

Association  
mondiale  
de la Route



World Road  
Association

# PLAN STRATÉGIQUE DE L'AIPCR

# PIARC STRATEGIC PLAN

# 2000-2003

Octobre 2000

# CONTENTS

<b>1.</b>	<b>Foreword</b>	<b>7</b>
<b>2.</b>	<b>Introduction to PIARC</b>	<b>9</b>
2.1	PIARC and its membership	9
2.2	How PIARC is governed and managed	11
2.3	PIARC's activities	13
2.4	The framework of PIARC's role	15
<b>3.</b>	<b>PIARC's vision, mission and values</b>	<b>17</b>
3.1	Vision	17
3.2	Mission	17
3.3	Values	17
<b>4.</b>	<b>Road and road transport goals</b>	<b>19</b>
4.1	Introduction	19
4.2	Goals and Technical Committees of the Strategic Themes	21



Strategic Theme 1 -	Road Technology	35
Strategic Theme 2 -	Road Transport, Livability and Sustainable Development	39
Strategic Theme 3 -	Road and Road Transport Operations	45
Strategic Theme 4 -	Management and Administration of the Road System	51
Strategic Theme 5 -	Appropriate Levels of Road and Road Transport Development	59

## **5. PIARC's organizational goals 67**

Goal A -	International networks and forums	67
Goal B -	Personal contact networks	69
Goal C -	Technology transfer	71
Goal D -	World Congresses management	73
Goal E -	Publications	75
Goal F -	Increase the number of members	77
Goal G -	Management of PIARC	79
Goal H -	Cooperation with international and regional organizations	81

## **6. List of member countries 83**

6.1	Member governments	83
6.2	National Committees	85



# 1. FOREWORD

The World Road Association (PIARC), which was founded in 1909, took the lead throughout the 20<sup>th</sup> Century as a unique international forum in the roads and transport sector. Through its activities, PIARC has greatly contributed to the enhancement of a better global road community, in turn promoting economic growth and social welfare.

Road administrations are facing ever more complex problems in a rapidly changing environment. In order to respond to emerging issues, PIARC introduced its Strategic Plan at the 1995 Montreal Congress. This was intended as a future guideline for the Association, and the 1999 Kuala Lumpur World Road Congress was organised, for the first time, within the framework of the Strategic Plan. Cross-linking Sessions, which address emerging issues in an interdisciplinary manner, were introduced at this Congress. This new venture proved to be effective and should be further developed. Taking into account the results attained through this Congress, and the analysis of the First Delegates Issues Survey, the members of the Strategic Planning Commission undertook the significant task of revising the Strategic Plan for 2000-2003 through lengthy discussions. I am particularly grateful to all those who have contributed their opinions, and all the members of the Strategic Planning Commission, as well as the Council and Executive Committee.

With this Plan, PIARC is going to reorient its activities, whilst retaining international cooperation and technology transfer as key elements, in order to give special emphasis to the needs of its varying and ever-expanding membership. I am certain that by implementing the Strategic Plan, and ensuring follow-up over the four years leading up to the next World Road Congress in Durban, PIARC will build upon the legacy of nine decades of progress and innovation, and will continue to enrich its activities in the coming century, thereby effectively meeting the challenges of the future.

October 2000

**Hiroshi MITANI, Dr. Eng.**  
**President of PIARC**  
**(1997-2000)**



# 2. INTRODUCTION TO PIARC

## 2.1 PIARC and its membership

2.1.1 The World Road Association (PIARC) was established in 1909 as a non-profit association. Its broad aim has been to promote international cooperation on issues related to roads and road transport.

2.1.2 PIARC recognises the following classes of member:

- **National governments** are represented by first delegates, who are usually senior officers of national or regional road administrations;
- **Regional authorities** (representatives of the first administrative tier below the national government);
- **Collective members** (such as associations, international organizations, companies and research institutes);
- **Individual members**;
- **Honorary members.**

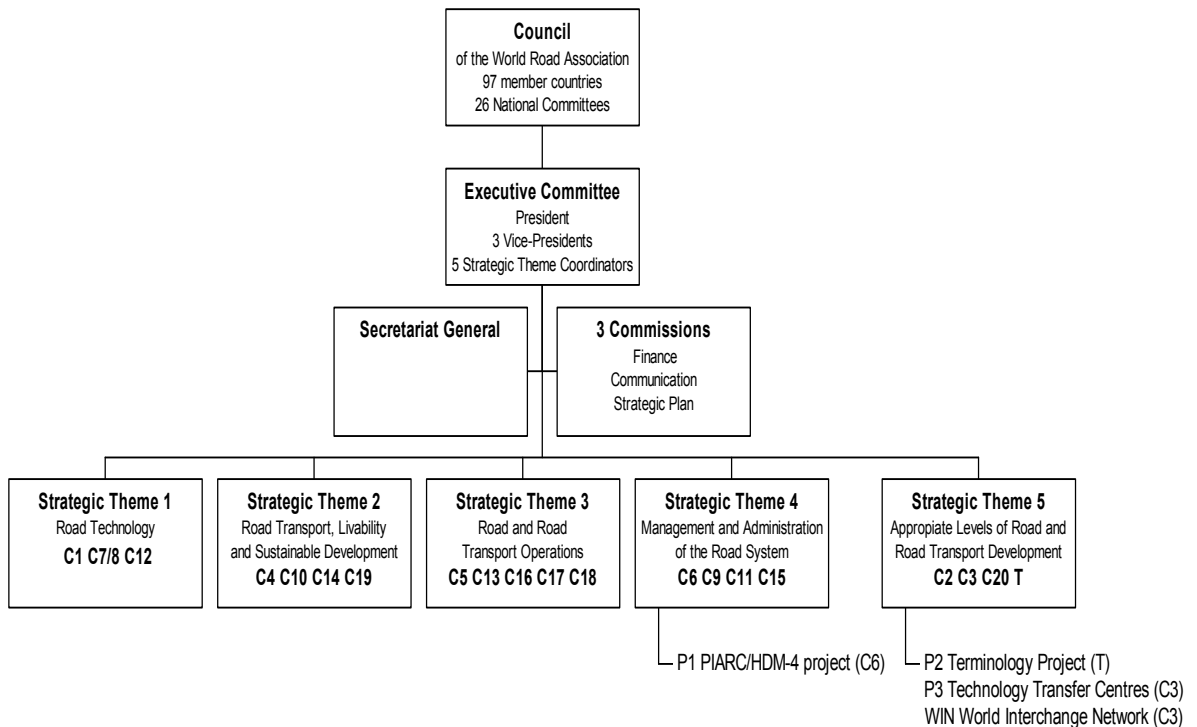
2.1.3 As of October 2000, PIARC has 97 national member governments from all over the world. Two thirds of these members are developing countries (DC) and countries in transition (CIT). There are approximately 2,000 other members, of whom about half are individual members.





