

United Nations Economic Commission for Europe

UNECE

Transport Review

First edition - November 2008



UNITED NATIONS



WHEN?

ROAD SAFETY

ROAD SAFETY

United Nations Economic Commission for Europe

UNECE Transport Review

First edition - November 2008

ROAD SAFETY



UNITED NATIONS

New York and Geneva, 2008

Note

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Acknowledgements

The UNECE Transport Division wishes to express its sincere thanks to all those who contributed to this issue of the Transport Review, either with articles or through administrative services.

Copyright notice

Articles are copyright of the author(s) attributed to it. All other text is copyright of the United Nations. All photos and illustrations, unless otherwise mentioned, are copyright of UNECE. All rights reserved.

Publishing and contact details

Published by the United Nations Economic Commission for Europe (UNECE), Transport Division
Palais des Nations, CH-1211 Geneva 10, Switzerland, Tel: +41 (0) 22 917 2401, Fax: +41 (0) 22 917 0039
Email: infotransport@unece.org, Website: www.unece.org/trans

Subscriptions

To subscribe or unsubscribe to the UNECE Transport Review, please send an email to infotransport@unece.org

Message from Secretary-General Ban Ki-moon

This year, more than one million people across the world will die from road traffic injuries. This total includes about 400,000 people under 25 years old, and road traffic crashes are the leading cause of death for 10- to 24-year-olds. Several million more men, women and young people will be injured or disabled.

In addition to the human suffering, the annual cost of road traffic injuries worldwide runs to hundreds of billions of dollars. In low- and middle-income countries, the economic cost of road injuries will be more than the development aid they receive.

However, the risks of road crashes are known and can be prevented. They include excessive speeding, driving under the influence of alcohol or other drugs, failure to use seat-belts and helmets, poorly designed or insufficiently maintained road infrastructure, and the use of vehicles that are old, poorly maintained or lacking safety features.

In recent years, preventing injury and death on the world's roads has gained greater prominence on the international development agenda. Technical support has improved. New policies have been implemented at the international, regional and national levels, including efforts to set road traffic casualty reduction targets. Collaboration within the UN system and with NGOs has been strengthened. Resolutions adopted by the UN General Assembly have raised the issue's political profile.

Despite increased awareness and more dynamic efforts to improve road safety, the epidemic of road traffic fatalities and injuries will continue to be an important public health and development issue. Trends in many countries, in particular low- and middle-income countries, suggest that the problem could become noticeably worse within the next decade. There remains a pressing need for greater efforts and resources.

I urge UN member States and global road safety partners to foster cooperation under UN auspices. And I commend this issue of UNECE's Transport Review to a wide global audience.

Ban Ki-moon
United Nations Secretary-General



Contents

INTRODUCTIONS

- 5 United Nations Secretary-General Ban Ki-moon
- 8 UNECE Officer-in-Charge Paolo Garonna
- 9 ITC Chairman Ralph Kellermann
- 10 Transport Division Director Eva Molnar

TAKING STOCK

- 12 UNECE's dedication to reduce traffic accidents
Eva Molnar
- 16 Built to be safe - road safety considerations in infrastructure
Sibylle Rupprecht
- 18 Safer vehicles, safer roads - the role of vehicle construction
Bernard Gauvin
- 22 The ADR's contribution to safer global goods transport
José Alberto Franco
- 25 Modern technologies in traffic signs and signals
Gernot Sauter
- 32 Focus on the human element - the IRU Academy
Martin Marmy
- 34 Road deaths and injuries shatter lives
Brigitte Chaudhry

STRATEGIC PARTNERS

- 38 Strategic partnership to improve road traffic safety - mission possible?
Virginia Tanase
- 40 United Nations Road Safety Collaboration
Etienne Krug
- 44 Case study on road safety - lessons from the EU
Isabelle Kardacz
- 46 Road safety in OECD/ITF countries
Jack Short
- 55 Implementing the Recommendations of the *World Report on Road Traffic Injury Prevention*
Björn Stafbom
- 58 The origins of uniform road signs and signals and the FIA Foundation's commitment to improving road safety globally
David Ward
- 62 The Global Road Safety Partnership
Andrew J. Pearce

REGIONAL AND NATIONAL CASE STUDIES

- 65 Road safety statistics from the UNECE region
Ould Khou Sid'Ahmed
- 71 Armenia's recent legislative initiatives in the field of transport
Hrant Beglaryan
- 72 Mobiliser les ressources politiques - l'exemple de la France
Michèle Merli
- 74 Road safety in Italy
Luciana Iorio
- 76 Road safety on motorways in Kazakhstan
Dulat Kuterbekov
- 79 Never change a winning concept - road safety in the Netherlands
Petronella Aland
- 81 Road Safety in Poland
Ryszard Krystek & Joanna Żukowska
- 83 State Road Safety Policy in the Russian Federation
Victor N. Kiryanov
- 85 Some peculiarities of road safety in Russia
Alexander Kvasov
- 86 The implementation of electronic stability control in Sweden
Roger Johannsson
- 89 Effectiveness of enforcement demonstration programs in USA
Maria Vegega
- 91 Road traffic safety: dimensions and follow-up in Uzbekistan
Abdulla Khashimov
- 93 Is sustainable road safety achievable in Africa?
Robert Tama Lisinge
- 95 Vehicular movement across border posts in Nigeria
Osita Chidoka
- 97 Road safety in the Asia Pacific region
Barry Cable
- 98 Assessing road safety through road traffic violations in India
Rohit Baluja
- 100 Overview of the road safety situation in the UNESCWA region
Nabil Safwat
- 102 Road safety in Latin American Countries
Maria del Carmen Giron Tomás

UNECE Transport Division UPDATES

- 104 Important EU news for UNECE ITC members
Miodrag Pesut
- 108 UNDA Project Corner
Virginia Tanase & Martine-Sophie Fouvez
- 109 Activities of the Transport Division





Foreword by the UNECE Officer-in-Charge

Transport, especially road traffic safety, is the area in which global cooperation is inevitable as hundreds of millions of people who travel on the roads every day take a risk. Their safety must be preserved and improved. This can be achieved through the concerted efforts of several players, public and non-governmental alike. Even though certain achievements are obvious, further improvements should be made.

The UN system mandated UNECE to focus its principal activities on the region of Europe and North America. Nonetheless, the results of the work done at UNECE in the form of various regional recommendations, standards, norms and conventions have received global recognition, acceptance and applicability.

While different countries have their specific road safety issues, their nature is fundamentally similar. Hence, synergies in inter-regional work are possible and needed. UNECE legal instruments such as the Vienna Conventions on Road Traffic and on Road Signs and Signals of 1968, which facilitate international road traffic and increase road safety through the adoption of uniform traffic rules, road signs and signals as well as markings, offer a basis for universal rules to improve road traffic safety.

Equally useful in the global context are the UNECE Consolidated Resolutions on Road Traffic (R.E.1) and on Road Signs and Signals (R.E.2) providing a unique set of road safety best practices.

UNECE is the oldest international organisation that collects and publishes data on road traffic accidents in a systematic way. The annual publication of road traffic accidents containing detailed statistics in Europe and North America and the gathering and maintaining of data on road traffic safety requirements in a number of UNECE countries are the best examples. As the results of the close and lasting cooperation in gathering data and developing uniform methodologies among Eurostat, the International Transport Forum and UNECE, these experiences may be shared and further extended to cover regions and countries outside UNECE.

I am confident that the first edition of the UNECE *Transport Review* dedicated to road safety would contribute to further cement international cooperation and to exchange information on best practices achieved in the different corners of the world.

Paolo Garonna
United Nations Economic Commission for Europe
Officer-in-Charge

Foreword by the Chairman of the Inland Transport Committee

Since the creation of the United Nations Economic Commission for Europe (UNECE) in 1947, transport has been one of its principal activities. For many decades, UNECE served as a bridge between the East and the West in Europe. After the 'Cold War', the role of UNECE transformed into a link between the EU and non-EU countries. None the less, throughout its existence, UNECE remained the global seat and source of transport agreements, as well as a knowledge centre on road safety.

Nowadays, the work of the Inland Transport Committee (ITC) aims at facilitating transport in the UNECE region and, at the same time, at increasing its level of efficiency, safety, security and protection of the environment, thereby contributing to sustainable development. The ITC develops and updates international agreements and conventions, which are legally binding for the countries that adhere to them, and which provide the international legal and technical framework for national transport legislation in UNECE Member States.

These legal instruments cover all relevant aspects of inland transport including infrastructure, vehicles, road traffic rules and border procedures. Altogether, 57 agreements and conventions have been developed. The ITC also develops and keeps up to date transport-related recommendations on which legally binding consensus cannot be achieved. In performing these regulatory and standard-setting functions, some of which are global in scope, the Committee fulfils a need that is not undertaken by any other international organization.

UNECE pioneered road safety activities in the UN system with the establishment of an Ad Hoc Working Group on the prevention of road accidents in March 1950. This was followed by the Group of Experts on Road Traffic Safety (GE.20) and since 1988 the Working Party on Road Traffic Safety (WP.1) under the UNECE Inland Transport Committee.

WP.1 is the only permanent intergovernmental body in the United Nations system that focuses on improving road safety and which is open to all UN member states (since 2006). WP.1's work is also global in the sense that its primary function is to serve as guardian of the 1949 Geneva Convention on Road Traffic and the 1968 Vienna Conventions on Road Traffic and on Road Signs and Signals, which are global Conventions with Contracting States from Africa, Asia, Europe and Latin America. In addition, the WP.1 is responsible for European Agreements which supplement the provisions of the Vienna Conventions and supports the development and promotion of best road safety practices and the organization of road safety weeks.

Road traffic injuries are among the major public health problems and a leading cause of death and injury around the world. Hence, the importance to devote this issue of the *Transport Review* to the topic of road safety.

I commend this issue of the *Transport Review* to the widest global audience as an instrument that could not only raise awareness about the problem of road safety, but also to speed up actions that save many lives, sufferings and costs.

Ralph Kellermann
Chairman of the Inland Transport Committee



Need for change while preserving the heritage

Editorial

The Transport Division of UNECE was set up soon after the Second World War and consequently its main responsibilities were to facilitate the free movement of goods and people across borders. This remains our core task even today, though ways and means to serve this goal are different.

Over the past 60 years UNECE has serviced debates leading to over 50 international legal instruments, conventions, agreements, resolutions, and recommendations in different fields of transport. Several of these agreements have been endorsed by countries outside of the UNECE region. The Conventions on Road Traffic, 1949 and 1968, and the Conventions on Road Signs and Signals, 1968, are applied on nearly all continents. 68 countries have joined the TIR Convention.

The rules for dangerous goods transport, as well as the vehicle construction regulations, have already become global. We can safely say that the endeavours of UNECE to create the international regulatory architecture for international surface transport have been fruitful not just within, but also beyond our region.

These legal instruments are regional and global public goods for the benefit of all countries. Similar to any asset, they require proper management- updating, improving, modifying - which is part of our daily life.

The intensive regulatory work has been supplemented by serving as a gateway for information sharing about best practices in

all these areas. The wealth of information about national and local solutions offers a strong platform for technical assistance to countries in transition. With the fast economic, social and technological changes in the world it has become a growing demand to accelerate information sharing and to be on time.

Therefore, the UNECE Transport Division has decided to launch the UNECE Transport Review in order to improve access to information for all. This initiative is not without traditions, the UNECE "Transport Information" that was published each year, even in the 1990s, could be seen as its predecessor, though at that time different demand resulted in different substance.

We plan to e-publish the UNECE Transport Review three times per year, always linked to an event special to our work programme.

The first edition is dedicated to road safety on the occasion of the joint session of the UN Road Safety Collaboration Meeting and the UNECE Working Party Meeting on Road Traffic Safety, 18 November 2008. The articles prepared by authors representing different national and international organizations are intended to give a broad overview of their actions to address the road safety challenge. On behalf of the UNECE Transport Division I would like to thank them all for their excellent contributions and express my wish to further strengthen our cooperation.

Eva Molnar
Director,
United Nations Economic Commission for Europe
Transport Division

TAKING STOCK

TAKING STOCK

UNECE is dedicated to reduce traffic accidents

Eva Molnar, Director, UNECE Transport Division

The road safety crisis is severe

With more than 700 million cars on the roads today and with the perspective that by 2030 there will be 2 billion, the current road safety crisis is appalling (see articles by J. Short, E. Krug etc.).

Aside from high-income countries, interventions so far have failed to match the severity of the road safety crisis. The growing awareness of safety issues brought about the decision to set up a global coordination mechanism, the UNRSC (see E. Krug's article on this) and the Commission for Global Road Safety, chaired by Lord Robertson (see D. Ward's article).

Road safety has been a crucial area of UNECE work

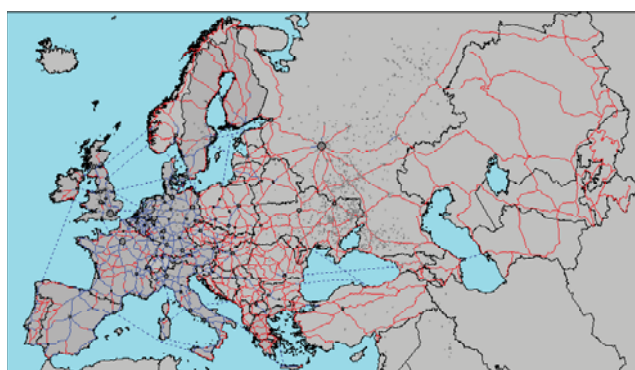
UNECE Working Parties have developed legal instruments close to all related areas of road safety

The **World Harmonisation Forum of Vehicle Regulations** has agreed on provisions both for new and in-use vehicles. The agreed on vehicle regulations are important elements of the world-wide type approval systems. In addition, they are the accelerators for the application of new safety solutions. Among the Forum's achievements the use of safety belts, Electronic Stability Control etc. can be mentioned. The requirement for periodic technical inspection of vehicles is another crucial area for ensuring that only safe and well maintained vehicles are allowed to participate in traffic (see B. Gauvin's article).

More than 70 per cent of **dangerous goods transport** take place on roads. Although the number of accidents is relatively limited, they have particularly dire consequences both for people and for the environment. Therefore, rules for dangerous goods transport and packaging, and especially the European Agreement on Dangerous Goods Transport by Road (ADR), play a critical role in road traffic safety as well (see A. Franco's article).

The **European Agreement on Main International Traffic Arteries (AGR)** of 1975 offers a legal framework for construction and development of a coherent international road network. It is well-known to the public as the E-Road Network that consists of numbered arteries channeling major international traffic flows. The classification, the geometric characteristics (alignments, cross-section, overhead clearance, intersections, lanes, etc.) and other road parameters have been agreed on by the contracting parties in order to ensure that the same categories of roads offer the same technical services and features. As a result, one should, in theory, be able to drive from the Atlantic to the Pacific on the same road. The working party on road transport (SC1.) is responsible for these activities.

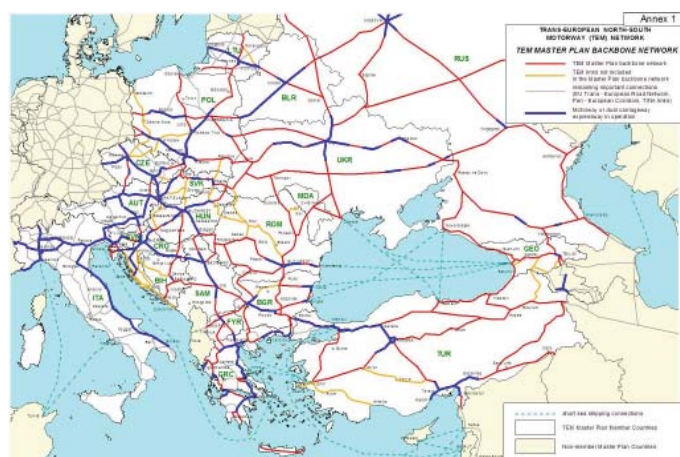
E-Road Network



The map above shows the E-Road Network, with blue lines indicating motorways and red ordinary roads. Road networks in Central, Eastern and South Eastern European countries as well as in the Caucasus and Central Asia, still suffer from decades of neglect and under-investment, both in terms of capacity and quality.

In addition to the legal framework, two specific projects, the Trans-European Motorways (TEM) and the Euro-Asian Transport Linkages (EATL) projects make the link between "standardization" and investment planning.

The TEM Network¹



¹ Blue lines indicate the existing Motorway and Express way sections, along the TEM Master Plan Backbone network. Extract from 2007 TEM Progress report on the implementation of priority projects identified by the TEM Master Plan.

The EATL Network



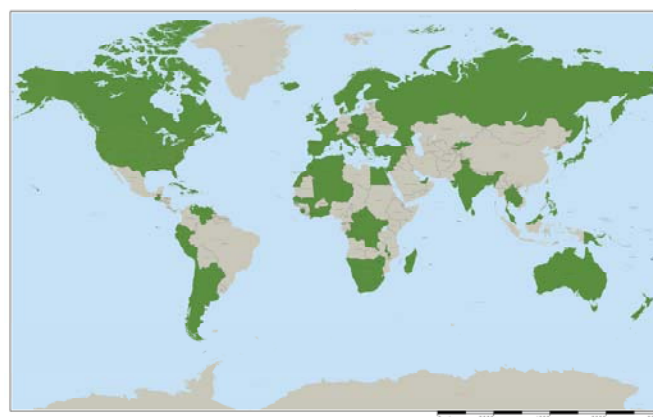
Another significant area of interest of SC.1 is to ensure the **harmonization of social rules in road transport services**. The UNECE's European Agreement Concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR) was done in Geneva on 1 July 1970 and entered into force on 5 January 1976. It is a fundamental tool to effectively fight against driver fatigue and harmonize the social conditions of work for drivers.

The **International Motor Insurance System (Green Card)** has been initiated by a UNECE Recommendation (Recommendation No 5 - (E/ECE/TRANS/145 - E/EEC/TRANS SC1/C 39) - 25 January 1949) that has been kept on the SC.1 agenda. Its purpose is to avoid the need for motorists to obtain insurance cover at each of the frontiers of the countries they visit. It is managed by the Council of Bureaux of the member insurance companies, i.e. Association of National Motor Insurers. For the past 50 years the Green Card system has remained almost unchanged. This year, some changes have been introduced in order to further improve its security.

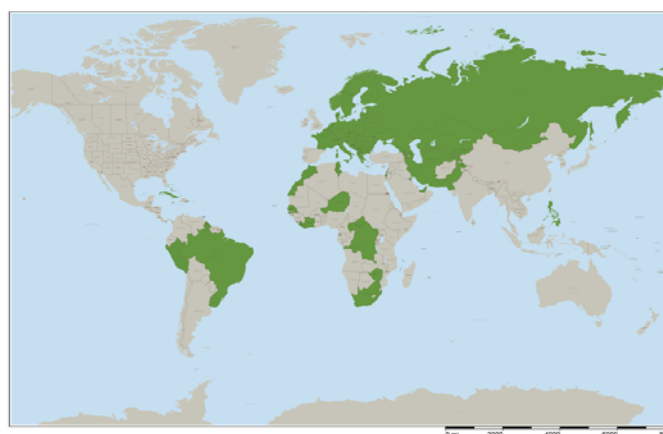
Last, but not least, the **Working Party on road traffic safety (WP.1.)** offers a **value framework for road safety** activities, through specific focus on the Convention on Road Traffic, Convention on Road Signs and Signals (Vienna Conventions) and the Consolidated Resolutions Nos. 1 and 2 containing best practices to implement the conventions. The Vienna Conventions lay down the rules for safe driving behavior and for road signs and signals. The Conventions on Road Traffic aim to increase road safety through internationally agreed traffic rules and to ensure the reciprocal recognition of documents issued in conformity with those rules. The Conventions bind Contracting Parties to admit vehicles and drives that fulfill the conditions. Its general and specific rules for drivers include provisions that, at all times, they must be able to control their vehicle, they must hold a driving license, issued after tests; driving rules, like speed, distance, overtaking etc. It further includes provisions on behaviour towards pedestrians, cyclists, as well as general rules for vehicles, e.g. they must be registered (registration certificate, distinguished sign of country of registration). The most recent modifications include, among others, no hand-held mobile phones while driving. To encourage countries to adhere to these conventions, UNECE has issued consolidated versions in the six languages of the United Nations incorporating all the amendments made since they were drawn up. Moreover, it is expected that the Working Party on Road Traffic Safety, which is the only permanent group in the United Nations dealing

with road safety, will this year complete the revision of the Consolidated Resolution on Road Traffic. This resolution is a manual of best practices and deals with all factors that have a bearing on road safety.

Convention on Road Traffic, 1949



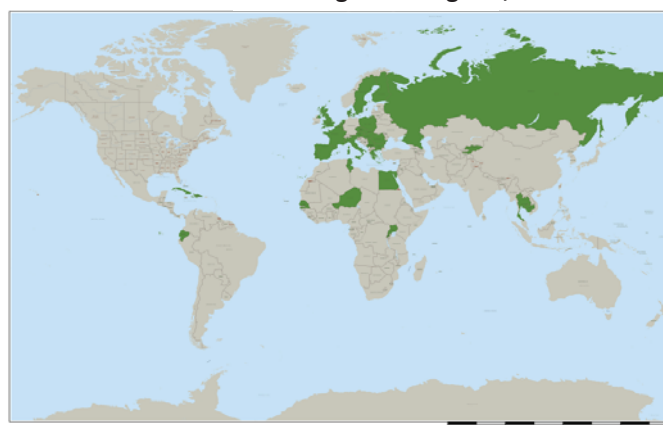
Convention on Road Traffic, 1968



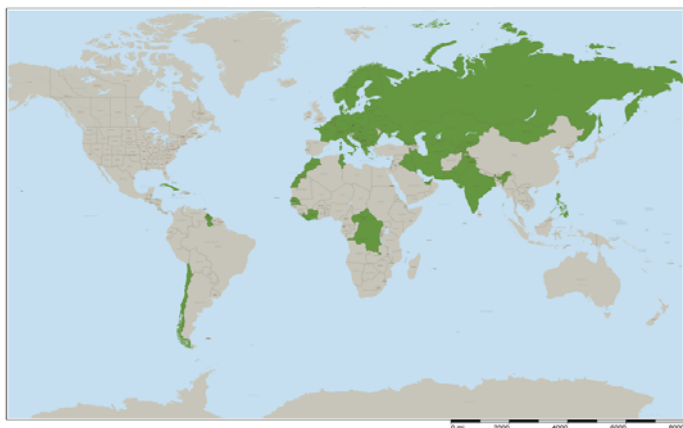
The Convention on Road Signs and Signals aims to facilitate international road traffic and increase road safety through internationally agreed road traffic signs and signals. It provides for three categories of road signs:

- Danger/Warning
- Regulatory
- Informative, with
- Norms on shapes, dimensions, colours, visibility
- Norms on Traffic Light Signals, Road Markings
- Road Works and Level Crossings Signs.

Protocol on Road Signs and Signals, 1949



Convention on Road Signs and Signals, 1968



Why is the solution so slow and difficult when most, if not all the legal instruments are available globally?

First of all I believe the conventions, agreements and regulations described above should become universal.

Second, it is a long term problem that stays with us. Therefore, one-time actions are not adequate. The continued political commitment is a pre-requisite to improve road safety. On the other hand, the results come slowly and gradually, often over-spanning the political tenure of individual governments. A further difficulty is that it is a multi-disciplinary problem that requires systemic and concerted actions from several public agencies, the private sector, and NGOs.

Third, funding road safety interventions is often not the highest priority in governments' public expenditures. It is rarely seen as part of the investment program, though it can have a really rewarding cost benefit ratio. To eliminate black-spots, to build safer roads with barriers, to install the signalling systems and to keep appropriate traffic management etc., cost money.

Capacity and quality of road infrastructure are aggravated by the *lack of sufficient funds* to address them successfully. Infrastructures represent huge investments. They are basically planned and financed within national budgets, in competition with other basic needs like education, health, housing or security, and under macro-economic constraints like deficits or public debt. The share of GDP devoted to transport infrastructure networks is, therefore, limited. To remove gradually the considerable backlog in transport networks that developed in the UNECE region between the East and the West, Eastern countries should devote for a large number of years no less than 2 to 2,5% of GDP to transport infrastructure networks, which is far from being the case in most of these countries today. Alternative sources of financing can be Dedicated Funds, collected from users in the forms of tolls and taxes. However, transport users' willingness to pay is also limited. Public-private partnerships to finance transport infrastructure networks is

another promising source of financing. However, many legal, financial and institutional barriers still exist and must be removed to encourage private sector funds to get involved.

Fourth, we should be aware not to let the best be the enemy of good solutions. Improving road safety is not just a question of finance. Statistics show that accidents, and particularly fatalities, could be reduced by wearing seat belts, pedestrian-friendly car designs, daytime running lights, better road engineering, applied telematics, speed-reductions and particularly by better legislation and enforcement.

Fifth, success depends on strong political will at the highest levels. Some countries, which have taken strong measures to improve road safety, have achieved spectacular results. Our hope is that all of our member countries will be able to follow these good examples. I am convinced that UNECE has a strong role to play in improving road safety that should be seen as one of the public goods. Beyond what we have already been doing, i.e. beyond the constant up-date of the international regulatory framework, we can help raise awareness for the issue, as well as become the gateway for exchange of information and best practices.

Along these lines, the five Regional Economic Commissions of the UN have initiated a project called Improving Global Road Safety: Setting regional and national road traffic casualty reduction targets (see the UNDA road safety project corner).

Moreover, poorly designed or insufficiently maintained road infrastructure as well as the use of vehicles that are old, not well maintained or that lack safety features in some Central, Eastern and South-Eastern countries, are also contributing to higher rates of road accidents and victims than in other parts of the UNECE region.

The Road Safety Matrix

The need for a systemic approach to address road safety issues is a widely shared concept.

The three-dimensional approach, i.e. road infrastructure, vehicles and human facet, has been successfully pursued in well targeted safety programs in many countries. The Haddon matrix offers a system approach with a more multi-disciplinary outlook by looking at the pre-crash, crash and post-crash phases in conjunction with the human, vehicles and equipment, as well as the environment factors.

Benefiting from these and other common knowledge classification I have taken a step forward to drill down more into the specific details. I drafted a road safety matrix a couple of years ago to help my colleagues in planning their mission to a country to carry out a road safety audit. A somewhat revised matrix is attached here. Obviously it is simple and does not cover all the issues. Still I am recommending it for consideration as a common point of departure for road safety improvements.

Table 1. The Road Safety Matrix: Key aspects of road safety issues to be checked in a country screening

	Physical aspects	Institutional and operational aspects (incl. the check of the relevant regulatory framework and its enforcement)
All factors	<ul style="list-style-type: none"> • National road safety strategy with clearing safety improvement targets • Regulations • Road Safety statistics published at national and international levels • ITS applications • Communications and PR 	<ul style="list-style-type: none"> • National Traffic Safety Council • NGOs dedicated and enabled to address safety issues and ready to be the “watch dog” • National Statistics Office supports road safety statistics and follows international methodology • Government level champion for ITS deployment for road safety improvement • Information channels in place between the media and key organizations (e.g. Road Inform) • Proper regulatory framework based on accession to International Legal Instruments and national laws in place
Human behaviour	<ul style="list-style-type: none"> • Drivers training courses and conditions for a driver’s license • Speed limits • Drink and drive habits • Emergency and post-crash care • Damage mitigation security 	<ul style="list-style-type: none"> • Good Governance at the police (how to convert a corrupt police into traffic facilitator?) • Accreditation system for drivers’ schools • Data bank for traffic accidents • Rules and practices for traffic accident investigation • Public health • Education at schools on participation in traffic • Overall motorization culture • The insurance system (incl. third party liability, green card system) • Well-functioning judiciary system • Information on stolen vehicles (incl. international information sharing)
Vehicle	<ul style="list-style-type: none"> • Vehicle construction • Quality of vehicles – roadworthiness tests, green card etc. • Co-existence or separation of motorized and non-motorized vehicles (e.g. donkey/horse driven carts from cars and trucks) 	<ul style="list-style-type: none"> • The role and capacity of and good governance at the transport technical inspectorate (incl. Standards) • Market access conditions in the car repair stations industry with liabilities • Accreditation of garages licensed to carry out periodical technical inspections • Relationship between the annual road registration fee and the technical inspection • Admission to profession and market access rules for commercial road freight and passenger operators
Road and other infrastructure related factors	<ul style="list-style-type: none"> • Roads: <ul style="list-style-type: none"> - Black spots - Road surface - Road markings - Traffic signs - Extra lanes for slower vehicles, barriers in mountainous areas, etc. • Emergency call system hospitals 	<ul style="list-style-type: none"> • Capacity of and good governance at the road administration (data bank, budget) • Traffic rules



Built to be safe

Road safety considerations in road infrastructure

Sibylle Rupprecht, Director General, International Road Federation, Geneva, Switzerland

When the first road fatality occurred in 1896 after a pedestrian was hit by a car, it was hoped that this would never happen again. Today, with over 1.2 million reported road fatalities, we are far from this.

It is currently recognised that road accidents are rarely the result of a single factor but a series of random events and an interaction of three elements: the user, the road and the vehicle. Significant improvements in road safety can only be achieved if we address all the components of the road transport system, including combinations of them.

Most work in road casualty reduction has been focused on the road user and vehicle safety with the responsibility for road accidents attributed to road users. Certainly behavioural campaigns for the use of seatbelts, speed reduction and alcohol

control have brought a change in behaviour and a reduction in fatalities. And yet, research undertaken over many years confirms that, however well educated and trained, human beings are prone to make errors when at the controls of a vehicle.

The 'forgiving' road

Safe road design, the so-called 'forgiving road', minimises the consequences of road user errors and precludes those that might have disastrous consequences. Therefore, road safety considerations must be central to the planning, design and operation of the road network.

The road design has an effect on accident risk because it determines how road users perceive their environment. It

provides instructions for road users, through signs, traffic controls and road design, on what they should be doing. Many traffic management and road safety engineering measures work through their influence on human behaviour.

The basic road design parameters are tolerance and resistance of the human body to mechanical forces. It is extremely important for road designers to take into account the low physical tolerance of the human body and integrate maximum protection for all road users. Road-users sustain injuries either from massive deceleration or from direct forces. Direct forces are common to vehicle occupants from impacts with the vehicle interior, when there is intrusion into the passenger compartment or during complete or partial ejection from the vehicle.

Vulnerable road users generally sustain injuries from the exterior of (other) vehicles and from secondary collisions with the ground. Vehicle-vehicle crash compatibility (e.g. small cars hitting much bigger vehicles) and cars hitting rigid roadside objects are other major issues in injury generation.

The 'forgiving' road takes all this into consideration and introduces adequate safety features to enhance road user protection. This can be in the form, for example, of safety barriers which are designed for two-wheelers, through introducing road safety audits at the design stage, and through identifying black-spots and taking remedial action at high risk sites.

1. Reducing death and crippling injuries is not the same as reducing crashes. There is a growing understanding that designing to reduce severe injuries requires a different design approach – for example injuries can be made less severe if roundabouts are installed to replace signal-controlled junctions, and merges replacing T-junctions.

Effective safety audit processes in the design and build phases of new road projects can pay dividends in the longer term, in terms of reduced accidents, reduced congestion, lower repair and maintenance costs, and lower health costs.

This implies that more responsibility for the structure and safe functioning of the road transport system should be shifted to road designers with a view to improving the quality and expanding the capacity of road networks. Road authorities should involve experts in human behavioural sciences when designing new roads or modifying existing ones.

Affordable road infrastructure improvements on existing networks have the potential to cut road casualties significantly at the national level in the short, medium and long term. The road networks, on which large numbers of deaths and serious injuries are concentrated, should be targeted systematically with the application of effective countermeasures. Rates of return for well targeted measures are high – rarely less than 100 per cent per year – and often much higher.

There is no road safety without adequate funding. Funding should also be available for regular maintenance and upgrading to ensure the long-term performance of road safety features. Low-cost safety measures should be encouraged. Adequate levels of maintenance funding should apply throughout the entire life-cycle of the infrastructure.

The role of safe road infrastructure in reducing the worldwide toll of deaths on the roads is crucial as road infrastructure and design are a contributing factor in one out of three fatal accidents. Therefore, sound road engineering and effective road management can greatly help in reducing the frequency and severity of road traffic accidents, but poor engineering and poor management can only contribute to crashes.

And we cannot afford this – neither on a human scale, nor on an economic scale. How many more people must die because of poor engineering, poor road maintenance, inadequate safety features, and missing safety audits?

The International Road Federation encourages governments and the private sector to take road safety into consideration in all steps of infrastructure planning.



Safer vehicles - Safer Roads

The role of vehicle construction in road safety

Bernard Gauvin, Ingénieur général des mines, Chargé de la sous-direction de la Réglementation des véhicules, Direction de la sécurité et de la circulation routières, Ministère des transports, France, and Chairman of the World Forum for Harmonization of Vehicle Regulations (WP.29)

Experts in the field of road safety usually agree that there are 3 major factors in any accident: the road users (mainly drivers), the infrastructure characteristics and the vehicles.

1. Improvement of vehicles safety characteristics

New vehicles which are put on the market today are much safer than the older ones. Three principal factors have an influence on this improvement:

- Addition of equipments and parts specifically designed for safety: safety belts, air bags, ISOFIX, anti-whiplash devices, ABS, ESC, etc.
- Better design of the vehicle, taking into account scientific knowledge of accidents: our ideas on accidentology and biomechanics are cleaner and more precise than some years ago, and the whole structure of the vehicles is designed accordingly
- Incorporation of technical progress in all functions and parts of the vehicles.

It is impossible to quantify the global safety level of a vehicle, or to compare on an objective basis the global safety level of two different models. This is because most aspects of vehicle safety cannot be isolated from the driver's behaviour and the infrastructure characteristics, especially the aspects of vehicle safety which concern accident avoidance (active safety). A car with excellent active safety characteristics may induce some drivers into reckless driving or excessive speed and so give poor global safety performance in real conditions. For instance, ABS braking is now considered as an important safety feature, but when ABS was first introduced in 1985, as an option for sports or luxury cars, no safety benefit could be statistically demonstrated for ABS fitted cars, mainly due to over-speeding and to a misunderstanding by the driver of ABS braking, which does not actually shorten the stopping distance on dry roads.

And, in the very rare cases where it has been possible to quantify the actual road safety benefit of concrete vehicle equipment (it has been the case for Electronic Stability Control (ESC)), the results vary broadly from one country to another.

The crashworthiness of a vehicle may be assessed more objectively because the driver's behaviour has no influence as soon as the crash occurs, and because it is possible to reproduce in laboratories the most significant conditions of crashes as they have been identified by accidentology.

Two major factors are driving the improvement of car safety: the desires of consumers and the demands of regulations.

2 . Regulations: a major factor of car safety improvement

Each individual consumer may be more or less interested in car safety, but for governments, road safety is a political priority due to emotional, social and economic costs of road accidents.

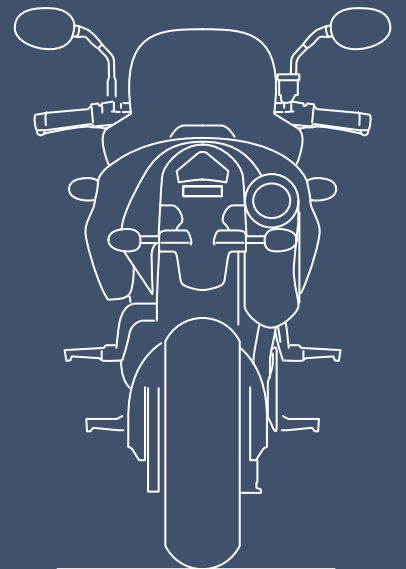
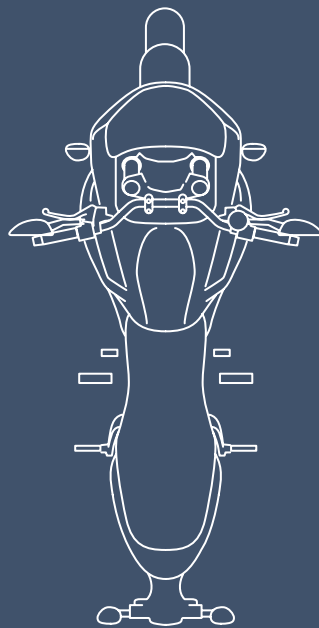
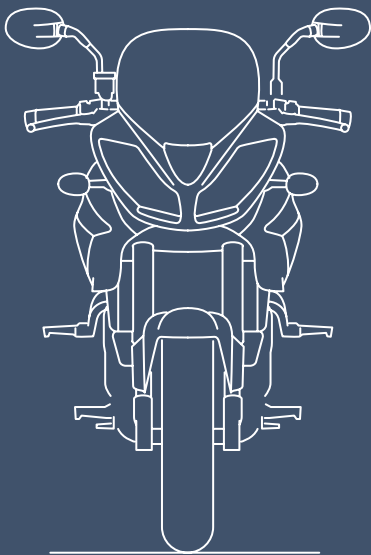
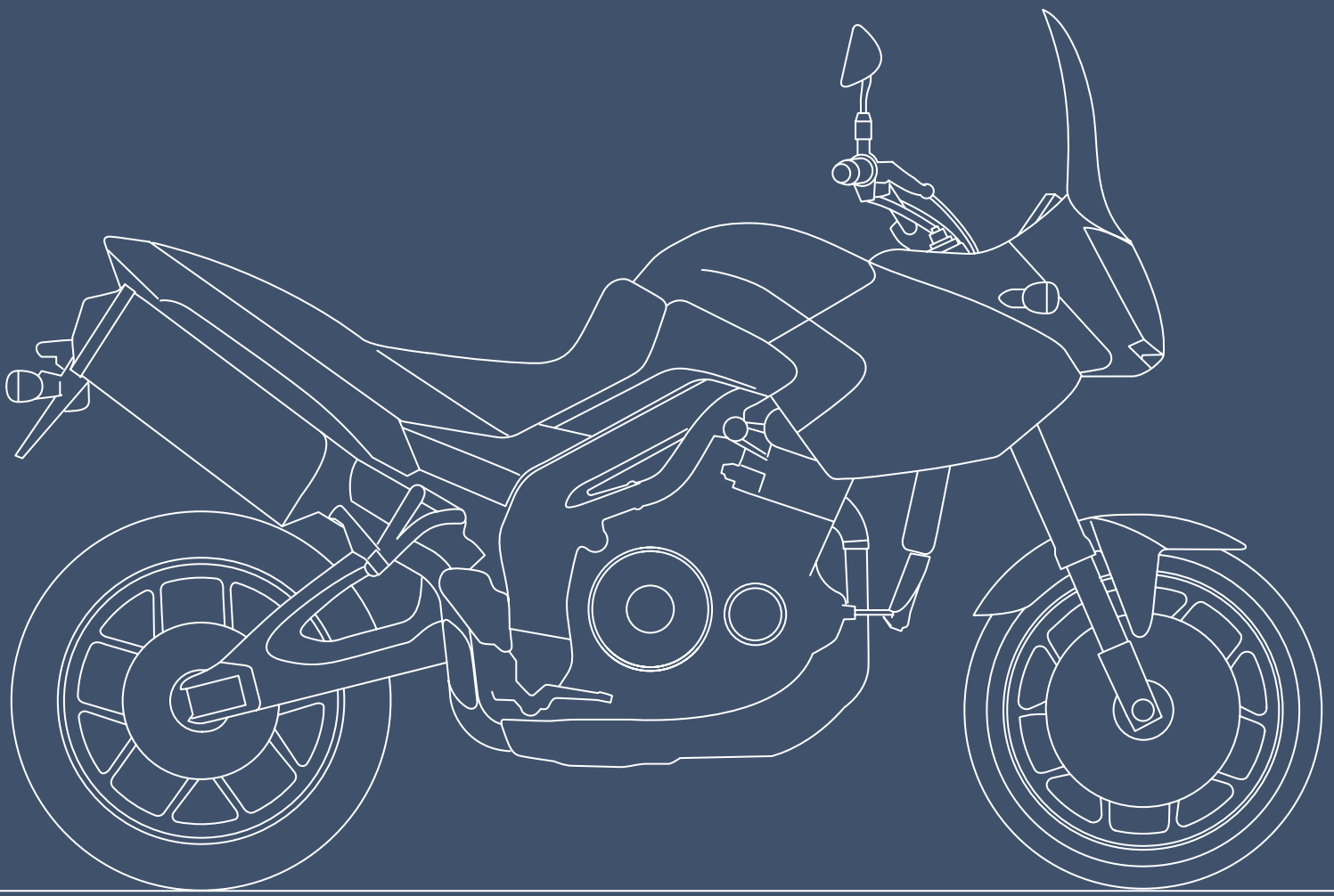
Technical regulations have been for a long time the most important tool used by governments to improve car safety and many regulations have been developed to cover the active safety field (brakes, tyres, lighting and signalling devices, etc.), the passive safety issues (safety belts, child restraint systems, frontal and side impact; crashworthiness, etc.), and the protection of the environment. Nowadays, in most countries, more than 50 regulations apply to a car before its registration, and these regulations have a major influence on the way cars are built.

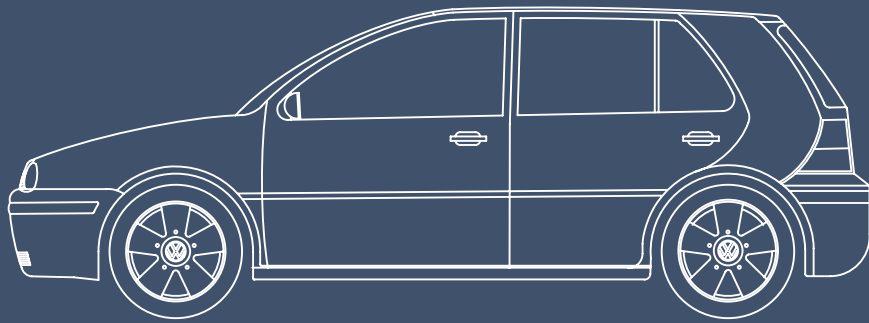
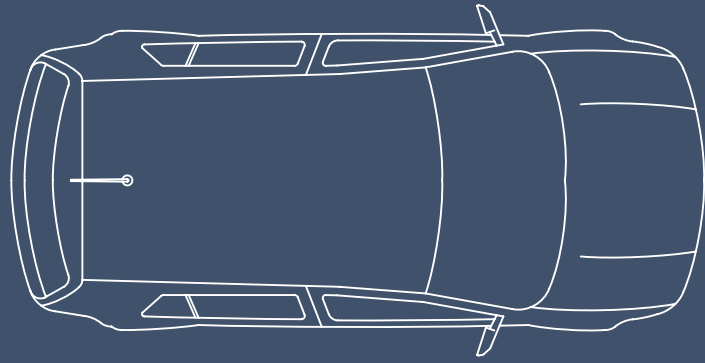
As a government tool, regulations offer some important advantages:

- They must be based on an objective and scientific analysis of real accidents, from which proper technical means to avoid or to mitigate crashes are derived;
- It is the only way to offer a certain level of protection to vulnerable road users;
- The standardized tests and criteria which are used for type approval or self certification give a guaranty of cost efficient solutions.

