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REVISION OF THE CONSOLIDATED RESOLUTION ON ROAD TRAFFIC R.E.1

Improving bicycle, motorcycle and moped safety

Note by the secretariat

Members of WP.1 will find below the text of the recommendation concerning bicycle, motorcycle and moped safety adopted by the Working Party, in which the modifications agreed at the fiftieth session have been added. This recommendation will be incorporated into Chapter 6 “Special rules relating to two-wheeled vehicles” according to the modified structure of R.E.1 contained in document ECE/TRANS/WP.1/2005/15/Rev.3.

R.E.1

New modifications appear in bold

Chapter 6 Special rules relating to two-wheeled vehicles

The use of two-wheeled vehicles with or without a motor is growing everywhere in the world. These vehicles are very often used as a means of transport to escape the problem of traffic congestion. However, the users of these vehicles are particularly vulnerable as is shown by accident statistics. The recommendations below aim to increase the safety of this category of road user.

6.1 Bicycles

6.1.1 Context

The use of the bicycle is developing not just as a means of transport, often as a substitute for a motor vehicle, but also as a leisure activity.

Numerous countries or local authorities are putting in place voluntary policies to promote the use of bicycles with the general aim not only of protecting the environment, in particular in the fight against atmospheric pollution, but also of safeguarding public health.

This category of users is, however, subject to a high number of accidents on the roads due to the fact that, in the absence of special lanes dedicated to them, they have to integrate into the general traffic or even face up to general traffic conditions, for example at intersections. It is important therefore to reinforce the safety of these users, including through the specific measures or infrastructure installations.

6.1.2 Recommendations

6.1.2.1 Regulations concerning the use of bicycles

6.1.2.1.1 *Visibility at night (2.1)*

The provisions of the Vienna Convention on Road Traffic of 1968 (Article 33, paragraph 1) on the equipment of bicycles should be complemented by the following measures to improve the visibility of bicycles and cyclists at night:

A) Equipment of the bicycle

Without prejudice to existing national legislation concerning normal lighting devices for bicycles, they should be equipped:

At the front: with a white reflex-reflector.

On the sides: with amber reflectors fixed to the spokes of the wheels or with retroreflective devices showing a continuous circle.

On the pedals: With white, yellow or amber reflectors which allow clear visibility of the movement and identification of the presence of the cyclist.

B) Equipment of the cyclist

It is recommended that cyclists wear light-coloured clothing, supplemented by retroreflective material**s** to reinforce their visibility and facilitate their identification by other road users.

6.1.2.1.2 *Marking of trailers coupled to cycles* (2.3)

If a trailer is coupled to a cycle, the trailer must be equipped at the rear with a red reflecting device and also, if the rear lamp of the cycle is hidden by the trailer or is not lit, a red lamp shall be placed on the rear of the trailer.

6.1.2.1.3 *Special rules*

A) Wearing of helmets (3.4)

Users of bicycles should be encouraged to wear a protective helmet, whether riders or passengers.

B) Safety reflector arm

In order to ensure a protection zone between the cyclist and other road users, it is recommended to equip the bicycle with a device known as a "safety reflector arm".

[…]

6.1.2.2 Awareness campaigns and checks

Bicycle equipment and helmets should be the object of information or awareness campaigns aimed at users, in particular schoolchildren. Checks should be organized to ensure that cycle equipment conforms to these rules, in particular those relating to lighting and visibility, and sanctions should be envisaged in case of non-conformity.

6.1.2.3 Infrastructure for bicycles ***(to be reexamined with document ECE/TRANS/WP.1/2006/22)***

Because of the vulnerability of cyclists, it is desirable to put in place, to the extent possible, specific types of infrastructure**,** in order to **better** protect **this category of road user** and reduce the potential for conflict with other road users.

There exist to this end different types of infrastructure which provide several degrees of separation between cyclists and motorists such as cycle lanes which are an integral part of the carriageway or, even better, cycle tracks; which are completely separate from the carriageway (see on this subject the definitions introduced in the Vienna Convention on Road Traffic in Article 1 (g bis) and (g ter) and in the Vienna Convention on Road Signs and Signals in Article 1 (e bis) and (e ter) by the amendments which entered into force on 28 March 2006).

See also on this subject, item 11.1 of Chapter 11 of the present Resolution "Infrastructure and the safety of two-wheeled vehicles.

[These types of infrastructure should, to the extent possible, be part of the original design of the road and not be added later, when risks have become apparent and adjustments are required.] *(The part between brackets is taken up in document ECE/TRANS/WP.1/2006/22 under item 11.1 of the new chapter 11.)*

6.2 Two-wheeled vehicles equipped with a propelling engine

6.2.1 Context

The official statistics for road accidents usually show that riders of motorcycles and mopeds are involved in more accidents than other road-user categories. In-depth studies into the causes of these accidents show a variety of reasons for these high figures.

