UNECE

UN Vehicle Regulations for road safety Cost-benefit methodology

Part of the WP.29 "How it works – How to join it" series





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United Nations publication issued by the United Nations Economic Commission for Europe.

ECE/TRANS/306

UNITED NATIONS PUBLICATION Sales No.: E.20.VIII.5 ISBN: 978-92-1-139195-4 eISBN: 978-92-1-005283-2

United Nations Economic Commission for Europe

The United Nations Economic Commission for Europe (UNECE) is one of the five United Nations regional commissions, administered by the Economic and Social Council (ECOSOC). It was established in 1947 with the mandate to help rebuild postwar Europe, develop economic activity and strengthen economic relations among European countries, and between Europe and the rest of the world. During the Cold War era, UNECE served as a unique forum for economic dialogue and cooperation between East and West. Despite the complexity of this period, significant achievements were made, with consensus reached on numerous harmonization and standardization agreements.

In the post-Cold War era, UNECE acquired not only many new member States, but also new functions. Since the early 1990s the organization has focused on assisting the countries of Central and Eastern Europe, Caucasus and Central Asia with their transition process and their integration into the global economy.

Today, UNECE supports its 56 member States in Europe, Central Asia and North America in the implementation of the 2030 Agenda for Sustainable Development with its Sustainable Development Goals (SDGs). UNECE provides a multilateral platform for policy dialogue, the development of international legal instruments, norms and standards, the exchange of best practices and economic and technical expertise, as well as technical cooperation for countries with economies in transition.

Offering practical tools to improve people's everyday lives in the areas of environment, transport, trade, statistics, energy, forestry, housing, and land management, many of the norms, standards and conventions developed in UNECE are used worldwide, and a number of countries from outside the region participate in UNECE's work.

UNECE's multisectoral approach helps countries to tackle the interconnected challenges of sustainable development in an integrated manner, with a transboundary focus that helps devise solutions to shared challenges. With its unique convening power, UNECE fosters cooperation among all stakeholders at the country and regional levels.

Transport in the Economic Commission for Europe

The UNECE Sustainable Transport Division is the secretariat of the Inland Transport Committee (ITC) and the ECOSOC Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals. The ITC and its 17 working parties, as well as the ECOSOC Committee and its sub-committees are intergovernmental decision-making bodies that work to improve the daily lives of people and businesses around the world, in measurable ways and with concrete actions, to enhance traffic safety, environmental performance, energy efficiency and the competitiveness of the transport sector.

ITC is a unique intergovernmental forum that was set up in 1947 to support the reconstruction of transport connections in post-war Europe. Over the years, it has specialized in facilitating the harmonized and sustainable development of inland modes of transport. The main results of this persevering and ongoing work are reflected, among other things, (i) in 58 United Nations conventions and many more technical regulations, which are updated on a regular basis and provide an international legal framework for the sustainable development of national and international road, rail, inland water and intermodal transport, including the transport of dangerous goods, as well as the construction and inspection of road motor vehicles; (ii) in the Trans-European North-south Motorway, Trans-European Railway and the Euro-Asia transport Links projects, that facilitate multi-country coordination of transport infrastructure investment programmes; (iii) in the TIR system, which is a global customs transit facilitation solution; (iv) in the tool called For Future Inland Transport Systems (ForFITS), which can assist national and local governments to monitor carbon dioxide (CO2) emissions coming from inland transport modes and to select and design climate change mitigation policies, based on their impact and adapted to local conditions; (v) in transport statistics – methods and data – that are internationally agreed on; (vi) in studies and reports that help transport policy development by addressing timely issues, based on cutting-edge research and analysis. ITC also devotes special attention to Intelligent Transport Services (ITS), sustainable urban mobility and city logistics, as well as to increasing the resilience of transport networks and services in response to climate change adaptation and security challenges.

