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REVISION OF THE CONSOLIDATED RESOLUTION R.E.1

Safety of pedestrians

Note by the secretariat

Following its examination by the Working Party at its forty-eighth session, members of WP.1 will find below a revised version of document ECE/TRANS/WP.1/2006/7 prepared by the small group made up of Denmark, Israel, the Netherlands and the International Federation of Pedestrians (FIP), under the chairmanship of the latter. The latest changes appear in bold.

Important note: The layout has been changed with a view to incorporating the provisions directly into the revised R.E.1 at a later date. The paragraphs of document ECE/TRANS/WP.1/2006/7 have thus been renumbered.

Chapter 3

Pedestrians and persons with reduced mobility

3.1 Pedestrians still account for a substantial proportion of road accident victims in a large number of countries. Pedestrian safety requires a comprehensive and coherent approach to ensure real interaction between the various road users. The aim of these recommendations is an improvement of **their safety [...]**. (*First part of introductory paragraph, ECE/TRANS/WP.1/2006/7*)

3.1.1 Campaigns to promote pedestrian safety (*formerly section 2 of ECE/TRANS/WP.1/2006/7*)

In order to make road users more aware of existing traffic rules and the behaviour they need to adopt to ensure that pedestrian safety is not compromised, the following points - especially with regard to campaigns and driving courses - should be stressed:

- (a) Campaigns on pedestrian safety should project not simply an image of pedestrians as vulnerable road users, but as **road users** in their own right;
- (b) Campaigns should inform all road users about the physical and psychological capabilities and limits of human beings in traffic, thereby helping to understand the behaviour of each road user group, including the need for interaction among road users;
- (c) Special attention should be given to training and educational aspects, beginning with young children. Parents have a special responsibility to teach children how to cross a road;
- (d) Driving courses and campaigns should encourage non-aggressive conduct towards pedestrians **and stress their vulnerability**.

3.1.2 The role of public authorities (*formerly section 3 of ECE/TRANS/WP.1/2006/7*)

Public authorities should take more account of the vulnerability of pedestrians and contribute actively to reducing the dangers to which they are exposed by taking the following measures:

- (a) Giving pedestrian safety an important role;
- (b) Taking pedestrians into account, giving them the same importance as users of other means of transport when transport and traffic plans are being drawn up. When building new infrastructures, or changing existing infrastructures, safety audits should be carried out inter alia to determine and to alleviate possible negative effects on the safety and mobility of pedestrians;
- (c) Enlisting the participation of residents of the neighbourhoods involved, so that they may contribute with suggestions regarding the improvement of pedestrian safety.

3.1.3 Research and statistics on pedestrian safety *(formerly section 4 of ECE/TRANS/WP.1/2006/7)*

In the field of pedestrian safety, there is a need to collect data to assess the safety of pedestrians in road traffic more effectively and more regularly in order to refine knowledge of the problem through, inter alia, the following:

- (a) Ensuring that pedestrian collisions are recorded and that the quality of the recording is optimized to make in-depth analyses of collisions possible, if needed;
- (b) Research into the relationship between the number of pedestrian collisions and changes in pedestrian activity (like children being brought to school by car instead of walking, or old people not leaving their homes owing to fear of traffic conditions);
- (c) Further research to determine the positive and negative effects of the increasing use of advanced technologies in vehicles and the design of the latter on the safety of the most vulnerable road users, and pedestrians in particular.

...

Chapter 8

Measures and facilities to ensure pedestrian safety

Because pedestrians as a diverse group have widely different capabilities and as individuals are especially vulnerable, the strategies for adapting pedestrian behaviour to current road structures are limited. Therefore, legal provisions, recommendations and other approaches regarding infrastructure [...]. *(Second part of introductory paragraph, ECE/TRANS/WP.1/2006/7)*

8.1 Measures and facilities to ensure pedestrian safety *(formerly section 1 of ECE/TRANS/WP.1/2006/7)*

Facilities and infrastructure should be designed to ensure pedestrian mobility, reduce the dangers of the road and foster in all traffic participants safe and responsible behaviour. The following provisions regarding pedestrians are recommended:

8.1.1 Pavements and footpaths *(formerly 1 (a))*

In every town and city, a network of continuous walkways (including pavements, etc.) should be established. They should provide safe, direct links between homes, shops, schools, access to public transport and other vital services and facilities. Pavements and footpaths should be well lit and well maintained. Their width should be determined by their function (as school paths or through shopping areas, etc.). The pavement should in general not be used for parking of vehicles. If this is not avoidable, sufficient space for the movement of pedestrians should be left, and exceptions should be marked on the ground, **indicating spaces for parking**. Signs and other equipment should not obstruct the movement of pedestrians.

Vehicles powered by motors of any kind, except **slow-moving vehicles designed for** handicapped persons, **shall not be allowed to use** footpaths and pavements.

8.1.2 *Pedestrian crossings (formerly 1 (b))*

8.1.2.1 *General principles (new subheading)*

Pedestrian crossings should allow users to cross the roadway in safety. They cannot therefore be considered simply as a road marking, but have to be considered as a built traffic layout component (including the arrival areas and possibly a central island) forming part of the whole road design. Thus, their location and layout should always be integrated with the planning, design and construction of the road as a whole. Generally speaking, the objective should be, where possible, to ensure that pedestrians can cross roads in safety without change of level such as a footbridge or tunnel.

Provision should **also** be made for a sufficient number of pedestrian crossings, **and these should be carefully planned so that pedestrians do not have to make** long detours.

8.1.2.2 *Visibility at pedestrian crossings (new subheading)*

In the area leading to the crossing, there should be nothing to interfere with visibility, such as cars parked in non-parking areas [...], **because** pedestrians must be able to see oncoming vehicles at a sufficient distance if they are to cross safely, **and vice versa. Accordingly, to ensure clear visibility near** a pedestrian crossing, **pavements should be broadened** to bring the kerb into line with the roadside limit of the parking spaces, **or parking should be prohibited within a distance of at least five metres before the crossing by means of appropriate road markings.**

8.1.2.3 *Facilities for pedestrian crossings (new subheading)*

If not equipped with illuminated traffic signs, pedestrian crossings in built-up areas and at dangerous spots [...] should be equipped with the regulatory sign specified in the 1968 Vienna Convention on Road Signs and Signals, **and motorists should be alerted to their presence by a danger sign suitably positioned on the approach to the crossing.** Crossings should **also** be illuminated much more brightly than other parts of the road.

When vehicles are permitted to change direction at intersections of streets or roads equipped with traffic lights, measures should be taken to increase the safety of pedestrians on a pedestrian crossing. Accordingly, clear signals should be given to pedestrians alerting them to possible danger, and also to motorists warning them to take care when changing direction.

In addition, special attention should be paid to the signal phases of traffic lights at pedestrian crossings so as to give slow pedestrians enough time to cross safely. Intelligent technology may be used, **where appropriate**, to minimize waiting times for pedestrians.

At unsignalled crossings, the speed of vehicular traffic should be adapted to enable safe crossing for pedestrians. **Additionally, the crossing distance between the two sides of the road should also be as short as possible.**

At high-risk spots - for example where a road enters a built-up area, where a carriageway consists of several lanes in each direction or where vehicles tend to travel at higher speeds - pedestrian crossings should be equipped whenever possible with a central island and/or any other provision together with good lighting, to ensure safe crossing by pedestrians, especially children and elderly people.

8.1.3 *Pedestrian subways and footbridges (formerly 1 (c))*

Where a large number of pedestrians have to cross a road with dense fast moving traffic of more than two lanes, footbridges and subways, if properly maintained, lighted and accessible to all users, including those with reduced mobility, can provide a good solution. **In addition, where the crossing of a road on foot, at road level, is potentially dangerous, pedestrians should be prevented from crossing by barriers and/or other obstacles.**

8.1.4 *Pedestrian zones (formerly 1 (d))*

Pedestrian areas are intended and should be designed for the use of pedestrians. National legislation should give clear prescriptions on the conditions under which certain categories of vehicles and users are permitted to enter them as well as on signs, speeds and permitted times applying to such areas. Special care should be given to the access walkways leading to and from pedestrian areas.

