



**XXVth World Road Congress
Seoul, 2-6 November 2015**



“Roads and mobility – Creating new value from transport”

**Call for Papers
and
PIARC Prizes 2015**

The World Road Association (PIARC) is a non-political and non-profit making association, established in 1909 to promote international cooperation on issues related to roads and road transport. In 2014, PIARC has 120 member governments.

Since 1908, PIARC has organized a World Road Congress every four years. The aim of the Congress is to provide a forum for professionals from all over the world, in every facet of the development, management and operation of roads and road transport, in order to give them an understanding of the progress being achieved in different countries, to discuss current issues and the future challenges faced by the road sector, as well as share knowledge.

The XXVth World Road Congress will be held in Seoul, Republic of Korea, from 2 to 6 November 2015. It will include around 40 sessions, a large exhibition, technical visits and social activities.

For more information, please refer to the congress web-site:

<http://www.piarcseoul2015.org>

Call for Papers

For this XXVth edition, PIARC is calling for individual contributions on selected topics in order to enrich and broaden the views and work of its Technical Committees.

Papers will be reviewed by the 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.

PIARC Prizes 2015

By submitting a paper in response to the present call for papers you will automatically be entered in the PIARC Prizes competition and be in contention to win one of the **eight prizes**. The prize for the best paper in each of the following categories will be awarded by an international jury:

- *Young professionals* (paper presented by authors all less than 30 years of age);

- *Developing countries* (paper presented by authors from countries of low income and lower-middle income economies according to the classification established by the World Bank in 2014);
- *Best innovation* (Maurice Milne medal);
- *Safety of road users and road workers*;
- *Sustainable development*;
- *Road design and road construction*;
- *Road maintenance and operation*;
- *Roads and intermodality*.

For each paper selected for a prize, **PIARC will pay** the **travel expenses** (economy class), **accommodation** (hotel - intermediate category) and the **registration fees** to the Congress for one of the co-authors of the paper.

Information for Prospective Authors

Content: All papers must be **original work** available to be released for publication. Material that has been previously published will not be accepted. Any reference of a political, commercial or advertising nature must be excluded from the papers. The indication of a brand name should be excluded in the title and in the abstract.

Language: Abstracts should be submitted in one of the **official languages** of the Association, i.e. **English or French and preferably in both languages**.

Submission: Abstracts should be submitted using the **on-line facility** from the dedicated congress web-site: <http://www.piarcseoul2015.org>

Length: The abstract should not exceed 400 words.

Timeline

30 September 2014	Deadline for submission of abstracts
15 November 2014	Acceptance notification of abstracts
28 February 2015	Deadline for full papers
15 May 2015	Acceptance notification of full papers
2-6 November 2015	XXV th World Road Congress (Seoul 2015)

Contact in relation to the call for papers

World Road Association (PIARC)

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Topics for the call for papers

Individual contributions are solicited for the following topics exclusively - *papers that fall outside this scope will not be considered.*

1) Evolution of road and transport administrations

Significant organizational changes are occurring in the roads and transport administrations around the world. Key rationales for organizational changes are that it will lead to improved efficiency and effectiveness.

Papers are invited on organizational change either within or between agencies that support closer multi-modal integration in planning and delivery or that can demonstrate evidence of any changes to efficiency or effectiveness.

2) Accountability

Both the public and private sector has experienced increased pressure to raise its level of accountability for spending public money. Performance frameworks and benchmarks are often used to link resource allocation with outcomes.

Papers shall present best practice examples that have informed decision making or demonstrated increased accountability.

3) Fighting corruption

Public perception of governance and corruption is strongly influenced by external bodies like advocacy groups and the media.

Papers shall explore experiences where external scrutiny has impacted institutional integrity or perceptions thereof.

4) Road financing and funding

Papers are invited on the following sub-topics:

- new developments in funding strategies;
- key contractual aspects changes (pre-and post-global financial crisis) and their impact on project structure in order to reach financial closure and value for money;
- costs of private financing, how these have changed through time (differentiating between pre- and post-global financial crisis) and,
- benchmark capital costs of similar infrastructure services (e.g. railways, and power and water utilities) and identify reasons for variances between these different sectors and the road sector.