## 2.2 How PIARC is governed and managed

### PIARC Structure



- 2.2.1 The Council has the ultimate responsibility for the governance of PIARC. It is composed of delegations from member states, each led by a First Delegate. The Council elects the officers, the Secretary General and the members of the Executive Committee. The Council meets once each year.
- 2.2.2 The Executive Committee is responsible for supervising the management of the Association in accordance with policies approved by the Council. It is supported by the Commissions (Finance, Communication, Strategic Plan) and the Secretariat General.
- 2.2.3 The PIARC Secretariat General, composed of the executive staff seconded by various member countries and the salaried support staff, is located in Paris. It provides a secretarial service for the Council, the Executive Committee and the Commissions. The Secretariat General also manages the translation and editing of publications, and provides services to Technical Committees.
- 2.2.4 There are PIARC National Committees in 26 member countries. National Committees organize local activities such as meetings and conferences, and undertake some membership administration duties.
- 2.2.5 Five Strategic Themes have been identified. Under these Strategic Themes are 20 Technical Committees that work on various subjects in the road and transport field.



## 2.3 PIARC's activities

### Framework for PIARC activities



2.3.1 PIARC organises a World Road Congress every four years, the most recent one was in Kuala Lumpur, Malaysia in 1999 and the next one will be in Durban, South Africa, 19-25 October 2003. PIARC also organises once every four years an International Winter Road Congress in the interval between World Congresses. The next Congress will be held in Sapporo, Japan, 28-31 January 2002.

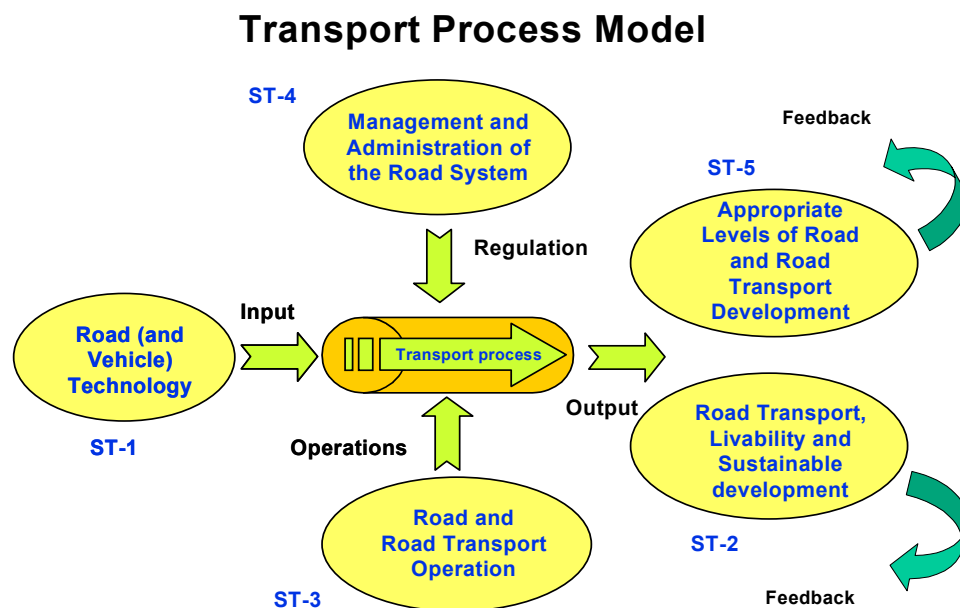
2.3.2 PIARC's most important activity is operating Technical Committees, that undertake studies on various topics related to roads and transport issues. Participants value highly the contact networks that the Committees provide. The Technical Committees arrange seminars and meet frequently in developing countries and countries in transition, as well as in developed countries, in order to promote one of PIARC's main aims, i.e. technology transfer among member countries.



2.3.3 PIARC produces a wide range of publications and software products, including a quarterly review *Routes/Roads*, reports of Technical Committees, Congress papers and dictionaries of technical terms.

2.3.4 PIARC also undertakes special projects. These include coordinating the Highway Development and Management System known as HDM-4, creating Technology Transfer Centres in developing countries and countries in transition, and managing the Terminology Project.

## 2.4 The framework of PIARC’s role



2.4.1 The road system plays a vital role in the performance of economies, in the social functioning of communities, and in achieving effective land use and regional development.

2.4.2 As an international open forum for information exchange, PIARC is in a unique position to address the full range of road transport and road infrastructure issues. Participants in PIARC have found that they have much to learn from each other. They can develop more effective policies and technical approaches by learning from successes and failures elsewhere.

2.4.3 The benefit of PIARC’s activity will be reflected in more efficient road administrations, an improved contribution of road transport to the wider economy, safer transport, and a more harmonious relationship among road transport, transport users, the environment, and society.



# 3. PIARC'S VISION, MISSION AND VALUES

## 3.1 Vision

- PIARC will be the world leader in providing information on roads and road transport policy and practices within an integrated sustainable transport context.

## 3.2 Mission

PIARC exists to serve all its members by:

- being a leading international forum for analysis and discussion of the full spectrum of transport issues relating to roads and road transport, especially good transportation infrastructure, operations, safety and sustainability world-wide,
- identifying, developing and disseminating best practices and giving better access to international information,
- providing within its activities special emphasis on the needs of developing countries and countries in transition,
- developing and promoting efficient tools for decision making on matters related to roads and road transport.

## 3.3 Values

PIARC's values are:

- to provide universal quality service to its members,
- to be open, objective and impartial,
- to promote sustainable and sound economic solutions,
- to recognise road transport in an integrated transport and land use context,
- to be customer driven,
- to respect the differing international road transport needs,
- to be a leader in technology transfer.



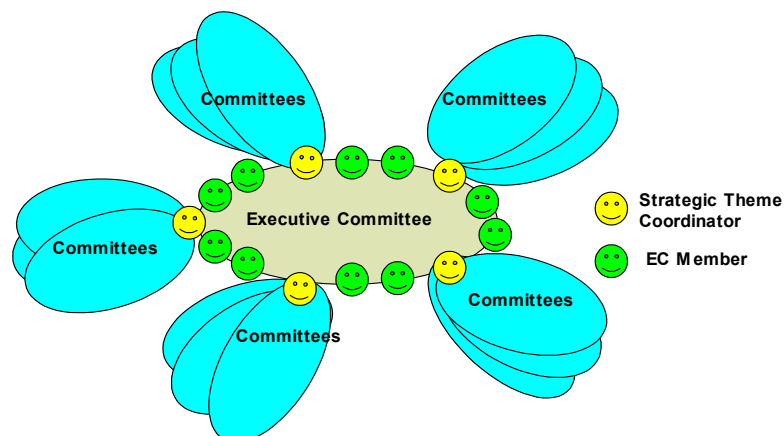


# 4. ROAD AND ROAD TRANSPORT GOALS

## 4.1 Introduction

- 4.1.1 One of the key roles of the Council and the Executive Committee is to consider the emerging issues that PIARC wishes to address. These issues can be raised by any source, whether it is the Council, the Executive Committee, Technical Committees or members. In order to address these issues, PIARC has defined clear goals and the strategies to be adopted to achieve these goals. The goals and strategies are summarised in the tables below (starting from page 35).
- 4.1.2 Members of the Executive Committee will take responsibility for defined strategic themes. Each Strategic Theme consists of those Technical Committees whose goals and strategies are most closely related, according to the transport process model.
- 4.1.3 On behalf of the Executive Committee, the Strategic Theme Coordinators are in charge of coordinating and making sure that all the activities of each Strategic Theme will be implemented according to the goals approved in the Strategic Plan.

