

Activities of the PIARC Technical Committee 3.3 on Road Tunnels Operations for the cycle 2012 – 2015

Introduction

The World Road Association was created in France more than 100 years ago under the name of the Permanent International Association of Road Congresses (PIARC), on 29 April 1909, some seven months after the First International Road Congress was held in Paris. While at that time the subjects of concern focused on the design of infrastructure suited to motor vehicles, today the key issue driving our work is access to safe, environmentally-friendly and sustainable mobility for all. Climate change, which seemingly causes increasingly frequent natural disasters, reminds us of the need to gather and share our collective research, knowledge and experience.

The World Road Association's principal means for achieving its outputs are through the activities of its Technical Committees that undertake studies and prepare reports and papers on various topics related to roads and road transport issues. In addition, the Technical Committees arrange seminars in order to promote one of the World Road Association's main aims: i.e. knowledge sharing and exchange among member countries.

The need for bringing together the experiences gained in the field of the tunnel operations goes back several decades already. This is why, in 1957, PIARC created the "Road Tunnel Committee" to address the range of aspects concerned in the use of road tunnels, such as geometry, equipment and its maintenance, operation, safety and environment. Since then, supervised by successive presidents and with the help of the secretaries, this committee has produced technical recommendations across all of these various fields. These recommendations are substantially followed worldwide and they are even often used as the basis for contractual specifications in many countries.

Relationship of PIARC with other organisations

PIARC has formal alliances with other international organisations in the form of Memoranda of Understanding (MoUs). The purpose of the MoUs is to facilitate and strengthen the collaboration between the Association and other organisations in addressing issues of local, regional and international importance. The Association has formal alliances with several organisations such as regional organisations of road administrations, International Organisations (i.e. The World Bank) and technical and scientific organisations.

In 1974, ITA (International Tunnelling and Underground Space Association) was created to address aspects of the construction of all types of underground works, including road tunnels. In 2005, a Memorandum of Understanding was concluded between these two international associations to ensure that their actions are and will remain complementary and not overlapping.

Outputs from the Committee during the cycle 2008-2011

In addition to the already existing reports, which can be downloaded free of charge through the virtual library of PIARC (<http://www.piarc.org/en/publications/>), several reports prepared along the last cycle will be also available in the following months:

- Recommendations for strategic tunnel safety management
- Best practice for road tunnel emergency exercises
- Recommendations on management of maintenance and technical inspection of road tunnels
- Life cycle aspects of tunnel equipments
- Risk evaluation : Current practice for risk evaluation for road tunnels
- Assessing and improving safety in existing road tunnels
- Recommendations regarding road tunnel drivers' training and information
- Road tunnels: Vehicle emissions and air demand for ventilation
- Design fire characteristics for road tunnels

In addition, the Committee prepared and completed the Road Tunnels Manual, an online compendium which represents a more accessible tool to explore the large quantity of information disseminated in the reports and articles already published by the Committee. It can be accessed through the Web on the Internet address: <http://tunnels.piarc.org>.

This tool is complemented by the PIARC Dictionary on Road Tunnel operations, which includes more than 200 terms of the PIARC dictionaries and lexicon related to road tunnels.

TC 3.3 Road Tunnel Operations focus for 2012 – 2015:

For the cycle 2012-2015 PIARC has established four Strategic Themes:

- **Strategic Theme 1: Management and Performance**
- **Strategic Theme 2: Access and Mobility**
- **Strategic Theme 3: Safety**
- **Strategic Theme 4: Infrastructure**

Among the Committees included in the ST3 (Safety) is TC 3.3, which is the technical committee dealing with road tunnels and the specific focus for cycle is Sustainable Road Tunnel Operations.

Four issues must be covered during the current cycle:

- **Sustainable road tunnel operations**, oriented to the identification of methods for ensuring sustainable road tunnel operations through the review of current practices and consideration of innovative approaches and costs and the consideration of the life cycle both for new and existing tunnels.
- **Integrated road tunnel safety**, with the aim of drawing lessons from current practice regarding safety management, the analysis of road tunnel accidents data and fires worldwide and application of risk analysis.

This issue should also cover other tunnel safety related topics as the identification of measures to support persons with reduced mobility and real-time communications with users. In addition, an update on the use of fixed fire fighting systems (FFFS) in road tunnels is expected.

- **Underground road networks**, to identify and analyse existing and planned complexes of urban underground road networks with interchanges and multimodal concerns from the point of view of operations and safety.
- **Knowledge sharing on tunnel operations and safety**, to upgrade the web-based version of the Road Tunnels Manual and develop training courses on road tunnel operations and safety for emerging countries

To cover all this ambitious topics six Working Groups were established at the first meeting in Paris to take forward these strategies. These are:

WG1: Sustainable road tunnel operation Chaired by Jean-Claude Martin (France).

WG2: Feedback from experience on tunnel safety. Chaired by Bernard Kohl (Austria)

WG3: Interaction with users. Chaired by Olivier Martinetto (France)

WG4: Fire Safety. Chaired by Les Fielding (UK)

WG5: Underground road networks. Chaired by Bernard Falconnat (France)

WG6: knowledge management. Chaired by Pierre Schmitz (Belgium)

The TC3.3 leadership team comprises

President: Ignacio del Rey (Spain)

English-speaking secretary: Fathi Tarada (UK)

French-speaking secretary: Marc Tesson (France)

Spanish-speaking secretary: Juan Marcet (Argentina)

Further information on the activities, organization and work program for the cycle 2012-2015 can be found in the Web Page: www.piarc.org