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Working Party on Road Transport
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ROAD TRANSPORT INFRASTRUCTURE

**Proposed amendment to annex II to the European Agreement
on Main International Traffic Arteries**

Note by the secretariat

On the basis of the proposal submitted by France (TRANS/SC.1/2002/6) and the existing provisions of annex II, chapter V, of the AGR on the environment, the secretariat has prepared a draft for a new chapter V combining the two texts with a view to facilitating the Working Party's discussions. The draft can be found below. The additions to and amendments of the existing text are italicized.

“V. ENVIRONMENT AND LANDSCAPING

V.1 General remarks

Roads are a tool for road-users, designed within the framework of town and country planning. They make possible the movement and transport of people and goods and offer access to work, rest and leisure areas. However, in some circumstances they can give rise to various nuisances (noise, pollution, vibrations, severance) both in and outside urban areas; these have taken on a new dimension as a consequence of a considerable increase in road traffic. Taking account of the impact of a road on the environment must therefore be considered carefully with the general aim of maximizing the positive effects on the environment and correcting the negative ones.

The concern to preserve the quality (visual and ecological) of the environment *also* means that roads must be designed to harmonize with landscapes.

It is therefore important that all administrators should acquaint themselves with the environmental features involved and should subsequently take appropriate measures to inform users of the presence of these features and the regulations protecting them, or should take steps to protect them physically.

For these various reasons, an environmental impact assessment shall be carried out when new projects are prepared or existing roads upgraded. It is also recommended that this provision should be extended to include reconstruction of roads or major improvements of existing roads.

V.2 Integration of roads into the environment

When the project is set up, consideration should be given to the direct and indirect effects of roads and traffic on:

- People, fauna, flora, *the habitat, agriculture, forestry*;
- *Soils, sub-soils, [...], water, air, microclimate* ;
- Landscape, physical property and cultural heritage.

In this regard the following elements should ideally be taken into account:

Good coordination of the alignment and the longitudinal profile, in relation to the elements of the landscape, should ensure not only harmonious integration of the alignment with local topography and land use but also prevent unfavourable impact on the safety of road users.

Acoustic nuisance, vibration and air, water *and soil* pollution deriving from traffic *and from* the maintenance and exploitation of roads, should be limited as far as possible by appropriate means, in accordance with the rules and regulations of the countries concerned.

Whenever a new road and the works involved have a great influence on the landscape, it would be better to take care of their quality by creating a new landscape rather than trying to mask it.

V.3 The main adverse effects of roads on the environment

The most acute problems generally arise from water and noise pollution. Water pollution may affect man and his environment, while noise directly disturbs the rhythm of his life and particularly his sleep.

V.3.1 Water pollution

There are four types of pollution caused by roads. As conventional drainage systems can remove only a small fraction of the pollution deposited on the roadway, specific solutions need to be devised for each type of pollution.

(a) *Pollution during roadworks*

On the one hand, there is the erosion by rainwater of the bare soil and embankments, which carries off fine materials. To avoid this, it is important to clear and strip only the surfaces necessary for the work. The temporary installation of desilting or infiltration basins makes it possible to reduce and hold back the waste materials in the most susceptible places. On the other hand, the works vehicles leave behind traces of oil and suspended solids. The same basins equipped with an oil separator can also reduce this type of pollution.

(b) *Seasonal pollution*

Seasonal pollution is caused by dissolvable and abrasive de-icing products used in winter maintenance, most of which are based on sodium chloride. This type of pollution can be reduced by salting the roads less and reducing the amount of salt used. Moreover, it is strongly advised to cover stocks in order to avoid the constant discharge of brine.

(c) *Accidental pollution*

Accidental pollution results from spills following road accidents involving the transport of dangerous goods. Statistics show that such accidents usually take place outside built-up areas. Hydrocarbons are the main cause of this type of pollution. Solutions to this problem involve both measures to adapt the infrastructure and operational measures. Susceptible environments can be protected by installing crash barriers or embankments or by building a watertight drainage system (ditches, desilting and oil-separator tanks, grassing of ditches, etc.). The operational measures concern the design of an early-warning plan and action at all levels of responsibility.

(d) *Chronic pollution*

Chronic pollution describes all the forms of pollution associated with road traffic: wear of the roadway, metal corrosion, tyre wear and exhaust emissions. It should be noted that only a small proportion of the amounts emitted is carried off by rainwater to discharge points. However, a rainstorm or mini flood can drain a sizeable area and thus cause more widespread pollution. The cleansing capacities of ditches and soil should therefore be maximized by installing more outlets and creating slightly-sloping grass-covered ditches to allow the water to infiltrate, taking into account the cleansing qualities of the surface soil.

V.3.2 Noise

Road noise is typically a combination of unpleasant and undesirable sounds caused by the passage of light and/or heavy vehicles. The noise level, measured in [A-weighted] decibels (dBA), can cause disturbances in people's daily lives and sleeping habits.

The relationship between the noise level experienced and disturbances allows us to define the thresholds above which noise-reduction measures should be taken. These thresholds, which should be set nationally or, failing that, by administrators, vary from country to country. They may depend on the type of built-up area through which the road passes.

(a) *The following factors should be taken into account in noise estimate studies:*

- Information on the estimated daytime and night-time traffic and on the traffic observed at particular times, including the percentage of heavy goods vehicles;*
- Locations of habitat and activities, where necessary;*
- Information on relief and topography;*
- Nature of the project (new, existing or modified);*
- Information on the road surface;*
- Nature and type of buildings to be protected (measures differ for hospitals, housing and factories);*
- Type of road and speed limit(s), etc.*

(b) *The following measures should be taken:*

- Avoid inhabited or sensitive areas (schools, hospitals);*
- Install protective devices (screening, embankments);*
- Use less noisy surfaces where possible;*
- Soundproof facades;*
- Take account of the existing noise pollution in planning documents.*

V.4 Effects of the environment on the road user

Such elements of the landscape and the environment as are visible from the road will contribute to traffic safety and to the comfort of road users. They should supplement and reinforce visual guidance and add to the interest of the journey.

The sight of towns, rivers, hills, etc., gives users an opportunity to take their bearings and should be conserved as far as possible.

Plantations (in alignment or other forms) may contribute to improving visual guidance and to breaking the monotony of the road alignment, provided that the conditions of their implementation do not create additional risks.

Landscaping may also contribute to protection against dazzle and against adverse weather conditions (wind, snow, etc.).

The installation of noise barriers along roads means that the user loses a great deal of his information about the environment and has the impression of being “shut in”; such installations should therefore be constructed so as to ensure that they are integrated to the maximum into the landscape and so as to compensate users for the information lost.

V.5 *Taking account of the landscape and the cultural environment (grouping of existing provisions in this regard under the same heading)*

It is desirable for the cultural heritage of the regions travelled through to be brought to the attention of users by appropriate means: signs, information centres in service areas, etc.

For aesthetic and safety reasons, commercial advertising near international highways should be avoided.”
