

CALL
FOR PAPERS



17th WORLD WINTER SERVICE AND ROAD RESILIENCE CONGRESS

Ensuring road excellence in all seasons

CHAMBÉRY - SAVOIEEXPO - FRANCE
10-13 MARCH 2026 | ENGLISH

www.piarc-chambéry2026.com



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CALL FOR PAPERS

INTRODUCTION

PIARC (World Road Association) is calling for individual contributions on selected topics for the 17th PIARC World Winter Service and Road Resilience Congress, which will be held in Chambéry (France), 10–13 March, 2026.

The World Winter Service and Road Resilience Congress is a world-class event that builds on decades of PIARC experience. It brings together road experts and practitioners from across the globe. This will be the 17th edition of the World Winter Road Congress, which PIARC has organized every four years since 1969.

The 2026 Congress will be structured around three themes: Winter Service, Resilience and Decarbonization.

SUBMISSION OF ABSTRACTS AND FULL PAPERS

Contributions are invited only on the topics described below. Papers that fall outside this scope will not be considered. Authors are invited to submit an abstract using the online facility from the Congress website at: <https://abstracts-chambery2026.piarc.org> before 31 January 2025.

Abstracts may be submitted in English, Spanish and French, which are the official languages of the Congress. Please note that the English version will be used for the evaluation; it is therefore requested that you attach this version (possibly with the help of an automated tool). Abstracts should not exceed 400 words.

All papers must be original and authorized for publication. Proposals that have already been published will not be accepted. Any reference of a political, commercial or advertising nature is excluded from the papers, as is the indication of a trademark in the title or summary.

The papers should present case studies, research results and/or practical experiences related to the topics of this call.

Papers will be reviewed by PIARC Technical Committees. Papers that are accepted will be published in the Congress proceedings and will provide input into the Congress sessions. All authors of accepted papers will present their work and results at interactive poster sessions. Some outstanding contributions will be selected for an oral presentation during the Congress.


KEY DATES

Call for papers	From September 2024
Deadline for authors to submit abstracts	31 January 2025
Notice of acceptance of abstracts	15 April 2025
Deadline for authors to submit full articles	15 July 2025
Notice of acceptance of full articles	31 October 2025
17 th World Winter Service and Road Resilience Congress – Chambéry 2026	10-13 March 2026

PIARC PRIZES 2026

Prizes will be awarded to the best papers among individual contributions as a result of the call for papers. More information will be released on the Congress website later.

CONTACT INFORMATION

 <https://abstracts-chambery2026.piarc.org>
 paperschambery2026@piarc.org
www.piarc.org

THEME **WINTER SERVICE**



TOPIC 1

Management of Human Resources in Winter Service

Winter Service needs Human Resources. The topic deals with how to manage to have enough, motivated and good staff. That means good educated and well-trained persons. The same applies for contractors. It is very important to attract people for the job, especially young people and women to increase the number of operators and their knowledge.

Including:

- Measures for attracting people for the job
- Education and Re-Education
- Training in the job
- Access to knowledge
- Staff Motivation
- Contracting in Winter Service
- Staff Safety
- Organization of on-call-service
- Promote gender and diversity



TOPIC 2

The impact of climate change and extreme weather on Winter Service (WS) as well as WS environmental aspects and decarbonization

Nature and the environment can have a big influence on WS. So, it is essential to be prepared for extreme situations. There is also a task to reduce the negative impact of WS on the environment, especially through decarbonization.

Including:

- Decarbonization in Winter Service
- Environmental aspects of WS
- Influence of WS on the infrastructure
- Measures to reduce the influence on the environment and the infrastructure
- Climate change and its effects on WS and its organization
- Management of Extreme weather situations

THEME **WINTER SERVICE**



TOPIC 3

Road Weather Information and Forecast for Winter Service

Good and efficient Winter Service needs a good weather information and good forecasts, their professional analysis and implementation in the practical Winter Management. The topic deals with the knowledge, the technique and the methods of Road Weather Information Systems.

Including:

- Forecasts for Winter Service
- Road Weather Information Systems
- Implementation of RWIS in Winter Maintenance
- Maintenance Decision Support Systems



TOPIC 4

Implementation of new technologies and methods in winter operation

There are many new and changing tasks and requirements for winter service, its management and staff. New or further developed technology and methods can meet these requirements and can help to solve the issues.

