Quieter tyres: a cost effective way to protect public health

Response to the public consultation of the European Commission on outline proposals for a new Regulation on Advanced Safety Features and Tyres

Part 1 of 2

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(Part 1 of 2)

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Note

In the framework of the public consultation on a proposal from the European Commission on vehicle tyres (item h of the proposed Regulation, and section 5 of consultation document), T&E hereby submits a response addressing the limit values for noise emissions.

T&E has published a separate response concerning tyre rolling resistance and CO2 emissions.

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Summary

1. T&E urges the European Commission to propose, *without delay*, effective standards to cut noise emissions from passenger and commercial vehicle tyres.
2. Standards must be applied to original equipment, replacement and retreaded tyres.
3. Regarding the test methodology, the unnecessary 1dB allowance and practice of rounding down must be scrapped immediately upon entry into force of the regulation.
4. A flat 71 dB(A) noise limit value for all tyres (C1, C2, C3) must be introduced by 2012. The limit values are technically feasible and need not compromise other characteristics. [1]
5. The Commission proposes higher limit values for wider tyres. We are concerned about the trend in the market towards wider tyres and believe there is no justification to permit further allowances in noise limit values for extra-wide tyres intended for personal or commercial road use. This would constitute yet another exemption for sports utility vehicles (SUVs) used on Europe's roads. Only so-called 'special use tyres' as defined in the consultation document could be granted an exemption of 2 dB(A) provided the definition is clarified to include only those tyres intended exclusively for off-road use.
6. Outline limit values must be included for a subsequent phase of tightening by at least 2 dB(A) by 2016. A longer term outlook is preferable in order to give certainty to developers, designers and manufacturers, and further stimulate innovation.
7. To accompany the second phase of tightening in 2016, the Regulation should outline plans to improve the test methodology in order to more accurately reflect real-world driving behaviour and conditions, including test track specifications.
8. Tyre labelling must include a noise classification, as well as an energy efficiency rating. The labelling scheme must be compulsory from 2010, as a basis for Member States to introduce (fiscal) incentives in order to stimulate progress before 2012.
9. A procedure and timetable must be foreseen in the Regulation to regularly review the effectiveness of limit values. The review process should ensure that the limit values stimulate technological developments.
10. T&E insists that test data is made publicly available via the type approval authorities in a centralised and easily accessible and usable database. This should be a mandatory requirement of the regulation in order to enable further improvements to be made in future based on evidence from a larger data sample. Apart from that, the public has the right to know the levels of noise emissions from different tyres, in the same manner as it can already access information on CO2 emissions from new cars.

Background

Failure to address tyre noise is harming Europe's health and wasting public resources

T&E argues that noise reduction should also be one of the central objectives of the Commission proposal. It must be kept in mind that road traffic noise is first and foremost a serious and widespread public health problem [2]. Noise is often at the top of the list of citizen's concerns over their quality of life and living environment. And with good reason: Over 200 million EU citizens are exposed to excessive road traffic noise levels which are potentially dangerous to health [3].

Road traffic is the major source of environmental noise in Europe. The introduction of more stringent noise standards is urgently necessary. The evidence base on the causal link between road noise and health impacts is increasingly solid. Research coordinated by the WHO has highlighted the potentially fatal impacts [2], and studies reveal the overwhelming number of Europeans who feel annoyed by road noise [4]. Quite simply, noise makes Europeans less productive and less healthy.

Traffic noise is costing Europe dearly: conservative estimates demonstrate social costs of traffic noise in the EU (excluding the Baltic States, Cyprus and Malta) of around €40billion per year. Almost all of these costs (90%) are caused by passenger cars and lorries. [3]

Action must be taken to reduce the environmental impact of all modes of transport, including the negative effects of traffic noise on human health and wellbeing and on ecosystems. Action is required at European level to achieve the objective to "*substantially reduce the number of people regularly affected by long-term average levels of noise, particularly from traffic*" as outlined in the Sixth Environmental Action Programme [5]. T&E actively supports this objective and believes that noise emission standards for products, including vehicles, tyres and road surfaces, are the key to reducing road noise.

T&E commends the simplified regulatory approach taken by the Commission, on the condition that environmental aspects remain amongst the top priorities. T&E also strongly agrees that more specific requirements are required at European level for tyres in order to meet environmental and safety objectives. Particularly in view of the many years of delays and failure to effectively tackle vehicle noise emissions at UN-ECE level, it is important that limit values for tyre/road noise standards remain determined at European Union level.