When deciding on a regulation, most governments are obliged to make an impact assessment, and to evaluate its actual safety effectiveness whenever possible. For passive safety, consensus figures are usually available: wearing a safety belt reduced the fatality risks about 65 per cent, and a further 50 to 80 per cent is given by modern structure designs and airbags. Electronic Stability Control (ESC) is a very rare case where the actual effectiveness of an active safety device has been evaluated, depending on car fleet characteristics and national traffic patterns. For Europe, the accident reduction factor of ESC is about 20 to 30 per cent.

With regard to motorcyclists, protective helmets provisions of UNECE Regulation No. 22 constitute a unique set of best requirements to have good safety performance of helmets.





The most efficient device to protect road users is the vehicle itself. Within the framework of UNECE activities, lateral and frontal crash tests evolved to transfer the effects of impact forces from occupants to structures. Nowadays, vehicle structures absorb almost entirely the lethal crash decelerations as well as maintain a survival space for their occupants.

The safety of children in vehicles has been hampered by the difficulty to combine child restraint systems with the continued optimisation of adult safety belts. The ISOFIX system solves these problems and offers a defined, permanently correct anchorage of the child restraints, with easier handling and misuse reduction.

The improvement of vehicle safety has not revolved only around occupant protection but also focused on weaker road users. The pedestrian safety issue has enlisted the endeavours of world wide experts to devise a global technical regulation matching the increasing need for mobility whilst reducing the casualty toll, particularly sensitive in developing countries.

3 . Future regulatory activities on vehicle safety

Although vehicles have achieved a remarkable level of safety with regard to the self-protection of occupants, the more rugged construction of Sport Utility Vehicles (SUV) make them dangerous in crashes with ordinary cars. The United Nations Economic Commission for Europe (UNECE) safety legislation is now targeting the outstanding issue of crash compatibility between cars of different mass and dimensions to better protect the occupant of the smallest cars.

The future development of road safety will likely be driven by accident avoidance much more than by injury mitigation. Regulations and compliance testing are aiming at integrating passive safety features such as crashworthiness with active safety techniques through the development of pre-crash systems which improve safety.

4 . International harmonization of regulations: the role of WP.29

Vehicle markets and road traffic have been globalized, and it makes sense to harmonize the technical regulations at the broadest international level.

The international harmonization of these regulations involves a broad and open exchange of knowledge and data on accident analysis and traffic safety, and it allows for choosing the best available technology. In this way there can be a synergy between research done in each country, which gives a more solid basis to the regulatory decisions, and there is a global benefit for everybody from the improvement of car safety and the reduction of manufacturing costs. Harmonization is a win-win process which is today supported by all the governments

that have concerns about traffic safety and an interest in car regulation.

WP.29, established in 1953 as a permanent working party of UNECE, has been dedicated to the harmonization of vehicle regulations, firstly:

- In the European context, with the adoption of the Geneva 1958 Agreement, to which 127 technical regulations have been annexed, and later;
- In 1998, in a broader international and global context with the revision of the 1958 Agreement, which allowed any UN country to become contracting party, and with the adoption of the 1998 global Agreement.

In recognition of this global opening of the Agreements which it administers, WP.29, became the World Forum for the harmonization of vehicle regulations in 2000.

All the activities of WP29 are fully transparent, and you can find the agendas and reports of the meetings, all working and informal documents, the regulations annexed to the 1958 Agreement and the global technical regulations inserted in the global register under the 1998 Agreement on the WP29 website: <http://www.unece.org/trans/main/welcwp29.htm>

Conclusion

Car safety features and technical regulations have played a major part in improving the global road safety situation in Europe over the recent decades. In France for instance, from the worst road safety year (1972) to 2007, road fatalities have been divided by 3,5, while the road traffic figures (vehicle x km) were multiplied by about 3. On average, the road fatality risk has been divided by 10.

In spite of this spectacular improvement, nobody is happy with the present situation: most governments have announced ambitious political goals for further reductions. As an example, EU has the objective to divide by 2 the road fatalities by 2010, from the 2002 baseline.

Even these ambitious goals are not sufficient or satisfactory, and the ultimate ambition is "Vision zero", with no road traffic fatality. Vision zero is not a short term possibility, but it is the only acceptable target, and, taking into account the fantastic progress that has been observed over the last year, as well as the new field opened up by intelligent traffic systems, the development of computers in vehicles, and the political and commercial pressure for safer vehicles and safer roads, it is a realistic long term target.

Within the World Forum for Harmonization of Vehicle Regulations (WP.29), we are all committed to this ambitious objective.



La contribution de l'Accord ADR à la sécurité globale des transports routiers de marchandises

José Alberto Franco, Chairman of the Working Group on the Transport of Dangerous Goods (WP.15)

L'amélioration constante de la sécurité routière, la réduction des accidents de transport routier et la minimisation de leurs conséquences, qu'il s'agisse de transports de voyageurs ou de marchandises, a toujours été un objectif prioritaire des organisations régionales ou spécialisées concernées des Nations Unies.

Le 30 septembre 1957, neuf pays membres de la Commission économique des Nations Unies pour l'Europe – Allemagne de l'Ouest, Autriche, Belgique, France, Italie, Luxembourg, Pays Bas, Royaume Uni et Suisse – sont convenus qu'il fallait «accroître la sécurité des transports internationaux de marchandises dangereuses par route», en signant un Accord européen relatif aux transports internationaux de marchandises dangereuses par route (ADR).

Encore fallut-il attendre que 5 pays considèrent qu'ils étaient à même de respecter leurs engagements vis-à-vis des conditions

minimales fixées par cet Accord pour qu'ils se décident à le ratifier et permettent ainsi son entrée en vigueur.

Ce fut chose faite le 29 janvier 1968 grâce à la Belgique, la France, l'Italie, les Pays Bas et le Portugal. L'ADR compte aujourd'hui 44 Parties Contractantes, à savoir la totalité des États membres de l'Union européenne (27), la totalité des États continentaux de l'EFTA (3), tous les autres États de l'Europe de l'Est (3) et du Sud-Est (7), deux États du Caucase et de l'Asie centrale, et deux États de l'Afrique du Nord.

Par le biais de l'ADR ont été appliquées dans presque toute l'Europe, pendant les dernières 40 années, un vaste ensemble de règles techniques concernant la classification et l'identification des marchandises dangereuses, la construction, l'épreuve et l'agrément des emballages, des citernes et des véhicules utilisés pour leur transport, leurs conditions d'utilisation, leur marquage, étiquetage et placardage, le chargement et déchargement des

véhicules et leur circulation ; et finalement, la formation et les obligations de sécurité de tous les intervenants.

Les constats d'évaluation de l'efficacité de l'ADR du point de vue de l'amélioration de la sécurité des transports routiers sont clairement positifs. Les accidents routiers spécifiquement causés ou aggravés par la présence des matières dangereuses dans des véhicules en circulation sont devenus rares, et leurs conséquences du point de vue humain ou économique ont été considérablement réduites.

Ce sentiment est partagé par la majorité des autorités compétentes, des organisations professionnelles et de l'opinion publique en Europe. Il ne doit cependant pas empêcher les entités responsables de la réglementation de garder une attitude permanente de vigilance et de rechercher une amélioration constante des normes et règlements.

Personnellement, je pense que le Groupe de travail des transports de marchandises dangereuses du Comité des transports intérieurs de la CEE-ONU (WP.15) se doit non seulement de continuer à adapter régulièrement les dispositions de l'Accord aux progrès et défis technologiques et industriels qui voient le jour dans le domaine du transport, mais aussi de répondre à d'autres défis.

Il convient notamment de poursuivre et, autant que possible, terminer l'harmonisation de toutes les règles applicables aux marchandises dangereuses quel que soit le domaine réglementaire, transport, sécurité des travailleurs, santé publique, protection des consommateurs ou protection de l'environnement. Ceci est indispensable pour instaurer la confiance des citoyens, dissiper leurs doutes émanant légitimement de réglementations parfois contradictoires, et faciliter le travail des agents de contrôle.

Il est également nécessaire d'étudier de nouvelles alternatives pour les matériels d'emballage et de transport, qui soient compatibles avec les exigences croissantes relatives aux déchets, à la protection de l'environnement et à la consommation d'énergie. La sécurité du transport routier de marchandises dangereuses doit aller de pair avec les concepts d'environnement et d'énergie durables.

Finalement, il est impératif de simplifier encore davantage les textes normatifs, de les présenter de façon plus conviviale, compte tenu des principes de la restructuration globale de l'ADR de 2001, afin d'éviter une croissance et une complexité démesurées des dispositions réglementaires.





STOP

YAMAHA

STOP

Modern technologies in road traffic signs

Gernot Sauter, 3M Deutschland GmbH, Traffic Safety Systems Laboratory, Germany

General requirements for road traffic signs

According to the definitions in CIE Publication No. 74 entitled "Roadsigns", there are 4 basic requirements for road signs (often referred to as traffic signs or road traffic signs).

1.) Conspicuity

Signs need to attract attention, so that they are noticed.

2.) Legibility

The message displayed on the sign ...must be legible at the distance from which the sign is to be read.

In this respect, the term legibility maybe expanded to include 'recognizability'. In many cases the message on the road sign is conveyed in symbol form that will be recognized rather than read. In other cases (e.g. directional signs), it is not the legibility of reading individual characters, but more the legibility of recognizing complete words or destinations.

3.) Comprehensibility

The message displayed must be easily understood and the response required by the message must be clearly conveyed.

4.) Credibility

The road user should believe the message and act upon it.

Dr. Rune Elvik has interpreted these basic requirements and related them to the main goal in road safety, namely to reduce accidents. All the above requirements should be interpreted as a sequence; all 4 requirements must be met, in a cascading flow, in order for the road sign to be effective.

Road signs have various purposes, most being strongly related to traffic safety. Some road signs are clearly intended to improve road safety and reduce accidents, such as danger warning signs. Priority signs are intended to improve the traffic flow, but the sign effectiveness will have even more importance for traffic safety, e.g. in the case of stop signs. Direction signs are intended to give guidance to the road user. Limited effectiveness can have severe implications for traffic flow and congestion, but also for traffic safety because it may prevent drivers from finding their way and subsequently making irregular manoeuvres.

A road sign will communicate a certain message to the road user. It is the level of legibility and comprehensibility that can enhance communication. Generally, those will be driven by the sign layout, i.e., the size of letters and symbols, the letter font, size and color. Harmonization of signs and sign symbols are essential for the comprehensibility, especially in international traffic. The 'Convention on Road Signs and Signals' done at Vienna in 1968 ('Vienna Convention') aims at harmonizing letters and symbols and also provides guidance on sign size and dimension.

This paper focuses on the first two basic requirements, legibility and conspicuity of road signs, more generally described as 'visibility'.

Daytime visibility of road traffic signs

The visual information available to the driver is vast and varied. At any moment, the driver must select the information that is more critical for the driving task and filter out the irrelevant information. Obviously, reading traffic signs is not the primary task for the driver. The primary task for the driver is manoeuvring the vehicle and following the road layout. The secondary task is avoiding obstacles like other cars and vulnerable road users like bicyclists and pedestrians. Additional information like road signs are lower in a hierarchic order.

The visual/cognitive system is limited in the amount of information it can process and so it is important for the traffic engineer to appreciate how to influence the way drivers select the visual information they need. This selection process is generally referred to as "selective attention", which may be controlled by "top-down" processes, such as looking for a street-name sign, or a "bottom-up" process whereby the visual characteristics of the object are so salient that the driver's attention is drawn to it, such as a flashing signal.

CIE Publication 137 (2000) "The Conspicuity of Signs in Complex Backgrounds" is a review of visual conspicuity of road signs in the road traffic environment during both daytime and night time conditions. It provides guidelines for the design of road signs that will enhance the probability of them being noticed by drivers. Concerning the nature of visual conspicuity, CIE 137 states:

"A conspicuous object can be considered to be one that is very obvious and attracts attention in an effortless way,...."

and

"It is clear that the conspicuity of an object cannot be divorced from its background or the motivation of the observer. If either one is changed then the object may no longer be conspicuous."

In a court decision of the German Federal Court of Justice, it has been stated that road signs should be visible with a quick and casual glance. The 'casual glance' has been further interpreted as a non searching look.

Conspicuity and legibility in the daytime depend on symbol or letter height and colour. For standard road sign design, it can be assumed that there is sufficient contrast between the letter (or symbol) and the background of the traffic sign. The conspicuity

of the sign will depend on the surrounding of the sign, e.g. in urban scenarios with much visual clutter, the conspicuity can be expected to be low.

New technologies, such as durable microprismatic fluorescent materials can enhance the daytime conspicuity of road traffic signs. An example for this application is given in the picture below. The fluorescent backing boards enhance the conspicuity of the road signs.



Nighttime visibility of road traffic signs

It may be generally assumed that road signs are designed to perform adequately in the daytime situation, which is the scope of CIE 74. Night time makes a difference by a marked change of luminance conditions, which affects legibility and conspicuity, while comprehensibility and credibility are not affected.

Because of less than optimum conditions at night, road sign legibility is usually less than daytime conditions. Therefore, road signs should be designed for nighttime performance in terms of the letter size and luminance to achieve adequate visibility for the driver at the given speed of the roadway.

The Vienna Convention on Road Signs and Signals states: "... in order to make them more visible and legible at night, road signs...shall be lighted or retroreflective..."

Today, retroreflective materials are extensively used for the

manufacturing of road signs. It can be assumed that 100% of the road traffic signs in Western Europe are using retroreflective materials.

Dedicated external or internal illumination of road signs can still provide a higher level of road sign luminance, especially in overhead positions or for signs in urban settings with many competing light sources. This comes at the cost of much higher installation and maintenance expenses. The ongoing trend for energy savings will lead to a further reduction of dedicated illumination of traffic signs.

Retroreflective technology

By using retroreflective technology, the road sign illumination provided by the car headlamps is bundled and reflected back in the direction of the car. Depending on the efficiency of the retroreflecting material, the brightness (measured as luminance) of such signs can be up to 3000 times higher than of painted signs.

The essential goal of designing retroreflective road signs is to achieve sufficient luminance at night to make legibility and conspicuity in headlamp illumination almost as good as in daylight illumination. Additional considerations at night are to overcome glare (from a variety of sources) and to allow night time colour recognition.

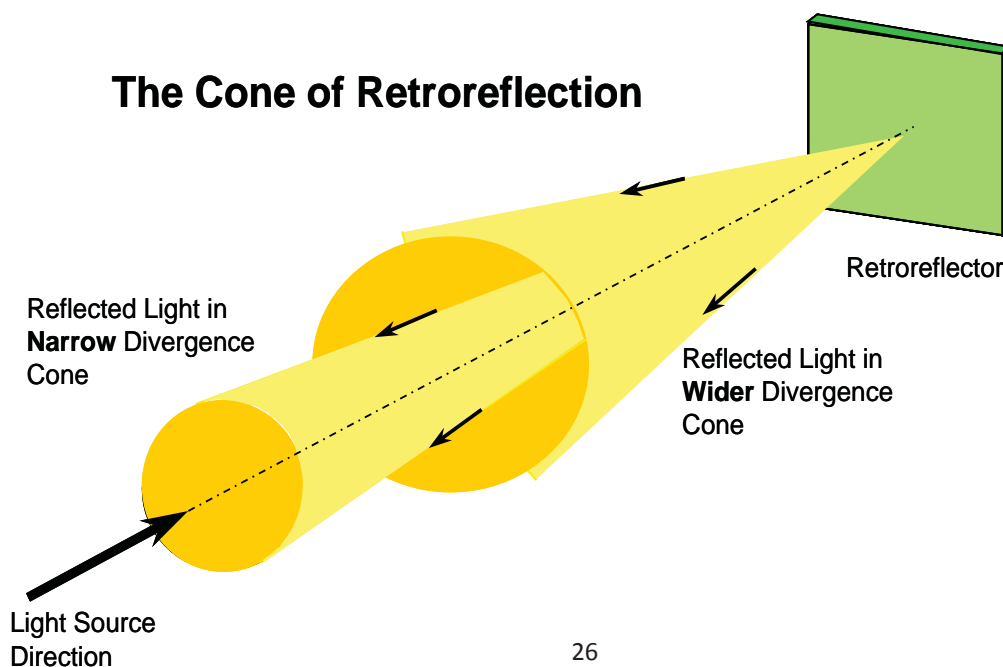
Glass bead technology

Among the first generation of retroreflective materials, engineer grade or enclosed lens sheeting was introduced in 1948. It is described as Class RA 1 in EN 12899-1. Although still used for the manufacturing of road traffic signs, this material is limited both in performance and durability.

In the draft CEN standard EN 12899-6, the performance of a Class RA 1 product has been interpreted as 'low performance bordering on no performance'.

The second generation glass bead product, dedicated as High Intensity Grade or encapsulated lens sheeting was introduced

Figure 1: Generalized principle of retroreflected light



in 1971. Both performance and durability, though improved over engineer grade, were still not optimal. The product is described as Class RA 2 in EN 12899-1.

Microprismatic technology

With microprismatic materials, a performance level can be obtained that is still below optimum (benchmark) legibility level, but is much better than glass bead materials.

Furthermore, microprismatic material offers new design opportunities. The retroreflected light can be retroreflected in a more narrow divergence cone, which would be beneficial for long distance viewing (see figure above). This is the common design principle for the first generation microprismatic material. A typical example is given in the luminance chart below as Class RA 3A. Later designs tend to retroreflect the light in a wider divergence cone to give more light for closer viewing distances and viewing from larger vehicles. The luminance curve of a typical material is given as Class RA 3B.

Only the latest so called 'full-cube' microprismatic sheeting technology is efficient enough to return light equally for long and short distance viewing of road traffic signs. Those materials will meet expectations over the entire approach to a road sign and are described below as Class RA 3 (A&B).

It is the purpose of this paper to describe performance expectations and limitations of retroreflective material for the night time performance of road traffic signs.

Minimum (threshold) luminance

Legibility experiments can provide threshold luminance levels that make a sign 'just legible'. Unfortunately, many of those experiments are limited in practicality because they are either static or in a driving situation that is of low complexity. Furthermore, the task of reading signs in these studies is biased towards greater importance of long distance viewing at the legibility threshold. Looking at traffic signs under normal driving conditions is a random process, that will happen at various distances and with several glances. An excellent summary and interpretation of threshold legibility experiments can be found in the TNO report 'Minimum required night-time luminance of retroreflective traffic signs' by P. Padmos.

Data from legibility experiments will be

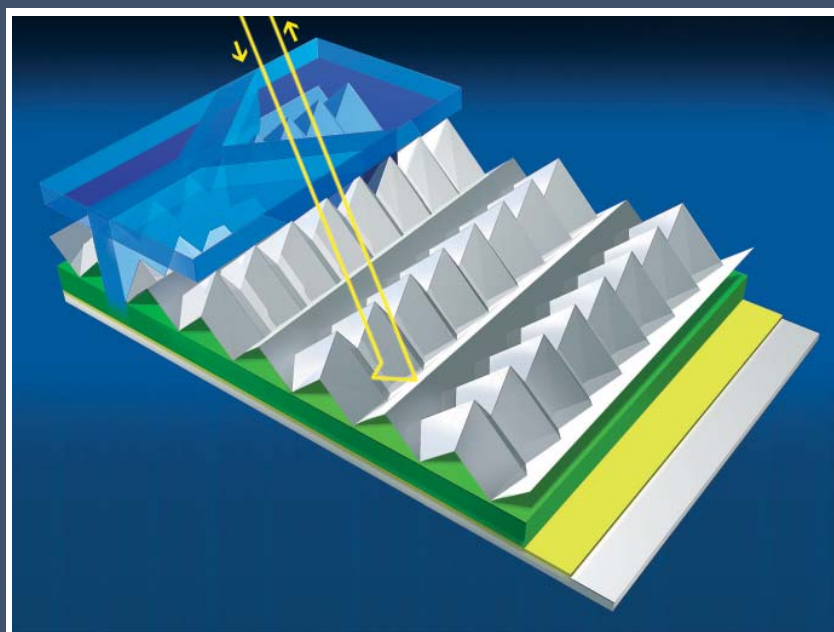


Figure 2: Cross section of a retroreflective 'full-cube' microprismatic material

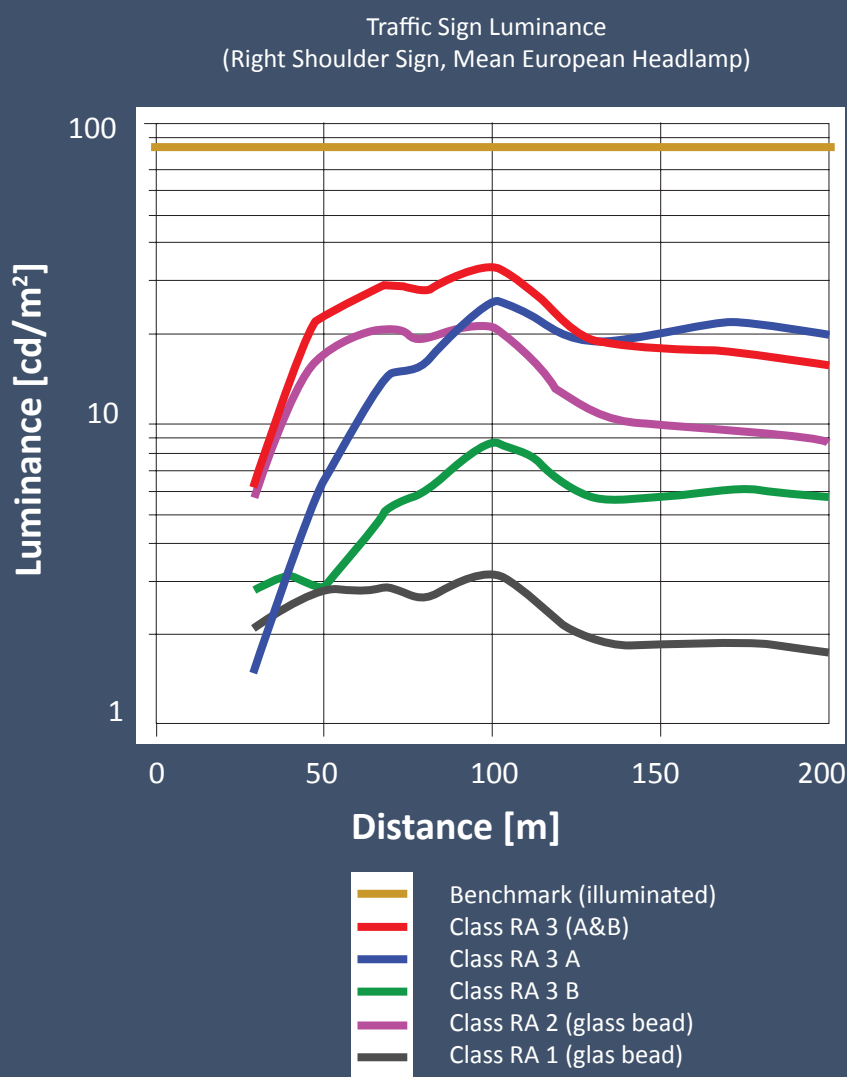


Figure 3: Typical Traffic Sign brightness (measured in luminance, cd/m²) of a shoulder mounted sign at 2.5 m height, as viewed from a passenger car with mean european headlamps.

used as one measure for evaluating the ‘percent drivers served’ in the final section of this paper.

Optimum Luminance

For the evaluation of visual acuity in the optometrist office there are very definite recommendations developed as to the level of illumination that should be provided on the eye chart. Generally these recommendations are about 80 to 100 cd/m² level. The reasoning here is that any greater luminance will not result in any improvement in visual acuity for the subject being tested.

There are a variety of specifications in place for internally and externally illuminated road signs. Many of these have luminance requirements in the range of 100-150 cd/m². The assumption here is that internally illuminated sign designers have total control over the amount of luminance they can provide. This allows targeting optimum luminance levels for sign legibility and conspicuity.

The requirements for internally illuminated signs in Europe can be found in EN 12899-1 : 2007 and range from 40 – 900 cd/m² for the white luminance with 40 – 150 cd/m² being the lowest class. Sometimes external lighting is used for shoulder mounted signs. In these cases often about 25 cd/m² is available.

It can be assumed, that luminances exceeding an optimum level of 80 cd/m² will not further improve the legibility. This level is therefore described as ‘benchmark’.

Between Minimum and Optimum Luminance

Subjective rating experiments can provide minimum and optimum luminance levels for road signs. Table 1 is from the 1990 IRF report that summarizes results obtained at subjective rating experiments at the University of Darmstadt, Germany. Further studies done at the University of Darmstadt by Helmut Frank confirmed the above results which are for the dark surround (0.01 cd/m²). In more bright environment or in the presence of glare from oncoming vehicles, the required sign luminances are increased by roughly a factor 4, as can be seen in figure 4.

It can also be concluded that at a given surround luminance, the step from minimum (just legible) to optimum luminance is about a factor 10. The step from optimum to maximum (bright, still legible) is again a factor 10.

In the study ‘driver ratings of overhead guide sign legends’, participants have been asked to evaluate road traffic sign performance. At each of five distances to the sign, the participants assessed the visibility of the legend using the following grading instructions:

- 4 = Excellent
- 3 = Good
- 2 = Satisfactory
- 1 = Marginal

The independent variables studied include different grades of microprismatic retroreflective material. The plots in figure 5 show some of the results.

The rating showed to be strongly related to observer distance, a well known effect with retroreflective traffic signs, since the luminance over the approach is not constant. Also age group,

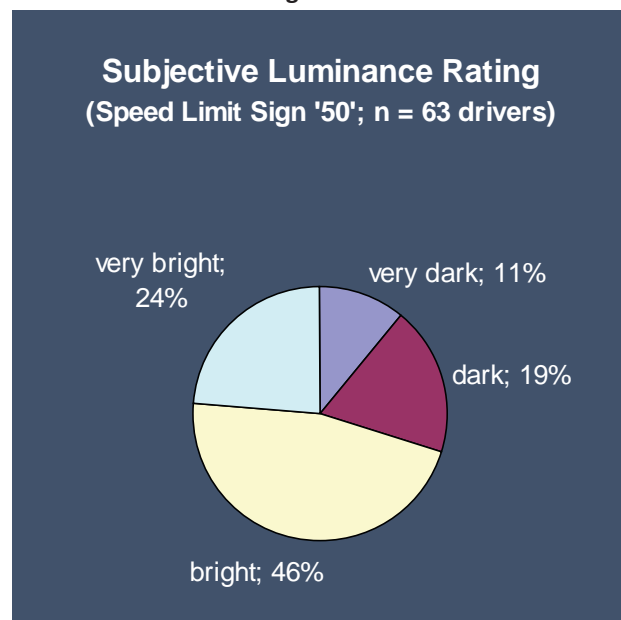
Table 1 – Summary of Subjective Rating Response

Rating Scale	Subjective response	Luminance cd/m ² (estimate from graphic)
1	Too Bright not Recognizable	3000
2		600
3	Bright Recognizable	300
4		70
5	Optimal Luminance	25
6		7
7	Dark Recognizable	2
8		0.7
9	Too Dark, not recognizable	0.3

vehicle type and material grade show strong effects. It is no surprise, that the best rated reflective material is the Class RA 3 (A&B), designated as ‘type 11’, since it serves equally well at long distance and shorter distance. This material is rated between ‘good’ and ‘excellent’. Earlier generation microprismatic materials, that serve a more limited distance range, are rated between ‘satisfactory’ and ‘good’.

A research study done by the Austrian KfV in 2005, compared subjective luminance ratings of drivers in an urban environment. Although the aim of the study was to compare performance of 2 retroreflective technologies, the subjective ratings showed a strong variation between drivers. The chart below shows

Figure 6



responses of 63 drivers that individually drove through the test site (public open road in an urban environment).

All drivers observed the same road sign from the same car under similar ambient lighting and driving conditions. It can be expected that all drivers have observed the traffic sign at a similar luminance level. Still, the responses vary strongly from ‘very bright’ to ‘very dark’. Apparently there is a strong variation in luminance demand per driver. A given traffic sign luminance can hardly be judged as being ‘enough’ or sufficient. An idea to better accommodate the different needs of the driving

Figure 4
Luminance rating of test signs for two ambient luminances with an observation distance of $d=70$ m, without glare

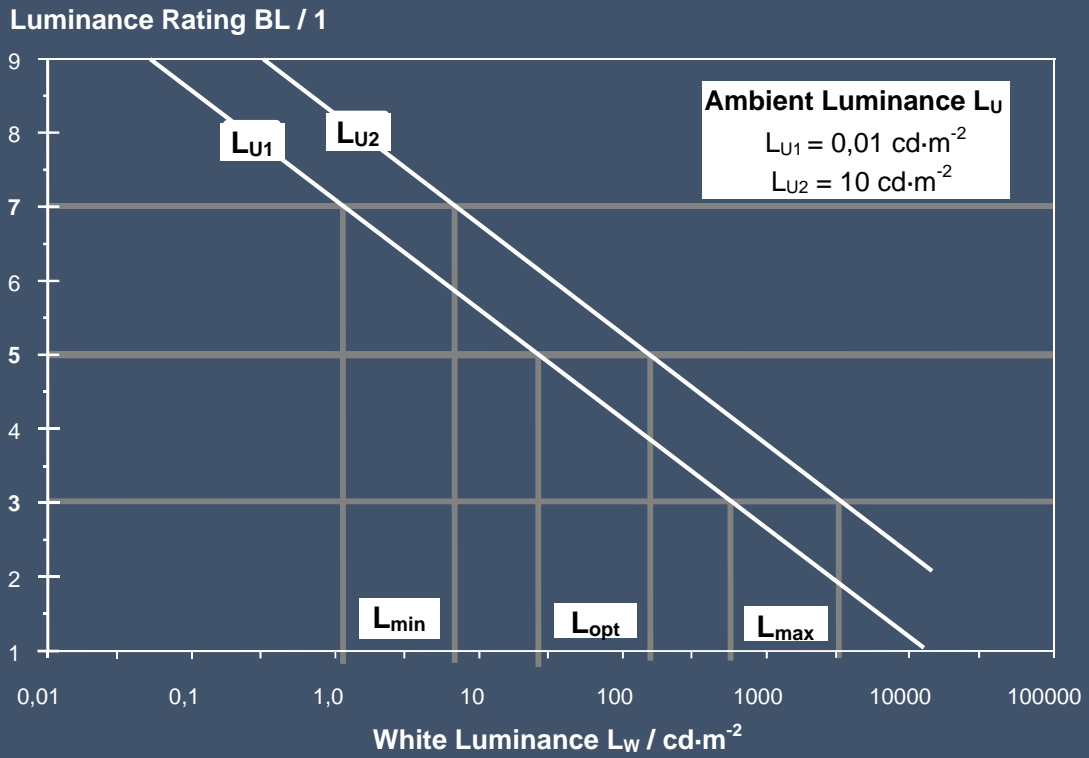
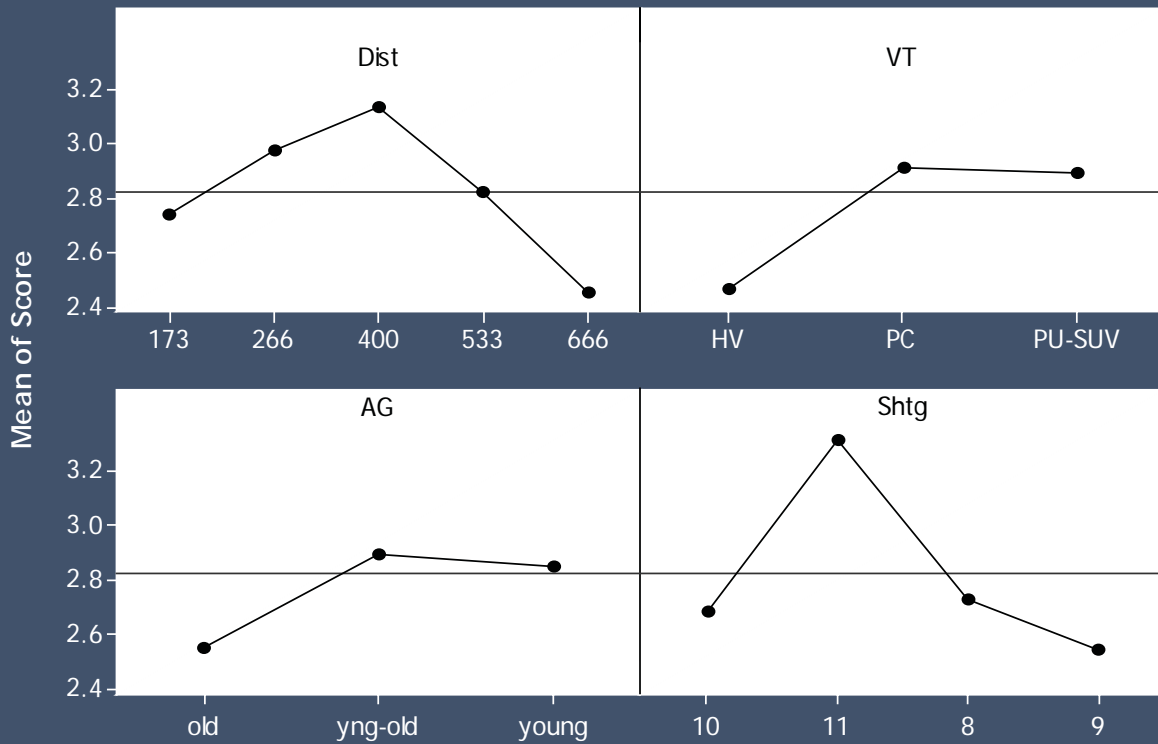


Figure 5. Main Effect Plots
(Dist=Distance, VT=Vehicle Type, AG=Age Group, Shtg=Reflective Material)



population is the concept of 'Percent Drivers Served', outlined in the final section.

Eye Tracking Experiments

In 2006, researchers of the 'Kuratorium für Verkehrsicherheit' KfV in Vienna, conducted eye-tracking experiments with different retroreflective materials. It was demonstrated that a brighter sign can be read and understood faster than a less bright sign. Brighter signs come closer to the desired 'casual glance' requirement.

The aim of this field study was to analyse several eye movement characteristics for traffic signs of 2 different performance classes (glass bead material of Class RA 2 and latest technology 'full-cube' microprismatic material Class RA 3 (A&B) have been used) with regard to their specific impact on gaze duration in real night-time driving situations. The results were based on 63 subjects and were derived from an in-vehicle observation system ("MOVE"). The dependent variables were first and last glance distances to signs as well as gaze duration at signs. Significant differences with regard to last glance distances could be proven. Eye movements deviated significantly earlier (approx. 8 meters) when looking at Class RA 3 traffic signs. Class RA 2 traffic signs were viewed significantly longer, on average about 0,3 seconds.

The researchers concluded that the Class 3 material has a positive impact on observation behaviour and thus on traffic safety itself. The information presented on brighter traffic signs was perceived faster. Hence, drivers have potentially more time to concentrate on other essential stimuli in traffic.

Percent Drivers Served

How much luminance is 'bright' enough?

What can be gained with higher brightness above 'minimum' or 'threshold' level?

Assuming that retroreflective road signs cannot provide optimum levels of luminance, what can be gained from one performance level of retroreflective material to another?

The concept of % drivers served can be used to answer these questions. The data below was presented during the ISAL 2005 conference as 'Percent Drivers Served for headlight illuminated retroreflective overhead signs'.

Introduction to "Percent Drivers Served"

The concept of "percent drivers served" is intended to provide traffic engineers, retroreflective sheeting designers and headlamp designers an approach to evaluating performance that may relate more directly to the end users. Often the present system of presenting information, such as luminance curves based on driving scenarios alone, is not easily interpreted in the context of the end user-- those who drive the roads. Based on this metric, a greater level of driving safety can be expected when using materials with a higher "percent drivers served" level.

The Concept of "Percent Drivers Served"

In the PAL 2003 paper by Johnson and Sauter, the general principles of analysis for determining the percent drivers served were described. This analysis consists of a legibility component based on the population of drivers visual acuity range, and a conspicuity component using the population of headlight luminous intensities converted to a normal distribution. Both components must be satisfied to serve the driver. Evaluations

are done using two basic vehicle types, a passenger car and a large truck. The vehicle mix is considered in the composite calculation of percent drivers served. In addition a comparison to a self illuminated sign of 80 cd/m² is made. This is designated as benchmark.

The retroreflective materials evaluated in this study are based on typical examples of materials described in EN 12899-1 and DIN 67520 and earlier in this paper.

References

Analysis of eye movement characteristics for different performance classes of retro-reflective traffic signs, Kuratorium für Verkehrsicherheit KfV, Vienna, 2006

CIE (1988). Roadsigns. CIE Publication CIE no. 74., Central Bureau of the CIE, Vienna

CIE (2000) The Conspicuity of Signs in Complex Backgrounds, CIE Publication 137-2000, Central Bureau of the CIE, Vienna

DIN 67520 : 2007-09 Retroreflecting materials for traffic safety 'Photometric minimum requirements for retroreflective materials', German Standard, German Standards Institute, Berlin

Driver Ratings of Overhead Guide Sign Legends, Study conducted for the Arizona Department of Transportation by Chalmers Engineering Services Inc. in Association with Paul J. Carlson, Ph.D., P.E., 2005

EN 12899-1 Fixed vertical road traffic signs – Fixed Signs (Nov 2007, CEN European Committee for Standardization, Brussels)

EN 12899-6 Fixed vertical road traffic signs – Visual performance of retroreflective sheeting materials (draft 2007, under preparation by CEN, European Committee for Standardization, Brussels)

General Overview on Road Safety, Lecture Notes, Dr. Rune Elvik, Institute of Transport Economics, Norway, Sept.1999.

Minimum required night-time luminance of retroreflective traffic signs. Padmos P. (2000), TNO-report TM-00-C029 TNO Human Factors

"Percent Drivers served" for headlight illuminated retroreflective overhead signs. N.L. Johnson, G. Sauter, ISAL 2005, Proceedings of the conference, Darmstadt: University of Technology, Department of Lighting Technology

Visibility Study of Traffic Signs, Comparison of acceptance of different Class 2 sheetings 'Glass bead vs. microprismatic technology' Kuratorium für Verkehrsicherheit KfV, Vienna, 2005

Figure 7

Percent Drivers Served
Motorway Overhead Sign (400 mm letter height)

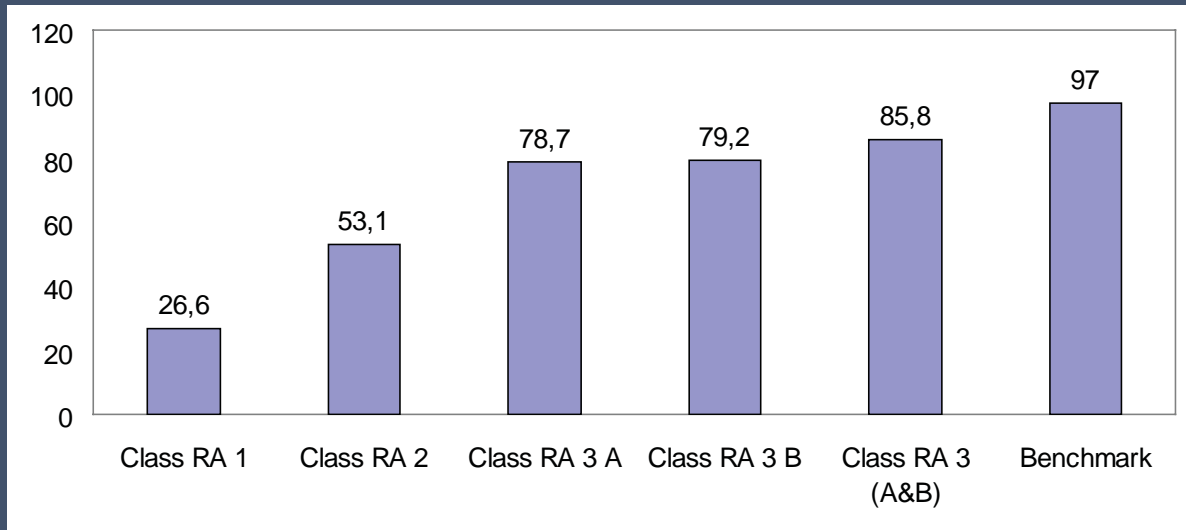


Figure 7 gives the calculated 'Percent Drivers Served' level for an overhead sign with large letters (representative of motorways). It is obvious that glass bead technology (Class RA 1 and RA 2) can only satisfy the performance expectations of a small percentage of drivers, while microprismatic materials give much better service levels, closer to the benchmark performance.

Figure 8

Percent Drivers Served
Urban Overhead Sign (200 mm letter height)

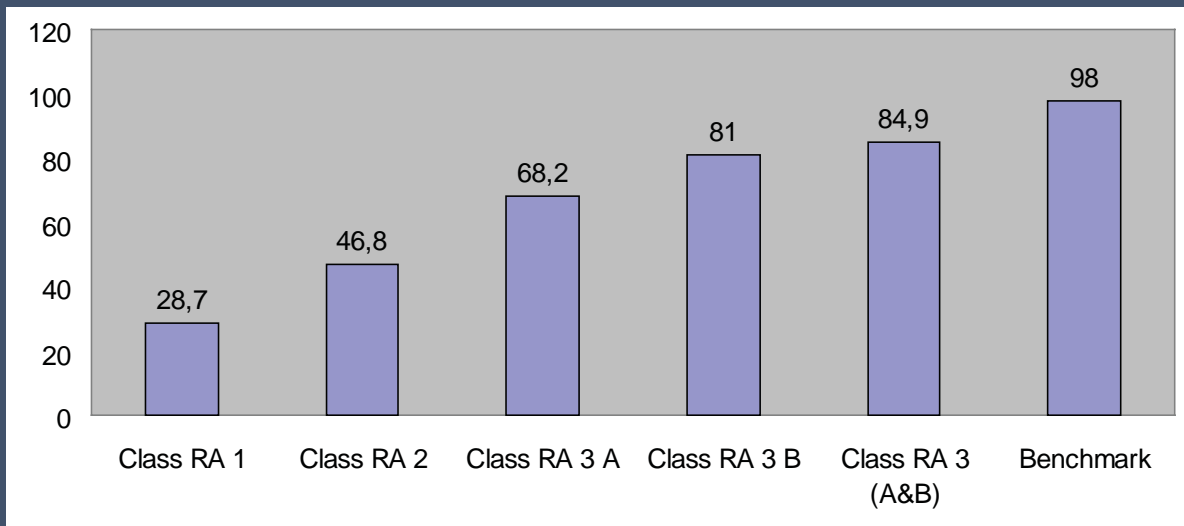


Figure 8 gives the calculated 'Percent Drivers Served' level for an overhead sign with small letters (representative for urban road signs). While the results for the urban overhead sign shows a similar trend as above, it is obvious that the first generation microprismatic material Class RA 3A is significantly less performing, since it is optimized for long distance viewing. Class RA 3B materials serve equally well the motorway and urban sign scenario. Latest technology Class RA 3 (A&B) material gives the best performance of all retroreflective materials.



