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Consolidated Resolution on Road Traffic (R.E.1):**Policies for Vulnerable Road Users (VRU):****focus on road safety challenges in South-East Asia****Proposed Annex VIII to Consolidated Resolution on Road Traffic: Policy Making Guidelines for Vulnerable Road Users for Conditions found in South, Southeast Asian and Other Countries of Transition Economies****Submitted by Italy, Institute of Road Traffic Education (IRTE),
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This document contains a proposed new Annex complementing the existing set of recommendations of Consolidated Resolution on Road Traffic (R.E.1). The Annex addresses recommended policies for developing countries to implement transport and road safety related sustainable development goals 3.6 and 11.2 of the 2030 Agenda.

It takes into account the outcomes of the several conferences held in Delhi at IRTE college premises, in 2016 and 2017. The Annex is meant to be complemented by domestic best practices and offers replicable references and examples for potential application across the world.

I. Context

1. This annex outlines the fundamental components of road safety for vulnerable road users (VRU), including powered two wheelers (PTW), pedestrians, the elderly, the disabled, the very young, children traveling to and from school, and animals, for countries of transition economies and experiencing rapid motorization growth, such as those of South-East Asia (SEA), with the intent of offering a policy document associated with the Consolidated Resolution on Road Traffic. Its principles are directional and non-prescriptive.
2. This Annex recognizes the need for improved safety for vulnerable road users (VRU) and provides guidance on the development of appropriate actions. It has been developed in consultation with the Global Road Safety Forum members on the understanding that any policy and associated implementation strategy can only become practical and applicable if they explicitly recognize the cultural and social contexts of the affected countries and are tailored to the particular context of each country.
3. The Annex conclusion, policies and recommendations are based on a review of practices in South and Southeast Asia and in consultation with representatives of key stakeholders. It is envisaged that the principles, concepts and options offered hereinafter may be transferred, following adaptation, to countries with similar transport needs found elsewhere, for example in Africa.
4. The rapid increase in vehicle ownership in the South East Asian Region in recent years has placed considerable pressure on the road network and its users. Traffic accidents are a major concern in the South and South-East Asian Region. Vulnerable road users (VRU) are at particular risk because of both their large numbers and the absence of adequate road facilities. These include pedestrians (including children, the elderly and the disabled), cyclists and users of other non-motorized vehicles and powered two-wheeled vehicles. In South-East Asia, VRUs comprise 85 per cent of all road accident deaths. The socio-economic costs of road accidents are normally in the range of 1 to 5 per cent of the countries' GDP. In addition, the number of people killed or injured on the roads in future years will rise substantially due to the rapid motorization growth. However, this already alarming situation does not adequately reflect the impact of VRU safety on the societies and economies of the region, as important accident data is missing, underreported or is erroneous (IRTE, 2017).
5. Moreover, the use of PTW vehicles is common, popular and growing worldwide. The growth in the use of these vehicles – motorcycles, scooters and mopeds - in both developing and developed countries has been caused by a number of factors. These include urbanization and the increased need for mobility and accessibility, alongside the relative affordability and flexibility of these vehicles. Poor walking and cycling infrastructure, limited public transport services and the increase of the vehicle fleets are also contributing factors. PTW users are particularly vulnerable in interactions with fast-moving cars, buses and trucks, and because of their high speed compared to other vulnerable road users. PTW are less visible on the road than other vehicles and lack physical protection. PTW accidents account for about a third of road deaths in South-East Asia.
6. These recommendations can only be effective if they are supported by capacity building actions. In addition, a holistic approach that considers the interaction between road users, the infrastructure and vehicles is fundamental for achieving good results from any implementation program, as well as adequate underlying institutional structures, management and financing mechanisms.

II. General recommendations

7. Policies for Vulnerable Road Users should be defined by both Government and Public-Sector bodies and should be considered in terms of the need for:
 - Mobility;
 - Economic growth and stability;
 - Prosperity, and

- the Environment (e.g. noise, emissions).

8. Such policies should ensure healthy lives, make cities and human settlements inclusive, safe and sustainable, and strengthen institutions and communities.

