

**PIARC Technical Committee TC 4.2 –Road/vehicle Interaction**

**PIARC World Road Association**  
**2003 - 2007**  
**Technical Committee TC 4.2**  
**Road/Vehicle Interaction**

*Bamako, Mali - Feb. 20. – 22. 2006*


**PIARC Technical Committee TC 4.2 –Road/vehicle Interaction**

**Strategic Theme ST 4**

**Quality of Road Infrastructure**

**ST leader: Mrs. Anne-Marie Leclerc, Canada-Quebec**

<b>TC 4.1 Road Infrastructure Assets</b> Chair: Claude Morzier (SCH)	<b>TC 4.2 Road/Vehicle Interaction</b> Chair: Bjarne Schmidt (DK)	<b>TC 4.3 Road Pavements</b> Chair: Nelson Rioux (CAN-Q)	<b>TC 4.4 Bridges and Related Structures</b> Chair: Rafael Astudillo (Spain)	<b>TC 4.5 Earthworks, Drainage and Subgrade</b> Chair: Giorgio Peroni (Italy)
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Terms of reference for:


## TC 4.2 – Road/vehicle Interaction

- ▶ 1 Having a 20 – 30-years vision of developments in vehicle and road pavement characteristics
- ▶ 2 Reducing road noise
- ▶ 3 Improve the description of pavement surface characteristics



Strategies:


- ▶ 1 Review the possible evolution in private cars and trucks and impact of these changes on desirable characteristics for pavements
- ▶ 2 Review new developments in vehicles, tyres, pavements and their interaction allowing to envisage a significant reduction in road noise  
Harmonise methods to characterise road noise
- ▶ 3 Continue the work on texture and skid resistance  
Continue the work on automated cracking survey devices  
Review recent practices in the use of surface condition measurement for acceptance of road works


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## PIARC Technical Committee TC 4.2 – Road/Vehicle Interaction

### 2003 - 2007

**50 Members, 18 Corresponding and associate members**



**Australia, Austria, Bangladesh, Belgium, Benin, Burkina Faso, Canada, Canada-Quebec, Congo, Czech, Croatia, Denmark, Germany, Finland, France, Hungary, India, Iran, Italy, Japan, Lithuania, Mali, Morocco, Mexico, Mongolia, Norway, Poland, Portugal, Romania, Senegal, Sweden, Switzerland, Slovakia, Slovenia, Spain, South Africa, The Netherlands, United Kingdom, United States,**

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### Technical Committee 4.2 Road/Vehicle Interaction

Secretaries:

ENG. Guy Descornet, Belgium  
FR. Mathieu Grondin, CAN-Q  
ESP. Marta Alonso, Spain

**WGA: Trends in vehicle/road interaction monitoring for design and management**

**Leader:**  
Francesca La Torre, Italy

**WGB: Road traffic noise**

**Leader:**  
Manfred Haider, Austria

**WGC: Continued work on Texture, Skid resistance and Evenness**

**Leader:**  
Ramesh Sinhal, UK


**WGD: Automated distress measurements**

**Leader:**  
Michel Boulet, France

**WGE: Advanced Road Works Acceptance Methods and Criteria**

**Leader:**  
John Emery, CAN

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## Working group A


### Trends in vehicle/road interaction monitoring for design and management

Leader: *Dr Francesca La Torre, Italy*

### Sub groups

- ▶ Inventory of monitoring Techniques for loading, speed, stress in motion, vehicle counts
- ▶ State of the art of the use of “Monitoring” data in pavement design and management

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## STRUCTURE OF THE WORK

WPA1+WPA2 Workshop - Questionnaire.

Road Authorities  
Research Institutions

Passenger cars manufacturers;  
HGV manufacturers;  
Tyre manufacturers;  
Sensor and monitoring devices producers;  
ITS specialists;  
Smart cars & smart trucks producers;  
Selected GPS specialists (Fisita representative in Paris)  
Pavement Designers  
.....

**WG A - ACTIVITIES**

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## Working group A Output - Deliverables



Ref. Cost 323

Technical reports	<i>Inventory of monitoring techniques for loading, speed, stress in motion, vehicle counts, including database.</i>	<i>Summer 2006</i>
Articles in Routes/Roads	<i>State of the art of the use of “monitoring” data in pavement design and management.</i>	<i>Summer 2006</i>
Workshop on a 20 – 30 year vision	<i>Impact of Emerging Vehicle. Pavement and Monitoring Technologies on Road Vehicle Interaction: Where will we be in 30 years</i>	<i>2006/2007</i>

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## Working group B Road Traffic Noise

Leader: *Mr. Manfred Haider, Austria*

### Sub groups

► **Developments**

*Review the recent developments and future prospects in vehicles, tyres and pavements influencing road traffic noise emission.*

*Establishing a state of the art of traffic noise reduction technologies at the source, identifying research needs, as well as identifying and recommending new promising global noise reduction strategies.*

► **Harmonized measurement methods**

*Review the current noise measurement methods, Recommendation on strategies for their harmonisation Support the integration of methods to achieve a standardised set of tools to characterize road traffic noise.*

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**Working group B**  
**Output - Deliverables**



Articles in Routes/Roads	<i>Noise reduction technologies: future prospects, recommendations, developments, constraints, research needs.</i>	<i>June 2006</i>
Sessions at XXIII World Road Congress	<i>Measurement methods: state of the art, harmonization trends, recommendations for improvements and research needs.</i>	<i>February 2007</i>