Motorcycle and moped riders are more likely to be involved in fatal and injury accidents than are operators of other vehicles. While statistics differ among countries, motorcycles and mopeds are involved in an accident with another vehicle, in approximately 50 per cent of the accidents in which they are involved. In-depth studies of motorcycle and moped crashes have reconfirmed that the most important cause of accidents is driver or rider error.

To be effective in reducing motorcycle and moped crashes and related deaths and injuries, comprehensive motorcycle and moped safety programmes should be established and supported. In what follows, recommendations are made based on the most successful practices.

6.2.2 General recommendations

The recommendations address those related to the rider and those linked to the road environment. While some recommendations address the vehicle, i.e., motorcycle or moped, these are not addressed in-depth as they are included in other regulations and recommendations.

6.2.2.1 Rider permits and licensing for mopeds and motorcycles

The permit allows the authorities to control who has access to the road. It also acts as a means of testing whether or not the rider has a sufficient knowledge of the rules of the road and control of the vehicle.

As concerns the issuance of "motorcycle" and "moped" permits, different strategies have been tried over the years, with mixed success. Detailed accident studies have shown that a key element in creating safe riders is experience. Research has shown that successful completion of a rider-training programme can provide the equivalent of up to six months of riding experience. Such research findings have promoted the increase in the use of phased licensing systems.

The European experience has been that young road users usually progress from a bicycle to a moped and then to a motorcycle or car. In countries where the climate makes two-wheeler riding attractive, mopeds are seen as a special form of bicycle and a first step towards motorised transport. The minimum age for mopeds has therefore been 14 years in such countries and the requirements for obtaining a permit, if indeed one is required at all, have therefore been confined to a theoretical test on the rules of the road.

For motorcycles, the trend has been towards a phased introduction to the more powerful vehicles. Thus, a learner rider in Europe will be restricted to a limited performance motorcycle for the first two years and then allowed to ride a more powerful machine. From the fact that it is experience that counts, it follows that time spent riding/operating the motorcycle and not further testing governs the progress from one category of motorcycle to another. Similarly, some countries allow car drivers to use the car permit to act as a permit for the limited class of motorcycle, on the grounds that such people have experience of using the road. In practice, such riders usually take some form of training to become familiar with the operation of the motorcycle.

The choice of the permit structure for motorcyclists and moped riders depends on many factors in each country and experience shows that no one solution can be claimed to have a better result than another. The guiding principle should be that specialised training should complement a general safety education and the whole supported by a progressive introduction to more complex and powerful vehicles. Increasingly, this means that the acquisition of a permit has become linked to a system of rider training.

6.2.2.2 Rider training

Initial rider training (pre-licence training) is very important. It should be affordable and accessible. It should be conducted within an agreed syllabus. Where the services of professional instructors are employed they should be qualified to an agreed standard and should always be experienced riders. The training programme should, in addition to teaching relevant machine control skills, also address hazard awareness and avoidance and the importance of rider attitude and behaviour and its consequences.

The objective of initial rider training should be to give the necessary skills and knowledge to ride safely and responsibly in traffic and not simply to **be able to** obtain a licence. To this end, licence-testing arrangements should seek to evaluate that a rider has acquired the necessary skills and knowledge to ride safely and responsibly.

6.2.2.3 Protective gear

The wearing of a protective helmet should be required for motorcycle and moped riders and passengers, as is legislated **already, for example, by the European Agreement supplementing the Vienna Convention on Road Traffic (Ad Article 27).**

Moreover, the helmets should be approved as is also already required by the European Agreement.* Riders and passengers should also be encouraged to wear clothing with retro-reflective or fluorescent devices particularly when driving at night or in reduced visibility and to use additional protective equipment such as: proper clothing, gloves, boots, long trousers, and a durable long-sleeved jacket; eye and face protection, etc.

6.2.2.4 Safety campaigns

Public information campaigns provide an opportunity to educate motorcycle and moped riders, as well as other motorists and road users. Such campaigns should emphasize issues of rider conspicuity and motorist/other road user awareness of motorcycles and mopeds. These programmes should address:

- daytime use of headlights;
- wearing of brightly coloured clothing and reflective materials on clothing and helmets in order to make motorcycle and moped riders very visible by day and at night;
- lane positioning so as to be more visible to other users;
- reasons why motorists do not see motorcycles and mopeds;
- and, especially, ways that other motorists and road users can increase their awareness of motorcyclists and moped riders.

Regardless of country-specific legislation, and in addition to law enforcement strategies (see Section 6.2.2.5 below), safety campaigns to educate and encourage motorcycle and moped riders and passengers to use protective helmets and additional protective equipment should be promoted.

6.2.2.5 Law enforcement

As with other areas of road safety, law enforcement personnel play an important role in motorcycle and moped safety. Enforcement of licensing, laws on driving under the influence of alcohol and laws governing motorcycle and moped operation is as important for two-wheeled vehicles as for four-wheeled vehicles. Besides enforcing road safety rules and regulations, law enforcement is important in properly investigating collisions and maintaining a reporting system that documents the occurrence of collisions. Such a reporting system can be used to assist in identifying programmes and policies needed to increase motorcycle and moped safety. Law enforcement can also provide public information and education support for motorcycle and moped safety.