T&E welcomes the European Commission's recognition of road noise as the major source of environmental noise, and the intention to address the major role of vehicle tyres in overall road noise levels via the revision of directive 2001/43/EC [6]. The outline proposals in the public consultation document closely follow the recommendations of the FEHRL report [1], although there remain several aspects in need of clarification, which are discussed below.

Effective regulatory approach to tyre noise long overdue

It is widely recognised that road noise is a major contributor to overall noise levels, and hence annoyance and health impacts. And yet, vehicle noise standards have effectively not changed for thirty years. Given increasing traffic levels throughout Europe, and despite technological advances in the automotive sector, our roads are getting noisier. We can easily change this.

T&E urges the European Commission to treat the introduction of effective noise emissions standards as a matter of urgency. In the context of the Environmental Noise Directive (2002/49/EC), it is clear that local measures alone will in many cases not enable administrations to meet noise exposure limits or protect citizens from harmful impacts [7]. In order for Member States to meet the requirements of the END, and the objective of the 6th Environmental Action Programme they will all need the continuing support of the Commission in driving the use of quieter options for vehicles that are available.

There are several identifiable sources of noise from road traffic. Tyre/road contact (rolling noise) is the dominant noise source above 40-50km/h on average for light vehicles, and is thus a major source of noise in both urban and interurban traffic [8,9,10]. In addition to the clear need to address this source, it should be encouraging that measures to reduce tyre noise can be swiftly addressed and offer astoundingly good value for money. Source measures offer a good possibility to achieve relatively fast results, as the average lifetime of car tyres is four years.

In recent years a solid consensus has emerged between experts that use of quieter tyres is by far the most cost-effective method of road noise reduction [11, 12, 13]. Experts agree that an urgent limit reduction of the order of 5 dB under the test conditions is required. Manufacturers easily meet the current limits, the majority of models are already at least 3dB quieter, and many substantially better.

Studies for the European Commission have identified measures to reduce noise emissions at source by means of stringent certification procedures to be the most efficient and cost-effective instruments available [1, 14]. Measures to tackle emissions at source, as promoted by the Treaty, ensure equal treatment of EU citizens and avoid distortion of the internal market. T&E fully agrees that;

> *"EC's most powerful instrument to reduce noise is in limiting noise at the source. Future noise certification standards must pursue ambitious goals to push industry to make efforts in reaching them."* (Effnoise summary, p.5 [14])

To date, mitigation of traffic noise has been almost entirely based on measures to hinder the noise reaching the community and residents (receptors), via town or traffic planning measures, such as noise barriers, building insulation and soundscaped street design. These measures are extremely costly to the responsible administrations and do not offer value for money to taxpayers. Nevertheless, there is still an important discrepancy of 10dB between maximum possible reductions from immission measures alone and acceptable long-term average noise levels in residential areas [15]. Source measures therefore have a central role in a sustainable long-term solution.

The current Directive 2001/43/EC was ineffective even before coming into force [1,8,15]. It has therefore failed to achieve the aim of protecting the public from the

harmful health effects and costs of road noise. The limit values were set so low that almost no tyres were excluded from the market. It should be borne in mind that failure to act is costing Europeans €40billion per year. The current review is already several years overdue according to the Directive. The proposal from the Commission to bring new standards into force from 2012 represents yet another delay. The European Commission has not yet attempted to justify the inexplicable delay of over a decade to redress this failure.

Traffic noise is one of the most widespread environmental problems affecting the quality of life of Europeans and must be urgently addressed. This problem has got worse, not better, since introduction of the Directive.

Making our roads quieter will pay off: an overall reduction of 0.9dB – feasible with currently available designs – is estimated to offer benefits to the EU public worth at least €48billion over little more than a decade. The potential benefit to the public could be up to €160billion if the proposed limit values for commercial vehicle tyres were introduced [1]. This estimate does not even include additional benefits that would also accrue to national and regional authorities (and therefore taxpayers), vehicle manufacturers and non-EU Member States. Reduced road noise will reduce expenditure required from state authorities for noise barriers, noise insulation for buildings and healthcare. The savings could for example be spent on low-noise road surfaces to amplify the benefits of quieter tyres.

