PIARC – C9

ECONOMIC AND FINANCIAL EVALUATION

Friday 24 October 2003 (8.30 – 12.00 a.m.)

SESSION AGENDA & INTRODUCTORY REPORT

22.09.E

Session Agenda

1. **Introduction and Activity Report**

Ms. Sherri ALSTON (C9 Committee Chairperson/USA)

2. **Economic Evaluation of Road Projects**

   a) **Economic Evaluation Methods for Road Projects in PIARC Member Countries – Summary and Comparison of Frameworks**

   Mr. Ian MELSOM (C9 member/NEW ZEALAND)
   Mr. Henrik Nejst JENSEN (C9 member/DENMARK)

   b) **Evaluation and Funding of Road Maintenance in PIARC Member Countries – Summary and Comparison of Frameworks**

   Mr. Enrique DIAZ MORALES (C9 member/MEXICO)

3. **Road Pricing and Costing**

   a) **Pricing Concepts and Principles**

   Mr. Jan Fredrik LUND (C9 member/NORWAY)

   b) **Case Studies**

   - **Austria**

   Mr. Frendrich SCHWARZ-HERDA (C9 member/AUSTRIA)

   - **France**

   Mr. Gérard CHARPENTIER (C9 member/FRANCE)

4. **Road Financing - Public and Private Sources**

   a) **Overview and Concepts**

   Mr. Peter STRUIK (C9 member/THE NETHERLANDS)

   b) **Case Studies**

   - Netherlands

   Mr. Peter STRUIK (C9 member/THE NETHERLANDS)

   - South Africa

Mr. Koos SMIT (C9 member/SOUTH AFRICA)

5. Road Pricing Panel Discussion

Mr. Barry MOORE (C9 member/AUSTRALIA)

6. Session Conclusions

Ms. Sherri ALSTON (C9 Committee Chairperson/USA)

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EXECUTIVE SUMMARY

A major priority of the world's nations has been the development, construction and maintenance of road transport systems in order to link these countries, nationally and internationally. Studies have clearly documented the contributions of these transport systems to the countries' economic growth and development. A crucial component to sustaining this growth is having adequate funding for the roadway system. The need for new roads, upgraded roads, maintenance has increased more rapidly than the growth in traditional revenue sources thereby making it extremely difficult to sustain the road network. Thus, road financing has become more challenging in all countries, developed, developing and countries in transition. This report address certain aspects of financing : road pricing and road financing, public and private sources.

The report is built upon the work and deliverables of all the three sub-groups of PIARC Committee on Economic and Financial Evaluation (C9) : sub-group1 on the economics of road assets, sub-group 2 on pricing and costing, sub-group 3 on financing and public-private partnership.

Road infrastructure plays a vital role in enhancing living standards. In most countries, road networks constitute one of the largest society's assets and are predominantly government-owned. Except in a few totally state controlled economies, private firms are involved in road construction and maintenance, in contract with or on behalf of the public sector. But the partnership takes on its real sense when the private firm provides its services with sufficient autonomy and efficiency for the benefit of the whole community. The report underlines the role of the public sector which is more and more a role of regulator, and not only a role of provider of public services.

The main criteria for investment must be the economic and social benefits, which will improve the welfare of society, and the private sector can only fund projects that are financially profitable. Nevertheless, it is possible to set up public-private partnerships financially viable.

Considering pricing and costing, the report overviews the principles of costing and pricing for road transport as for today the developments in pricing and charging technology made possible to deliver solutions which were considered previously only as theoretical options. A key goal of infrastructure costing and charging policies should be fairness.

The report reflects an overview of worldwide experience in road financing and search for innovative methods with the private sector to increase efficiency of the road system. The investigation shows a variety of partnerships related to the motives for the partnership. A general conclusion is that the choice how to involve different public and private parties will reflect the demographic and economic characteristics of the countries as well as the maturity of their road network. Special attention has to be given to tolling policy, making tolls affordable for road users and acceptable to the public in general. Supplementary financing by government may be needed to make a concession financially viable and avoid adverse effects.

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INTRODUCTION

Road infrastructure plays a vital role in enhancing living standards. Lack of adequate road networks reduces the competitiveness of a country's products and hampers the access of population -particularly the poorest segments- to social services and economic opportunities, debilitates regional integration. In most countries, road networks constitute one of the largest society's assets and are predominantly government-owned.

