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## Economic Commission for Europe

### Inland Transport Committee

#### Eighty-second session

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Item 4 (h) of the provisional agenda

**Strategic questions of a horizontal policy  
or regulatory nature: Road safety**

## **Draft Inland Transport Committee Recommendations for Enhancing National Road Safety Systems**

### **Note by the secretariat**

The Inland Transport Committee (ITC), at its eighty-first annual session, adopted the ITC Strategy until 2030 (ECE/TRANS/288, paras. 15 (a)) and expressed its concern for the limited progress globally in meeting the Sustainable Development Goal targets on road safety and those of the United Nations Decade of Action for Road Safety (ibid, para. 64).

Due to the continuing growth of road traffic deaths to 1.35 million annually over the past two decades, the top priority for the Committee and the secretariat in the years to come will be to help improve the road safety situation globally. To be successful as a body comparable to IMO and ICAO as envisaged in the Strategy, enhanced implementation of the legal instruments on road safety at national level will be needed that requires a clear concept on national road safety system based on the international legal instruments.

From the experiences of the ECE member States and maritime/air transport, the United Nations Road Safety Fund, with the assistance of the secretariat, adopted in November 2018 its Global Framework Plan of Action for Road Safety on the basis of the concept of the national road safety system with international regulatory support as mostly done through the United Nations legal instruments under the Committee's purview. The ITC Strategy also indicated its support to such a safe-system approach.

This progress has provided an opportunity for the ITC to **build a missing link between the international and national levels**, and help countries, in particular new contracting parties, to further implement the legal instruments. To bridge this gap, in line with the ITC Strategy and the Committee's decisions in February 2019, the secretariat, **in consultation with the Bureau and** with comments by the Bureau, Working Parties and Administrative Committees, has prepared the draft ITC Recommendations for Enhancing National Road Safety Systems, contained herein.

The Committee is invited **to consider and, possibly, adopt the draft ITC Recommendations for Enhancing National Road Safety Systems**, as a direct contribution, through the implementation of the ITC Strategy, to the promotion of sustainable transport and mobility and, thus, to the 2030 Agenda for Sustainable Development, taking into consideration the outcomes of the third Global Ministerial Conference on Road Safety (Stockholm, Sweden, 19–20 February 2020).

## I. Overview

1. A comprehensive and efficient national road safety system building on the international regulatory framework, good practice and experience consists of five pillars. They are:

- (a) Road safety management (or the bridging pillar);
- (b) Safe user;
- (c) Safe vehicle;
- (d) Safe road;
- (e) Effective post-crash response.

2. In the road safety management pillar, action may focus on target setting, vertical and horizontal management as well as monitoring. Further action under this pillar can focus on coordination with other efforts linked to ensuring high-quality living conditions and mobility of the population covered through land use planning policies and mobility policies. While the work across the pillars and areas will be done by specific bodies, coordination of their work through road safety management may be enhanced by setting up the lead agency/agencies for road safety or designating a ministry to coordinate road safety, or it may be ensured by the national government.

3. In the other pillars, action needs to focus on the following areas:

- (a) Legislation – to have a clear basis for enhancing road safety as well as to designate responsible agencies for implementation, enforcement, education and monitoring;
- (b) Enforcement (including inspection and audits as appropriate) – to make sure that rules, regulations and standards are observed and/or implemented;
- (c) Education – to make sure that rules and regulations are known and so can be applied;
- (d) Technology – to complement and strengthen other areas to increase the system's effectiveness;
- (e) International Regulatory Support – to provide international legal framework and institutional platforms to support the work in other areas.

4. The compilation of all actions across the areas and pillars formulates the Recommendations from UNECE Inland Transport Committee, whose aim is to serve any country in establishing or enhancing and sustaining its national road safety system (Figure). The order of the pillars, in particular, of safe user, safe vehicle and safe road pillars does not suggest any particular preference of one pillar over another. Following the safe system, these pillars are equally important and function together to achieving roads safety. However, work in none of the pillars should be neglected as this would compromise creation of a sound holistic national road safety system. At the same time, countries may prioritize at the start national action in the pillar where taking action would bring about the highest road safety impact for them.

Figure  
Overview of a national road safety system

Area Pillar	L egislation	E nforcement	E ducation	T echnology	I nternational R egulatory S upport
Road safety management – vertical and horizontal coordination					
Safe user	Traffic rules drivers cyclists pedestrians	Lawful behavior ensured by police and inspectors	Awareness raising, training and examination	Supportive technology and equipment, rules reminders	UN RS legal instruments and resolu- tions, WP.1, SC.1, WP.15
Safe vehicle	Rules and standards for admission of vehicles to traffic	Certification and inspections by qualified inspectors	Awareness raising for users, training for inspectors	Supportive technology and equipment, compliance reminders	UN RS legal instruments and resolu- tions, WP.1, SC.1, WP.29
Safe road	Standards for design, construction, maintenance and signage	Audit, assessment and inspection by qualified teams	Awareness raising for road managers, users, and for inspectors	Forgiving and self-explaining road design, intelligent road systems	UN RS legal in- struments and resolutions, int. standards WP.1, SC.1
Effective post-crash response	Standards for data collection post-crash response and investigation	Oversight of rescue services, investigators investigating crashes	First aid and rescue service training, investigators training	Supportive technology and equipment	Consolidated resolution, int. standards, WP.1, SC.1

## II. Relationship to the Road Safety Five Pillars and the 12 Global Voluntary Performance Targets

5. The recommendations build on the Global Plan for the Decade of Action for Road Safety 2011–2020 by using five pillars for road safety as the essential blocks for creating a national road safety system. These pillars are integrated in a comprehensive and sustainable system complemented and assisted by international coordination.

6. The recommendations are to serve as a benchmark for establishing or completing national road safety systems. In this way, the current recommendations offer more specific actions. It also incorporates any action that is necessary to attain the 12 road safety global voluntary performance targets.<sup>1</sup> To this end, chapter III (below) also highlights which set of recommended actions are helpful for attaining a specific target.

7. Moreover, to the advantage of the recommendations, actions are detailed in four interconnected but separate areas such as legislation, enforcement, education and technology for each of the four pillars. These areas are separate, since typically other national actors are in charge of action in these areas. At the same time, they are interconnected, as action in one area can be impossible or do not lead to an expected result if no action in another area under the same pillar was implemented.

- Example 1: Conducting a roadside check would not be effective if traffic rules were not established and put in force to be checked against and when there was no effective penalty system in place that could be used against the offenders.

<sup>1</sup> These targets can be consulted at:  
[http://www.who.int/violence\\_injury\\_prevention/road\\_traffic/Report-of-the-meeting-of-member-states-Annex.pdf?ua=1](http://www.who.int/violence_injury_prevention/road_traffic/Report-of-the-meeting-of-member-states-Annex.pdf?ua=1)

- Example 2: Putting in force requirements for periodic vehicle inspection would not be effective if specific actors (vehicle inspection centres) would not be established to conduct such inspections.

8. The classification of action in the recommendations is thus meant to show a full spectrum of interconnected actions that should be undertaken by different actors in a coordinated way to improve safety of users, vehicles, roads and make the post-crash response more effective. This is also meant to encourage a joint effective work of various actors at a country level.

