

Position Paper on the Proposal for a Regulation on the approval and market surveillance of two- or three- wheel vehicles and quadricycles

1 | General remarks

The European Transport Safety Council (ETSC)¹ welcomes elements of the proposal for a Regulation on the approval and market surveillance of two- or three- wheel vehicles and quadricycles (L-category vehicles)². ETSC supports the initiative to increase vehicle safety in line with technical progress alongside the mitigation of transport emissions and the simplification of the current legislative framework. ETSC considers the proposal particularly useful as it addresses the most vulnerable group of road users.

Stricter regulation on vehicle safety and in particular on mandatory equipment for active safety systems will contribute to reducing the current figure of more than 6,000 annual deaths among users of these vehicles on roads in Europe. The users of PTWs represent 16% of the total number of road deaths in the EU while accounting for only 2% of the total kilometres driven. For the same distance travelled, the risk for riders of being killed in road collisions is on average 18 times the risk of car drivers. While the number of road deaths has declined considerably in the past decade in Europe, the number of killed PTW riders rose in 13 out of 27 countries. It has been estimated that, in order to reach the EU target of halving road deaths between 2001 and 2010, a year-to-year reduction in deaths of at least 7.4% is needed. But the average annual reduction in PTW rider deaths between 2001 and 2006 was around 1.5%, far less than needed for PTW to contribute their share to the 2010 European target³. The average annual reduction for motorcyclists' deaths in the period 2001-2009 is close to zero both on rural or urban roads⁴ and reveals a stagnating trend. There is a great need to

¹ The European Transport Safety Council (ETSC), founded in 1993, is a Brussels-based independent non-profit making organisation dedicated to reducing the numbers of deaths and injuries in transport in Europe. The ETSC seeks to identify and promote research-based measures with a high safety potential. It brings together 43 national and international organisations concerned with road safety from across Europe (www.etsc.eu).

² COM(2010) 542 final. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010PC0542:en:NOT>.

³ ETSC (2008). Road Safety PIN Flash 7, Reducing motorcyclist deaths in Europe, ETSC 2008.

⁴ ETSC (2010). Road Safety PIN Flash 18, Reducing deaths on rural roads, ETSC 2010.

improve the safety of PTW users and thus contribute to the EU casualty reduction target. Action should be taken urgently in order to contribute to achieving the renewed 50% casualty reduction target to 2020. ETSC believes that it is also important to recognise that improving safety of users of these vehicles will benefit society and the economy as a whole, given the immense costs of deaths and serious injuries. It should also not be neglected that collisions of the vehicles addressed by this proposal generate more serious injuries per collision than collisions involving other road users. PTWs are an attractive means of transport particularly because they reduce urban congestion and are affordable for many people. It is necessary to reduce their disadvantages from the safety point of view by providing the riders with machines equipped with the safest reasonably affordable technologies.

2 | ETSC position on specific safety issues

2.1 Advanced braking systems: Anti-lock Braking Systems (ABS) and Combined Braking Systems (CBS)

ETSC warmly welcomes the provisions of the Proposal on advanced braking systems. An Anti-lock Braking System (ABS) is a safety system that prevents the wheels on a motor vehicle from locking while braking. By preventing wheel locking, this system enhances deceleration and improves stability. International and EU regulations require PTWs to be fitted with independent controls for the front and the rear brakes. In a Combined Braking System (CBS), the application of one brake control will actuate both front and rear brakes. This system allows for an appropriate distribution of braking effort between the front and rear wheels.

A number of new technologies have been progressively adopted in vehicles over the past decade and the European Commission supported this by, for example, making ABS mandatory in cars. At the same time, only 49% of PTW street models available in Europe were equipped with an advanced braking system in 2010 whether as standard or as an optional extra, resulting in only 35% of new PTW registrations being fitted with an advanced braking system. Furthermore, most of these models were equipped with Combined Braking Systems only. EU legislation is therefore needed to push ahead with the introduction of Antilock Braking Systems (ABS) given the range of studies showing clear safety benefits for this technology.

