



Manual of European Environmental Policy

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Cars, buses, lorries and trains

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| Formal reference | |
| Noise from vehicles | |
| 70/157/EEC (OJ L42 23.2.1970) | Council Directive relating to the permissible sound level and the exhaust systems of motor vehicles. |
| Proposed 11.7.68 – COM(68)529 | |
| 73/350/EEC (OJ L321 22.11.73) | Commission Directive adapting 70/157 to technical progress. |
| 77/212/EEC (OJ L66 12.3.77) | Amendment. |
| Proposed 24.7.74 – COM(74)1175 | |
| 81/334/EEC (OJ L131 18.05.81) | Commission Directive adapting 70/157 to technical progress. |
| 84/372/EEC (OJ L196 26.07.84) | Commission Directive adapting 70/157 to technical progress. |
| 84/424/EEC (OJ L238 06.09.84) | Amendment |
| Proposed 5.7.83 – COM(83)392 (OJ C/1983/200/5) | |
| 89/491/EEC (OJ L 238 15.08.89) | Amendment |
| 92/97/EEC (OJ L371 19.12.92) | Amendment |
| Proposed 28.6.91 – COM(91)51 (OJ C/1991/193/3) | |
| 96/20/EC (OJ L92 13.04.96) | Commission Directive adapting 70/157 to technical progress |
| 1999/101/EC (OJ L334 28.12.99) | Commission Directive adapting 70/157 to technical progress. |
| Legal base | Article 114 TFEU (originally Article 100a EEC Treaty) |
| Binding dates | |
| Notification | 10 February 1970 |
| Entry into force | 10 February 1970 |
| Formal compliance | 10 August 1971 / 01 July 1973 |
| Noise from tyres | |
| 92/23/EEC (OJ L129 24.05.1992) | Council Directive relating to tyres for motor vehicles and their trailers, and to their fitting |
| Proposed COM(89)0653 (OJ C/1990/95/101) | |
| 2001/43/EC (OJ L211 | Amendment |

| | |
|---|--|
| 04.08.2001) | |
| Proposed 10.12.97 – COM(97)680 | |
| Legal base | Article 114 TFEU (originally Article 100a EEC) |
| Binding dates | |
| Entry into force | 24 April 1992 |
| Formal compliance | 30 June 1992 |
| Regulation (EC) No 1222/2009 (OJ L342 22.12.2009) | Regulation on the labelling of tyres with respect to fuel efficiency and other essential parameters |
| Proposed 13.11.2008 COM(2008)779 | |
| Binding dates | |
| Entry into force | 1 November 2012 |
| Deadline for review | 1 March 2016 |
| Noise from rail | |
| Decision 2006/66/EC (OJ L 37, 8.2.2006) | Commission Decision concerning the technical specification for interoperability relating to the subsystem ‘rolling stock — noise’ of the trans-European conventional rail system |
| Decision 2011/229/EU (OJ L99, 13.4.2011) | Commission Decision concerning the technical specifications of interoperability relating to the subsystem ‘rolling stock - noise’ of the trans-European conventional rail system |

Purpose of the Directives

The original Directives and the succeeding amendments have two purposes: to ensure that noise limits by individual Member States do not create barriers to trade; and progressively to reduce noise limits from vehicles for environmental reasons. These Directives were of the kind known as ‘optional’, or as providing ‘optional harmonization’, which means that Member States were not bound to set limits equal to those in the Directives, but could not erect trade barriers by setting more stringent limits. The 1992 amendment, however, introduced mandatory noise limits which Member States are obliged to apply from specified dates. Directive 2001/43/EC sets mandatory limits for the noise arising from the contact between vehicle tyres and road surfaces while the vehicle is mobile.

Summary of the Directives

Directive 70/157/EEC

Directive 70/157/EEC defines ‘vehicles’ to mean four-wheeled road vehicles having a maximum design speed greater than 25 kmph, but excluding agricultural tractors and public works vehicles. An Annex lists seven categories of cars, buses and lorries and sets a noise limit against each. A noise-measuring method is specified covering both the conditions of measurement and the vehicle-operating conditions. The Annex also sets out requirements for exhaust systems (silencers).