9. In addition, the recommendations detail the availability (per pillar) of specific United Nations conventions/agreements and resolutions forming the international regulatory framework serving as basis to the establishment of national road safety systems.

10. The recommendations can thus be seen as a desired development from the Global Plan for the Decade of Action, suggesting specific actions across pillars and areas, which by their inherent interconnected characteristics foster the establishment of sound national road safety systems and should deliver effective road safety outcomes.

### **III. Possible Actions for Establishing, Enhancing and/or Sustaining a National Road Safety System**

11. Detailed actions across areas and pillars, as provided in this section, can effectively be used by countries that meet basic initial conditions. Such require that an overall system of governance is in place shaped by legal and institutional frameworks that can be further enhanced to establish or complete comprehensive and sustainable national road safety systems.

#### **A. Road Safety management**

##### **1. Management action**

12. This area comprises the following actions:

(a) Set road safety targets (fatality reduction, accident reduction, serious injury reduction) linked to the implementation of National Action;

(b) Ensure vertical and horizontal coordination between action taken by designated authorities across road safety pillars and areas;

(c) Ensure coordination with other country priorities and policies especially with land use planning and mobility policies;

(d) Review performance based on the monitoring of action and make adjustment to interim targets and to National Action.

13. This work can be done by the lead agency/agencies or a ministry designated to coordinate road safety. It can further include assistance in ensuring sufficient funding for ministries and related agencies implementing specific road safety actions.

14. The establishment of the national action, and linking it with national time-bound targets, will allow countries to attain Target 1 of the road safety global voluntary performance targets: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.

##### **2. Monitoring action**

15. This area comprises the following actions:

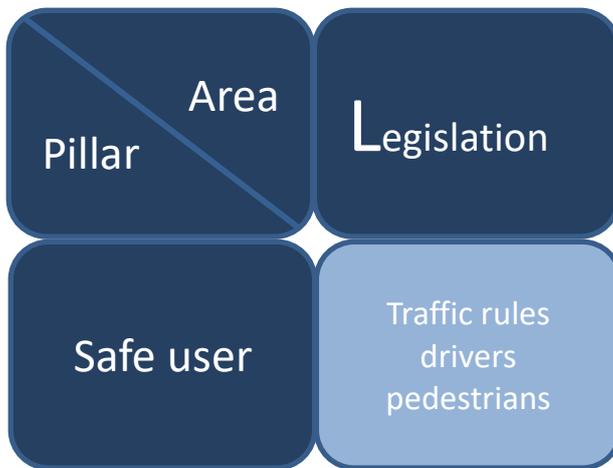
(a) Maintain common road safety database or integrate databases maintained by appropriate designated authorities for specific road safety action. A common database may be maintained by the lead agency/agencies, if established;

(b) Calculate and share indicators linked to actions of National Action, among them, such indicators as:

- Annual number of road side checks and other checks
- Annual number of citation for offending traffic rules (by infringement: speed, non-use of helmet, non-use of child restraint, non-use of safety belt, excessive use of alcohol/psychoactive substances, use of mobile phone while driving, blocking public spaces, etc.)
- Annual number of issued driving permits
- Annual number of driver exams
- Annual number of withdrawn driver permits (by infringement)
- Number of registered vehicles
- Annual number of periodic technical inspection
- Annual number of withdrawn registration certificates
- Proportion of vehicles in circulation meeting required technical standards
- Proportion of new or imported (used) vehicles meeting required technical standards
- Proportion of vehicles in circulation that have successfully passed periodical technical inspections
- Annual number of licenses issued/withdrawn to/from inspection centres
- Length of the roads by category
- Annual change in the length of the road
- Annual number of road audits and inspections
- Proportions of road kilometers audited or inspected
- Length or proportion of roads that passed inspection (meet the required technical standard)
- Annual number of licenses issued/withdrawn to/from audit/inspection bodies
- Annual changes to budgets of road safety authorities
- Annual average post-crash response time
- Proportion of Multidisciplinary Crash Investigations (MDCI) to all crash investigations
- Annual number of outreach and awareness-raising activities (by topic)
- Number of training activities for vehicle inspectors, road auditors and inspectors, professional emergency services

## B. Safe User

### 1. Legislation



16. This area focused on the traffic rules, drivers of vehicles (including cyclists) and pedestrians should comprise the following action:

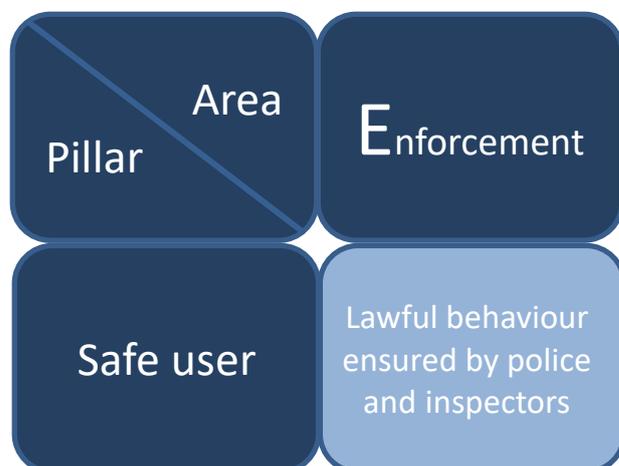
- (a) Put in place a comprehensive system of signs, signals and instructions to be observed on the road;
- (b) Adopt strict rules for drivers and specific rules for professional drivers;
- (c) Adopt adequate rules for pedestrians and cyclists and their interaction with drivers and behaviour of drives towards pedestrians and cyclists with appropriate liability for drivers;
- (d) Put in place effective rules on position on carriageway, manoeuvring, overtaking, passing of traffic, change of directions, slowing down;
- (e) Adopt rules for intersections, level-crossings and giving way;
- (f) Regulate reasonable speed and distance management;
- (g) Strictly regulate driving under fatigue and the influence of substances that negatively affect the driving capacity;
- (h) Put in place rules on the compulsory use of safety equipment (safety belts, child restraint systems, helmets);
- (i) Regulate the use of lamps;
- (j) Regulate strictly loading of vehicles and carriage of passengers and put in place specific regulations for cargo securing for road transport and for carriage of passengers by buses and coaches;
- (k) Put in place adequate rules on behavior in case of accident;
- (l) Adequately regulate distraction during driving and walking due to use of infotainment systems, portable electronic devices or mobile phones;
- (m) Put in place regulations relating to public transport vehicles and rail-born vehicles;
- (n) Regulate adequately standing and parking on road, opening of doors;
- (o) Put in place special regulations for motorways and/or tunnels;
- (p) Put in place special rules applicable to cyclists, moped and motorcycle drivers;
- (q) Designate authorities responsible for implementation including those for enforcement of the rules and regulations put in force as well as for their further development, as necessary;

- (r) Introduce effective penalties scheme for offending rules of road;
- (s) Adopt compulsory liability insurance system for driving motor vehicles;
- (t) Adopt specific rules for carrying dangerous goods by road and define such goods, their classification, labeling or packaging;
- (u) Assess effectiveness and completeness of legislation (completeness of regulatory framework benchmarked against international regulatory framework);
- (v) Adopt specific rules for ensuring good vision/visibility of all road users.