Focus on the human element

The IRU Academy

Martin Marmy, Secretary General, International Road Transport Union (IRU), Switzerland

Even one accident is one too many for the road transport industry. Road safety is the highest priority, and to improve it effectively, the leading causative agents of accidents need to be identified, and initiatives developed to minimise them.

According to the European Truck Accident Causation Study (ETAC), jointly commissioned by the European Commission and the International Road Transport Union (IRU), "The main cause of 85% of all accidents is human error. However, of those 85%,

75% were caused by other road users." This study also points out that although accidents may involve commercial vehicles, they are not systematically caused by them; correlation is not synonymous with causation.

Through this study, the IRU helped to identify the leading causative agent as being human error, and through its educational arm, the IRU Academy, offers solutions intended to minimise the occurrence of human errors in the road transport

industry. Governments, however, have the responsibility of ensuring that other road users are trained on how to share the road with commercial vehicles.

Road safety regulations and ambitious targets to reduce accidents and casualties are a priority and an obligation for all actors in the industry: vehicles are designed following strict security standards, drive and rest time rules are enforced and regularly reviewed and new technologies are released in order to ensure compliance.

It follows that drivers are required to be both compliant with the safety regulations and to deliver the necessary results to ensure a competitive advantage over companies active on local and international markets. Appropriate professional training is essential to building up the necessary skills and ensuring long term success.

However, transport companies seeking effective training solutions often face a regrettable lack of standardisation and transparency in training offers at a time when training is crucial: in order to conform to the European Directive on Professional Driving EC/59/2003, member States must introduce compulsory driver training that clearly surpasses the driver's license.

The IRU Academy, as an independent entity with global reach, is uniquely positioned to drive the harmonisation of training standards, incorporate international best practices and verify compliance with regulations and international instruments. The mandatory Certificate of Professional Competence (CPC) Driver programme is one of the projects in which the IRU Academy is actively involved, helping to raise professional driving standards, making the road safer and increasing the profession's attractiveness.

The CPC Driver programme specifies a minimum amount of time spent initially on theory, testing and practical capacity building, coupled with periodic training of 35 hours every 5 years. Standardised training and testing of drivers in the road haulage and road passenger transport industry will allow for the mutual recognition of diplomas throughout the EU states.

Several countries outside Europe, such as India, China and Argentina have a strong interest in this programme and are monitoring its stringent implementation requirements through the IRU Academy.

In its mission to improve Safety and Security standards and increase the level of competence in the road transport sector, the IRU Academy offers information for both potential students and training institutes on the CPC Driver programme, and has

also recently launched three new international programmes that complete the offer of the existing and well established CPC for Manager Programme:

- The ADR programme which is aimed at transporters of Dangerous Goods
- The Tachograph programme
- Driving for Change – HIV/AIDS prevention in the road transport sector¹

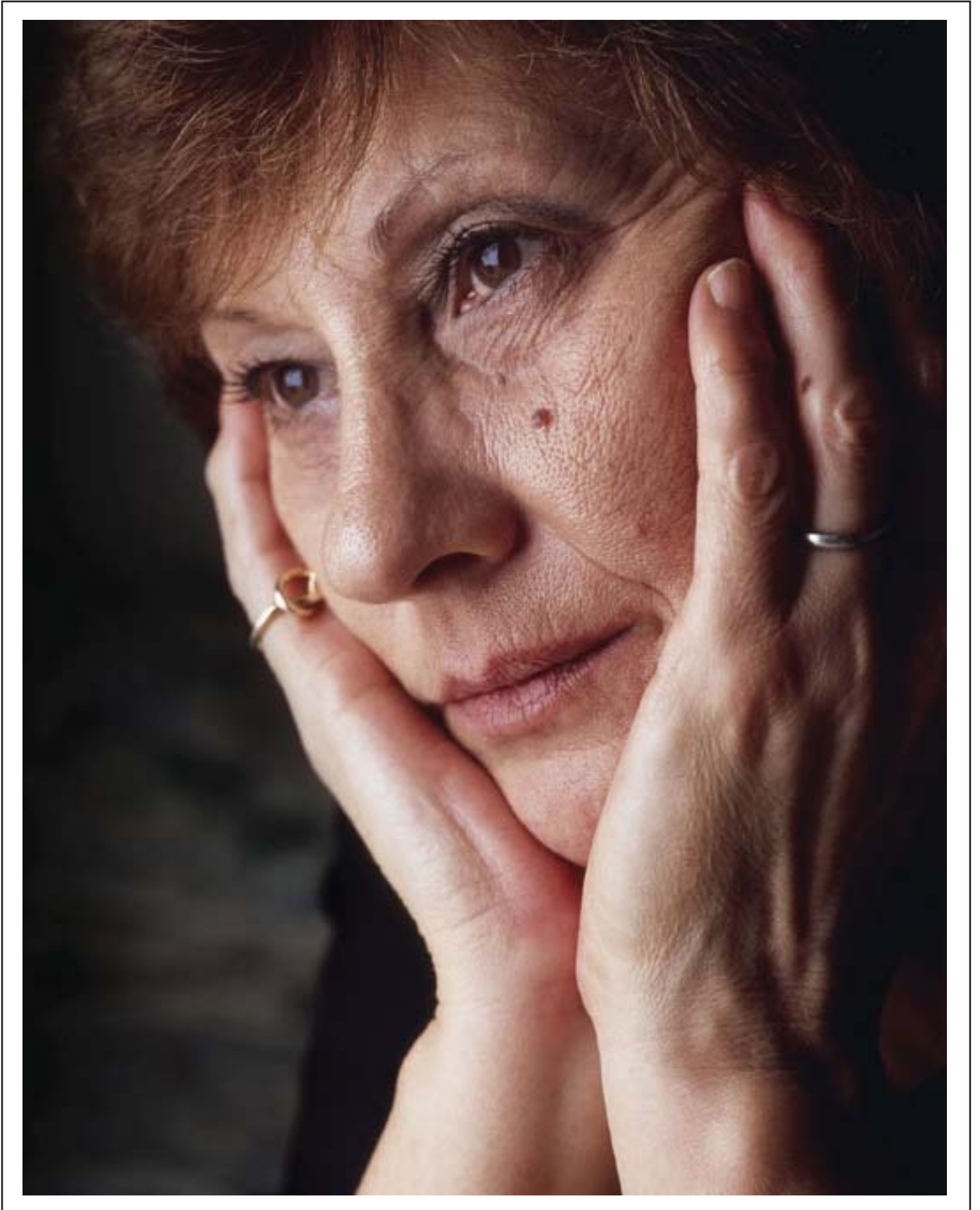
In its many initiatives, the IRU Academy can count on its advisory board, composed of high profile international organisations², such as UNECE, to provide their vision and support on the road transport sector's strategic developments, and give international recognition to IRU Academy Accredited Training Institutes (ATIs) and their graduates.

Stay safe, competitive and compliant! Check out the programmes offered by the IRU Academy at <http://www.iru.org/academy>



¹ Partnership project with the International Transport Workers Federation (ITF) and the International Labour Organisation (ILO)

² The IRU Advisory Committee is composed of representatives from the World Bank, the United Nations Economic Commission for Europe (UNECE), the International Transport Forum (ITF), the European Commission, the European Transport Workers Federation (ETF) and the European Training Foundation (ETF). The IRU Academy is also supported by the International Labour Organisation (ILO) and the European Parliament.



Road deaths and injuries shatter lives

The reason for a serious post crash response

Brigitte Chaudhry, President, European Federation of Road Traffic Victims (FEVR)

1896 was the year in which the first person in the world, Bridget Driscoll, was killed by a car. The place was London and the coroner was reported to have said that such a death should not happen again. But today's 35 million global road death toll, with untold millions injured, had begun that year, rising steadily - in Western countries at first, but with the rest of the world swiftly catching up.

It is now a well known and much publicised fact that every day a further 3,500 people are added to this huge fatality figure and it would be natural to assume that the experience of dealing with the aftermath of crashes on a daily basis would result in a first class response all round, that the sheer numbers would be considered justification for putting in place all relevant post crash procedures, to be adhered to consistently across a country or countries.

Surprisingly this did not follow, on the contrary the post crash response – investigation, legal response and care of people injured or bereaved through crashes - was for many years largely poor to non-existent, even in Europe.

As late as November 1985, the UN¹ appealed to governments to protect victims' rights, improve their position in the criminal justice system, guarantee fair compensation, and provide medical, social, psychological and juridical assistance to victims. Very few countries responded to this call, in particular in relation to road traffic victims, who continued to be ignored and left to cope in the aftermath of a crash alone and unaided.

The seriousness of the event suffered by road victims and their neglect by governments, were the reason for the rise in road victim organisations in Europe, in particular in the early nineteen nineties. Prof Marcel Haegi, the founder of FEVR, said when speaking at RoadPeace's 10th anniversary conference in London in 2002 that had governments faced up to their responsibilities, there would have been no need for victim associations. He said at the end of that speech: 'Our Federation and its national associations defend the Right to Life without compromise; we are the representatives of road traffic victims and already an unavoidable pressure group....'

Some quotes from road crash victims express the feelings and views about their experiences after a bereavement or injury:

"With a fatal road crash, the sudden loss of life, often in extremely violent circumstances, is far harder to cope with, a difficulty compounded by the way society dismisses it.every government minister's vow to prevent another tragedy on the rail network or in the air reminds the families of road victims just how 'insignificant' their loss is...The institutions that should act in victims' interests also fail them. Police investigations are often indifferent and court sanctions usually paltry. The driver responsible for the death of our daughter was fined £250 – a common penalty for drivers who kill, and she was free to drive away from court..." R.B, father, UK

"Sussanna was studying Spanish philology at the University of Gerona. She was killed as a passenger - a drunken driver caused the crash and another speeding driver ran into the back of the car. Four years after her premature death we are still waiting for the trial. We – her father mother and sister are still fighting for justice, as Sussanna was denied the right to live." Family C, Spain

"I was hit head on, while cycling, by a driver on the wrong side while using a hand-held phone. I was thrown into the windscreen, over the roof, and onto the road. The driver abandoned the scene on foot, without calling the emergency services...As I pursued compensation for a double broken jaw, broken cheek bone, loss of salary and pain, I discovered that due to lack of any action by the police, the driver's insurance



company decided to defend against my claim and even issued a summons for damage to her car. They dropped their case and paid in full on discovering that she had withheld crucial evidence, but the process of obtaining compensation took nearly three years of misery..."A P, injured road victim, UK

"Angelique died in a crash on a rural road in Luxemburg – the driver, a 21-year old woman, was on the wrong side of the road and our daughter could not avoid the collision, which was so terrible that of her Golf only the left side remained...We appealed against the first judgment and the Court of Appeal increased the driving ban from 3 to 5 years, and doubled the fine to 3,750 Euros. For us her parents, her brother and fiancée, it is a terrible trauma." I&M B, parents, Luxembourg

"Livia was killed by a driver, who mounted the pavement on her side, travelled along it for 39.5 metres, without braking, before hitting Livia and dragging her to her death...The driver was fined. The trauma of betrayal continues to live alongside the trauma of loss..."G G-A, mother, UK

A pioneering study by FEVR into the 'Impact of road death and injury'² revealed enormous human suffering, aggravated by the way people's tragedies were treated. Up to 3 years after bereavement, 64% suffered depression and 37% suicidal feelings, which hardly decreased later, 91% declared they could not enjoy life as before, and between 70 – 97% that justice was not done in their case.

Dr. Noreen Tehrani, a chartered psychologist, confirmed through studies that there was a link between the way a death or injury were investigated and treated and the occurrence of post traumatic stress symptoms³. Her studies also showed an impact on people's values, beliefs and assumptions about the world, which she calls 'sanctuary trauma'. She is continuing to explore the magnitude of psychosocial distress and types of post crash responses which could facilitate or hinder recovery.

A photographic project about crashes and survivors, by Paul Wenham-Clarke⁴, is a visual testimony of the impact of bereavement or injury through a road crash.

The Day of Remembrance for Road Traffic Victims on the 3rd Sunday of November, installed and observed by road victim organisations from 1993 and now adopted by the UN as World Day of Remembrance, offers a wonderful opportunity for taking the post crash issues into account: to remember the people killed, acknowledge the pain of the bereaved and injured, recognize the work of emergency personnel, and commit to actions aimed at prevention and improvements in the post crash areas.

Past and present events and actions will be included on a dedicated World Day website - www.worlddayofremembrance.org - to which notices of actions and contributions are invited.



Photos for this article are copyright of Paul Wenham Clarke and were provided by the author

¹ UN resolution 40/34

² FEVR – Impact of road death and injury – Proposals for improvement, 1997

³ Noreen Tehrani – After the Knock on the door, 2003

⁴ www.whenlivescollide.co.uk

STRATEGIC PARTNERS

STRATEGIC PARTNERS

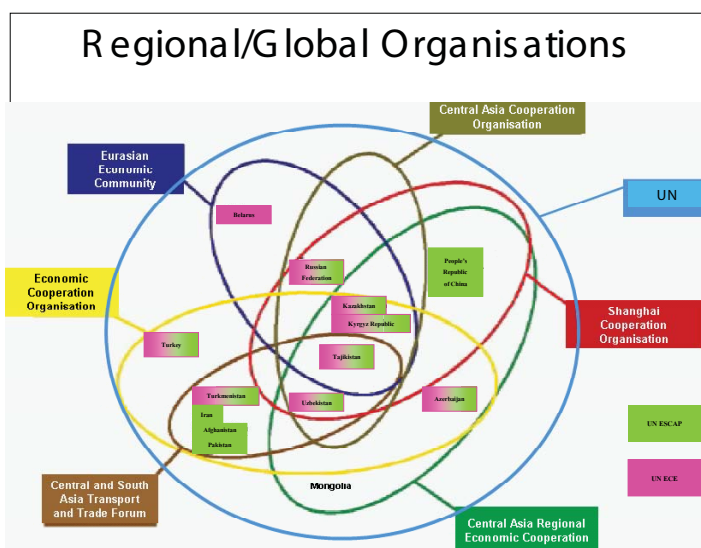
Strategic partnership to improve road traffic safety worldwide - mission possible?

Virginia Tanase, UNECE Transport Division

When I was asked to write on this subject, I first went to the dictionary and I found two definitions for “strategy” which fully correspond to the context. The first is “the science and art of conducting a military campaign by the combination and employment of means on a broad scale for gaining advantage in war”, and the second is “skill in management”.

The current situation in road safety can easily be qualified as a war, but who is conducting the campaign and how can the best skill in management be ensured? Which are the means that could be combined and employed so as to help us gain advantage? This short paper is not intended to give answers to these questions but invites reflection thereon.

Some years ago, Asian Development Bank launched a simpler form of the slide below; it shows the multitude of transport-related initiatives in Central Asia and the neighboring countries. Unfortunately, the situation is not much different in the more specific area of road traffic safety, irrespective of the geographical location.



There is laudable individual work, collective efforts and results in many parts of the globe. The most efficient way, however, to solve the road safety crisis would be to pool all the resources existing at national, sub-regional, regional and global levels, for long term and with tireless commitment, to the benefit of life and welfare.

This Transport Review is, in a way, an attempt to identify the resource providers, the holders of means that could help in

gaining advantage in the road safety war.

Some of the best known international players that could form strategic partnerships to improve road traffic safety worldwide have contributed to this Review. They are representing both public and private sector, both national and international entities, but they all have a common denominator: willingness to improve road safety!

To our knowledge, this Review is the first paper in which the WHO, UNRSC, European Commission, FIA Foundation, IRF, IRU, FEVR, IRTE, Chairpersons of UNECE Working Parties, ITF, GRSP, and national representatives from all over the globe meet and have an identical, constructive and positive approach with regard to the same subject! Moreover, from all their texts one can feel the contributions have been made with pleasure.

Transport and communications is the largest and fastest-growing sector of ADB’s operations. Its share of total lending rose from 16% in the 1970s to 20% in the 1990s and to 33% for 2000-2005. To date, ADB transport sector has allotted most of its funds for public sector projects on roads and highways (76%); transport lending in the private sector also focused on roads and highway projects, with funding at 44% of the total. ADB was among the pioneers promoting road safety measures; more recently, its “Road Safety Audit for Road Projects – An Operational Toolkit” (2003) assisted road authorities by providing general advice and a source of reference on the road safety audits (RSAs), and a tool kit of information and checklists to facilitate the application of RSAs on all ADB road and highway projects. ADB’s “Road Safety Guidelines” (2003) cover 14 individual sectors affecting road safety and are a source of reference and guidance to the region’s senior decision makers with responsibility for road safety. This example could very well be replicated on other continents.

The World Bank’s Global Road Safety Facility was launched in November 2005 and it commenced formal operations in April 2006. The Facility is a direct response to the global call for action by the United Nations General Assembly Resolutions 58/289 and 60/5 (Improving global road safety) and World Health Assembly Resolution 57.10 (Road safety and health), to address the silent epidemic on the world’s roads.

The mission of the Global Road Safety Facility is to generate increased funding and technical assistance for global, regional and country level activities designed to accelerate and scale-up the efforts of low and middle-income countries to build their scientific, technological and managerial capacities to prepare and implement cost-effective road safety programs. The goals to be achieved are to:

1. Strengthen global, regional and country capacity to support sustainable reductions in road deaths and injuries in low and middle-income countries
2. Catalyze increased road safety investment in low and middle-income countries
3. Accelerate safety knowledge transfer to low and middle-income countries
4. Promote innovative infrastructure solutions to improve the safety of mixed traffic, mixed speed road environments in low and middle-income countries.

The United Nations regional commissions were bound to be partners since our creation. More recently, in early 1997, the Executive Committee on Economic and Social Affairs (ECESA), of which the regional commissions are members, was created to sharpen the contribution that each unit makes to the overall objectives of the United Nations Organization by reducing duplication of effort and facilitating greater complementarity

and coherence. Within ECESA the heads of United Nations entities consult with one another on work programmes as well as other substantive and administrative matters of collective concern, to identify and exploit ways of pooling resources and services so as to maximize programme impact and minimize administrative costs and more generally to facilitate joint strategic planning and decision-making.

There are ongoing efforts but there is room for much more: sharing and giving feedback can be reality, not wishful thinking; building on each other's results can be the rule and not the exception; partnership can be a practice and not a theory. Would this be a time of strategic partnerships within a Global Platform for Road Safety where road safety would be approached coherently and consistently at global level by participants who are equal, motivated and proud of their mission? Would this provide the leadership in conducting the "military campaign" and the "skill in management"? It is up to us, all road traffic safety stakeholders, to answer these questions.



United Nations Road Safety Collaboration

Etienne Krug, Director of the Department of Injuries and Violence Prevention, World Health Organization (WHO)

Background

In April 2004, the World Health Organization (WHO) and the World Bank launched the *World report on road traffic injury prevention* at the occasion of World Health Day. The report - compiled with support from many agencies and hundreds of experts from all over the world - provided a review of the global situation and presented a set of recommendations for action.

In the following days, the UN General Assembly adopted resolution A/RES58/289 *Improving global road safety* which endorsed the recommendations of the report and invited WHO, working in close cooperation with the UN Regional Commissions, to act as the coordinator of road safety across the UN system.

The World Health Assembly accepted this invitation in May 2004, through its resolution WHA57.10 *Road safety and health*. As a result, the UN Road Safety Collaboration (UNRSC) was created as a means to operationalize this mandate.

The UNRSC is an informal network of more than 40 partners including UN agencies, government ministries of health and transport, nongovernmental organizations, private companies and foundations. The Collaboration is a partnership whose members are committed to international road safety efforts. The Collaboration's goals are to facilitate international cooperation and to strengthen global and regional coordination in order to support countries' road safety policies and programmes. The UNRSC's members meet twice a year to share information and develop and discuss implementation of its projects which so far have focused mainly on advocacy, policy, and the dissemination of knowledge.

Advocacy

Early on, the members of the UNRSC identified the lack of awareness about the magnitude of the impact of road traffic crashes and the potential for prevention as an important area to address to stimulate additional responses. The UNRSC and its members supported the development of many advocacy events which have involved nearly every country of the world. Many happened at local or national level. The two major global events were the First UN Global Road Safety Week and the World Day of Remembrance for Road Traffic Victims.

The April 2007 First UN Global Road Safety Week was celebrated with the theme "young road users". A key event that week was the first ever World Youth Assembly for Road Safety held on 23-24 April 2007 in Geneva. Jointly organized by WHO and the UN Economic Commission for Europe (UNECE), the Assembly served as the meeting place for nearly 400 young people from 100 countries who shared experiences and identified ways to strengthen their road safety efforts. They adopted the Youth Declaration for Road Safety which since has served as a basis for many follow up activities by young people around the world. Hundreds of other initiatives also took place. Examples include: the European Commission's first European Road Safety Day; the launch of the National Five-year Strategy to Reduce Road Traffic Injuries in Belize; the launches of Collaboration best practice manuals in China and Ghana; a media campaign in Colombia; hosting of a seminar on road safety and first aid in Turkmenistan; and hosting of the Rally for Safer Roads by the Make

Roads Safe campaign in the United Kingdom. Many of these initiatives resulted in additional commitment and action that can still be noticed today. A Second UN Global Road Safety Week will likely be planned for 2010.

Another key series of opportunities for advocacy is the annual World Day of Remembrance for Road Traffic Victims. This Day of Remembrance was initiated in 1993 by RoadPeace (UK). Since then it has been observed worldwide by many groups and in October 2005, the UN General Assembly endorsed it as a global day to be observed the third Sunday in November each year. The UNRSC promotes the Day as an opportunity to draw attention to those directly affected by crashes, their call for support and the need for additional road traffic injury prevention efforts in general.

Policy development

Another area that the Collaboration's members identified as important was the lack of global policy documents to stimulate additional international efforts and investment. Under the leadership of the Sultanate of Oman and with a growing support of other member states, two additional UN General Assembly resolutions (in 2005 A/RES/60/5 and in 2008 A/RES/62/244) have

been adopted since the one in 2004. The resolutions were developed in response to the reports by the UN Secretary-Generals, Mr Kofi Annan and Mr Ban Ki-moon, to the UN General Assembly which the UNRSC helped prepare. The recent Resolutions encouraged Member States to establish a lead agency on road safety; develop a national action plan to reduce road traffic injuries; adhere to the 1949 Convention on Road Traffic and the 1968 Convention on Road Traffic and Convention on Road Signs and Signals; participate in projects such as the *Global status report on road safety* facilitated by WHO and the road safety target setting project coordinated by the UN Regional Commissions; and observe the third Sunday in November every year as the World Day of Remembrance for Road Traffic Victims. The latter resolution also welcomed the offer by the Government of the Russian Federation to host the first ever Ministerial Conference on Road Safety in 2009. This upcoming event can represent a new milestone in intensifying road safety efforts and the UNRSC has initiated discussions to support the preparations.

Another area that is gradually emerging is that of fleet safety. While some private companies have a longstanding experience in improving the safety of their



vehicle fleets, many other private companies, governmental or intergovernmental agencies have still to start addressing this area despite the fact that large proportions of road traffic crashes involve vehicles used for professional purposes. Several members of the UNRSC have started addressing this area. Guiding principles are under development.

Dissemination of knowledge

A third key area that the UNRSC identified as important is the need to share experiences at international level. Many countries have developed a strong road safety experience in the past decades. It is important to learn lessons from this experience and share them widely. Several of the members of the Collaboration have contributed to documenting and sharing this best practice with others. Under the leadership of the Global Road Safety Partnership, the FIA Foundation for the Automobile and Society, the World Bank and WHO a series of road safety good practice manuals has been released. So far documents on *Helmets*, on *Drinking and driving* and on *Speed management* have been produced. Other manuals on seat-belts and child restraints and data collection are under development. Efforts are being made to make the documents as accessible as possible by making them available on various websites (<http://www.who.int/roadsafety/publications/en/>), translating them in several languages and holding workshops and training programmes on their use.

Conclusion

Since its inception the Collaboration has evolved into an open forum for facilitating international cooperation and strengthening global and regional coordination. It does not have the power of a member state based organization which - such as WP1 or other similar organizations - can adopt binding

instruments which are key to furthering road safety. However, it does have the strength of providing an open, global and multi sectoral partnership whose members can - based on their motivation, individual strengths and resources - relatively quickly produce useful material, events and momentum to catalyze and guide action. Such efforts are vital in terms of lending support to countries to develop their road safety policies and programmes. This is especially of value to low and middle income countries, where the rise in road traffic deaths and injuries is generating motivation to act, but where capacities to address these issues remain insufficient. The other main strength of the Collaboration is to provide a platform for discussion and coordination of international efforts in which all parts of society, member states, UN agencies, but also victim associations or private sector have a say. The success of the First Global UN Road Safety Week or the series of best practice manuals would not have been achieved without this platform. The private sector has started organizing itself to create a larger group of companies that will have representation in the UNRSC. It is possible that in the coming years, other parts of society - such as nongovernmental organizations - adopt similar approaches.

On the UNRSC's agenda for the upcoming years is to continue supporting international road safety advocacy and policy efforts while at the same time identifying ways to increase its support to national road safety efforts in low and middle income countries. This will involve a strong focus on capacity building, including through the support to the implementation of best practice manuals. Milestones for the coming years include the development of additional best practice manuals and further developing their implementation, a second UN road safety week, and support to the upcoming Ministerial Conference on Road Safety.



United Nations Road Safety Collaboration

Key Partners

UN organizations or specialized agencies

Coordinators:

- WHO

United Nations Regional Commissions

- UNECA
- UNECE
- UNECLAC
- UNESCAP
- UNESCWA

Other agencies

- European Commission - Directorate-General for Energy and Transport
- International Organization for Standardization
- Joint Transport Research Centre of the OECD and the International Transport Forum
- UNDP
- UN Habitat
- UNHCR
- UNICEF
- World Bank
- World Food Programme

Governments

- Chile Ministry of Transport
- Netherlands Ministry of Transport
- Oman Ministry of Foreign Affairs
- Swedish Agency for International Development Agency
- Swedish Road Administration
- Transport Canada
- United Kingdom Department for Transport
- United States Department of Transport - National Highway Traffic Safety Administration
- United States Department of Health and Human Services
- CDC
- Viet Nam Department of Transportation

Foundations/centres

- Asia Injury Prevention Foundation
- Australian Road Research Board
- FIA Foundation
- International Road Federation
- Transport Research Laboratory
- Transportation Research and Injury Prevention Programme
- UMTRI

NGOs

- Association for Safe International Road Travel
- Bone and Joint Decade
- European Federation of Road Traffic Victims
- Federation of European Motorcyclists' Associations
- Federation of European Pedestrians Associations
- Fleet Forum
- Global Road Safety Partnership
- Global Road Safety Steering Committee
- Handicap International
- Institute of Road Traffic Education
- International Federation of Red Cross and Red Crescent Societies
- International Road Transport Union (IRU)
- Laser Europe
- PRI
- RoadPeace
- Road Traffic Injuries Research Network
- Roadsafe
- Rotary International
- World Road Association (PIARC)

Private sector

- European Automobile Manufacturers Association (ACEA)
- Global Road Safety Initiative (GRSI)
- Groupe Michelin
- International Organization of Motor Vehicle Manufacturers
- Johnson & Johnson Fleet Safety
- Scania



SÉCURITÉ ROUTIÈRE
TOUS RESPONSABLES



JOURNÉE EUROPÉENNE DE LA SÉCURITÉ ROUTIÈRE

Paris, le 13 octobre 2008



Case study on road safety: lessons from the EU

Isabelle Kardacz, Head of Unit, Road Safety, DG TREN, European Commission

In 2007, some 43,000 persons died on EU roads. This is unacceptable!

Road safety is a subject close to millions of European citizens. Think of the pain and suffering for all these lives lost, think of those who survive, but remain crippled or paralysed for life; think of the economic loss for our societies.

Road safety is also a matter for the European Union and its Member States' policy, a challenging and endless fight. The European Commission has set up a collective target for 2010, which is, reducing by 50% the number of fatalities since 2001. This is a political and global commitment, and each country should put road safety very high on its political agenda. Some countries have made substantial progress, others have not. More effort is necessary to improve the situation.

What are the main characteristics of road safety and of a road safety policy?

Road un-safety is a major problem for society, not just a component of the transport system. Its damages are devastating,

from the human and economic points of view: some 2% of European Union's Gross Domestic Product.

Road safety is a shared responsibility. This means that all categories of stakeholders, and of course all road users themselves, have a special duty. This is true for the European Union as well, because it can provide added value in many respects. This is also true for the private sector, even when their activity has no direct link with road transport. In a nutshell, governments, local authorities, private users, road hauliers, the automotive industry, etc. must co-operate.

All stakeholders, and in particular the public authorities, must implement an integrated approach since road safety lies on three pillars: the vehicle, the infrastructure, and (last but not least), users' behaviour.

The policy of the European Union combines several instruments: financial support to projects; research and studies; legislation (only when necessary); there are also new instruments: road accident data and information (the European Road Safety

Observatory)); collecting and publishing best practices; and the Road Safety Charter.

Overview of the European action

As for vehicles, the automotive industry has achieved considerable progress in terms of safety over a few years. Cars, trucks and coaches are safer and safer. Europe has played its role, either by stimulating public demand for safer vehicles (a safety rating system called EURO-NCAP) or through a coherent set of mandatory technical requirements. Let me give some recent examples: conspicuity of new trucks with retro-reflecting strips; blind spot mirrors for all trucks; fitment of seat belts in new coaches; and in a few years, fitment of all new vehicles with electronic stability control devices.

As for infrastructure, the Commission has proposed a coherent and comprehensive system for impact assessment, audits and inspections so that all European roads may become safer and safer. The European Legislator (i.e. the European Parliament and the Council together) have recently reached an agreement on this new legislation. This is the first time that the safety of road infrastructure has been addressed globally at European level.

Improving the behaviour of road users is the area with the highest potential for saving lives, with almost immediate results. It should be emphasised that speeding, drink driving and the non-wearing of seat belts are involved in three fatalities out of four.

Many initiatives can be taken to improve the behaviour of users. Indeed, the most efficient action in the short term is a combination of campaigns, enforcement and stricter rules.

Campaigns can take several forms. The European Commission has given financial support to some major pan-European campaigns, such as the so called “Euro-BOB” campaign which has been successfully implemented in almost twenty countries. The principle is simple: at a party, the one who drives is the one who does not drink. Let me mention also the campaigns for children, implemented by the Red Cross. The European Commission has given financial support to a research project (“CAST”) which will soon deliver a handbook covering the preparation, the implementation and the evaluation of road safety campaigns.

Enforcement is a top priority, in particular in bad-performing countries. It must also be equally applied to all offenders, whatever their origin – even out of their country of residence. This is why the Commission has just submitted a proposal for the so-called “cross border enforcement”.

The European Union has legislated on a single European driving licence. One of the recent modifications, through a Directive in 2006, provides for progressive access to the bigger motorcycles, and for a driving licence for moped drivers – as of January 2013. On the same subject, professional drivers are now subject to an initial qualification and regular training.

Further initiatives are to come in the field of behaviour. Let me mention the very important research project (“DRUID”) which will give a robust scientific background on impairment due to alcohol, legal and illegal drugs and their combinations.

The European Road Safety Observatory is basically a public web site managed by the Commission. Its aim is to gather, analyse and publish scientific information on the subject. It includes an impressive series of data and statistic, as well as several manuals

and best practice guidelines. This should be a valuable support for governments and other stakeholders.

Another European initiative, and probably the most original one, is the European Road Safety Charter. It has been launched more than four years ago and it has so far attracted more than one thousand commitments. Some are modest, some are huge, but each of them is proportionate to the capacity of the signatory to do something concrete and realistic – beyond its duty. Every year, the European Commission organises an award ceremony for the signatories which have made the best commitments during the year.

The Commission also organises major events, such as the European road safety days. The first one took place on 27th April 2007 with a focus on young drivers – simultaneously with the world week for road safety, and with the same focus. One of its results was the setting up of a Road Safety Youth Forum, which met for the first time on 10th July 2008 in Brussels; there were two delegates from Youth associations in each Country. The second European road safety day (with a central event in Paris, 13th October 2008) focussed on road safety in cities.

Concluding remarks - about the near future

The European Union has made significant progress, although insufficient – and, unfortunately, not in all countries. Again, road safety is an all-instants fight. The action will still go on, as long as people are dying on roads, because even one fatality is one too many. We all must continue fighting to improve the situation, the Commission and the Member States in full co-operation. It is also the duty of national Parliaments to accelerate the momentum in countries where the situation is not satisfactory.

To this end, the European Commission intends to propose next year a new European road safety action programme for the period 2011-2020. In order to stimulate ideas and action, public discussion at all possible levels will be encouraged.





Road safety in OECD/ITF countries

The benefits of a safe system approach and the role of the international cooperation

Jack Short, Secretary General of the International Transport Forum (ITF) and Director of the Joint Transport Research Centre

1. INTRODUCTION TO THE ITF AND JTRC

The International Transport Forum (ITF) was created in 2007, by transforming the former European Conference of Ministers of Transport (ECMT) into a more global body with a broader mandate. All OECD Member countries and previous ECMT countries re members of the Forum. The Forum is a global platform and meeting place at the highest level for transport, logistics and mobility and aims to foster a deeper understanding of the essential role played by transport in the economy and society. The highlight of the International Transport Forum's activities is its annual Ministerial meeting in Leipzig, held in the last week of May.

The Joint Transport Research Centre of the OECD and the International Transport Forum brings together researchers

from transport Ministries and Transport Research Agencies in 51 countries to undertake joint work on transport policy and economics.

2. ROAD SAFETY ACTIVITIES IN THE INTERNATIONAL TRANSPORT FORUM

ECMT reports and resolutions

Road safety was always one of the pillars of the ECMT Programme of Work and continues to be central to the work of the International Transport Forum and Joint Transport research Centre. The ECMT -- supported by its Road Safety Group -- published numerous reports on road safety and produced many important policy resolutions and recommendations (see table 1). These recommendations have tended to be ahead of their time. For example, the ECMT was the first organisation to

Table 1 – Selected ECMT resolutions and recommendations

1978	<i>Resolution No. 37 on driver training</i>
1978	<i>Resolution No. 38 concerning seat belts</i>
1979	<i>Resolution No. 39 on the road safety of children and young people</i>
1979	<i>Resolution No. 40 on measures required for the improvement of road traffic at night</i>
1983	<i>Resolution No. 45 on measures to improve emergency assistance in road traffic</i>
1985	<i>Resolution No. 46 on measures to reduce the accident risk of young drivers</i>
1986	<i>Resolution No. 48 on ways of influencing human behaviour with a view to improving road safety</i>
1987	<i>Resolution No. 50 on road safety of children</i>
1988	<i>Resolution No. 54 concerning the fitting and wearing of seat belts on the rear seats of cars and safer transport of children and adults</i>
1989	<i>Resolution No. 56 on advertising that conflicts with road safety aims</i>
1989	<i>Resolution No. 91/3 on the improvement of road safety for the elderly</i>
1992	<i>Resolution No. 92/3 on decentralised road safety policies</i>
1993	<i>Resolution No. 93/4 on lorries and road traffic safety</i>
1993	<i>Resolution No. 93/5 on drink as a factor in road accidents</i>
1994	<i>Resolution No. 94/1 on driving in weather conditions of poor visibility</i>
1996	<i>Recommendations/Conclusions on speed moderation</i>
1997	<i>Resolution No. 97/5 on cyclists</i>
1998	<i>Recommendation on vulnerable road users: pedestrians</i>
1999	<i>Resolution No. 99/5 on vulnerable users: moped riders and motorcyclists</i>
1999	<i>Resolution No. 99/4 on communication in road safety</i>
2002	<i>Recommendations Road Transport safety on Rural Roads in Europe</i>
2002	<i>Past, present and future road safety work in ECMT</i>
2006	<i>Reaching the targets of reducing road fatalities by 50% by 2012</i>

officially recommend in the early 1970s the use of seat belts or blood alcohol limits. These resolutions have helped many countries to move forward and implement appropriate safety measures. They have also been used over the years as a major input by international regulatory bodies involved in road safety such as Working Party 1 of the UN ECE. A feature of the close co-operation with WP 1 was the complementary roles of the two bodies, with ECMT setting the policy direction through the resolutions and UNECE providing the specific regulatory texts.

For many years ECMT produced substantive and specific reports on particular topics in road safety. Following a review in 2001 of the activities carried out with the aid of Professor Karl Rumar (ECMT, 2006), a broader approach to road safety was initiated. This approach involved taking a more holistic view of the road safety challenge and was reflected in agreed recommendations and resolutions adopted by Ministers in 2006. This new view encompasses the previous, measure based approach, but also insisted on a strongly supportive political framework and more structured policy and institutional responses. This broader approach is being gradually adopted and is now widely seen as an essential precondition to reducing crashes on roads.

ECMT target

In 2002, Transport Ministers agreed on a target to reduce by 50% the number of road fatalities by 2012. In many ECMT countries this target setting has been an impetus to introduce challenging road safety policies and to adopt at national level similar ambitious targets. When setting this target, it was understood that only a few countries would be able to meet it (see table 2). Nevertheless, it helped many countries to raise road safety on their political agenda. In addition, in order to help each Member State to define and implement its own road map towards meeting that target, the ECMT drew up an extensive framework of 17 elements that provides a broad outline of how successful road safety work should be managed.

Peer reviews

At the request of the Ministry of Transport of Lithuania and later Russia, the ECMT in partnership with the World Health Organisation and the World Bank, undertook peer reviews of road safety performance in these two countries. The purpose of these reviews was to provide an overall description and assessment of the country's work to improve road safety and to suggest, on the basis of international evidence and experience, steps which might be taken to secure long-lasting, cost-effective and publicly acceptable improvements in road safety. The results of these reviews were very well received and contributed to the development of new safety strategies in these countries.

Research work on road safety

The transformation of the ECMT into the International Transport Forum was accompanied by important structural review of the Organisation. Most working groups, including the ECMT Road Safety Group, were abolished. However, road safety is still a very important element of the Forum. In particular, road safety is one of the 5 main strategic themes of the Programme of Work of the Joint Transport Research Centre of the OECD and the International Transport Forum. By promoting best practices and leading research work, the JTRC has an important role to provide member governments with tools to implement effective road safety policies. Recent research work of the Centre has focused on the following topics:

- Towards Zero: Ambitious road safety targets and the safe system approach
- Speed management
- Young Drivers : The Road to Safety
- Motorcycling safety

Topics currently under review are:

- Drugs in traffic
- Safety of heavy vehicles, in the context demands for higher productivity and regulatory improvements
- Pedestrian safety, in the context of urban space and health.

The recommendations from JTRC reports have always been highly regarded and considered as a main reference in many countries. They have been the basis of policy decisions including ECMT resolutions.

International Traffic Safety Data and Analysis Group (IRTAD)

The JTRC supports the International Traffic Safety Data and Analysis Group (IRTAD). Without reliable data, it is difficult to elaborate an effective road safety policy. Comprehensive data collection and analysis are essential for designing effective safety strategies, for setting achievable targets, for developing and determining intervention priorities and for monitoring programme effectiveness.

The IRTAD Group has become the permanent focal point of the Forum dealing with road safety issues. It is a network of road safety experts and statisticians from 30 countries representing national governments, research organisations, industry, NGOs, international organisations. The IRTAD Group is a platform of exchange on road safety policies. The IRTAD group also manages the IRTAD database the database which includes more than 500 data items, aggregated by country and year, and shows up-to-date accident and relevant exposure data, including:

- Injury accidents classified by road network
- Road deaths by road usage and age, by gender and age or by road network
- Car fatalities by driver/passengers and by age
- Hospitalized road users by road usage, age bands or road network
- Accident involvement by road user type (e.g. HGVs, LGVs) and associated victim data
- Risk indicators: fatalities, hospitalized or injury accidents related to population or kilometrage figures
- Monthly accident data
- Population figures by age bands
- Vehicle population by vehicle types
- Network length classified by road network
- Kilometrage classified by road network or vehicles
- Passenger kilometrage by transport mode
- Seat belt wearing rates of car drivers by road network

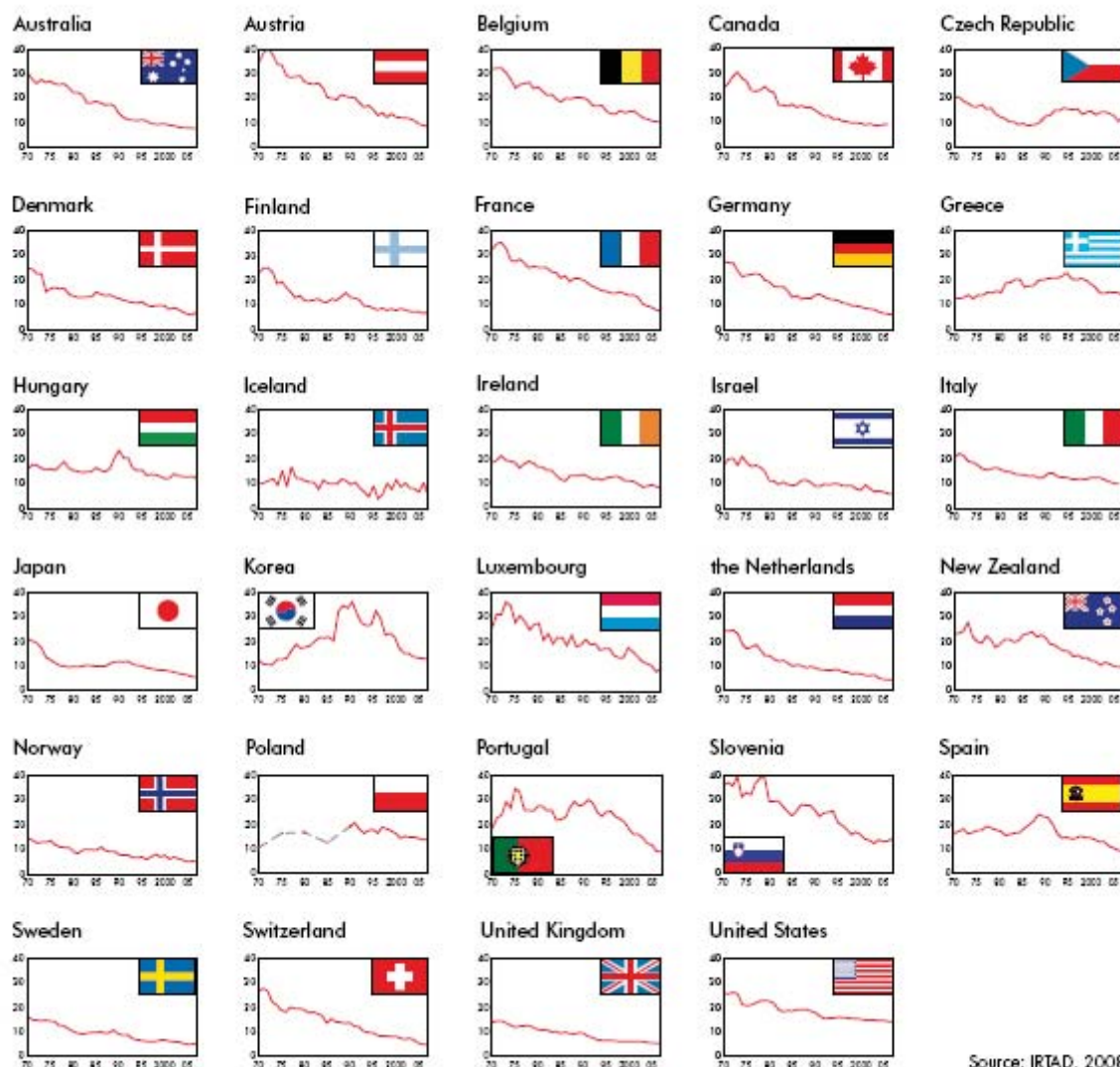
The IRTAD Group is open to all countries. In September 2008, the JTRC and the World Bank Global Road Safety Facility signed a Memorandum of Understanding to formalise co-operation regarding IRTAD with the view to develop in low and middle income countries appropriate data collection and analysis on traffic and road accidents by building on the experience and best practices of ITF Member countries. Through this co-operation, it is expected that more countries from all regions of the world

Table 2. Progress amongst ECMT member countries in achieving the ECMT target of 50% reduction in fatalities 2000-2012¹

Country	Fatalities in 2000	Fatalities in 2006	Average of the annual variation in fatalities since 2000	Average annual reduction from 2006 onwards required to reach the -50% targets in 2012
Luxemburg	76	36	-11.7%	Target reached
Portugal	1 860	969	-10.3%	-0.7%
France	8079	4 709	-8.6%	-2.5%
Denmark	498	306	-7.8%	-3.4%
Switzerland	592	370	-7.5%	-3.7%
Netherlands	1 082	730	-6.3%	-4.9%
Germany	7 503	5 091	-6.3%	-5.0%
Latvia	588	407	-5.9%	-5.3%
Norway	341	242	-5.6%	-5.7%
Spain	5 776	4 104	-5.5%	-5.7%
Czech Republic	1 486	1 063	-5.4%	-5.8%
Belgium	1 470	1 069	-5.2%	-6.1%
Austria	976	730	-4.7%	-6.5%
Sweden	591	445	-4.6%	-6.6%
Greece	2037	1 657	-3.4%	-7.8%
Poland	6 294	5 243	-3.0%	-8.2%
Slovenia	313	263	-2.9%	-8.3%
Finland	396	336	-2.7%	-8.4%
Italy	6 649	5 669	-2.6%	-8.5%
Serbia & Montenegro	1 048	900	-2.5%	-8.6%
FYR Macedonia	162	140	-2.4%	-8.7%
Ireland	415	368	-2.0%	-9.1%
Bosnia	302	270	-1.8%	-9.2%
United Kingdom	3 580	3 298	-1.4%	-9.7%
Croatia	655	614	-1.1%	-9.9%
Moldova	406	382	-1.0%	-10.0%
Slovak Republic	628	608	-0.5%	-10.4%
Estonia	204	201	-0.2%	-10.7%
Albania	280	277	-0.2%	-10.8%
Romania	2 499	2478	-0.1%	-10.8%
Bulgaria	1 012	1043	0.5%	-11.4%
Hungary	1 200	1303	1.4%	-12.1%
Russia	29 594	32724	1.7%	-12.4%
			2.8%	
Ukraine	5 984 (in 2001)	6 867 (in 2005)	(between 2001 and 2006)	
Lithuania	641	759	2.9%	-13.4%
Georgia	500	581 in 2005	3.0%	-11.3% from 2005
Azerbaijan	596	1027	9.5%	-18.6%
Liechtenstein	3	2 in 2005	Figures too small for analysis	
Malta	15	11		
Iceland	32	31		
Total	89 481	7 9159	-2.0%	-9.1%

¹ An annual reduction of 5.6% is required to achieve a -50% reduction in fatalities between 2002 and 2012.