The safety effect of Antilock Braking Systems (ABS) for the vehicles considered is well known and understood. In particular, it can do much to eliminate the dangers of overbraking in a straight line and to prevent falling to the ground prior to a collision. Research shows that half of the riders can only apply 56% of the available braking capacity in an emergency⁵. Other results from the same field trial have shown that the average rider – being aware of the typical consequences of locking the front wheel – is reluctant to exploit the effectiveness of the front brake to its full extent: asked to perform an emergency stop on a training track, the average rider used the front brake with only 42% of its potential⁶. In contrast, the rear brake was overused. In total, the average rider decelerated at 6 m/s², which is less than a modern 40 tonne truck would achieve, instead of the almost 8 m/s² the average rider achieved with ABS-equipped machines. Thus, it is obvious that in a real-life emergency, the rider without ABS will often not be able to apply the deceleration that could be available to them. In that case, either they cannot avoid a collision with the obstacle and/or the collision speed is higher than it needs to be. The safety benefit of ABS is well documented also in a German study⁷. This study found that in 93% of collisions in which riders fall down as a result of sliding, these could have been mitigated had their vehicle been fitted with ABS. It also concluded that about 55% of motorcycle accidents could be avoided or at least positively influenced by ABS. A review of European studies on the effects of ABS indicates that an effect from 17 to 30% in terms of collision reduction is not an overstatement⁸, thus the benefits may be comparable to the contribution brought by Electronic Stability Controls (ESC) on passenger cars on icy roads. In Sweden, a country for which detailed studies are available, this effect could be even greater: 38% reduction in personal injury collisions and 48% reduction in severe and fatal collisions⁹. Injury severity in collisions involving motorcycles equipped with ABS is markedly lower than that in similar collisions involving not ABS-equipped motorcycles according to this study. In 2010 already 59% of new PTWs in Sweden were equipped with ABS and the

⁵ Ecker, H, Wasserman, J., Ruspekhofer, R., Hauer, G., Winkelbauer, M., (2001) Braking Deceleration of Motorcycle Riders, International Motorcycle Safety Conference.

⁶ Vavryn, K., Winkelbauer, M. (1998) Bremskraftregelverhalten von Motorradfahrern. Kuratorium für Verkehrssicherheit, Vienna.

⁷ Kramlich, Th., Sporer, A., (2000) Zusammenspiel aktiver und passiver Sicherheit bei Motorradkollisionen, GDV, Munich.

⁸ Sporer, Kramlich (2003); Bosch (2008); Roll et al (2009); Rizzi et al (2009).

⁹ Rizzi M, Strandroth J, Tingvall C., (2009). The effectiveness of Antilock Braking Systems (ABS) on motorcycles in real life crashes and injuries. Traffic Safety Prevention 2009:10:479-487.

insurance company Folksam has decided to cut the insurance costs for ABS-equipped PTWs by 15%.

Finally, a study carried out by TRL on behalf of the Commission services¹⁰ predicted favourable benefit to cost ratios over the short to medium term by the mandatory fitment of ABS. Once these features become mandatory, the production cost of the ABS feature is also bound to decrease gradually due to economies of scale.

ETSC welcomes the provisions of the Proposal and the requirements specified in its ANNEX VIII mandating ABS for subcategories L3e-A2 and L3e-A3, leaving manufacturers the choice to equip vehicles of subcategories L3e-A1 with either ABS or CBS systems. For this sub-category, ETSC stresses that whenever possible, preference should be given to ABS.

2.2 Automatic Headlights On (AHO)

ETSC believes that the introduction of mandatory 'Automatic Headlights On' for L-category vehicles and particularly for L1e and L3e categories is of critical importance.

Evidence shows that PTW users are safer riding with lights on in daytime and one third of all PTW accidents are linked directly to the lack of conspicuity¹¹. A voluntary industry agreement on AHO is already in place in Europe. However, it is not comprehensive and it does not cover the ever-increasing number of low-cost PTWs being imported into Europe. Low-cost PTWs without AHO are becoming more popular, especially with young riders. It could be estimated that, if the current trend continues, their market share is likely to rise to 20% or higher. There is no incentive whatsoever for importers of low-cost PTWs to ensure their products incorporate the AHO safety feature as the industry agreement is only a voluntary one. With this background, lives of many vulnerable riders, particularly the young and inexperienced, are being put at an increased and unnecessary risk, simply because car drivers fail to see them. In addition to that, a motorcyclist riding a bike without the AHO feature will, in relative terms, be soon even less visually prominent than before as in 2011 new legislation will become

¹⁰ TRL (2009). Evaluating the impact of possible new measures concerning category L vehicles – Final report.

¹¹ MAIDS (2005) report www.maids-study.eu/maids_report.html.

effective across the EU, requiring all new car models to be fitted with 'Daytime Running Lights' (DRL).

ETSC supports the European Commission's proposal to mandate Automatic Headlights On (AHO) on L-category vehicles with the earliest possible application date (2013 at the latest).

2.3 Anti-tampering

ETSC is of the view that measures aimed at reducing tampering with vehicles are important but their safety potential is fully exploited only if they are accompanied by regular random spot checks performed by well-trained officers. Practically zero enforcement of technical standards for affected PTWs contrasts with the strict enforcement of regulations imposed on other types of vehicles. A fair treatment of all road users in respect to the regulations in force is therefore needed.