5) Circular economy

Papers shall address the philosophy of a “Circular Economy” and its possible incorporation into road planning and delivery in pursuit of both improved sustainability and specifically carbon reduction targets. In particular papers should investigate how such approaches might be incorporated within appraisal processes thus allowing alternative solutions to be compared.

6) Climate change mitigation and adaptation – The role of transport authorities

Papers shall explore the role of transport authorities in addressing the issues of climate change mitigation and adaptation. With respect to mitigation, papers should particularly focus on the extent to which transport authorities, within their current scope of authority, can effectively manage carbon emissions and if not, the extent to which their scope of powers might be widened. With respect to adaptation, papers should address approaches taken to risk in devising adaptation strategies.

7) Environmental commitments

Papers shall explore the effective tracking of environmental commitments through project development. In particular, papers will explore the effective use of environmental management systems and sustainability ranking tools to support commitment tracking and delivery.

8) Ex ante appraisal of transport projects

Papers shall address new important items for the ex-ante appraisal of transport projects and how challenges have been tackled, such as:

- the consideration of environmental and social impacts in assessment tools;
- the evaluation of infrastructure networks when managing national disasters (like earthquakes or floods) and the embedding of these aspects in assessment tools;
- the economic evaluation of the consequences of underinvestment in road infrastructure assets;
- new approaches to sum up the results of ex ante-appraisals;
- approaches to address specific aspects of road infrastructure assessment in developing countries.

9) Ex post evaluations of infrastructure projects

Papers shall address:

- the way a national ex post-evaluation process was established;
- challenges which occurred in carrying out ex post-evaluations and lessons learned;
- specific results of already carried out ex post-evaluations of infrastructure investments;
- the long time-evaluation of the effects of infrastructure investments on growth, employment and other general economic factors.

10) Risk management

Papers shall present road risk management techniques and practices dealing with natural and man-made hazards including the adaptation to climate change and the response to combined and large hazards, such as:

- case studies and best practices of risk and emergency management in road operations;
- role of risk assessment in policy development and decision making;
- advanced methodologies and tools for risk management;
- contingency and business continuity planning.

11) Low cost solutions for road networks monitoring

New communication technologies and introduction of electronics and sensors in the vehicles promote the emergence of low cost solutions for networks monitoring based on the concept of probe vehicles (or floating car data).

Papers shall address the following topics: technologies for probe vehicles (including smartphones usage), application of probes vehicle to road networks operations (traffic monitoring, travel time estimation, infrastructure survey, decision support for road network maintenance, etc.), data analysis, modelling and data processing, legal and economic aspects, standardization and applicability in different environments (including emerging countries). Other low cost technologies for road network monitoring could be proposed.

12) ITS Architectures oriented to services for road networks operations and improvement of mobility

One of the challenges to the large scale deployment of ITS (Intelligent Transport Systems) services is their integration in a global architecture. Papers are invited which address the following topics: system architecture, integration of services (network monitoring and maintenance, emergency management, traffic management), stakeholders and value chain, business models, integration of existing systems in a national architecture, interoperability, standardization, applicability to emerging countries. The applications concerned are: traffic information, multimodal travel information, management of crisis situations and information to road operators and users for all transport modes, etc.

13) Information to users and system efficiency for maximized acceptability

Acceptability and success of service-oriented applications to users depend in particular on the quality of the information provided. Papers are invited which address the following topics: analysis and formalization of requirements (including methods for collecting user's expectations), criteria for the evaluation of service performance such as accuracy of the information provided, of its localization on the road network, of its validity over time (real-time and predictive aspects) as well as other KPI, technologies for services deployment (roadside equipment, traffic management centres, communication technologies),

stakeholders and value chain, CBA, business model, example of application (case studies), applicability to emerging countries.

14) Motorcyclists in urban areas

The “motorcycle” mode is economical, it becomes very important in some large urban areas, and it is particularly vulnerable. To be safer, motorcyclist associations are sometimes requesting the right to use the dedicated lanes for public transport or other modes like carpooling, lanes that are now increasing in inner cities and, more and more on urban motorways.

Papers shall present recent policies implemented for motorcyclists, justifying the benefits to give or not to motorcyclists access rights to dedicated lanes, or give any result regarding the safety gain and road rules respect. The local context is expected in order to better understand the evolution of the use of motorcycles, and its vulnerability.

15) How to better enforce the dedicated lanes use?