Traffic deaths per 100 000 population since 1970



will progressively join the IRTAD group and start collecting data that will be shared in the IRTAD database.

INTERNATIONAL CO-OPERATION

The ECMT, and now the International Transport Forum has established strong collaboration with several international organisations active in the field of road safety.

UNECE, Working Party 1

As said above, the political and technical roles of ECMT and UNECE combined well to produce policy directions and specific regulations. This co-operation will continue; the recent reports of the Joint Transport Research Centre are available to WP1 for appropriate legislative actions.

UN Road Safety Collaboration

The ITF/JTRC participates in the UN Road Safety Collaboration, which is a very useful platform to co-ordinate and discuss the various road safety initiatives taken at international level. The

UN RSC is a forum where most international organisations involved in road safety, as well as several national governments, NGOs and representatives of the private sector are represented. This type of co-operation ensures that the expertise from ITF countries and recommendations from its research work are known and disseminated. The UN RSC has undertaken the preparation of several manuals on key road safety fields. The Centre was invited to review the Manual on Helmets. The Manual on Speed benefited from the results of the JTRC report on Speed Management. The Centre looks forward to continuing as an active partner of the UN RSC.

European Commission

The ITF coordinates its work closely with the European Commission, which is represented in the Managements Board and the steering committee of the JTRC. Moreover, the Commission participates actively in some of our working groups. Wherever possible the ITF supports the Commission's work with experience from our non-European Member countries. The European Commission is a full member of the IRTAD Group on road safety data and analysis.

The World Bank

The ECMT and now the ITF has always worked closely with the World Bank and, for example, the peer review of road safety performance in Russia was undertaken in partnership with the World Bank as well as WHO. Very recently, an agreement between the Centre and the World Bank was reached regarding co-operation with the IRTAD Group. As mentioned above, the World Bank is also a key partner of the IRTAD Group on road safety data and analysis.

PIARC

The Centre is an active member of PIARC road safety committee. Through this co-operation, it is ensured that research work from ITF countries is known in other regions where PIARC has a strong influence.

OVERVIEW OF ROAD SAFETY PERFORMANCE IN OECD/ITF COUNTRIES

Road crashes account for around 180 000 deaths every year in OECD and ITF countries, i.e. on average one fatality every 3 minutes. Worldwide, the WHO estimates the annual road death toll at 1.2 million.

Important progress has been accomplished in ITF countries to improve road safety, but performance has not been evenly spread. Over the period 1970-2005 the greatest regional reductions in fatalities were recorded in the countries of Western Europe and the Asia-Pacific region (declines of 61% and 45%, respectively). In North America (United States and Canada), fatalities decreased by 20%, with reductions generally greater during the 1980's than in subsequent years. Central and Eastern European Countries (CEEC) and the Commonwealth of Independent States (CIS) achieved considerable annual reductions in the 1990's but since 2000 fatalities have stabilised in the CEEC and have increased in the CIS.

Ambitious Targets

Targets for the reduction of road deaths and injuries have been

set by both individual countries and internationally. At the international level, the European Conference of Ministers of Transport (ECMT) set a common target in 2002 for all member countries to reduce the number of fatalities 50% between 2000 and 2012. As illustrated in Table 1, few Member countries will achieve the ECMT target by 2012 without substantial additional effort in the remaining years. However, the fact that some countries are on track to meet the target demonstrates that targeted reductions in trauma can be achieved with adequate political will, institutional organisation and sufficient allocation of resources.

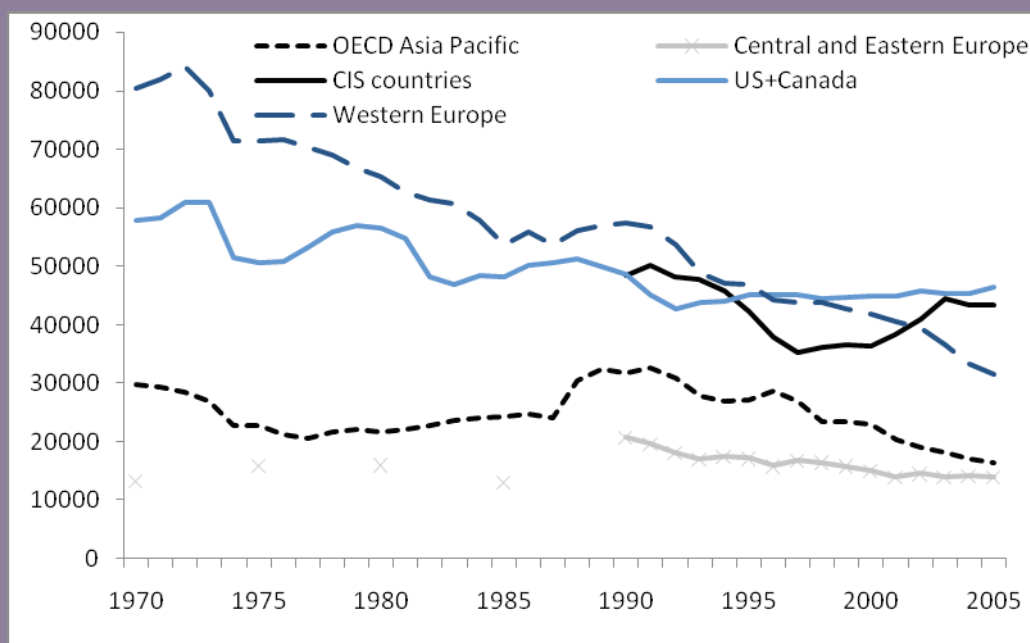
Ambitious long term vision

Countries with different levels of performance will have different ambitions in terms of road safety improvement. For some industrialised countries, a target fatality rate of 6 fatalities per 100 000 inhabitants will be seen as an ambitious target. Other countries have already reached this level and will aim at a higher level of ambition. Zero deaths and serious injuries represents the extreme level of ambition, based on the belief that any level of serious trauma arising from the road transport system is unacceptable. This view is expressed formally in the road safety policies of the Netherlands and Sweden known as Sustainable Safety and Vision Zero respectively. This approach is common in other transport systems and has determined safety programmes in aviation, rail and shipping for several decades.

This is an aspirational vision in that it may be impossible to specify all the interventions required to achieve it and road safety managers and policy makers are required to go beyond the limits of projected good practice. It therefore requires a strong commitment to innovation and challenges road safety professionals and government to develop the institutional capacity to achieve the desired results, to form new partnerships, and seek new effective approaches.

Interim targets to move systematically towards the visionThe long term vision of eliminating deaths and serious injuries

Figure 1. Change in the number of annual fatalities for the main OECD/ITF regions 1970-2005



needs to be complemented with robust interim targets for specific planning terms up to a decade or so. This will help ensure the delivery of benefits over the shorter term, essential if the longer term vision is to remain credible. A results focus is critical to an effective road safety programme and equally requires setting targets and identifying the institutional means and interventions to achieve them. The targets relate to outputs (e.g. level of enforcement), intermediate outcomes (e.g. mean travel speeds, seatbelt wearing), final outcomes (e.g. number of fatalities and serious injuries) and social costs savings.

A relatively small number of countries now use empirically derived targets, based on quantitative modelling of intervention options. In this approach, targets are based on empirical evidence relating to the selected interventions' previous effectiveness combined with best estimates of future effectiveness, using a model linking inputs and outcomes. This approach to setting targets is recommended. It bases targets on the achievements that can be expected from successful implementation of the interventions that make up the road safety strategy adopted. It promises immediate safety benefits through a known battery of interventions. This helps secure community support, and linking targets to an agreed strategy of interventions strengthens political support.

As noted, exceptional efforts will be required in most ITF countries to achieve the targets set by Transport Ministers in 2002. Accordingly, it is recommended that targets based on expected outcomes from specified interventions now be established, as a means to move more systematically towards the level of ambition established by the 2002 targets.

Main road safety problems and countermeasures

In the course of work on the report *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*, a survey¹ was undertaken of leading road safety experts to identify the main road safety problems in their respective countries, identifying speeding, drink driving, and the lack of seatbelt wearing as recurrent problems. Other key issues include young drivers, who are heavily overrepresented in road fatalities and whose crash involvement also imposes high risks on their passengers and other road users. Insufficiently safe infrastructure for current travel speeds, as evidenced by the high fatality risk on many rural roads was and insufficient motor vehicle crash protection for occupants were also identified as important issues. These issues and key countermeasures are discussed briefly in the following paragraphs. The interventions discussed are the starting point for road safety policy in all countries.

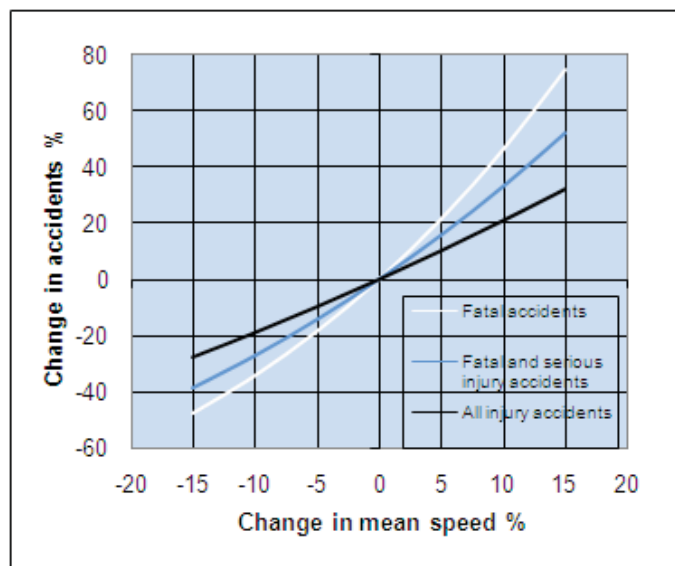
- Speed

Speeding, i.e. inappropriate speed and excessive speed, is the major road safety problem in a majority of member countries, often contributing to as much as one third of fatal accidents and being an aggravating factor in the frequency and severity of all crashes. Speeding is a widespread social problem as typically, at any time, 50% of drivers are above the speed limits. Enforcement of existing speed limits can provide immediate safety benefits, perhaps more quickly than any other single safety measure.

¹ <http://internationaltransportforum.org/jtrc/safety/targets/Performance/performance.html>

Effective speed management also requires that speed limits are appropriate for the standard of the road, the roadside risks, road design, traffic volumes and mix and presence of vulnerable road users. Public support for reduced speed limits needs to be fostered, as there is generally little understanding that small reductions in speed produce substantial reductions in trauma (see figure 2). Other essential components of speed management are infrastructure improvement and the use of new technologies, such as intelligent speed adaptation, to modify behaviour.

Figure 2. Relationship between change in mean speed and accident rates



Source: Nilsson (2004)

- Drink Driving

In many countries, 20% or more of driver fatalities involve a blood alcohol content (BAC) level in excess of the legal limit. Drink driving remains a blight upon road use in these countries despite many years of active countermeasure application including quite severe penalties. However, despite its importance, many countries are unable to provide comprehensive data on alcohol-related fatal crashes and knowledge of drink driving crash involvement and trends is often unavailable. Best practice experience indicates that highly visible policing using random breath testing is needed to enforce blood-alcohol limits that should not exceed 0.5g/l for the general population. Enforcement is most effective when backed by extensive publicity, with tough sanctions for repeat offenders. Alcohol interlocks fitted to all vehicles are a future option, subject to successfully increasing public acceptance.

- Seatbelts

In many countries, around 50% of the people killed in road crashes were not wearing a seatbelt. Many of these lives could have been saved had they done so. Compulsory use of seatbelts was introduced in the first countries well over 25 years ago. Today, in some countries, seatbelt wearing is still only compulsory in the front seat and child restraint systems are neither mandatory nor regulated. Legislation with firm police enforcement backed by intensive mass-media programmes and penalties is the most effective strategy to improve seatbelt

wearing. Technologies such as seatbelt reminder systems and seatbelt ignition interlocks could almost completely counter the non-wearing of seatbelts if introduced universally but would require a high degree of community and vehicle industry acceptance for universal deployment.

- Safer infrastructure

Appropriate measures include targeted road improvements that identify and treat the highest crash locations with specific treatments such as audible edge-lining, shoulder sealing, clearing of roadside vegetation and the construction of passing lanes. For longer term, a systematic, proactive approach to road infrastructure design and renewal is needed.

- Enhanced vehicle safety

The safety of vehicles has improved significantly in recent years, due to technological development of passive (crash protection) and active (crash avoidance) systems. In particular, Electronic Stability Control systems represent a major recent advance in active safety, with collision avoidance and lane departure warning systems examples of other promising technologies.

- Reduced young driver risk

Young drivers, who are heavily overrepresented in road fatalities and whose crash involvement also imposes high risks on their passengers and other road users. Graduated licensing schemes in tandem with extended training during the learner period have been effective in reducing deaths among young drivers. Components of a graduated licensing can include night-driving and peer-passenger restrictions, graduated demerit points while on probation, zero blood-alcohol content tolerance and extended learning periods while under supervision to provide

for driving in a variety of road and weather conditions.

More holistic policies: the safe system approach

Effective implementation of the interventions described involves management processes that include analysing data to identify key problem areas, setting targets for achievement, choosing effective interventions, building community and political support, allocating sufficient resources to implementation and to monitoring and evaluating performance. Results focussed management and adequate funding for these proven measures achieves major improvements in road safety performance. Nevertheless, raising the level of performance to meet the challenge of the vision of zero road deaths requires a shift to a more comprehensive, *Safe System* approach to road safety.

The Safe System approach — which is the focus of the just published report *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach* -- builds on existing interventions but reframes the way in which road safety is viewed and managed in the community. It addresses all elements of the road transport system in an integrated way with the aim of ensuring crash energy levels are below what would cause fatal or serious injury. It requires acceptance of shared overall responsibilities and accountability between system designers and road users. It stimulates the development of the innovative interventions and new partnerships necessary to achieve ambitious long term targets.

The basic strategy of a Safe System approach is to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury. This threshold will vary from crash scenario to crash scenario, depending upon the level of protection offered to the road users involved. For example, the chances of survival for an unprotected pedestrian hit by a vehicle diminish rapidly at speeds greater than 30km/h, whereas for a properly restrained motor vehicle occupant the critical impact speed is 50km/h (for side impact crashes) and 70 km/h (for head-on crashes).

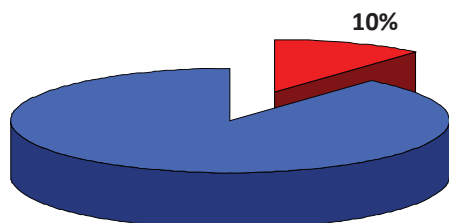
Several countries are currently using a Safe System approach in developing and implementing their road safety programmes. Sweden has developed a 'Vision Zero' approach, the Netherlands has developed a closely related 'Sustainable Safety' approach, and several jurisdictions in Australia are establishing similar programmes. While the specific details vary, Safe System approaches typically:

- Aim to develop a road transport system better able to accommodate human error. This is commonly achieved through better management of crash energy, so that no individual road user is exposed to crash forces likely to result in death or serious injury.
- Incorporate many strategies for better management of crash forces, with a key strategy being road network improvements in conjunction with posted speed limits, the latter set in response to the level of protection offered by the road infrastructure.
- Rely on strong economic analyses to understand the scale of the trauma problem, and direct investment into those programmes and locations where the greatest potential benefit to society exists.

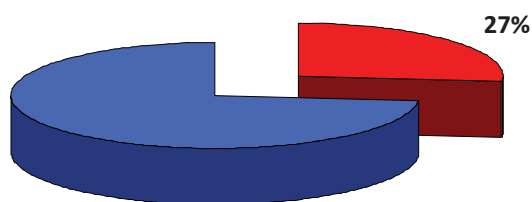
Figure 3. Proportion of Young People in Traffic Fatalities and Population,

OECD Countries, 2004

Proportion of Youth in the Population



Proportion of Youth in Traffic Fatalities



Source: IRTAD

- Are underpinned by comprehensive management and communication structures incorporating all key government agencies and other organisations which have a role in determining the safe functioning of the transport system.
- Align safety management decision making with broader societal decision making to meet economic goals and human and environmental health goals, and to create a commercial environment that generates demand for, and benefits the providers of, safe road transport products and services.
- Embrace the ethos of “shared responsibility” for road safety among the various actors of the road transport system, such that there is a shared vision amongst citizens, public, private and not for profit organisations regarding the ultimate safety ambition, and how to achieve it.

how crashes occur is based on very limited research. A more complete picture would provide the basis for more effective interventions. High-income countries will rely increasingly on innovation to work towards the ultimate goal of eliminating road deaths and serious injuries. Low and middle-income countries will benefit from these advances.

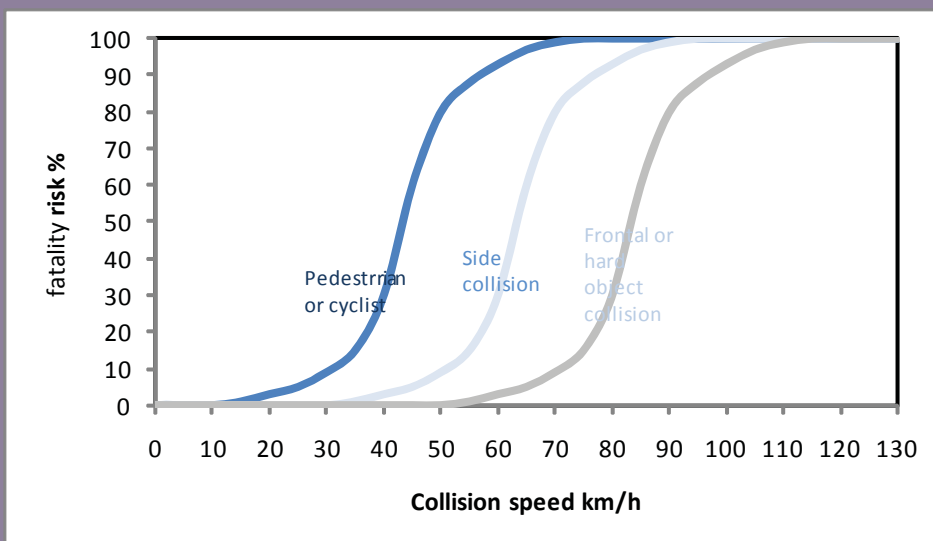
Bibliography:

ECMT (2002). *Past, present and future road safety work in ECMT*, CEMT/CM(2002)14

ECMT (2004) *Road Safety Performance: National Peer Review: Lithuania*, ECMT/OECD, Paris.

ECMT (2006) *Road Safety Performance: National Peer Review: Russian Federation*, ECMT/OECD, Paris.

Figure 4 Fatality risk



Source: Wramborg, P. (2005). *A New Approach to a Safe and Sustainable Road Structure and Street Design for Urban Areas*. Paper presented at Road Safety on Four Continents Conference, Warsaw Poland.

The changed view of road user responsibilities is a key feature of a Safe System approach. *Sustainable Safety* describes the road user as the weakest link in the transport chain, unpredictable and not to be relied upon to behave safely, education and information efforts notwithstanding (Wegman *et al.*, 2005). Both *Sustainable Safety* and *Vision Zero* argue that for as long as inappropriate behaviours are likely, those individuals and organisations with system design responsibilities need to strive to protect all road users from the impact of those behaviours.

The Importance of international co-operation

Research and knowledge transfer will play a pivotal role in the design and delivery of interventions aimed at achieving a *Safe System* approach and in attaining results that go well beyond what has been achieved so far. The understanding of why and

OECD (2001) *Road Safety: the Impact of New Technologies*, OECD, Paris,.

OECD (2001). *Ageing and Transport: Mobility Needs and Safety Issues*, OECD, Paris,.

OECD (2004). *Keeping Children Safe in Traffic*, OECD, Paris,.

OECD/ECMT (2006). *Speed Management*, OECD, Paris.

OECD/ITF (2008). *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach*, OECD, Paris.

OECD/ECMT (2006). *Young Drivers: the Road to Safety*, OECD, Paris.

Implementing the Recommendations of the *World Report on Road Traffic Injury Prevention*

Country guidelines for the conduct of road safety management capacity reviews and the related specification of lead agency reforms, investment strategies and safety programs and projects

Björn Stafbom, Transport and Urban Development Department, the World Bank



Introduction

The World Health Organization (WHO) and the World Bank jointly issued the *World Report on Road Traffic Injury Prevention* on World Health Day 2004, dedicated by WHO to the improvement of global road safety. The report's publication signaled a growing concern in the global community about the scale of the health losses associated with escalating motorization and a recognition that urgent measures had to be taken to sustainably reduce their economic and social costs.

Purpose of guidelines

These guidelines specify a management and investment framework to support the successful implementation of the *World Report* recommendations, and include practical procedures designed to accelerate knowledge transfer and sustainably scale up country investment to improve road safety results. They have been prepared to assist World Bank staff, country road safety professionals, international consultants, community groups, private sector organizations, and all other global, regional and country partners and stakeholders undertaking country road safety projects.

Implementing the World Report recommendations

The findings of the *World Report* culminated in six overarching recommendations that set out the strategic initiatives necessary to improve country road safety performance:

1. Identify a lead agency in government to guide the national road safety effort
2. Assess the problem, policies and institutional settings relating to road traffic injury and the capacity for road traffic injury prevention in each country
3. Prepare a national road safety strategy and plan of action
4. Allocate financial and human resources to address the problem.

The World Bank Global Road Safety Facility has been operational since March 2006, and is located in the Transport Unit of the World Bank. Donors include the Governments of Australia, Netherlands, and Sweden, the FIA Foundation in the United Kingdom, and the World Bank's Development Grant Facility. The Facility is the first funding mechanism designed to support capacity building and provide technical support for road safety at global, regional and country levels, to implement the recommendations of the *World Report on Road Traffic Injury Prevention*. It has a governance structure in place, Executive and Advisory Boards, and a ten-year donor endorsed Strategic Plan.

At the country level the Facility is active in every World Bank region where it is supporting road safety management capacity reviews linked to World Bank operations designed to scale up road safety investment, accelerate road safety knowledge transfer, and achieve quick results in terms of improved road safety performance.

The Facility has issued grants, either directly or through sponsored partners, in countries including Argentina, Peru, Uruguay, Bangladesh, Indonesia, China, Cameroun, Burkina Faso, Nigeria, Ethiopia, Mozambique, Bulgaria, Serbia, Bosnia and Herzegovina, Kazakhstan, and others. The Facility has already established important global and regional partnerships with entities such as the United Nations Road Safety Collaboration, the Global Road Safety Partnership, the International Road Assessment Programme, the Global Road Safety Forum, the International Road Federation, the Road Traffic Injuries Research Network, and the International Road Traffic Accident Database.

For more information, please see:
<http://www.worldbank.org/grsf>

5. Implement specific actions to prevent road traffic crashes, minimize injuries and their consequences and evaluate the impact of these actions
6. Support the development of national capacity and international cooperation.

Implementing the recommendations of the *World Report* requires capacity building at the global, regional and country levels, to create the resources and tools necessary to target initiatives on a scale capable of reducing significantly and sustainably the global health losses arising from escalating road deaths and injuries.

At the country level implementation requires an integrated framework that treats the *World Report* recommendations as a totality and ensures that institutional strengthening initiatives are properly sequenced and adjusted to the absorptive and learning capacity of the country concerned. Emerging global and regional initiatives aiming to assist the acceleration of knowledge transfer to low and middle-income countries and the scaling up of their road safety investments must also be harmonized and opportunities taken to combine and leverage the effective weight of resources being mobilized to improve the results being achieved. The guidelines provide a pragmatic approach designed to overcome institutional capacity barriers.

Implementation steps

The guidelines set out an implementation process in two key steps:

Step 1: Conduct country capacity review (*World Report* recommendation 2).

Assess lead agency role (*World Report* recommendation 1).

Specify investment strategy (*World Report* recommendations 3 & 4)

Step 2: Prepare and implement safety programs and projects (*World Report* recommendations 5 & 6)

Implementation Step 1: Conduct country capacity review

Assessing and strengthening country road safety management capacity is critical to the successful implementation of the *World Report* recommendations. Country capacity weaknesses present a formidable barrier to success and the central issue is how to accelerate the necessary process of shifting from weak to strong institutional management capacity to govern the production of improved road safety results.

The guidelines provide detailed checklists to assess country safety management capacity. They also provide frameworks to identify lead agency strengthening priorities and specify country investment strategies and implementation options.

Successful implementation of the investment strategy hinges on designing projects that accelerate the transfer of road

safety knowledge to participants, strengthen the capacity of participating partners and stakeholders, and rapidly produce results that provide benchmark measures to dimension a roll-out program.

In setting out a long-term investment strategy it is important to have a vision of where the country concerned aims to be in performance terms by the end of the planning horizon and a clear understanding of how this will be achieved. Such a vision will be shaped by the desire to bring safety results under control on a sustainable basis. The time frame for this must be realistic and for planning purposes it is recommended to consider three successive phases of around five years each, covering the establishment, growth and consolidation of the investment strategy.

In the *establishment* phase it is important to take control of the safety situation in targeted high crash-density corridors and areas to demonstrate what can be achieved and to assemble the evidence base to dimension a roll-out program for the growth phase. It is also important during the establishment phase to undertake more detailed reviews of all areas of revealed capacity weakness and to build the necessary data management systems required to govern the total network.

In the *growth* phase key priorities are to put in place a robust performance management framework for all participating agencies, to nationally roll-out targeted safety programs systematically across high crash-density sections of the road network, and to implement all the findings of intervention benchmarking and policy reviews.

In the *consolidation* phase key priorities are to devolve the performance management framework to regions, provinces and districts and to take all the necessary measures to improve management and operational efficiency and effectiveness and seek opportunities for future safety innovations.

Implementation Step 2: Prepare safety programs and projects

Following the conduct of the country capacity review the second step in the process is to prepare safety programs and projects to launch the identified investment strategy. Successful implementation hinges on designing projects that accelerate the transfer of road safety knowledge to strengthen the capacity of participating entities and rapidly produce results that provide benchmark measures to dimension a roll-out program.

The overall sequencing of the project preparation process is crucial to its successful implementation. The first step is to prepare a project specification, based on the findings of the country capacity review. This should be sufficiently comprehensive to outline all components, partnerships and targeted results. The second and third steps are to reach consensus on the project management arrangements and the monitoring and evaluation procedures. Once agreement is reached on the overall project concept, the results it is trying to achieve and how these will be managed and measured, the final step is to prepare a detailed project design.

The guidelines provide detailed steps to address:

- Implementation priorities
- Project objectives
- Scale of investment
- Capacity strengthening priorities
- Results focus
- Project management arrangements
- Monitoring and evaluation
- Detailed project design

Case studies are provided to highlight the importance of the lead agency role in directing the national road safety effort.

It is important that any initiatives designed to improve country road safety performance are centered on the lead agency role and driven from the fundamental objective of strengthening national leadership, in accordance with the priority given to this by the key and overarching *World Report* recommendation. Particular attention should be paid to the leadership required to provide effective program and project management and related inter-agency coordination functions.

A core project objective is the achievement of quick and proven safety results and the development of benchmark performance measures to dimension a national roll-out program of successful initiatives to the remaining high risk corridors and areas. This places a high priority on ensuring that the monitoring and evaluation procedures are effective and that this focus on results achieved underpins the leadership and coordination of the project during its implementation. It also places a high priority on sustaining the emphasis on transferring good practices into the country concerned and accepting the challenges of innovation and 'learning by doing' that this entails.

The central idea is to accelerate knowledge transfer and build country capacity in a targeted process that demonstrates when good practice measures are taken road safety performance can be dramatically improved. In this way the business case for higher levels of sustained investment can be prepared, built on a platform of strengthened country capacity and proven success.

Above all, it should be clearly understood that the project is the first step in a longer process and that an overarching priority is placed on ensuring that the project's research and development and knowledge transfer potential is fully realized.

The origins of uniform road signs and signals and the FIA Foundation's commitment to improving road safety globally

David Ward, Director General of the FIA Foundation

Next year will be the centenary of the world's first intergovernmental treaty on road traffic. In October 1909 delegates from sixteen countries met in Paris at the invitation of the French Government and signed the 'Convention with respect to the International Circulation of Motor Vehicles'.

Five years before thirteen motoring organisations from Europe and the United States of America had established the Association International des Automobiles Club Reconnus (AIACR) which was the original name of the Federation Internationale de l'Automobile (FIA). The AIACR's mission was to develop common rules for international motorsport and promote motoring abroad. They advocated common rules of the road, rights of cross border transit, and the adoption of standardised international road signs.

The Paris meeting was the beginning of a century of international dialogue between motoring organisations and national governments on road safety and mobility issues.

The Paris meeting began to develop the rules of the road that are so familiar to us today. The 1909 Convention contained articles on driving qualifications, cross border travel, national identification marks, road signs and also introduced the language of 'type approval' for motor vehicles. The Convention stated that automobiles must be "so designed as to prevent, as far as possible, all danger of fire or explosion, as not to frighten by its noise animals, whether ridden or driven, and as not to give rise to any other cause of danger to traffic or seriously to inconvenience by the emission of smoke or vapour any persons using the road"; so 'green' issues seem to have been as prominent then as now.

Reassuringly, the Convention also insisted that motor cars must be equipped with "a strong steering apparatus, which will allow the car to be turned readily and with certainty" and to have "two brakes, each independent of the other and adequate for its purpose". Familiar requirements, of course, only today we talk about Anti-Lock Brakes and Electronic Stability Control!

The cataclysm of the First World War seriously disrupted implementation of the Convention and the work of the AIACR. However, with peace restored and the creation in 1920 of the League of Nations the business of promoting safe roads and motoring began again.

The French Government again hosted an international traffic conference in 1926 which amended and added provisions to the 1909 Convention. The Conference was held under the auspices



of the League which had established an 'Organisation for Communications and Transit' in which the AIACR participated

With the involvement of experts like Mervyn O'Gorman, of the UK's Royal Automobile Club who inspired the adoption of the country's Highway Code in 1931, the AIACR played a very active role in the development of international road traffic law. Thus in 1931, the League convened the European Conference on Road Traffic, this time in Geneva, and adopted the AIACR's proposal that road signs should use symbols rather than words. The resulting 'Convention concerning the Unification of Road Signals' established the system of triangular signs for danger, circular signs for instructions and rectangular signs for information that still applies today.

In 1939, once again world war brought a halt to the work of both the League of Nations and AIACR. However, with the agreement to establish the United Nations (UN) in San Francisco in 1945, the work of the League transferred to the new international organisation.

Post war also saw the AIACR reconvene but this time as the FIA and in 1947 the new Federation was invited to assume consultative status with the UN. In the same year the United Nations Economic Commission for Europe (UNECE) established its Inland Transport Committee and in 1949 the UN Convention on Road Traffic was adopted in Geneva.

With the enormous growth of motorisation in the post war era, the FIA and its member clubs became leading stakeholders in the development of international road traffic norms and standards. The UNECE's work similarly grew with the establishment of the Working Party on Road Traffic Safety (WP.1) and on Vehicle Regulations (WP.29), and through the adoption of the Vienna Conventions on Road Signs and Road Traffic in 1968 and the European Agreements supplementing them in 1971.

In more recent decades the FIA has further intensified its engagement in global automotive issues. Under the leadership of its current President Max Mosley, the FIA has become a powerful and independent voice championing safe, clean and affordable motoring. Building on its unique combination of experience of road and race track safety, the FIA has become a leading advocate of the 'safe systems' approach to injury prevention. This recognises that action to promote road safety requires combined action on road design, vehicle engineering, and road user education and enforcement.

In the field of vehicle standards, for example, in the 1990s, the FIA led a campaign to strengthen European Union crash test legislation proposed by the European Commission. This campaign successfully achieved in 1998 the introduction of the offset frontal and side impact crash tests which have subsequently been transferred into UNECE regulations.

The FIA at the same time became a founding member of the European New Car Assessment Programme (EuroNCAP), with Max Mosley serving as its Chairman. At the launch of the EuroNCAP tests in 1997 industry sources suggested that no car could achieve a four star rating but in the same year Volvo achieved this with the V40. By 2001 Renault achieved the first five star rating with its Laguna model and then capped this achievement by becoming the first manufacturer to win five stars for a super-mini, the Modus.

According to the European Commission a five star car has a 36% lower intrinsic fatality risk than a vehicle designed to meet the regulatory standard. This shows the huge improvement in vehicle safety brought about by the combination of legislative standards, consumer information, and strong independent advocacy by the FIA.

Also in the mid 1990s the FIA pushed hard for greater global harmonization of vehicle safety and emission standards. Differing regulatory requirements around the world increase costs to industry and the consumer alike and can prevent the spread of new safety and emission control technologies. The FIA, therefore, strongly supported the initiative to encourage more global participation in the work of the UNECE's Vehicle Regulations body and jointly sponsored a conference of the EU-US Transatlantic Business Dialogue held in Washington DC in 1996. This important event led to the global agreement by the UNECE in 1998 to establish WP.29 as the World Forum for Harmonization of Vehicle Standards. Indeed, it was a key recommendation of the FIA that the name of WP.29 be changed to take on a more global aspect combined with a strong commitment to the highest possible levels of consumer protection.

Since then the FIA has been delighted with the recent progress in developing safety related global technical regulations (GTRs). In particular, the FIA has strongly supported the development of a regulation for Electronic Stability Control (ESC). The most important safety technology since the seat belt, ESC has the potential to reduce substantially road traffic fatalities by as much as 10,000 in the USA and by at least, 4,000 in the European Union. The anti-skid technology will be mandatory in America by 2012 as a result of pioneering legislation by the National Highway Traffic Safety Administration and the European Union will now follow this example. Meanwhile, agreement has been reached on a GTR for ESC which is great progress indeed and demonstrates the vital importance of the UNECE's World Forum. The FIA has also been proud to play a leading role in the campaign 'Choose ESC' which aims to raise consumer awareness of the benefits of this life saving system.

In 2001 the FIA took its international engagement to a new level when it donated \$300 million to the newly established FIA Foundation for the Automobile and Society. Registered as an independent charity in the UK, the Foundation works to promote road safety, the environment, mobility and motor sport safety. Since its creation, the Foundation has become a leading supporter and donor to global road safety and environmental programmes. It is a member of the UN Environment Programme's Partnership for Clean Fuels and Vehicles promoting the final removal of unleaded fuels globally and the encouragement of an international agreement of a sulphur content in fuel of less than 50ppm.

This year the Foundation established a Global Fuel Economy project together with UNEP, the International Energy Agency, and the International Transport Forum to explore the possibility of halving fuel consumption of the world vehicle fleet by 2050. Progress on this scale is vital if we are to stabilize the growth of greenhouse gases and avoid dangerous climate change.

However, it is global road safety that the Foundation has made its most pressing priority. Concerned that the rising tide of 1.3 million road deaths and more than 50 million injuries mostly



From left: Chairman of the Commission for Global Road Safety Lord Robertson of Port Ellen, UN Secretary-General Ban Ki-moon and actor Michelle Yeoh



Michael Schumacher adds his name to the Make Road Safe petition

Photos courtesy of the Fia Foundation

in low and middle income countries has been overlooked by the international community, the Foundation decided to concentrate on putting road safety on the global agenda.

In 2003 it hosted a major conference on the issue in London with the then Director General of the World Health Organisation, Dr Gro Harlem Brundtland. With grant support from the Foundation, Dr Brundtland announced that the 2004 World Health Day would be devoted to road safety, the first time the issue had gained such global recognition. Thus on 7th April 2004, President Chirac of France inaugurated the World Health Day in Paris on the theme 'Road Safety is No Accident' which coincided with the publication of the World Report on Road Traffic Injury Prevention by the WHO and the World Bank. One week later the UN General Assembly debated road safety for the first time and agreed to create the UN Road Safety Collaboration which brings together the WHO, the UNECE and all the UN regional Commissions together with NGOs and stakeholders, including the FIA Foundation.

Building on this success the FIA Foundation then proposed to the UNECE that its traditional European road safety week become global. This proposal was agreed and then approved by the UN General Assembly in 2005. The first ever UN Global Road Safety Week was subsequently held in April 2007 with major launch events in Geneva and London. In parallel the Foundation also became a founding donor to the World Bank's Global Road Safety Facility which aims to give support for capacity building for road injury prevention programmes in low and middle income countries. The Facility has since been able to assist the work of the UN Road Safety Collaboration which has prepared a series of good practice manuals dealing with major road injury risk factors such as speeding, drink driving, non-use of helmets and seat belts. It has also assisted the work of the International Road Assessment Programme in developing an innovative star rating system for road infrastructure safety that shows very clearly the cost effectiveness of improving the safety design of road networks.

Building on this momentum, the FIA Foundation in 2006 supported the establishment of the independent Commission for Global Road Safety. The Commission is a high level group chaired by the former Secretary General of NATO, Lord Robertson of Port Ellen. The Commission aims to raise awareness of road safety as a key issue of sustainable development and call for action. In June 2006 the Commission published its Make Roads Safe report making three key proposals that the international community should support:

- A \$300 million, 10 year Action Plan to promote multi-sector national road safety capacity building in low and middle income countries should be funded by donor governments and private sources and managed by the World Bank Global Road Safety Facility;
- At a minimum 10% of all road infrastructure projects should be committed to road safety design, rating and assessment and community wide initiatives;
- A Ministerial Conference on Global Road Safety should be held in 2009 to review implementation of the WHO/World Bank World Report on Road Traffic Injury Prevention recommendations.

To support these three proposals the FIA Foundation last year launched the Make Roads Safe campaign. Centrepiece of the campaign was a global petition aiming to reach above 1 million signatures to symbolise the 1.3 million road traffic deaths per year. The campaign received the endorsement of world leaders including Tony Blair and Mary Robinson, and Nobel Prize winners Archbishop Desmond Tutu, Costa Rican President Oscar Arias and former US President, Jimmy Carter. Sports stars and film celebrities such as Michael Schumacher and Michelle Yeoh also backed the campaign. By March this year the petition target was reached and was presented to the UN Secretary General, Mr Ban Ki-moon in New York on the occasion of a further General Assembly debate on road safety. The Commission's proposal that there should be a UN Global Ministerial Conference on road safety was approved by the UN General Assembly, enormously helped by the generous offer of the Russian Federation to host the meeting in Moscow in November next year.

To contribute to the agenda of the Moscow Ministerial Conference, Lord Robertson's Commission met in September this year in St Petersburg and agreed to propose that 2010 to 2020 become a decade of action for global road safety. The Commission believes that ten years of sustained commitment to building road traffic injury prevention programmes in low and middle income countries could first stabilise and then start to reduce the number of people killed on the road.

The Commission will prepare a second report to be launched on 5th May next year at a conference in Rome (coinciding with the Italian Presidency of the G8) and will recommend that the Moscow Ministerial should set the ambitious goal to achieve a 50% reduction in the forecast increase in road deaths by 2020. So almost exactly one hundred years after the original road traffic convention conference in 1909, the Moscow Ministerial provides a wonderful opportunity to build on the pioneering efforts of those who met in Paris one hundred years ago with the ambition to ensure that motor vehicles "do not give rise to any cause of danger".

The FIA Foundation is proud to be following in the footsteps of both those delegates in Paris and of the founders of the FIA and their shared commitment to safe and sustainable mobility.



Above: Michalis Adamantiadis and Lord Robertson at the UN General Assembly March 2008

The Global Road Safety Partnership

Andrew J. Pearce, Chief Executive, Global Road Safety Partnership (GRSP)



Launch of the Middle East Partnership with UNESCWA

The Global Road Safety Partnership (GRSP) brings together governments, the private sector and civil society organizations to prevent road crashes and road trauma in low and middle income countries. GRSP was established in 1999 as part of the World Bank's Business Partners for Development Programme and is hosted by the International Federation of the Red Cross and Red Crescent Societies at its secretariat in Geneva.

