

C 4.2 ROAD / VEHICLE INTERACTION

Recommendations to decision makers

The growth in road traffic is increasing the technical demands made on road surfacing. This in turn has implications for road managers and decision makers in the allocation of limited financial resources to maintain, in a sustainable way, an acceptable level of safety, riding comfort and traffic noise. In addition, the introduction of new contracts for the management of road networks that incorporate functional requirements further emphasizes the need for good quality and up-to-date data on road condition. Hence, the need for the wider adoption of available traffic-speed road condition survey technologies to provide the required data at an economic cost and with minimum disruption to normal traffic operations. Road administrations should encourage and support developments of appropriate technologies for the assessment of different aspects of surface distress. The potential of robust and reduced versions of the equipment for assessing the maintenance needs of lightly trafficked and developing road networks also needs to be promoted.

Technical aspects

The trend in the use of end-product and functional performance type specifications, in the construction and management of roads, has made the provision of accurate and consistent road monitoring systems essential. This provision must also include appropriate quality assurance and operational procedures to secure reliable and robust condition information for use in pavement management. The benefits to be gained from the harmonization of assessment techniques are clear to all parties. Future work should therefore focus on further advancing developments in this area in particular, with the measurement of road-tyre noise and road surface distress. Already, traffic-speed prototype systems for the detection of cracking on paved roads are available in a number of countries. However, the assessment of other distress modes, such as loss of surface material and road edge deterioration also needs to be addressed.

Recommendations to PIARC

The Workshop on the “Vision to the next 20-30 years”, held during the Congress under the auspices of Committee 4.2, has strongly re-emphasised that PIARC should strengthen its links with the automotive industry in order for both sectors to understand their respective plans and constraints so that the necessary co-ordination can be established. In particular, in the next term(s), PIARC should keep track of the development of probe vehicle techniques for monitoring traffic/pavement interactions.

In addition, PIARC will need to keep managing the PIARC test tyre for skid resistance measurements, its availability and the stability of its characteristics.

The International Seminar in Bamako has highlighted the need for more consideration to be given on how to monitor, manage and maintain the most common roads in the world, namely unpaved ones. However, for paved roads there is still the need to pursue the reflection and exchange of experience regarding the development and use of new advanced monitoring techniques (distress, cracking), pavement management methods and policies (friction, texture and evenness), acceptance methods and criteria and global condition indices.

Regarding the significant, proven influence of road surface characteristics on traffic noise emission, PIARC should help to develop internationally comparable acoustic classifications of

road surface materials and technologies, by exchanging experiences and data from the different countries. PIARC should consider the need and timeliness of integrating acoustic parameters in the monitoring, management and maintenance of road pavements.

It is strongly recommended that, in its new Strategic Plan, PIARC retains a technical committee dealing with surface characteristics remembering that issues such as noise, fuel consumption, friction, evenness and rutting have a high impact on traffic safety, economic issues and the environment. The continuing international concern, including developing countries and countries in transition, with road surface characteristics for safe, smooth, and economic transportation is clearly demonstrated by the SURF 2004 Toronto participation and SURF 2008 Ljubljana abstracts.