T&E also recognise that these benefits would be amplified by the use of these quieter tyres on quiet road surfaces. Addressing the tyres must however be first priority as it offers a very favourable cost-benefit ratio. The wider use of quiet tyres should then stimulate the market for low-noise road surfaces, by improving the cost-benefit ratio of their application.

Proposed limit values are technically feasible

Whilst T&E recognises that tyres have to fulfil criteria for several functions, including safety, rolling resistance, handling, mileage, design, and interior noise, evidence provided to the Commission (and numerous other studies) conclusively proves that it is possible to produce tyres which are simultaneously quieter and more energy efficient without compromising safety performance.

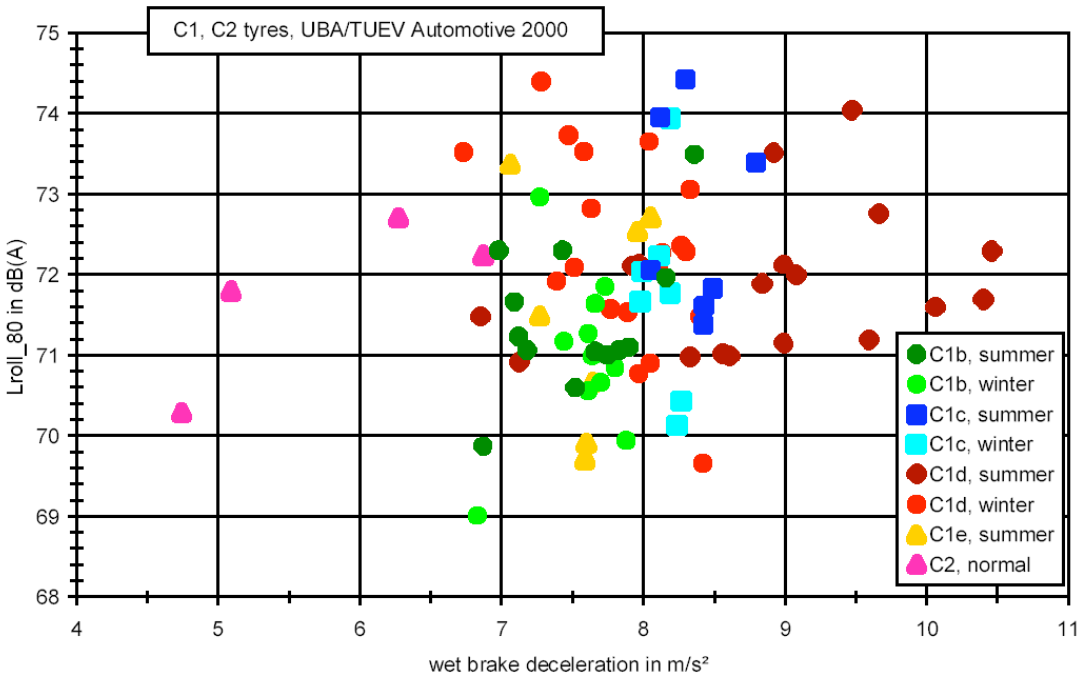
The FEHRL study disproves the safety and fuel efficiency concerns about quieter tyres at the level of technology proposed:

- No evidence is found in this study, nor in other investigations, of a significant relationship between tyre noise and safety performance (including wet grip, deceleration and aquaplaning performance).
- No evidence is found of a significant relationship between tyre noise and rolling resistance (= fuel economy / efficiency / exhaust emissions).
- Safety, durability and fuel efficiency performance constitute strong influences on consumer choice, but all are compatible with low-noise characteristics.