For more information on GRSP, please visit our website at www.grsproadsafety.org

The articles below present a snapshot of GRSP activities from around the globe.

Middle East partnership emerges

Delegates from throughout the Arab Mashreq region gathered in Qatar in October to discuss a proposal from the UN Economic Social Commission for Western Asia (UNESCWA), GRSP and Shell Oil to establish a regional road safety partnership. Hosted by the Ministry of Interior of the Government of Qatar, the meeting proposed a regional partnership — or “expertise centre” — to facilitate the sharing of knowledge, learning and best practice materials throughout the region.

According to the World report on road traffic injury prevention, road crashes in the region are estimated to cost \$7.4 billion annually (around 1.5% of GNP) and road traffic fatalities are expected to rise by up to 68% by 2020. “Road safety is clearly an issue of governmental, public and business concern,” said Bassam Anani, First Economic Affairs Officer, UN ESCWA. “The Partnership intends to ask two key questions of interested members: What do I need? And what could I offer others?”

By working in a broad partnership, we hope that many of the ‘needs’ can be addressed efficiently using existing approaches or materials. Where there are gaps, we hope that governments and/or businesses can work together, therefore saving time and money, to develop materials that can subsequently be used by all members of the Partnership’.

Asia at the crossroads

Building capacity “step-by-step” to meet the driving demands of Asia’s growth

The journey of 1,000 miles begins with a single step. But to get a sense of how quickly people in Asia might cover that distance these days, all you have to do is walk across a busy intersection in Bangkok, Beijing or Phnom Penh. Streets already filled with taxis, bicycles, rickshaws, pushcarts and trucks are even more choked with fast-moving cars and motorcycles.

More and more, the first step people take for any journey is into a car or onto a motorcycle, the fastest growing mode of transport in Asia. Economic growth in Asia is spurring rapid motorization and, correspondingly, a spike in casualties.

“When you look at the survey of injuries and fatalities due to the road crashes, it’s on the rise rapidly,” says Pinjaroenpun “Jan” Buaboun, GRSP coordinator for region covering six of the ten member ASEAN countries. “That’s across the board for the six main countries I work with.”

With assistance from GRSP and its partners, countries have responded with an array of legislation, partnerships, road safety action plans, professional development, improved infrastructure

and programmes aimed at building the local capacity to manage road safety.

By partnering with local governments, NGOs, private business, volunteers and others, GRSP's team is helping these countries build sustainable long-term capacity, based on their own political, cultural and economic circumstances.

Late last year, for example, GRSP received a USD850,000 grant from the Japan Social Development Fund to enable a programme that encourages young people in northeastern Thailand to wear motorcycle helmets. The grant supports public awareness, subsidies for helmets, enforcement and first aid training and it allows local communities to set road safety priorities.

And in Cambodia, GRSP is working with Handicap International on various road-safety programmes, including helmet wearing compliance and development of helmet standards. Handicap International began working in the region to prevent casualties from landmines, but has since begun working to prevent crash road injury. A similar partnership has begun in Lao PDR.

Despite the progress, Asian countries have a ways to go. Take the case of China. The 2008 Beijing Olympics served as just one of the most visible examples of the country's growing power in the world economy. Developments for the Olympics led to several road and public transport improvements.

But even GRSP programmes there are just the beginning of a long process, says Ann Yuan, GRSP's coordinator for China. "Even in advanced Sweden and Australia, it's taken over 40 years to get to today's level," she says. "I think China has to go through that process as well." That process happens "step-by-step," says Yuan, who works with partners on a variety of initiatives, from drinking and driving, to speed management on China's highways, to intersection improvements in Beijing.

GRSP has given police training sessions in Cambodia and research assistance to help identify problem areas. "What we do is build their capacity — help them in building their ideas, in their context," she said.

The region's relatively long track record, and steady funding levels via GRSP members has led to the creation and field-testing numerous initiatives. The knowledge gained on the street here is now spreading to other areas just now making their first steps toward road safety.

Poland takes on drinking and driving

Drink-drive prevention has been a primary focus of GRSP Poland's work in 2008. GRSP is cooperating with the City of Olsztyn, in northeast Poland, to develop and roll out a comprehensive drink drive prevention programme based on the recommendations of the UN good practice manual "Drinking and Driving: a road safety manual for decision-makers and practitioners." The programme aims to reduce of the number of drink drive crashes in the city, enhance law enforcement efforts, and increase community action.

In September, the regional road safety council (WORD) hosted a two day workshop to develop a two-year action programme, building on the results of a situation assessment which took place in the first half of 2008. On October 13, the City of Olsztyn launched the first „Piłe ? Nie jed !” (Don't drink and drive) campaign including a media campaign and intensified enforcement. Vice Mayor of Olsztyn, Ms. Anna Wasilewska was invited to speak about the programme at the 2008 European Road Safety Day event in Paris.

The city is coordinating the implementation of the action programme with leadership from the Mayor's office and dedicated support from the traffic police. GRSP Poland partners Michelin, GM and the Safe Driver Foundation are supporting the local activities. National actors including the NRSC, the national traffic police, and the Polish Spirits Industry are also supporting the city's efforts.



Photos for this article were provided by the author

REGIONAL AND NATIONAL
CASE STUDIES

UNECE transport statistics as a tool for road safety

Ould Khou Sid'Ahmed, UNECE Transport Division

Transport Statistics and Road Safety are among the most important issues carried out by the UNECE Transport Division.

The link between road safety and transport statistics was obvious from the beginning.

At its first session, the ITC adopted its Resolution No. 8 on Statistical Information (25 October 1947) inviting governments to send certain statistical data.

The Working Party of Experts on Statistical Information was set up on 10 February 1948. During its 3rd session, the ITC recommended that Governments should submit promptly a minimum of comparable statistical data.

In 1951, the ITC Resolution No. 97 on Accidents Statistics suggested procedure for studying the problem. The ITC called, in 1952, for uniformity in transport accident statistics.

By its Resolution No. 14 (10 December 1949), the 4th session of the Working Party on Road Transport decided to study the problem of prevention of accidents. An Ad hoc Working Group on this prevention was created in 1950.

At its 9th session, the Working Party on Road Transport adopted its Resolution No. 50 on "Road Traffic Statistics" (6 June 1956). The Working Party of Experts on Statistical Information (ancestor of the existing Working Party on Transport Statistics, WP.6) was requested to study the possibility of conducting traffic counts.

The Working Party WP.6, which will hold its 60th session next year, is the body responsible for collection, dissemination and harmonization of transport statistics for the UNECE member States:

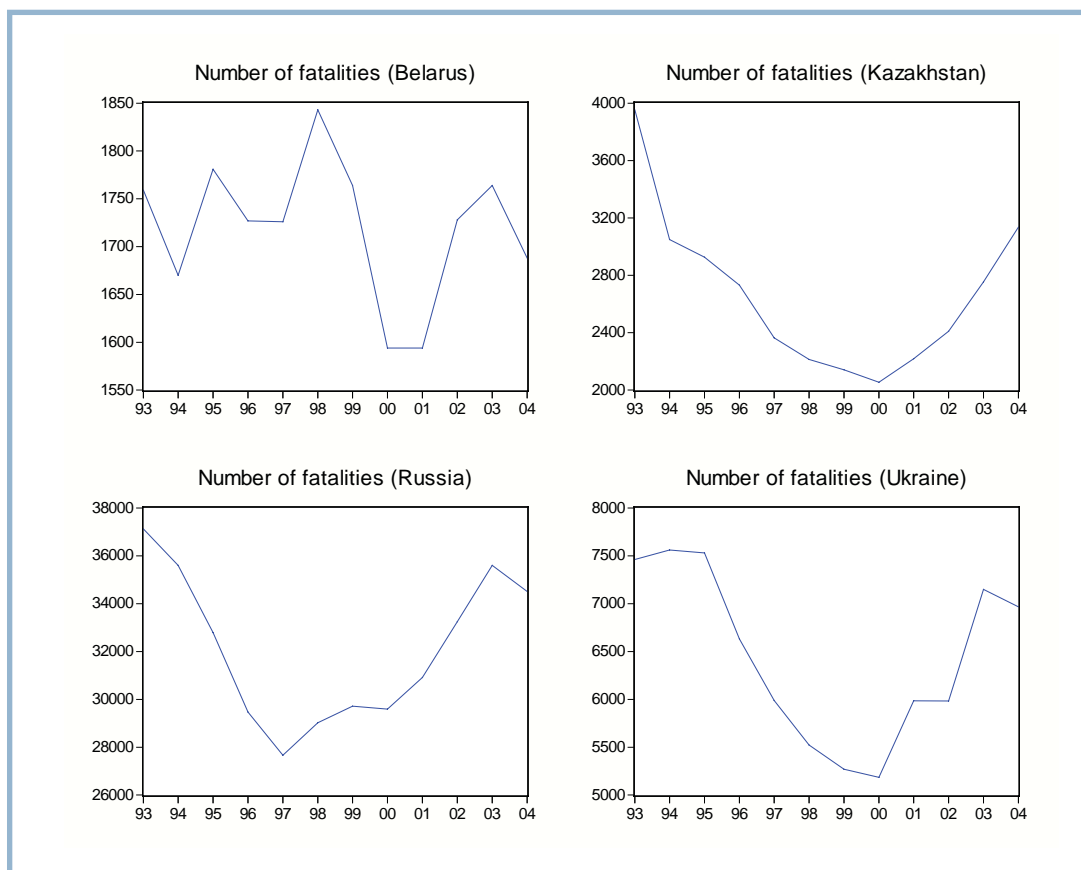
- Collection and dissemination of transport statistics, including data on motor traffic, road traffic accidents and rail traffic;
- Common methodologies to facilitate and improve the collection of information on road, rail and inland waterway traffic flows and infrastructure parameters through surveys and censuses.

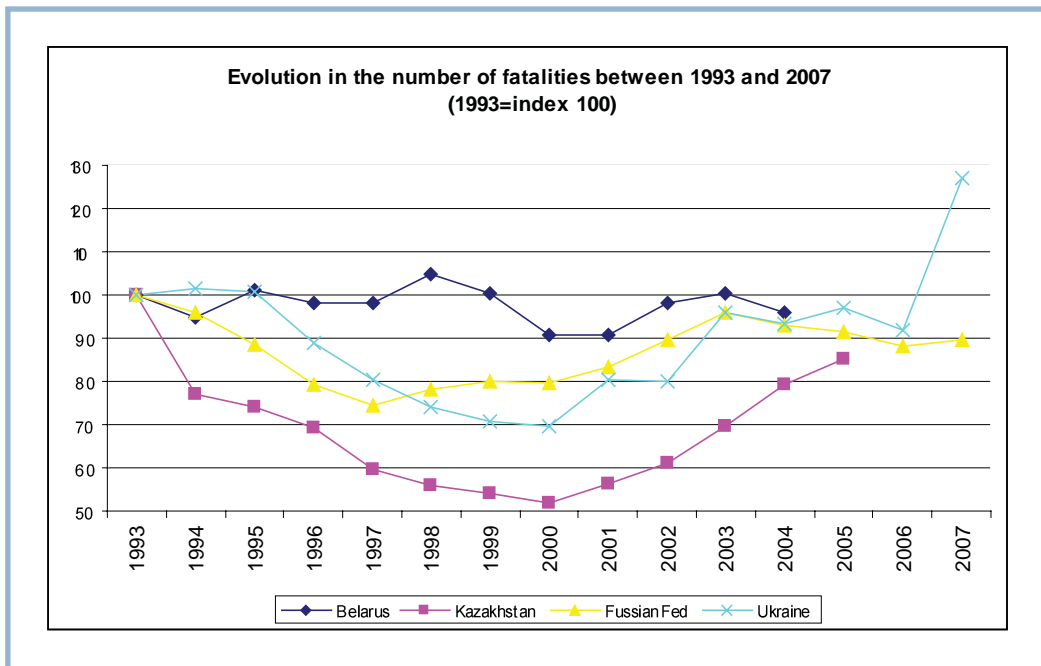
Statistics of road accidents are collected through a web questionnaire circulated and developed jointly with the International Transport Forum (ITF). Another web questionnaire on transport statistics is common to UNECE/Eurostat/ITF. A glossary of transport statistics is also a joint activity by the three Organizations.

Data collected are disseminated through publications such as:

- Annual Bulletin of Transport Statistics (ABTS); and
- Statistics of Road Traffic Accidents in Europe and North America; but also through
- Free UNECE Transport Statistics online database.

The following graphs show the comparative trend of road accidents fatalities between Belarus, Kazakhstan, Russia and Ukraine, from 1993 to 2004.

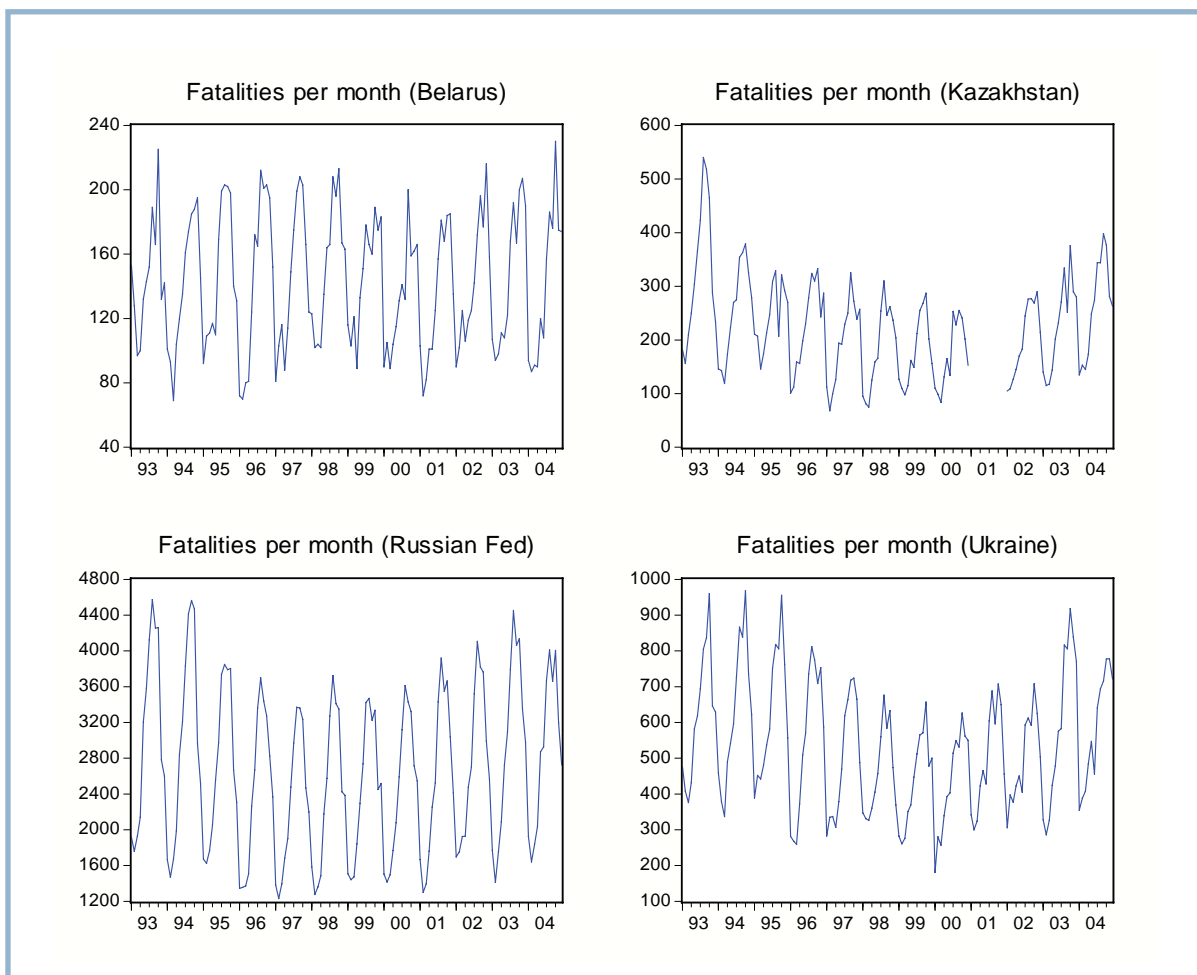




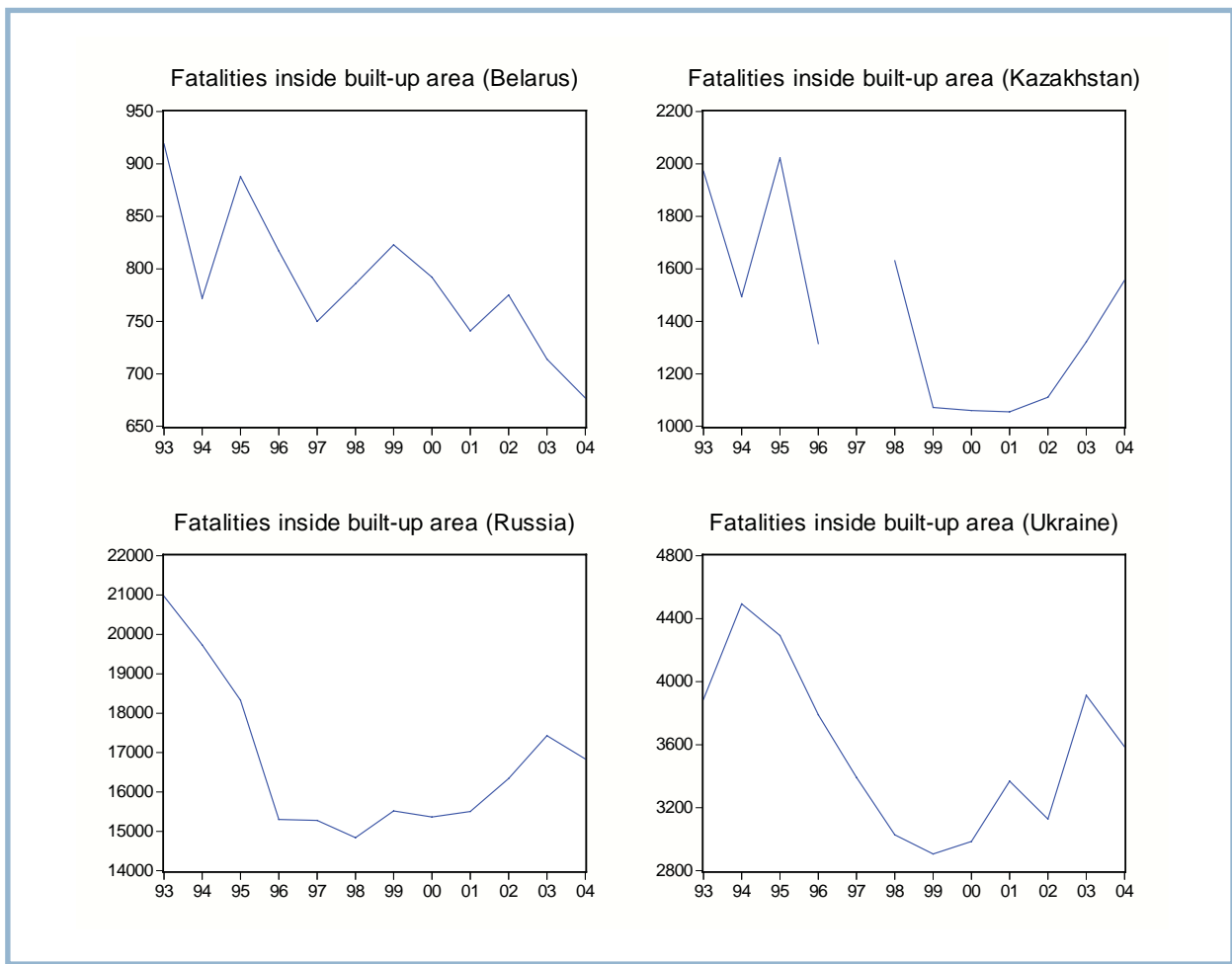
The fatalities in the four countries increased dramatically from 2000 and registered a slight improvement in 2004 (except for Kazakhstan).

If we compare the evolution of the number of fatalities taking 1993 as a base year, we find that the evolution improved but the trend is going up from 2000 with a net increase for Ukraine in 2007.

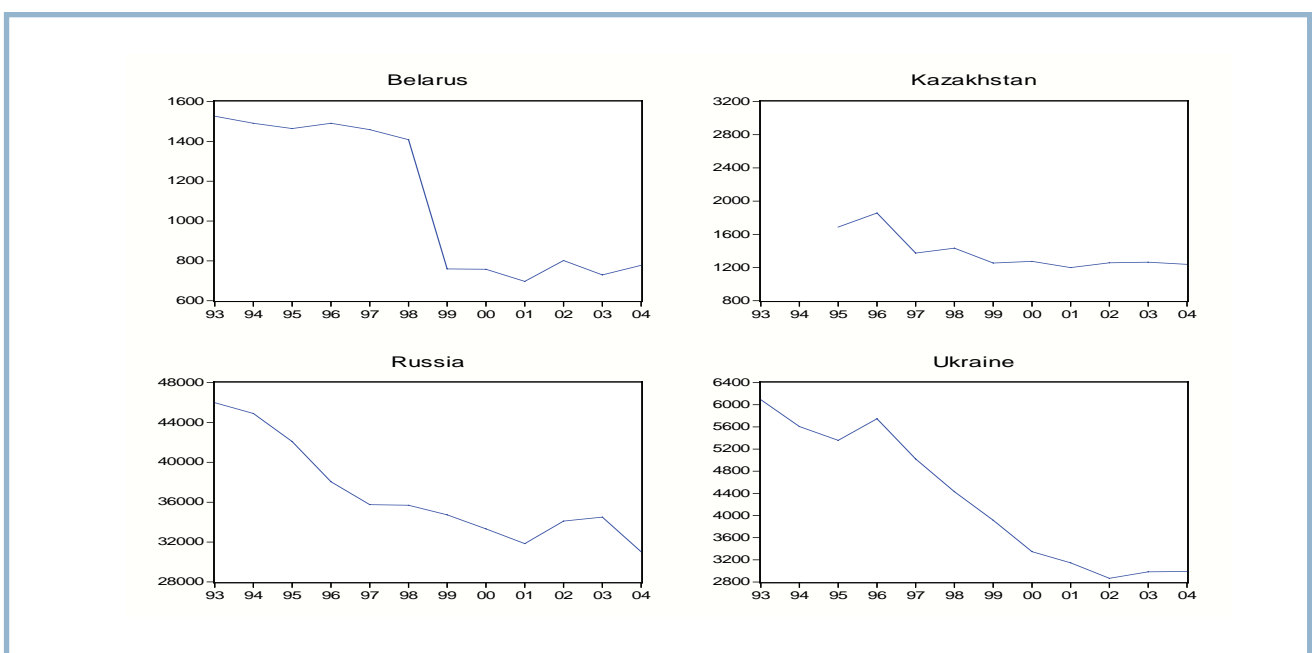
This evolution could be tracked per month. This information is very interesting and permits to target the period of the year during which a special effort should be made in terms of campaigns, information and control.



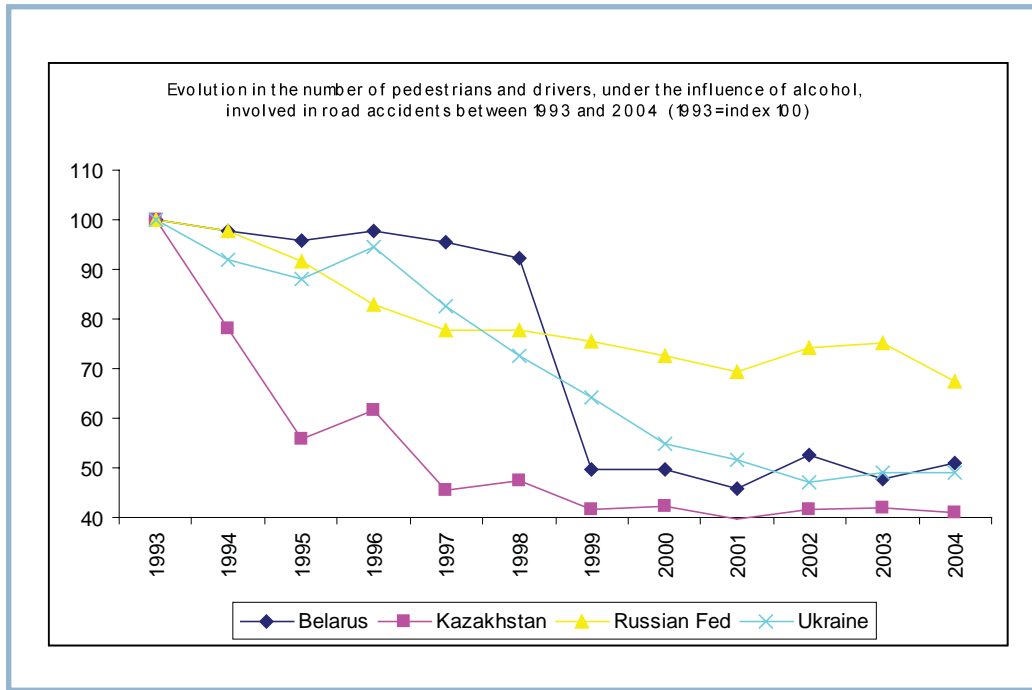
An important part of road fatalities are on urban roads.



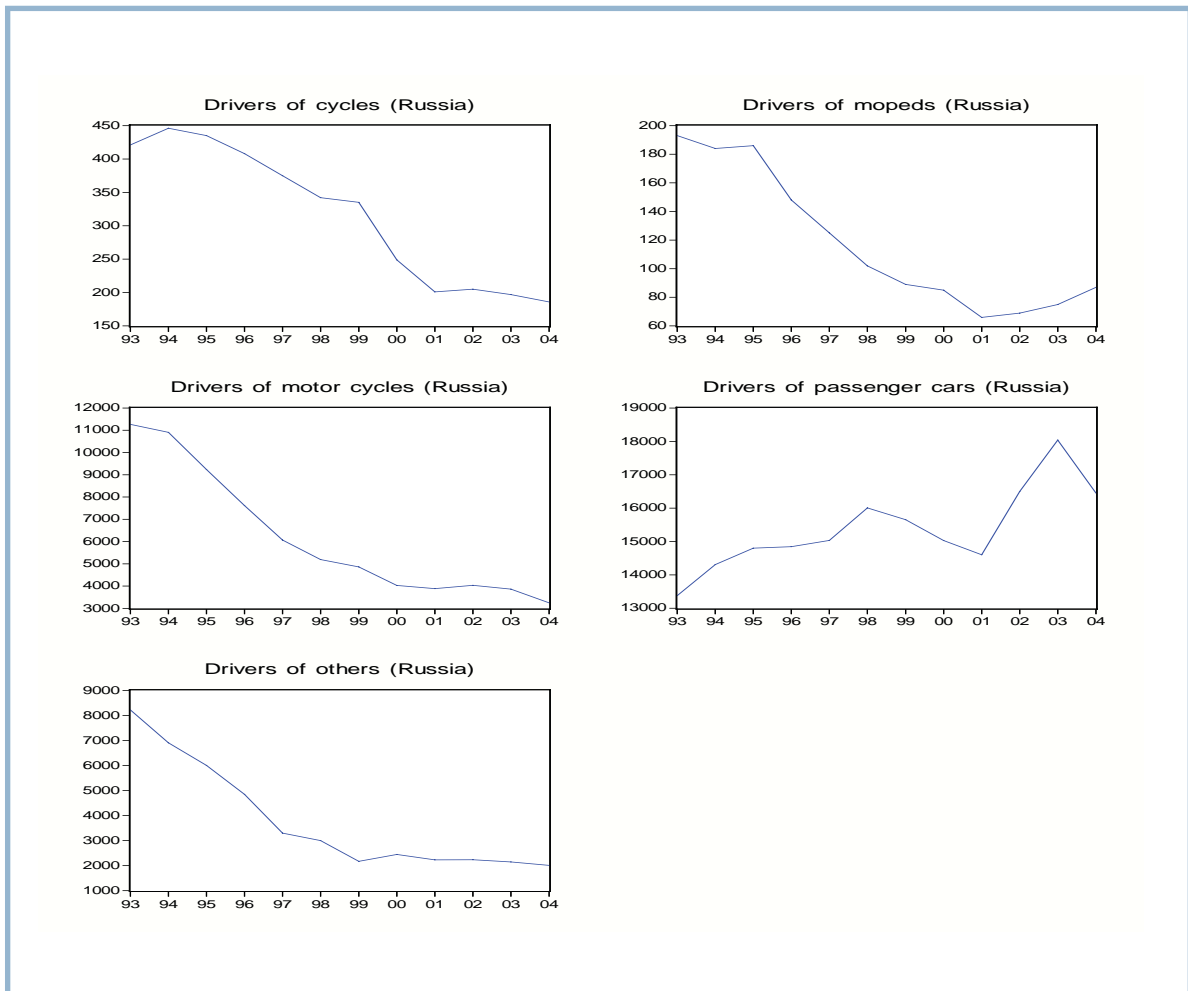
The graphic above shows that urban roads in Kazakhstan are becoming more and more dangerous from 2000/2001. The performance of enforcement of drink-driving measures could be approximated through UNECE time series. The number of pedestrians and drivers, under the influence of alcohol, involved in road accidents between 1993 and 2004:



All four countries show an important decrease but for Russia the decrease is less important if we consider the evolution in terms of percentage.



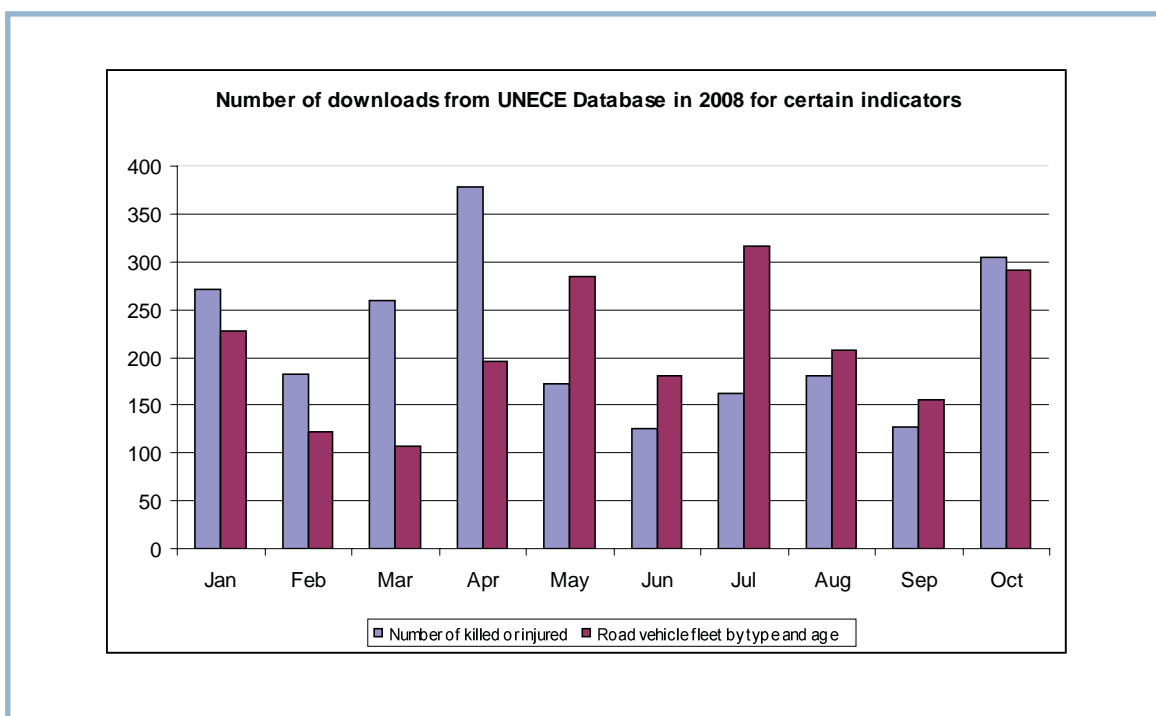
The Russian evolution of drivers, involved in accidents, under the influence of alcohol, is good for all drivers except drivers of passenger cars which registered an important increase in several years (see graphics below).



The UNECE Transport Statistics Database is a modern tool for road safety which is online, free and containing time series very disaggregated.

Several Road Safety Indicators could be easily downloaded from this database:

- Number of Persons Killed or Injured in Road Traffic Accidents;
- Road Traffic Accidents by Accident Type, Location, Country and Year;
- Road Traffic Accidents by Accident Type, Day of Week, Country and Year;
- Road Accidents by Accident Type, Light Condition, Country and Year;
- Road Accidents Involving One or More Persons under the Influence of Alcohol by Accidents;
- Pedestrians and Drivers, under the Influence of Alcohol, Involved in Accidents by Pedestrians or Category of Drivers;
- Road Traffic Accidents in Built-up Areas Involving Personal Injury by Accident Type, Nature of Accident.

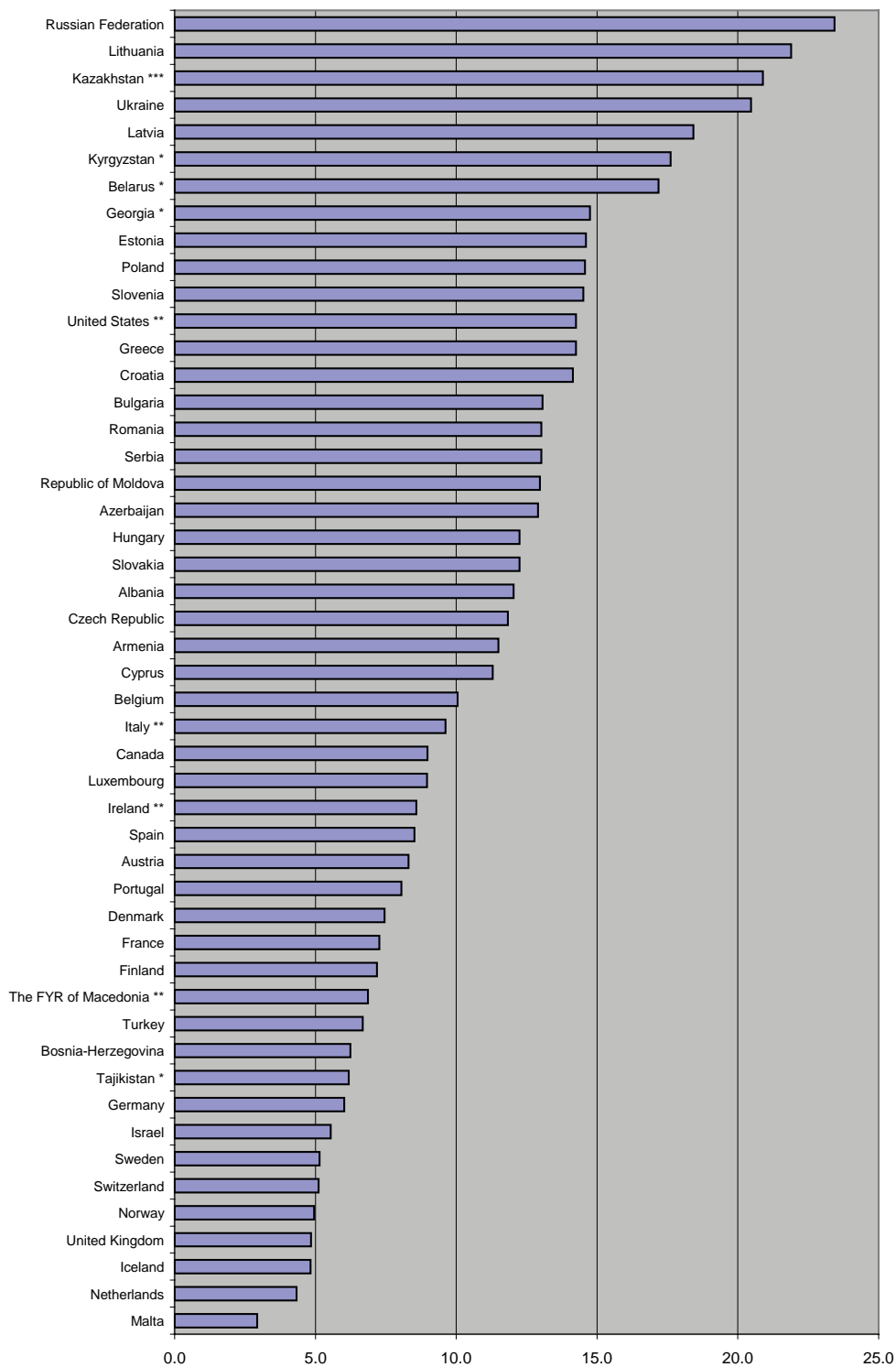


However there is huge room for improvement:

- Important work is needed to provide missing data for all member States;
- Collection of data has to be reviewed to take into account user needs in particular for road safety experts and policy makers;
- The possibilities offered by the use of geographical information system (GIS) could also have an important impact on this work.

In this chapter we will read articles that cast more light on regional and national experience from which we all can benefit: see articles with regard to the UNECE region on Armenia by H. Beglaryan, on France by M. Merli, on Italy by L. Iorio, on Kazakhstan by D. Kuterbekov, on the Netherlands by P. Aland, on Poland by R. Krystek and J. Zukowska, on Russia by A. Kvasov, on Sweden by R. Johansson, on a number of US States by M. Vegega, on Uzbekistan by A. Khashimov; with regard to the Africa region the regional overview is given by R. Lisinge, UNECA, and the article on Nigeria by O. Chidoka; with regard to the Asia Pacific region the regional overview is given by B. Cable, UNESCAP, and the case study on New Delhi by R. Baluja; With regard to the Middle East and North Africa the regional overview is given by N. Safwat, UNESCWA; and with regard to the Latin American countries see the article by M. del Carmen Giron Tomàs, Spain.

Fatalities per 100 000 inhabitants, 2007



* 2004 ** 2006 *** 2005

Armenia's recent legislative initiatives in the field of transport

Hrant Beglaryan, First Deputy Minister, Ministry of Transport and Communication, Armenia

Recently the Government of the Republic of Armenia has undertaken certain measures with the purpose of developing optimal regulations for the transport sector, based on its previous experiences and studies. In this regard, the following draft regulations are now being prepared by the Ministry of Transport and Communication of the Republic of Armenia.

According to the RA Prime-Minister's decision N123-A dated February 19th 2007 entitled "RA laws application measures adoption", the Transport Department of the Administration of the Ministry of Transport and Communication of RA developed and presented to the Government of RA for further discussion the draft "The general conditions of the agreement between regular bus transportation management body and carriers" in which the general rights, commitments and responsibilities of the Agreement's parties are defined. The developed draft takes into consideration the existing regulations for passenger transportation in urban, inner-regional, interregional and interstate transportations, and has established unique general conditions for the agreement between the transportation management body and carriers. As a result, it is expected, that it will be possible to coordinate the regular transportation companies' activities and to realize their activity's monitoring, as well as to guarantee the carriers' rights protection.

In accordance with the RA Government decision N491-A dated May 22nd 2008 entitled "Weighting international certificate application in CIS states", the Transport Department of the Administration of the Ministry of Transport and Communication of RA developed and presented to the Government of RA for further discussion the draft "Cargo transport means weighting stations/places requirements, international certificate delivery and application procedures, weighting international certificate form and description". The developed draft will simplify the procedure at border crossing points. In particular, it will avoid several (duplicate) weighting procedures within the country's territory. It will also create unified conditions and procedures for the cargo transportation sector, thus facilitating international communication and excluding actual obstacles. The decision aims to establish in weighting stations in the Republic of Armenia, which will be corresponding to the relevant agreement requirements and will be in a position to deliver the weighting international certificate to the transport means, which are involved in interstate cargo transportation operations. As a result of the application of the above mentioned decision, via

introducing transports means weighting international certificate it is envisaged to facilitate to the harmonization and unification of cargo transportation sector activity, thus simplifying border crossing protocols, excluding obstacles and several weighting requirements within the country's territory.

Also, according to the RA Government decision N 1440-N dated November 29th 2007 entitled "RA Government Action Plan 2008 and priority issues adoption", the Ministry of Transport and Communication of RA developed and presented to the Government of RA for further discussion the draft " Road cargo transportation management regulation adoption", which was accepted by decision N852-N dated July 31st 2008. The above mentioned decision aims to coordinate internal cargo transportation and guarantee transportation safety, carriers, expenditures and customers/clients interests. This decision defines cargo transportation management's main principles, transported cargos acceptance procedures, cargo sealing and identification requirements and also loading and unloading conditions requirements. As a result, it will be possible to provide sufficient coordination and monitoring of the internal (within the Republic of Armenia) cargo transportation activities.

Also, there are two other major strategic transport initiatives with are being implemented. (1) With the World Bank technical assistance, a draft Strategy for Road Safety is under development focusing on national and Yerevan City Levels. (2) With the co-financing of the Asian Development Bank (ADB), TA 4973-ARM Technical Assistance Project For the Transport Sector Development Strategy is being implemented. The main purposes of the TA is to support the development of a new transport sector strategy. The TA will assess in detail all modes of transport and identify strategic uses of resources for priority areas for sector development and operation needs for the next 10 years. The new transport sector strategy with a new vision and road map, will be the Government's key document guiding the policies and investments in the transport sector, including transport facilitation for 2009-2019. Specifically the TA will (i) develop a reform action plan, (ii) develop management information systems, (iii) define a long-term transport sector investment plan, (iv) support international transport facilitation and logistic sector development, (v) provide a capacity building development plan in all aspects for the transport sector, (vi) systematic resource mobilization for transport sector investments.

Mobiliser les ressources politiques

L'exemple de la France pour améliorer le niveau de sécurité routière

*Michèle Merli, Déléguée interministérielle à la sécurité routière,
MEEDDAT / DSCR, France*

Récit basé sur une intervention de Mme Merli lors d'un colloque à l'OCDE

Ce texte explique comment la France est parvenue à réduire de 43% le nombre des tués sur ses routes entre 2001 et 2007 grâce à une forte volonté politique, au plus haut niveau.

En 2001, le nombre de tués sur les routes de France s'élève à 8253 tués, soit 138 tués par million d'habitants, plaçant la France au 13^{ème} rang de l'Union européenne des 15, au 18^{ème} rang des 27 pays constituant l'union européenne d'aujourd'hui. Pourtant la situation avait nettement progressé depuis l'année 1972, où l'on dénombrait alors environ 16 000 tués et ceci, grâce aux premières grandes mesures prises concernant l'alcool (« boire ou conduire, il faut choisir » 1977, ou « un verre ça va, trois verres, bonjour les dégâts »), la ceinture (« un petit clic vaut mieux qu'un grand choc » 1975), la mise en place de limitations de vitesse sur les routes (90-110-130) et le permis à points en 1992. L'ensemble de ces mesures auxquelles il faut ajouter l'amélioration de la sécurité des véhicules et des infrastructures a généré pendant la période 1975-2001 une baisse moyenne du nombre des tués de 2,1 % par an.

