

# ACEA position paper

## Roadworthiness package



The European Commission's Roadworthiness Package (RWP), consisting of directives for Periodical Technical Inspections (PTI), Roadside Inspections (RSI), and vehicle registrations, represents a significant step in improving road safety and environmental standards across the EU, by leveraging cutting-edge technology, enhancing enforcement efforts, and ensuring alignment with the rapidly changing landscape of mobility. ACEA is concerned about the choice of the legal instrument of the proposed revision (a Directive instead of a Regulation), as opting for a Regulation would secure the implementation of a harmonised legal framework for vehicles in each EU member state, equally reducing operating costs for all economic operators while delivering solid environmental benefits.

The introduction of Periodical Technical Inspections (PTI) on vehicles have been proven by multiple studies to increase road safety significantly. However, it's important to remember that, today, less than 1% of road traffic casualties in Europe are attributable to a vehicle's technical defect that could be identified through a thorough PTI test. Therefore, extending the scope of inspections and adding additional PTI inspection requirements without adequately analysing their necessity, safety relevance, or cost implications, would only increase bureaucratic requirements with minimal impact on actually improving road safety in Europe. Further improvement requires more, and more accurate data on the root causes of fatal accidents and further harmonisation of the scope of PTI, methods, and intervals resulting in mutual recognition of certificates.

## KEY MESSAGES

### **1. Excessive data sharing requirements should be avoided**

Based on current practices, PTI operators do not systematically use the data already provided by vehicle manufacturers. Access to the data that PTI operators could already use today is already regulated under Regulation 2019/621 (EC)<sup>i</sup>. In the light of this, the Commission should thoroughly investigate if there is any need for additional data sharing requirements.

Vehicle type approval regulations already include requirements for Onboard Diagnostic (OBD) data provisions which were agreed after careful consideration regarding necessity and feasibility, adapted to the regulated technology. The Roadworthiness Package should not add new requirements on top of those agreed and being implemented.

Furthermore, data used for PTI purpose is only created and compiled for this purpose, which requires a considerable effort and, thus, represent significant costs. Comparable to the PTI itself, a fair remuneration should be permitted.

## 2. **Avoid conflicting regulation on assessment of software version and integrity**

UN regulations 155 (cybersecurity) and 156 (software update management system – SUMS) define how software integrity can be assured for the complete lifecycle. These regulations are already applied in the EU (through Regulation 2018/858)<sup>ii</sup>. This topic should not be in the PTI directive as this would lead to double regulation.

## 3. **Exhaust emission tests are useful in PTI but noise measurements are overly challenging**

ACEA fully supports the aim of finding vehicles with critical defects or manipulated ones. To check the exhaust emission during the PTI is important and useful. The emission test should rightfully be expanded to include further measurement of NOx<sup>1</sup>. Development of the test methodology and limits needs however to be done together with the vehicle manufacturers' experts.

Noise measurements for vehicles is a delicate matter. The only suitable method is the one used for type-approval, defined in UN R51.03 which cannot be used in PTI. The causes for vehicles being too loud (eg defective silencers or exhaust pipes, illegal aftermarket parts) can be identified by simple visual inspection. An alternative to check for noisy vehicles in real traffic are the so-called noise cameras. Several studies have proven their effectiveness (see UN TF-VS<sup>iii</sup>). Their implementation does not require any provisions in the PTI or RSI directive.

## 4. **Periodic odometer reading and reporting requires further development**

Providing reliable evidence about the true mileage of a vehicle is a good first step towards tackling odometer fraud. To avoid duplication and additional administrative burden, no connected data transmission shall be required until the readiness of the MOVE-HUB and the definition of the necessary format and data transmission requirements via EU implementing acts, with appropriate implementation lead time.

## 5. **PTI checks on electronic systems suffering from obsolescence and/or relying on external infrastructure**

The PTI tests should consider the obsolescence of electronic systems or of the infrastructure on which their proper functioning depends. Considering for instance the imminent switch-off of the 2G/3G network, all vehicles fitted with an eCall system based on such technology will be found with “major” defects due to lack of this network. Same applies to other electronic systems included in the new checks. ACEA recommends exempting older vehicles ie manufactured more than 20 years ago from unfeasible checks, while also restricting PTI tests to the function of the in-vehicle systems.