Principle of coordination





## 4.2 Goals and Technical Committees of the Strategic Themes

### 4.2.1 Strategic Theme 1: Road Technology

*Goal: Improve the provision and maintenance of road infrastructure in accordance with international best practice.*

*Technical Committees:*    C1    Surface Characteristics  
                                  C7/8 Road Pavements  
                                  C12 Earthworks, Drainage and Subgrade

*Terms of reference:*

#### **C1 – Technical Committee on Surface Characteristics**

- ⇒ Methods and systems to measure surface characteristics, including using the results from the two international experiments carried out by PIARC on friction, texture and evenness,
- ⇒ Noise emission measurement,
- ⇒ Pavement/vehicle interaction,
- ⇒ Indicators for pavement quality of use.

#### **C7/8 – Technical Committee on Road Pavements**

Design of flexible, mixed, concrete and composite pavements according to durability, economic and environmental criteria:

- ⇒ Design methods and standards,
- ⇒ Selection of materials, recycling, performance of materials, including testing and evaluation,
- ⇒ Maintenance and strengthening.

#### **C12 – Technical Committee on Earthworks, Drainage and Subgrade**

- ⇒ Design and construction,
- ⇒ Soil upgrading,
- ⇒ Use of local materials and wastes,
- ⇒ Water movements and improvement of drainage systems,
- ⇒ Risk management,
- ⇒ Pre-standardisation.



## 4.2.2 Strategic Theme 2: Road Transport, Livability and Sustainable Development

*Goal: Encourage the development of road transport policies and programmes that take full account of the need for integration with other transport modes and result in beneficial community outcomes in economic, environmental and social terms.*

*Technical Committees:*

C4	<i>Interurban Roads and Integrated Interurban Transport</i>
C10	<i>Urban Areas and Integrated Urban Transport</i>
C14	<i>Sustainable Development and Road Transport</i>
C19	<i>Freight Transport</i>

*Terms of reference:*

### **C4 – Technical Committee on Interurban Roads and Integrated Interurban Transport**

- ⇒ Mobility,
- ⇒ Regional development and land use planning,
- ⇒ Integration, intermodality and interoperability of the different transport modes,
- ⇒ Emerging transport modes,
- ⇒ Development of public consultation,
- ⇒ Cross-disciplinary methods and skills.
- ⇒ Rural roads,
- ⇒ Alignment design,
- ⇒ Roadside features.

### **C10 – Technical Committee on Urban Areas and Integrated Urban Transport**

- ⇒ Relationship between transport and urban planning and development,
- ⇒ Improvement of road network integration with public transport systems,
- ⇒ Sharing urban roadways among the various transport modes, including non-motorised transport,
- ⇒ Emerging transport modes,
- ⇒ Integrated payment systems involving parking facilities and public transport for the use of road infrastructure.



**C14 – Technical Committee**  
**on Sustainable Development and Road Transport**

- ⇒ Consequences of the Kyoto Protocol and global warming on road policies,
- ⇒ Evaluation of the impacts of transport policies on employment, health, and biodiversity,
- ⇒ Noise and toxic emissions limits in urban areas,
- ⇒ Public consultation methods, making a distinction between programmes and projects.

**C19 – Technical Committee**  
**on Freight Transport**

- ⇒ Overall state of freight transport,
- ⇒ Consequences of free trade expansion and deregulation,
- ⇒ Freight transport by road,
- ⇒ Intermodality, relationship with freight transport by rail, safety aspects,
- ⇒ Intermodal terminals,
- ⇒ Size and weight of vehicles.

**4.2.3 Strategic Theme 3: Road and Road Transport Operations**

*Goal: Improve the safe and efficient use of the road system, including the movement of people and goods on the road network, while effectively managing the risks associated with road transport operations and the natural environment.*

*Technical Committees:*

C5	Road Tunnel Operation
C13	Road Safety
C16	Network Operations
C17	Winter Maintenance
C18	Risk Management for Roads

*Terms of reference:*

**C5 – Technical Committee**  
**on Road Tunnel Operation**

- ⇒ Operation methods according to economic and safety criteria,
- ⇒ Equipment,
- ⇒ Adaptation and improvement of structures in service,
- ⇒ Work force training,
- ⇒ Risk analysis,
- ⇒ Follow -up on the conclusions of the project “Transport of Dangerous Goods through Tunnels”.





### **C13 – Technical Committee on Road Safety**

- ⇒ Road safety audits,
- ⇒ Evaluation methods of road safety concepts,
- ⇒ Road design standards related to safety,
- ⇒ User behaviour analysis,
- ⇒ Enforcement,
- ⇒ Road safety education,
- ⇒ Safety of heavy vehicles.

### **C16 – Technical Committee on Network Operations**

- ⇒ Role and responsibility of road administrations in road network operations,
- ⇒ Public/private partnerships,
- ⇒ Cooperation with administrations and organizations involved in traffic management,
- ⇒ Intelligent road infrastructure management methods,
- ⇒ Real-time monitoring of road networks,
- ⇒ User information,
- ⇒ Intermodal management means.

### **C17 – Technical Committee on Winter Maintenance**

- ⇒ Preparation of the technical programme and documents of the PIARC International Winter Road Congress,
- ⇒ Winter Road management and maintenance.

### **C18 – Technical Committee on Risk Management for Roads**

- ⇒ Identification and classification of natural or industrial risks,
- ⇒ Prevention methods,
- ⇒ Risk exposure plans,
- ⇒ Crisis management.



#### 4.2.4 Strategic Theme 4: Management and Administration of the Road System

*Goal: Improve the performance of road administrations in the provision, operation and management of road infrastructure and its use in accordance with international best practice.*

*Technical Committees:*

C6	Road Management
C9	Economic and Financial Evaluation
C11	Road Bridges and Other Structures
C15	Performance of Road Administrations

*Projects:*

P1	HDM-4 Project
----	---------------

*Terms of reference:*

##### **C6 – Technical Committee on Road Management**

Asset management methods taking account of:

- ⇒ Transport management,
- ⇒ Levels of service,
- ⇒ Management and maintenance quality,
- ⇒ Economic management/prediction models.