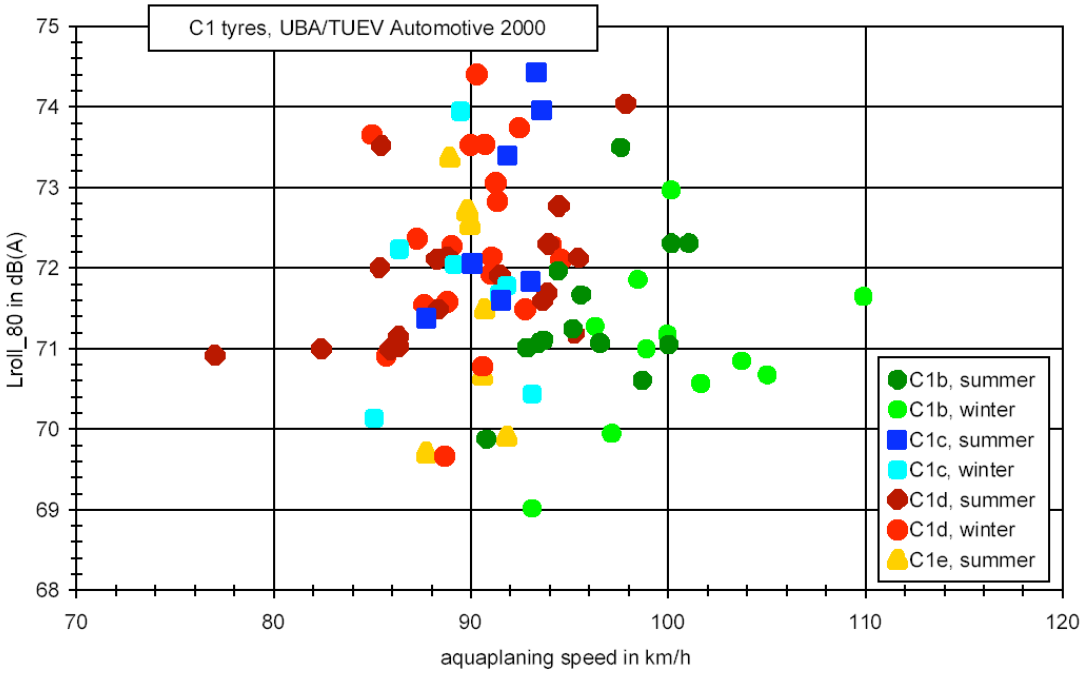
A study using new data not included in the FEHRL study carried out by consulting engineers M+P for the Dutch Innovation Programme for Noise confirms,

> *"A significant relation between noise level and technical specifications of the tyres (such as dimensions and speed index) is not found. The correlation between the noise properties of the tested tyres and other parameters, such as wet grip, rolling resistance and market price is found to be negligible. The data presented here corroborate the conclusions in the FEHRL report."*
> (M+P, 2007, p.1 [16])

Data from the German Environment Agency Umweltbundesamt (UBA) also show no correlation between tyre noise on the one hand, and wet grip or aquaplaning on the other. See the two graphs below that are taken from a presentation UBA gave to the Tyre Technology Expo on Cologne in March 2007.



adopted from "Determination of the state-of-the-art concerning rolling noise, rolling-resistance and safety properties of modern passenger car tyres, FB 201 54 112, Umweltbundesamt 2002



adopted from "Determination of the state-of-the-art concerning rolling noise, rolling-resistance and safety properties of modern passenger car tyres, FB 201 54 112, Umweltbundesamt 2002

Kropp, Kihlman et al [15] also state that there is no correlation between noise emission and rolling resistance, handling, mileage, design, high speed performance, aquaplaning and braking performance, interior noise or costs.

Quiet tyres are already on the market

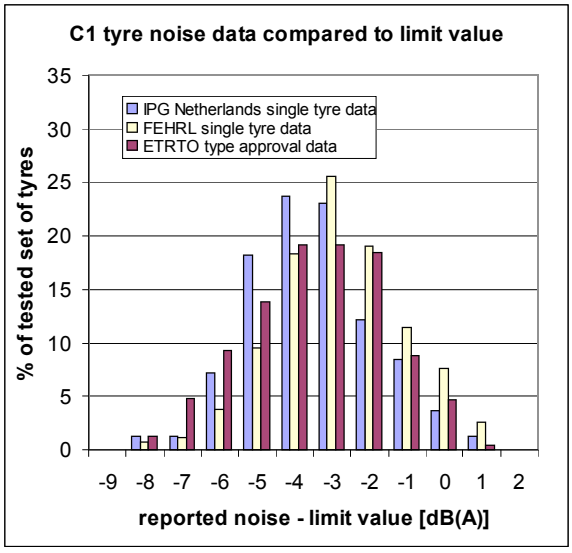
The FEHRL study demonstrates almost half of the tyres sold in 2004 were already 3dB below the limit values from 2001/43/EC [1]. The average noise emission value today is around 3.5dB below the limit value [16]. The new limit values, especially since they are not expected to come into force until 2012 must therefore be more challenging in order to have any effect on industry innovation, or more importantly, on overall road noise levels. The introduction of ineffective limit values must not be allowed to happen again!