L'année 2002 marque une rupture, avec une baisse du nombre des tués de 6,2 % par rapport à l'année précédente, confirmée les années suivantes. Ainsi sur la période 2001-2006, on a enregistré une baisse annuelle moyenne de 10,6 %. Que s'est-il donc passé à cette époque, avant et après, pour expliquer ce tournant, et cette baisse de 43% entre 2001 et 2006, où le nombre de tués a été « réduit » à 4620.

1. 1997-2002 : des actions isolées mais porteuses

- En 1997, la France fixe un objectif de réduction du nombre des tués de 50 % en cinq ans qui n'a pas été atteint, mais cette déclaration marquait une différence avec le passé en affichant une volonté politique.
- 1999-2002 : La communication de sécurité routière se durcit, fait appel notamment à un cinéaste Raymond Depardon et frappe le grand public en montrant la réalité d'un accident et ses conséquences dramatiques.
- En 2000, année de la sécurité routière, grande cause nationale, est organisée notamment la première semaine nationale de la sécurité routière.
- 2001 :
 - mise en place du conseil national de la sécurité routière, dont une des premières résolutions votées fut de s'opposer à l'amnistie présidentielle en matière de circulation routière
 - l'Union européenne adopte l'objectif de diviser par deux le nombre des tués d'ici 2010.
- Campagne présidentielle de 2002 : mobilisation des

associations de victimes de la route contre l'amnistie présidentielle accordée traditionnellement y compris pour les infractions au code de la route et engagements à différents degrés des candidats pour cette cause.

2. Mai 2002, élection de Jacques Chirac et 14 juillet, discours lors de la fête nationale où le Président annonce que la sécurité routière est l'un des trois chantiers prioritaires de sa présidence qui ne soit pas de pierre.

Le Président de la République en faisant de la lutte contre l'insécurité routière l'un des trois grands chantiers de son quinquennat, a engagé une mobilisation nationale et a souhaité un programme d'actions permettant une véritable rupture dans la lutte contre ce fléau inacceptable pour notre société. Cette volonté politique au plus haut niveau a été relayée dans l'action par une mobilisation du gouvernement très énergique et en particulier par le ministre de l'intérieur. Celui-ci, responsable des forces de l'ordre a renforcé les dispositifs de contrôle sur tout le territoire en donnant instruction aux préfets de veiller à la mise en place de ce dispositif sur le terrain et d'en évaluer les résultats en concertation permanente avec les collectivités locales.

Cette prise de conscience a également été largement relayée par les médias puisque les émissions télé et radio ou les articles de presse ont été multipliés par 6 pendant cette période.

3. Les priorités mises en œuvre à partir de 2002

Lors des Etats Généraux de la sécurité routière le 17 septembre 2002, les acteurs de la société civile se sont également prononcés en demandant avant tout de faire respecter les règles existantes, notamment pour les infractions relatives aux principaux facteurs de l'insécurité routière (alcool, vitesse, ceinture).

Dans ce contexte, le Comité Interministériel de Sécurité Routière réuni sous la présidence du Premier ministre le 18 décembre 2002 a marqué le point de départ d'un programme pluriannuel de lutte contre l'insécurité routière et fixé les grandes orientations de l'action publique autour des deux grands thèmes suivants :

- Accroître les contrôles et aggraver les sanctions pour changer les comportements et faire respecter la règle :
- Agir sur la formation et l'information pour faire émerger une culture sécurité routière et impliquer tous les acteurs :

Cette rupture souhaitée par le Gouvernement contre l'insécurité routière, qui doit faire partie intégrante des objectifs de prévention de la délinquance et des objectifs de lutte contre l'insécurité, relève notamment de l'engagement, au niveau local, de l'ensemble du corps social -institutions, collectivités territoriales, entreprises et associations.

Ainsi, au plan local, la sécurité routière doit être traitée dans le cadre des nouveaux dispositifs territoriaux de prévention et de lutte contre la délinquance : le Conseil départemental de prévention, le Conseil local de sécurité et de prévention de la délinquance, la Conférence départementale de sécurité mis en place par décret du ministère de l'intérieur du 17 juillet 2002. 12 juin 2003, promulgation de la loi contre la violence routière, permettant la mise en œuvre des mesures du CISR.

En sanctionnant plus sévèrement les usagers et en mettant fin au permis de conduire à vie, les dispositions de cette loi entendent sensibiliser, éduquer l'ensemble des usagers d pour tous.

1. Aggravation des peines

Aggravation des peines en cas d'accident mortel ou corporel causé par l'imprudence du conducteur

2. Suppression du permis blanc

Suppression de la possibilité d'obtention d'un permis blanc pour les conducteurs ayant eu un comportement dangereux

3. Peines complémentaires

Stage de sensibilisation à la Sécurité routière, immobilisation du véhicule..., de nouvelles peines complémentaires pour améliorer la prise de conscience collective

4. Récidivistes

Durcissement des règles applicables aux récidivistes

5. Confiscation du véhicule

Confiscation définitive du véhicule en cas de faute grave 6 : Rétenion du permis : Rétenion du permis de conduire après usage de stupéfiants

7. Radars et débridage

Aggravation des sanctions à l'égard des professionnels commercialisant des détecteurs de radars ou des kits de débridage pour cyclomoteurs

8. Inspecteurs du permis

Dispositions relatives à la protection des inspecteurs du permis de conduire et de la sécurité routière

9. Alcool

Mieux sanctionner la conduite en état alcoolique

10. Contentieux

Amélioration du traitement du contentieux routier

11. Permis probatoire

Fin du permis à vie avec l'instauration du permis probatoire

De toutes ces mesures c'est indéniablement la mise place du contrôle sanction automatisé qui a été la plus efficace.

Des travaux préparatoires, expérimentations et analyses juridiques, ont permis au CISR de décembre 2002 de retenir le principe du contrôle automatisé des infractions. Une mission interministérielle a été mise en place en mars 2003 et la loi de juin 2003 a fixé le cadre légal indispensable à son application : 4 mois plus tard (27 octobre 2003), le 1^{er} radar ét ait installé.

Une réussite : comme le montre le rapport d'évaluation de l'observatoire interministériel de sécurité routière de 2006 :

Au niveau des radars, le nombre des accidents mortels a baissé de 70% sur la période 2003-2005, mais le vrai enjeu est l'effet global de ce dispositif : entre 2001 et 2006, baisse de la vitesse moyenne de 8% et baisse du nombre des tués de 8253 à 4709, soit - 43%.

Près des trois quarts de la baisse des accidents mortels sur cette période est attribuable à la mise en place du contrôle automatisé

La situation actuelle

- Nombre de radars installés au 31/08/08 : 2 103 (fixes et mobiles)
- Nombre de Messages d'Infractions : 14,9 millions en 2007, dont :
 - 11,25 millions = plaques françaises
 - 3,65 millions = plaques étrangères, soit 25 % de l'ensemble

Il existe un problème d'équité entre les voitures immatriculées en France et celles immatriculées à l'étranger. Des négociations pour des accords bilatéraux avec nos voisins sont en cours, pour échanger les données des fichiers d'immatriculation afin d'identifier les propriétaires des véhicules. Pendant sa présidence de l'Union européenne, la France essaiera de faire aboutir la proposition de directive de la commission européenne qui vise le même objectif. Ce n'est pas facile, car il y a beaucoup de réticences. De même, la France est disposée dès 2009 à renforcer la confiscation des véhicules français et étrangers interceptés pour délit de grande vitesse.

Des objectifs ambitieux pour 2012

Suite à l'engagement du Président de la République, la rupture est très largement liée à la mobilisation avant la lettre d'une gouvernance à cinq, c'est-à-dire l'engagement dans le combat contre l'insécurité routière de toutes les forces vives du pays.

Maintenant, nous devons poursuivre notre action. Le Président de la République, dans la continuité d'une action efficace, nous demande de franchir une nouvelle étape très ambitieuse : moins de 3000 morts en 2012. Nous nous rapprocherons ainsi du peloton de tête de l'Union européenne, au 7^{ème} rang en 2007. Notre objectif est également de faire diminuer le nombre de blessés : nous en déplorons 104 000 en 2007, dont beaucoup de jeunes qui deviennent handicapés à vie. Cela représente un coût humain, psychologique et social incomparablement plus lourd que les actions menées pour lutter contre l'insécurité routière.

Nous savons que les tués et les blessés sur la route ne sont pas une fatalité et c'est toute la société qui doit continuer à se mobiliser. Cette mobilisation est totale au plus haut niveau de l'Etat et nous devons maintenant nous engager dans une étape plus large : réexaminer complètement l'apprentissage initial des conducteurs et mettre en place un apprentissage continu. Car nous sommes de plus en plus nombreux et mobiles, nous devons changer nos comportements : intégrer la dimension « écoconduite », favoriser l'intermodalité, c'est à dire assurer nos déplacements dans le cadre d'une mobilité raisonnée pour une meilleure sécurité, une sécurité durable.

Road safety in Italy

Luciana Iorio, Legal Officer, Ministry of Infrastructure and Transport, Italy



With traffic safety being such a high priority for the whole EU region, governments are daily pressed by the need to find cost effective solutions to the growing international flow of goods and passengers. New and efficient transport policies are expected to bring the answer.

In this context, road safety stands out as a subject of paramount importance and , at the same time, difficult and complicated to deal with because its inherent nature touches different fields.

Indeed , it is well known that to “make“ road safety, we have to deal with the three entwined factors; human, vehicle and infrastructure.

But a new challenge could be to study and consider all the factors related to road safety, and to bring them together as part of a wider transport strategy.

In this way, actions to be taken will also answer economic efficiency criteria and have yielding effects of well thought through transport and eco compatible policies.

Bearing this multidisciplinary context in mind, what is it that authorities, both at European and national levels, are really trying to achieve? What are the problems? And what are the smartest solutions, that would make it possible to cut the terrible price of casualties or to curb the devastating effect of pollution?

If we could jot down the known elements and evaluate what has been done then we could track the way forward, in a mutual exchange of best practices and ideas .

Indeed, we could start by saying that it is vital to have:

- Safer Infrastructure
- Responsible behaviour
- Safer cars

National Road Safety Plans set the guidelines for all categories of infrastructures and the standards to follow to upgrade the structure by specific criteria: Italy issued a National Plan for Road Safety, dealing with all aspects of road safety (enforcement, improving infrastructures, awareness campaigns, etc.) to be in line with the EU goals of halving the casualties.

Within this plan, the development of infrastructures and of the most dangerous stretches and tunnels has been considered as one of the most effective measures to increase road safety, with a dedicated budget.

Moreover, several measures have been settled to make drivers more responsible. Lately, in order to fight back the large number of alcohol-related road accidents and deaths on roads, the Italian Government has issued a decree, in which the public display of posters indicating the allowed BAC has been made mandatory .

Hence all bars and public places serving alcohol or alcoholic beverages must have on clear display the posters in which there is :

- An estimation of the BAC which is reached following the ingestion of different alcoholic drinks (beer, wine, spirits) and the weight of the person who is drinking it.
- A description of the effects of alcohol on body performance.

Utmost relevance is also given to car performances and car manufacturers play an active part in all research involving active and passive safety (i.e. ISA intelligent speed adaptation, electronic stability control (ESC), blind spot monitoring, adaptive head lights, obstacle and collision warning, etc.), and also the latest high tech fittings for efficient and affordable in-vehicle information and communication systems.

But we also want to protect the environment and lessen the impact of carbon footprints by making obsolete infrastructure more efficient and by planning accurate traffic management using technology to deal with bottlenecks and stop & go situations which often impair traffic and safety.

Moving ahead, it is not only the environmentally friendly we need to be. We must also have realistic, "economical friendly", transport solutions, because we have to consider factors, scale, and situations in which contact, inter modality, goods exchange, and passenger flow are important.

Although this is an incredibly difficult context to match, it is surely a worthwhile challenge.

By combining all these elements, we reach the conclusion that only through the technological upgrade of two factors, namely infrastructure and vehicles, and through new policies fostering road safety culture and enforcement, can targets be reached.

Still, reaching these point, still means we are just half way. We have not yet gone global, an essential part in competitive policies dealing with transport and cross border traffic flow .

All the elements mentioned above should be framed in an international context so as to arrive at a "glocal" model of transport policies, meaning strategies valuable in a wide context, profitable for industrialised economies and beneficial for the development in other situations.

International forums, such as the EU or the UN regional committees play, undoubtedly an important part, because only through them can harmonisation of technical standards and agreed principles become a common reality.

International partnerships, bilateral agreements, and macro regional projects have already opened the way for this new approach to deal with transport issues. It has become evident, especially since the outset of the UN actions of harmonisation, that legal and technical instruments approved by the countries of the region "facilitate their economic relations, create links and help to overcome differences", "and their common efforts over the last sixty years have resulted in a wealth of conventions, harmonized technical regulations, norms and standards" (Mr. Belka , former UNECE Executive Secretary).

Italy, as well as many EU or UNECE member States, has already committed to these actions, sharing research achievements and cross border enforcement policies, planning ITS deployments along international corridors and using common wording or pictograms to ease the traffic management in normal and critical situations.

As Italy is crossed by the Trans-European Network corridors and part of the Motorways of the sea project, the importance given to transport policies and to road safety, such as roadworthiness testing, random roadside check to verify the chronotachograph (HGV and some categories of buses), infrastructure upgrade and deployment, traffic management through harmonised VMS measures, is self-evident.

Therefore, it is a true priority to be involved in the harmonisation and synchronised deployment of ITS systems and services along these corridors.

Moreover, these experiences could be used in partnership and tutoring actions in new projects involving areas of new economy bordering Europe or new developing countries.

There are still many challenges ahead, and many wider plans should be drafted along the way, to answer to the different needs of a changing economic environment, shifting the technical deployment in new geographical areas and be ready to cast and mould the road safety knowledge in order to answer with appropriate customised projects where necessary.

The definite message is : it is not possible to stand and play alone in this new era of transport policies. Results, both profitable medium term acquisitions and long term reliable winning steps can be achieved only through an effective common effort.

Photo provided by the author

Справка по обеспечению безопасности движения на автодорогах республиканского значения

Dulat Kuterbekov, Vice-Minister, Ministry of Transport and Communication, Kazakhstan

Summary in English

Протяженность автомобильных дорог Республики Казахстан сегодня составляет 128 тыс. км, из которых более 93 тыс. км автодороги общего пользования. Из общей протяженности автодорог общего пользования 23,5 тыс. км республиканского значения, 69,5 тыс. км относятся к местной сети.

Большая часть существующей сети автодорог общего пользования построена в 60-80 годы прошлого столетия под 3 техническую категорию с шириной проезжей части 7м и тонкослойной дорожной одеждой с черно-щебеночным покрытием, под 6 тонную нагрузку на одиночную ось. В условиях резкого увеличения парка автотранспортных средств и их грузоподъемности имеющаяся дорожная инфраструктура оказалась неспособной обеспечить нормальный пропуск образовавшегося потока автотранспорта, что в своей закономерности привело к лавинообразному росту разрушений автодорог и увеличению аварийности на них.

2001 год объявлен Главой государства годом дорог и утверждена первая Государственная программа развития автодорожной отрасли на 2001-2005 годы, в соответствии, с которой освоено 184,6 млрд.тенге и восстановлено всеми видами ремонта более 11 тыс.км дорог республиканского значения.

Начиная с 2005 года в республике строительство и реконструкция дорог ведется с расчетной нагрузкой на ось до 13 тонн, все международные коридоры реконструируются по параметрам не ниже II технической категории. Гармонизированы 72 стандарта. Внедрен 5-ти ступенчатый контроль качества.

В 2006 году Указом Президента утверждена Транспортная стратегия Республики Казахстан до 2015 года с общим объемом финансирования развития транспортного комплекса 30 млрд.долл.США, из которых половина приходится на автодорожную отрасль.

В декабре 2005 года постановлением Правительства РК утверждена Программа развития автодорожной отрасли на 2006-2012 годы, согласно которой всеми видами ремонта планируется охватить 42 тыс.км автодорог общего пользования, с объемом финансирования 1,3 трил.тенге или свыше 10 млрд.долл.США, при этом начиная с 2007 года из РБ выделяются трансферты на местную сеть дорог, всего

Road safety on motorways of national importance in Kazakhstan

The total length of motorways in the Republic of Kazakhstan is currently 128 thousand km, including 93 thousand km of general use motorways. 23,5 thousand km of these are of national and 69,5 thousand km are of local importance. The largest part of the existing network was constructed between the 1960s and 1980s and corresponded to technical category III. With the rapid increase in the number of transport means and their capacity, the network was incapable of ensuring the proper turnover, which led to a general deterioration of the motorways and an increased number of accidents.

In 2001 the Republic adopted its first national road development programme for 2001-2005, which foresaw the reconstruction of existing roads and the construction of new roads using the new parameters not lower than technical category II. In 2006 the Transport strategy until 2015 was adopted, where half of the USD 30 billion transport budget was allocated to roads. By the end of 2012, an improvement of 86% for national and 70% for local networks is expected.

However, despite the measures taken, the number of accidents and the severity of injuries increase with unacceptable speed. 50% of accidents happen on roads of national importance. The largest part of accidents take place on straight and even roads with good visibility. The usual causes are speeding and driving in the opposite lane during overtaking. Most accidents happen between 18.00 and 24.00 and 50% involve drivers under 30 years old without sufficient experience. Decreasing the number of accidents is the main task for today and largely determines the road parameters and equipment (multiple lanes, electronic notices on the traffic, light-reflecting

до 2013 года планируется выделить **141** млрд.тенге.

К концу 2012 года ожидается улучшить состояние **86%** автодорог республиканского значения и порядка **70%** местной сети.

За последние 7 лет на развитие отрасли, включая местную сеть, выделено более **420** млрд. тенге, при этом если в 2001 году профинансировано **24,5** млрд. тенге, то уже в 2007 году **134,3** млрд. тенге. За эти годы из 93 тыс. км дорог общего пользования подвергнуто реконструкции и различным видам ремонта более **22** тыс. км дорог, в том числе на республиканской сети – **16,4** тыс.км.

В 2008 году на развитие автодорог общего пользования предусмотрено **128,5** млрд. тенге, в том числе из республиканского бюджета **103** млрд.тенге, из которых **20,9** млрд.тенге трансферты на местную сеть. Всеми видами ремонта будет охвачено **4,3** тыс.км

В текущем году по автодорогам республиканского значения планируется завершить строительство Южного обхода г.Астаны, реконструкцию автодороги «Чунджа – Кольжат» и участка «Доссор-Бейнеу» автодороги Атырау-Бейнеу. Будут продолжены работы на участках «Уральск – Актобе» и «Карабутак-Иргиз- гр.Кызылординской обл.» автодороги Самара-Шымкент, автодорог «Астана – Костанай – Челябинск», «Астана –Щучинск», «Щучинск – Кокшетау», «Омск – Павлодар – Майкапшагай», «Таскескен – Бахты».

К сожалению, несмотря, на принимаемые меры, статистика ДТП последних лет не имеет тенденции к снижению, и с каждым годом растет с недопустимой прогрессией. Начиная с 2001 года с ростом ремонтных работ, наблюдается увеличение ДТП и повышается их тяжесть. Если на автодорогах республиканского значения в 2001 году произошло 1797 ДТП, при которых погибло 706 и ранено 2514 человек, то за 2007 год совершено 3543 ДТП, при которых погибло 2010 человек и 4672 – ранено. Из всех погибших в ДТП в Республике Казахстан около 50% приходится на автодороги республиканского значения.

Проведенный анализ показывает, что преобладающее количество ДТП происходят на ровных и прямых участках, с обеспеченной видимостью. Основными причинами ДТП являются превышение скорости (каждое 4) и выезд на полосу встречного движения при совершении обгона (каждое 5). Большая часть ДТП происходят в вечернее время суток с 18 до 24 часов, 50% ДТП совершаются водителями в возрасте до 30 лет, не имеющих достаточного опыта.

Снижение аварийности на дорогах общего пользования является сегодня одной из главных задач дорожной отрасли. Поэтому Программой развития автодорожной отрасли на 2006-2012 годы при реконструкции и строительстве автодорог уделяется первостепенное значение безопасности дорожного движения.

marking materials, etc.) foreseen in the Road Development programme for 2006-2012 (full list of measures is available in the Russian text).

These and additional measures (traffic control centers, division of opposite lanes, etc.) will be applied in the reconstruction of the highways, including the Astana-Shuchinsk highway, which will be transformed into a highway of I «a» category. All international corridors will be covered, including corridor «Western Europe-Western China».

Presently, road safety work is carried out in accordance with yearly plans which are elaborated based on analysis of accident causes. Moreover, the Ministry created a Scientific and Technical Council, which approves all the construction and reconstruction plans.

At the same time, as it was mentioned earlier, the largest part of the motorway network was built between 1960 and 1980 and is insufficiently equipped for heavy transport with high volume capacity. To protect the network, limitations on traffic are introduced during certain periods of the year (early spring and the middle of summer). However, these limitations are not respected by the majority of road users and the Republic does not have the capacity to control and enforce the limitations (there are only 65 road control centers in the entire Republic out of which only 25 are internal). Therefore, to protect the existing infrastructure, together with the planned development measures, it is necessary to educate the motorway users about the need for the protection of the roads.

С этой целью:

1. Внесены изменения и дополнения в строительные нормы и правила по проектированию автодорог, в частности, предусматривается строительство 4-х и 6-ти полосных автодорог на наиболее загруженных участках, перевод в I категорию подъездов к крупным городам и областным центрам, все автодороги международного значения будут переведены как минимум во II категорию, где ширина покрытия составляет 9 метров, увеличена расчетная нагрузка на ось до 13 тонн.

2. На скоростных дорогах (автомагистралях) и международных коридорах планируется применять интеллектуальные системы безопасности с оповещением

на электронном табло состояния дорожного покрытия с устройством аварийно-вызывной связи.

3. Применение современных светоотражающих разметочных материалов на дорожных знаках, барьерных ограждениях и разметке.

4. На участках дорог с ограниченной видимостью и малым радиусом кривых производить переустройство земляного полотна для обеспечения максимальной безопасности.

5. Для исключения вероятности встречного столкновения и опрокидывания на автодорогах 1 технической категории с интенсивным движением устанавливаются барьерные ограждения на разделительной полосе и обочинах.

6. При реконструкции международных коридоров предусматривается строительство объездов крупных городов. В населенных пунктах, расположенных вдоль магистральных трасс, прошедших реабилитацию, где имеется большое скопление людей, предусматривается устройство освещения и надземных пешеходных переходов.

Кроме того в соответствии с пунктом 4.3.5 указанного СНиП, все разрабатываемые на строительство и реконструкцию проекты проходят обязательное согласование с органами дорожной полиции на предмет соответствия требованиям безопасности дорожного движения.

Все указанные мероприятия предусмотрены на реконструкции автодороги «Астана-Щучинск», протяженностью 224 км с переводом в категорию I «а» с 6-ти полосным движением. В целях обеспечения безопасности дорожного движения на всем протяжении предусмотрено разделение встречных потоков, с установкой барьерного ограждения на разделительной полосе и на обочинах, в населенных пунктах и транспортных развязках планируется устройство освещения, устройство интеллектуальных транспортных систем управления за дорожным движением, слежения за погодными условиями с отображением информации на электронных табло и аварийно-вызывной связью. Управление системой осуществляется с центрального диспетчерского пункта, где собирается вся информация о состоянии проезжей части и погодных условиях. А также на участке будет построено 5 объектов дорожно-эксплуатационной службы и 3 современных комплекса придорожного сервиса, включающих кемпинг с кафе и парковкой, станцию техобслуживания, автозаправочную станцию.

Подобные мероприятия планируется предусмотреть на всех международных коридорах, в том числе и при реализации проекта развития международного коридора «Западная Европа-Западный Китай» проходящего через города Актюбинск, Кызылорда, Шымкент, Тараз, Алматы с выходами в Узбекистан (на Ташкент) и КНР (на Хоргос), а также на участках автодорог, «Алматы-

Капшагай», «Астана-Караганда», «БАКАД», которые будут реализованы на концессионной основе.

В настоящее время работы по повышению уровня безопасности движения производятся в соответствии с ежегодными планами, формируемыми на основе анализа причин аварийности на дорогах. Весной и осенью проводится комиссионный осмотр автодорог с участием представителей органов дорожной полиции на предмет технического состояния и соответствия безопасности движения, что позволяет своевременно планировать необходимые мероприятия.

Ежегодно на автомобильных дорогах наносится 11 тыс. км дорожной разметки и замена более 19 тыс. шт. дорожных знаков с применением светоотражающих материалов, в том числе и на автодорогах республиканского значения 9 тыс. км дорожной разметки и 13 тыс. шт. дорожных знаков.

Кроме того, в Министерстве создан Научно-технический совет (НТС) в составе представителей Комитета дорожной полиции, Комитета по делам строительства и научных организаций. Все проектные решения на строительство и реконструкцию принимаются с одобрения НТС. При приемке в эксплуатацию законченных объектов, в состав приемочной комиссии входят представители дорожной полиции.

Вместе с тем, как было изложено ранее, основная сеть автодорог общего пользования построена в 60-80 годы, с тонкослойной дорожной одеждой с чернощебеночным покрытием, которая в условиях перегрузки подвергается интенсивному разрушению от тяжеловесных автотранспортных средств. В целях обеспечения сохранности автомобильных дорог ежегодно в весенний паводковый и жаркий летний периоды на республиканской сети вводятся ограничения движения автотранспортных средств, нагрузка на одиночную ось которых превышает 8 тонн, за исключением перевозчиков осуществляющих международные перевозки грузов и пассажиров в соответствии с международными соглашениями, занятых на мероприятиях по предупреждению и ликвидации чрезвычайных ситуаций, а также перевозящих скоропортящиеся товары. Однако сегодня большинство пользователей автодорог не соблюдают установленные требования, что приводит к интенсивному разрушению дорог. В республике имеется всего 65 постов транспортного контроля из них 25 внутренние посты, которые не способны обеспечить контроль на всех участках сети автодорог.

Поэтому для обеспечения сохранности имеющейся дорожной инфраструктуры наряду с проводимыми мероприятиями, важное значение имеет воспитание бережного отношения к автодорогам и самих пользователей автодорог, так как от них во много зависит их дальнейшее состояние.

Never change a winning concept

Road safety in the Netherlands: “from, for and by everyone”

Petronella Aland, Senior Advisor, Ministry of transport, public works and water management, The Netherlands



Road safety in the Netherlands is among the very best in the world. We have been called ‘world champion in road safety’ due to the low numbers of road fatalities. In ten years’ time, the number of injuries has dropped by over 10% and the number of road fatalities has decreased by 30%, even though there has been a 20% increase in mobility during the same period.

World-class athletes mostly decide to stop competing at the peak of their career, but we intend to keep going. We have to. Every day two people leave their house to never return safely. Since traffic accidents take place over the course of a year and are considered ordinary occurrences, they do not have the same impact as a plane crash, but the accident statistics still represent major human suffering and huge costs for society. Preventing that suffering and limiting those costs are our motivations for a new strategy plan.

The Road Safety Strategy 2008-2020 was drawn up in the past year as an extension of the Mobility Policy Document. The strategy assumes a target of a maximum of 500¹ fatalities in

¹ In 2007 there were 791 fatalities. In the seventies there were more than 3000.

2020 and no more than 12,250 injuries in traffic. We will not achieve such a significant decrease without any effort. We need to cooperate with other government parties, enforcement authorities, knowledge institutes and civil society organisations, but also with other countries, sharing best practices.

Our Road Safety Strategy

The easy pickings have already been harvested; there are not many quick wins left. Three cornerstones have been at the heart of road safety policies over the past years and will continue to be essential in the coming years: sustainable safety, cooperation and an integrated approach.

Sustainable Safety has been a source of inspiration for ten years now, a vision that will be continued to further reduce the risk of accidents.

Cooperation with other government bodies, enforcement agencies and civil society organisations is also essential. Regulations that cannot be enforced are futile.



Finally, we take an **integrated** approach to road safety: we make cross-connections with other areas of policy. This includes the environment and accessibility spatial planning. However, there is more to achieve. We will therefore focus specific attention on two target groups by imposing stricter consequences on people who cause unsafe situations and protecting vulnerable groups in traffic even more effectively.

First, we will be taking a tougher approach to people who cause unsafe situations. Relatively speaking, it is people who break the speed limit and people who drive after drinking alcohol who cause the most accidents. In a new development, these violators will be experiencing more direct consequences. This means: tit-for-tat, compulsory measures such as alcohol lock-out, speed limiting devices or behavioural modification courses – paid for by the violator. Such measures would not be compulsory for all road users, only for drivers who do not follow the rules. We want road users to take personal responsibility for their driving behaviour.

Second, we will be arranging extra protection for people who are particularly vulnerable to road safety issues. For example, it is known that the elderly, motorcyclists, cyclists and children are relatively more at risk in traffic. Taking specific measures on behalf of these groups should improve their position. In an EU context, we will stimulate the market to introduce technological innovations, invest in schooling and rewards, and engage in coalitions with associations for cyclists and the elderly, among others.

From, for and by everyone

Everyone contributes to road safety in our country, because every road user is personally responsible for his own safety and the

safety of others. Besides that factor of personal responsibility, the Government is responsible for ensuring safety in public areas; road safety falls within the scope of that mandate. One way in which the Government takes responsibility is by creating limiting conditions. We set requirements for people, vehicles and road design. The Government also works at international, national, provincial and local levels to achieve safe infrastructure and rules that promote safety.

It is crucial to realise that proper participation in road traffic also benefits road users by providing them a safe space in which they can travel from one place to another, encounter others and transport goods. Free mobility thus contributes to our welfare, increasing social cohesion and strengthening the economy. Keeping the mobility system we know now is one of our key principles.

Global competition

Working on road safety is an ongoing process. It means permanently seeking out improvements and assimilating new knowledge, insights and techniques.

We should not think exclusively in terms of deaths and injuries. No level of deaths or injuries can ever be considered acceptable. Because the victims are spread out over time and geographic locations, it is increasingly difficult to keep road safety on the agenda - while human suffering and economic losses continue unabated. We face an additional challenge in maintaining sufficient focus on this topic in the coming years, nationally as well as globally. The Ministerial meeting in 2009 in Moscow is an important step for road safety globally. The outcome should be that it is within every countries' reach to become the next world champion on road safety.

Photos for this article were provided by the author

Road safety in Poland

Prof. Ryszard Krystek and Dr Joanna Żukowska¹, Gdańsk University of Technology, Highway Engineering Department, Poland

Twenty years into the process of political and social change, Poland's market economy and living standards have improved significantly. Economic growth has produced a greater demand for transport leading to an increase in the vehicle fleet and miles travelled. Sadly, the growing motorization has not been accompanied by new roads or policies to improve the safety of traffic, vehicles or drivers. As a result, a sharp increase in road accidents and casualties reached a peak in 1991 with 7901 road deaths (Figure 1).

Today, looking back, the team of international experts, called the Gerondeau group, and their report "Road Safety in Poland" are considered the milestone for Poland's road safety improvement process. The report established that the main reasons for Poland's poor road safety performance is because it lacks a central body to coordinate safety policies or a longterm road safety programme.

The Polish Government gave the report the consideration it required and established in 1993 the National Road Safety Board, an inter-ministerial body chaired by the Deputy Prime Minister. Next, the Minister of Transport commissioned the Scientific Research Committee to prepare the National Road Safety Programme. Developed by a team of Polish specialists headed by the Gdańsk University of Technology, the programme was

called GAMBIT'96 and became Poland's first road safety policy bringing together a number of actors under the then popular principle of 3E: engineering, enforcement and education.

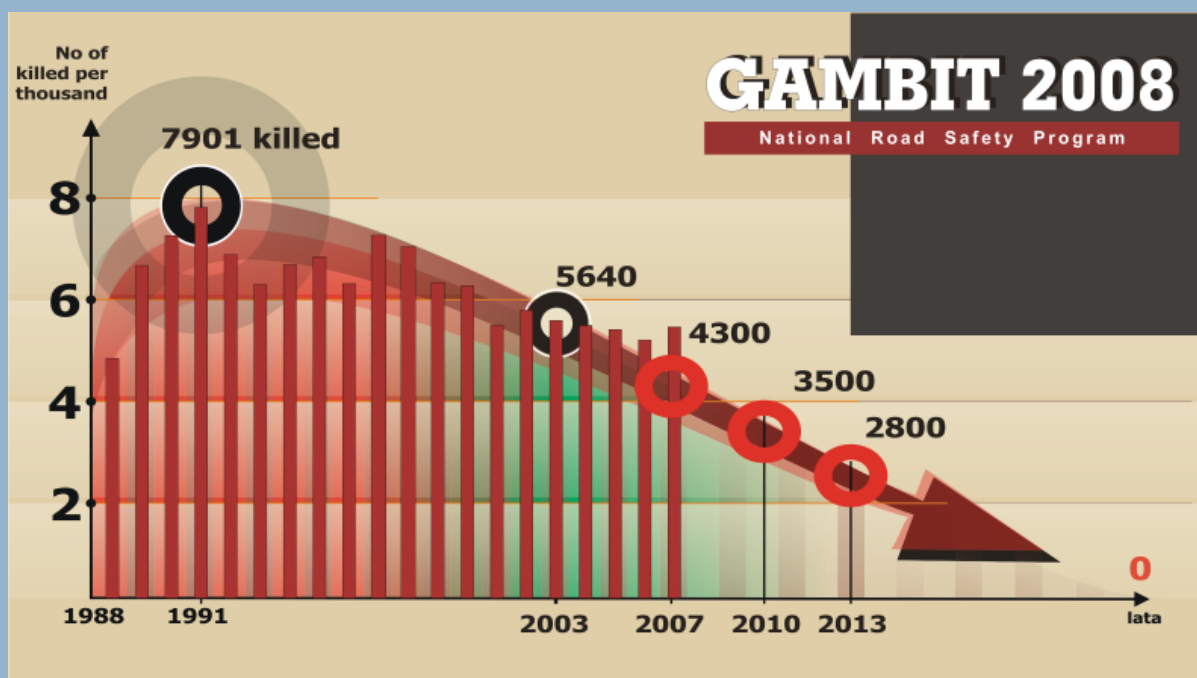
In 1999 the Parliament passed a new act on Poland's administrative division and the transport minister ordered an updated version called GAMBIT 2000 to reflect the administrative changes.

Between 1991-2000 Poland achieved a significant improvement in the state of safety on Polish roads. The annual fatality number went down from nearly 8,000 to 5,500. Sadly, this has now levelled off, suggesting that the current safety measures are no longer able to cope with the growing road traffic.

Five years after Poland's accession to the European Union, the Government adopted several important road transport policy documents. These include:

- The National Transport Policy for 2006–2025 setting out how Poland's transport will develop, especially in the first period of financing the transport system in the years 2007-2013. The document was developed based on guidelines from the 2001 paper "EU Transport Policy – time to decide"

Figure 1. Road fatalities in Poland



Source: Gambit 2008 Seminar

- The National Road Safety Programme GAMBIT 2005 based on the guidelines of the 3rd Road Safety Action Plan for the EU.

The new national GAMBIT 2005 is the Government's road safety programme for the years 2005-2007-2013 (Figure 2). Implementation efforts took up the first two years, prior to the funding period 2007-2013, when EU money becomes available for transport infrastructure. Poland made clear its intention to join the European road safety policy by signing the European Road Safety Charter and adopting the target of halving fatalities in 2013 compared with 2003, which is not more than 2,800 road deaths annually. Sadly, the rate in Poland now is 14 killed per 100,000 population, a outcome significantly above the EU average.

GAMBIT 2005 has 5 main goals:

1. Build a basis for a longterm road safety policy
2. Implement measures to significantly change road user behaviour
3. Protect pedestrians, bicyclists and children in road traffic
4. Develop and maintain road infrastructure
5. Reduce accident severity, i.e. reduce the percentage of people killed per 100 people injured.

Under the Road Traffic Law the Transport Minister is the chairman of the National Road Safety Board and oversees the work of the national GAMBIT programme team. The team's other responsibilities include developing prevention measures, ensuring funding to support the measures, monitoring implementation and effectiveness evaluation. The work carried out between 2005-2007 included the implementation of the programme at several levels:

- **Operational programmes** include the framework measures that ensure that lower level programmes can be implemented, controlled and evaluated
- **Sectoral programmes** are implemented by the ministries and central bodies and cover policies within the individual ministry's remit. For example, a safety education programme for children and students is the responsibility of the Ministry of Education whilst the Ministry of the Interior is responsible for safety programmes implemented by the Road Police and the Fire Service Headquarters is responsible for technical rescue programmes
- **Regional programmes** cover issues that are the responsibility of regional authorities such as regional road infrastructure, education and driver exams, vehicle inspection, etc. Regional road safety programmes are prepared by multi-disciplinary teams coordinated by regional road safety councils and headed by the region's marshal. The work of regional councils largely depends on the level of activity of regional road traffic centres, an organisation which runs driver

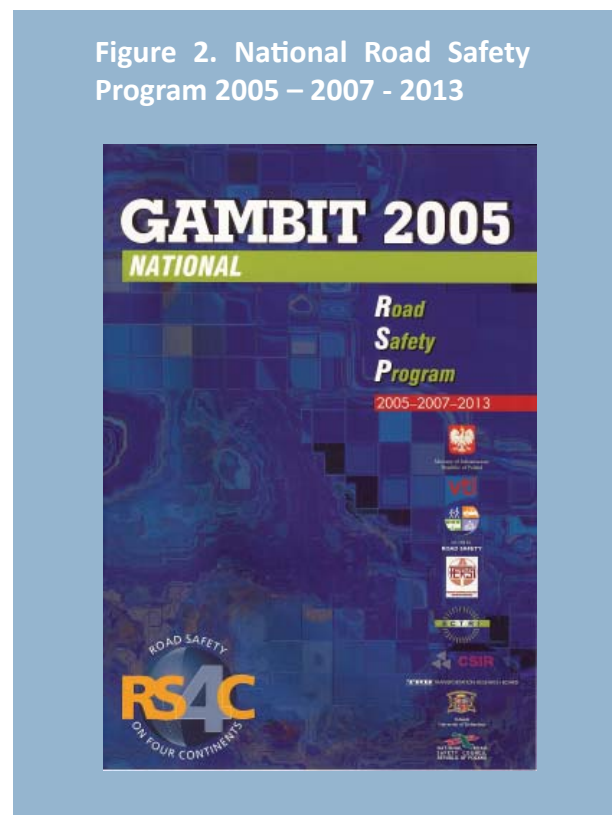
examinations. It also provides the secretariat for the regional road safety council. Regional programmes are based on National GAMBIT 2005 guidelines

- **Local programmes** are developed by local authorities and are designed to increase safety of the local communities. The programmes cover primary school education, modernisation of local road infrastructure, road traffic enforcement, etc. Similarly to regional structures, local authorities have their local or city road safety councils responsible for managing safety locally. The voluntary sector with NGOs has an important role to play, especially in the area of education, local road infrastructure and traffic control.

While the National Road Safety Programme is a priority for those who wrote it, it does not have the support of a professional body dedicated to the development of operational programmes, monitoring the progress, evaluating the measures and correcting them, if necessary. Because the National Road Safety Board is an advisory body and meets twice a year only, it is not suited for such work. But there is hope for improvement.

Under an initiative of the Prime Minister, a parliamentary group has been established with members from different political parties who care about the state of road safety in Poland. Additionally, work has begun on setting up a national and regional road safety observatories following SafetyNET guidelines. This should prove a good tool for monitoring preventative measures designed to reach the common European target of halving road deaths.

Figure 2. National Road Safety Program 2005 – 2007 - 2013



Illustrations for this article were provided by the authors

The authors participate in the ZEUS (the Integrated System of Transport Safety) project which is a research project designed to develop a transport safety model. Its objective is to integrate safety issues in all the modes and support decisions concerning Poland's new and existing transport infrastructure. The project has five modules studying the possible ways to integrate Poland's transport safety systems from the organisational, legal, technical, spatial and human resources aspects.

State Road Safety Policy in the Russian Federation

Victor N. Kiryanov, Chief State Inspector of Traffic Security,
Ministry of Internal Affairs, Russian Federation

Формирование и реализация государственной политики в области обеспечения безопасности дорожного движения в Российской Федерации

Дорожно-транспортная аварийность ежегодно уносит жизни около 30 тысяч человек, что вызывает крайнюю обеспокоенность руководства страны. В этой связи в 2005 году состоялось заседание Президиума Государственного Совета под председательством Президента Российской Федерации. После обстоятельного анализа положения было принято решение о необходимости кардинальных изменений в сфере обеспечения безопасности дорожного движения.

Основу национальной стратегии составили Федеральная целевая программа «Повышение безопасности дорожного движения в 2006-2012 годах» и принятые в ее развитие региональные и муниципальные программы, в которых фактически воплотилось требование руководства страны об активизации роли государства в снижении дорожно-транспортного травматизма.

Впервые поставлена программная задача - сократить к 2012 году число погибших в дорожных происшествиях в полтора раза к уровню 2004 года.

Ключевыми направлениями достижения поставленной цели являются предупреждение опасного поведения водителей, совершенствование организации движения транспортных средств и пешеходов в крупных городах, профилактика детского дорожно-транспортного травматизма, организация оказания помощи пострадавшим в дорожно-транспортных происшествиях и ряд других мероприятий.

Предусмотрен целый комплекс программных мер по дальнейшей оптимизации системы управления в области безопасности движения, уточнению функций, компетенции

и ответственности федеральных, региональных и местных органов исполнительной власти, разработке регламентов их взаимодействия.

В конечном итоге, «центр тяжести» деятельности по профилактике аварийности следует перенести в субъекты Российской Федерации, а состояние дорожно-транспортного травматизма должно стать одним из показателей их социально-экономического развития.

Определенные положительные сдвиги в этом направлении уже наблюдаются. Практически во всех регионах идет активная реализация программных мероприятий.

Сегодня можно говорить о том, что создана система информирования населения о состоянии безопасности дорожного движения. Установлено деловое взаимодействие с ведущими средствами массовой информации, налажено сотрудничество с общественными и правозащитными организациями, представителями религиозных конфессий.

Повышенное внимание уделяется вопросам обучения и воспитания участников движения и, прежде всего, детей. Сегодня в школах страны работают около 70 тысяч кабинетов и уголков по безопасности движения.

Более 270 тысяч учащихся объединены в добровольные отряды юных инспекторов движения. Развернута работа по строительству детских автогородков.

Начат процесс внедрения перспективных форм и методов приема экзаменов на получение права управления транспортными средствами с использованием автоматизированных комплексов, способных обеспечить объективность оценки знаний правил дорожного движения и навыков вождения.

Особое внимание уделяется применению ремней

безопасности, детских удерживающих устройств, мотошлемов, использованию световозвращающих элементов на одежде школьников.

Предпринимаемые усилия находят соответствующую реакцию общества. Мониторинг общественного мнения свидетельствует, что уже около 40% опрошенных граждан отмечают улучшение в обеспечении безопасности движения и положительно оценивают деятельность государства в этом направлении. При этом две трети жителей страны поддерживают ужесточение наказаний за совершение грубых нарушений правил дорожного движения.

Очевидно, что усиление санкций без широкого комплекса профилактических мер по формированию законопослушного поведения участников дорожного движения, бесперспективно. В арсенале у государства имеются различные формы экономического и социального воздействия на нарушителей, которые будут активно использоваться.

