SUSTAINABLE DEVELOPMENT AND ROAD TRANSPORT

Thursday 23rd October 2003 (8.30 – 12.00 a.m.)

Session Agenda & Introductory Report

22.14.E

SESSION AGENDA

1. **Overview of the Committee's work program and products**

Mr. Anders HH JANSSON (C14 Committee Chairperson/FINLAND)

2. **Decision-making process in the implementation of road transport policies**

Ms. Jay STRICKER (Leader of WG1, C14 member/AUSTRALIA)

3. **Evaluation and limitation of impacts of road networks and transport policies**

Ir. Wilfried TERRYN (Leader of WG2, C14 member/BELGIUM)

4. **Summary of the regional Workshops and seminars in, India, Argentina and Rumania**

Mr. Jean-Charles POUTCHY-TIXIER (C14 French-speaking Secretary/FRANCE)

5. **Overview of Africa and sustainable practice, status of T2 Center, and participation in PIARC**

Mr. Willey A. LYATUU (C14 member/TANZANIA)

6. **Conclusion: The next key steps for the international community to support sustainability and emerging issues**

Mr. Anders HH JANSSON (C14 Committee Chairperson/FINLAND)

CONTENTS

EXECUTIVE SUMMARY **4**

COMMITTEE MEMBERS WHO CONTRIBUTED TO THE REPORT **5**

HOW SUSTAINABILITY IS UNDERSTOOD IN THE TRANSPORT SECTOR **6**

TRANSPORT POLICY DECISION-MAKING **8**

EVALUATION AND LIMITATION OF ROAD NETWORK AND TRANSPORT IMPACTS **10**

DISCUSSING SUSTAINABILITY IN A REGIONAL CONTEXT **12**

SUSTAINABLE PRACTICES IN AFRICA AND THE T^2 CENTERS **13**

DRAFT CONCLUSIONS TO BE APPROVED BY THE CONGRESS **14**

LINKING TRANSPORT POLICY TO BROAD SOCIETAL OBJECTIVES 14
A ROBUST AND INCLUSIVE PLANNING PROCESS 14
TRANSPARENCY, RESPONSIVENESS AND HONESTY 14
ENSURING A HEALTHY TRANSPORT SYSTEM 14
MITIGATING LOCAL POLLUTION 15
PROTECTING BIOLOGICAL DIVERSITY 15
MAINTAINING LANDSCAPE VALUES AND CULTURAL HERITAGE 15
DEVELOPING VEHICLE REGULATION AND PROMOTION OF LESS POLLUTING VEHICLES 15

SELECTED BIBLIOGRAPHICAL REFERENCES **17**

PREVIOUS PIARC REPORTS 17
PIARC REPORTS TO BE PUBLISHED FOR THE DURBAN CONGRESS 17
ARTICLES IN ROUTES / ROADS 17
OTHERS 17

EXECUTIVE SUMMARY

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs": the definition of sustainable development, taken from the 1987 Brundtland Report, involves a new development model based on greater solidarity, between generations and between regions. It also states the premises on the basis of which the Committee on Sustainable Development and Road Transport proposes to address the sustainable development issue in the transport sector. The Committee's session presents an overview of its work and of its two working groups, the regional seminars organized and an assessment of sustainable transport objectives in Africa.

Discussion on decision-making in the implementation of road transport policies has focused on how the processes take account of climate change, mobility and motorization, primarily addressed in terms of how global issues are translated at national, regional and local level. A series of working papers have highlighted how institutional structures and the emerging roles played by stakeholders and communications can all be part of decision-making that assists developing and implementing sustainable road transport policies. Based on the working papers and the regional seminars, an overall report on the decision-making process was developed.

Concerning the evaluation and limitation of impacts of road networks and transport policies, the following fields of actions were outlined: health, local pollution, biodiversity, landscape, and vehicle regulation and promotion of less polluting vehicles. An inquiry was sent to all PIARC member countries and independent organizations, with the request to participate in the discussion on these topics. The response to the survey has been evaluated by a drafting team, and these activities resulted in a report.

Three international seminars were organized by the Committee: in India, Argentina and Romania. The major conclusions of these seminars concerned the importance of maintenance, upgrading road infrastructure, with special attention to rural roads, and of safety in sustainability, as well as the importance of regional cooperation. There is still much room to improve practical understanding of how things are managed in different countries.