17. Responsibility for implementation: Relevant national authorities for roads and road traffic such as the Ministry of Transport and/or the Ministry of Interior.<sup>2</sup>

18. Implementation of the actions provided above with the specific focus on actions such as 6, 7, 8 and 12 as well as combined with the actions provided under the enforcement, education and technology sections below would allow to attain Targets 6, 7, 8 9, 10 and 11 of the road safety global voluntary performance targets: (i) By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities (especially actions 6 and 18); (ii) By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100 per cent (especially actions 8 and 18); (iii) By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100 per cent (especially actions 8 and 18); (iv) By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances (especially actions 7 and 18); (v) By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving (especially actions 12 and 18); and (vi) By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area (especially actions 7 and 18).

## 2. Enforcement



19. This area focused on ensuring lawful behaviour on roads through police and inspectors should comprise the following action:

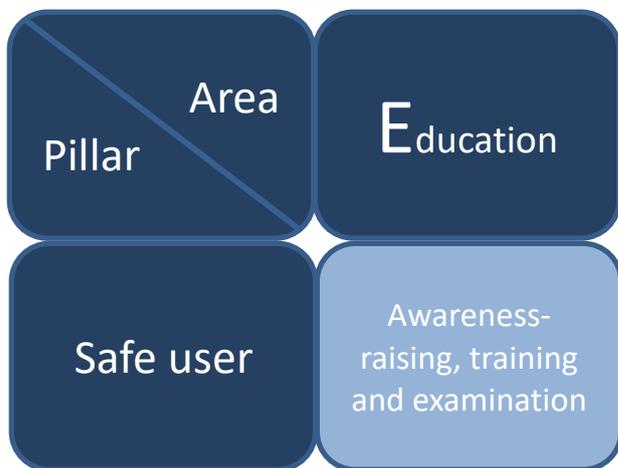
- (a) Carry out road side checks on compliance of traffic rules for drivers, pedestrians and cyclists as well as overloading of cargoes and passengers (police and other inspectors, use of enforcement technology e.g. speed cameras, other monitoring high-resolution cameras for detecting offences, breath analysers);
- (b) Carry out other checks (e.g. inspection at enterprises, – driving-rest times of professional drivers);

<sup>2</sup> The lists of institutions (both at national and international levels) are provided only for indicative purpose.

- (c) Prevent public spaces – sidewalks and cycle lanes from being appropriated from vehicles or commercial activities;
- (d) License and inspect driver training organizations and supervise examinations;
- (e) Apply penalties effectively and use anti-corruption mechanism;
- (f) Enable multiple offence enforcement mechanism (e.g. speed – technical inspection – liability insurance) by interlinking and providing access of enforcement authorities to databases on vehicle technical inspection, vehicle registration, driver permit;
- (g) Support development of and implement more sophisticated technology for identifying and monitoring offences by users;
- (h) Assess effectiveness of user enforcement activities by use of appropriate indicators;
- (i) Ensure sufficient budget for enforcement activities.

20. Responsibility for implementation: Mainly traffic police, Ministry of Interior and their bodies such as relevant inspection agencies.

### 3. Education



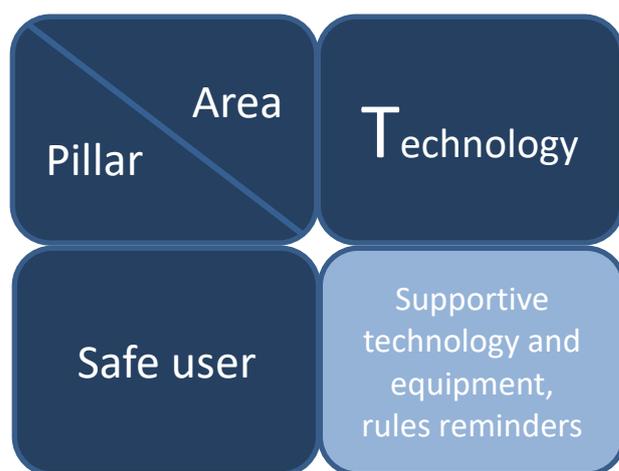
21. This area focused on awareness raising, training and examination for users should comprise the following action:

- (a) Start road safety behaviour awareness-raising and teach minimum basic road safety rules already to children (as of 5 years old) with focus on safe street crossing and navigation on sidewalks;
- (b) Train bicycle riders at earliest stage (children as of 10–12 years old);
- (c) Train drivers according to the categories applied for, and verify their driving skills and behaviour through examination before issuing driving permit;
- (d) Provide special training for professional drivers and test their (driving) skills and behaviour before issuing a Certificate of Professional Competence in addition to driving permit;
- (e) Provide special training and certification for driving instructors;
- (f) Provide periodic re-training for professional drivers, in particular drivers driving vehicles carrying dangerous goods;
- (g) Introduce changes to training and examination following technology progress and changes to driving;
- (h) Enhance awareness on rules of the road beyond drivers by road safety programmes at schools and by targeted awareness-raising campaigns;

- (i) Train enforcement authorities – roadside check authorities – to educate on the rules of the road while enforcing them;
- (j) Assess effectiveness of education activities by use of appropriate indicators;
- (k) Ensure adequate budget for education and training.

22. Responsibility for implementation: Relevant national ministries such as the Ministry of Education, the Ministry of Interior, the Ministry of Transport, the Ministry of Information and relevant agencies.

#### 4. Technology



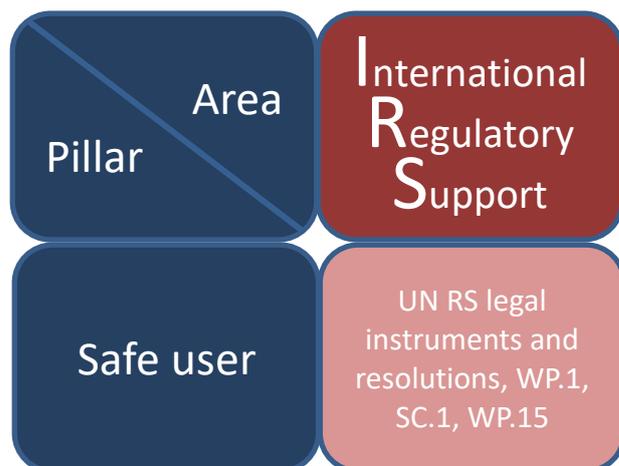
23. This area focused on supportive technology and equipment and rules reminders should comprise the following action:

(a) Support developers to bring to market technologies that would keep road users attentive in following road traffic rules (alcohol ignition interlock, safety-belt reminders, speed reminder/intelligent speed limiters, approach to level-crossing reminder, safety reminder on mobile phone while driving or walking);

(b) Support developers to bring to market equipment and technologies for vehicles and for infrastructure that would assist drivers and other road users in dangerous situations and in avoiding or mitigating road crashes (pedestrian/cyclist detection, emergency steering functions, automated emergency braking systems, protective clothing for motorcycle riders, intelligent traffic light management for e.g. pedestrian crossing, bicycle lanes, etc.).

24. Responsibility for implementation: Relevant national ministries such as the Ministry of Transport, the Ministry of Interior, the Ministry of Information and Communication, the Ministry of Industry, the Ministry of Economy and Trade and relevant agencies, in particular in charge of norms and standards.