Принятые меры позволили достичь определенных результатов. Впервые за последние 8 лет началось снижение числа дорожно-транспортных происшествий и количества раненых, снизилась тяжесть последствий, сократился детский дорожно-транспортный травматизм. Причем эти результаты отмечаются в условиях очень высоких темпов прироста автопарка. Так, только в 2007 г. количество транспорта в России увеличилось на 2,8 млн. единиц. В 2008 г. парк транспортных средств вырастет еще на 4 млн. единиц.

Однако первые позитивные результаты не дают оснований для успокоенности, поскольку масштабы аварийности еще слишком велики. Требуется дальнейшее наращивание усилий, придание нашей совместной работе еще большей системности и скоординированности.

В настоящее время в Российской Федерации идет активная работа по приведению национальных нормативных правовых актов в области безопасности дорожного движения в соответствие с международными правилами и принципами. В частности, была ратифицирована Конвенция о взаимном признании и исполнении решений по делам об административных правонарушениях правил дорожного движения в рамках Содружества Независимых Государств.

Осуществляется реализация требований Конвенций о дорожном движении и о дорожных знаках и сигналах. Разрабатывается новая система допуска водителей к участию в движении с учетом их подготовки и опыта управления транспортными средствами.

На 62-й сессии Генеральной Ассамблеи ООН было одобрено решение о проведении в 2009 году в Российской Федерации при содействии ООН первой Международной конференции по безопасности дорожного движения на министерском уровне. Российская Федерация активно готовится к проведению этого важного мероприятия.

Конференцию планируется посвятить комплексному обсуждению ситуации в области безопасности дорожного движения в мире и ее влиянию на социально-экономическое развитие стран. В частности, должен быть проведен обзор прогресса в выполнении странами рекомендаций Всемирного доклада о предотвращении дорожно-транспортного травматизма, а также определены пути дальнейшего укрепления международного сотрудничества.

Предполагается, что основным партнером со стороны ООН станет Всемирная организация здравоохранения. К проведению мероприятия привлечены агентства ООН, включая региональные экономические комиссии, учрежденная Всемирной организацией здравоохранения Группа по сотрудничеству в рамках ООН в области безопасности дорожного движения, а также другие организации и учреждения.

По инициативе ВОЗ создан международный консультативный комитет по подготовке к проведению Конференции, первое заседание которого состоялось в ноябре 2008 года в штаб-квартире ВОЗ в Женеве.

Конференция пройдет в ноябре 2009 года. К участию в ней будут приглашены представители всех стран-членов ООН, а также неправительственные и общественные организации. Предполагается, что в состав делегаций войдут как руководители органов, отвечающих за обеспечение безопасности дорожного движения на уровне министров, так и эксперты по безопасности дорожного движения.

Имеются все основания полагать, что Конференция придаст очередной импульс усилиям, предпринимаемым международным сообществом по преодолению глобального кризиса в области обеспечения безопасности дорожного движения.

On some of the peculiarities of road safety state management in the Russian Federation

Alexander Kvasov, Assistant to the General Director of the Russian Automobile Federation

By the time of the collapse of the Soviet Union, the Russian Federation had accumulated a lot of problems in the financial and social spheres.

Colossal salary indebtedness, inflation, crime and a threat of separatism in the newly formed State meant that due attention was not paid to the threatening figures of mortality and rates of traumatism resultating from road accidents.

The outdated nature of the road infrastructure and low salaries of road inspection staff did not have a positive influence on the road safety situation.

Before 2000, there had been no notion of a State strategy for road safety, and attempts to introduce systematic solutions found response from neither participants of the road movement nor the State, and were disparate and episodic.

The avalanche-like increase in the private car stock has caused chaos on the roads.

After changes in the country's leadership and the appointment of V. Kiryanov as Head of the Main Road Safety Inspectorate, a new epoch has emerged in the activities of state structures responsible for affairs in this field.

In our opinion, the main achievement of the new leadership of the Road Safety Inspectorate was acknowledging the problem at the highest level of State leadership, and applying new, though not always unambiguous, methods for its solution.

The holding of the State Council Presidium dedicated to road safety issues, under the leadership of V.V. Putin, former President of the Russian Federation, marked the beginning of a breakthrough in the awareness of the country's leadership.

At the State Council, the President linked the high rate of mortality and traumatism on roads directly to the threat on national security, and the material loss of road accidents to the substantial factors which impede national economic growth.

The next step in implementation of the new strategy was the adoption of the Federal Target Program "Road Safety 2006-2012", envisaging an additional state financing of USD2.2 billion for road safety programs.

Several amendments were made to the Administrative Code of the Russian Federation, toughening the penalty for infringement

of road safety rules.

Also, several Decrees of the President of the Russian Federation V. Putin were issued, motivating State authorities to work more actively to improve the situation.

It is noteworthy that the mentioned steps were fundamental compared with what was being done to improve road safety in the previous years.

Within all this time, however, the biggest mistake in the field of state road safety policy committed at the time of the Soviet Union existence, was not corrected.

At a time when the number of cars in our country was substantially behind the rate of developed countries, all issues associated with the registration and control of the car stock, as well as the management in the field of road safety, could be easily commissioned to the subdivision of the Ministry for Internal Affairs.

However, due to changes in the countries which caused a sharp, unpredictable growth in the number of cars, the old system system became defective, and all attempts to transform and strengthen the situation, through submission of additional authority and financial injections, move us away from civilized approaches to solving the problem.

Today, Russia is the world's only country which commissioned coordination and, consequently elaboration of the main solutions in the field of road safety, to the Ministry for Internal Affairs, specifically, The Main Road Safety Inspectorate.

This explains the poor progress in problem resolution, the difficulty in coordinating infrastructural change and the growth of the country's car stock, for in our country there are five structures responsible for road safety: the Ministry for Internal Affairs, The Ministry for Emergency Situations, the Ministry of Education, the Healthcare Ministry, and the Transport Ministry.

In our view, until this system fault is eliminated by the country's leadership and the coordination of the road safety activities is commissioned to the Transport Ministry, substantial changes in the situation are impossible.

The implementation of Electronic Stability Control in Sweden

Roger Johansson, Chief Strategist Traffic Safety, Vägverket /Swedish Road Administration, Sweden

Background

Electronic Stability Control (ESC) has been proven to be very effective in reducing crashes related to loss of control. The first studies of the effectiveness of ESC were published in 2003 by the Swedish Road Administration and Folksam Insurance Group. Several studies followed in 2004 and 2005 establishing a scientific ground for declaring that ESC was effective, in fact one of the most effective safety initiatives ever. At the time of the first study, 15 % of the new cars sold in Sweden were equipped with ESC. 48 months later, the penetration rate was over 90%, which is the highest in the world. By the end of 2008, the fitment rate will reach almost 100 %.

Actions to improve penetration

The first mass market car with ESC was introduced in late 1998, when a specific car model was recalled and ESC was added to improve handling, following an event in Sweden involving a journalist tipping over the car in a manoeuvre test. ESC was then gradually implemented on executive mid size and large cars and reached a 15 % new car sales penetration in mid 2003.

The first scientific study of the real life effectiveness of ESC was presented in March 2003 by SRA and Folksam in cooperation with the Swedish Magazine *Auto, Motor och Sport*. The effectiveness of ESC was far higher than anyone could have expected. The organisations involved also took the unusual step to act from results of only one study, and issued a recommendation at the same time that "all car buyers are recommended to choose a car with ESC, and all vehicle manufacturers and importers should make ESC available as soon as possible". The results and the recommendation caught major media interest.

At the same time, purchasing and rental car policies for SRA and Folksam operations were changed so that all new cars bought from the date of the presentation must have ESC, and also stating that in the near future all cars rented for short term or long term renting and used by staff of Folksam and SRA must have ESC. This decision was taken to influence the rental car market that has a fair market share for new cars (in the order of 7-8 %). The change in policy was also intended to influence other fleet buyers to change their policies.

Later in 2003, the first screening of how car manufacturers and importers of cars had reacted, and to what extent ESC fitment was increasing, was made. Some manufacturers and importers were contacted to discuss their plans for ESC fitment, especially

those who were to introduce new models. The intention was to get in touch with the market departments to show the interest in ESC and thereby possibly influence their decision to make ESC standard fitment. It is likely that several manufacturers and importers changed their intended decision after those contacts.

Late 2004, when more scientific evidence showed that ESC was highly effective, the Director General of SRA sent a letter to all manufacturers and importers asking them to stop selling cars without ESC equipment as quickly as possible. This letter had of course no legislative or other legal basis, it was simply a request based on the scientific findings.

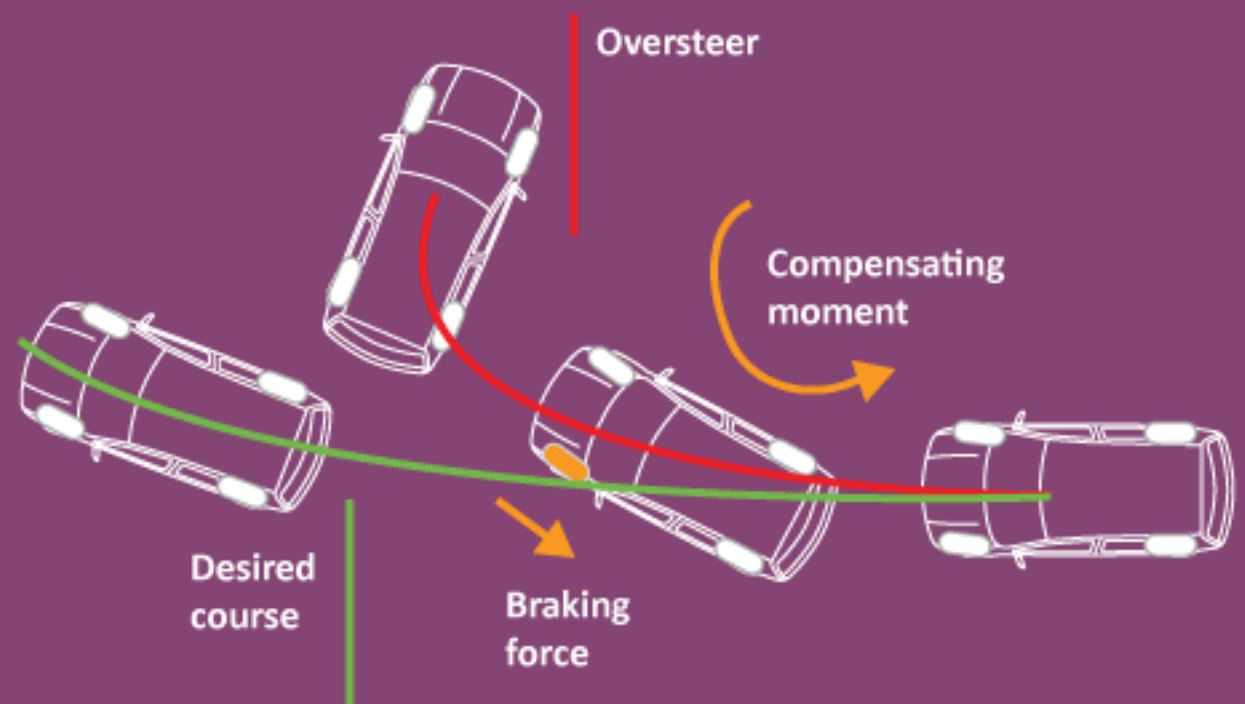
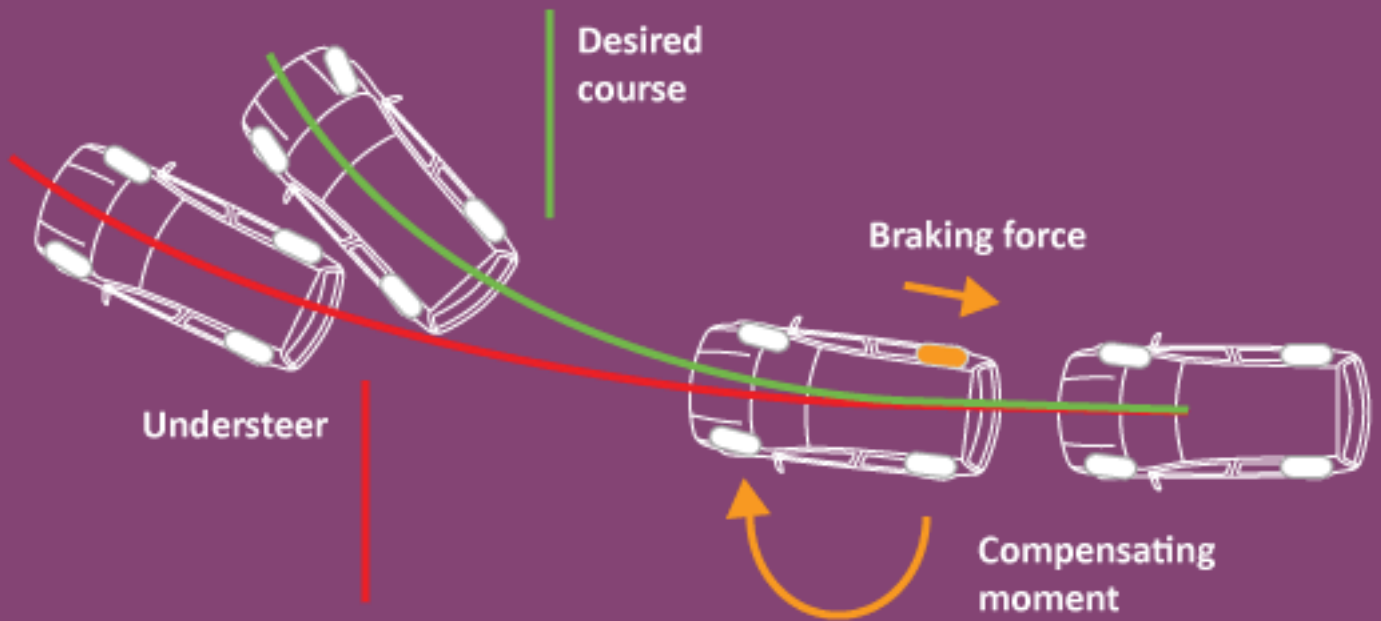
In 2004 and 2005, the Swedish Occupational and Health Safety (OHS) Administration brought in ESC in their checkpoints when employers were asked about a systematic improvement of OHS. By the same time, many fleet buyers had picked up ESC in their purchasing and rental car policies. At this point, almost 70 % of new car sales had ESC.

In 2004, SRA, as a member of Euro NCAP, proposed that ESC should be promoted through Euro NCAP, which Euro NCAP did in 2005 as a "strong recommendation to consumers". This was later followed by the involvement in ChooseESC, the major campaign from e-safety, FIA, the European Commission and many others.

A new scientific study of the effectiveness of ESC was presented in 2005, demonstrating both more long term effects as well as more broken down effectiveness estimates. At the same time, a special commission on crashes in wintertime was formed, with members from many stakeholders, like the tyre industry. The Commission also issued a recommendation on ESC and all stakeholders took a decision to buy and use cars with ESC only. Both the results of the new study and the results of the Commission were brought to media attention. The recommendation from SRA was now changed to "all new car buyers are discouraged from buying a car without ESC. The effect of ESC is so big and well documented that there is no doubt that ESC is one of the most important safety systems".

In 2007, Folksam Insurance Group adjusted their premiums according to the fitment of ESC. The differentiation was set to 15 %. SRA at this time initiated that the national vehicle registry should contain the possibility for car manufacturers

How electronic stability control works



**CHOOSE
ESC!**

— With ESC
— Without ESC

and importers to register all cars with ESC on a voluntary basis. In 2007 when the Government as a whole made a purchasing contract with all interested importers of cars, ESC was a mandatory requirement. In 2008 this will be expanded to all vehicles except HGV.

In late 2008, the fitment rate was 97.3 % and will most probably rise to almost 99 % in early 2009. The only current signal that is not promising is that one importer plans to sell a low cost vehicle without ESC (Renault Logan). There is no other sign of the process moving backwards.

The most critical criteria for ESC implementation seems to have been the following:

- The scientific results: without these findings there would be no action from all stakeholders involved
- The involvement of media: the media was involved from the beginning, even in presenting the first scientific results, and followed this up by mentioning ESC in most car tests and by asking car manufacturers and importers when new cars were launched
- The purchasing behaviour from the stakeholders involved: the fact that SRA and Folksam only used cars with ESC sent a signal that the issue was serious and created a demand from the market place
- The constant contact with manufacturers and importers about their plans showed the seriousness of both the Government and the insurance group
- The constant monitoring of the implementation process and the benchmarking with other countries.

Given the fast penetration that took place in Sweden, it is now time to implement regulation for all cars. The resistance from manufacturers should be gone at this stage, and with the major safety effects, it would be harmful if not all cars were equipped with ESC.

At the same time, preparations for the “next ESC” should be made. New systems are being brought to the market and countries should join in to collect data and perform effectiveness studies in order to drive the penetration of highly effective integrated safety systems. The Swedish experience shows that a structured process can lead to fast implementation of effective technologies.

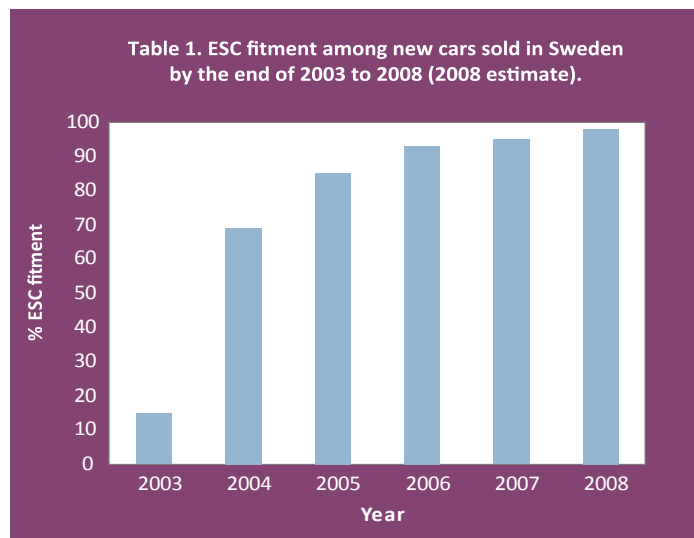


Photo and Choose ESC logo courtesy of Choose ESC!



Effectiveness of seven publicized enforcement demonstration programs to reduce impaired driving in USA

Georgia, Louisiana, Pennsylvania, Tennessee, Indiana, Michigan and Texas

Maria Vegega, Chief, Behavioral Research Division, National Highway Traffic Safety Administration, US Department of Transportation, USA

Between 2000 and 2003, the National Highway Traffic Safety Administration (NHTSA) funded seven alcohol demonstration programs designed to reduce alcohol impaired driving through well-publicized and highly visible enforcement. These demonstration programs were not specifically designed to be research evaluation studies; instead, they were designed to reduce drinking-and-driving behavior and ultimately alcohol related crashes. The States varied widely in their enforcement methods, media methods, and their paid and earned media budgets and messages.

Four of the programs (GA, TN, IN, MI) were conducted statewide or nearly statewide. Paid advertising was used in Georgia, Indiana and Michigan. In GA, TN, IN, and PA sobriety checkpoints were conducted throughout the data collection period. In Louisiana checkpoints were permitted part way through data collection; in Texas and Michigan, checkpoints were not permitted. The number and types of enforcement activities varied considerably from state to state (see in Table 1). For example, Georgia reported using over 2,800 checkpoints; while Tennessee used a combination of checkpoints (535), enforcement roadblocks (approximately 270), and saturation patrols (270), and Michigan used 1,122 saturation and routine patrols. The number of DUI (driving under the influence) or DWI (driving while intoxicated) arrests varied considerably - from a few hundred to a few thousand.

Survey Findings: In five of the seven States (GA, LA, PA, TN and TX) random digit dial telephone survey waves of 1,000 drivers were conducted before program implementation, midway through the program, and at the completion of the program. Due to logistical reasons, similar surveys in Indiana and Michigan were not conducted so the impact of their paid advertising is less well understood.

There was a positive change in awareness of the enforcement program and a positive change in self reported behavior in one state (GA). None of the other four States employing essentially the same survey showed positive changes in self-reported behavior (See Table 1). Hence, the findings from the driver surveys in the five States were disappointing.

Impact Analysis: Time series analyses (ARIMA) were used to determine if the ratio of drinking drivers to non-drinking

drivers involved in fatal crashes experienced changes during the enforcement program. NHTSA's Fatality Analysis Reporting System (FARS) was used in the analyses with neighboring States serving as comparisons. This ratio was also used in comparing intervention counties to non-intervention counties. In addition, alcohol-related fatalities were expressed in a ratio relative to annual vehicle miles traveled (VMT).

The results of these analyses are presented in Table 1. There was considerable variation in the impact measures, with GA, TN, IN and MI showing a statistically significant difference in at least one measure. As compared to neighboring States, GA showed a statistically significant decrease (14 percent; $p < .005$) in the ratio of drinking drivers to non-drinking drivers in fatal crashes. Using this measure, an estimated 60 lives were saved in the first year associated with the Georgia program. TN experienced a significant decrease (10.6 %, $p < 0.35$) in the driver ratio relative to neighboring States. Intervention counties in IN experienced a statistically significant decrease of 13 percent ($p < .02$) in the ratio of drinking drivers to non-drinking drivers involved in fatal crashes and a 20 percent decrease ($p < .002$) in alcohol-related fatalities per 100 million VMT. Indiana also experienced significant decreases in the nonintervention counties compared to neighboring States. Using the drinking driver ratio measure, it was estimated that 25 lives were saved in the intervention counties and 17 in the rest of the State. MI experienced a 14 percent decrease ($p < .07$) in the ratio of drinking drivers to non-drinking drivers involved in fatal crashes in the intervention counties compared to neighboring States. This resulted in an estimated 57 lives saved during the program. Michigan also experienced a significant decrease of 18 percent ($p < .003$) in alcohol-related fatalities per 100 million VMT. (See Table 1 for more information)

A major finding concerned the use of paid advertising. Three of the four States (GA, IN, MI) demonstrating a decrease in drinking driver fatal crashes used paid advertising in their programs.

Summary: It appears that a variety of media and enforcement procedures that supplement ongoing statewide efforts can yield meaningful crash reduction effects among alcohol impaired drivers. In general, States employing sobriety checkpoints, using paid advertising and programs implemented statewide were associated with crash reductions relative to surrounding

States. In addition, the use of saturation patrols alone may result in crash reduction.

This study was very complex. Each of the demonstration programs was unique and was superimposed on existing State program activities targeting drinking drivers. As a result, simple relationships were not obtained between crash reductions and (a) amount, type, and target of publicity campaigns; (b) amount and type of enforcement activities; and (c) driver awareness, perceptions and self reported behavior. Based upon previous research and some of the implications from this study, a State impaired driving enforcement program is more likely to be successful if it incorporates (a) numerous checkpoints or highly visible saturation patrols conducted routinely throughout

the year along with mobilized crackdowns (at least two per year) and (b) intensive publicity coverage of the enforcement activities, including paid advertising.

The results from these seven high-visibility enforcement demonstration programs have helped shape NHTSA's current annual *Over the Limit Under Arrest* national crackdown mobilization around Labor Day (in September) and in December. The lessons learned include the need for sustained high-visibility enforcement, for sufficient enforcement efforts that create the impression of increased risk of detection by impaired drivers, and the need for intensive publicity about the increased enforcement activity that reaches the impaired driver population.

Table 1. Summary of site characteristics and results

	2000-2001				2002-2003		
	Georgia (GA)	Louisiana (LA)	Pennsylvania (PA)	Tennessee (TN)	Texas (TX)	Indiana (IN)	Michigan (MI)
Implementation period							
Start:	6/28/00	7/6/00	7/1/00	11/11/00	7/1/00	12/1/02	7/1/02
Duration:	12 months	12 months	12 months	12 months	12 months	12 months	18 months
Portion of State covered by intervention	Statewide	16 of 64 parishes (i.e., counties)	14 of 67 counties	Statewide	14 of 254 counties	80% of the population	Statewide
Population	8,186,453	4,468,976	12,281,054	5,689,283	20,851,820	6,159,068	10,050,446
Licensed drivers	5,550,176	2,759,120	8,229,490	4,251,228	13,462,023	4,221,123	7,025,357
DWI enforcement activities	2,837 checkpoints	217 saturation patrols	300 checkpoints, 360 mobile awareness, 480 roving patrols	535 checkpoints, 529 patrols	Increased DWI arrests	3,805 patrol hours on DWI	1,122 saturation patrols
Est. No. of vehicles witnessing enforcement	355,480	80,000	850,000	Not reported	Not reported	70,624	60,000
Publicity activities	Paid and earned media	PSAs and newspaper	700 media "hits"	PSAs and earned media	\$250,000 paid media	\$375,000 paid media	\$225,000 paid media
Targeted drivers	Not reported	Ages 18-24	Not reported	Not reported	Males, aged 18-34	Males, aged 21-34	Males, aged 18-34
Public survey results	Reported driving after drinking decreased from 26% to 19%	Small decrease in reported driving after drinking	Small decrease in reported driving after drinking too much	Increase in reported avoiding driving after drinking	Reported driving after drinking too much decreased from 19% to 16%	No data	Reported driving after drinking decreased from 34% to 25%
DWI arrests (FBI)	21,708	13,592	36,752	23,668	90,617	28,501	48,382
Intoxicated drivers in fatal crashes (BAC > .08) (FARS)	371	314	495	404	1,357	187	317
DWI arrests per intoxicated driver in fatal crashes (FBI, FARS)	59	43	74	59	67	152	153
Change in ratio of drinking drivers to nondrinking drivers in fatal crashes compared to adjacent States	-14% (p<.005)	+1% (ns)	-9% (ns)	-11% (p<.035)	+3% (ns)	-13% (p<.018)	-14% (p<.07)
Change in alcohol-related fatalities per 100M VMT compared to adjacent States	-5% (ns)	+1% (ns)	-2% (ns)	+1% (ns)	+5% (ns)	-20% (p<.002)	-18% (p<.003)
Lives saved per year due to intervention	60	ns	Ns	43	ns	25 – intervention 17 – rest of State	57

Road traffic safety: dimensions and follow-up measures in Uzbekistan

Abdulla Khashimov, Director of Department, Ministry of Foreign Economic Relations, Investments and Trade, Republic of Uzbekistan

The Republic of Uzbekistan's volume of economy has grown by 45 per cent for the last six years, industrial production has gone up 1.6 times, agricultural production 1.5 times and foreign trade turnover is 1.7 times higher. The GDP growth rate for the last four years has been kept at a level of 7 and 9 per cent.

Stimulation of foreign economic activity of the Republic of Uzbekistan predetermines the primary objectives in strengthening the transport system and road infrastructure.

The transport infrastructure consist of approximately 4,600 km of railways and over 43,600 km of highways of State importance. 185 000 km roads have been paved with asphalt.

The Republic of Uzbekistan serves as a transit country for the Republics of Iran, Turkey, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan and Afghanistan, as well as China, Russia, CIS and the European Union. Uzbekistan, shares 137 km of border with Afghanistan 2203 km with Kazakhstan, 1099 km with Kyrgyzstan, and 1621 kilometers with Tajikistan and Turkmenistan.

Road transport plays a key role in the transport system. More than 80 per cent of freight in Uzbekistan is carried by vehicles. Four international routes crosses the territory, providing transport linkage between Europe and Asia. At the same time the Republic of Uzbekistan has joined 12 Agreements and Conventions of the United Nations Economic Commission for Europe in the field of road transport.

At present, Uzbekistan is considering the possibilities of joining 13 other international agreements and conventions.

Currently the government of the Republic of Uzbekistan is giving prominence to integrating the transport sector with the international corridors.

In the last years a number of projects aimed at the further development of transport communications have been implemented, work to modernize and increase capacity of the internal and external transport system.

The state budget allocates substantial funds annually to reconstruct and rehabilitate existing roads, as well as to build new ones. In 2008 the dispensed funds from the state budget exceeded four times those of 2007.

The Government has undertaken structural reforms in road infrastructure safety, improving its legal framework. The following normative acts have been adopted recently:

- The law of the Republic of Uzbekistan, of 19.08.1999, on «Road traffic safety»
- «Approval of road guidance» of 11.12.2000.
- «Carrying out in proper regulation of technical inspection of transport facilities» of 31.01.2003.
- «Requirements for securing safety of bus carriages» of 04.11.2003.
- «Additional measures on securing road traffic safety» of 21.11.2006.
- «On additional measures to ensuring road traffic safety» of 16.10.2007.
- «On measures to securing drivers and passengers safety» of 06.03.2007.

In accordance with the Decision «On additional measures on securing road traffic safety» the rule that prohibits the use of mobile phones whilst driving a car was adopted from 1 January, 2008.

In accordance with the Decision «Measures on securing safety of drivers and passengers» the rule that during the car operation the drivers and passengers must use safety belts was adopted from 1 July, 2007.

Road Safety Months are held on a regular basis in accordance with the decree of the Cabinet of Ministers of the Republic of Uzbekistan. The main objectives of implementing Road Safety Months are to avoid transport accidents, reduce the harm (death, injures and property damage) resulting from crashes of road vehicles, securing road traffic safety and accomplishment of effective provision of safety traffic, in particular accurate re-check of active, crowded roads and rural areas with the intensive traffic, eliminating revealed defects.

Road traffic accidents are preventable and to educate the public on the impact of accidents, officials are working with bilateral and multilateral partners, non-governmental organizations, universities and schools to raise awareness about road safety through road safety seminars. At public schools there are special programs included in the lessons and the Ministry of higher and public education has invested in the on issue with text-books on road safety.

Students test practical actions in special areas on how to prevent accidents and what measures should be taken by them in various circumstances following the rules of road signs and signals.

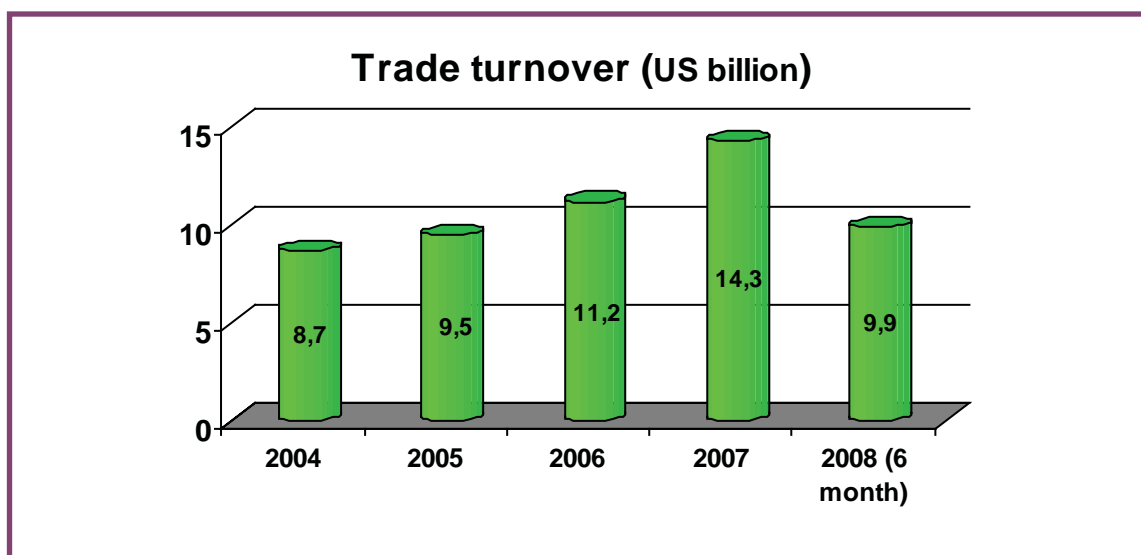
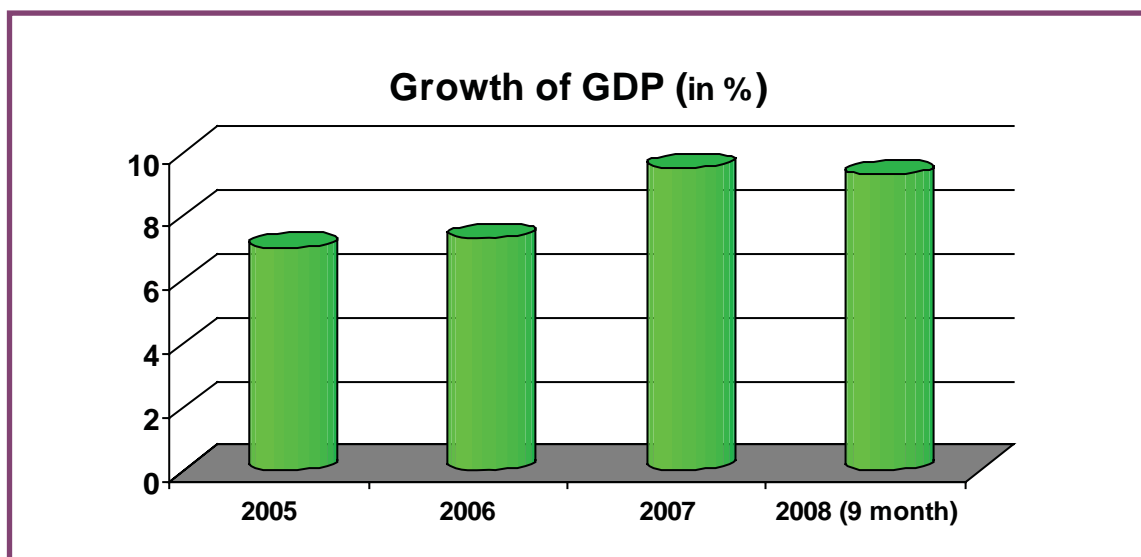
In the last four years, road traffic increased 5-6 times. The total amount of transport vehicles in 2008 increased nearly 1.8 times compared with 2003. Annually, over 200,000 cars are produced in the Republic of Uzbekistan. Regular renovation of roads and technical inspections of transport facilities are carried out, attracting new technologies and renovating the motor car fleet.

Sharp turns, steep grades, sections with poor visibility and sections with dangerous roadside conditions are being improved on national and provincial roads.

The main priorities to further implement road traffic safety are as follows;

- Strengthen the supervision of transportation enterprises
- Launch transportation safety inspection and special rectifying movement toward dangerous freight
- Strengthen the training and operation administration of drivers
- Concerns of the public and public dissemination and education.
- Realization of advanced approaches in upgrading road traffic safety.

We highly appreciate and support the activity of the United Nations Economic Commission for Europe in the contribution for further enhancement of road traffic safety.



Is sustainable road safety achievable in Africa?

Robert Tama Lisinge, Transport Specialist, United Nations Economic Commission for Africa (UNECA)

African road safety policy makers and practitioners are well aware of the requirements for sustainable road safety, as this has been the subject of discussions at numerous workshops, seminars and conferences on the continent. These requirements include prioritizing road safety at the political level, establishing institutional structures responsible for planning, implementing, monitoring and evaluating road safety programmes; having a critical mass of competent personnel; and securing a sustainable funding mechanism. This article examines, using concrete examples, the extent to which these conditions have been met in Africa.

Political priority is generally seen as the primary requirement, and indeed can facilitate the delivery of the other requirements for sustainable road safety. It is therefore encouraging to note that there has been progress in recent years in mobilizing political will for road safety in Africa.

For instance, in 2005, African Ministers responsible for transport and infrastructure, meeting in Addis Ababa, adopted a Declaration in which they resolved to reduce by half the rate of accident fatalities arising from road transport by 2015, and to comply with international transport conventions on safety and security.

In the Bamako Declaration also adopted in 2005, during the Annual Meeting of the Sub-Saharan African Transport Policy Programme (SSATP), African Ministers of Transport committed to *“prioritise and implement a multi-sectoral, holistic and integrated approach to road safety and incorporate it as a major socio-economic issue”*.

Furthermore, the African Ministers of Transport and those responsible for health adopted another Declaration during the African Road Safety Conference, held in Accra in 2007, in which they committed to establishing lead road safety agencies with proper legal backing, empowered and supported by adequate financial resources to ensure that they are well staffed with appropriately trained personnel.

Once the necessary political will is secured, it becomes critical to put in place institutional structures to lead and coordinate road safety activities within countries. In this regard, it is important to note that several African countries, over the years, have established road safety coordinating bodies. These bodies, some of which were established since the early 1970s, are

located in a variety of Government Ministries including those responsible for transport, and home affairs.

In terms of legislative mandate, Acts of Parliament have established some of these bodies. A good example is the Zambian National Road Safety Council. In the case of Uganda, the responsibilities of the National Road Safety Council are spelt out in the Traffic and Road Safety Act of 1998. While the roles and names may differ, road safety institutions in Africa share the same main problems including funding and technical skills shortages, which hinder implementation of plans.

Basically, there are two methods of financing road safety in Africa, namely, self-financing and development aid financing. Self-financing in the form of Government grants is the main source of funding for road safety activities in Africa such as providing traffic policing and traffic signs, among others. A few African countries including Ethiopia and Ghana have also dedicated part of their Road Funds to road safety work. In Ethiopia, the Road Fund was used in financing the rehabilitation of traffic signs in Addis Ababa, while the Road Fund in Ghana is reported to have allocated resources to the National Safety Commission.

African countries have also benefited from bilateral and multilateral aid for road safety. Bilateral assistance most often takes the form of technology transfer through technical assistance and training to develop local road safety agencies. Similarly, financial institutions have provided technical assistance for training, studies, institution building, and finance for equipment and infrastructure improvements. The African Development Bank is reported to have funded the Malawi Road Safety Project. The Tanzanian and Ethiopia Road Safety Programmes are also examples of programmes funded as components of Road Sector Development Programmes, with substantial contributions from donors.

Although the private sector could play a major role in ensuring sustainable road safety in Africa, its contribution so far has been generally very limited. Road safety structures in most African countries are essentially public bodies that respond to various political, budgetary and institutional pressures, which inhibit effective service delivery. Clearly, the most effective approach would be to involve the private sector and to concentrate efforts at the local level, mostly in provinces and municipalities.

Overall, efforts to raise awareness, communicate and ensure collaboration among stakeholders have been insufficient although these are critical to establishing and sustaining national road safety programmes. Therefore, relevant agencies need to make specific efforts to engage all significant groups concerned in road safety, including the wider community, especially the civil society and NGOs. This is necessary in order to change the perception that road safety is “owned” by bureaucratic agencies while road users are mere policy recipients, and that its enforcement is the responsibility of the police. Such perceptions result in insufficient support from the community in the implementation of road safety programmes. Involving members of the community in policy formulation will ensure that they accept and effectively discharge their responsibilities.

The limited progress made so far in improving road safety in Africa will only be sustained if ongoing efforts by countries on the continent are complemented by support from development partners, including the donor community and international organisations. The United Nations Regional Commissions (RCs) could continue to play a useful role in that regard through Development Account projects such as the current project that aims at setting regional and national road traffic casualty reduction targets. The RCs could also play a useful role in ensuring that their member States derive maximum benefit from road safety initiatives and partnerships such as the UN Global Road Safety Collaboration; the Commission for Global Road Safety; the UN Global Road Safety Stakeholders’ Forum, the FIA Foundation for the Automobile Society; the Global Road Safety Partnership; and the World Bank Global Road Safety Facility (GRSF).

Overall, cooperation among RCs should provide a platform for exchange of experiences on road safety issues, including the identification and documentation of best practices. ECA has always been committed to improving road safety in Africa and recognizes the importance of sharing experiences. That is why, as part of its 2008-9 programme of work, the Commission will prepare a non-recurrent publication entitled “Enhancing road safety in Africa: Learning from best practices”.

Vehicular movement and safety across border posts in Nigeria

Osita Chidoka, Corps Marshal and Chief Executive, Federal Road Safety Commission, Nigeria

BACKGROUND

The Federal Road Safety Commission (FRSC) was established as a strategic response to road traffic crashes and traffic management in Nigeria. The key mandate is to prevent and minimize traffic accidents, clear obstructions on the highway, educate road users and drivers and enforce road safety regulations on the highways.

The direct relationship between regular traffic volume and road traffic crashes makes the traffic census a prerequisite for effective planning and formulation of enduring policies. It is against this background and in line with its mandate that the Federal Road Safety Commission conducted traffic census at international borders around Nigeria with a view to determining vehicular traffic pressure on Nigerian roads.

METHODOLOGY

Even though there are many un-established routes bordering the country, the study focused on 20 out of the 74 established border posts in the country. This represents 27% of the total number of established border posts in this exercise. Vehicular traffic surveys in and out of the country's borders between 06 hrs on Monday 2nd June 2008 and 06hrs Monday 9th June, 2008 were conducted. The week long vehicular census is a representative

of traffic flow and density along Nigerian borders.

FINDINGS

From the surveys the daily vehicular traffic, movement in and out of the 20 border towns in the country is 90,727. About 58% of all categories of vehicles depart the country daily from these border posts while 42% are identified to be entering the country within the same period [see table 1].

From the survey also a total of 41,120 motor bikes move in and out of Nigeria daily. Which represent 45.3% of the vehicular composition by types [see figure 1 below]. However, the FRSC by law has granted all motorbike riders till 1st of January 2009 to ensure the full implementation of compulsory use of safety helmets. This is in line with the recommendation of the World Health Organization [WHO] on minimizing injuries of road traffic crashes.

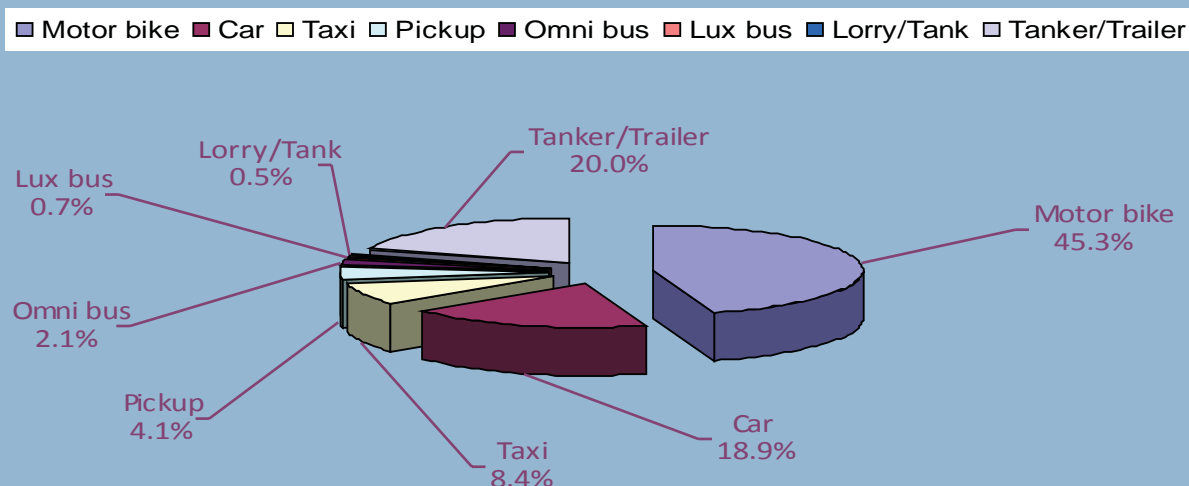
The average daily movement of lorries, trailers and tankers is also phenomenal, totaling 18,588. This is an indication of the volume of trade along these international routes. It also suggests that with an increase in trading activities, the vehicular flow of these categories of vehicle may also increase along these routes.