Sustainable transport within the framework of overall sustainable development is a clear target for all, but extremely difficult to achieve in the African continent. The situation is even clearer when the unpaved roads within Southern African Development Community (SADC) are about 70% of the total network, posing another challenge to development.

The conclusions presented by the Committee for discussion focus on some central aspects in developing transport policy and integrating environmental concerns into policy and projects:

- linking transport policy to broad societal objectives,
- a robust and inclusive planning process,
- transparency, responsiveness and honesty,
- ensuring a healthy transport system,
- mitigating local pollution,
- protecting biological diversity,
- maintaining landscape values and cultural heritage,
- developing vehicle regulation and promotion of less polluting vehicles.

COMMITTEE MEMBERS WHO CONTRIBUTED TO THE REPORT

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HOW SUSTAINABILITY IS UNDERSTOOD IN THE TRANSPORT SECTOR

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs": this definition of sustainable development, taken from the 1987 Brundtland Report involves a new development model based on greater solidarity,

- between generations: our present development must not mortgage our children's future;
- between regions: there can be no sustainable development where privileged regions co-exist with regions doomed to exclusion.

Transport involves all these societal issues and plays a considerable role in achieving sustainable development objectives. First and foremost, sustainable development objectives must be met by transport policies, by the design and planning of networks and transport systems ensuring complementarity of transport modes, and by the design of each infrastructure itself. These measures must be examined from the perspective of interactions between their effects on the environment, on economic development, on social development and on the policy management to which they globally contribute (governance).

Four categories of sustainable development issues are therefore intrinsically bound up with any transport system or infrastructure:

1. environmental and heritage issues: maintaining and preserving biodiversity (fauna and flora); preserving sites and landscapes, archaeological sites, historic monuments, the architectural heritage and tourist appeal; maintaining natural resources (impacts on energy reserves, drinking water reserves, forests, material resources, etc.) and waterways; preserving the farming heritage.

2. economic and social issues: development and local dynamics [employment (attractiveness, accessibility), tourist activities]; planning and regional social and economic equilibrium: land and building values in the vicinity of transport infrastructure and in areas provided with access; waste reclamation and recycling, etc.;
3. sanitary issues: quality of soil, plant life and water impacted by infrastructure, reduction of risks in the food chain; health of people concerned by transport systems (both negative impacts (air, noise) and positive impacts, particularly through accessibility to health care, especially in developing countries;
4. socio-political issues: informing and listening to the community and stakeholders, public debate and consultation, preserving social cohesion, changes in lifestyles, etc.

In this respect, the design of transport networks and infrastructure (captured traffic, infrastructure layouts, avoidance of sensitive or fragile areas, newly generated accessibility, technical design) will be critical for their quality in terms of sustainable development. But their operating system will also be essential: traffic and speed control, peak traffic management, night-time schedules management (rail and air transport), maintenance and servicing of environmental protection facilities, “life cycle” approaches, follow-up policies (urban planning and housing, agricultural aids, industrial, economic and cultural development, tourism, etc.) – all these elements, through coherent, coordinated approaches, will contribute to the sustainable development objectives explicitly concerned by the development of transport networks and systems, both for passengers and freight.

This means that over and above the long-recognized need for environmental and socio-economic aspects to be integrated at an early stage into ex ante assessments of transport policies, plans and programmes and into infrastructure design, sustainable development requires transport partners and decision-makers to consult together on how to take the following additional issues into account:

- organizing area management (at regional level) and long-term actions (time scale): transport and intermodality as vectors of economic development;

- facilitating the integration of inhabitants (social cohesion, solidarity, equity, meeting comfort and safety requirements);
- linking up the social, economic and environmental dimensions of development (transversality, integration): transport systems as vectors of integration of regional policies (socio-economic and environmental aspects, land aspects, etc.);

- ensuring the heritage value: tourism, enhancing the cultural and natural heritage;
- ensuring economical use of resources (rare, non-substitutable or vulnerable products, waste recycling, pollution control);
- ensuring public health (strict control over health impacts, enhancing civil safety, improving road safety, etc.);
- developing local democracy (information, consultation, debate, participation, a clear message, transparency).