We observe a high increase of dedicated lanes for public transport or other modes like carpooling, taxis. These lanes can have very different configurations, often little protected, and they are located in dense inner cities and more and more in motorways. Operators and the police administration have often high difficulties to enforce the use of such lanes.

Papers shall present new practice, with an economical balance and results regarding the efficiency of such policy for the stakeholders concerned (road operator, public transport operator, police, etc.). Information on research or solution aiming at automation of enforcement is also welcome.

16) Commuting from home to work in large cities

Travels from home to work for the inhabitants of the suburbs of large cities are long, difficult and costly for consumers. These are often captives of individual modes.

Papers are invited on good practices in terms of organization of transport services to provide residents of the suburbs good transportation conditions (costs for user, duration, comfort) for their travel from home to work. Papers should distinguish two types of areas (the city centre itself and the rest of the urban area) and recall for each type of area:

- the characteristics of the area (surface, population and jobs),
- provision of public transport (length of lines, number of stops, organization of transport chains, etc.) by type of territory with a focus on the organization of multimodal hubs,
- transport demand (number of trips from home to work), and its distribution (modal split) by type of area,
- administrative organization,
- indication of costs for users and the community.

17) Evolution of heavy commercial vehicle design and regulation

The evolutions of technology and business lead to periodically revise the heavy vehicle design to meet new environmental and economic constraints and changes of road networks and logistics facilities. Several countries are investigating heavy commercial vehicles weight and dimension adaptations and regulation, and certification to promote less energy consumption and emission powering modes, and to improve road safety. Therefore R&D is carried out on aerodynamics, electric and hybrid powering, traffic conditions (dedicated lanes, platooning, etc.), assistance for an optimized operation of vehicle fleets and traffic lanes using ITS, and enforcement means to better comply with the current and future regulations (weights and dimensions, driving time, routing and period of operation, etc.).

Papers shall present measures taken and results to improve performance of road freight transport.

18) Challenges of urban freight

The development of large cities and the concentration of populations in urban areas induce more and more logistics issues: environmental constraints, limited resources of energy and urban space, new practices linked to e-business, etc.

New urban delivery vehicles are being developed, using electric or hybrid engines, but also human propelled. Supply chain design and organization and alternative use of passenger transport vehicles for freight transport offer innovative solutions. Management of urban space sharing is also proposed or implemented by several large cities to reduce congestion and improve the services. Vulnerable users' safety against heavy duty vehicles in cities is also an important challenge.

Papers shall present research works and achievements in this topic area; papers should make clear reference to the local culture and customs.

19) Infrastructure assessment and monitoring against heavy traffic loads

New design codes of pavements and bridges tend to be less conservative than the older ones. Thus, infrastructure ageing and fatigue combined with traffic evolution result in reducing step by step the safety margins, with increased risks of severe accidents or costly road rehabilitation programs. Reversely, a more accurate knowledge of heavy traffic loads combined with advanced monitoring techniques allows better assessing the condition of the infrastructure. Higher performing calculation and extrapolation methods, incl. probabilistic approaches, are able to accurately quantify the deteriorations, to predict potential structural failures, and to take any preventive measures needed, to reduce the maintenance costs and the risks for the persons.

Papers shall present new development in tools and methods for the assessment and

monitoring of road infrastructure condition in relation to heavy vehicles loads.

20) Winter service strategies and climate change

Depending on the regions, climate change can have different impacts on winter conditions such as a reduction of snow coverage, a higher frequency of intense events, or more freeze/thaw cycles.

Papers are invited which present the modifications of winter service organization and operations in relation to observed or anticipated climate change impacts on winter conditions.

21) Multimodality and climatic adversity in winter

Multimodal displacements tend to develop (walk, bicycle, car, public transport, carpooling, etc.), and each means of transport has a particular sensitivity to bad weather conditions in winter.

Papers shall address how multimodal travel is encouraged and managed during winter.

22) Advanced technologies and management of winter crisis

Papers shall address how advanced technologies for information collection and dissemination to users and traffic managers can be used to manage severe or sudden snowy or icy events and which are the lessons drawn from former events.

23) Rural roads

Papers are invited addressing any of the following three topics:

- national policies implemented recently for maintenance and construction of the rural roads systems;
- promotion of the development of micro-enterprises and involvement of the participation and consultation of local communities;
- case studies demonstrating the socio-economic and financial consequences of insufficient maintenance of rural roads.

