C1.4 NETWORK OPERATIONS

Recommendations to decision makers

There is a continuing need to develop the policy and practice of Network Operations as it evolves, incorporating Intelligent Transport Systems where appropriate. Increasingly, the need is to integrate road network operations across regional and international boundaries. Specifically, Technical Committee TC1.4 sees the need to develop good practice in the following areas as a real challenge:

- Managing the operational, jurisdictional and other administrative interfaces
- Inter-modal operations at international airports, ferry terminals and ports
- Management of cross-border road-freight and transit traffic
- Novel approaches to Network Operations
- Interface of network operations with other major stakeholders: commercial vehicle fleet operators, servicing of local markets, city transport, just-in-time deliveries, etc
- Accommodating the increased need for maintenance of the road infrastructure
- Bringing capital investment and asset management of the network together with network operations
- Strategic planning and modelling for network operations purposes
- Good practice on peak-spreading and demand management
- Role of ITS and new technologies in network operations
- Exchange of information between road authorities, police and emergency services
- Security of network operations against disruption from man-made or natural causes
- Opportunities for co-operative vehicle-highway systems

Technical aspects

Roads authorities are required to justify their budgets for network operations against a background of growing traffic demands and increased public and stakeholder expectations. This is in the context of increasingly scarce public funding. Established evaluation and assessment methods need examining from a network operations perspective. The issues differ from those involved in justifying capital investment in roads infrastructure, but similar methodologies and benefits/costs values can be applied. The committee recommends that PIARC continues to work on the assessment methods collaboration with the International group working on ITS Benefits, Evaluation and Costs (IBEC). These methods include:

- Methodology for ante- and post-evaluation of new methods of network operations (ITS tools and systems)
- Effective inter-agency working: partnerships and contracts between the roads authorities and other stakeholders in network operations
- Risk assessment in network operations, including inter-agency working, corridor management, operating frameworks and contingency plans
- Evaluation of the impact of personal and in-vehicle telematics, information and communications devices on network operations
- Cost-effective procurement of ITS projects and systems

Recommendations to PIARC

1. Involvement of developing countries

PIARC needs to find active committee members or expert advisers who can assist the network operations committee with first-hand knowledge of network operations in developing countries and countries with economies in transition. This is to compensate for a shortcoming in previous cycles.

2. Involvement of Stakeholders

The committee needs greater contact with the public or private sector stakeholders in network operations – especially those that are major users of the road network (public transport and freight haulage companies), or are highly depending on it for completing the offered intermodal chain (railroad, inland waterways or ferry terminals) is needed in PIARC, e.g. by including them as co-opted expert advisers or invited on an ad hoc basis to help TC members on specific agenda topics.

3. Outreach and Education

The combination of PIARC deliverables from this and the previous two cycles now provide PIARC with a rich resource for outreach and education for students and young transportation professionals through workshops, seminars and training sessions. The current committee, TC1.4 recommends that outreach and training in network operations is built in to the next PIARC Strategic Plan in order to maximise the benefit of PIARC committee work that has been done over the past decade.

4. Manual on Network Operations (CDROM)

We recommend that the work done in the current cycle to develop an on-line manual and information library on network operations is continued and expanded in the next cycle to support outreach and education.

5. Joint working with the motor industry

An opportunity exists for joint working with the motor industry under the umbrella of the recently-signed PIARC FISITA memorandum of understanding.

Specifically, in response to the presentation and discussion made in Special Session 16 at this Congress we recommend formation of a sub-committee of Network Operations with the following terms of reference:

A task force (PIARC sub- committee) convened within the context of the PIARC / FISITA MoU involving:

- the motor industry; and,
- the road authorities

This is in order to develop recommendations for the deployment of roads infrastructure to support cooperative systems

Individual members by invitation/ nomination from FISITA and PIARC; PIARC nominees to come from the network operations and road safety committees, with representation from Japan, USA, Canada, EU, South Africa, S. America, Australia and developing countries leading in ITS (e.g. China, Malaysia, Chile)

Main deliverable to be a report providing a strategic overview targeted at Roads Directors identifying:

- ➔ Deployment paths for Vehicle Infrastructure Integration (VII) and Co-operative Vehicle-Highway Systems (CVHS) in context:
  - Expressways and motorways
  - Rural roads
  - All-purpose arterial roads
- ➔ A commentary on the role of VII and CVHS in relation to the generic issues of
  - Road safety
  - Emissions
- ➔ Options for pragmatic incremental deployment:
  - Options and costs
  - Funding: Public funds; commercial case; consumer value
  - Specification and standards
- ➔ Trade-offs
- ➔ Low-cost measures
- ➔ Quick wins
- ➔ Options for developing countries