## 5. International Regulatory Support



25. The United Nations road safety conventions, especially those listed below, serve as the benchmark for developing national legislation for addressing safety of users:

- 1968 Convention on Road Traffic
- 1968 Convention on Road Signs and Signals
- 1957 Agreement concerning the International Carriage of Dangerous Goods by Road
- 1970 European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport and future amendment as a global agreement or further development as a global recommendation for all drivers of motor vehicles
- 1970 Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR)

26. The following United Nations resolutions are helpful to support national action for enhancing safety of users:

- Consolidated Resolution on Road Traffic
- Consolidated Resolution on Road Signs and Signals
- Resolution on the deployment of highly and fully automated vehicles in road traffic

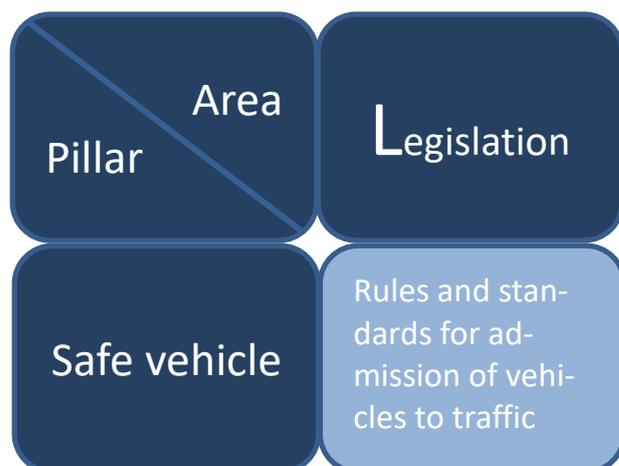
27. The Conventions and resolutions are managed by the UNECE Global Forum for Road Traffic Safety (WP.1), UNECE Working Party on Road Transport (SC.1, work of crews) and UNECE Working Party on the Transport of Dangerous Goods (WP.15).

28. More accession to the legal instruments and participation in the activities of the intergovernmental platforms are needed to elaborate the best practices and new developments for incorporation into the national road safety systems to keep the systems updated.

29. Accession to the Conventions would allow countries to attain Target 2 of the road safety global voluntary performance targets: By 2030, all countries accede to one or more of the core road safety-related United Nations legal instruments.

## C. Safe vehicle

### 1. Legislation



30. This area focused on rules and standards for admission of vehicles to traffic should comprise the following action:

- (a) Adopt rules for registration of vehicles that include strict vehicle inspection schemes;
- (b) Adopt rules on vehicle's identification marks;
- (c) Establish vehicle's minimum safety requirements for admission to traffic, both for new and/or imported second hand vehicles (braking, electronic stability control, steering, tyres, lighting and lighting devices, safety belts, child restraint anchorages (ISOFIX), crash protection against front-, lateral- and pole-side- impact, pedestrian protection, child restraint systems and helmets, front and rear underrun protection, safety glazing);<sup>3</sup>
- (d) Put in place a regime for vehicle certification for both new and/or imported second hand vehicles with requirements for the certification processes, designation of technical services and/or inspectors, their facilities and knowledge, quality control and conformity of production and/or market surveillance;
- (e) Put in place a regime for periodic technical inspection of vehicles in use (registered) with requirements of scope, frequency of inspections, inspection items, test methods assessment of deficiencies, test equipment and facilities, skills and training of inspectors, and supervision of test centres;<sup>4</sup>

<sup>3</sup> Minimum set of UN Vehicle Regulations to enhance road safety:

UN Regulation No 13 and 13H on brakes and UN Regulation No. 78 or UN GTR No.3 on motorcycle braking

UN Regulation No. 140 on electronic stability control or UN GTR No. 8.

UN Regulation No. 79 on steering

UN Regulations Nos. 30, 54 and 75 on tyres

UN Regulations Nos. 48, 53 and 74 on lighting installation

UN Regulation No. 16 on Safety-belts and UN Regulation No. 14 on Safety-belts anchorages

UN Regulation No. 145 on ISOFIX anchorages

UN Regulations Nos. 94 and 95 front and side impact protection and UN Regulation No. 135 or

UNGTR No. 14 on pole side impact

UN Regulation No. 127 or UN GTR No. 9 on Pedestrian safety

UN Regulations Nos. 44 or 129 on Child restraint systems and UN Regulation No. 22 on helmets

UN Regulations Nos. 58 and 93 on rear- and front underrun protection

UN Regulation No. 43 or UN GTR No. 6 on safety glazing

UN Regulation No. 73 on lateral protection devices

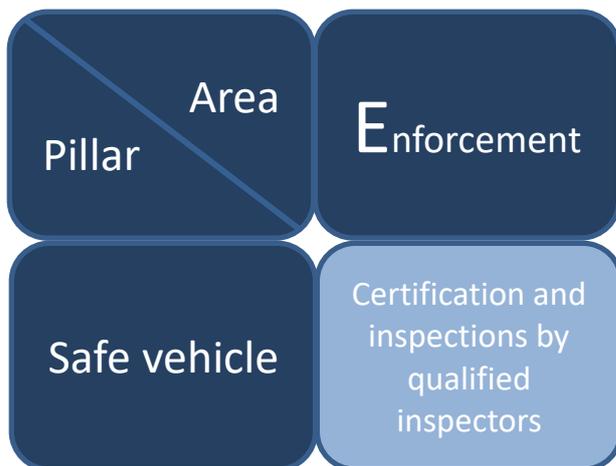
<sup>4</sup> UN Rule No. 1 on inspection of environmental related vehicle elements, UN Rule No. 2 on roadworthiness inspection, Resolution R.E.6 on test-equipment, skills and training of inspectors, supervision

- (f) Designate authorities responsible for implementation including enforcement of the rules and regulations put in force as well as for their further development, as necessary;
- (g) Introduce effective penalties scheme for incompliance with vehicle requirements;
- (h) Introduce vehicle requirements and certification for carriage of dangerous goods;
- (i) Assess effectiveness and completeness of legislation (completeness of regulatory framework benchmarked against international regulatory framework);
- (j) Introduce registration of vehicles to prevent theft: marking of spare parts.

31. Responsibility for implementation: Relevant national ministries such as the Ministry of Industry, the Ministry of Transport and/or the Ministry of Interior.

32. Implementation of the actions provided above and combined with the actions provided under the enforcement, education and technology sections below would allow to attain Target 5 of the road safety global voluntary performance targets: By 2030, 100 per cent of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority United Nations Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

## 2. Enforcement

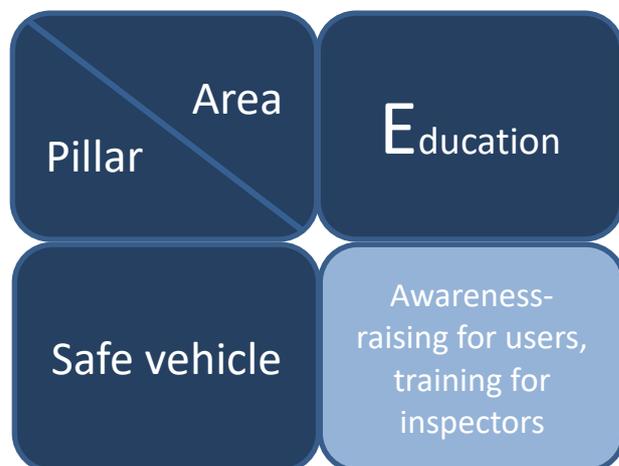


33. This area focused on certification and inspections by qualified inspectors should comprise the following action:

- (a) Authorize inspection centres, which may include privately operated workshops, for technical inspections and supervise and audit inspection centres;
- (b) Carry out road side technical checks including load securing (police and technical inspectors, enforcement technology e.g. mobile testing stations, portable inspection tools);
- (c) Establish and interlink databases for vehicle registration, periodic technical inspection and technical roadside inspections;
- (d) Undertake import/export control on new and used vehicles;
- (e) Apply effectively penalties for use of vehicles with expired certificates;
- (f) Apply effectively penalties to inspection centres and use anti-corruption mechanism;
- (g) Assess effectiveness of vehicle enforcement activities by use of appropriate indicators;
- (h) Ensure sufficient budget for inspection, supervision and audit.