Table 1 - Vehicle types moving in and out of the country

Vehicle type	Into Nigeria	Out of Nigeria	Total for 7 days
Motor bike	139141	148701	287843
Car	71528	48185	119713
Taxi	25611	27885	53496
Pickup	8178	17735	25913
Omni bus	5949	7631	13580
Luxury bus	2348	2009	4357
Lorry	1017	2014	3031
Tanker/Trailer	13683	113402	127085
Total	267455	367562	635088
	42.1%	57.9%	100%

Source: FRSC Fieldwork 2008

Figure 1 - Composition of traffic census per vehicle types
 Vehicle Types / % Composition of Traffic Census



Source: FRSC Fieldwork 2008

Table 2 - Categories of vehicles moving each day of the week

Days	Private	Commercial	Unregistered	Government	Foreign	Total
1	15702	11050	36807	8395	4337	76291
2	15621	13645	29595	11060	7949	77870
3	16392	15342	26226	11953	14037	83950
4	14363	17172	109100	12241	12319	165195
5	14817	12485	22427	18261	9953	77943
6	15806	12772	24150	19313	8260	80301
7	18815	8794	20568	13794	11497	73468
Total	111516	91260	268873	95017	68352	635018
	17.6%	14.4%	42.3%	15.0%	10.8%	100%

Source: FRSC Fieldwork 2008

OBSERVATION

From the survey, it was observed that the presence of law enforcement agencies at the established border posts makes illegal routes profitable to vehicle operators evading checks. This, notwithstanding Table II reveals that we have about 42% unregistered vehicles, 15% government vehicles, and 17% private vehicles respectively moving in and out of the country weekly. On the overall, we have 41,120 vehicles daily moving in and out of the country from the sample points.

It is further observed that the large number of un-registered vehicles crossing the country's borders have both safety and security implications. The futility witnessed in arresting most

of the international car theft syndicates and the inadequacy noticed in the vehicle registration statistics are some of the consequence resulting in a poor vehicle databank. The traffic census is however expected to guide the FRSC in the deployment of personnel in terms of routes to cover for patrol activities.

CONCLUSION

The result of the survey is expected to be utilized in assisting the Federal Government of Nigeria in making realistic revenue projections which ought to accrue to the country if the border posts including the illegal routes are effectively policed.

Road safety in the Asia Pacific region

*Barry Cable, Chief, Transport and Tourism Division,
United Nations Economic and Social Commission for Asia-Pacific (UNESCAP)*

The ESCAP secretariat estimates that approximately 470,000 people were killed and up to 20-30 million were injured in road crashes in the ESCAP region in 2007.

The overall number of road users killed in crashes has quickly increased in Asia in recent decades, mainly due to rapid motorization, despite the fact that vehicles have become safer and despite the impressive progress in improving road safety in some Asian countries.

The Asian Highway, a transnational road network of 140,000 kilometres is safer than other Asian roads. Yet, on each 100 kilometre stretch an average of 14 people die in road accidents each year.

The ESCAP secretariat estimates that, unless additional measures are taken, about 610,000 road deaths might occur in the ESCAP region by 2020.

The nature of road safety issues in ESCAP developing countries differs. In Asia, most of those killed or injured in road accidents are vulnerable road users, such as pedestrians and motorcyclists. In South Asian countries, typically more than 50 per cent of all road fatalities are pedestrians. In East and Southeast Asian countries, more than two thirds of the victims are motorcyclists. In contrast, North and Central Asian countries typically have a similar mix in terms of the casualties as that of countries of the Organization for Economic Co-operation and Development (OECD). Yet all the developing ESCAP countries have higher fatality rates than OECD countries.

The economic cost of Asian road crashes is in the range of 1 to 3 per cent of GDP in each ESCAP member country, indicating the potential for substantial returns on investments in road safety interventions. The secretariat estimates the economic costs at US\$ 106 billion (including indirect costs), equivalent to 2.3 per cent of the GDP of the developing and transition economies in the ESCAP region.

The Commission for Global Road Safety recommends committing roughly 10 per cent of overall investments in roads for road safety, in order to make a real difference. The overall costs of measures to achieve the ESCAP goals and targets on road safety are large indeed.

However, economic returns on such safety investments are also significant. Economic savings from the successful achievement of the goals contained in the Ministerial Declaration on Improving Road Safety in Asia and the Pacific, in the order of US\$ 15 billion per year, would far outweigh the costs of increased road safety measures.

With increasing recognition of the cost-benefit ratio of road safety interventions, many ESCAP members and associate members are implementing ambitious road safety initiatives at the national and regional level.

A range of innovative GIS-based technologies are beginning to be used. On the other hand, low tech road design decisions have proven to be successful too. For example, where roundabouts replaced common T-junctions, they have saved many lives. Due to the large vehicle mix in developing Asia, measures to separate different types of vehicles have been decisive. Upgrading Asian Highway segments to access-controlled primary roads with median separation has typically reduced fatality rates by as much as 80 per cent.

Aside from technical progress, political commitment is key to improvements in Asian countries. The ESCAP secretariat has been promoting such commitment, with significant progress achieved during the first decade of the 21st century. The parties to the Intergovernmental Agreement on the Asian Highway Network which came into force in 2005 have made a formal road safety commitment. The Ministerial Declaration on Improving Road Safety in Asia and the Pacific, which was adopted in Busan, Republic of Korea, on 11 November 2006, includes the goal "to save 600,000 lives and to prevent a commensurate number of serious injuries on the roads of Asia and the Pacific over the period 2007 to 2015". The Ministerial Declaration requests the development of "a set of goals, targets and indicators, to be achieved by 2015, in order to assess and evaluate road safety progress".

The Commission adopted resolution 63/9 on the implementation of the Busan Declaration on Transport Development in Asia and the Pacific and the Regional Action Programme for Transport Development in Asia and the Pacific, phase I (2007-2011). The resolution encourages members and associate members to continue to act upon the recommendations contained in the Ministerial Declaration on Improving Road Safety in Asia and the Pacific.

The first session of the Committee on Transport which was just concluded in October 2008 emphasized the urgency of implementing measures to improve road safety. The Committee supported further work on the road safety targets and indicators for 2015, and proposed that the Commission at its 65th session consider the steps to be taken to enhance the effective implementation of the Declaration.

In summary, the road safety challenges in Asia are enormous, indeed. But with will and determination the wide range of issues can be properly and, in the longer term, adequately addressed. International collaboration can support national efforts in dealing with this development issue. ESCAP is committed to expanding collaboration with its sister organizations such as ECE in introducing and promoting more effective road safety initiatives to assist its member countries in making roads safer. ESCAP encourages governments, NGOs and the private sector to work together to save 600,000 lives on the roads of Asia and the Pacific by 2015.

Assessing road safety through the factor of road traffic violations

A case study of New Delhi, India

Rohit Baluja, President, Institute of Road Safety Education, New Delhi, India

Introduction

Road safety is traditionally assessed by the extent of the rate of road crashes, road traffic injuries (RTIs) and fatalities on an annual basis. Investigations are carried out to identify underlying causal factors and their impacts on public health burdens as outlined by the *World Report on Road Traffic Safety Injury Prevention* (WHO 2004). While crashes are often the outcomes of *pre-crash catalyzing factors*, the reasons for their occurrences are not fully known. The road environment in which the driver, the vehicle and the road interact with each other is not fully assessed to identify pre-crash conditions in India.

Numerous studies and organizational practices around the world have developed extensive information on road crashes, their frequency and rate, and contributing factors. However, *road traffic violations (RTVs)*, the dangerous situations that precede a crash—which may result in a crash or near-miss unsafe condition and contribute to poor road user culture—are not scientifically studied in developing countries. While the Government of India (2008) attributes over 77% of crashes to driver faults, no definition of driver fault is provided, nor reasons why drivers commit violations prior to a crash, and a large percentage of crashes cannot be properly recorded and analyzed. Thus, there is a wide gap in India and other developing countries on scientific method to establish driver fault, including violations committed prior to a crash.

Study Methodology

To understand the pre-crash phenomenon, IRTE initiated a field study that addressed this gap by defining a symptomatic concept of *Road Traffic Violations (RTVs)*. The study developed a yardstick to assess road safety and underlying casual factors to crashes, including violations committed by drivers. Using a measure of RTV, local authorities and policy makers can take corrective actions to reduce, retard or even eliminate RTVs. The problem of violations is rampant in India and the RTV rhetoric helps create awareness among concerned stakeholders.

To develop this innovative approach with a proper set of analysis tools, three extensive studies were carried out on the

road traffic environment in Delhi. The first study created a better understanding of the road safety situation by exploring various types of violations committed by motorised vehicles, which amounted to over 146 million daily violations (33 million violations or 26% were due to faulty road environments). These include moving or dynamic violations, parking violations, driver and passenger related violations, and miscellaneous violations. The RTVs were recorded on the eighteen most accident-prone locations and stretches across the nine districts of Delhi.

The second study explored the Traffic Control Device deficiencies (TCDs) causing part of the above 33 million violations. The third study further linked these deficiencies to violations caused by drivers. This relationship between deficient road environments and RTVs, by assessing deficiencies in the traffic signals and their supporting TCDs such as Stop line and Pedestrian crossings at 67 selected intersections from a total of 674 in Delhi, has developed a body of knowledge and measures to deal with violations.

Key Findings

The following valuable findings were reported:

- 78% of the primary traffic signals had obstructed visibility causing drivers to make extensive violations. Obstructed visibility alone could amount to an estimated 16% of the total violations
- Deficient traffic signal operation and conditions could contribute to 30% of the violations
- Deficiencies in supporting TCDs were estimated to have caused 36% of the total violations. Drivers commit greater violations when one or both supporting TCDs are absent at the signalized intersection
- An estimated 18% of the total violations resulted from the wrongful placement of TCDs, suggesting ample room to improve TCD practice in Delhi to reduce violations
- 52% of all the total violators were two-wheelers, followed by car/jeeps at 32%. This suggests that specific corrective steps for two-wheelers may be necessary to improve road safety in Delhi
- The concept and understanding of involuntary and hidden violations were discovered by this study

Conclusion

Extensive consultations with stakeholders, including police, engineers, institutions, transport department officials, the automotive industry and NGOs, road users, violators and drivers confirmed a strong linkage between deficiencies and RTVs. On the spot field interviews held with 100 violators yielded significant revelations on reasons for their violations in line with the observation data.

This study has conclusively established RTVs as symptoms of underdeveloped road safety and traffic management systems. The findings have linked the symptoms (violations) to their causative factors (deficiencies).

Local traffic management agencies in developing countries desiring to improve road safety in urban areas should also consider the message of this study. The concerned agencies should conduct regular research to understand the importance, standardization and operation of TCDs. The tools for understanding involuntary and hidden violations could help traffic engineers in conducting road safety audits and implementing corrective traffic management practices.

A very important recommendation of this study is the need for adherence to the standards and practices in the installation and operation of Traffic Control Devices. The United Nations has reiterated the need for participating countries to adhere to the Convention of Road Signs and Signals. The Working Party (WP.1) of the United Nations Economic Commission for Europe has further deliberated in updating both Conventions. It is in the interest of all developing nations to take advantage of the updated materials and ratify the same in their respective countries.

An overview of the road safety situation in the UNESCWA region

Nabil Safwat, Chief, Transport Section, United Nations Economic and Social Commission for Western Asia (UNESCWA)

A. ESCWA road safety review

The road safety situation in the ESCWA region varies widely between several extremes, almost resembling the wide variation in its per capita incomes. For example, some countries enjoy well-designed and high-speed roads while others suffer from lack of basic road infrastructure safety allocation. Even as certain countries have developed advanced injury surveillance systems, others still require basic injury and crash data. This variation was clearly documented and published in a two-volume report entitled: *Overview of Road Safety in ESCWA countries*¹. Since it is difficult to generalize due to each country's specificity, the report presented each country's road safety profile individually, and then highlighted some of the prevalent features. Below are examples of some characteristics of road safety in countries in the ESCWA region.

1. Use of Point System

Six countries of the 14 member countries in ESCWA have specified in their traffic laws a point system for various traffic violations with wide difference in the number of points enforced for traffic violations. However, none of the countries actually implement the point system and force withdrawal of license.

2. Organizing and participating in Road Safety Weeks

Arab Road Safety Weeks and Gulf Road Safety Weeks have been organized in many ESCWA countries over the past years. These Weeks claim wide attention but remain individual annual celebrations that are not linked to clear strategies and plans. Therefore, although the presence of such Weeks is a positive indication, their impact is still not significant.

3. Presence of non-governmental organizations active in the field of road safety

Certain countries such as Lebanon and Jordan have recently experienced the emergence of active non-governmental organizations (NGOs) that are playing an increasingly important role in raising awareness on road safety. However, NGOs dedicated to road safety are still not present in many countries. There is therefore a need to empower civil societies and encourage their involvement.

4. Lack of law enforcement

Lack of law enforcement is probably the most important feature that leads to frequent traffic accidents by drivers who occasionally do not even have a driving license. Due to a common trait in many ESCWA countries where traffic laws (especially those related to use of seatbelts, driving at inappropriate speeds, disregarding traffic signs, etc.)

are regularly and openly disrespected. Most countries lack the means to ensure compliance.

5. Poor data collection systems

Data collection in the ESCWA region suffers from many problems. In several countries, not all road traffic crashes are documented (for example, crashes that do not cause injuries). In addition, detailed information on the type of crash, place, cause, or number of persons injured is often missing. Not only that, but most countries do not abide by the international standards of 30 days post crash as death caused by road traffic crash. Furthermore, even when data is available it is often not appropriately analyzed and used. Therefore the economic and social costs of road traffic crashes are not realized. Jordan has recently developed a data collection system that can serve as a good example for other countries and has become a member of IRTAD, supplying crash data to the international organization.

6. Poor road infrastructure

Middle and low-income countries in the ESCWA region suffer from inadequate infrastructure that increases road users' exposure to road traffic injuries. High-income countries that have new road systems place more emphasis on road design than on safety. Safety audits are not implemented in the design stage and standards are not met during construction. Road safety around maintenance spots is a major source of traffic accidents due to improper signage and lack of proper lighting at night.

B. An example of good road safety management in the ESCWA Region

Saudi Arabia, in common with many countries throughout the Middle East, has a serious road accident problem. Compared with other countries in the region, road accident fatality rates and risk levels are increasing steadily with no prospect for controlling them in the near future due to lack of proper intervention measures.

Road accidents in the city of Riyadh reflect the national picture. About 30 per cent of accidents occurring in the Kingdom of Saudi Arabia happen within the city limits and, despite its urban environment, it still has about a quarter of all road accident casualties and more than 21 per cent of the country's fatalities. It is worth noting in particular that pedestrians constitute 30 per cent of road accident fatalities in the city; about 30 per cent (24,900) of drivers involved in accidents are under 18 years of age; and speeding is the most frequent driving law violation.

The High Commission for the Development of Riyadh (ADA) has

¹ E/ESCWA/GRID/2005/6 and E/ESCWA/GRID/2007/13

recently completed a strategic traffic safety study for the City of Riyadh. This detailed study included three phases, with the first phase directed towards “Establishing the facts”. The objectives of this Phase were to assess the traffic safety situation in the city, to review the stakeholders’ roles and the management and co-ordination of traffic safety; and finally to assess the performance of the main sectors involved so that the key issues could be identified.

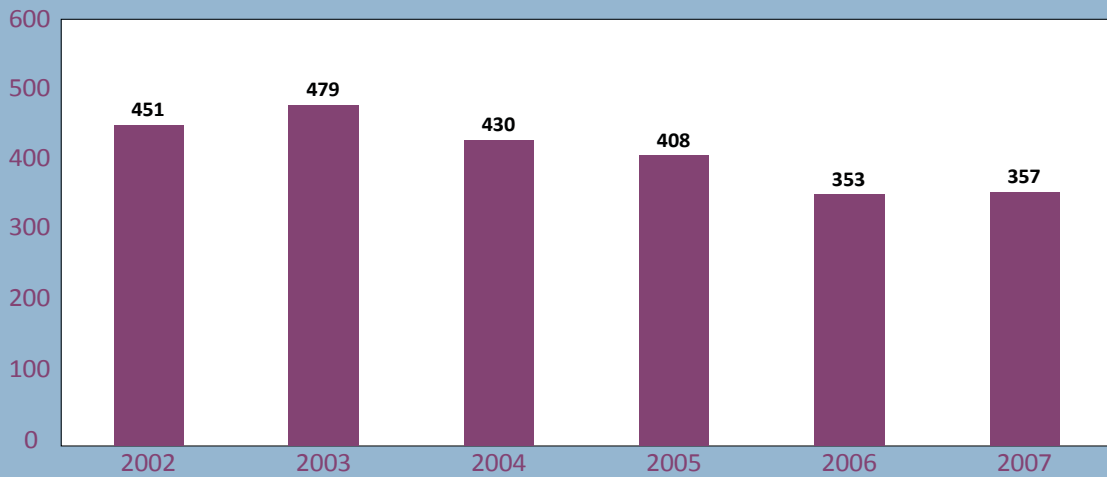
The second phase was concerned with “Examining the options”. This phase extended the fact-finding of the initial phase to further areas, including the operation of heavy goods vehicles, transportation of hazardous loads, and a review of the existing accident information system. It also examined the possible options in each sector classified on three levels of (i) do nothing, (ii) gradual change and (iii) radical change.

The final stage, Phase III, focused on formulating an overall strategy for road safety improvement based on the outcome of

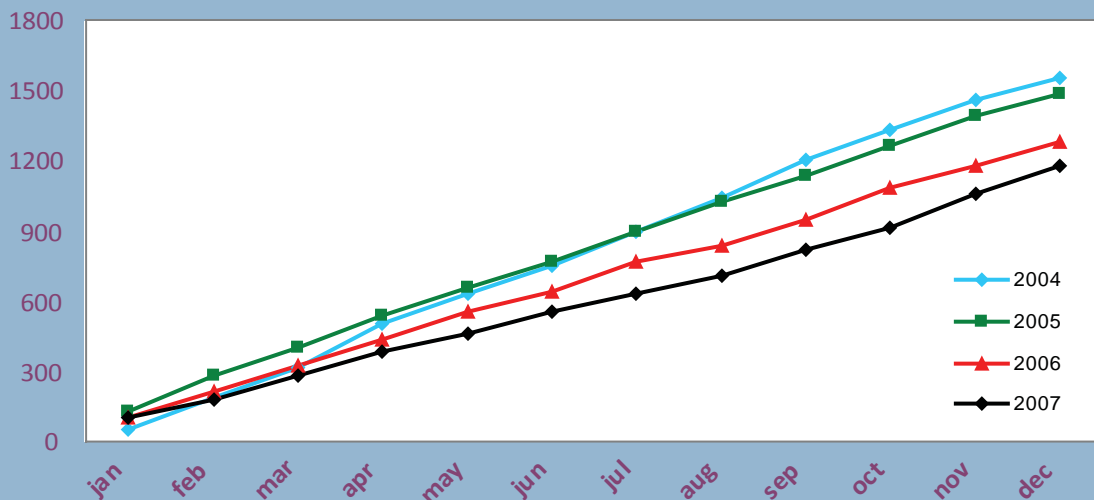
the above work; that is, the recommended actions that were accepted in principle by the various sectors.

Since Traffic safety is a multi-dimensional issue, which depends greatly on the level of performance of the relevant agencies in Riyadh city, the main components of the strategic plan include the following: Traffic Safety Management and the process of creating a strong coordination between the relevant agencies in order to monitor and assess the work progress in executing the strategic plan for traffic safety; traffic engineering; education; strict law enforcement on all types of violation with special focus on speed and law enforcement; emergency and medical care, and finally; research.

Implementing the strategy of Riyadh traffic safety has resulted in a significant decrease in the number of fatalities and serious injures. In 2007 the number of fatalities reached 357, showing a slight difference from the previous year’s fatalities.



In addition the percentage of serious injuries resulting from accidents has also decreased to 1178 cases in the year 2007, compared to 481 and 1276 cases in the years 2006 and 2005 respectively.



Road safety in Latin American countries

María del Carmen Girón Tomás, Head of International Affairs Division, Dirección General de Tráfico-Unidad de Apoyo al Director General, Spain



7th Meeting between Spain and Latin American countries on road safety - 2-5 July 2008 in Ecuador

Since 2002, the DGT (Spanish Traffic General Directorate) has held meetings on road safety public policies with Latin American Traffic Authorities. These meetings are organized annually in different cities of the region. The exchange of knowledge insists on necessary aspects to be implemented in order to safeguard human lives in road traffic accidents.

Along these years, we have seen the evolution of good practices in road safety that traffic authorities have implemented in their respective countries; thus, an informative campaign on accidents launched by Ecuador has been exported to other Latin American countries. Likewise, the training of future drivers has settled in various countries as a consequence of the ideas proposed in these meetings. Road safety education has been another topic addressed in the meetings and, throughout the years, it has gradually been implemented in the educational curriculum of the countries.

First aid at the scene of an accident is another priority issue discussed in these meetings, as well as how to provide support to the family of victims.

Given that all these actions require the support and approval of Ministers responsible for road safety, it was deemed necessary to create a Latin American Association on Road Safety where the States would be represented by the relevant Ministers. This initiative was unanimously supported by all Latin American Traffic representatives.

This wish was brought to the attention of the Secretaría General Iberoamericana (Latin American General Secretariat), which readily accepted and has closely cooperated with it. The DGT prepared the Association statutes – which were studied and commented on by all parties concerned, and all relevant remarks were added to the original text.

During the Council of Latin American Transport and Infrastructure Ministers held on 2 September 2008 in San Salvador, the “Declaration of San Salvador” was approved. This Declaration suggested to present the initiative to create a Latin American Association on Road Safety to the Summit of Latin American Heads of State and Government – to be held at the end of October.

The Association has now just been approved. The necessary administrative mechanism will be activated to draw up a Strategic Plan and an Action Plan in the short term, headed by the DGT with the collaboration of representatives of several countries, with a view to reducing the accident rate on the Region’s roads.

The first measure will be to implement a document to gather accident data, with minimum parameters, in order to make reliable statistics that can be compared among all Latin American countries. This could pave the way for a Latin American Road Safety Observatory in the near future; an organization that would be in charge of gathering, processing and analysing accident related data, as well as researching the common factors involved in accidents.

The second measure, in the short term, will be to establish driver training and evaluation, the issuing of drivers’ licences and developing regulations to validate drivers’ licences issued by any country in the Region.

The Latin American and the Caribbean Road Safety High-Level Meeting to be held on 23-24 February 2009 in Madrid, and which is organized by the Secretaría General Iberoamericana (Latin American General Secretariat), the World Bank, Mapfre Foundation, United Nations, the FIA Foundation and the DGT; will be an opportunity to gather Latin American Ministers and to exchange opinions about public policies that should be followed in this regard.

UNECE TRANSPORT DIVISION UPDATES

Important EU transport news for UNECE ITC members

Miodrag Pesut's Column

UN level classification of hazardous substances to be incorporated into EU law

MEPs adopted three legislative reports on the classification, labelling and packing of substances and mixtures. The first-reading agreement concerns the implementation of the UN level agreed, GHS (Globally Harmonised System) on classification, labelling and packaging of hazardous substances into EU legislation. The new rules are similar to existing EU rules (which will be replaced later) but certain technical changes will have to be made.

EU Committee on Transport and Tourism

The Transport Committee heard on Wednesday 5 November five TEN-T coordinators who reported on (lack of) progress made on the trans-European transport network (TENs). MEPs were updated on ERTMS, the European intelligent railway signalling system (Karel Vinck), on the railway links Berlin-Palermo (Karel van Miert), Rail Baltica Warsaw-Helsinki (Pavel Telicka) France-Spain/Portugal (Etienne Davignon) and on the European Motorways of the Sea (Luis Valente de Oliveira).

TEN-T Days 2008: Time for change?

The European Commission launched on 14 October a two-day stakeholder conference as an opening for reviewing the trans-European transport networks' policy. The review process addressed major challenges the European Union is facing in the coming decades – climate change, competitiveness, social and economic cohesion. The opening event or TEN-T Days 2008 hosted around 500 experts representing all transport sectors, Member States, candidate and neighbouring countries, researchers and users, constructors and investors.

TEN-T Days 2008 was dedicated to a broad discussion on the development of the trans-European transport networks' (TEN-T) policy. It is expected to have an important input for drafting the Commission's Green Paper on the future of TEN-T policy. This Paper will be published in early 2009 and followed by a public consultation. It will set out options for further developing this policy area.

The TEN-T policy, building on fifteen years of experience, has already led to major achievements, such as the completion of important cross-border high-speed railway axes or the development of the Galileo project. Options for its further development in the next 10 to 20 years shall take account of new technologies, both in transport and transport-related

energy sectors, respond to forward-looking needs and make best possible use of transport infrastructure.

On the basis of the Green Paper, the public debate and more technical analysis, the Commission will evaluate the need for concrete measures for further developing TEN-T policy, among others in 2010, a revision of Community Guidelines for TEN-T. General information in the TEN-T Days is available on the following website: <http://ten-t-days.teamwork.fr>.

Clean and energy efficient vehicles get go-ahead

The European Commission on 22 October welcomed support of the European Parliament for its proposal to promote a broad market introduction of clean and energy efficient vehicles through public procurement. This will reduce fuel consumption as well as CO₂ and pollutant emissions from road vehicles. The EP vote was based on a compromise reached with the Member States, which are expected to adopt the proposal shortly.

The proposed Directive will introduce, for the first time, energy consumption, CO₂ and pollutant emissions as mandatory award criteria into public procurement of vehicles. It applies to public authorities and publicly owned undertakings and to undertakings running public passenger transport services. As a result, not only the price of a vehicle, but also the impact it creates during its lifetime for the environment are reflected in the purchase decision.

A harmonised methodology is defined for monetising lifetime costs for energy consumption, CO₂ and pollutant emissions. This enables a transparent comparison of vehicle investment costs with the costs linked to the operation of vehicles. This facilitates an informed purchase decision and can avoid costs both for operators and for society.

The Directive is expected to have an impact well beyond its immediate scope. Public procurement is a key market of high visibility and can lead the decisions in business and private sectors. The Directive therefore is expected, over the long term, to result in a considerably faster and broader market introduction of clean and energy efficient vehicles and in a reduction of their costs through economies of scale. This will then contribute to improve energy efficiency, and reduce CO₂ and pollutant emissions of the whole vehicle fleet in Europe. For more information: http://ec.europa.eu/transport/clean/index_en.htm, and http://ec.europa.eu/transport/clean/promotion/index_en.htm



Antonio Tajani, the Commission Vice-President responsible for transport, and Virginia Tanase, UNECE, at the Transport Division's stand at the 2nd European Road Safety Day, 13 October 2008



From left: Michèle Merli, Bernard Gauvin and Catherine Marque from the French Ministry of Transport

Greening Transport: new Commission package to drive the market towards sustainability

On 8 July 2008, The European Commission put forward a package of new “Greening Transport” initiatives to steer transport towards sustainability. The package contains a strategy to ensure that the prices of transport better reflect their real cost to society, so that environmental damage and congestion can gradually be reduced in a way that boosts the efficiency of transport and ultimately the economy as a whole. Second, a proposal to enable Member States to help make this happen through more efficient and greener road tolls for lorries, with the revenue to be used to reduce environmental impacts from transport and cut congestion. Third part is a communication to reduce noise from rail freight. The package also includes an inventory of existing EU measures on greening transport and a communication will be issued before the end of 2009.

Road transport: new working time directive to cover false self-employed drivers

The European Commission adopted on 15 October a proposal to modify the directive on working time in road transport. The new proposal aims to ensure that the existing working time rules apply to all employed professional drivers, including false self-employed workers. The Commission proposed to clarify Directive 2002/15/EC¹ in order to guarantee that so-called ‘false self-employed drivers’² are fully covered by the rules concerning mobile workers and reinforce controls to ensure a correct application of this legislation.

For safer roads in cities: European Road Safety Day 2008

The second European Road Safety Day took place on 13 October. To mark this event, the European Commission held a conference in Paris on road safety in cities in cooperation with the French Presidency. This conference was attended by more than 600 participants, including Antonio Tajani, the Commission Vice-President responsible for transport, and Jacques Barrot, the Vice-President responsible for justice, freedom and security, as well as Dominique Bussereau, the French Minister of State responsible for transport, and Altero Matteoli, the Italian Transport Minister. UNECE Transport Division was also among the exhibitors.

‘Two thirds of all road accidents and one third of fatal accidents occur in urban areas. This is why we have decided to devote this second European Road Safety Day to road safety in our cities. The event provides an excellent opportunity to raise awareness among European citizens about this issue’, said Vice-President Tajani, who has made road safety one of his priorities for action.

The conference in Paris on road safety in urban areas covered three main issues: the needs of vulnerable road users such as pedestrians and users of two-wheeled vehicles; designing cities to improve road safety; improving the behaviour of individuals to develop a culture of preventing accidents. The event was designed to promote the improvement of road safety in cities by means of dialogue between all road users in urban areas, and between users and policy-makers. On the fringes of the

discussions, some forty exhibitors presented the main European initiatives and advances made to improve road safety. Like last year, some Member States also organised national events linked to the central event in Paris. The first European Road Safety Day focused on young drivers. The symposium in Brussels provided young people with a space in which to share their experience and to call on the institutions and the traditional road safety groups to improve road safety in Europe.

Dublin and Lisbon lead way in cutting road deaths

Although the number of deaths caused by road accidents has been slowly decreasing in the past decade, no fewer than 24,000 people died on the roads of the EU’s 27 capitals alone, a new report has shown.

Dublin and Lisbon have reduced the number of accidents the most over the past two years – dropping respectively 12 and 10 percent per year, while in Helsinki, the figure has increased slightly, according to a survey published on 8 October by the European Transport Safety Council, a Brussels-based NGO.

Sofia, Bratislava, Madrid, Bucharest, Warsaw, Paris, Copenhagen and Tallinn have also noted a reduction in accidents above the EU average yearly cut of 4.1 percent. Vienna, Brussels, Amsterdam, London and Rome have on the other hand not decreased the number by more than three percent.

“This latest study has demonstrated that the city authorities who had adopted strategic programmes have been most successful in making their cities safer and friendlier for their residents,” said Graziella Jost, programme manager for the survey.

The paper also notes that the pace of cutting road crashes in cities has increased since the adoption of an EU target in 2001 to halve “the number of fatalities on our roads from 54,000 to 27,000” by 2010. It encourages cities to adopt a “strategic approach to road safety” and take into consideration all kinds of road users, with the most “vulnerable” ones – pedestrians and cyclists – needing particular attention.

“One out of two road victims in capitals is either a pedestrian or a cyclist,” according to the report.

Improving the quality of public transport and promoting 30 kilometres per hour speed limit zones in residential areas are some of the suggestions the NGO makes to boost road safety. Web address to be added!

EU cars to use daytime headlights from 2011

All cars in the EU will have to be equipped with headlights and rear-end lighting that shine in the daytime as of 7 February 2011, the European Commission said on 24 September. Trucks and buses will have to follow suit 18 months later, by August 2012.

The commission says its decision is based on the observation that “in countries which have already made daytime running lights (DRL) obligatory, the experience in the field of road safety is very positive.”

Daytime lights automatically switch on as soon as the engine is started, and go off when it gets dark and the driver turns on the headlights. Scandinavian countries were among the first to introduce them. According to Commission vice president

¹ Council Directive 2002/15/EC concerning the organisation of total working time of persons performing mobile road transport activities.

² False self-employment arises where the improper classification of employment status is used as a means to evade statutory labour provisions and obligations, and a method to reduce labour costs. The workers concerned stay economically dependent. This bogus type of self-employment results in circumvention of social protection and exclusion from basic workers rights.

Guenter Verheugen - in charge of enterprise and industry policy: "the introduction of DRL for cars, trucks and buses makes them more visible, which will increase road safety." There are currently around 40,000 road casualties per year in the EU, and Brussels' objective is to halve this figure by 2010.

Additionally, because of their lower energy consumption - approximately 25-30 percent of the energy consumption of normal headlights - DRL are also considered to be more environmentally friendly.

The news was not welcomed by everybody, however, and the car industry in particular has voiced concern at the proposal.

"There is a small risk that some drivers will forget to switch on their headlights at night. We think there could also be confusion among road users between these lights and front fog lamps," a spokesperson for the Society of Motor Manufacturers and Traders told the UK's Telegraph newspaper. "Even though we accept this is supposed to be a safety measure, it could also add to carbon emissions exactly when car makers are under pressure from Brussels to cut them," he added.

Timothy Kirkhope, a British Conservative MEP, also said that what is aimed to be a measure increasing road safety could in fact increase the risk for pedestrians and cyclists.

"When the commission first mooted compulsory daytime running lights, MEPs were inundated with letters from cyclists concerned that daytime lights would make it more difficult for them to be seen," he stated.

"If all cars have lights on, there is a concern that drivers start looking out for lights, rather than pedestrians or cyclists," he stressed.

"At a time when we are pushing for reductions in the use of fuel and resultant emissions, we must be certain we are not causing extra carbon emissions without an additional benefit," said Mr Kirkhope, calling for an independent assessment of the measure before any EU legislation is approved.

Commission boosts inland waterway transport through a new platform – PLATINA

The European Commission launched on 1 October 2008 its "PLATINA" project to implement more efficiently actions and measures promoting inland waterway transport. The project, which is bringing together 22 partners from 9 European countries, is funded with € 8.5 million from the Commission. PLATINA has been designed as a platform for helping to implement the European inland navigation programme NAIADES. The Commission also presented a guide to funding opportunities in inland waterway transport, as well as the outcomes of a study on administrative and regulatory barriers affecting inland navigation, to which PLATINA will assist the follow-up in a coordinated way. More use of inland waterway transport is an efficient way to reduce congestion and CO2 emissions and to contribute, in a sustainable way, to Europe's industrial prosperity.

Commission calls on Member States to ensure correct implementation of the First Rail Package

The European Commission sent letters of formal notice to 24 Member States in June 2008, regarding their failure to

implement the First Railway Package legislation properly. As part of its duty to monitor the transposition of EU legislation into national law, the Commission came across failure or improper implementation of the legislation in Austria, Belgium, Bulgaria, the Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, France, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia and the United Kingdom. The creation of an integrated railway market will be a key factor in boosting its efficiency and competitiveness, as well as a further step in ensuring sustainable mobility in Europe.

"Proper transposition of the first railway package is essential for creating competition in the European railway markets and increasing the competitiveness of railways in relation to other modes of transport," said Commission Vice-President in charge of Transport, Mr Antonio Tajani.

In May 2006, the Commission found that, although Member States had introduced the necessary legislation, some countries needed to take further measures to ensure an effective regulatory framework as well as the satisfactory functioning of the railway markets. The deadline for implementation of the First Package was March 2003.

Following a detailed analysis of the conformity of national legislations, the Commission mainly noted shortcomings such as: lack of independence of the infrastructure manager in relation to railway operators; Insufficient implementation of the rules of the Directive on track access charging, such as the absence of a performance regime to improve the performance of the railway network and the lack of incentives of the Infrastructure Manager to reduce costs and charges. Failure to set up an independent Regulatory Body with strong powers to remedy competition problems in the railway sector.



From left: Isabelle Kardacz, European Commission, and Virginia Tanase, UNECE

UNDA Project Corner

Hosted by Virginia Tanase and Martine-Sophie Fouvez

The project, *Improving Global Road Safety: setting regional and national road traffic casualty reduction targets*, represents a continuation of efforts to implement the recommendations made in the United Nations General Assembly resolution A/RES/60/5 on *Improving Global Road Safety*.

A short time after the project was approved, the General Assembly adopted, on 31 March 2008, the resolution A/RES/62/244 on *Improving Global Road Safety*, reaffirming the importance of addressing global road safety issues and the need for further strengthening of international cooperation and knowledge sharing taking into account the needs of developing countries.

The objective of the project is to assist low and middle income countries developing regional and national road traffic casualty reduction targets and to provide them with examples of good road safety practice that could help them to achieve the targets selected by 2015.

The setting of targets at the regional level can be effective as it unites countries with often similar problems. Governments learn from each other's experience and compare their progress in contributing to the regional target. Africa and Asia and the Pacific have developed ambitious regional road safety targets and will require extensive assistance to be able to meet those targets.

Regional casualty reduction targets include:

- European Union and European Conference of Ministers of Transport agreed to reduce fatalities by 50% by 2010 and 2012 respectively
- Within the regional goal additional steps are possible e.g. Belarus (-100 accidents/year), Russian Federation (-10% injured every year, on a province basis)

- Transport Ministers in Asia and the Pacific agreed to cut deaths by 600,000 (about 20%) by 2015
- Ministers of Health & Transport in Africa agreed to reduce road fatalities by 50% by 2015

To achieve these objectives or to set realistic objectives, research expertise and guidance is needed for many of the countries concerned. The preliminary report of the project will reflect findings and relevant recommendations to

- Increase capacity to set regional and national road safety targets;
- Increase understanding of good road safety practices that countries can employ to help achieve their targets for 2015.

It is expected that Governments will establish a target for improving their road safety situation and learn about ways that they can realise the target and the benefits that this will bring. Achieving the targets will lead to safer roads benefiting all road users and reducing government spending. It is also expected that the benefits derived from the project will extend well beyond the life of the project. Setting targets is an exercise that may be repeated and the good road safety practices presented for achieving the targets will remain valid for the foreseeable future.

The results of this project will be discussed by the high-level Conference to take place in Russian Federation in November 2009 and might lead to the establishment of a global road safety target.

The five UN Regional Commissions are working together on this project to assist developing countries throughout the world in setting and achieving national and regional road traffic casualty targets. This common project is a recognition of road safety as a matter of common concern within the UN entities.

UNECE Transport Division updates

In addition to the regular meetings and activities of the various working parties, the Transport Division organized a few special events which are summarized below. For more information about any particular event, please refer to our website, or email us at infotransport@unece.org

Meeting of Transport Ministers from countries in the Euro-Asian region - 19 February 2008



Transport Ministers and High-Level Officials from countries across the Euro-Asian region and Western Europe, along with representatives from UNECE, UNESCAP and UN-ORHLLS and international institutions, including the European Commission, OSCE, BSEC, ITF, IRU, and UIC met on 19 February 2008 to discuss the development of Euro-Asian Transport Links at the Palais des Nations, Geneva

The Meeting, which began the 70th Annual Session of the UNECE Inland Transport Committee*, opened to a full house and culminated in Ministers signing a Joint Statement on Future Development of Euro-Asian Transport Links

e-CMR Signing Ceremony - 27 May 2008



In a signing ceremony on 27 May 2008, at the Palais des Nations, seven countries signed a new United Nations Economic Commission for Europe (UNECE) Protocol which will ease international road freight and further improve good governance in road transport by allowing the use of electronic consignment notes.

The new Protocol is an Additional Protocol to the UNECE Convention on the Contract for the International Carriage of Goods by Road (CMR). It sets out the legal framework and standards for using electronic means of recording and storing consignment note data, making information transfer faster and more efficient than with paper-based systems. The CMR agreement, which is the standard regulation for goods transport contracts, was established in 1956 and currently has 53 Contracting Parties.

Round table on Intelligent Transport Systems - 5 June 2008

In conjunction with the European Congress on ITC, the Transport Division organized a round table on what UNECE can do for ITS. Participants discussed questions such as:

- How to ensure that future transportation systems will be managed and operated to provide seamless, end-to-end intermodal passenger travel regardless of age, disability, or location and efficient, seamless, end-to-end intermodal freight movement?
- How to make sure that ITS are developed and deployed in a coordinated, systematic and cost-effective manner? How to ensure that ITS development and deployment are sustainable?
- How to enable national infrastructure's ITS applications to be seamlessly integrated, compatible with systems in neighbouring countries, and meet European and global ITS architecture standards?
- What actions at the pan-European level are needed to well integrated ITS in the planning, design, construction and maintenance of transport infrastructure?
- What roles in ITS development for the stakeholder groups: international actors, public sector, private sector, academia, NGOs?
- What could be the UN contribution towards building an electronic information infrastructure that works in concert with the physical infrastructure to maximize the efficiency and utility of transport system and encourage modal integration and consumer choice?

50th Anniversary of the 1958 Agreement June 2008



Globally harmonized vehicle regulations are key in addressing shared problems like environmental damage and road safety. That was one of the main messages at a UNECE Round Table celebrating the 50 th anniversary of the The Agreement concerning the Adoption of Uniform Technical Prescriptions for Vehicles (The 1958 Agreement).

“In a global world, we need global rules,” said Günter Verheugen, European Commission Vice-President Responsible for Enterprise and Industries, in a statement addressed to participants. He highlighted the fact that EU is replacing its rules on vehicle regulation with those of UNECE, reducing bureaucratic procedures and allowing the industry to adapt faster to technical developments. “This [Agreement] is a model for successful international collaboration which needs to be copied by other industrial sectors,” he continued.

Around 160 people gathered for the Round Table which explored the historical and future significance of the 1958 Agreement through panel presentations. Organized in conjunction with the World Forum for Harmonization of Vehicle Regulations 145th sessions, the Round Table included a varied panel of WP.29 veterans as well as current stakeholders



Conference on the Hinterland Connection of Seaports 17-18 September 2008 in Piraeus, Greece



Growing volumes of international trade in goods cause major bottlenecks in the hinterland connections of seaports which currently form the weakest link in global supply chains. This issue was the focus of a UNECE conference held in Piraeus, Greece, at which the key problems associated with hinterland connections and possible solutions were debated.

The Greek Minister of Mercantile Marine, The Aegean and Island Policy, Mr. Anastassios Papaligouras highlighted in his opening speech the importance of international cooperation in developing the transport sector and the role of the United Nations in facilitating such cooperation, particularly at a time of rapid transport growth.



From left: Georgios VLACHOS, General Secretary, Ministry of Mercantile Marine, The Aegean and Island Policy; Eva MOLNAR, Director, UNECE Transport Division; Anastassis PAPALIGOURAS, Minister of Mercantile Marine, The Aegean and Island Policy, Greece; Anna WYPICH-NAMIOTKO, Vice Minister of Infrastructure, Poland; and XU Zuyuan, Vice Minister of Transport, China

World Day of Remembrance for Road Traffic Victims

On 16 November 2008 – the third Sunday of November

Each year, millions of newly bereaved and injured people from every corner of the world are added to the many millions already suffering as the result of a road crash. This special Remembrance Day responds to this global disaster by recognising publicly the loss and pain of road crash victims and the impact on communities and countries.

Initiated and observed by victim organisations for a decade, the WHO and UN promoted the Day's global recognition, which resulted in UN resolution 60/5 adopting the day as World Day of Remembrance for Road Traffic Victims on 26 October 2005.



Next issue

The next issue of the UNECE Transport Review will deal with the topic of Trade and Transport, and will be issued on the occasion of the Joint Conference on Trade and Transport between the UNECE Transport and Trade Divisions on 24 February 2009

