Report of the 2008-2011 Activities of the Technical Committee D2 on Road Pavements

Michel BOULET

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Strategic Issues Assigned to Committee D2
by the PIARC Strategic Plan

- issue #1 Reducing Construction Time and Cost
- issue #2 Improved Maintenance Methods
- issue #3 Road Noise Mitigation
- issue #4 Monitoring of Innovations
- issue #5 Adaptation to Climate Change

- Organisation of the PIARC International Symposium on Surface Characteristics SURF (2008 & 2012)
PIARC Committee D2 “Road Pavements”

Structure of the Committee D2

• # 130 experts from # 42 countries in all the continents
• Umbrella
  Chair : Michel Boulet (IFSTTAR, France)
  FR- Secretary : Guy Tremblay (MTQ, Canada-Québec)
  EN-Secretary : Suneel Vanikar (FHWA, USA)
• Three Formal Sub-Committees
  D2a : Road Surface Characteristics
  D2b : Flexible and Semi-rigid pavements
  D2c : Concrete Pavements
PIARC Committee D2 “Road Pavements”

Sub-Committee D2a « Road Surface Characteristics »

• Chair : Ms. Francesca La Torre (Firenze University, Italy)

• FR-Secretary : Luc-Amaury George (Vectra, France)
• EN-Secretary : Peter Bryant (Queensland Roads, Australia)
• SP-Secretary : Rodolfo Tellez Guttierrez (IMT, Mexico)
Sub-Committee D2b
« Flexible and Semi-Rigid Pavements »

• Chair : David Hein (ARA, Canada)

• FR-Secretary : Marie-Thérèse Goux (DIR IF, France)
• SP-Secretary : Rafael Limon Limon (PACC SA, Mexico)
Sub-Committee D2c « Concrete Pavements »

- Chair : Raymond Debroux (MET, Belgium)
- FR-Secretary : Thierry Sedran (IFSTTAR, France)
- EN-Secretary : Anne-Lise Pouponelle (MOW, Belgium)
- SP-Secretary : Juan-José Orozco y Orozco (Orva ing., Mexico)
Structure of the work programme:
One transverse working group for each strategic issue

• issue #1 Reducing Construction Time and Cost (conv: Luc Rens, Belgium, D2c)
• issue #2 Improved Maintenance Methods (conv: Johan Lang, Sweden, D2a)
• issue #3 Road Noise Mitigation (conv: Filippo Pratico, Italy, D2a)
• issue #4 Monitoring of Innovations (conv: François Chaignon, Canada, D2b)
• issue #5 Adaptation to Climate Change (conv: Benoît Verhaeghe, South Africa, D2b)
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International Symposium on Surface Characteristics SURF

- June 1988 (State College, USA), June 1992 (Berlin, DE), Sept 1996 (Christchurch, NZ), May 2000 (Nantes, FR), June 2004 (Toronto, CA)

- 6th: SURF 2008 on 20-22 October 2008 (Portoroz, Slovenia)
  Spon.: PIARC, ZAG
  Organ.: Bojan Leben (ZAG, SLO)
  www.surf2008.si

- 7th: SURF 2012 on 19-22 September 2012 (Norfolk, Virginia, USA)
  Spon.: PIARC, FHWA, TRB
  Organ.: Gerardo Flintsch (Virginia Tech Transp. Inst., USA)
  www.surf2012.org
Regional Seminars and Workshops

- 24-26 August 2009: Cancun, Mexico
  Maintenance techniques to improve pavement performances
  jointly with the Congreso Mexicano del Asfalto (spon.: AMAAC)
- 9 October 2009: Seoul, South Korea
  Construction and maintenance of concrete roads
- 9-11 May 2011 (Buenos Aires, Argentina)
  Recent progress in the field of design and construction of concrete pavements (spon.: ICPA)
PIARC Committee D2 “Road Pavements”

Liaisons

• Transportation Research Board (TRB-USA)
• Australian Road Research Board (ARRB-AUS)
• Forum of European Highway Research Laboratories (FEHRL-Europe)
• Standardization Bodies
  ISO/TC53/SC1: Acoustics and Texture
  CEN/TC227: Road materials
  ASTM E17: Vehicle-pavement systems
  ASTM D04: Road Materials
Meetings during the 2008-2011 period (1/2)

- April 2008 – Paris (France): D2a+D2b+D2c
- October 2008 – Portoroz (Slovenia): D2a+D2b+D2c in conjunction with PIARC/SURF 2008 Symposium
- March 2009 – Vienna (Austria) : D2c
- May 2009 – Rhodos (Greece) : D2a+D2b, in conjunction with 7th RILEM/ATCMB Conference
- August 2009 – Cancun (Mexico) : D2a+D2b, in conjunction with AMAAC Congress + PIARC Seminar
Meetings during the 2008-2011 period (2/2)