No Member State may prohibit the sale or use of a vehicle or may refuse to grant EEC-type approval or national-type approval of a vehicle on grounds relating to the permissible sound level or the exhaust system if these satisfy the requirements in the Annex. The Directive thus prevents Member States from setting more stringent noise limits than those specified. If one Member State chooses to adopt national limits equal to the limits in the Directive, then manufacturers from other countries interested in selling in that market will be induced to meet the limits of the Directive. It can therefore have a powerful persuasive effect.

Directive 70/157/EEC has a provision allowing the Annex to be adapted by the Commission to take account of technical progress, but not so as to make changes to the noise limits set against each category of vehicle. That power is reserved to the Council.

From 1 October 1985 Member States were not able to prohibit the sale or use of a vehicle or refuse to grant EEC or national-type approval if the requirements of the Directive were met. From 1 October 1988 Member States could refuse to grant national-type approval to vehicles which did not meet the requirements of the Directive and from 1 October 1989 could prohibit the entry into service of such vehicles. Directive 89/491/EEC makes minor amendments to Directive 70/157/EEC and other framework Directives relating to emissions and fuel consumption (see section on [vehicle emissions](#)) to take account of the requirements of unleaded petrol.

Subsequent Directives

Directive 70/157/EEC has been regularly amended, adapting it to technology change. Directive 73/350/EEC expanded the requirements in Directive 70/157/EEC relating to silencers. Directive 77/212/EEC reduced the noise limits set in 70/157/EEC but has been superseded by Directive 84/424/EEC (see below). Directive 81/334/EEC introduced a new test procedure to reflect the increased range of gears now commonly used. It requires tests using more than one gear rather than one gear only as previously. It also contains provisions to permit replacement silencers for passenger cars and light commercial vehicles to be type approved. From 1 October 1984 type approval has only been granted if the limits of Directive 77/212/EEC are met using the new test method, and from 1 October 1985 Member States have prohibited the entry into service of vehicles that have not been tested by the new method. Directive 84/372/EEC amended further the test procedure amended by 81/334/EEC but leaves unchanged the compliance dates therein.

Directive 84/424/EEC amended the noise limits in 77/212/EEC and also changed the categories of vehicles slightly by putting bus and lorries under 3.5 tonnes together and creating three categories of vehicles over 3.5 tonnes differentiated by horsepower.

Directive 92/97/EEC reduced the noise limits still further, the reduced values in dB(A) are presented in Table 1 with their equivalents according to the 1984, 1977 and 1970 Directives. It consolidated previous amendments to the original Directive and introduced some refinements to the test procedures. From 1 October 1995 Member States could not grant EC certification to vehicles which did not comply with the terms of Directive 92/97/EEC. From 1 October 1996 Member States were required to ban the entry into service of vehicles not attaining the new limits.

A new article set out rules for the use of fiscal incentives by Member States to encourage the earlier introduction of vehicles that complied with the new limits. A further article established

a commitment for the Council to decide before 1 October 1995 measures to limit the noise from tyre/road surface contact, a source of noise which had become increasingly important. However, no formal proposals were put forward by that date.

Table 1. Reduced noise values for vehicles in dB(A) set out in four Directives

| | 92/97/EEC | 84/424/EEC | 77/212/EEC | 70/157/EEC |
|---------------------------------------|-----------|------------|------------|------------|
| Cars | 74 | 77 | 80 | 82 |
| <i>Buses over 3.5 tonnes</i> | | | | |
| Less than 200 HP | 78 | 80 | 82 | 89 |
| Over 200 HP | 80 | 83 | 85 | 91 |
| <i>Buses and goods vehicles</i> | | | | |
| Less than 2 tonnes | 76 | 78 | 81 | 84 |
| Over 2 and under 3.5 tonnes | 77 | 79 | | |
| <i>Goods vehicles over 3.5 tonnes</i> | | | | |
| Less than 100 HP | 77 | 81 | | |
| Over 100 and under 200 HP | 78 | 83 | 86 | 89 |
| Over 200 HP | 80 | 84 | 88 | 91 |

Note: For cars and goods vehicles of less than 3.5 tonnes with diesel engines the limit values are 1 dB(A) higher.