**P1**, the PIARC/HDM-4 Project Team is linked to this Technical Committee.

##### **C9 – Technical Committee on Economic and Financial Evaluation**

- ⇒ Road pricing policy,
- ⇒ Road infrastructure financing methods,
- ⇒ Case of roads in rural areas,
- ⇒ Cost recovery,
- ⇒ Change in risk sharing from new financing methods, taking into account life cycle analysis.

##### **C11 – Technical Committee on Road Bridges and Other Structures**

- ⇒ Asset management,
- ⇒ Investigative methods for the condition of structures,
- ⇒ Risk analysis and reliability of structures (bridges and other structures, excluding tunnels) taking account of the whole life of the structure, life cycle analysis,
- ⇒ Appropriate operation methods.



**C15 – Technical Committee**  
**on Performance of Road Administrations**

- ⇒ New management and organization modes for road administrations,
- ⇒ Public/private and public/public management and risk sharing,
  
- ⇒ New public road authority competence for regulation in case of public/private and public/public concessions,
- ⇒ Quality systems performance indicators,
- ⇒ Optimal resource allocation,
- ⇒ Procurement methods for works.

**4.2.5 Strategic Theme 5: Appropriate Levels of Road and Road Transport Development**

*Goal: Foster the development of road transport policies and programmes that take account of the particular needs of developing countries and countries in transition and of rural and remote areas.*

*Technical Committees:*

C2	Community Consultation
C3	Technological Exchanges and Development
C20	Appropriate Development
T	Terminology

*Projects:*

P2	Terminology Project
P3	Creation of Technology Transfer Centres Project

*Terms of reference:*

**C2 – Technical Committee**  
**on Community Consultation**

- ⇒ Improve users' and the public's understanding and expectations,
  
- ⇒ Inventory of successful practices,
- ⇒ Develop new methodologies for public consultation.

The methods must make a distinction between what is done for road and road transport policies, programmes and projects. Methods shall enhance the communication policy.



**C3 – Technical Committee**  
**on Technological Exchanges and Development**

- ⇒ Continue identification / coordination with PIARC Technical Committees on advances in the state of the art,
- ⇒ Continue identification of methods of successful technology transfer,
- ⇒ Facilitate identification of needs of developing countries,
- ⇒ Supplement the training of road engineers with a human and social facet (sociology and social psychology).

The "Creation of Technology Transfer Centres" Project Team (**P3**) and the World Interchange Network (**WIN**) are linked to C3.

**C20 – Technical Committee**  
**on Appropriate Development**

- ⇒ Carry out research work to define a methodology for an inventory of road needs as a social service,
- ⇒ Set the appropriate objectives to be met on the basis of the appropriate development concept,
- ⇒ Compare methods that are used to qualify and quantify road needs and derive best practices from them,
- ⇒ Define a "universal model" or "universal framework" accepted by the road community to set road investment priorities in poor countries. This evaluation method must be accepted and shared by the donors and implemented by the road administrations. It must consider among the projects' benefits, those in addition to the reduction of the vehicle operating costs, e.g. agricultural, mining, tourism benefits as well as social impacts,
- ⇒ Create a database of new indicators directed towards appropriate development. These data represent social indicators (road access rate, time needed to reach cities, etc.).

**T – Technical Committee**  
**on Terminology**

- ⇒ Updating and circulating the PIARC electronic Dictionary and Lexicon,
- ⇒ Internet terminology services,
- ⇒ Development of tools to assist translation.

**P2**, the Project Team "Terminology" is linked to the Committee on Terminology.

*The abbreviations used in the following pages refer to these definitions.*





## Strategic Theme 1: Road Technology

**Overview:** *This Strategic Theme covers the activities of PIARC Technical Committees C1 - Surface Characteristics, C7/8 - Road Pavements, and C12 - Earthworks, Drainage and Subgrade. This traditional activity will change so that more emphasis will be put on user- and market-oriented approaches and total cost evaluation during the whole life cycle.*

**Goal:** *Improve the provision and maintenance of road infrastructure in accordance with international best practice.*

<b>ISSUE</b>	
1.1 ANALYSES TO DEFINE FUNCTIONAL AND QUALITY REQUIREMENTS REQUESTED BY USERS	
<b>Strategies</b>	<b>Outcome</b>
Identify methodology and indicators to assess the requirements requested by users in road works including maintenance and operation	Better understanding of the influences and consequences of users' expectations as to the design, construction and maintenance works
Follow-up of PIARC EVEN experiment	Methods and indicators Guidelines and recommendations
<b>ISSUE</b>	
1.2 LIFE-CYCLE COST ANALYSES AND DEVELOPMENT OF PRODUCTION AND PRODUCTS FROM THE CLIENT, OPERATOR AND USER POINTS OF VIEW, INCLUDING RECYCLED AND MARGINAL MATERIALS	
<b>Strategies</b>	<b>Outcome</b>
Take into account economic, social and environmental aspects	Methods to define life-cycle costs
Identify any benefits and policy changes required when putting life-cycle cost models into practice	Understand the policy implications, if any, of these changes for road administrations



## Strategic Theme 1: Road Technology (continued)

<b>ISSUE</b>	
1.3 TAKING ACCOUNT OF INNOVATIONS AND THE RESULTS OF RESEARCH, AND PROMOTING THEIR UTILISATION, WHEN DEVELOPING BEST PRACTICES AND GIVING RECOMMENDATIONS	
<b>Strategies</b>	<b>Outcome</b>
<p>Take into account users' needs (quality and level of service)</p> <p>Identify various types of innovations that have been implemented</p> <p>Develop pre-standardisation approaches</p>	<p>Description of development processes: How to get innovations and research work into practice</p> <p>Guidelines and recommendations</p>
<b>ISSUE</b>	
1.4 ADAPTING APPROPRIATE TECHNOLOGIES TO DEVELOPING COUNTRIES (DC) AND COUNTRIES IN TRANSITION (CIT)	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify appropriate technologies for DCs and CITs</p>	<p>Increased understanding among DCs and CITs about technologies appropriate to their countries</p>
<b>ISSUE</b>	
1.5 PROMOTING THE DEVELOPMENT OF DURABLE HIGHWAY STRUCTURES THAT CAN BE KEPT IN EFFICIENT AND SAFE OPERATION	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify the most important structures</p> <p>Take into account natural hazards in structure design, maintenance and strengthening practice</p>	<p>International comparison of various approaches</p> <p>Guidelines and recommendations for further development of risk management</p>



## Strategic Theme 2: Road Transport, Livability and Sustainable Development

**Overview:** *This Strategic Theme covers the work of Technical Committees C4 - Interurban Roads and Integrated Interurban Transport, C10 - Urban Areas and Integrated Urban Transport, C14 - Sustainable Development and Road Transport and C19 - Freight Transport. There will be a new emphasis on the emerging issues of seeking sustainable solutions and better integration of different transport modes.*