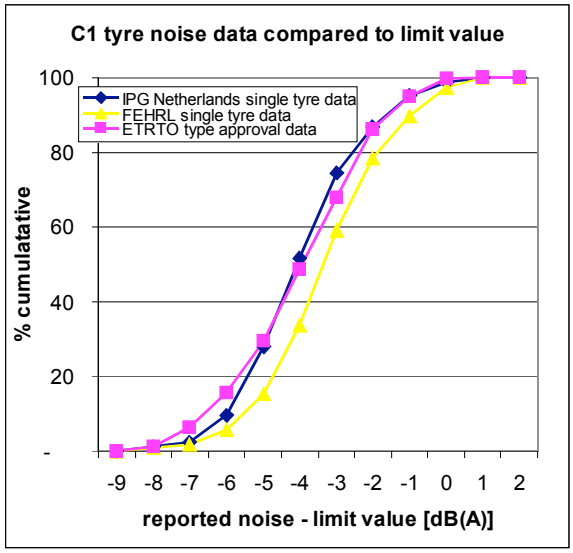
New limit values must remove the noisiest models from the market, and stimulate further innovation. New technologies may be required to meet the proposed limit values, but these are already available and on the market. Several products are already available which meet the new noise and rolling resistance demands and conform to safety and consumer requirements [16]. Between 25-41% of C1 tyres (2004 sales) already meet limit values proposed for 2012. Between 6-60% of C2 and C3 tyres (2004 sales) would already meet 2012 limit values. [1]

> *"[…] in the longer term a reduction in limit vales of the order of 5dB(A) is feasible for all the categories listed (C1b, c, d, e, C2 &, C3) as tyres are already available commercially which meet limit values 5dB(A) below current limits. It can also be concluded that commercially viable lower noise tyres can be produced which meet acceptable safety and rolling resistance standards as it has been established that there is no significant relationship between noise emission and wet braking and rolling resistance for existing tyres*." (FEHRL report, p.42 [1])

The fact that today's 'best available technology' tyres with noise levels 8dB below current limit values are already available and are therefore obviously commercially viable, should serve as inspiration to the rest of the market [16]. These quiet tyres are already sold in Europe, and therefore have fulfilled current safety standards. Research has shown that quiet tyres are not necessarily more expensive. Continued sales imply that they have proved their worth on the market in terms of durability and energy efficiency [15,17]. For truck tyres (C3) the range between noisiest and best available technology is around 10dB. Independent experts conclude that it is technically feasible to make very substantial progress towards meeting the standard set by the quietest tyres currently on the market [15, 16].

The graphs below demonstrate that the tyre models tested by M+P perform similarly to those tests reported by FEHRL and ETRTO:





Source: M+P, 2007 (fig. 2): Distribution of tyre noise data from three different sources: 1) IPG Netherlands with measurements on 165 single tyre sets as brought from the tyre shop, 2) FEHRL with measurements on 262 single tyre sets as bought from the tyre shop, 3) ETRTO with type approval data representing 536 tyre families.

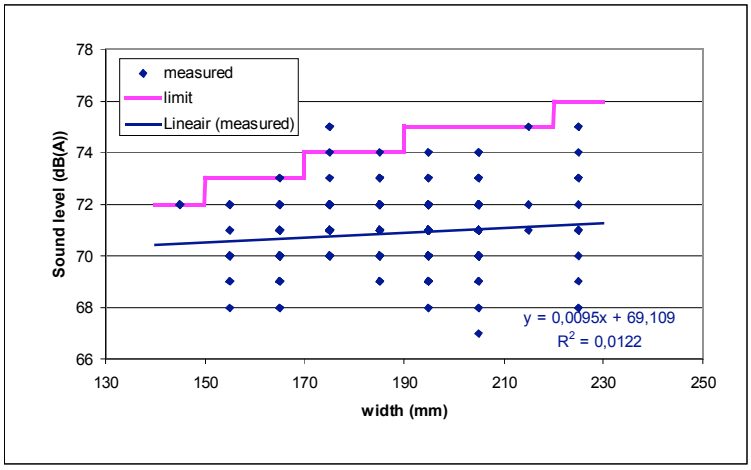
Directive 2001/43/EC comprehensively failed to reduce tyre noise as the standards were too lax and did not push manufacturers towards production of quieter tyres. The tyre industry has been forewarned since 2001 that more effective tyre rolling noise standards would be introduced. It is important to recognise that the proposed standards in this regulation will therefore represent the *first time* that the tyre industry will be faced with challenging requirements that will have an impact on product design. Tyre manufacturers have *never before* had any incentive to optimise noise performance of tyres at the same time as other characteristics which are demanded by regulation or the market: safety, durability, rolling resistance.