24) Road safety investments and planning

A systematic approach to making road infrastructure investment decisions is necessary in order to maximise road safety benefits. This applies whether the investment is made with the primary objective of improving road safety or where more general investment in infrastructure is made (i.e. where road safety is not the primary objective of the investment).

Papers shall present case studies which provide examples of successful strategies and practices.

25) Transportation safety and land use

Different land use decisions and controls can impact the design, density, diversity of the transportation network. These decisions have an impact on how the network and the transportation system operate and can lead to different safety outcomes.

Papers shall address:

- How have changes to land use policies and land use controls changed safety outcomes of the transportation system?
- Which policy changes are appropriate at the national, state or local level?
- What is the range of impact on safety?

26) Safety of vulnerable road users

Pedestrians and cyclists suffer the most severe consequences in collisions with other road users. All around the world they are involved in a disproportionately high percentage of fatal or serious accidents. Similarly, drivers of slow and small agricultural vehicles as well as of animal drawn vehicles often experience severe consequences in collisions with motorized traffic.

Papers shall address safety issues faced by vulnerable road users (VRUs) with a focus on successful design or operational infrastructure solutions or case studies improving VRUs safety (reactive or preventive), particularly in low and middle income countries (LMICs).

27) Systemic safety approach to combat driver distraction and fatigue

A significant percentage of serious crashes are attributed to driver distraction and fatigue, and the issue is growing such as with the emergence of increasingly complex driving aids and technologies. In the past, much research was undertaken in the countermeasures to driver distraction and fatigue seeking to achieve a higher level of safety for road users.

Papers shall present engineering response to combat distraction and fatigue consistent with a systemic safety approach.

28) Sustainable road tunnels operations

Papers are invited which address how the three pillars of sustainability (social, economic, environmental) are being considered in the design and operations of road tunnels. Presentations of innovative approaches, of national or regional current practice or of specific projects challenges are welcome.

29) Safety measures for people with reduced mobility in road tunnels

Papers shall present good practices in the design and operation of road tunnels to implement safety measures oriented to support persons with reduced mobility.

30) Road tunnels in multi-modal systems

The development and construction of complex underground infrastructure is being increasing all around the world. Multi-modal systems generate new challenges to harmonize design objectives and achieve homogenous safety criteria.

Papers shall present case studies, relevant projects and good practice regarding design and operation of underground road systems and their relationship with other infrastructures.

31) Management of road assets

Management of road infrastructure is the core business for road authorities worldwide. A key objective is to sustain the quality of level of service provided by existing road infrastructure most efficiently.

Papers shall provide examples of implemented solutions in road assets management. The cases described in the papers and which should be applied successfully in the practice, should give consideration to at least one of the following topics:

- description of the asset management framework established in a road agency that led to better decision making or improved budget outcomes;
- data needs and analysis for improved management of road infrastructure including incorporation of environmental considerations;
- application of risk management as part of the asset management framework;
- determining optimum budgets and allocation of resources across various road asset classes (cross asset management and coordination).

32) Road pavements

Papers shall present recent ideas, knowledge and experience relating to any of the following topics:

- road condition monitoring and quality control of it;
- new technologies for recycling and reuse of road pavement materials;
- life cycle carbon footprint of pavement construction.

33) Road bridges

Papers shall detail recent methods and technologies, case studies relating to any of the following topics:

- risk-based management of the bridge stock;
- new repair and rehabilitation methods of bridges;
- assessment of load carrying capacity of bridges based on damage and deficiency.

34) Optimal use of local materials

Papers shall present well-documented case studies related to the use, for earthworks, of natural materials which are locally available at the site of the road project but don't comply in their natural condition with current technical specifications. Case studies of use of local materials in extreme conditions (frost, drought, torrential rains), and for the case of scarcity of material resources such as laterites or others are particularly welcome.

35) Slope and foundation drainage and storm water management

Papers shall present recent research findings, successful projects, innovative solutions such that knowledge can be shared towards better road drainage in the future.

36) Maintenance techniques for unpaved roads in developing countries

Papers shall present recent initiatives related to labour intensive approaches to maintenance of unpaved roads, better use of local materials, new techniques for maintenance and well-documented cases studies.