These are the premises on the basis of which the Technical Committee on Sustainable Development and Road Transport proposes to address the sustainable development issue in the transport sector.

The Committee's session presents an overview of its work and the two working groups: Decision-making process in the implementation of road transport policies and Evaluation and limitation of impacts of road networks and transport policies. The regional seminars of C14 are reviewed. After a look at sustainable practice in Africa, and the status of the Tanzanian T2 Center, the session concludes with a discussion on the next key steps for the international community to support sustainability and emerging issues.

TRANSPORT POLICY DECISION-MAKING

One of the objectives set out in the implementation plan of the 2002 Johannesburg Summit on Sustainable Development focuses on decision-making, recommending that governments:

"19. Encourage relevant authorities at all levels to take sustainable development considerations into account in decision-making, including on national and local development planning, investment in infrastructure, business development and public procurement. This would include actions at all levels to:

a) Provide support for the development of sustainable development strategies and programmes, including in decision-making on investment in infrastructure and business development;
b) Continue to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade and investment;
c) Promote public procurement policies that encourage development and diffusion of environmentally sound goods and services;
d) Provide capacity-building and training to assist relevant authorities with regard to the implementation of the initiatives listed;
e) Use environmental impact assessment procedures."

The Committee's Working Group on the decision-making process in the implementation of road transport policies has focused on how the processes take account of climate change, mobility and motorization, primarily addressed in terms of how global issues are translated at national, regional and local level. The Group recognized the diversity of socio-political structures and influences around the world, and has attempted to include examples and case studies from around the world to illustrate those differences.

Although most final decisions on whether or not road projects proceed are made by responsible public officials, this is not always the case and both elected politicians and the community are more strongly influencing decisions in many jurisdictions or territories. The role of the public needs to be further examined and defined and the balance of responsibility for decision-making within different jurisdictions with different political and legislative frameworks, needs to be investigated. Although there are significant differences in the opportunities for public participation in decisions on public infrastructure depending on the political and legal institutions, there are commonalities in the expectations of communities affected by road projects.

The Working Group prepared a series of working papers. These working papers highlighted how institutional structures and the emerging roles played by stakeholders and communications can all be part of a decision-making process that assists in developing and most importantly implementing sustainable road transport policies. Based on the discussions in the Committee and the regional seminars, an overall report on the decision-making process in the implementation of sustainable transport policies was developed.

EVALUATION AND LIMITATION OF ROAD NETWORK AND TRANSPORT IMPACTS

The Johannesburg summit emphasized the need to develop transport services and systems in a way that promotes sustainable development:

"21. Promote an integrated approach to policy-making at the national, regional and local levels for transport services and systems to promote sustainable development, including policies and planning for land use, infrastructure, public transport systems and goods delivery networks, with a view to providing safe, affordable and efficient transportation, increasing energy efficiency, reducing pollution, congestion and adverse health effects and limiting urban sprawl, taking into account national priorities and circumstances. This would include actions at all levels to:

(a) Implement transport strategies for sustainable development, reflecting specific regional, national and local conditions, to improve the affordability, efficiency and convenience of transportation as well as urban air quality and health and reduce greenhouse gas emissions, including through the development of better vehicle technologies that are more environmentally sound, affordable and socially acceptable;

(b) Promote investment and partnerships for the development of sustainable, energy efficient multi-modal transportation systems, including public mass transportation systems and better transportation systems in rural areas, with technical and financial assistance for developing countries and countries with economies in transition."

Road networks form an essential infrastructure to support the economic growth in a region and provide social benefits to the people. With this as a motto, most developed countries have through the years provided for the design, construction, maintenance, management and operation of roads. The primary need – and in many cases the only point of interest- was transporting people and goods via the road network. Meeting the increasingly higher demand for mobility, however, has required engineers to organize transport in a more sustainable manner and to conceptualize the infrastructure required for transport with a better view toward its effect on the environment and on the social and health concerns of the world population.