**Goal:** *Encourage the development of road transport policies and programmes that take full account of the need for integration with other transport modes and result in beneficial community outcomes in economic, environmental and social terms.*

<b>ISSUE</b>	
2.1 GENERAL CONSEQUENCES OF THE KYOTO AGREEMENT, INCLUDING QUANTITATIVE ANALYSES OF TECHNICAL, SOCIAL, AND POLITICAL ISSUES ADDRESSING ROAD POLICIES	
<b>Strategies</b>	<b>Outcome</b>
Develop methods for sustainable transport including environmental, economic and social aspects of road transport	Recommendation on methodologies for the global environmental impacts assessment: Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), and Social Impact Assessment (SIA)
<b>ISSUE</b>	
2.2 HOW TO IMPROVE COMMUNICATION BETWEEN COMMUNITY AND DECISION-MAKERS	
<b>Strategies</b>	<b>Outcome</b>
Identify best practices and procedures on consultation with the public and communication policies between government and communities	Analyses of various cases Lessons learned from case studies Guidelines and recommendations



## Strategic Theme 2: Road Transport, Livability and Sustainable Development (continued)

<b>ISSUE</b>	
2.3 DEVELOPMENT OF INTEGRATED INTERURBAN TRANSPORT	
<b>Strategies</b>	<b>Outcome</b>
Compare best practices on intermodality, interoperability and interconnection between networks, investigating both individual transport and freight transport	Lessons learned from analyses and international comparison  Guidelines and recommendations in cooperation with OECD
<b>ISSUE</b>	
2.4 THE IMPACTS AND CONSEQUENCES OF LAND USE PLANNING ON TRANSPORT DEMAND	
<b>Strategies</b>	<b>Outcome</b>
Promote interdisciplinary cooperation in order to help road administrations to take land use criteria into account in decision making	Case studies of successes and failures  Recommendations on how to avoid unnecessary mistakes that are difficult and expensive to repair
<b>ISSUE</b>	
2.5 INTEGRATED TRANSPORT IN URBAN AREAS	
<b>Strategies</b>	<b>Outcome</b>
Promote integration of public transport in urban areas in order to sustain mobility  Develop interchanges between different modes of transport	Analyses and international comparison of various cases  Better understanding of the role of public transport  Recommendations for urban road design





## Strategic Theme 2: Road Transport, Livability and Sustainable Development (continued)

<b>ISSUE</b>	
2.6 HOW TO PROMOTE NON-MOTORISED TRIPS IN URBAN PLANNING	
<b>Strategies</b>	<b>Outcome</b>
Identify innovative procedures and design in sharing urban networks with non motorised transport safely	Better understanding of the importance of non motorised transport  Case studies of good examples  Guidelines and recommendations
<b>ISSUE</b>	
2.7 UNDERSTANDING OF THE CONTRIBUTION OF EFFICIENT MOVEMENT OF FREIGHT TO NATIONAL AND INTERNATIONAL ECONOMIES	
<b>Strategies</b>	<b>Outcome</b>
Examine economic benefits associated with freight transport  Develop options for improved operation, including road safety aspects, of the total freight transport chain  Consider possible users of ITS tools in freight movement	Case studies of total freight chain logistics  Examples and guidelines for improved practices



## Strategic Theme 3: Road and Road Transport Operations

**Overview:** *This Strategic Theme covers the activities of Technical Committees C5 - Road Tunnel Operation, C13 - Road Safety, C16 - Network Operations, C17 - Winter Maintenance and C18 - Risk Management for Roads.*

**Goal:** *Improve the safe and efficient use of the road system, including the movement of people and goods on the road network, while effectively managing the risks associated with road transport operations, human factors and the natural environment.*

<b>ISSUE</b>	
3.1 RISK MANAGEMENT (INCLUDING NATURAL, INDUSTRIAL, TECHNICAL, ETC., RISKS)	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify and classify risks which can be taken into account and possibly avoided by better management and operation</p> <p>Identify various types of risk management practices</p>	<p>Various types of risk management systems</p> <p>Guidelines and recommendations for design, construction and maintenance</p>
<b>ISSUE</b>	
3.2 KEEPING THE ROAD NETWORK, INCLUDING BRIDGES AND TUNNELS, IN SAFE, USEABLE OPERATION IN ALL CONDITIONS	
<b>Strategies</b>	<b>Outcome</b>
<p>Follow-up on the conclusions of the project: "Transport of Dangerous Goods through Tunnels"</p> <p>Take into account the experiences and conclusions drawn from accidents and other incidents</p> <p>Pay special attention to winter conditions</p>	<p>Better understanding of the consequences of bad operational practices</p> <p>International comparison, analyses and recommendations</p> <p>Common seminars with OECD</p>



## Strategic Theme 3: Road and Road Transport Operations (continued)

<b>ISSUE</b>	
3.3 TRAFFIC DEMAND MANAGEMENT, INCLUDING INVESTIGATING THE OPPORTUNITIES FOR INTEGRATED INFORMATION FLOWS TO TRAVELLERS	
<b>Strategies</b>	<b>Outcome</b>
Investigate influences of factors like transfer booking, timetabling, freight documentation, customs clearances, etc.	International comparison towards best practices  Better understanding of the importance of traffic demand management  Guidelines and recommendations
<b>ISSUE</b>	
3.4 HOW TO DEVELOP THE CONCEPT OF A FULLY INTEGRATED HIGH QUALITY TRANSPORT NETWORK OPERATOR ROLE, E.G. HOW TO OPERATE A MAJOR ROAD NETWORK TO SERVICE STANDARDS AND SLOT BOOKING IN THE SAME WAY AS RAIL, AIR AND SEA SERVICES	
<b>Strategies</b>	<b>Outcome</b>
Investigate barriers between operators of various transport networks  Propose incentive methods to facilitate intermodal trips	Analyses and case studies  Better understanding of the various possible solutions  Recommendations for future developments
<b>ISSUE</b>	
3.5 THE PROMOTION OF GLOBAL TECHNOLOGY STANDARDS TO MAXIMISE OPPORTUNITIES	
<b>Strategies</b>	<b>Outcome</b>
Develop intelligent management methods of road infrastructure in a wide range of integrated management areas (incident detection, emergency response, recovery, police)  Update the ITS Handbook	International comparison towards best practices  Guidelines and recommendations



### Strategic Theme 3: Road and Road Transport Operations (continued)

<b>ISSUE</b>	
3.6 TO UNDERSTAND THE SAFETY RESPONSES TO MANY ADVANCES, INCLUDING THE IDENTIFICATION OF SAFETY ISSUES WHICH ARE PRIORITIES FOR DEVELOPING COUNTRIES	
<b>Strategies</b>	<b>Outcome</b>
Finalise the Road Safety Manual  Promote safety audit methods related to design and operation  Consider the use of ITS tools to improve road safety.	The most critical safety issues  Guidelines and recommendations for developed and developing countries