Directive 96/20/EC introduced a new test procedure, to be implemented by 1 October 1996, for heavy vehicles. Directive 1999/101/EC amended the definition of a ‘representative vehicle’, as set out in Directive 70/157/EEC, to ensure that a vehicle submitted for a test can comply with the requirements for conformity of production in relation to the permissible sound level. Previously this was proving extremely difficult to do with respect to replacement exhaust systems.

Directive 92/23/EEC

Directive 92/23/EEC is the original approval Directive for tyres. It has been modified by Directive 2001/43/EC that introduces, for the first time, limits on the noise arising from the contact between road surfaces and tyres on vehicles and their trailers when the vehicle is in motion. The original Directive for tyres did not address tyre noise. Directive 2001/43/EC applied to tyres intended to be fitted on all passenger and commercial vehicles first used after 1 October 1980, with exemptions for slow vehicles and vehicles that use particularly narrow or particularly wide tyres. The limit values are given in Table 2.

Table 2. Reduction limits for tyres (Directive 2001/43)

| <i>Type of vehicle, tyre is to be used in</i> | <i>A</i> | <i>B</i> | <i>C</i> |
|--|---|---|---|
| Passenger cars (category M1) | 72 to 76 dB(A) depending on width | 72 to 76 dB(A) depending on width | 70 to 75 dB(A) depending on width |
| Commercial vehicles (categories M2, M3 and N) with space capacities allowed to go faster than 140 km/h | 75 to 78 depending on category of use | | |
| Other commercial vehicles | 76 to 79 Depending on category of use | | |

Note: The limit values in column A came into force immediately. These were replaced by the indicative limit values in column B on 1 July 2007, 2008 or 2009, where the date of introduction depends on the tyre width. The date of introduction of the indicative limits given in column C has yet to be decided. The final limit values of columns B and C, and the date of application of the new values in column C will be determined by an amendment to Directive 2001/43 following a report on the implementation of that Directive as required by Article 3(2).

Decision [2006/66/EC](#)

This Decision has been adopted under Directive [2001/16/EC](#) that regulates the interoperability of the rail systems in the EU. Decision 2006/66/EC concerns the technical specifications for interoperability relating to noise. It applies to new and old rolling stocks, including freight wagons. It states that noise is a serious concern in rail transport and introduces levels for noise limits. The Commission proposed a two step plan to reduce its impact: first the retro-fitting of noise reducing devices on old trains, and then application of technical specifications to new rolling stocks. The Decision also adopts some noise level limits for external noise, starting noise and noise within the driver's cab. However, due to the long lifetime of rolling stock, these measures are useful for new stock, but insufficient for the existing fleet.

Decision [2011/229/EU](#)

This Decision was adopted under Directive [2001/16/EC](#) that regulates the interoperability of the rail systems in the EU. Like Decision 2006/66/EC, it regulates technical specifications for interoperability relating to noise. Decision 2011/229/EU repeals and replaces Decision 2006/66/EC. Although most of the provisions remain unchanged (noise limits remain the same), the new Decision clarifies the situation in respect of the reference track, whose use was mandatory, but which is not available in every Member State. This point was the source of numerous complaints from Member States, which could not implement the required measurements. This had also prevented the development of a level playing field for all actors and financial burden higher than foreseen in the original Decision. Decision 2011/229/EU now allows Member States to do the mandatory testing on non-reference track, while assuring a proper collection and recording of comparable data for a future revision.

Regulation (EC) No [1222/2009](#)

Regulation (EC) No 1222/2009 was adopted in November 2009. Its aim is to improve road transport by promoting fuel-efficient and safe tyres with low noise levels. It applies from 1 November 2012 to a wide range of tyres (excluding, inter alia, re-treaded tyres, off-road professional tyres, temporary use spare tyres, tyres whose speed rating is less than 80km/h). The Regulation places a duty on tyre suppliers to ensure that tyres delivered to distributors or end-users are equipped with a label indicating the fuel efficiency class, the external rolling noise class and the wet grip class. The annexes of the Regulation give more details: Annex I defines the classification criteria, Annex II describes the format of the sticker. Distributors are responsible for ensuring that the labels are visible and displayed on or in the immediate proximity of the tyre.

