

Technical Committee D.2: Road Pavements
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August 2009

Executive Summary:

Technical Committee D.2 Road Pavements is divided into three Sub-Committees:

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

Both the D.2a and D.2b Sub-Committees held a joint fourth meeting in Cancun, Mexico on 26-27 August 2009. Sub-Committee D2.c will hold its fourth meeting separately in South Korea in October 2009.

The Cancun meeting was held in conjunction with a PIARC International Seminar on Maintenance Techniques to Improve Pavement Performance, which was on 24-25 August 2009.

I am a member and English Speaking Secretary of the D.2a Road Surface Characteristics Sub-Committee and I attended the combined D2.a/D2.b meeting in Cancun.

During the 2008 to 2011 PIARC cycle, the Road Pavements Technical Committee will address 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 is predominately through five working groups. There is one working group for each of the five strategic issues and each working group includes members from all three Sub-Committees. At the fourth meeting, the working groups further progressed their activities in relation to their work plans.

The main aims of the fourth meeting were to host the international seminar on pavement maintenance, continue with the activities detailed in the work plan for each working group, and commence preparations for the technical committee's contribution to the World Road Congress to be held in Mexico City in 2011.

Background:

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

The goal of Strategic Theme D is 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 encompasses the breadth of pavement-related work, organized in three sub-committees: flexible and semi-rigid pavements, concrete pavements, and road surface characteristics. It focuses on innovative approaches to reduce construction time and cost, increase durability and promote recycling and reuse.

The sub-committees operate as separate committees with their own executive. However, the operational structure includes five working groups (one for each of the five strategic issues) with each working group including members from all three sub-committees.

I am the English Speaking Secretary for sub-committee D.2a Road Surface Characteristics. As secretary I am responsible for preparation of the minutes in English and preparation of committee reports, papers, articles and so on in English when necessary.

Work Program:

D.2a and D.2b sub-committees held a joint fourth meeting in Cancun, Mexico on 26-27 August 2009. Sub-Committee D2.c will hold its fourth meeting separately in South Korea in October 2009. I attended the D2.a/D2.b meeting in Cancun.

The meeting in Cancun was arranged as follows:

- Both Sub-Committees met together for the introduction by host Mr Rodolfo Téllez Gutierrez (Mexico) and Mr Michel Boulet (France) who is the Chair of the D2 Committee, and to discuss other common issues.
- Members then divided into four Working Groups to continue their activities for the 2008 to 2011 cycle (the Working Group on reducing construction time and cost did not meet).
- Following this, the joint Sub-Committee meeting continued

The main aims of the fourth meeting were to host the international seminar on pavement maintenance, continue with the activities detailed in the work plan for each working group, and commence preparations for the technical committee's contribution to the World Road Congress to be held in Mexico City in 2011.

Meeting outputs:

A summary of the activities for each working group is presented below.

WG D2.1 Reducing construction time and cost

The work plan for this working group is to identify the methods for reducing the time and costs of construction for road pavements without affecting the quality. This group is being lead by Sub-Committee D2.c and it is understood that the work will only address concrete pavements.

The main output of this group will be a technical report entitled: "Methods for optimising construction time and cost for concrete roads".

WG D2.2 Improved maintenance methods

The group is undertaking an analysis of the performance of improved maintenance methods including surface maintenance and structural rehabilitation of different types of pavements, and is also considering the changes to maintenance strategies that have been adopted by road administrations and how these will change future maintenance of pavements.

To date, the group has established a matrix of maintenance methods based on experience among group members, and this will be further developed over the next 12 months. The group has also circulated a questionnaire on maintenance methods.

WG D2.3 Road noise mitigation

The group is compiling information and existing experience related to the performance and durability of various quiet pavement technologies and frameworks for managing noise. This includes legislative requirements and/or policies. The focus will be on durability of noise reductions rather than initial reductions only.

WG D2.4 Monitoring of innovations

A report is being produced which covers international practices in relation to contract innovative techniques (policies), with case study examples of innovations. The group intends to circulate a questionnaire to gather additional information in the near future.

WG D2.5 Climate Change

This working group will produce a report on possible measures that can be taken to adapt to climate change. I am a member of this working group. The group has collated international literature on the topic and is well advanced with a first draft report that will be further developed over the next 12 months.

International Seminar on Pavement Maintenance Techniques to Improve Pavement Performance

The D2.a and D2.b Sub-Committees organised an international seminar on pavement maintenance techniques. I was a member of the scientific committee and was responsible for selecting papers and organising the program. The seminar was attended by 190 professionals primarily from North, Central and South America with a small number of attendees from Europe, Australia and New Zealand (mostly PIARC committee members) and a small number from Caribbean nations.

There were 31 technical papers and posters presented in the two day seminar. I presented a paper on recycling of asphalt pavements which was authored by Mr Jothi Ramanujam, Principal Engineer (Pavement Rehabilitation) from Queensland DTMR.

Emerging issues:

It is proposed that a surface characteristics symposium (SURF) be held in September or October 2012 in the Washington DC or Norfolk area (USA). The SURF event has had a long tradition as a PIARC event. However, to widen its appeal, it was proposed that the next event be organised in conjunction with relevant Transport Research Board (TRB) committees. The TRB committees that are related include "AFD90 Surface Properties - Vehicle Interaction" and "AFK40 Characteristics of Bituminous-Aggregate Combinations to Meet Surface Requirements"

Learnings for Australia and/or New Zealand:

The planned 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 future work of the committee will be of primary interest to the Austroads Technology and Assets Programs.

Dissemination:

Details of the PIARC activities in relation to climate change have been disseminated to ARRB in relation to its planned mini-submission to Department of Infrastructure, Transport, Regional Development and Local Government (DITRD&LG) on the proposal for a more forward-looking 'future options / strategy / economic impacts' (etc.) study on climate change.

I gave a brief presentation to the Austroads Pavement Technology Review Panel (PTRP) in June 2008. Committee reports will be circulated to PTRP for comment and information. When the opportunity arises, I will again brief the review panel in person about committee activities. Sub-Committee D.2a identified the following meeting locations for future meetings:

- Meeting five – April 2010 - Irvine (USA) – to include plenary meeting with D2.b and D2.c.
- Meeting six – August 2010 – date and location yet to be decided.
- Meetings seven - date and location yet to be decided.
- Meeting eight (last meeting) – September 2011 – to be held in conjunction with the World Road Congress in Mexico City (Mexico).

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.

While in Mexico, I attended the 6th Mexican Asphalt Congress for World Class Pavements which was also in Cancun. The congress was attended by approximately 500 people predominately from North, Central and South America.

There were approximately 45 technical papers presented in the three day congress. I presented a paper titled "A simple improvement to dust-to-binder ratio that incorporates the influence of filler type."

The congress was held over three days from 26 to 28 August 2009. The congress included ten technical sessions, with parallel sessions on day two. Simultaneous English, French and Spanish translation was available.

The main themes of the seminar were:

- Asphalt mixes
- Binders
- Asphalt Paving
- Quality Control
- Environmental Impacts

Conclusions and recommendations:

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

Australia has been a key contributor to the activities of the working group on climate change, and this has demonstrated that Australia is one of the international leaders in considering the effects of climate change on pavements.

Continued Austroads representation on this 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.