9. VRU policies in SEA should be inclusive and responsive to the societal and economic needs of countries of transition economies. They should explicitly recognize the vulnerability of certain categories of road users and include strategic actions and implementation programs. They should raise awareness of the existence of VRUs and their unique needs for protection when they use the road environment. Specific references should be made to the local needs, conditions and context of SEA countries, so that transport planning measures integrate with public health, environmental, educational, equity, and gender issues.

10. VRU policies should be based on the Safe System Approach (ECE/TRANS/WP.1/2014/6).

III. Vulnerable Road Users dedicated policies

11. VRU policies should:

(a) Address, as a minimum, the subjects of helmet use, drink-driving, speed limits, seat belts, child restraints and the establishment of lead road safety agencies.

(b) Recognize and understand local conditions.

(c) Be based on data of appropriate quality and quantity about road traffic accident numbers and severity.

(d) Recognize that currently data is far from ideal and police data is often the best source of information.

(e) Require legislation conforming to international standards, strong and sustained enforcement, post-crash care and trained health care staff.

(f) Specify clearly defined roles, and responsibilities of, and coordination among, road safety related authorities.

(g) Cover technical aspects such as the lack of road safety audits, and infrastructure design and traffic composition which forces VRUs to share the road with fast-moving traffic, leading to dangerous situations.

(h) Link to developmental issues including rapid motorization and urbanization, and recognize that poor roads are the norm in many of the countries where the risk of road traffic death is highest, and are often built without sufficient planning to take into consideration the safety needs of VRUs and the communities through which these roads pass. This requires sustainable solutions to be identified conforming to international standards.

(i) Recognize societal issues such as low income and low literacy and education of the populations.

(j) Consider innovative funding mechanisms such as 2nd generation road safety funds (Evdorides et al., 2014), social impact bonds (SIB), as well as mechanisms such as taxation and hypothecation. Appropriate financial and economic models should be identified to support the development of new funding mechanisms. These models should satisfactorily address the needs of road users and the entire society.

IV. Data management

12. Data and their management are at the core of needs-based decision-making. Data should enable decision making for at least these functions: (a) strategic planning and (b) implementation, operations and evaluation.

13. At a minimum, data collection and analysis for accidents involving VRUs should include:

- Categories of VRUs, considering the local conditions;
- Number of VRUs killed and injured;
- Location of collisions;
- Time of collisions;
- Cost of VRUs fatalities and injuries.

A. Standardization of crash data

14. Governments and public organizations dealing with VRU safety data should define and consistently use data relevant to their core responsibilities and needs.
15. Data for VRU should be collected for:
 - Accident investigation, (see also <http://www.unece.org/fileadmin/DAM/trans/doc/2017/wp1/ECE-TRANS-WP1-157e.pdf>), and
 - injury causation.
16. Ideally, these two data sets should be fully integrated. This is challenging and therefore, at a minimum, governments and public organizations dealing with VRU safety should aim at standardizing and harmonizing data management regimes (roadsafety.piarc.org, accessed 27 June 2018).
17. Data analysis should lead to performance indicators for VRU which will assist in quantifying, monitoring and evaluating road safety policies and plans (ESCAP, 2017; WRI 2016).

B. Infrastructure Guidelines

18. Infrastructure should be examined with respect to traffic engineering, road maintenance, demand management and regulation. It is important that established traffic engineering principles and methods be used to record and analyze traffic conditions which are specific to SEA to facilitate the development of sustainable solutions. Working practices based on empirical knowledge of local conditions should be supported by analytical (i.e. theoretical) concepts and associated approaches.
19. Strategies to address safety problems should be based on robust evidence (data). Traffic characteristics (e.g. traffic flows, demand, composition) and predictions should be carefully scrutinized to minimize risks. For existing networks, roads should be made safer for VRUs through maintenance programs of appropriate standards. In addition, accidents involving VRUs should be addressed through appropriate regulatory options as part of wider demand management strategies which aim to maximize the utilization of the existing infrastructure. Road authorities should aim at providing facilities for VRUs by considering their cost, effectiveness and sustainability.

C. Technology

20. Governments, road safety authorities, industry and stakeholders should encourage the development and use of appropriate technology in vehicles and infrastructure to protect VRU. Such technology may include sustainable digital technology that facilitates social inclusiveness; electronic devices; clothing and protective gear, using locally sourced materials. Both low-cost and higher-cost solutions should be identified, tested and subsequently used consistently. Local Universities and research and development centers should be involved in this process to produce viable solutions that are appropriate for the transport situation in South-East Asia countries.