Stop the trend towards wider tyres

Tyre noise emissions have increased over time, in part attributed to the use of wider tyres [18]. In general, wider tyres are also less energy efficient, giving a powerful reason to tackle this trend by means of effective regulation.

The trend towards wider tyres is continuing as demonstrated by the fact that over 70% of C1 tyre sales in 2004 were in classes C1a or C1b, meaning up to 215mm, whereas the class 215-245mm (C1c_new) is expected to be most common category by 2010 [1].

M+P (2007) demonstrates that there is only a weak correlation between tyre width and noise emission, in the order of only 1dB per 100mm:



Source: M+P, 2007 (fig.3): Noise values of C1 tyres in relation to the tyre width. The pink line represents the limit curve. Noise values include 1dB subtraction and rounding down procedures.

T&E objects to weaker limit values for very wide tyres. The trend for wider tyres may be unsurprising, given that the wider classes are the most profitable and therefore most intensively marketed. Weaker standards for wider classes give a dangerous signal to manufacturers and serve to reinforce the trend towards noisier tyres. It is appropriate to address this in the directive.

The preferable method would be to set one effective limit value of 71dB(A); with which all widths must comply, as suggested by the German Federal Environment Agency [18]. Stakeholder input to the FEHRL report also demonstrated interest from municipal authorities in tackling the trend towards noisy tyres [1].

Test method and real-world relevance

One of the key aspects of the proposal is the removal of allowances from the test method. This practice rendered 2001/43/EC totally ineffective, as even the worst performing tyres could get almost 2dB leeway. T&E fully supports the recommendation to scrap the practice of rounding down measurement values and giving a 1dB allowance. These practices are no longer technically justifiable as accurate measurement values are obtained by the test.

"*Clearly, the current test method is a relatively simple/low cost test to carry out and therefore offers considerable advantages in terms of reproducibility between the test centres and costs."* (FEHRL, 2006, p.76)

T&E stresses at this point the need to ensure parity of standards between test centres, and the use of similar test tracks, to prevent some centres developing reputations for being 'easier' than others. Approvals should be compared between test houses. If there is any doubt about the standards at one test location, the Commission should demand verification of the type approval at another location.

To accompany the second phase of tightening in 2016, the Regulation should outline plans to improve the test methodology in order to more accurately reflect real-world driving behaviour and conditions, especially including test track specifications. The Commission must announce details and a deadline for introduction of a more representative test surface in the test procedure.

Looking forward to quieter roads

The full noise reduction found under test conditions cannot be translated to the roads under normal driving conditions. The FEHRL report estimates that the overall noise reduction on the roads will be between 0.9-2.3dB for the new C1 tyre limits, and as high as 3dB including commercial tyres. Retreaded tyres as well as original and replacement models must be included in the regulation to achieve this result.[1]

For comparison, experts estimate that new tyres which comply with the new limit values would constitute the entire market by 2020. By then they calculate that tightening the EU tyre noise limits as proposed in the consultation paper (FEHRL report, phase 2) on a road surface of ISO 10844 quality, including retreaded tyres, would lead to a reduction in maximum noise levels from car tyres of 3dB and 4dB from truck tyres. This equates to a reduction in equivalent noise levels of 1.5dB from car tyres and 2dB from truck tyres (L_{den}). Even if the most common road surface is rougher (noisier), such as SMA0/16 (as typical in Sweden), the reduction in equivalent noise levels from both car and truck tyres would still be 1.0dB L_{den}. [15].[2]

Due to this dilution effect, T&E demands future revisions of the directive, with quieter limit values already foreseen for 2016, followed by a steady reduction (- *x*dB every *y* years). This will provide certainty for the industry as well as ensure noticeable results for road users and residents.