While the role of road transport in the economy remains predominant, new challenges call for the rationalization and modernization of the organization and management of the road sector. Some of these challenges are:

- globalisation of production and trade calls for reliable transport facilities capable of supporting "just in time" operations for reduction of costs and stocks;

- pressure to address environmental and social concerns is increasing and imposes necessary constraints on road sector development;

- dwindling resources in the public sector for development and maintenance of roads calls for the design of alternative financing schemes and improved efficiency in the use of the available resources; and
- technological innovation must be encouraged to optimise the use of road infrastructure and prevent adverse effects like congestion or accidents.

Except in a few totally state controlled economies, private firms are involved in road design, construction, maintenance, or operation, in contract with or on behalf of the public sector. But the partnership takes on its real sense when the private firm provides its services with sufficient autonomy and incentives to produce efficiency gains for the benefit of all stakeholders and in particular road users.

A Public-Private Partnership (PPP) constitutes a sustained collaborative effort between the public sector (government agencies) and private enterprises to achieve a common objective (e.g., the road project) while the partners pursue their own individual interests. In a PPP each partner:

- shares in the design of a project;
- contributes a portion of the financial, managerial and technical resources needed to execute and sometimes operate the project in accordance with each partner's comparative advantage; and
- partially shoulders the risks associated with the project and obtains the benefits—those expected by each partner—that the project creates.

Ready-made solutions do not work for PPPs because each project is unique. There is a continuum of possibilities from the traditional procurement contract, which is the PPP option that yields fewer opportunities for efficiency gains, to total privatisation, which is very uncommon for "public goods" such as road infrastructure.

A public-private partnership should be seen as a genuine alliance, requiring a partnership attitude on the part of the public authorities, which must adopt and comply with clear, stable and neutral rules. This represents a challenge for any public administration.

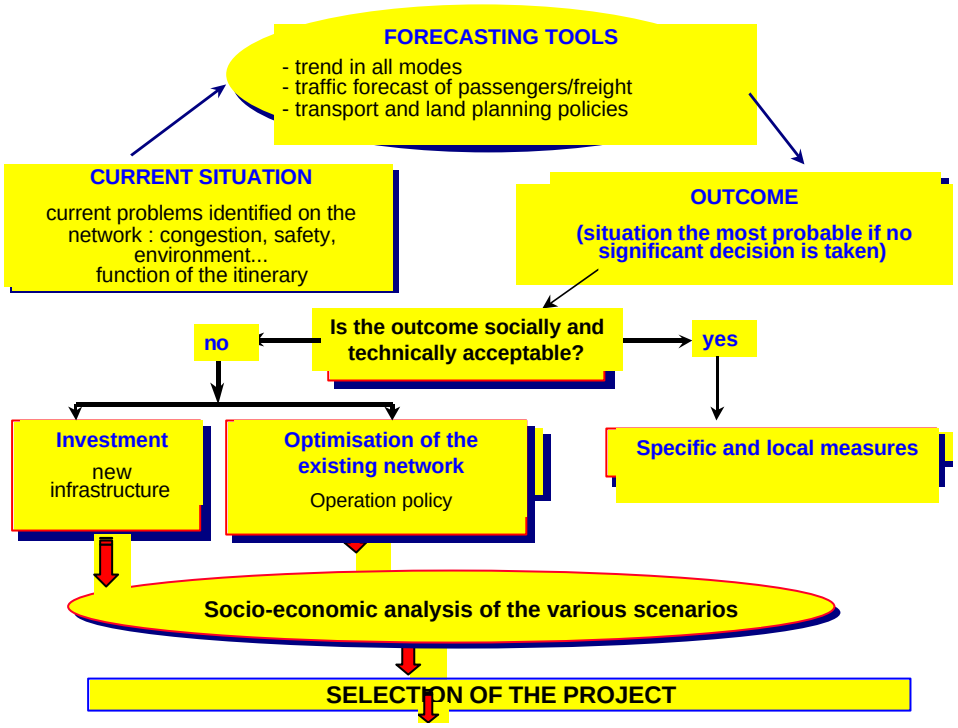
Indeed, PPPs do not call for «less state» but for a state in a better, different form. Many of the traditional functions of the public sector need to be transformed and require institutional reform and adjustments to the economic, financial and legal systems. It is the responsibility of the public authorities:

To draw up master plans for the development of transport services and infrastructure. They must do this through forward-planning and by taking account of the economic and social benefits of projects (whereas the financial profitability is a constraint for the private partner). In addition, the authorities may intervene in a proactive manner, for example to ensure social and spatial solidarity or in the pursuit of industrial policy, but to do this they must use market-type instruments; tariffs are the preferred medium for such intervention, even though in many cases it could justifiably be argued that it would be more efficient to provide direct assistance to disadvantaged social categories or communities rather than equalising tariffs.