Development of the Legislation

The parent Directive 70/157/EEC was the earliest Community legislation concerned with noise. It was closely modeled on the United Nations Economic Commission for Europe's non-mandatory Regulation 9. The explanatory memorandum accompanying the proposal for Directive 77/212/EEC recorded that on 20 June 1973 and 5 September 1973 the governments of France and the United Kingdom, respectively, had informed the Commission of their interest in a substantial reduction of the limits set in 70/157/EEC. The explanatory memorandum set out a short-term programme aimed at an initial reduction of the existing limits, which resulted in Directive 77/212/EEC – and a longer-term programme to find a new method of noise measurement which would more accurately reflect the actual conditions in which vehicles are used in urban traffic, which resulted in Directive 81/334/EEC. It took two and a half years for Directive 77/212/EEC to be adopted and much earlier compliance dates were proposed than were agreed: for example, according to the proposal Member States would have been able to make the limits mandatory from October 1976 rather than October 1982, a difference of six years. When Directive 77/212/EEC was agreed the Council made a declaration that:

“efforts should be made to achieve a noise level of around 80 dB(A) for all categories of vehicles by 1985. The levels decided on will have to take into account what is technically and economically feasible at the time. Moreover, they will have to be established sufficiently early to give manufacturers an adequate transition period in which to improve their products.”

This declaration therefore intended, not that a new Directive should be agreed by 1985, but that a new Directive would have to be agreed in sufficient time for vehicles meeting the limits to be on the road by 1985. This target was not met.

Directive 84/424/EEC introduced new limits effective from 1 January 1985, but limits for buses and vehicles over 3.5 tonnes were generally over 80 dB(A). The proposals for this Directive were based on the global approach to Community legislation on motor vehicles but were regarded as an intermediate step.

Directive 92/97/EEC reduced the noise limits to 80 dB(A) or below for all vehicles covered by the Directive, including buses and vehicles over 3.5 tonnes. These limits are mandatory

and Member States are obliged to apply the new standards from the dates specified in Directive 92/97/EEC.

The principal point of contention between the Council and the European Parliament in the course of the development of Directive 2001/43/EC was in relation to the level of the noise limits to be set. In its Common Position in April 2000, the Council settled on the limit values set out in column A of Table 2. However, the Parliament pushed for these to be reduced by 2 dB(A) for passenger cars, but not for commercial vehicles. It claimed that industry could meet these limits without compromising safety – a claim disputed by the industry, itself. As a result, the proposal went to conciliation, where Parliament's concerns were addressed by setting lower indicative limit values for future years, as set out in columns B and C of Table 2. By August 2004, the Commission had to submit a report to the Council and the Parliament on whether, and if so when, these indicative limit values could be introduced without compromising safety. A study¹ making recommendations for the revision of the limit values and other aspects of Directive 2001/43/EC was presented to the European Commission in 2006. It outlined a proposal for two phases of stricter limit values for 2008 and 2012, for tyres for passenger cars and trucks. The study recommended limit values which were equivalent to effective noise reductions of (taking into account different tyre classes and dimensions): passenger car tyres: 2.5–5.5 dB(A) and commercial vehicle tyres: 5.5–6.5 dB(A). It also recommended the introduction of labels for tyres taking into account their noise levels.

In 2008, the Commission published a proposal ([COM\(2008\)779](#)) for a Directive creating a labelling obligation providing for tyre efficiency and other parameters. The proposal was met with hostility by tyre distributors that said the measure would be too financially burdensome. However, the European Parliament backed the proposal and changed it into a Regulation to avoid lengthy implementation in the Member States.

Implementation of the Directives

Directive 70/157/EEC has been properly transposed by all Member States. Information on Member States transposition status can be found [here](#).

Directive 92/23/EEC on noise from tyres has also been fully transposed. Information on Member States transposition status can be found [here](#).

In June 2009, the Commission published a Communication ([COM\(2009\)279](#)) entitled “A sustainable future for transport: towards an integrated technology-led and user-friendly system”. It follows on from a 2001 White Paper which set the agenda for EU transport policy up to 2010 (see section on [Transport](#)). The Communication identifies noise pollution as a particular environmental challenge that needs to be addressed.