Including for example:

- Driver Assistance Systems
- Automatic Spreading and Plowing Systems
- Spreading Technologies and Spreading Agents
- Snow or Ice Removal Systems
- All fields and tasks of WS can be included here

THEME WINTER SERVICE



TOPIC 5

Winter Maintenance Management

The time and intensity of winter service operations cannot be planned for long times. However, the organization must be ready at all times to make fast and efficient operations. This topic deals with all measures to organize and prepare winter maintenance operations.

Including:

- Winter Service Guidelines
- Operation Planning, Route Planning
- Strategies for Use of spreading agents, Regulations for the spreading densities
- Connection between Winter Service and traffic safety and economy
- Control operations management
- Winter Maintenance Equipment Management, Fleet Management
- Quality Management
- Public Relations and communication in Winter Maintenance



TOPIC 6

Communication and use of Data from cars and roads for Winter Service

With modern cars having more connectivity power and sensors, how can we use the information received to help make better winter maintenance decisions? How can these data be combined with data of roads, of service operations and of RWIS? In addition, how can we use the connection to send live updates to cars which are travelling on the roads?

Including:

- Ways and systems of communication between cars and infrastructure for winter service
- Analyzing and using data for winter maintenance
- Distribution of data for road users
- Data Exchange with other partners (e.g., Public Transport)
- Data Quality Management

THEME **WINTER SERVICE**



TOPIC 7

Winter Service in Urban Areas

Winter Service in urban areas has special tasks and requirements. On the main roads we have very high traffic volumes with many junctions. For pedestrians there special winter service operations must be conducted, and public transport has high priority. Plants and trees in the cities must be specially protected. Large amounts of snow must be transported away.

Including:

- Guidelines for winter service in urban areas
- Plans for priority areas for Winter Service (e.g., hospitals, schools ...)
- Expectation of the citizens
- Use of spreading agents in urban areas
- Winter Service for pedestrians
- Requirements of people with disabilities in winter
- Requirements of public transport for winter maintenance
- Protection of the environment in urban areas
- Snow removal and snow transport in urban areas
- Special Urban Road User Information Systems



TOPIC 8

Winter Service on bicycle infrastructure

Winter cycling becomes more and more popular, hence winter service on bicycle infrastructure has to keep up with that demand. While most bikeways are within cities, there are also some interurban bikeways connecting towns.

Including:

- Guidelines for winter service on bicycle infrastructure
- Equipment used for winter service on bicycle infrastructure
- Winter Maintenance on bicycle paths

THEME RESILIENCE



TOPIC 9

Improved Planning for Resilience of Road Networks and Road Organisations

The growing challenges and risks from natural hazards demand improvements to resilience management of road networks as well as resilience of the organisations which own and manage the networks. In general, road networks and organisational systems have developed some resilience to natural hazards as part of business-as-usual development and maintenance initiatives. However, the accelerated demand of hazard management due to climate change impacts requires improved planning methodologies to maintain network resilience. The emerging expectations around sustainable development, climate impact adaptation, carbon emission reduction, environmental impact management, nature positive solution and so on also need to be considered in the process.

As part of a simplified and wholistic approach of hazard planning, the climate change related hazards can be addressed along with other natural hazards such as earthquakes, volcano eruption, tsunamis, land movement etc. Accordingly, improvement actions need to be designed for targeted resilience outcomes in a changing context and with a middle/long-term perspective.

We are calling for papers based on technical studies, best practices, lessons learned, review reports on methodologies, or programmes and approaches. The aim of the papers must be to improve network resilience planning frameworks for addressing all hazards including climate change, and / or exploring organisational resilience opportunities to achieve network resilience.



TOPIC 10

Management and Resilience Building for Disasters

Extreme weather events like higher temperatures, heavy rainfall, snowfall, droughts, and forest fires are increasingly severe and frequent globally, posing significant challenges for road management. In supply chains, efficient logistics infrastructure, primarily roads, are crucial for uninterrupted product delivery. Roads are essential for disaster response, enabling access for rescue operations and emergency supplies. To maintain connectivity amidst disasters, road administrators must enhance resilience in road infrastructures and implement agile management systems capable of swift disaster response.

We are calling for papers addressing the following topics:

- Coping with extreme weather
Share your world-wide case studies to identify improvement strategies for responding to and coping with extreme weather disasters and building resilience into road networks.
- Social resilience within communities and public authorities
Share your experience on social resilience in road administrations, focusing on collaboration among road managers, users, communities, and authorities, especially on the preparedness through education, training, and community involvement in response activities.
- Infrastructure resilience for supporting supply chain
Share your practices related to the preparedness, mitigation, response, and recovery measures for securing resilience of road networks to support supply chain continuity, such as the practices in the areas of training, technologies, tools, and management strategies/actions.