No vehicle should fail a PTI inspection due to system obsolescence, to the lack of connectivity or other external prerequisites for being tested and not being demanded for in type-approval regulations attributable to such vehicles.

---

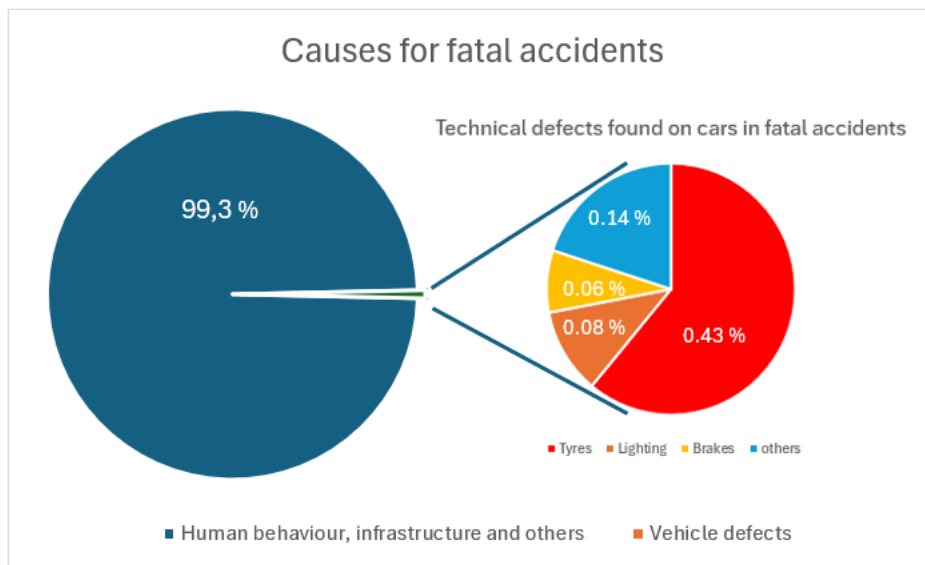
<sup>1</sup> Nitrogen oxides

## ASSESSMENT IN DETAIL

### EXTENDING THE SCOPE OF PTI INSPECTIONS AND INSPECTION REQUIREMENTS IS UNJUSTIFIED

The Commission-proposed text on the revision of the PTI directive imposes numerous additional test obligations on vehicle owners without adequately analysing their necessity, safety relevance, or cost implications, despite acknowledging that vehicle defects cause only a minor percentage of road crashes in the EU.

A study commissioned by ACEA in 2024<sup>iv</sup> to assess the impact of roadworthiness testing regulations on road safety found that the initial introduction of periodic technical inspections significantly improved road safety, reducing accidents due to technical defects. However, further improvements through additional inspection requirements are limited. In countries with established PTI systems, most fatal accidents are due to human behaviour, road conditions, and other external factors. Technical defects are found on less than 1% of cars involved in fatal accidents and only at a fraction of this the technical defects are the root cause for the accident. Even with such small percentage, a perfect PTI cannot guarantee to avoid all accidents.



Source: DESTATIS 2023 for the period 2017-2019

The study also highlighted that data on accident causes is insufficient for precise analysis of specific root causes for accidents. If, for example, an accident in a police report is related to “tyres”, it is in most cases unclear whether the tyres were worn, damaged, lacking sufficient inflation pressure, or suffered from a technical error in production or design. Without information about precise technical causes of accidents, enhancement of PTI rules is at risk of imposing further inspection requirements in fields, where it is unnecessary and probably will miss aspects, where more intense testing might actually save lives.