## Strategic Theme 4: Management and Administration of the Road System

**Overview:** *This Strategic Theme covers the activities of Technical Committees C6 - Road Management, C11 - Road Bridges and other Structures, C9 - Economic and Financial Evaluation, and C15 - Performance of Road Administrations. P1 on the HDM-4 Project belongs to this Strategic Theme.*

**Goal:** *Improve the performance of road administrations in the provision, operation and management of road infrastructure and its use in accordance with international best practice.*

<b>ISSUE</b>	
4.1 DEVELOPING, IMPROVING AND IMPLEMENTING ASSET MANAGEMENT PROCESSES	
<b>Strategies</b>	<b>Outcome</b>
Review and assess the key elements underlying the value of the road infrastructure assets and their importance  Communicate the disadvantages of not maintaining asset value  Identify ways in which the value of assets can be maintained at an appropriate level	Better understanding of the value of road infrastructure assets  International comparison towards best practice
<b>ISSUE</b>	
4.2 MANAGEMENT AND TECHNOLOGY SYSTEMS WITHIN AN INTEGRATED TRANSPORT SYSTEM	
<b>Strategies</b>	<b>Outcome</b>
Identify systems and processes that reflect the wider impact of transport in managing road infrastructure and its use	Guidelines for the development and implementation of appropriate systems and processes
<b>ISSUE</b>	
4.3 UTILISATION OF THE RESULTS OF THE PIARC/HDM-4 PROJECT IN IMPROVING ROAD MANAGEMENT	
<b>Strategies</b>	<b>Outcome</b>
Identify and demonstrate the benefits arising from this project  Support and promote the use of this management tool	Better management tools for the more efficient allocation of resources



## Strategic Theme 4: Management and Administration of the Road System (continued)

<b>ISSUE</b>	
4.4 EFFECTIVE COORDINATION BETWEEN NETWORK MANAGERS, OPERATORS AND THE COMMUNITY	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify means by which network performance can be monitored in real time</p> <p>Identify respective roles and responsibilities of network managers and operators</p> <p>Support the development of skills in systems and information technology</p>	<p>Better understanding of network management and its impacts</p> <p>Compilation of relevant case studies</p> <p>Better understanding of the role of stakeholders</p> <p>More effective allocation of skills</p>
<b>ISSUE</b>	
4.5 MAKING MORE EFFICIENT USE OF THE ROAD BUDGET	
<b>Strategies</b>	<b>Outcome</b>
<p>Comparison of methods of economic appraisal of road construction and maintenance expenditure</p> <p>Enhance evaluation tools to accommodate social and environmental benefits</p> <p>Identify means for efficiently implementing road programmes</p> <p>Identify the impact of road investment on the economy</p>	<p>Better understanding and allocation of expenditure</p> <p>Greater sensitivity to community needs</p> <p>Guidelines for effective investment of road funds over several years</p>



## Strategic Theme 4: Management and Administration of the Road System (continued)

<b>ISSUE</b>	
4.6 INTRODUCTION OF NEW FORMS OF ROAD FINANCING	
<b>Strategies</b>	<b>Outcome</b>
Identify the application and benefits of existing and new forms of financing	International comparison leading to best practice
Identify sustainable funding mechanisms for the provision and maintenance of roads in rural and remote areas	Better understanding of funding mechanisms and their impact
<b>ISSUE</b>	
4.7 INTRODUCTION OF ROAD PRICING	
<b>Strategies</b>	<b>Outcome</b>
Identify road pricing systems and their impact in the development and management of the existing network	Better understanding of road pricing systems and technology and their implications
Exchange information on developments in road pricing technology	Better use of road pricing technology



## Strategic Theme 4: Management and Administration of the Road System (continued)

<b>ISSUE</b>	
4.8 ORGANIZATIONAL STRUCTURE AND EFFECTIVE PERFORMANCE MANAGEMENT WITHIN ROAD ADMINISTRATIONS	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify road agency structures which reflect relevant accountabilities in respect of commercialisation and customer focus</p> <p>Identify internationally comparable measures of performance of the road system and road administrations</p> <p>Identify and disseminate effective performance management frameworks and tools to evaluate performance within these frameworks and measures</p>	<p>Better understanding of the effect of different organisational structures</p> <p>Better understanding of the relevance and importance of performance management</p> <p>Facilitate international comparison</p> <p>Better equipped road administrations</p>
<b>ISSUE</b>	
4.9 THE ROLE AND APPLICATION OF PUBLIC PRIVATE PARTNERSHIPS (PPPs) IN THE PROVISION, OPERATION AND MAINTENANCE OF THE ROAD NETWORK	
<b>Strategies</b>	<b>Outcome</b>
<p>Identify and disseminate successful experiences in PPPs, with particular regard to structural arrangements, risk assignment, finance, and revenue collection, taking into account life cycle analysis</p> <p>Identify and define types of PPPs, their relevance and application</p>	<p>Better understanding of PPPs and their implications</p> <p>International comparison towards best practice for particular situations</p>





## Strategic Theme 5: Appropriate Levels of Road and Road Transport Development

**Overview:** *This Strategic Theme is concerned with improving the processes of information exchange and technology transfer. It covers the work of Technical Committees C2 - Community Consultation, C3 - Technological Exchanges and Development, C20 - Appropriate Development and T - Terminology. In addition the P2 Terminology Project, the P3 Creation of Technology Transfer Centres Project and the WIN - RMÉ belong to this Theme.*

**Goal:** *Foster the development of road transport policies and programmes that take account of the particular needs of developing nations and countries in transition and of rural and remote areas.*

<b>ISSUE</b>	
5.1 EVALUATE EFFECTIVENESS OF PIARC TECHNOLOGY TRANSFER	
<b>Strategies</b>	<b>Outcome</b>
Identify and select indicators that can be easily used  Continue identification of methods of successful technology transfers	Measurement of effectiveness  More efficient technology transfer
<b>ISSUE</b>	
5.2 DEVELOPMENT OF TECHNIQUES TO FACILITATE THE EXCHANGE OF TECHNOLOGY AMONG AND WITHIN PIARC MEMBER COUNTRIES AND PROFESSIONALS	
<b>Strategies</b>	<b>Outcome</b>
Finalise and achieve the PIARC project to provide the best international contact network  How to intensify and develop WIN's activities in the field of exchange of experiences	Technology Transfer Centres  Sustainable development of WIN (World Interchange Network)  Good personal contacts  Willingness to assist in developing the network