THEME RESILIENCE



TOPIC 11

Rural Roads Resilience in a Changing Climate

Rural roads in PIARC member countries have different definitions, construction methods and functions.

For the majority of low- and middle-income countries, rural roads play an important role in economic development in that they not only enable people to move between localities, but also transport agricultural produce to major urban centres for marketing.

Considering these essential functions, it is alarming to note that climate change is significantly affecting the sustainability of rural roads, preventing them from effectively fulfilling their roles. Authors are invited to present an overview of its existing rural roads, the construction techniques and procedures used, and the impact of climate change on the sustainability of these rural roads and the solutions being considered.

We encourage articles that address the following topics:

- Rural road´s construction and maintenance techniques:
 - Graveling using locally available materials
 - Sealing of low volume roads
 - Routine, Periodic Maintenance
 - Emergency Maintenance
- Analysis of the impact of climate change on the sustainability of rural roads:
 - Erosions and slope protection measures
 - Rural road Safety Concerns Due to Climate Change-Induced Weather Events
 - Strengthening road resilience
 - Rural roads design upgrade to meet standards of national paved roads
 - Nature-based solutions to enhance road durability and environmental sustainability

THEME RESILIENCE



TOPIC 12

Resilience of road freight traffic facing adverse situations: foresight, modelling, response and lessons learnt

Natural disasters, including weather events but also major disruptive events such as bridge collapse or strikes, demonstrations, or geo-political conflicts, can cause disruptions to the multimodal freight network and industry supply chains. These disruptions impact communities, businesses and the overall economy. When large-scale events disrupt freight systems, supply chains can fail, and populations are at risk of losing access to basic necessities and critical supplies needed to support recovery. Emergency response and recovery activities are dependent on the expeditious movement of utility service vehicles and trucks carrying emergency supplies, medicine, food, fuel, and infrastructure repair materials to the affected area. Freight system resilience, the ability of the system to resist and rebound from disruptions, is essential to ensure the reliability of economically important supply chains and, the timely distribution of critical resources and services. Multimodal freight transportation system resilience depends on the collaboration between public sector infrastructure owners and operators and privately-owned modes, carriers and shippers.

Papers should address examples of such disruptions either from actual case study (lessons learnt) or from foresight study. They should highlight how to build resilience into the multimodal transportation infrastructure, structures and tunnels, planning, design, management, and operations to mitigate the impact of major disruptive events disruptive events and maintain or restore services during and after major disruptive events.

Among topics to be considered are data and analysis to facilitate identification of threats and risk factors that disrupt multimodal freight transportation system operations, metrics to measure the resilience of the freight transportation system, investment to build resilience in the freight transportation system, response planning to support remediation of infrastructure damage, effective restoration of services, strategies to improve freight transportation network resilience, strategies to mitigate supply chain disruptions, best practices in freight transportation and supply chain resilience, and the role of road authorities.

THEME RESILIENCE



TOPIC 13

Improving Road Safety Resilience through the Safe System Practices

Road Safety continues to be a leading cause of death and serious injuries worldwide. Road crashes also create significant impacts to transport leading to non recurrent congestion and loss of efficiency, making for a less resilient system for all road users. Road safety policies that reduce crashes also are investments that provide for a more resilience system by removing unexpected blockages and secondary crashes. Safety for all road users is a necessary component of a resilient transport system as not all have access to equal means of transportation as can be shown in the vulnerable road user statistics for low and middle income countries.

Papers related to the following areas are requested:

- Providing resilient transport options by ensuring road safety of Vulnerable Road Users
- Increasing resiliency in transport through proactive approach to road safety improvements
- Speed management to provide for a more resilient and safe transport system
- Diagnosing Road Safety Problems and Opportunities



TOPIC 14

Asset Management Measures for reducing risks and improving the resilience of road networks

This call for papers will contribute to building the body of knowledge on how to manage transportation infrastructures assets with the goal to increase the resilience of road networks to climate change and other stressors.

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.

We are looking for case studies with best practices and approaches of Asset Management to improve the resilience of the road infrastructures.

Experiences from low, middle and high income countries are all welcome.

THEME RESILIENCE



TOPIC 15

How can the resilience of aging bridges be improved in the context of climate change?