Despite the fact that electronic systems are not shown to be root causes for fatal accidents, the proposal is adding requirements to 62 new systems. The directive's extension of testing

requirements to these 62 electronic systems does not consider the relevance of potential defects that could be prevented through a PTI test for road safety and lacks sufficient justification. Furthermore, many systems are related to convenience rather than safety, and defects in these systems are unlikely to create dangerous situations. If, for example, the “kneeling system” allowing a vehicle to lower itself for easy entry does not work and stays in normal position this is not critical. Therefore, distinguishing between safety and comfort-related, mandatory and voluntarily installed systems, and assessing the suitability of each testing method is crucial. The PTI regulation in Japan, which only covers eight systems of this kind, could serve as an example for a practical solution.

Without proper assessment, including these 62 additional devices in mandatory testing risks disproportionate cost and time increase for consumers without significant road safety benefits. This could eventually discourage customers from choosing vehicles with advanced safety or convenience systems.

## USE OF MANUFACTURER PROVIDED DATA

The draft proposal empowers the European Commission to adopt implementing acts specifying technical information for roadworthiness testing, test methods, and data format procedures (Article 4, paragraph 5<sup>v</sup>). However, an ACEA study<sup>iv</sup> reveals that PTI bodies systematically ignore test data provided by vehicle manufacturers under regulation 2019/621/EU<sup>i</sup>. The definition of the set of data to be provided should remain under 2019/621/EU<sup>i</sup> to avoid conflicting requirements. Without using existing data, adding testing requirements seems futile. Developing test methods and thresholds requires significant time and money from manufacturers, justified only if the data contributes to effective accident-reduction methods.

Remuneration is justified due to the significant specific effort in data development, which cannot be compensated elsewhere. The draft refers to principles which mandates free provision of repair information to public authorities. However, this situation differs from Article 4, paragraph 6 of the proposed Directive<sup>v</sup>, as inspection data is solely created and compiled for this purpose. Comparable to the PTI itself, a fair remuneration should be permitted.

## AVOID CONFLICTING REGULATION ON ASSESSMENT OF SOFTWARE VERSION AND INTEGRITY

Several entries in the proposed amendment to Annex I<sup>v</sup> require assessment of the valid software or software integrity. For example, entry no. 4.14.1 (high voltage systems) or no. 10.2 (adaptive cruise control), indicate as a possible defect “software version or -integrity incorrect”.

UN R156<sup>vi</sup> (including software update management system – SUMS) defines how software integrity can be assured for the complete lifecycle and already applies in the EU (through Regulation 2018/858<sup>ii</sup>). Duplication/confliction in the PTI Directive should be avoided.

Verifying software on all vehicle Electronic Control Units (ECU) is non-trivial and not needed for PTI. When creating UN R156<sup>vi</sup> it was identified that the capability to verify that the software corresponding to the software version is very bespoke and will vary by ECU. This

forensic level investigatory capability would be very difficult for independent operators to achieve without significant investment and training. Instead, the problem was addressed through UN R155<sup>vii</sup> and requiring the vehicle to be suitably cyber secure. This does reduce the likelihood that unauthorised software is present in the first place. Functional tests of key systems, such as pollution control systems, at PTI offer a better and easier way to verify a system is working as intended (and by extension has authorised software present).

When creating UN R155 and UN R156, it was understood that Electronic Control Units (ECU) in vehicles are not designed to allow extraction of software as they are locked down. The best way to check that the current version of software would be using the Software Identification Number (RxSWIN) as defined by ISO 24089 and as suggested by R156.

## EXHAUST EMISSION TESTS ARE USEFUL IN PTI BUT NOISE MEASUREMENTS ARE IMPOSSIBLE

ACEA fully supports the aim of identifying vehicles with critical defects or manipulated ones. For this reason, checking the exhaust emission during the PTI is important and useful. The emission test should be expanded to include further measurement of particulate number (PN) and NOx. It is crucial though for the development of the test methodology and limits to be done in consultation with the vehicle manufacturers' experts.

Currently, a remote sensing method that can be directly attributed to the measured vehicle has not been proven. Environmental factors such as wind or oncoming traffic may potentially increase the error rate. Therefore, "false-positive" tests are very likely. The customer will have significant effort to have the vehicle pass regulatory emissions test bench tests afterwards to prove compliance. The benefit is limited, as vehicles are tested on-site on the test bench anyway. Implementing the "remote sensing technology" and infrastructure is complex and error-prone with limited proven effectiveness.