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Type	Organisation
ISO WG	ISO/TC 43/SC 1/WG 33 SPB, CPX
ISO WG	ISO/TC 43/SC 1/WG 42 Ref. surface
CEN WG	CEN/TC 227/WG 5 – road surface characteristics
EU WG	EU WG 8 - Tyre noise policy
UN	UN/ECE/GRB Geneva
Commercial	ETRTO – Tyre manufacturers
EU Project	SIRUUS
EU Project	SILVIA
EU Project	HARMONOISE
EU Project	SILENCE
National Project	IPG (NL)
National Project	Leiser Verkehr (Germany)
National Project	BUWAL/ASTRA project (CH)
National Project	Poroelastic road surface project (JP, SE)
National Project	Low noise tyre project (SE, FI, PL, GB)
US Project	Quiet Pavement programme - several activities & reports

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**Working group C**

**Continued work on Texture, Skid resistance and Evenness**

Leader: *Mr Ramesh Sinhal, United Kingdom*

Sub groups:


- ▶ **PIARC tyre specification**  
To secure the availability, reproducibility and proper use of the PIARC reference tyre for skid resistance testing
- ▶ **Skid resistance and texture**  
To provide guidance on managing skid resistance: Equipment comparisons, calibration methods, interpretation and use of results
- ▶ **Evenness**  
To provide guidance on longitudinal and transverse evenness measurements and assessment

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**Working group C**

**Output - Deliverables**



← *Friction 1992*



→ *Evenness 1998*

Formalise specification on test tyres	December 2004
Establish user group for PIARC tyres	December 2004
Guidance on use and storage of tyres	March 2005
Strategy for long-term production of test tyre	December 2005
Representativeness of PIARC test tyre	March 2006 and autumn 2007
Updated inventory of skid resistance testing equipment	July 2005 (delayed)
Guidance on managing skid resistance	September 2006/ Autumn 2007
Guidance of managing evenness	December 2006/ Autumn 2007

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## Working group D

### Distress measurements

Leader: *Mr Michel Boulet, France*

Sub groups:

- ▶ Inventory of the methods to detect, to identify and to precisely describe roads cracks etc. with the aim to increase the reproducibility of their measurements
- ▶ Setting up a method or procedure to assess and to clarify the crack automated measuring devices with respect to their reliability (bias and repeatability)
- ▶ Inventory of the methods to characterise and to record surface distresses on unpaved roads, and of the appropriate survey equipment

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## Working group D

### Output - Deliverables



Technical report: Synthesis of existing methods to surely identify and to precisely describe road surface distresses	May 2007
Technical report: Proposal of procedure to assess automated cracks measuring devices performance	May 2007
Article R/R – State of the art report : Characterisation of unpaved road surface distresses, state of the art of the current practices to survey unpaved road surface condition	August 2006

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## Working group E

### Advanced Road Works Acceptance Methods and Criteria

Leader: *Dr. John Emery, Canada*

#### Sub groups:

- ▶ Review of current practice
- ▶ Performance-based surface condition measurements
- ▶ Acceptance of road works and monitoring



## Working group E

### Output - Deliverables



Survey on current practices	End March 2006
Synthesis and evaluation of survey	August 2006
Reporting of survey and synthesis	Fall 2007
User friendly Guide – Surface condition measurements for acceptance of Road Works	


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# Interaction with other organisations

## Tyre and Vehicle industry

**ETRTO, The European Tyre and Rim Technical Organisation**

**FISITA, The International Federation of Automotive Engineering Societies**

## Standardization organisations

**ISO, ASTM, CEN**

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**ASSOCIATION MONDIALE DE LA ROUTE**  
**WORLD ROAD ASSOCIATION**

"Echanger connaissances et techniques sur les routes et le transport routier."

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 English Español



**Tunnels routiers et marchandises**  
*dangerouse*

**LE MODÈLE EQR**

Développé conjointement par l'AIPCR et l'OCDE, le logiciel a été utilisé pour une large gamme de tunnels dans plusieurs pays.  
 Commande du logiciel, informations ; cliquez ici...

**Revue Routes/Roads**

Janvier 2006 : les grands projets et la gestion des risques.  
 Donnez-nous votre avis...

**GESTION DES RISQUES LIÉS AUX ROUTES**  
Séminaire à Hanoi (Vietnam), avril 2006

Vous avez jusqu'au **31 JANVIER 2006** pour vous inscrire et/ou proposer une communication !  
 Toutes les informations...

**Guide AIPCR 2004-2008**

Du nouveau pour les comités techniques : le guide de production des rapports AIPCR !  
 Passer en savoir plus...

**Mote-déjà**

- A propos de l'AIPCR
- Plan stratégique
- Comités techniques
- Projets
- Publications
- Membres
- Evénements
- Réseau mondial (RMÉ)
- Comités nationaux
- Terminologie
- Administrations routières
- Liens
- CONGRÈS PARIS 2007

**ESPACE MEMBRES**


 Congrès International de la Viabilité Routière  
 Torino-Sestriere (Italie)  
 27-30 mars 2006


**23<sup>e</sup> CONGRESO MUNDIAL DE LA CARRETERA PARIS 2007**

Nos 20 et 20
Globus
Internet

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Accueil > Comités techniques

**Comités techniques 2004-2007**

- C1.1 Aspects économiques
- C1.2 Financement investissements
- C1.3 Performance administrations
- C1.4 Gestion exploitation
- C2.1 Développement durable
- C2.2 Routes interurbaines
- C2.3 Villa et transport
- C2.4 Transport marchandises
- C2.5 Routes rurales
- C3.1 Sécurité routière
- C3.2 Gestion risques
- C3.3 Exploitation tunnels
- C3.4 Viabilité hivernale
- C4.1 Gestion patrimoine
- C4.2 Interaction route / véhicule
- C4.3 Chaussées routières
- C4.4 Ponts routiers
- C4.5 Terrassements
- Terminologie

ESPACE MEMBRES

Dec 21 of 21    Globe    Internet

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*Je vous souhaite une conférence intéressante et agréable ici à Bamako*

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