The resilience of bridges relates to ability of infrastructure to resist, absorb, accommodate and recover from the effects of an event or hazard in a timely and efficient manner, including preservation or restoration of its essential service and function. Resilience has become more prominent over the decades, with bridges more frequently and more severely impacted by climate related events, such as flooding, tidal surges, storms, and fires. At the same time, bridges are aging and experiencing increases in traffic load and intensity. In addition, the majority of existing bridges were not designed to accommodate these changes and they are continuing to age and deteriorate with time.

Structural redundancy is an important feature to understand and incorporate when considering resilience and the continuity of service that is expected by the communities and economies that use highway bridges. As a result, this session will discuss bridge resilience in the face of climate change, aging, and increasing traffic demands, with a particular focus on structural redundancy and robustness.

Papers are invited on the following topics:

- Emergency response examples, including bridge recovery after the occurrence of sudden events or hazards
- Mitigation to accommodate effects due to sudden events or hazards for road bridges
- Measures and considerations for increasing resilience
- Effects of resilience, redundancy, and robustness on bridge design and maintenance

THEME RESILIENCE & DECARBONIZATION



TOPIC 16

How to apply innovative ITS technologies delivering decarbonised and climate resilient network operations

All governments are developing Net Zero strategies and action plans to decarbonise our transport and infrastructure. Stakeholders from both government and industries are all rethinking the transport network and systems to support the decarbonisation and sustainability. There are enormous opportunities to reduce transport sector emissions by promoting better network operations planning, shifting to more sustainable or low emission ways of moving goods and people, and increased use of innovative ITS (intelligent transport systems) technologies such as digital communication, big data models, optimised network management, congestion mitigation, incident management and traffic controls, etc.

At the same time, climate resilience of our road network operations is also critical as the impacts of climate change and extreme weather conditions continue to worsen (e.g. floods, heat, storming, fire etc.). ITS technologies and toolkits are often used to provide agile, effective and economic forecasts, prevention, interventions and warnings.

We are calling for innovative research, best practice and impact assessment papers addressing:

- Adopting emerging ITS and digitisation technologies to detect, track, measure, manage and improve the network decarbonisation
- Development and applications of ITS related tools for climate resilient transport operations



TOPIC 17

Earthworks & Earth Structures faced with climate changes

Earth structures are the most sensitive to climate change, which poses real challenges in terms of stability for existing structures, but also for the design of new structures. Because of the materials they are made of, earth structures are particularly sensitive to variations in rainfall, drought or other meteorological factors, which can accelerate deterioration, ageing and instability. Current standards therefore need to be completely revised. The earthworks industry needs to adapt to these changes and reduce its impact on the climate, with new management practices for earthworks, new methods such as resilience, and the need to decarbonise works.

We call for papers from diverse stakeholders in the earthworks sector (contractors, project owners, managers, design offices) describing examples, references, case studies and best practice **in these three themes:**

- Earthworks asset management (maintenance, planning, monitoring, small repair, etc.)
- Resilience and
- Decarbonisation of works

THEME **DECARBONIZATION**



TOPIC 18

Strategic Road Investments: Contributions and Impacts on National Decarbonization Plan

Roads are an integral part of national infrastructure. This call for papers seeks to explore how roads can support carbon reduction goals and promote environmental sustainability. This topic aims to promote an in-depth understanding of how road investments and road and motorway planning policies can be aligned with national decarbonization policies by providing a platform for sharing knowledge and best practices among researchers, practitioners and policymakers.

Topics of interest include:

- Investment Models: Analysis of road investment strategies in national plans for decarbonisation, and role of road investments specifically targeted to reach the GHG reduction targets (type of roads, lanes for public transport, IT systems, intermodal hubs...)
 - Decarbonization Policies: Integration of road policies with national decarbonization goals
 - Decarbonization Policies: Use of pricing schemes to be applied to roads based on “pay per pollute” criteria and generally aimed at reducing through economic and financial tools the GHG emissions generated by the use of roads
 - Socioeconomic Impacts: Assessment of economic and social effects of sustainable road investments caused by the digital economy, post-pandemic economy and estimation tools to measure socioeconomic impacts, and broader economic and social impacts. This can also include broader economic and social impacts such as the effects of road construction and operation on equity, economic systems and gender inclusion and diversity
- Socioeconomic impacts: Assessment of the effects of the foreseen increase of CO2 emissions in the “do-nothing” scenarios and comparison of different scenarios with analysis of the social and economic consequences
 - Socioeconomic impacts: Analysis of the equity issues related to the expected migration to Electric Vehicles: opportunities and constraints
 - Case Studies: Successful experiences and lessons learned from different nations

