Global Road Safety Knowledge Exchange PIARC

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Artificial Intelligence for Road Safety and Mobility Workshop

8th UN Global Road Safety Week

Athens, 15 May 2025

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The PIARC Global Road Safety Knowledge Exchange project

- **2 Project partners**:

  National Technical University of Athens

  Austrian Institute of Technology

  Technical Support: USA, Australia, Canada, Québec, South Africa, Sweden

- **Duration of the project**:

  13 months (August 2022 – October 2023)

- **Framework Program**:

  PIARC – World Road Association

  Funding from USA, Australia, Canada, Québec, NZ

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Objectives

- Aiming to promote knowledge sharing through appropriate implementation aids that will reflect PIARC road safety work

- Focus on spreading road safety knowledge to Low- and Middle-Income Countries (LMIC), where road crash death rates are three times higher than in High-Income Countries (HIC).

- More than 50 PIARC Technical Reports, Seminar Proceedings, Case Studies have been reviewed, grouped into 8 major Road Safety Areas: Management, Infrastructure, Tunnels, VRUs, Behavior, Vehicle, Speed and Data.

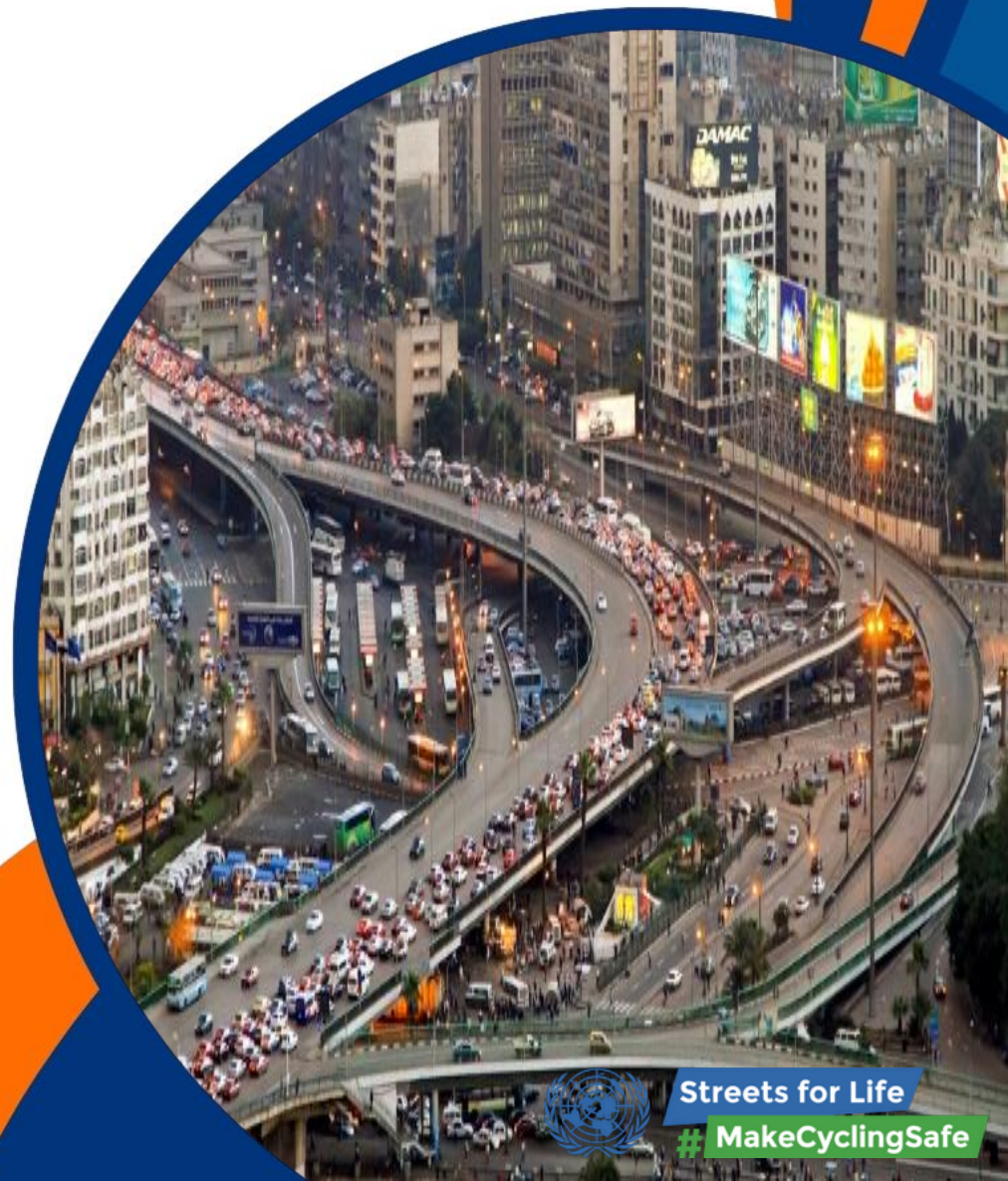
Safe System Approach

- The development of a road safety strategy starts from the notion of Safe System Approach:
  - to ensure road safety management and leadership and build road safety expertise by developing a strong Lead Agency and a robust set of local guidelines and regulations.

- Quality data collection and analysis can facilitate the management of the road network and of the overall traffic system. Crash data and Safety Performance Indicators should support evidence based policies, programs and measures at the LMICs.

Road Infrastructure

- Road infrastructure is often the single most significant factor that contributes to the severity outcomes of a crash.
- All roads should be designed to control speeds, be self-explaining, without surprises to the driver and forgiving human errors to minimize crash severity.
- The proactive actions and reactions of those in charge of operating the road tunnels is a decisive factor in ensuring the safety of people during an incident.
- The design of tunnels and their operation should always take account of human factors.



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Vulnerable Road Users

- In most LMICs, the majority of road users are VRUs. Low-income countries have the highest proportion of fatally injured casualties among vulnerable road users.
- To ensure compliance, combined measures of communication, education and enforcement, including special warning signs and campaigns should be employed.