34. Responsibility for implementation: Relevant national ministries such as Customs, the Ministry of Transport, the Ministry of Interior and their bodies such as relevant inspection agencies and the police.

### 3. Education

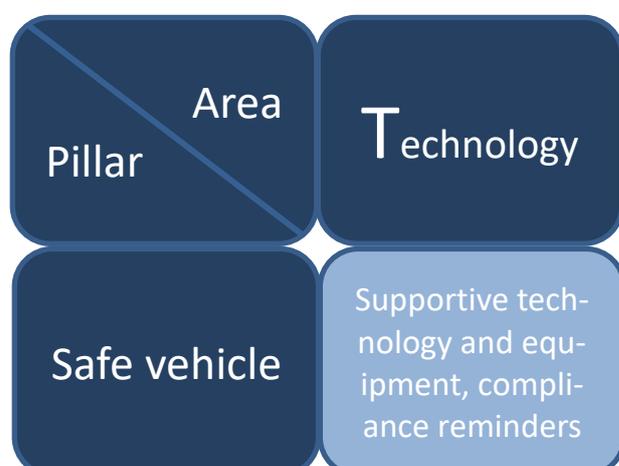


35. This area focused on awareness-raising for users and training for inspectors should comprise the following action:

- (a) Conduct campaigns to raise general awareness of safety benefits from safety systems of vehicles and proper equipment, importance of continuous vehicle-maintenance and proper use of safety related systems and equipment;
- (b) Carry out targeted campaigns for specific groups of users (e.g. equipment for safe transport of children in vehicles, motorcycle helmets);
- (c) Train, re-train and test inspectors to carry out high quality inspection and technical check;
- (d) Assess effectiveness of education activities by use of appropriate indicators;
- (e) Ensure adequate budget for education and training.

36. Responsibility for implementation: Relevant national ministries such as the Ministry of Industry, the Ministry of Transport and/or the Ministry of Interior and relevant agencies.

### 4. Technology



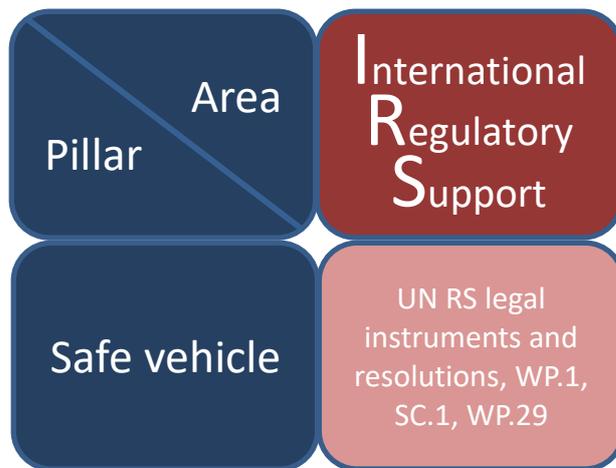
37. This area focused on supportive technology and equipment and compliance reminders should comprise the following action:

(a) Support developers to bring to market automated technologies reminding vehicle owners to renew technical inspection or registration;

(b) Support developers to bring to market technologies making vehicles safer and provide higher protection for other road users especial vulnerable ones (blind spot monitoring and detection, rear crossing detection, active bonnets (outside airbags), night vision systems, door opening monitoring, intelligent cruise control, pedestrian/cyclist detection, emergency steering functions, automated emergency braking systems, etc.) as well as automated solutions.

38. Responsibility for implementation: Relevant national ministries such as the Ministry of Industry, the Ministry of Information and Communication, the Ministry of Transport, the Ministry of Interior, the Ministry of Economy and Trade and relevant agencies.

## 5. International Regulatory Support



39. The United Nations conventions, especially those listed below, serve as the benchmark for developing national legislation for ensuring safe vehicle:

- 1968 Convention on Road Traffic – provisions regarding vehicle admission to traffic via system of registration
- 1958 Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations (Revision 3)
- 1997 Agreement concerning the Adoption of Uniform Conditions for Periodical Technical Inspections of Wheeled Vehicles and the Reciprocal Recognition of Such Inspections
- 1998 Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which can be fitted and / or be used on Wheeled Vehicles
- 1957 Agreement concerning the International Carriage of Dangerous Goods by Road
- 1970 Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR)

40. The following United Nations resolutions, standards or programmes are helpful to support national action for ensuring safe vehicle:

- Consolidated Resolutions on the Construction of Vehicles,
- Consolidated Resolution on the Common Specification of Light Source Categories,
- Consolidated Resolution on Test-equipment, Skills and Training of Inspectors, Supervision, and

- Consolidated Resolution on Road Traffic
- Mutual Resolution No. 1 of the 1958 and the 1998 Agreements concerning the Description and Performance of Test Tools and Devices necessary for the Assessment of Compliance of Wheeled Vehicles, Equipment and Parts according to the Technical Prescriptions specified in United Nations Regulations and United Nations Global Technical Regulations
- Mutual Resolution No. 2 of the 1958 and the 1998 Agreements Containing Vehicle Propulsion System Definition
- Special Resolution No. 1 of the 1998 Agreement concerning the Common Definitions of Vehicle Categories, Masses and Dimensions
- Global New Car Assessment Programme

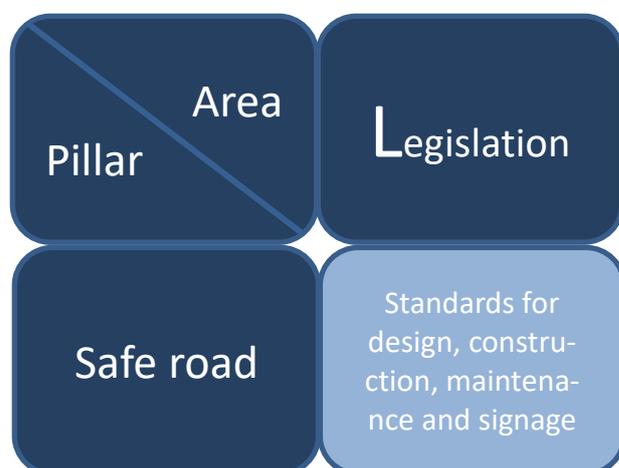
41. The Conventions and resolutions are managed by the UNECE Global Forum for Road Traffic Safety (WP.1). The Agreements and resolutions are managed by the UNECE Working Party on the Transport of Dangerous Goods (WP.15) and the UNECE World Forum for Harmonization of Vehicle Regulations (WP.29) and Working Parties on Passive Safety, General Safety, Emissions and Energy Efficiency, Lights and Light-installation, Noise and Tyres, and Vehicle Automation.