THEME **DECARBONIZATION**



TOPIC 19

Road solutions for the decarbonization in Urban and Periurban areas

This topic addresses planning in uncertain times when different kind of crisis is triggering significant changes in cities. An immediate crisis can cause further long-term changes and increase the impact of other major trends, such as climate change. Managing such fundamental change processes is a key challenge for road administrators and urban mobility practitioners to integrate into their plans for urban and metropolitan areas.

Papers shall deal with (but not only) the following topics:

- Better cooperation between transport modes in urban and peri-urban areas, promote multimodality to make mobility system flexible, resourceful, inclusive and with zero or low emissions.
- Urban Vehicle Access Regulations (UVARs) for reducing greenhouse gases from the road sector and responding to increased resilience and sustainability request of city and metropolitan areas
- New road solutions and new guidelines of improving secure and safe mobility for all vulnerable road users (including new mobilities) for the decarbonization of cities



TOPIC 20

Electric Road Systems: The Next Step for Electric Vehicle Charging?

Reducing carbon pollution from the road transport sector is a critical step towards net zero goals for countries around the world. Biofuels, hydrogen, e-fuels, and electricity will all play a role in the energy transition, but electrification is expected to be the most widely applicable. Continuous in-road charging, or electric road systems (ERS) has the potential to remove barriers to further integration of electric vehicles (EVs) in the road transport sector. ERS also has the potential to change how roads and EVs are designed (e.g., smaller batteries) to further reduce environmental impacts of transport.

We call for papers on the latest advances in ERS design methodologies, optimization strategies, and integration techniques to enhance energy efficiency and sustainability. Research results, case studies, and implementation examples are encouraged to share both opportunities and challenges with ERS.



TOPIC 21

Measures to reduce the carbon footprint of pavements

Pavements produce several GHG emissions during the different stages of their life cycle: i.e., during the production of the construction materials, during the construction of the pavement itself, or during its use stage including maintenance.

Papers dealing with this issue can present case studies or research projects on calculation methods of the carbon footprint of a project, how to introduce carbon footprint in the tender phase of a project, how to reduce the carbon footprint during the pavement life cycle, etc.

THEME **DECARBONIZATION**



TOPIC 22

Decarbonisation of road construction and maintenance

Decarbonisation of road construction and maintenance is one of the biggest challenges in the road industry.

Articles should focus on current strategies, programs, tools and trends in decarbonising road construction and maintenance. The goal of decarbonisation efforts should be to significantly reduce greenhouse gas emissions.

Topics:

- Strategies and programs for decarbonisation in road design, construction and maintenance.
- Planning, coordinating and supervising the activities related to the delivery of materials, equipment and workforce required for the road construction project in terms of carbon dioxide emissions
- Designing road infrastructure with consideration of decarbonisation at the construction and maintenance stage
- Measures and methods of road decarbonisation in road construction and maintenance
- Selection of the type of equipment (conventional and special) and related work categories in road construction and maintenance decarbonisation
- Decarbonisation from the perspective of contracts, financing and incentives
- Indicators in road construction and maintenance decarbonisation
- Monitoring of decarbonisation strategies, programs and actions
- Carbon footprint calculators in road construction and maintenance



TOPIC 23

Comparative Analysis of the Evolution of Road Statistics

The world of road infrastructure consists of several key elements that have evolved over time.

We are calling for articles that examine some of the indicators related to the evolution of one or more elements of the road network. The proposed indicators will be presented and compared on a national and international scale.

Accordingly, the proposed indicators could be made on a country's infrastructure as a whole (evolution of overall statistics on existing road infrastructure), studies of traffic trends at the national road network level (passenger or freight), evolution of environmental impacts of a country's traffic on the air quality (according to the different components), evolution of safety statistics on the accidents at a country's scale, or combination of several types of indicators. Indicators could be quantitative or qualitative like road policies.

The proposed indicators can be cross-referenced with socio-demographic, economic, and environmental factors. The study will include data sources and indicators' definitions, as well as the quality and reliability of the data collection. It is possible to integrate indicators from several data sources, present survey tools that measure the evolution of indicators over time, and innovative data collection typologies.

CONTACT

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