## Strategic Theme 5: Appropriate Levels of Road and Road Transport Development (continued)

<b>ISSUE</b>	
5.3 IMPROVE UNDERSTANDING OF THE NEEDS OF DEVELOPING COUNTRIES	
<b>Strategies</b>	<b>Outcome</b>
Quantification of the social impact of roads so that social issues can be integrated into economic tools	New indicators → New database  More seminars, meetings and contacts with developing countries
<b>ISSUE</b>	
5.4 ADAPTING TRANSPORTATION POLICY TO USERS' EXPECTATION	
<b>Strategies</b>	<b>Outcome</b>
Update procedures to allow for greater public outreach  Improve user surveys and discussions with community representatives	Quality assurance programmes  Guidelines and recommendations for future steps
<b>ISSUE</b>	
5.5 ADDRESSING PROBLEMS OF TRAFFIC CONGESTION, ENVIRONMENT AND MOBILITY IN URBAN AREAS OF DEVELOPING COUNTRIES AND COUNTRIES IN TRANSITION	
<b>Strategies</b>	<b>Outcome</b>
Study how to avoid the enormous problems and consequences caused by rapidly increasing traffic in DCs and CITs	Knowledge and alternative solutions: lessons learned from developed countries' experiences



## Strategic Theme 5: Appropriate Levels of Road and Road Transport Development (continued)

<b>ISSUE</b>	
5.6 EVALUATION METHODS FOR ROAD INVESTMENT PRIORITIES IN DCs AND CITs AND RURAL AND REMOTE AREAS	
<b>Strategies</b>	<b>Outcome</b>
Define a “universal model”, accepted by the road community, taking into account values like e.g. reduction of vehicle operating costs (VOC), impacts on agriculture and mining, benefits to tourism and social impacts	Case studies and lessons learned  Guidelines and recommendations towards best practice
<b>ISSUE</b>	
5.7 DEVELOP RELATIONSHIPS WITH INTERNATIONAL TECHNOLOGY TRANSFER AND FINANCING ORGANIZATIONS	
<b>Strategies</b>	<b>Outcome</b>
Develop a participative approach in the execution of road investments in order to provide for sustainable transport  Continue research to find appropriate partnership funding methods for road infrastructure, including maintenance, in DCs, CITs and rural and remote areas	Lessons learned from case studies  Recommendations to countries and financing organisations
<b>ISSUE</b>	
5.8 APPLICATION OF ROAD USER CHARGES, PARTICULARLY IN COUNTRIES IN TRANSITION, IN SOME DEVELOPING COUNTRIES AND IN RURAL AND REMOTE AREAS	
<b>Strategies</b>	<b>Outcome</b>
Take into account the importance of road user charges in financing road programmes  Identify in which kinds of projects road user charges are realistic	International comparison towards best practice  Guidelines and recommendations



## Strategic Theme 5: Appropriate Levels of Road and Road Transport Development (continued)

<b>ISSUE</b>	
5.9 ANALYSES OF ROAD USER COSTS AND QUALITY OF SERVICE LEVELS FOR VARIOUS TRANSPORT MODES	
<b>Strategies</b>	<b>Outcome</b>
To develop a better understanding of what affects driver behaviour in response to intermodal information flows and demand management	Understandable connection from the quality of service level to road user costs
<b>ISSUE</b>	
5.10 PUBLIC CONSULTATION	
<b>Strategies</b>	<b>Outcome</b>
Review of various practices in different countries with the help of specialists in sociology and psychology	Guidelines and recommendations for new methodologies of public consultation
<b>ISSUE</b>	
5.11 TECHNICAL STANDARDS FOR DCs AND CITs	
<b>Strategies</b>	<b>Outcome</b>
Develop technical standards aiming at making maximum use of local materials and local labour and reflecting the low traffic density	International comparison towards best practice  Guidelines and recommendations





# 5. PIARC'S ORGANIZATIONAL GOALS

PIARC has established a set of organizational goals, which will assist in fulfilling its mission. These goals have been translated into strategies, which will allow the goals to be achieved.

**Goal A:** *To provide and enhance international networks and forums to help member's exchange information and world best practice.*

<b>ISSUE</b>	
A.1 IMPROVE THE DIFFUSION OF INFORMATION TO A WIDER AUDIENCE	
<b>Strategies</b>	<b>Outcome</b>
Establish more National Committees or correspondent organizations and strengthen them in order to relay information to a wider audience  Invest in improvements to communications to make PIARC better known  Strengthen the Commission on Communication  Develop links with universities and research institutes	More professionals linked to the network who are able to access and implement new technology and practice  Encourage more young professionals and also more women to participate in PIARC activities  Sustainable development of WIN



**Goal B: To develop and encourage professionally worthwhile and effective personal contact networks.**

<b>ISSUE</b>	
B.1 IMPROVE PERSONAL CONTACT NETWORKS FOR ROAD DIRECTORS AND OTHER SENIOR OFFICERS	
<b>Strategies</b>	<b>Outcome</b>
<p>Provide more time at meetings of the Council for presentations and discussion on topics of interest to senior managers</p> <p>Encourage the creation of regional groups of Road Directors, e.g.:</p> <ul style="list-style-type: none"> <li>• WERD-<a href="#">werd</a> Western European Road Directors</li> <li>• Council of Ibero-American Road Directors</li> </ul>	<p>More effective and attractive Council meetings</p> <p>Improved contacts at senior level</p>



**Goal C: To develop practical means for efficient and effective technology transfer among countries.**

<b>ISSUE</b>	
C.1 IMPROVE THE SERVICE PIARC PROVIDES TO DCs AND CITs	
<b>Strategies</b>	<b>Outcome</b>
<p>Better use of the World Interchange Network and creation of Technology Transfer Centres</p> <p>More meetings and seminars in developing countries</p> <p>A correspondent in each Technical Committee for DC and CIT matters</p> <p>Continuation of the Special Fund to finance participation by professionals from developing countries and countries in transition</p>	<p>Increase in participation by professionals from developing countries and countries in transition</p> <p>Appropriate developments for DCs and CITs</p>
<b>ISSUE</b>	
C.2 IMPROVE THE SERVICE PIARC PROVIDES AMONG DEVELOPED COUNTRIES	
<b>Strategies</b>	<b>Outcome</b>
<p>Reorganization and development of the World Interchange Network</p> <p>Improved service to correspondent members</p> <p>More flexible approach to forming regional sub-groups</p>	<p>Better information exchange among all PIARC participants</p>



**Goal D: To run Congresses that are major and valuable events for information exchange among members of the road transport community, and to run them so that they are viable from PIARC's point of view.**