42. More accession to the legal instruments and participation in the activities of the intergovernmental platforms are needed to elaborate the best practices and new developments for incorporation into the national road safety systems to keep the systems updated.

43. Accession to the Conventions/Agreements would allow countries to attain Target 2 of the road safety global voluntary performance targets: By 2030, all countries accede to one or more of the core road safety-related United Nations legal instruments.

## D. Safe road

### 1. Legislation



44. This area focused on standards for road design, construction, maintenance and signage should comprise the following action:

(a) Put in place road classification including for urban streets that meet the safety needs of all road users;

(b) Put in place adequate standards for geometric and design characteristics per classified road (No. of lanes, separation of lanes, width of lanes, curve radii, horizontal and vertical alignment, cross-sections, overhead clearance, intersections, tunnels, level-crossings, roundabouts, roadsides, etc.);

(c) Adopt general prescriptions and related standards for infrastructure for non-motorized traffic, crossings and separation with motorized traffic of bicycle lanes and pedestrian paths and sidewalks;

(d) Adopt internationally harmonized signs and signals;

(e) Establish national standards on safety facilities (including sufficient numbers of rest areas, secure facilities for dangerous goods and adequate emergency lanes) and devices (such as traffic separation device and fence);

(f) Adopt standards to remove level crossings in areas of high traffic flows and do not place bus stops in proximities of level crossings;

(g) Regulate shared traffic zones and non-motorized traffic zones as well as special school zones;

(h) Regulate road equipment per classified road (markings, signage, calming equipment);

(i) Put in places regulations to ensure that infrastructure plans and land use planning prioritize safety;

(j) Introduce standards for road maintenance;

(k) Introduce standards for road work zones;

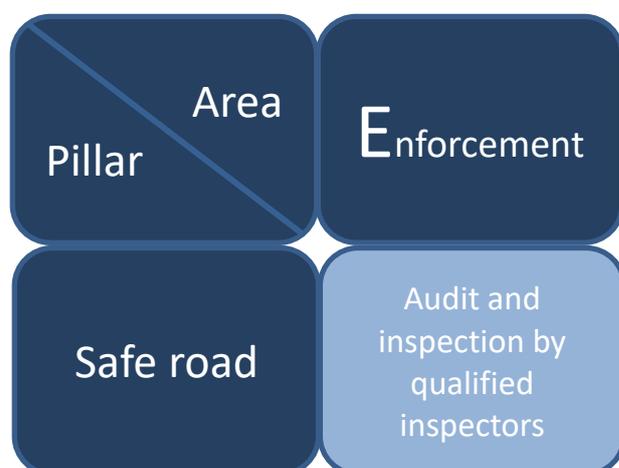
(l) Designate authorities responsible for implementation including inspection/auditing and enforcement of the existing standards as well as for their further development, as necessary;

(m) Assess effectiveness and completeness of standards (completeness of standards benchmarked against international regulatory framework).

45. Responsibility for implementation: Relevant national ministries such as the Ministry of Transport, the Ministry of Interior and Ministries dealing with infrastructure and/or spatial planning.

46. Implementation of the actions provided above and combined with the actions provided under the enforcement, education and technology sections below would allow to attain Targets 3 and 4 of the road safety global voluntary performance targets: (i) by 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better, (ii) by 2030, more than 75 per cent of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.

## 2. Enforcement



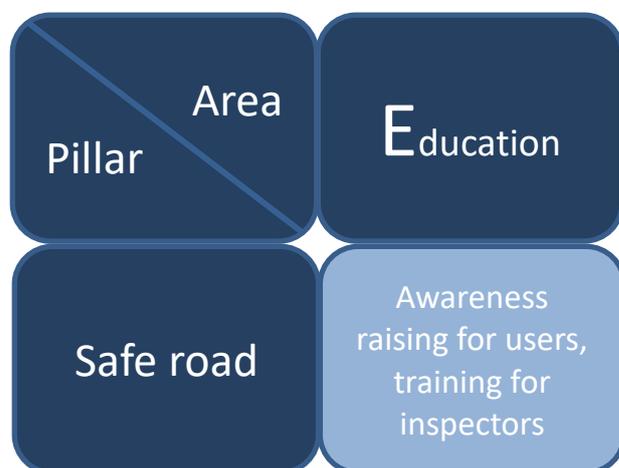
47. This area focused on audit, assessment and inspection by qualified teams should comprise the following action:

(a) License and accredit road assessment, inspection and audit organizations;

- (b) Conduct traffic safety audits of new infrastructure plans;
- (c) Conduct new road safety design assessment and audit before construction work starts;
- (d) Conduct new road safety audit before opening it to traffic;
- (e) Carry out periodic safety inspection of roads in operation, including risk mapping;
- (f) Introduce safety measures if safety conditions of a road deteriorate (e.g. decrease travel speed, close road as an extreme case);
- (g) Assess effectiveness of road enforcement activities by use of appropriate indicators;
- (h) Ensure sufficient budget for road assessment, inspection and audit.

48. Responsibility for implementation: Relevant national ministries such as the Ministry of Transport, the Ministry of Interior, Ministries dealing with infrastructure and/or spatial planning and relevant inspection/licensing agencies.

### 3. Education

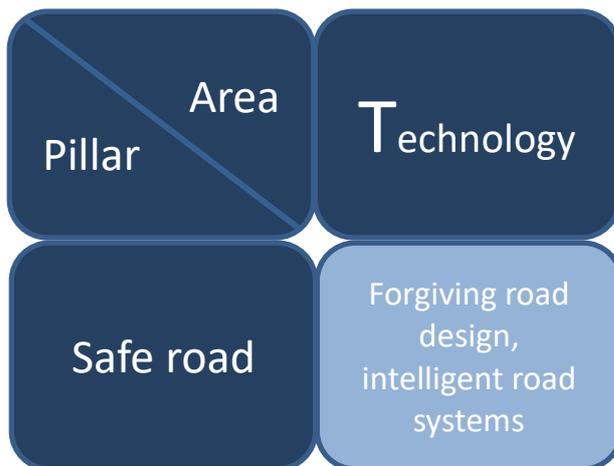


49. This area focused on awareness-raising for road managers, users and for inspectors should comprise the following action:

- (a) Carry out campaigns to build public support to construction and maintenance of safe roads as well as their proper usage;
- (b) Provide engaging public outreach experiences through temporary street and intersection redesigns and develop community awareness of the benefits of road safety interventions;
- (c) Train road designers, construction engineers, inspection and audit organizations to perform high-quality work, when possible by developing local road safety assessment, inspection or audit programmes;
- (d) Assess effectiveness of education activities by use of appropriate indicators;
- (e) Ensure adequate budget for awareness-raising and training.

50. Responsibility for implementation: Relevant national ministries such as the Ministry of Transport and/or Ministries dealing with infrastructure and/or spatial planning, and relevant agencies.