The rapid growth of transport demand has implications for mobility, congestion, as well as the efficiency and competitiveness of the economy in general. The consequences for the environment in particular are significant, as transport contributes an ever-growing share of CO_2 and other greenhouse gas emissions responsible for climate change. More generally, transport has a growing impact on air quality, noise, biodiversity, cultural heritage, water pollution, nature protection etc. The worldwide growth of the economy and population will reinforce these trends, putting further pressure on the environment. Fundamental and rapid decisions are thus needed, if we want transport to contribute positively to economic growth in the world whilst complying with other obligations to integrate environmental concerns in our policies so as to improve the quality of the environment.

The Working Group on the evaluation and limitation of impacts of road networks and transport policies outlined the following fields of actions: health, local pollution, biodiversity, landscape, and vehicle regulation and promotion of less polluting vehicles. The Committee decided to design a questionnaire for respondents to provide answers to a survey. The purpose of the questionnaire was to gain a better knowledge of the social and environmental impacts of transport policies, to improve processes enabling social acceptance through public debate, and to provide concrete answers to the questions highlighted by the survey.

In August 2001, the inquiry was sent to all PIARC countries and independent organizations, with the request to participate in the discussion on the topics. More particularly the working group wanted to know which definitions, approaches of the problem or available information that PIARC countries, and independent organizations considered important to be included in the final report. The response to the survey has been evaluated by a drafting team, and these activities resulted in a report, “Evaluation and limitation of impacts of road networks and transport policies”.

DISCUSSING SUSTAINABILITY IN A REGIONAL CONTEXT

Three international seminars were organized in accordance with the objectives defined in the PIARC strategic plan. The first one was in November 2001 in New Delhi, India, with the Indian Roads Congress and its theme was "Sustainable Development in Road Transport". The second one was the "Pan-American Seminar Roads and Environment" organized in November 2002 in Buenos Aires, Argentina, with the *Dirección Nacional de Vialidad* and the Foundation CENATTEV. The third was held in May 2003 in Bucharest, Romania, with the National Hauliers' Union of Romania, as a workshop focused on rehabilitation of rail, road and river transport networks in Eastern Europe.

The major conclusions of the New Delhi seminar concerned the importance of maintenance, upgrading road infrastructure, with special attention to rural roads, and of safety in sustainability. Gaps were also identified for low or middle income countries: to define priorities appropriate for developing countries, to improve interagency coordination and to reach a global and holistic approach to road infrastructure development.

In Buenos Aires, one focal point was the importance of the regional co-operation. Through this cooperation, seminar participants from different countries were well acquainted with each other and the neighbouring countries' concerns. There is, however, still much room to improve our practical understanding of how things are managed in different countries. It is an essential component of successful technology transfer to understand both how solutions are influenced by the country of origin and how the usefulness of such solutions is influenced by the country applying them.

SUSTAINABLE PRACTICES IN AFRICA AND THE T^2 CENTERS

The Johannesburg summit implementation plan also takes up regional concerns, noting among others that:

"62. Since the United Nations Conference on Environment and Development, sustainable development has remained elusive for many African countries…Achieving sustainable development includes actions at all levels to:

[…]

c) Promote technology development, transfer and diffusion to Africa and further develop technology and knowledge available in African centres of excellence;

[…]

h) Provide financial and technical support to strengthen the capacity of African countries to undertake environmental legislative policy and institutional reform for sustainable development and to undertake environmental impact assessments and, as appropriate, to negotiate and implement multilateral environment agreements;

[…]

l) Support African efforts to develop affordable transport systems and infrastructure that promote sustainable development and connectivity in Africa;"

Africa has always been left behind with respect to technological development and when it is the issue of sustainable practice, this is even more critical. An overview of the best and sustainable practice remains to be a challenge for the future of road transport. But sustainable transport within the framework of overall sustainable development is a clear target for all. The situation is even clearer when the unpaved roads within the Southern African Development Community (SADC) are about 70% of the total network, posing another challenge to development.

The process of openly gaining and freely sharing experiences, solutions, technologies, and innovation has come to be understood as technology transfer. Technology transfer is not simply information dissemination and passively waiting for its use. Technology transfer or T^2 in the context of roads is a more active term that describes both a mission and innovation to improve the roads. In Africa Technology Transfer Centres have been established to facilitate sharing of experiences and best practices. The first centre to be established was in South Africa, followed by the Tanzania T^2 centre. Malawi follows suit as well as Zimbabwe.