When it comes to noise measurements, several studies in various European cities have proven the effectiveness of so-called noise cameras. These studies (see GRBP TF-VS<sup>iii</sup>) indicate that a relevant and functional threshold for correct discrimination of a loud vehicle from a normal vehicle is crucial. It shall be secured that only vehicles that considerably exceeds the type-approval provisions will be captured by a remote recording equipment – the type-approval level shall be used as reference, not the average of vehicles. None of these studies however suggests a threshold of double the average of vehicle sound emission level (which is +3dB), as this would result in many false positives (falsely accusing normal vehicles as too loud).

For an inspector to be able to distinguish a loud vehicle from a normal one in subjective evaluation, the excessive noise should be experienced considerably higher. This would be the case when the noise from the candidate vehicle is more than 10dB louder than the expectancy of the inspector. In this case, there is most likely a defect on the silencer, a hole in the exhaust pipe present, or illegal aftermarket parts fitted to the vehicle. This is likely to be found by visual inspection.

The only measurement method that could assess if a vehicle is really too loud by only 3dB, is the one used for type-approval, defined in UN R51.03 Annex 3, paragraph 3.2. It requires



open space, a test track with ISO road surface, and specific measurement equipment. Therefore, it is unsuitable for PTI measurements. Any deviation of the prescribed test conditions is acoustically undefined and will require an undefinable margin.

## PERIODIC ODOMETER READING AND REPORTING

Providing reliable evidence about the true mileage of a vehicle by periodic odometer reading and reporting as provided for in Article 4a<sup>v</sup> of the Commission's proposal is a good step towards tackling odometer fraud.

Article 4a, as included in the proposal to amend Directive 2014/45/EU requires vehicle manufacturers to read and transmit odometer values to a national database every three months from all connected vehicles put on the market. Odometer values should be considered as personal data because of GDPR principles. Although the duty to read and transmit such data might create a legal justification to process such data without consent of the vehicle owner or driver, such data will have to be handled with caution. Therefore, ACEA strongly suggests that all facilities and procedures necessary for such transmission are clarified and established, before the respective duty shall be executable. Even after the respective implementing acts have entered into force, a transition period of at least one year shall be required to establish the necessary equipment and procedures for the vehicle manufacturers.

## PTI CHECKS ON ELECTRONIC SYSTEMS SUFFERING FROM OBSOLESCENCE AND/OR RELYING ON EXTERNAL INFRASTRUCTURE

The proposal introduces new PTI checks mainly relevant to electronic systems included in the GSR2 ((EU) 2019/2144<sup>viii</sup>) which are prone to intrinsic obsolescence or the obsolescence of the infrastructure on which they rely. Considering for instance the imminent switch-off of the 2G/3G network, all vehicles equipped with an eCall system based on such technology will be found with "major" defect since, due to lack of connection, the vehicle will present a warning to the driver (check 10.48 (e) ANNEX I). In addition, the lack of connection will not allow to perform part of the test prescribed by the proposal for the eCall system. Moreover, for Intelligent Speed Assistance system, according to (EU) Regulation 2021/1958<sup>ix</sup> manufacturers shall guarantee the reliability of the sign detection for 14 years and, in case of obsolete maps, the PTI test performed after those time will likely become unnecessary when signs have changed, or new ones were introduced.

Therefore, ACEA recommends:

- To modify the definition of "Vehicle of historical interest", included in the current PTI directive, in order to provide to member states the possibility to exempt older vehicles from unfeasible checks on electronic systems suffering from obsolescence. The rapid pace of technological advancements in recent years necessitates a re-evaluation of the 30-years threshold established in the 2014/45/EU directive<sup>x</sup>. For this reason, ACEA suggests lowering it to 20 years as already done through national laws by many member states and intended for the End-of-Life Vehicles Regulation

(ELVR). It is important to note that the age of the vehicle is not the sole criterion for its recognition as historically significant. Member states will retain the authority to determine whether a specific vehicle qualifies as of historical interest. Nevertheless, maintaining the current definition (ie threshold), vehicles that are potentially eligible for this category, but due to checks on obsolete systems fails PTI, would no longer be roadworthy long before they could be exempted from the unfeasible tests. A vehicle being scrapped after 20 years will never become 30, 40, or 50 years old.