#### 4. Technology



51. This area focused on forgiving and self-explaining road design and intelligent road and traffic management systems should comprise the following action:

(a) Use equipment, materials and technologies for design and construction of forgiving, self-explaining roads including elements such as lane separation devices, emergency lanes, positioning, school zones, design and protection of traffic sign stayers;

(b) Use equipment, materials and technologies for design and construction of urban streets including elements such as separation of pedestrian areas, speed humps, traffic calming equipment, cycling lanes, parking areas, school zones, lanes for individual transport and lanes for public transport, information systems for road users (waiting times, delays in traffic, alternative routing);

(c) Use equipment and technologies to measure, benchmark and report on safety performance of roads;

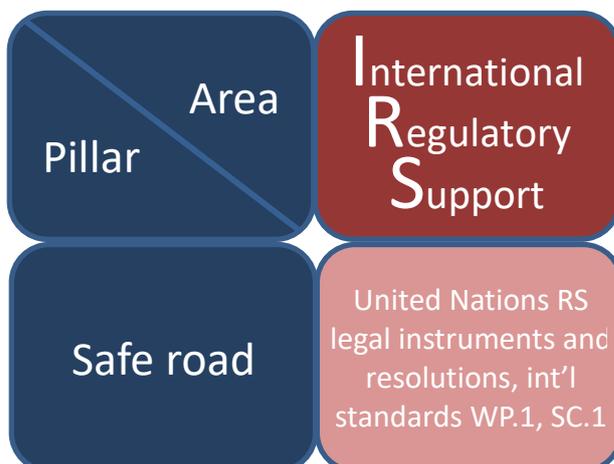
(d) Use equipment and technology and support development of new technology to measure objectively the safe performance of road design;

(e) Support development of intelligent cost-effective road system (VMS, systems to increase user attention, infrastructure to vehicle communication systems);

(f) Introduce intelligent traffic management system based on sensor data and traffic forecasts with intelligent speed managements, re-routing, etc.

52. Responsibility for implementation: Relevant national ministries such as the Ministry of Transport and/or Ministries dealing with infrastructure, spatial planning, digitalization and its relevant agencies.

#### 5. International Regulatory Support



53. The United Nations transport conventions and international standards, especially those listed below, serve as the benchmark for developing national legislation for developing road standards:

- 1968 Convention on Road Signs and Signals
- 1975 European Agreement on Main International Traffic Arteries
- 2001 Agreement on International Roads in the Arab Mashreq
- 2004 Intergovernmental Agreement on the Asian Highway Network
- Intergovernmental Agreement on the Trans-Africa Highways Network
- 1957 Agreement concerning the International Carriage of Dangerous Goods by Road

54. The following resolutions, recommendations and standards are helpful to support national action for safe roads:

- United Nations Consolidated Resolutions on Road Traffic
- United Nations Consolidated Resolutions on Road Signs and Signals
- International Road Assessment Programme, with standards for road assessment and standards for risk mapping
- Technical recommendations from global organizations like PIARC
- ISO road construction standards

55. The legal instruments and resolutions on road signs, signals and markings are managed by the UNECE Global Forum for Road Traffic Safety (WP.1). The agreement on carriage of dangerous goods is administered through the UNECE Working Party on the Transport of Dangerous Goods (WP.15). The regional agreements on roads are managed, respectively by:

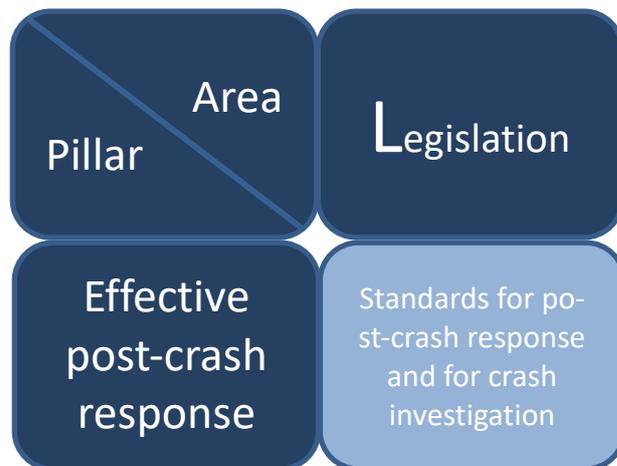
- the UNECE Working Party on Road Transport (SC.1)
- the Committee on Transport and Logistics serviced by ESCWA and
- the Working Group on Asian Highway serviced by ESCAP

56. More accession to the legal instruments and participation in the activities of the intergovernmental platforms are needed to elaborate the best practices and new developments for incorporation into the national road safety systems to keep the systems updated.

57. Accession to the Conventions on Road Signs and Signals and the Agreement concerning the International Carriage of Dangerous Goods by Road would allow countries to attain Target 2 of the road safety global voluntary performance targets: By 2030, all countries accede to one or more of the core road safety-related United Nations legal.

## E. Effective post-crash response

### 1. Legislation



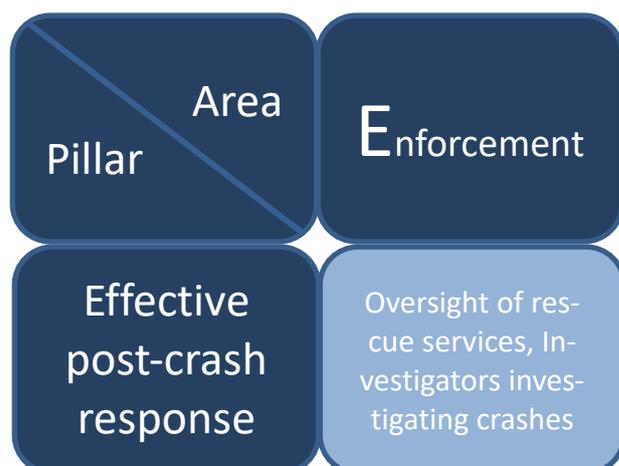
58. This area focused on standards for data collection, post-crash response and investigation should comprise the following action:

- (a) Introduce legal requirement for anyone to perform first-aid activities within their capacity;
- (b) Introduce standards for post-crash professional emergency response (including handling accidents with involvement of dangerous goods);
- (c) Introduce framework for rehabilitation programmes;
- (d) Establish a link between liability insurance and financing of care for crash victims and rehabilitation programmes;
- (e) Enable multi-disciplinary crash rescue operation and investigation;
- (f) Introduce a clear framework for crash investigation and data collection;
- (g) Designate authorities responsible for implementation including enforcement of the existing standards as well as for their further development, as necessary;
- (h) Assess effectiveness and completeness of standards (completeness of standards benchmarked against international regulatory framework).

59. Responsibility for implementation: Relevant national ministries such as the Ministry of Health, the Ministry of Transport and the Ministry of Interior.

60. Implementation of the actions 1 and 2 combined with actions 1 and 3 of the enforcement and education sections below would allow attaining Target 12 of the road safety global voluntary performance targets: by 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.