For example, if limit values were set at the level of the best available technology currently available, on a surface equivalent to ISO 10844, a reduction of maximum noise levels from car tyres of 5dB could be expected, and 7dB from truck tyres. This would equate to a reduced L_{den} of 2.5dB from car tyres and of 3.5dB from truck tyres. Even on the noisier surface, the L_{den} would still be reduced by 1.5dB for car tyres and 2.0dB for truck tyres. [15]

Even though the overall noise reduction effect will be relatively modest at the first step, it is also urgently necessary to encourage technological development towards quieter tyres and increase the priority given to noise performance in tyre design. It is also clear that further research into lower noise road surfaces and incentives to apply them is vital to further progress.

T&E recognizes that to meet more stringent limit values (beyond the proposed limit values), new technologies will be required. However, there are already promising technologies under development that will shape the market in the longer term.

[1] It is crucial to include retreaded tyres as these represent 50-70% of the market for truck tyres.

[2] These examples demonstrate that the limit values will also have an effect in the toughest conditions in the Nordic countries. Experts from the Nordic countries point out the particular dangers of studded tyres in terms of noise emission (3-5dB louder than other winter tyres), road surface damage (including noise performance), air pollution from particulates and poor energy efficiency. They also argue that studded tyres are often used unnecessarily and should be phased out [15,18].

Noise labelling is vital

T&E maintains that energy efficiency labelling alone is insufficient to address the important environmental aspects. Noise emission information must be included in the label, as it is for some household products. In all market segments (and for all models including light and heavy vehicle tyres, and retreaded tyres), T&E advocates harmonised European labelling as a basis for national (fiscal) incentive schemes to promote environmentally-friendly products. The label should also serve as a basis for European or national awareness-raising campaigns on road noise.

It is important to note that, while there is currently no effective regulation, there is also no information available to consumers, OE (original equipment) purchasers or public procurement officers on differences between tyre noise levels (the only exception is the Nordic Swan label, however this only requires a minimum noise emission identical to 2001/43/EC and thus ineffective). Attempts to provide more information, for example the Dutch Kovenant scheme, have been challenged by the industry. The result is that on top of the lack of effective regulation, there is no opportunity to demonstrate consumer demand for the quieter models. For these reasons, the tyre manufacturers have never before been given an effective incentive to optimise noise performance as well as other criteria. As recognised by leading researchers, *"exterior noise has a minor priority in tyre development."* (Kropp, Kihlman et al, 2007, p.31 [15]). Along with effective regulation, measures must therefore be taken at EU level to provide this information, and stimulate the market for the quietest tyres.

Consumers are more likely to be interested by interior noise levels than exterior noise, and may be deterred by higher prices for low-noise tyres. M+P studied both relationships and found little correlation between noise level and price [16]. Indeed, the most expensive tyres are often the widest on the market and therefore tend in general towards worse noise performance. The study also found a good correlation between interior and exterior noise at frequencies around 1000Hz. This relationship is reassuring, as it means that consumers are unlikely to be disappointed with the interior performance of quiet tyres.

To stimulate faster adoption of the quieter tyres within the type approved range, noise labelling is a crucial addition to the proposal. It is clear that the introduction of a low noise technology in a large population of vehicles will only become effective once a significant proportion of the population is affected. For example, when only 25% of the tyre population is of a 3 dB lower noise type, the average noise level drops by less then 0.5 dB [19].

There is consensus amongst independent experts of the need for better consumer information on tyre quality and performance characteristics. Labelling is also advocated by independent experts including: Amundsen and Klaebo (2005), Sandberg (2006), Kropp, Kihlman et al (2007), and TÜV Automotive (2003) [20].

In relation to aftermarket consumers: Labelling will stimulate consumer awareness and interest in the importance of tyre noise in overall road noise. At present, consumers tend towards the cheaper end of the market, due to lack of information. This can potentially have safety consequences. It is also in the interest of the highly competitive tyre industry to be able to differentiate models in consumers' minds on the basis of overall quality, including safety and environmental performance. A

labelling scheme including energy efficiency, noise and safety performance information could be most beneficial to European manufacturers.

In terms of OE (original equipment) purchasers: Some carmakers could be interested in the highly rated tyres, as a signal of their interest in minimising environmental impacts. Fiscal incentive schemes could also be particularly interesting in this segment.

