

An aerial photograph of a complex highway interchange with multiple overpasses and ramps. Overlaid on the image is a glowing digital globe with a network of white and blue lines connecting various points across its surface, symbolizing global connectivity and data exchange.

PIARC GLOBAL ROAD SAFETY KNOWLEDGE EXCHANGE SPEED SAFETY

PIARC TECHNICAL COMMITTEE ON ROAD SAFETY

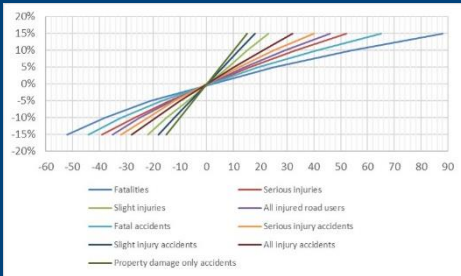
PIARC's Technical Committee for Road Safety recognizes that 90% of traffic deaths occur in Low- and Middle-Income Countries, and uses this information to assess, identify and share best practices of road safety activities for LMICs by developing documents and case studies highlighting international practices and lessons learned. In addition, the technical committee is focused on making proven countermeasures that are effective in reducing the likelihood and severity of crashes, available to LMICs for consideration in safety project development.

PIARC SPEED SAFETY

A key dissemination tool for road safety developed by the PIARC Road Safety Technical Committee is the Road Safety Manual (RSM). The PIARC RSM is designed to help countries at every stage of infrastructure development to fulfill road safety objectives. PIARC has highlighted that managing speed is critical to the effectively implementing the Safe System Approach. PIARC has produced a variety of speed-related reports, case studies and documents available to all Road Authorities and Stakeholders. Therefore, produced documents include detailed information and up-to-date recommendations on the planning, enforcement, and implementation of speed limits and speed control systems.



Speeding Safety Basic Facts



Speed is consistently considered at the core of the most important risk factors of road crash occurrence. For example, a 15% increase in the mean speed induces an 88% increase in road crash fatalities. On the other hand, a 15% reduction in the mean speed leads to a 52% reduction in road crash fatalities.

The highest impact speed at which a driver can survive is:

- 80km/h for a head-on collision,
- 60km/h for a side-impact collision,
- 30km/h without the use of any safety equipment.

Speeding Safety Issues

Crash occurrence is connected to the difference between the speed defined as “safe” for the road and road user mix and the speed chosen by the driver. LMICs have greater variety and intensity of traffic, mixing the slow-moving and vulnerable non-motorized road users, and the motorcycles with fast-moving motorized vehicles.



Behavioral issues also lead to conscious violation of traffic rules and regulations, deliberately exceeding the speed limit. Other behavioral issues leading to speeding are:

- Difficulty in understanding complex infrastructure and traffic situations,
- Slow reaction times,
- Stress,
- Fatigue,
- “Crowd behavior”.

United Nations Decade of Action for Road Safety



The United Nations (UN) Second Decade of Action for Road Safety aims to reduce road traffic deaths and injuries by at least 50% from 2021 to 2030. The Safe System approach – a core feature of the Decade of Action – recognizes that road transport is a complex system and places safety at its core. It also recognizes that humans, vehicles and the road

infrastructure must interact in a way that ensures a high level of safety. Managing speed is critical to the effective implementation of the Safe System approach. In urban areas where there is a mix of road users, a maximum speed limit of 30km per hour should be established

Speed Safety Measures

Low-cost countermeasures, such as ‘soft/light engineering’ interventions, can help achieve effective speed reductions. Systems such as speed bumps, lane narrowings, chicanes, new pedestrian crossing solutions, optimized cross section sharing to flow-speed curves analysis, and varying wearing course material are essential techniques in urban areas in LMICs.

Self-explaining roads ensure that drivers perceive the right behavior being asked of them and adjust their speed accordingly. In doing so, the gap between safe speeds and actual operating speeds is reduced to the greatest extent possible. To achieve this, road authorities should locally manage within the context and needs of the given road environments, so that the road is self-explaining. For example, managing speeding through behavioral change or speed compliance regulations could be done by enforcement, education, demerit points and fines to road users.



Speed Safety Recommendations



Speed limits must be credible, homogeneous, and visible by day and night, maintained over time, and consistent with achieving driver compliance, ideally coupled with enforcement.

Speed management is about regulating traffic speed and planning and designing appropriate road layouts and networks for safe travel speeds for all road users.

With the help of technology, speed management is now more manageable through speed-limiting technology or intelligence speed adaptation where speed limiters and data recorders are involved.

Road authorities should consider new enforcement strategies like section control, woonerfs, as well as explore the potential benefits of speed control systems like ISA in cars, motorcycles, and motortricycles.

Read More

- [Road Safety Manual. Planning, Design & Operation. Roles, Responsibilities, Policy Development and Programmes](#)
- [Proceedings of the "International Seminar and Workshop on Safer Roads by Infrastructure Design and Operation"](#)
- [Road Safety Manual. Planning, Design & Operation. Designing for Road Users](#)
- [Road Safety Manual. Planning, Design & Operation. Intervention Selection](#)
- [Setting Credible Speed Limits](#)
- [Proceedings of the "International Seminar and Workshop on Safer Roads by Infrastructure Design and Operation"](#)
- [Proceedings of the PIARC International Seminar on: "Road Safety in Low- and Middle-Income Countries: Issues and Countermeasures"](#)