D. Law Enforcement: Basic Rules

21. Law enforcement is of paramount importance to the success of any short- or long-term safety program. Effective enforcement should be ensured through appropriate measures. Traffic police have a major role to play and should train their personnel regarding engineering, public education and traffic safety. Law enforcement authorities should pursue continuous improvement and use appropriate performance management approaches for improving road safety.

22. VRU policies should consider road user behaviors, including the use of helmets other safety apparel. Requirements for protective gear for two wheeled vehicle riders (drivers and passengers) must include helmet use, at a minimum. Other protective gear should include gloves and boots together with jackets and trousers using appropriate materials available locally. Governments should enforce the implementation of worldwide acknowledged standards and regulations, and ensure that they follow United Nations regulation 22 UNECE, 2002)

V. Training and Testing Standards

23. In addition to appropriate vehicle safety standards, policies should require drivers and riders to undergo training specific to the vehicle types they will be permitted to drive. Licensing should be predicated on appropriate training and specify the types of vehicles that can be driven, and when and where they can be driven. Policies should specify:

- A competence framework and associated standards covering the attitudes, knowledge, skills and understanding that a safe and responsible driver and rider needs.
- Operating procedures and standards covering the content, location and duration of driving tests and for the recruitment, training, qualification, supervision, monitoring and development of driving examiners.
- A Traffic or Highway Code for all road user groups (covering the regulations and best practice for using the roads).

VI. Dissemination Policies, Educational and Awareness Programs

24. Policy related documents should be made available to the public through official government dissemination means. Government and other officials working in this field should be made aware of the policy documents.

25. Road safety awareness programs should be organized by transport authorities with the strong collaboration with other departments, organizations and professionals, from the fields of Education, Health, Vehicle Licensing and Traffic Enforcement. Road safety education should be directed to Schools, Non-Motorized drivers, riders of cycle rickshaws, users of animal pulled vehicles and handcart pullers. Officials and residents of local communities and villages situated on highways should also receive education programs.

26. It is important to research safe patterns of VRU movement within areas of specific interest, such as schools, bus and train stations, trade centers, local markets and rural communities, and identify sustainable solutions for safety problems associated with VRU flows. In addition, each fatal or serious injury accident should undergo a road safety audit to understand why such accidents happen and what steps should be taken to eliminate or minimize the risk. Commitment to this continuous improvement will facilitate identification of optimum solutions which are tailored to the needs and conditions of South-East Asia countries and contribute to the development of new safety knowledge and techniques.

VII. Comprehensive Approach

27. Road traffic safety policies for VRUs should provide a comprehensive approach and clearly communicate the following roles and responsibilities to policy makers and regulators at national and local levels:

- Ownership of roads;
- Road infrastructure;
- Driver licensing;
- Vehicle registration and certification;
- Control and regulation of transport vehicles;
- Motor vehicle Laws;
- Non-motorized traffic;
- Enforcement.

28. Road safety policies should also provide references to other policy documents such as those related to the Health, Education and Economy sectors.

29. Governments, both national and local, should adapt and then adopt resolutions for VRUs using local knowledge and expertise without overlooking any of the fundamental concepts of road traffic safety. They should expand the participation of both the industry and stakeholders in the decision-making processes and in the implementation of programs for VRUs. They should clearly define the duties and tasks of those who are responsible for the safety of VRUs. Ministries or Departments of Transport (MT) should work closely with the highway, traffic, civic and education departments to achieve safety.

30. Governments and road safety related authorities should minimize the risks for VRUs by addressing speed, alcohol, infrastructure design, visibility, unsafe driving, driver and VRU distractions (e.g. mobile phones), driver fatigue, and attitudes of VRUs (e.g. the elderly, the disabled, children) and drivers. Decision makers in both political and administrative positions should recognize the importance of ensuring the safety of VRUs and adopt appropriate policies. Local authorities should also recognize and understand their responsibility for providing a safe and efficient traffic infrastructure as defined and recommended by appropriate standards. They should encourage public consultation in decision making. Dedicated traffic and road safety engineering units should be established in local and highway authorities. Central and local authorities should undertake research and planning efforts for efficient management and control of traffic.
