
## 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 VULNERABLE ROAD USERS (VRUs) SAFETY

For years, pedestrians, children, elderly, disabled persons, cyclists, moped riders, and other VRUs have been considered in the PIARC guidelines on road safety. PIARC has established a definition for VRUs, focusing on road users who are at great risk because of insufficient physical protection or because of a relatively high- speed difference with potentially conflicting modes. PIARC has provided a detailed presentation of the relevant safety issues and with an overview of possible design and remedial measures for each type of VRUs sub-group. PIARC has also produced various reports, case studies, and documents on VRUs Safety, which are available to all Road Authorities and Stakeholders.

PIARC GLOBAL ROAD SAFETY NOWLEDGE EXCHANGE
VULNERABLE ROAD USERS

# VRU Safety Fundamentals

Each year, 1.35 million people are killed on the world's roads, and a further 50 million are injured, with the vast majority of these (over 90%) occurring in LMICs. A critical share of these fatalities (over 54%) are VRUs. Death rates due to road traffic injuries in LMICs are three times higher than in high-income countries (HIC). In most LMICs, the majority of road users are vulnerable road users – pedestrians, cyclists and those using motorized two or three-wheelers. Despite the increased global attention and progress in policymaking at the national level, the number of road casualties increased in 87 LMICs since 2013.

# VRU Safety Issues

Low- and Middle-Income Countries (LMICs) have greater variety and intensity of traffic, mixing the slow-moving and vulnerable non-motorized road users, and motorcycles with fast-moving motorized vehicles compared to high-income countries. Fatalities amongst VRUs are higher in LMICs due to lack of resources to provide or maintain adequately safe infrastructure, land use planning problems and lack or inadequacy of post-crash response services as well as unsafe users' behavior due to a lack of proper training and education.

VRUs may put themselves at risk or even be a threat to others. VRU crashes occur due to the following:

- Careless crossing, jaywalking,
- Disobeying traffic lights / misjudgment of speed gaps,
- Lack of proper facilities,
- Driver inexperience or misjudgment.

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# 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% until 2030. The Global Plan for the Decade of Action for Road Safety 2021-2030 rejects business as usual and calls on governments and stakeholders to take a new path that prioritizes and implements an integrated Safe System approach that squarely positions road safety as a key driver of sustainable development. The system design and operation must become forgiving of routine human error from all sides of the road. Designers and operators should deal with human behavior proactively and integrally by creating an environment for safe human behavior.

# VRU Safety Measures

Measures to enhance VRU safety along road sections include: visual segregation by edge markings, wider and paved shoulder, appropriate traffic lane width, segregated footpath, a segregated lane for cyclists or mopeds and proper crossing facilities.
A key requirement of road design for reduction of VRU crashes includes providing a safe field of view for all road users. Additionally, the road environment must correspond with the road user's perception logic, covering as many angles/points of view as possible.
Road Safety Audits (RSA) and Inspections (RSI) enhance safety. Target elements for RSA/RSI are the risk factors for crash occurrence or injury severity. The point of view of every type of road user should be considered, along with the way interactions happen between different types of road users or transport modes. Post-crash care should be enhanced.

# VRU Safety Recommendations

Road design should include a self-explaining and failure-forgiving road according to the needs of the road users. Therefore, a paradigm shift from designing roads for cars to focusing on VRUs is needed. A key message for road engineers and designers is to consider VRUs in the design process and include self-questions such as "what if a child/blind/elderly/disabled person is crossing".

Checklists can be used in the design process to ensure that safety aspects are not overlooked.

IRAP star rating is a tool that indirectly measures the safety of roads, and allocation should be provided to ensure that most of the roads are at least 3 stars and above.

To ensure compliance, measures of communication, education, and enforcement, including special warning signs and campaigns, should be employed.

## Read More

- Vulnerable Road Users: Diagnosis of Design and Operational Safety Problems and Potential Countermeasures
- Addressing Road Safety Worldwide: Vulnerable Road Users, Human Factors & RS in LMIC
- Proceedings of the PIARC International Seminar on: "Road Safety in Low- and Middle-Income Countries: Issues and Countermeasures"
- Review of Global Road Safety Audit Guidelines with Specific Consideration for Low and Middle Income Countries
- Road Safety Catalogue of Case Studies