<b>ISSUE</b>	
D.1 IMPROVE THE EFFECTIVENESS OF CONGRESSES FOR INFORMATION EXCHANGE	
<b>Strategies</b>	<b>Outcome</b>
Encourage sessions which give scope for participation and discussion	More effective Congresses – oriented towards the future activities of PIARC
Encourage non road transport sector speakers	Stimulate growth in country and collective membership
<b>ISSUE</b>	
D.2 IMPROVE GEOGRAPHICAL DISTRIBUTION OF CONFERENCE ACTIVITY	
<b>Strategies</b>	<b>Outcome</b>
Identify opportunities for conferences, seminars and meetings which focus on specific topics	More interaction between different regions
Cooperate with regional organizations to organize regional conferences and meetings	Activity in more regions





**Goal E: To produce and disseminate authoritative, impartial and interesting publications that address current road and road transport issues.**

<b>ISSUE</b>	
E.1 IMPROVE THE DIFFUSION OF INFORMATION FROM TECHNICAL COMMITTEES	
<b>Strategies</b>	<b>Outcome</b>
<p>Improved use of the Internet</p> <p>Technical Committee work plans will include proposals to communicate results</p> <p>Improve the level of assistance given by the Secretariat General to Technical Committees for translation and report production throughout the whole four-year period.</p> <p>Develop agreements with external publishers for selected reports</p> <p>Extend the dissemination of press releases</p>	<p>Road community better informed about international experience on road and road transport issues and best practice</p> <p>Road community better informed about PIARC activities</p>
<b>ISSUE</b>	
E.2 IMPROVE THE QUALITY OF PIARC PUBLICATIONS	
<b>Strategies</b>	<b>Outcome</b>
<p>Make the layout and presentation of publications more attractive, adding glossaries into PIARC reports to improve Terminology.</p> <p>Revise the format of publications</p>	<p>Appreciation of PIARC publications and interest in buying them</p> <p>Increased readership</p>



**Goal F: To increase the number of member governments, and to increase the number of members of the road community benefiting, whether through National Committees or by direct participation in PIARC Technical Committees.**

<b>ISSUE</b>	
F.1 INCREASE THE VALUE PROVIDED BY PIARC, AND THUS ITS ATTRACTION TO MEMBERS	
<b>Strategies</b>	<b>Outcome</b>
<p>Improving the diffusion of information to a wider membership by the Internet, improving publications and by strengthening the role of National Committees</p> <p>Essay Competition and dedicated awards</p> <p>Set up a “Young Professionals Group”</p> <p>Improving the steering of Technical Committees to improve focus on the needs of members</p>	<p>Stimulate interest in PIARC and encourage membership, especially among young professionals</p>



**Goal G: To improve continuously the management and operation of PIARC in order to provide members with a service that represents good value for money.**

<b>ISSUE</b>	
G.1 IMPROVE THE EFFECTIVENESS OF THE COUNCIL AND THE EXECUTIVE COMMITTEE	
<b>Strategies</b>	<b>Outcome</b>
<p>Arrange seminars or working groups in connection with the meetings in developing countries</p> <p>Provide Council with better information on which to base policy decisions</p>	<p>More actively participated Council meetings</p> <p>More Council meetings in developing countries</p> <p>Clear decision making and more rapid management response</p>
<b>ISSUE</b>	
G.2 IMPROVE COMMUNICATIONS BETWEEN THE TECHNICAL COMMITTEES AND THE EXECUTIVE COMMITTEE AND THE COUNCIL	
<b>Strategies</b>	<b>Outcome</b>
<p>Allocate responsibility for liaison and strategic initiatives to designated members of the Executive Committee</p> <p>Provide more direction to Technical Committees on the priorities for study using telematics and Internet communications</p> <p>Request more articles from Strategic Theme Coordinators in "Routes/Roads"</p>	<p>Improved focus on subjects of interest to decision makers</p> <p>New groups like cybergroups, chat groups</p>
<b>ISSUE</b>	
G.3 IMPROVE THE EFFECTIVENESS OF TECHNICAL COMMITTEES	
<b>Strategies</b>	<b>Outcome</b>
<p>Adopt a more flexible approach to the composition of sub-groups which may include outside specialists</p>	<p>Improved specialist input to Committee conclusions and better relations with related organizations</p>



**Goal H: To promote cooperation with other international and regional groupings with related goals.**

<b>ISSUE</b>	
H.1 IMPROVE COOPERATION WITH INTERNATIONAL AND REGIONAL ORGANIZATIONS WITH RELATED GOALS	
<b>Strategies</b>	<b>Outcome</b>
Invite representatives of regional associations and other professional organizations to attend the Council as observers  Involve other organizations in Technical Committees  Seek cooperation in special purpose conferences – joint sessions	Better studies of issues that cut across professional boundaries  Avoidance of duplication of effort  Improved participation by regional associations  Improved information exchange





# 6. LIST OF MEMBER COUNTRIES

## 6.1 Member governments: 97 as of October 2000

ALGERIA	CUBA	KUWAIT	SENEGAL
ANDORRA	CZECH Rep.	LATVIA	SLOVAK Rep.
ARGENTINA	DENMARK	LITHUANIA	SLOVENIA
AUSTRALIA	ECUATOR	LUXEMBOURG	SOUTH AFRICA
AUSTRIA	EGYPT	MADAGASCAR	SPAIN
BANGLADESH	ESTONIA	MALAYSIA	SRI LANKA
BELGIUM	FINLAND	MALI	SWEDEN
BENIN	FRANCE	MAURITIUS	SWITZERLAND
BOLIVIA	GABON	MEXICO	SYRIA
BRAZIL	GERMANY	MONGOLIA	TANZANIA
BULGARIA	GREECE	MOROCCO	THAILAND
BURKINA FASO	GUATEMALA	THE NETHERLANDS	TONGA
CAMEROON	GUINEA	NEW ZEALAND	TUNISIA
CANADA	HONDURAS	NICARAGUA	TURKEY
CANADA-QUEBEC	HUNGARY	NORWAY	UGANDA
CAPE VERDE	INDIA	PAKISTAN	UKRAINE
CHAD	INDONESIA	PANAMA	UNITED KINGDOM
CHILE	IRAN	PARAGUAY	UNITED STATES
CHINA (Peop. Rep.)	IRELAND	PERU	URUGUAY
COLOMBIA	ISRAEL	PHILIPPINES	UZBEKISTAN
CONGO (Dem. Rep.)	ITALY	POLAND	VENEZUELA
CONGO (Rep.)	IVORY COAST	PORTUGAL	YEMEN
COSTA RICA	JAPAN	ROMANIA	ZIMBABWE
CROATIA	KENYA	RUSSIA	
	KOREA (Rep.)	SAUDI ARABIA	



## **6.2 National Committees (26 countries in October 2000)**

**Algeria  
Argentina  
Australia  
Austria  
Belgium  
Canada  
Canada-Quebec  
Czech Republic  
Denmark**

**Finland  
France  
Germany  
Greece  
India  
Italy  
Japan  
Morocco  
Netherlands**

**Norway  
Portugal  
Slovak Republic  
Slovenia  
Spain  
Sweden  
Switzerland  
United Kingdom**