- Coupled with AEB application
- **1/9/2024** pedestrian detection
- **1/9/2026** cyclist detection
- ... for new types
- **Plus 2-year** period for new vehicles
- All N1 vehicles **2-year offset** to the above dates



Head impact on A-pillar/windscreen

- Field accident data and monitoring results
- Necessary to extend the adult head impact zone
- Make mandatory for M1 and N1 vehicles (derived from M1)
- Coupled with AEB application
- May consider to introduce reduced impact speeds with AEB pedestrian and cyclist detection (for windscreen and A-pillars testing only)
- **1/9/2024** new types – **1/9/2026** new vehicles
- All N1 vehicles **2-year offset** to the above dates



Reversing Detection

- Investigate trend with more commonplace SUVs
- Reversing camera and/or acoustic warning?
 - Possible to consider the new US FMVSS 111 requirements designed to protect very small children
- Make mandatory for M, N and O vehicles
- **1/9/2020** new types – **1/9/2022** new vehicles



Replacement components in the GSR

- Specific UNECE Regulations covering replacement components that are currently included:
 - R90 on Replacement brake linings, discs and drums
 - R30, R54 and R117 on Tyres
- To add to the GSR as part of the revision:
 - R59 on Replacement exhaust silencers (safety dimension is in General Specifications on mounting and durability)
 - R108 and R109 on Re-treaded tyres
 - R114 on Replacement airbags
 - R115 on Retrofit LPG and CNG systems
 - R124 on Replacement wheels
 - R126 on Partitioning systems



Child Restraint Systems in the GSR

- Specific UNECE Regulations covering Child Restraint Systems:
 - R44 currently only obligatory if incorporated within the vehicle, so-called 'vehicle specific' category
- To add to the GSR as part of the revision:
 - R44 on Child Restraint Systems (i.e. in general)
 - R129 on Enhanced Child Restraint Systems
- To avoid diverging practices in Member States that allow the sale of non-complying CRS that are dangerous, whereas their use is prohibited through DG MOVE's Directive 91/671/EEC



For further information

<http://ec.europa.eu/growth/sectors/automotive>

- Status of EU legislation, links to Regulations and other useful information.

<https://circabc.europa.eu/w/browse/b2bc6bdb-7e39-48cd-9f16-079703cd82e6>

- Studies carried out by the Automotive and Mobility industries unit of DG GROW

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