

# PIARC (World Road Association) Strategic Plan - 2024-2027

## TECHNICAL COMMITTEE 4.6 – ROAD DESIGN STANDARDS

### Overview

Strategies/Objectives description in 2024-2027 Strategic Plan:

- Development of a database of guidelines for road design standards, for comparisons of applicable standards, and for recommending their use in other countries, mainly LMIC.
- Providing road administrations belonging to PIARC with a basis for improving and homogenization their road geometry design standards.
- Identification of changes in road design standards with constant updating of trends in road design related to the change in mobility and the emergence of new technologies.
- Assessing the use of BIM in design by evaluating examples of its use in projects from different countries.
- Presentation of BIM standards in design at various stages of design documentation.
- Recommendations for using BIM in ejecting based on the experience gained.

The work carried out under Task Force 4.1 will be a continuation of the work carried out as part of the 2020–2023 cycle. The works will include also a review of works carried out by other TCs on BIM in asset management.

### 4.6.1 Database of road design standards

**Purpose:** The purpose of this work is to analyse:

- Collection of road design guidelines from many countries (based on survey in PIARC member countries), taking into account the LMIC,
- Preparation of a database of road design standards,
- Comparison of significant differences between the guidelines in the indicated design criteria.

**Preliminary research questions:** The analyses will be conducted based on selected road design standards (selected aspects) from different countries that are able to prepare data and should answer the questions:

- What aspects of road design standards are most important?
- What are the extreme cases, is it possible to create one guideline?
- Is there a possibility of transferability of road design standards to other countries?
- What are PIARC's recommendations for the most important geometric elements of road design?

**Importance to roads agencies:** This work is important for road agencies and the road industry as it provides an overview of road design standards. Based on this work it will be possible to compare the most important design criteria and transfer knowledge in road design mainly to the LMIC.

**Audience:** The deliverable will benefit both the road authority and road designers. It will allow them to compare the best practice from road design standards as well as transfer knowledge between different countries.

**Deliverables:** Case studies, survey, workshop or conference, social media.

**Background to TC's work on this topic:** PIARC Literature Review, State of the Art, Road Design Standards. Task Force 4.1 Road Design Standards, 2022 in 2022

**Low and lower-middle income countries:** The work will be dedicated not only to LMICs but also to other countries in which road design standards are developed. However, the results should have a high level of transferability the best current standards in road design to LIMC.

**Gender inclusion & diversity:** The work does not directly relate to gender and diversity aspects. Developing road design standards should have an impact on improving traffic conditions and the road safety of people on a regional and global scale.

**Potential duration:** 2024–2027.

#### 4.6.2 BIM for design

**Purpose:** The purpose of this work is to analyse:

- A collection of case studies from BIM implementation in road design,
- Comparison of BIM standards for various stage of the project, countries and recommendations for application.

**Preliminary research questions:** The analyses will be conducted based on examples of BIM applications in design from different countries and should answer the questions:

- What is the level of BIM application in design for various stages of projects?
- What are the plans to introduce BIM in design in various countries?
- Are there any templates for them, depending on the stage of design documentation?

**Importance to roads agencies:** This work is important for road agencies and the road industry because provides a review of case studies for application BIM in road design. Based on this work it will be possible to compare and recommend standards for BIM in road design.

**Audience:** The deliverable will benefit the road authority, road designers, and the road industry. It will allow them to recognize problems of BIM application in different countries, as well as compare them and transfer knowledge between different countries.

**Deliverables:** Case studies, survey, workshop or conference, social media.

**Background to TC's work on this topic:** BIM PIARC reports related to asset management.

**Low and lower-middle income countries:** The work will be dedicated not only to LMICs but also to other countries in which BIM standards in design are developed. The results should help to take a decision during BIM introduction to design in LIMC.

**Gender inclusion & diversity:** The work does not directly relate to gender and diversity aspects.

**Potential duration:** 2024–2027.