

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

TECHNICAL COMMITTEE 3.3 – ASSET MANAGEMENT

Overview

Good asset management is fundamental to every road authority to ensure it can effectively manage its assets through the asset lifecycle. Asset management requires the ability to balance cost, risk and performance. PIARC TC 3.3 is looking to further improve the collective understanding of asset management with a view to more effective management of assets to optimise asset performance. The first stream of work will investigate how digital technologies can improve an asset manager's understanding of the asset base, its condition and its predicted performance. The second stream of work will continue to build upon the body of knowledge on the use of risk and resilience analysis metrics. The third stream of work will look to identify successful approaches for renewal and rejuvenation of ageing infrastructure. Where relevant, case studies developed through the aforementioned work streams will be incorporated within updates to the Road Asset Management Manual. TC3.3 is also aiming to organise an international conference for road asset management to share learnings from the committee's work activities.

3.3.1 Leveraging Technology to Improve Asset Management Practice

Purpose: The purpose of this work is to investigate how digital technologies can improve the way asset management is undertaken. Included within the scope of this work are Building Information Modelling, data science and visualisation approaches, the use of big data, artificial intelligence applications and automated data collection methods to improve asset management. .

Importance to roads agencies: This work is important to road agencies/road industry because emerging technologies, data collection and analysis approaches are fast impacting the way road owners and operators are managing their road network assets. These innovations can help organisations make more effective investment decisions considering the condition, performance and level of service over the whole life-cycle of the assets.

Audience: The outcomes of this activity will benefit road owners and operators, consultants, and road personnel and contractors responsible for the maintenance and operation of road networks.

Deliverables: Technical Report, article in Routes/Roads magazine, manual.

Background to TC's work on this topic: This activity builds on the results of the work of TC 3.3 working group 1 Innovative approaches for asset management systems over the 2020-23 cycle. The TC produced the report "BIM and Digitalization in Asset Management" and a Seminar on "BIM and Asset Management" that can provide the initial background information for this topic.

Low and lower-middle income countries: This activity is important for low and lower-middle income countries as many of them are improving their data on their key assets and can benefit from guidelines and lesson learned from successful case studies.

Gender inclusion & diversity: No clear link with gender and diversity aspects.

Potential duration: 2 years.

3.3.2 Measures for reducing risks and improving the resilience of road networks

Purpose: The purpose of this work is to continue to build the body of knowledge on the use of risk and reliance analysis metrics and tools for managing transportation assets. This can help increase the resilience of road networks to climate change and other stressors.

Importance to roads agencies: It is important to expand current approaches in asset management decision making to incorporate risk- and resilience-based approaches, in the face of various threats to transportation infrastructure. Proven approaches can help road asset managers best focus risk and resilience aspects to enhance road preservation and renewal decisions.

Audience: The outcomes of this activity will benefit road owners and operators, consultants, and road personnel and contractors responsible for the maintenance and operation of road networks.

Deliverables: Technical Report.

Background to TC's work on this topic: This activity builds on the results of the work of TC 3.3. working group 2 Measures for improving resilience of road network, which produced the report "Measures to improve resilience of road network", which presents case studies and lessons learned from practice.

Low and lower-middle income countries: This activity is important for low and lower-middle income countries as it can provide guidance to the road asset managers on how to focus their resilience efforts to enhance decision making.

Gender inclusion & diversity: No clear link with gender and diversity aspects.

Potential duration: 2 years.

3.3.3 Renewal and rejuvenation of aging infrastructure

Purpose: The purpose of this work is to continue to identify successful approaches for considering the renewal and rejuvenation of aging infrastructure managing transportation assets in asset management.

Importance to roads agencies: As road infrastructure networks have been in service for a long time and they are being subject to increasing demands imposed by emerging vehicle technologies, more severe climatic events, e-commerce, and increased user expectations, it is important that agencies consider these factors while programming investments in their asset management plans.

Audience: The outcomes of this activity will benefit road owners and operators, consultants, and road personnel and contractors responsible for the maintenance and operation of road networks.

Deliverables: Technical report, Manual.

Background to TC's work on this topic: This activity continues the work of TC 3.3. working group 3 Renewal and Rejuvenation of Aging Infrastructure, which produced the report "Renewal and Rejuvenation of Aging Infrastructure", which presents case studies and lessons learned from practice.

Low and lower-middle income countries: This activity is important for low and lower middle income countries as it can provide guidance to the road asset managers on how to focus their transportation infrastructure renewal and rejuvenation efforts to enhance decision making.

Gender inclusion & diversity: No clear link with gender and diversity aspects.

Potential duration: 2 years.

3.3.4 Update the content of the Road Asset Management Manual

Purpose: The purpose of this work is to continue to update the content of the Road Asset Management Manual. Update will include increasing the number of case studies and include additional sections based on the knowledge gained through the other TC 3.3 activities.

Importance to roads agencies: Asset Management provides a practical and effective approach to maintain the most valuable assets road organizations. The PIARC Asset Management manual provides advice on how asset management principles may be used to support a more efficient approach to maintain road infrastructure assets, and on the implementation and continuous development of road infrastructure asset management.

Audience: The outcomes of this activity will benefit road owners and operators, consultants, and road personnel and contractors responsible for the maintenance and operation of road networks.

Deliverables: Case studies, manual.

Background to TC's work on this topic: This activity continues the work of TC 3.3. working group 4 Update of PIARC Road Asset Management Manual.

Low and lower-middle income countries: This activity is important for low and lower-middle income countries as many of them are considering adopting or enhancing road asset management approaches. The manual builds on the progress made on asset management from several countries, and provides case studies of successful practices to document the lesson learned and experience gained in implementing asset management.

Gender inclusion & diversity: No clear link with gender and diversity aspects.

Potential duration: 4 years.