2.4 Engine power limit for motorcycles

ETSC recognises that appropriate speed is a very important factor in road safety, and powered two-wheelers are no exception on that. Accident and injury risk increases enormously with speed and inappropriate/excessive speed is responsible for a large proportion of fatal collisions in Europe.

However, research conducted by TNO in 1997 in the context of plans to introduce a power limit concluded that the engine power of motorcycles does not intrinsically lead to a higher accident risk¹². Legislation simply based on engine power criteria may thus be ineffective and should prioritise other parameters.

ETSC stresses that priority criteria having higher life saving potential are observance of speed limits, correct use of helmets and sobriety of riders. In the scope of this proposal, Antilock Braking Systems (ABS) and improved visibility of PTWs are the priority measures.

¹² Ruijs, P.A.J. and Berkhout, M.J. (1997). Motorcycle power 74 kW study Phase B, Report prepared by TNO for EC DG11, Industry, Nr.97.OR.VD.056.1/PR.

2.5 Mini cars – L6+L7 quadricycles and Off-road quadricycles

ETSC welcomes the provisions of the Proposal on type approval of quadricycles, a category of vehicles currently covering vehicles with different purposes (from so called “mini cars” to small commercial vehicles using the road, and to off-road oriented vehicles). Despite the fact that some quadricycles are designed for off-road use (quads), their presence on the public roads is a common feature in many European countries, where they are subject to vehicle registration like any other type of vehicle. Thus, the requirements on vehicle type-approval are well justified. Further detailed studies on accidents involving these vehicles may be needed and, according to the TRL report, the accident data concerning L6 and L7 quadricycles and off-road quads are very limited. However, available data indicate that for quadricycles the death risk per unit distance driven is higher than that of passenger cars, in certain cases between 10 and 14 times higher¹³. Quadricycles are often used in the urban environment, but they are not subject to crash test requirements before being sold in the EU market. ETSC calls on European institutions to examine the possibility of developing crash performance standards for quadricycles.

2.6 Timetable for application

The proposed timetable requires the mandatory introduction of safety features starting from the 1st of January 2013, with dates varying on the basis of the features concerned.

Automatic Headlights On (AHO) will be mandatory as of the 1st of January 2013. Antilock Braking Systems (ABS) are envisaged to be mandatory only from 2017 on all new vehicles of subcategories L3e-A2 and L3e-A3 while on subcategory L3e-A1 these may be replaced by a Combined Braking System (CBS).

ETSC calls on the European institutions to anticipate the dates set in the EC Proposal. The European industry already in 2003 promoted a voluntary agreement on AHO. ABS is not a new technology and bikes equipped with ABS date back to 1988 or even earlier. Furthermore, by maintaining 2017 as the initial starting date for the mandatory fitting of ABS, only 3 years will be left for its safety potential to be fully exploited on all new vehicles and

¹³ TRL (2009). Evaluating the impact of possible new measures concerning category L vehicles – Final report.

translated into concrete safety gains in terms of lives saved before 2020, the date by which the renewed 50% EU casualty reduction target should be reached. The opportunity to increase the safety of PTW users, the user group at greatest risk on European roads, should not be subject to further delays.

ETSC proposes 2014 as implementation date for ABS on new vehicle types and 2017 for all new vehicles. Manufacturers not already providing AHO should be encouraged to anticipate the proposed date.

2.7 Additional comment on functional safety requirements

In the view of ETSC a number of safety features not currently included in the proposal have a great potential to enhance safety and the opportunity to include them in type approval should be re-evaluated at an early date.

The opportunity to benefit from the eCall initiative, which is going to be introduced as a standard for passenger cars, should not be missed for the users of the vehicles considered in the proposed Regulation. Intelligent Speed Adaptation (ISA) for PTWs, autonomous emergency braking or enhanced braking are all features with high-potential that need to be further investigated¹⁴.

ETSC proposes an early review of the scope of this Regulation once it is in place to re-assess the need to include other enhanced safety features in type approval and take stock of market penetration of AHO and ABS.

3 | ETSC position on Market Surveillance

ETSC welcomes the provisions on market surveillance as presented in the EC proposal. ETSC agrees on the need to complement type approval legislation on L-category vehicles with market surveillance. The strengthening of market surveillance measures will help ensure the same set of rules for all manufacturers selling or responsible for the entry into service of vehicles, systems, components or separate technical units on the EU market and ensure effectiveness of vehicle safety requirements.

¹⁴ See www.pisa-project.eu.