DRAFT CONCLUSIONS TO BE APPROVED BY THE CONGRESS

Linking transport policy to broad societal objectives

Sustainability objectives require transport to be considered in terms of the contribution that schemes and policies can make to environmental, economic and social goals. Hence, transport policy should be formulated in association with environmental, land use, social integration and economic development policies. Accordingly, organizational structures should ideally reflect the impact of transport on these broader objectives. This encourages decision-making responsibilities for transport to be vested in organizations and directorates with wider remits than just transport.

A robust and inclusive planning process

Currently, many countries are seeking to enhance the planning process by making it quicker, more transparent and more robust. The desire to make the process more robust and inclusive recognizes the role of stakeholders, and also sees transport as a means to deliver community objectives that the community itself is involved in specifying. Transport agencies should adopt an objectives based approach to planning, to establish win-win situations in which a wider set of objectives are considered in the development of policy.

Transparency, responsiveness and honesty

The key factors in gaining community acceptance of road projects through public involvement, are not conditional on the methods and tools used, but on transparency, responsiveness and the honesty of the project team. Seeing other people's points of view, being sensitive to an audience, working with representatives of social networks in an atmosphere of mutual respect, responding to different cultures, education systems and values, providing information in a meaningful way without condescension or technical jargon, are the essential qualities that governmental authorities should deploy in effective public involvement.

Ensuring a healthy transport system

Most health effects of road networks are due to accidents. Indirect impacts follow from air pollution, in a longer perspective also from greenhouse gas emissions, and from noise. There are also possible links from road maintenance chemicals use impacts on groundwater and soil to human health. In the developing countries road network improvement can have a positive effect on health by providing direct access to hospitals, dust and noise reduction, etc. Close collaboration with nature and environmental specialists is an important step to make up a healthy transport system for all.

Mitigating local pollution

The problem of local pollution has been a subject of concern in many countries. In urban environments, noise, vibration and air pollution are taken into account with priority. Out of the cities, local impact concerns mostly the pollution level of soil and water. Along roads, urban as well as interurban, tidiness is a perpetual concern. Countries facing heavy winters are of course interested in the effects of de-icing salt. It must be a clear aim for road engineers to find solutions which deal with the environmental demands in a balanced way.

Protecting biological diversity

The effects of road networks and transport policies on biological diversity are mainly seen as a matter of interurban areas. The loss, fragmentation, disturbance and pollution of habitats are the major impacts. Various measures and studies have been undertaken to identify the most critical road and network sections and to improve the current situation by means of underpasses, overpasses and ecological compensation measures. At the planning stage a re-routing of particular road sections might solve the problem in less populated areas. In areas with intensive agricultural use or in heavily built-over areas, road verges and road greenery can offer some species a habitat and a migration route.

Maintaining landscape values and cultural heritage

Visual impact assessment studies should form part of project environmental investigations for new road works, and methods to estimate large undisturbed landscapes on regional and national level should also be applied. For valuable buildings and urban structures, recording using a registration system is a quick and simple method for mapping of architectural quality and buildings worth preserving.

Measures for the landscape and the cultural heritage are sometimes very global, sometimes very specific and difficult to combine in one major “rule”. A combination of measures seems to be the best approach. Public participation is important to promote the landscape by e.g. campaigns for landscape and cultural activities and events and by visualizing the culture-historic quality of the surroundings to the road user. Especially in urban areas a social survey may be conducted to those residents affected.

Developing vehicle regulation and promotion of less polluting vehicles

Transportation systems vary considerably from one country to another. However, we do not live in a vacuum. We share one common earth, which is greatly affected by the millions of vehicles we employ. Techniques to reduce the harmful effects of motor vehicles are being deployed worldwide. A detailed scan and documentation process of effective practices would serve as an intellectual platform towards continued technological progress in a sustainable manner, examining standards and controls and testing programs currently used as well as effective air and noise monitoring practices.

The documentation should include a survey of equipment upgrade success stories in efforts to increase clean-air vehicle fleets, identification of transportation policies that have successfully influenced behavioural change and subsequently helped reduce pollution as well as a comparison of grant and incentive programs, legal measures and education programs that have increased the use of less polluting vehicles.

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