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* **The standards for the approval of protective helmets for riders and passengers of motorcycles and mopeds are notably defined in Regulation No. 22 annexed to the 1958 Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or Used on Wheeled Vehicles and the Conditions for the Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions.**

6.2.2.6 Trailers

Where trailers are permitted by national legislation:

(a) They should be such that the performance of the combination ensures sufficient safety of operation (speed, visibility, braking).

(b) When the rear registration plate of a two-wheeled vehicle is hidden by the trailer and/or its load, a registration plate reproducing the registration number of the vehicle **should** be affixed at the rear of the trailer, **as required by** Article 36, paragraph 2 of the Convention on Road Traffic of 1968.

6.2.2.7 Infrastructure ***(to be examined with document ECE/TRANS/WP.1/2006/22)***

Traffic engineering is a critical element of any crash reduction programme. The authorities responsible for road infrastructure should be aware of the needs of riders as road users and their particular characteristics and vulnerability.

Particular attention should be attached to infrastructure and road lay-out which promotes the safety of these users (see on this subject item 11.2 of Chapter 11 of the present Resolution "Infrastructure and safety of two-wheeled vehicles".

[Policies should be developed regarding the design and placing of road markings, manhole covers and roadside furniture, such as signs and lights. Road maintenance and repairs should be undertaken with their effect on powered two wheelers being appreciated and measures which lessen the consequences of a rider colliding with a crash barrier should be given priority.

The development of comprehensive national strategies to be used by those responsible for road construction and maintenance, which aim to improve the infrastructure for powered two-wheelers should be promoted.] (The part in brackets is taken up in document ECE/TRANS/WP.1/2006/22 under item 11.2 of the new chapter 11).

6.2.3 Recommendations concerning mopeds

6.2.3.1 Technical aspects (3.5)

A) Visibility at night

Without prejudice to existing national legislation on conventional lighting, mopeds shall be equipped with lateral markings consisting of either amber reflex-reflectors or retro-reflective material showing a continuous circle on the sidewalls of the tyres.

When mopeds are subject to registration, the rear registration plate should be retro-reflective.

B) Performance

Modifications of mopeds resulting in a change in their performance and safety of operation shall be prohibited.

The use and sale of devices which allow such changes should also be prohibited and provision should also be made for checks and sanctions.

C) Safety of passengers

If national legislation authorises the transport of a passenger on a moped, the moped should be equipped with a seat and footrests.

D) Trailers

Trailers coupled to a moped should be fitted at the rear with a red reflecting device. If the red lamp of the moped is hidden by the trailer and/or its load, a red lamp should then be placed on the rear of the trailer.

6.2.3.2 Use of mopeds (3.5)

A) Aptitudes required of moped riders

(i) Moped riders should be at least 14 years of age.

(ii) Governments are recommended to promote tuition for moped riders.

B) Safety of mopeds in traffic

Domestic legislation should make it compulsory for moped riders to drive with passing lamps or daytime running lamps switched on in daylight.

6.2.4 <u>Recommendations concerning motorcycles</u>

6.2.4.1 Technical aspects (3.6)

A) Visibility

In addition to the obligatory lighting and light-signalling devices prescribed by the 1968 Convention on Road Traffic (Annex 5, paragraphs 32, 34 to 37 and 39):

(i) Motorcycles may be equipped with the following additional devices:

- Vehicle hazard-warning signal;
- Front and rear fog lamps;

The fitting of such devices should be encouraged and should be effected in conformity with the relevant requirements of Regulation No. 53 annexed to the 1958 Agreement.*

(ii) The rear registration plate should be retro-reflective.

B) Vision

All motorcycles should be equipped with at least one rear-view mirror as required **notably** by the 1968 Convention on Road Traffic (paragraph 47 of Annex 5).

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* **1958 Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or Used on Wheeled Vehicles and the Conditions for the Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions.**

C) Safety of motorcycle passengers

The passenger should be provided with a seat and footrests.

D) Trailers

Trailers coupled to a motorcycle should be equipped with lamps and signalling devices as foreseen by Annex 5 of the Vienna Convention on Road Traffic (paragraphs 24 (b), 25, 26, 28 to 30 and 39).

6.2.4.2 Use of motorcycles (3.6)

A) Aptitudes required for motorcyclists

To obtain a motorcycle driving permit, candidates should be required to pass both theoretical and practical tests after receiving appropriate instruction. Rider training for motorcycle permit candidates should be affordable and accessible; conducted within an agreed syllabus; and conducted by qualified, experienced instructors.

The use of high-performance motorcycles, as defined nationally/internationally, should be either:

- subject to meeting the requirements of a progressive permit system with appropriate training and experience on a lower performance motorcycle, or
- subject to minimum age requirements and training required to pass the appropriate level of test.

B) Safety of motorcycles in traffic

All countries should make it compulsory for motorcyclists to drive with the passing lamps or daytime running lamps switched on in daylight, as already required by Article 32.6 of the Vienna Convention on Road Traffic.

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