- Key message for road engineers and designers is to include VRUs in the design process and include self-questions such as “what if a child /blind /elderly /disabled person is crossing”.

Speed

- Managing speed is critical to the effective implementation of the Safe System approach.
- Speed limits must be credible to achieve driver compliance.
- In urban areas where there is a mix of road users a maximum speed limit of 30km/h should be established.
- Managing speed through behavioral change or speed compliance regulations could be done by education, enforcement, demerit points and fines to road users.

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- PIARC has produced reports, case studies, and guidelines related to all 8 road safety areas, in order to support all countries achieve the targets set by the United Nations' (UN) Second Decade of Action for Road Safety and reduce road traffic deaths and injuries by at least 50% from 2021 to 2030.

- PIARC's Road Safety Manual is a key dissemination tool. The RSM is designed to help all countries and especially LMICs, at every stage of infrastructure development to fulfill road safety objectives.

- PIARC's Human Factors Method (RSE_HF), aims to include into the road design and management procedures the study of human factors and human risk-taking behaviors. This approach supports LMICs that are still at the starting phase of the road safety management process.

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Scientific and Social Impact

- This new and ambitious initiative aims to disseminate even more actively knowledge on road safety across the world, focusing on Low and Middle-Income Countries (LMICs).

- The project provided monthly updates on PIARC's road safety work on PIARC's website and social media channels.

- All road safety authorities and stakeholders will be able to interact with PIARC road safety experts, engage and learn more about PIARC reports and PIARC knowledge products.

Future Challenges

- The Global Road Safety Knowledge Exchange project has produced up-to-date recommendations on the 8 road safety areas, and continues to disseminate all material to LMICs road authorities through various in-person and online actions and events.
- Support LMICs road safety authorities with a continuous consulting in every step of the road safety procedures, from road design to road management.
- Organise thematic road safety workshops and webinars addressed to LMICs road authorities and stakeholders focused on the step-by-step implementation of PIARC produced tools and materials.

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