For public procurement: harmonised European labelling would be a cornerstone (as EURO vehicle emissions standards) to introduce green public procurement guidelines for tyres.

All measured values should be made available to the European Commission and interested stakeholders in order to collect a larger data set for the setting of effective future limit values.

Conclusion

With the aim of reducing health impacts and social costs at the core of EU action on environmental noise, it is clear that a holistic approach must be taken to address traffic noise. Technology available today could easily equate to a 5dB reduction in road noise levels, with a very positive benefit-cost ratio, which would benefit all citizens. [15]

T&E welcomes the Commission's proposal to tackle tyre rolling noise, as the dominant source of vehicle noise at medium to high speeds. Action on tyres, although necessary, will not suffice alone, which is why T&E also strongly advocates standards for low-noise road surfaces and continues to present the case for effective vehicle noise emission standards at UN-ECE. Targeting the noise performance of the road surface amplifies the benefits of quieter tyres.

Measures should also be taken at local level with regard to quiet road surfaces, traffic management, noise barriers and insulation to protect the public from dangerous and annoying noise levels, although it must be recognised that these measures are often more costly in relation to only limited benefits.

Continued research and development, notably supported by the European Commission under the Seventh Framework programme, is necessary in order to achieve the realistic target to reduce traffic noise by 10dB through source measures in the near future. The role of independent researchers and experts should be emphasised.[3]

[3] It should be noted that also in the context of noise emission from tyres (along with safety, air pollution and greenhouse gas concerns) that the introduction of maximum speed limits on all EU roads would open up new possibilities to tyre manufacturers, to decrease both rolling resistance and noise (see: Kropp, Kihlman et al, 2007, p.4).

Responses to consultation questions

Are the proposed noise and rolling resistance limits in Annexes 1 & 2 (a) sufficient and (b) realistic? Is there a viable alternative approach, for example, 'trading-off' noise requirements for rolling resistance requirements under certain circumstances?

The proposed limit values for C1, C2 and C3 tyres are definitely realistic as a first step, but they are not sufficient, given the severity of the problem and the fact that anticipated benefits exceed anticipated costs by more than an order of magnitude. Therefore T&E urges the Commission to set a target of 71 dB(A) for all width classes to reverse the unnecessary trend towards wider tyres.

Additionally, (i) noise labelling is also introduced to stimulate innovation towards quieter tyres, (ii) a regular review process for the limit values, with a next phase of tightening in 2016 (with at least a 2 dB(A) tightening for all tyres), is included in the directive.

After consulting independent experts on both tyres and acoustics (in addition to the extensive literature review conducted for the report for the Commission), T&E is convinced that the proposed standards are realistic. There is no doubt amongst independent tyre experts and acousticians regarding the feasibility of the proposed limit values.

T&E regrets that a first phase will not be brought in before 2012 as recommended. However, it is certainly more important to preliminarily designate a second phase for 2016, in order to drive innovation further. Nevertheless, given the relatively short development and production / renewal cycle for tyres of 6-8 years from design to market replacement for C1 tyres, bringing the limit values into force into 2012 still allows manufacturers more than enough time to adapt production if necessary.

T&E does not accept the suggestion of an alternative 'trading off' approach between noise and CO_2 emissions (please also see T&E position on rolling resistance). It is possible to maintain good safety performance whilst improving reducing noise and rolling resistance. Introduction of stringent limit values for both criteria to address the source of the emissions is the only viable approach.

Is there any justification for partial or complete exemption for particular categories of tyre from the noise or rolling resistance requirements?

T&E insists that values must apply to all original equipment, replacement and retreaded tyres (summer and winter models) in order to minimise road noise levels. An allowance of maximum 1dB could be envisaged for reinforced, including run-flat, models.

There is no justification to permit further allowances in noise limit values for extra-wide tyres intended for personal or commercial road use. We can accept an exemption of maximum 2 dB(A) for so-called "special use" tyres provided the definition is clarified to include those intended exclusively for off-road use. The only exceptions should be made for special emergency vehicles and agricultural equipment, which are designed for off-road use only. It must be ensured that so-

called “off-road” passenger vehicles (sports utility vehicles, 4x4 vehicles), must not fall into this category.

References

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Report:
http://ec.europa.eu/enterprise/automotive/projects/report_tyre_road_noise1.pdf
Annexes:
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