The UNECE Sustainable Transport and Environment Divisions, together with the World Health Organization (WHO) – Europe, coservice the Transport Health and Environment Pan-European Programme (THE PEP). As of 2015, the UNECE Sustainable Transport Division is providing the secretariat services for the Secretary General's Special Envoy for Road Safety Mr. Jean Todt, and as of 2018 to the Road Safety Trust Fund.

The UNECE World Forum for Harmonization of Vehicle Regulations (WP.29), a working party of the ITC, is the worldwide regulatory forum in which relevant stakeholders from the world are participating. Three UN Vehicle Agreements, adopted in 1958, 1997 and 1998, provide a legal framework allowing Contracting Parties to establish internationally harmonized regulatory instruments concerning the certification of motor vehicles, their equipment and parts, and rules for technical inspections of vehicles in use. The regulatory framework developed by the World Forum allows the mass market introduction of innovative vehicle technologies, while continuously improving global vehicle safety, energy efficiency and environmental performance.

Preface

Well-developed, efficient, clean, safe and secure inland transport systems offer important access to markets, employment, education and basic services that are critical to poverty alleviation. Transportation, and road transport in particular, is simultaneously a major driving force behind a growing global demand for energy, it has a significant environmental footprint, and its impacts on public health are of major concern due to the worldwide death, injury rates and illness resulting from road traffic crashes and air pollution. Growing global demand for goods transport and personal mobility is driving a historically unprecedented increase in road motorization rates and traffic volumes worldwide, in urban and non-urban settings alike. The deployment of motorcycles, cars, buses and trucks on streets and roads is projected to increase in the coming decades, most significantly in developing countries with strong population growth rates, particularly in Africa and South-East Asia.

Annually, 1.35 million lives are lost in road traffic and a similar number of premature deaths can be attributed to air pollution from transport. Fossil fuels account for 96 per cent of energy consumption in road transport and the sector is responsible for 18 per cent of global GHG emissions. A business as usual trajectory will fail to mitigate these existing negative externalities of road vehicles and compound an even greater impact in the future due to the expected growth of demand for road transport worldwide. Making sure that the vehicles deployed on roads are safe, energy efficient and environmentally friendly will be vital for achieving many of the 2030 Agenda's 17 Sustainable Development Goals (SDGs) and their targets. Directly linked 2030 Agenda items include targets 3.6 on reducing road traffic fatality rates and 3.9 on reducing air pollution related deaths, 7.2 and 7.3 on increasing the share of renewables in the global energy mix and improving energy efficiency, targets of SDG 9 on infrastructure, industrialization and innovation, target 11.2 on ensuring safe, environmentally sound and sustainable urban transport systems for all, and SDG 13's actions to combat climate change and its impacts.

Efforts in research, development and innovation are continuously bringing to market new technologies that incrementally improve the safety performance, and reduce energy consumption and environmental impact of road vehicles. More efficient engines, alternative fuel technologies, active and passive safety systems and automation in vehicles are promising avenues for improving the sustainability of road transport and road vehicles. However, technology represents only part of the solution and should be widespread to have a lasting impact.

The World Forum for Harmonization of Vehicle Regulations (WP.29) is a unique global forum for harmonizing vehicle regulations and rules on vehicle performance and on vehicle parts and equipment, vehicle safety, environmental pollution, energy efficiency, anti-theft and security. The participation of all stakeholders, those from governments, the industry and representatives of consumers, in such a worldwide regulatory platform addressing road vehicles is a key link in ensuring sectorial sustainability, including its improved safety record, for the future.

This publication - UN vehicle regulations for road safety: cost-benefit methodology – showcases the impact of some UN Vehicle Regulations developed by WP.29 on the improvement of national and global road safety. It introduces methodologies and provides an in-depth analysis of the key criteria to be used in cost benefit analysis. One of the described cost-benefit methodologies is applied in three country cases, with satisfactory data availability, to assess the socioeconomic impacts of purposely developed policy scenarios for applying vehicle regulations to improve road safety.

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