In April 2010, the European Environment Agency (see section on [The EU Agencies](#)) published a report² on the environmental impact of traffic entitled “Towards a resource-efficient transport system”. It concluded that an increasing number of people were affected by transport noise, especially in large agglomerations. The indicators of noise transport emissions were reported separately for road, railway and aircraft sources. As Table 3 shows, major roads were the dominant source of noise pollution. The level of night time transport noise was also underlined as worrying as it was found to be often above to the 40 dB_{night} ,

limit that the World Health Organisation recommended in its Night Noise Guidelines for Europe. Levels of noise above this limit are thought to be responsible for adverse health effects.

Table 3. Population affected by noise in agglomerations per origin

| | Roads | Railways | Airports | Industry |
|--------------------------|--------------|-----------------|-----------------|-----------------|
| >55 dB L _{den} | 41 198 400 | 3 684 900 | 1 782 331 | 761 700 |
| 50 dB L _{night} | 27 802 500 | 2 516 700 | 1 081 100 | 390 700 |

EEA report – Towards a resource-efficient transport system

Note: L_{den} and L_{night} are two noise indicators introduced by the Environmental Noise Directive

In March 2011, the World Health Organisation released a report,³ supported by the European Commission's Joint Research Centre on the effect of traffic-related noise on health. It found that each year at least one million healthy years of life are lost due to disability or disease caused by noise traffic.

In 2008, the Commission published a Communication on ([COM\(2008\)432](#)) rail noise abatement measures for the existing rolling stock. It proposed a combination of instruments to improve retro-fitting including noise-differentiated track access charges, noise emission ceilings at certain location along the line and other voluntary commitments. These measures will be proposed for the revision of [Directive 2001/14/EC](#) concerning the allocation of railway infrastructure capacity. Also, in January 2010 the Commission confirmed that noise abatement measure for rail was under discussion. This will feed in the process for the recast of the first rail package due in 2011.

Enforcement and court cases

No cases have been submitted to the European Court of Justice relating to these Directives.

Further developments

In September 2010, a Commission Communication ([COM\(2010\)508](#)) proposed the codification of the Directive on the permissible sound level and the exhaust system of motor vehicles. It would bring together the texts of Directive 70/157/EEC and its successive amendments without changing their requirements. The text was discussed in May in the European Parliament and is awaiting adoption.

The Commission published a proposal for a Regulation on the sound level of motor vehicles ([COM\(2011\)856](#)) on 9 December 2011 which seeks to introduce stricter noise levels passenger cars, vans, buses and lorries. The proposal aims to reduce noise from vehicles through progressively reducing the limits. Limits for cars, vans and buses would first drop by 2 decibels two years after entry into force, then by another 2 decibels five years after entry into force, reaching 68 decibels. For lorries, the first step would be a 1 decibel reduction (from 81 to 80 dB(A)), then a further 2 decibels reduction, to reach a final limit of 78 dB(A).

Shortly before the publication of the proposal, the EU high level group on the competitiveness of the automobile sector CARS 21 released recommendation for financial incentives to boost clean vehicles' market take-up and limiting vehicle noise.⁴

Related legislation

Other Directives have a strong interaction with the legislation concerning noise emissions from cars, buses, lorries and trains. These include:

- [Directive 97/24/EC](#) on two- or three-wheeled motor vehicles characteristics.
- [Directive 74/151/EEC](#) stating standards for characteristics of wheeled agricultural or forestry tractors.

References

1 FEHRL Report, Final Report S12.408210 Tyre/ Road Noise, Volume 1.

http://ec.europa.eu/enterprise/sectors/automotive/files/projects/report_tyre_road_noise1_en.pdf

2 EEA 2010 Towards a Resource-Efficient Transport System R1-TERM 2009 EEA Report No 2/2010 <http://www.eea.europa.eu/publications/towards-a-resource-efficient-transport-system>

3 WHO and JRC (2011) Burden of disease from environmental noise: Quantification of healthy life years lost in Europe.

http://www.euro.who.int/_data/assets/pdf_file/0008/136466/e94888.pdf

4 CARS 21 High Level Group (2011) on the Competitiveness and Sustainable Growth of the Automotive Industry in the European Union, Interim Report 2011, 2 December 2011.

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