

Technical Committee D.2: Road Pavements

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Executive Summary:

This is the final report by the Austroads representative on the D.2 Road Pavements Technical Committee for the 2008 to 2011 PIARC cycle. Technical Committee D.2 Road Pavements was divided into three sub-committees:

1. D.2a Road Surface Characteristics
2. D.2b Flexible and Semi-rigid Pavements
3. D.2c Rigid Pavements.

All three sub-committees met together in Mexico City, Mexico, on 27 September 2011. This meeting was the final meeting for the 2008 to 2011 cycle. It was held in conjunction with the World Road Congress, where the outputs of the committee's work were disseminated to a delegation from all around the world.

I was a member and English Speaking Secretary of the D.2a Road Surface Characteristics Sub-Committee for the 2008 to 2011 cycle, and I attended the combined meeting in Mexico City.

During the 2008 to 2011 PIARC cycle, the Road Pavements Technical Committee addressed the five strategic issues detailed in the PIARC strategic plan:

1. Issue D.2.1 Reducing construction time and cost
2. Issue D.2.2 Improved maintenance methods
3. Issue D.2.3 Road noise mitigation
4. Issue D.2.4 Monitoring of innovations
5. Issue D.2.5 Adaptation to climate change.

The work of the sub-committees was predominately through five working groups. There was one working group for each of the five strategic issues and each working group included members from all three sub-committees. By the end of the eighth and final meeting the work of the groups was nearing completion.

The main aims of the final meeting were to finalise the working group reports, continue with preparations for the SURF2012 seminar on pavement surface characteristics and finalise the arrangements for the committee's technical sessions at the World Road Congress.

According to the PIARC strategic plan, there will be no sub-committees in the upcoming 2012 to 2015 PIARC cycle. There will only be one overall Road Pavements Technical Committee.

Background:

The Road Pavements Technical Committee was part of PIARC Strategic Theme D – Quality of Road Infrastructure.

The goal of Strategic Theme D was to *improve the quality of road infrastructure through the effective management of assets in accordance with user expectations and managers' requests.*

Technical Committee D.2 encompassed the breadth of pavement-related work, organized in three sub-committees: flexible and semi-rigid pavements, concrete pavements, and road surface characteristics. It focused on innovative approaches to reduce construction time and cost, increase durability and promote recycling and reuse.

The sub-committees operated as separate committees with their own executive. However, the

operational structure included five working groups (one for each of the five strategic issues) with each working group including members from all three sub-committees.

I was the English Speaking Secretary for sub-committee D.2a Road Surface Characteristics. As secretary I was responsible for preparation of the minutes and other sub-committee documentation in English.

Work Program and Outputs:

The achievements for the D.2 Road Pavements Technical Committee during the 2008 to 2011 cycle are summarised as follows:

Seminars

PIARC 6th Symposium on Pavement Surface Characteristics (SURF2008) held in Portoroz, Slovenia, 20-22 October 2008.

International Seminar on Pavement Maintenance Techniques to Improve Pavement Performance, held in Cancun, Mexico, 24-25 August 2009.

Concrete Pavement Seminars held in South Korea and Argentina.

Commenced organisation of the 7th Symposium on Pavement Surface Characteristics (SURF2012), to be held in Norfolk, Virginia (USA) from 19-22 September 2012. The event is organized by the World Road Association in partnership with the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), the Federal Highway Administration (FHWA), the Virginia Center for Transportation Innovation and Research (VCTIR) and the Center for Sustainable Transportation Infrastructure (CSTI) of the Virginia Tech Transportation Institute (VTTI).

Reports

The reports produced by the technical committee are listed below. The content of the reports has generally been completed, and it is anticipated that these reports will be published shortly.

1) Report: Methods for Reducing Construction Time and Cost for Concrete Roads

This report identifies the methods for reducing the time and costs of construction for concrete road pavements without affecting the quality. A total of 19 case studies are included in the report to illustrate the methods in use around the world.

2) Report: Maintenance Methods and Strategies

The report analyses the performance of various maintenance methods including surface maintenance and structural rehabilitation of different types of pavements. Some large variations in the performance of various maintenance treatments between countries were identified. The report also considers the changes to maintenance strategies that have been adopted by road administrations and how these will change future maintenance of pavements.

3) Report: How to Maintain Concrete Pavements

The report provides a general discussion on the various methods available for the maintenance of concrete pavements.

4) Report: Quiet Pavement Technologies

The report includes a compilation of technologies aimed at reducing pavement noise, including the performance and durability of such technologies. The report also includes a discussion of legislative requirements and policies for managing noise.

5) Report: Pavement Innovations

This report covers some of the latest innovations in pavement technology. The report includes a discussion of integration of innovation into road construction and innovation needs and policies. Case studies include current innovations being implemented such as warm mix asphalt, reclaimed asphalt pavement, and waste and by-product use in road construction.

6) Report: How to Deal with Effects of Climate Change on Road Pavements

The report includes discussion on adopting a systematic approach for conducting risk and vulnerability assessments, managing climate change impacts on the operation and performance of road pavements and policy implications for road authorities. This includes how to respond to potential impacts of climate change, how to deal with uncertainty and risks, adaptation of design rules and specifications, and education for climate change adaptation.

Emerging issues:

In the 2012-2015 PIARC cycle, the Road Pavements committee will be a single committee with no sub-committees. The strategic issues to be addressed in this cycle are:

- 1) Road condition monitoring and Road vehicle interaction
- 2) Recycling and Reuse of Pavement Materials
- 3) Reducing the Life-cycle of carbon footprint of pavement construction

Learnings for Australia and/or New Zealand:

The activities of the committee are relevant to the Austroads Strategic Priorities of Technology (*to promote best practice in technology*) and Asset Management (*to minimise the whole of life cost of road and bridge assets to meet the transport task*). The outputs of the Road Pavements committee will be of primary interest to the Austroads Technology and Assets Programs.

Dissemination:

All the technical committee reports will be published shortly. These reports will be available from the PIARC website once published (www.piarc.org).

Benefits from other associated activities:

The main benefits of involvement with this technical committee include enhanced knowledge of current international pavement technology, and access to information and international expertise which will be invaluable in future developments of Austroads publications and in the delivery of road projects using the best internationally available technology. Membership of PIARC also provides the opportunity to seek answers to technical problems and learn of new technology from pavements practitioners from around the world. Such benefits would not be able to be easily achieved through other means as PIARC brings together technology specialists from many countries.

Conclusions and recommendations:

The topics addressed by the Technical Committee D.2 Road Pavements are relevant to Austroads' strategic priorities and are of interest to current activities of all Austroads members.

Continued Austroads representation on the Road Pavements committee is recommended so that the work of the technical committee can benefit Austroads members and so that this highly effective networking opportunity is not lost.