- Testing should be restricted to the correct functioning of the in-vehicle device. Since some modern comfort or safety systems rely on external infrastructure, a change or the lack of this infrastructure (eg 2G/3G network) cannot be assessed as critical failure of the vehicle. Therefore, ACEA recommends establishing a general provision, addressing all systems, which need coordination with facilities of public infrastructure to clarify that the scope of PTI to be judged is the vehicle and its built-in systems.

---

<sup>i</sup> Commission Implementing Regulation (EU) 2019/621 of 17 April 2019 on the technical information necessary for roadworthiness testing of the items to be tested, on the use of the recommended test methods, and establishing detailed rules concerning the data format and the procedures for accessing the relevant technical information

<sup>ii</sup> Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC

<sup>iii</sup> UNECE Task Force on Vehicles' Sound

<sup>iv</sup> <https://www.acea.auto/news/less-than-1-of-accidents-caused-by-technical-defects-confirms-new-study/>

<sup>v</sup> Proposal for a Directive of the European Parliament and of the Council amending Directive 2014/45/EU on periodic roadworthiness tests for motor vehicles and their trailers and Directive 2014/47/EU on the technical roadside inspection of the roadworthiness of commercial vehicles circulating in the Union

<sup>vi</sup> UN Regulation No. 156 – Software update and software update management system

<sup>vii</sup> UN Regulation No. 155 - Cyber security and cyber security management system

<sup>viii</sup> Regulation (EU) 2019/2144 of the European Parliament and of the Council of 27 November 2019 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) 2018/858 of the European Parliament and of the Council and repealing Regulations (EC) No 78/2009, (EC) No 79/2009 and (EC) No 661/2009 of the European Parliament and of the Council and Commission Regulations (EC) No 631/2009, (EU) No 406/2010, (EU) No 672/2010, (EU) No 1003/2010, (EU) No 1005/2010, (EU) No 1008/2010, (EU) No 1009/2010, (EU) No 19/2011, (EU) No 109/2011, (EU) No 458/2011, (EU) No 65/2012, (EU) No 130/2012, (EU) No 347/2012, (EU) No 351/2012, (EU) No 1230/2012 and (EU) 2015/166

<sup>ix</sup> Commission Delegated Regulation (EU) 2021/1958 of 23 June 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council by laying down detailed rules concerning the specific test procedures and technical requirements for the type-approval of motor vehicles with regard to their intelligent speed assistance systems and for the type-approval of those systems as separate technical units and amending Annex II to that Regulation

<sup>x</sup> Directive 2014/45/EU of the European Parliament and of the Council of 3 April 2014 on periodic roadworthiness tests for motor vehicles and their trailers and repealing Directive 2009/40/EC





## ABOUT THE EU AUTOMOBILE INDUSTRY

- 13.2 million Europeans work in the auto industry (directly and indirectly), accounting for 6.8% of all EU jobs
- 10.3% of EU manufacturing jobs – some 3.1 million – are in the automotive sector
- Motor vehicles are responsible for €383.7 billion of tax revenue for governments across key European markets
- The automobile industry generates a trade surplus of €106.7 billion for the European Union
- The turnover generated by the auto industry represents over 7.5% of the EU's GDP
- Investing €72.8 billion in R&D per year, automotive is Europe's largest private contributor to innovation, accounting for 33% of the EU total

## ACEA REPRESENTS EUROPE'S 16 MAJOR CAR, VAN, TRUCK AND BUS MANUFACTURERS

### ACEA

European Automobile  
Manufacturers' Association  
+32 2 732 55 50  
info@acea.auto  
[www.acea.auto](http://www.acea.auto)



x.com/ACEA\_auto



linkedin.com/company/acea



youtube.com/c/ACEAauto