## 2. Enforcement



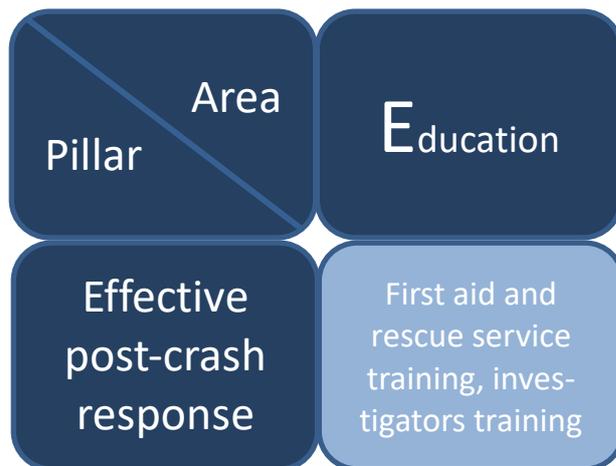
61. This area focused on oversight of resource services and investigation of crashes should comprise the following action:

- (a) License (if private run) or review application of standards for emergency response (if state run) to improve the response, maintain compliance and avoid complacency;
- (b) Oversee rehabilitation programmes and trauma centres;
- (c) Ensure sufficient budget for emergency response;
- (d) Carry out Multidisciplinary crash rescue and investigations;
- (e) Produce, analyse and publish data and indicators on accidents and their consequences;
  - Number of road traffic fatalities and serious injuries and their number per type of users (drivers, vehicle occupants, children occupants, PTW<sup>5</sup> users, pedestrians);
  - Number of road traffic fatalities and serious injuries attributable to or combination of factors such as:
    - speed, distraction, driving under influence, non-use of safety-belt, of child restraint, of helmet
    - vehicle defects
    - infrastructure defect
  - Effectiveness of response
- (f) Assess through Multidisciplinary Crash Investigations (MDCIs) gaps in national road safety system and make recommendations for improvements, especially in areas of legislation and enforcement;
- (g) Assess effectiveness of post-crash interventions by use of appropriate indicators.

62. Responsibility for implementation: Relevant national ministries such as the Ministry of Health, Transport and/or Interior and relevant agencies.

<sup>5</sup> PTW, powered two-wheeler.

### 3. Education

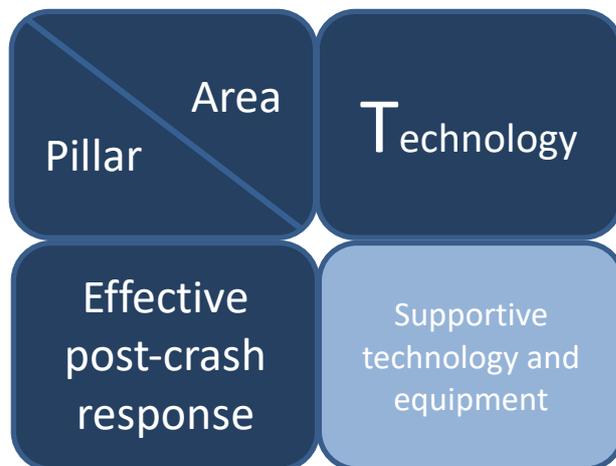


63. This area focused on first aid training for users, training for rescue forces and training for investigators should comprise the following action:

- (a) Carry out campaigns to build public understanding to call professional emergency services to the crash scene and to provide first aid by everyone within their capacity;
- (b) Provide general training for users to be capable to provide first aid and take care of victims until professional emergency services arrive;
- (c) Provide regular training and certification for professional emergency services;
- (d) Provide training and certification for rehabilitation organizations and trauma centres;
- (e) Provide training and certification for investigators in MDCIs;
- (f) Assess effectiveness of education activities by use of appropriate indicators;
- (g) Ensure adequate budget for awareness-raising and training.

64. Responsibility for implementation: Relevant national ministries such as the Ministry of Health, Transport and/or Interior and relevant agencies.

### 4. Technology



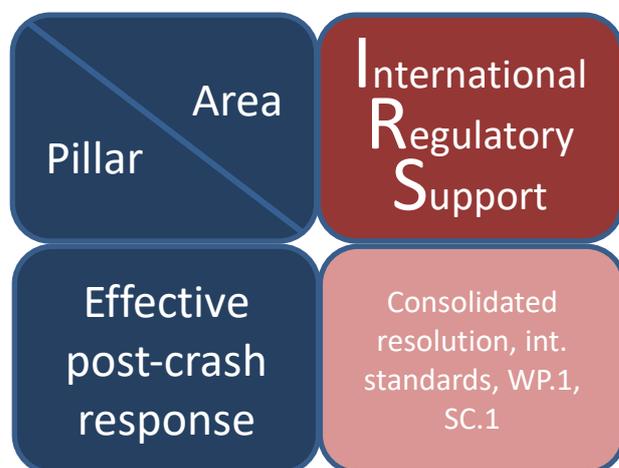
65. This area focused on supportive technology and equipment should comprise the following action:

- (a) Support development of intelligent systems supporting the work of emergency response centres, rehabilitation centres and facilitating victims support;

(b) Support development of technology facilitating MDCIs (crash investigation specific geo-information systems, crash simulation software, vehicle crash performance databases).

66. Responsibility for implementation: Relevant national ministries such as the Ministry of Health, Transport and/or Interior and relevant agencies.

## 5. International Regulatory Support



67. The following international standards and resolutions are helpful to support national action for enhancing effective post-crash response:

- United Nations Consolidated Resolution on Road Traffic with a set of good practices on effective post-crash response, on the conduct of MDCIs and on setting up liability regime

68. The resolution is managed by the UNECE Global Forum for Road Traffic Safety (WP.1). Further development of the resolution is needed within the framework of this forum.

69. More participation in the activities of the UNECE WP.1 is needed to elaborate the best practices and new developments for incorporation into the national road safety systems to keep the systems updated.

70. Accession to the Conventions on Road Signs and Signals and the Agreement concerning the International Carriage of Dangerous Goods by Road would allow countries to attain Target 2 of the road safety global voluntary performance targets: By 2030, all countries accede to one or more of the core road safety-related United Nations legal instruments.

## IV. Application and updating of the Recommendations

71. The Recommendations can be used to serve as benchmark for development of a sound national road safety system. They will be reviewed and, if necessary, updated every three years to ensure they remain abreast of new dynamic developments in road-safety.

72. The countries may identify the missing or weak elements of their national road safety systems from the existing national action plans or national road safety performance reviews checked against the Recommendations for improvement.

73. Should such a plan or review be not available, through making an assessment of existing national situation vis-à-vis the Recommendations, a country interested to establish or complete a comprehensive and sound national road safety system should be in position, if necessary, with international assistance, to identify shortcomings and required actions for funding support.

74. A country can prioritize actions for implementation by defining adequate implementation timeframes and through it establish its national action. When doing so, the

economic situation, urgency, other existing priorities and plans may be taken into account. Furthermore, successful implementation of international agreements necessitates the alignment of the national legal framework with United Nations legal instruments.

75. This work can be coordinated at the government level and depending on a country's governmental structure may be led by designated lead agencies.

76. The implementation process should be carefully monitored either by authorities responsible for specific tasks or by the lead agency/agencies. Relevant data should be collected and performance indicators measured. The data and indicators should be closely linked to actions undertaken. A standard reporting format may be developed to enable monitoring and assessment of each action area for all countries, together with a better definition of guidelines to develop appropriate safety performance indicators as a road safety management tool.

77. Assessment should be done on how the implemented actions impact the reduction of road traffic fatalities or serious injuries.

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