• October 2009 – Seoul (South Korea) : D2c + PIARC Seminar
• April 2010 – Irvine (USA): D2a+D2b+D2c
• October 2010 – Sevilla (Spain) : D2c, in conjunction with the 11th International Conference on concrete roads
• October 2010 – Paris (France) : D2a+D2b
• April 2011 – Roma (Italy) : D2a+D2b
• May 2011 – Buenos Aires (Argentina) : D2c + PIARC Seminar
D2 Products

- Introductory and Summary reports for the World Congress
- Technical reports (state-of-the-art, case studies,..) to be published after the Congress: one for each strategic issue
  - Article for Routes/Roads: Cancun Seminar (published), Mitigation of rolling noise (intended)
- Quality (technical and editorial) control by an editorial sub-committee (Brian Ferne, United Kingdom)
- Proceedings of SURF 2008, of the Regional Seminars
Programme of the D2 session of the World Road Congress in Mexico – Part 1

• General Introduction (Michel Boulet, France)
• Symposia SURF
  SURF 2008 (Bojan Leben, Slovenia)
  SURF 2012 (Gerardo Flintsch, USA)
• Reporting issue #1 Reducing Construction Time and Cost
  (Luc Rens, Belgium)

  Coffee Break

• Reporting Regional Seminars (Rodolfo Tellez, Mexico – Suneel Vanikar, USA – Diego Calo, Argentina)
• Reporting issue #2 Improved Maintenance Methods
  (Benoît Petitclerc, Canada-Québec)
Programme of the D2 session of the World Road Congress in Mexico – Part 2

- Reporting issue #3 Road Noise Mitigation (Mrs. Fabienne Anfosso-Lédée, France)
- Reporting issue #4 Monitoring of Innovations (David Hein, Canada)
  
  Coffee Break

- Reporting issue #5 Adaptation to climate changes (Benoît Verhaeghe, South Africa)
- General conclusions (Michel Boulet, France)
Programme of the D2 session of the World Road Congress in Mexico – Part 1

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Programme of the D2 session of the World Road Congress in Mexico – Part 1

• Issue #1 Reducing Construction Time and Cost

Presentation of the technical report prepared by the working group:

*Luc Rens (Belgium)*

Reconstruction of pavement of the Mexico-Queretaro highway:

*Juan José Orozco (Mexico)*

Rapid reconstruction of an intersection in the Washington State:

*Suneel Vanikar (USA)*

Case Study: *Keizo Kamiya (Japan)*

Discussion
Programme of the D2 session of the World Road Congress in Mexico – Part 1

• Issue #2 Improved Maintenance Methods

Presentation of the technical report prepared by the working group: Benoît Petitclerc (Canada-Québec) on behalf Johan Lang
Ten years of concrete pavement maintenance innovation to extend service life: David Hein (Canada)
Methodology to determining strategies for pavement preservation: Francisco Javier Moreno (Mexico)
Presentation of the German guidelines for repair of concrete pavements: Stefan Holler (Germany)
Discussion
Programme of the D2 session of the World Road Congress in Mexico – Part 2

• Issue # 3 Mitigation of road noise

Presentation of the technical report prepared by the working group: 
*Fabienne Anfosso-Lédée (France) on behalf Filippo Pratico*

Long lasting durable mix asphalt as alternative of porous asphalt: 
*Keizo Kamiya (Japan)*

3D characterization of asphalt pavement macrotexture for skid resistance evaluation: 
*Yinghao Miao (China)*

The poro-elastic road surface (PERS): a powerful weapon against traffic noise: 
*Luc Goubert (Belgium)*

Discussion
Programme of the D2 session of the World Road Congress in Mexico – Part 2

• Issue # 4 Monitoring of innovation

Presentation of the technical report prepared by the working group: David Hein (Canada) on behalf François Chaignon

Road foundation construction using tyre bales: a lightweight, low-energy alternative: Mike Winter (United Kingdom)

Photocatalytic applications in Belgium, purifying the air through the pavement: Anne Beeldens (Belgium)

Seismic retrofit of asphalt pavements using confined-reinforced earth: Tsutomu Ishigaki (Belgium)

Discussion
Programme of the D2 session of the World Road Congress in Mexico – Part 2

• Issue # 5 Adaptation to climate change

Presentation of the technical report prepared by the working group: Benoit Verhaeghe (South Africa)
Adapting road infrastructure to climate change: innovative approach and tools: Yves Ennesser (France)
Impact of climate change on the development of rutting: Alexander Zeissler (Germany)
Use of solar heat-blocking pavement technology for mitigation urban heat: Masahiko Iwama (Japan)
Pavement preservation processes in Latin America, energy use and GHG emissions: Patricia Irrgang (USA)

Discussion