8.1.5 *Traffic calming areas (formerly 1 (e))*

Low speeds within built-up areas are crucial for the safety of pedestrians. For this purpose it is usually not sufficient to place traffic signs at the start of a zone with lower speed. These zones should also be set up with support in terms of built infrastructure, to reduce speed and in particular where pedestrians cross. [...] **In such zones, the following measures are recommended:**

- (i) **The establishment, in residential, shopping and other heavily used areas, of zones with speed limits below those generally applied in built-up areas [...];**
- (ii) **The establishment of “residential areas” to which motorists’ attention should be drawn by appropriate regulatory signs as described in the 1971 European Agreement supplementing the Vienna Convention on Road Signs and Signals.**

8.1.6 *School zones (formerly 1 (f))*

Special attention should be given to school zones (a radius of about 300m around schools) **and special measures should be taken** when new schools are to be constructed or existing schools are modified **to ensure a high level of safety for children (see chap. 9, para. 9.1). In addition to these provisions relating to infrastructure, special attention should also be given to safety on the routes taken by schoolchildren, as dealt with in chapter 4, paragraph 4.1.**

8.1.7 *Infrastructure provisions for pedestrians in rural areas (formerly 1 (g))*

Footways in rural areas should be either established completely independently from the road or separated physically by an elevated kerb, grass band or a wide shoulder. **Carriageway** markings or narrow shoulders are often not sufficient to provide adequate safety. [...]

8.1.8 *Direction and information signs for pedestrians (formerly 1 (h))*

Good orientation based on direction and information signs can contribute to greater safety for pedestrians. These signs may prevent pedestrians from getting lost or disoriented in traffic and enable them to give full attention to the traffic situation, and be used to indicate the safest routes.

8.1.9 *Provisions for other non-motorized road users (formerly 1 (i))*

Facilities designed for improving the safety and convenience of cyclists and other non-motorized travellers (skaters, **scooter riders**, etc.) should not compromise pedestrian safety. Where no separation of these road users is possible or desirable, the road infrastructure should be designed in such a way that it can safely accommodate cyclists and other non-motorized road users.

8.1.10 *Comfort provisions for the safety of pedestrians (formerly 1 (j))*

Comfort provisions such as even pavement surfaces, provision of seating and shelter play a role in the safety of pedestrians. This is especially true for the elderly and handicapped, and may prevent accidents caused by falling.

8.1.11 *Maintenance of pavements for pedestrians (formerly 1 (k))*

Pavements should be designed and maintained to ensure evenness and skid-resistance. No obstacles should hinder the mobility of pedestrians. De-icing and clearing the pavements of snow in the winter is important.

8.2 **Safety measures to be taken when a counter-flow bus lane is used** (formerly paragraph 1.5 of TRANS/SC.1/294/Rev.5)

In order to reduce the accident risk for pedestrians crossing a carriageway with a counter-flow lane reserved for certain categories of vehicles, **special attention should be given to appropriate facilities such as:**

- (a) Pedestrian crossings controlled by light signals;

Or,

- (b) Refuges on the outside edge of the lane in question, with a sign on each refuge and on the opposite pavement reminding pedestrians to look in the appropriate direction for approaching vehicles.

Additionally, crossing elsewhere than at the specially arranged places mentioned above **should** be discouraged through the installation, where necessary, of protective devices separating the counter-flow lane and the pavement. Care should also be taken to ensure that protective devices are not sited in locations where passengers alighting from buses could be trapped between the bus and the device.

8.3 Safety at tram stops (*new*)

To ensure safety at tram stops, passengers should never board directly from the carriageway or alight directly and unprotected onto the carriageway. To this end, tram stops should be situated either on the edge of a pavement or a designated island, or, in the case of a narrow street, on a raised section of the carriageway protected by a light signal. Some form of raised structure is in any event necessary to enable elderly or handicapped persons to board and alight without difficulty.