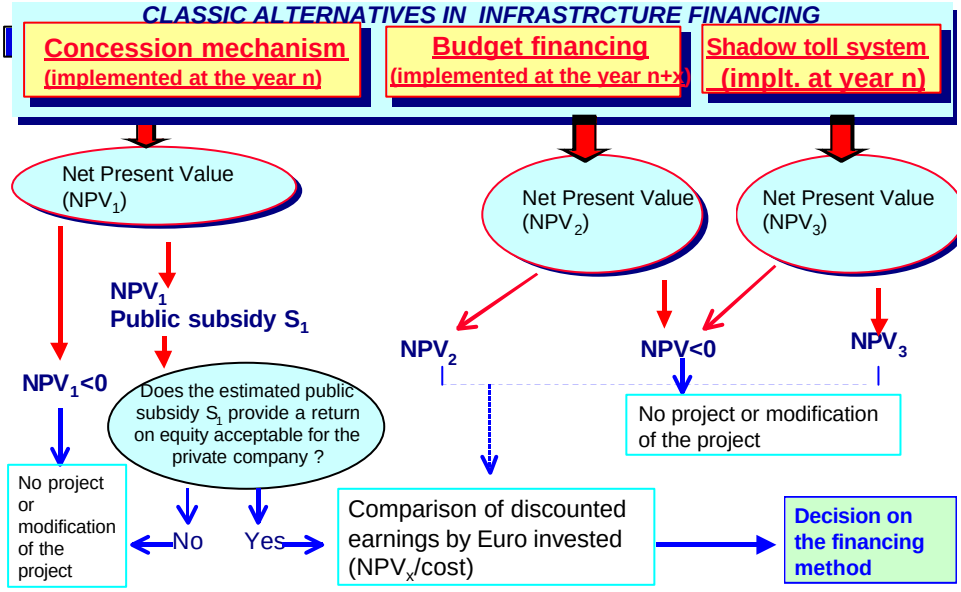
While reference to the market economy modifies the traditional role of the authorities, it also, somewhat paradoxically, broadens this role. The public sector must commit itself fully to its role as regulator, which it must keep completely separate from that of the operator. What is needed therefore is not less intervention by the State, but better and different forms of intervention. This will require clarification of the roles played by different actors within the administrative, if not the political, system. Decisions must be taken according to transport policy objectives; the other considerations are merely the constraints that need to be taken into account. The predominant role played by finance departments leads to inefficiencies, particularly in view of the fact that such departments have no strategy, at least not in the transport sector, and are driven by very short-term considerations.

The public authorities are the guardians of public safety and the environment. They protect the public against the risk of abuse of a dominant position while at the same time according the private partner a satisfactory rate of return.

The authorities act as financial facilitators, a role that in most cases is indispensable, which provides an expectable level of financial profitability fitted to the risks born.The main criteria for investment must be the economic and social benefits, which will improve the welfare of society. Because of positive externalities, the economic and social benefits often outweigh the financial profitability; the private sector, however, can only fund projects that are financially profitable. Public-private partnerships must therefore be financially viable or must be made to financially viable. Public authorities must look after the interference between financial scheme and economic profitability; due to the traffic eviction effect in case of direct charging and/or the opportunity cost of public capital the public support diminishes the economic profitability and may make the project not expedient for the community.



Budget, concession, toll or not: how to choose?



Respective definitions and functions of the economic and financial assessments

	Economic Assessment	*Financial Assessment*
Definition	Mainly non marketable data (time, comfort, safety, nuisance)	Financial flows (in terms of expenditures and receipts)
Function	Represents the benefit for the community	Represents the benefit for the contractor and for the concessionaire
Unit of currency	Constant currency	Current currency
Discount rate	Agreed computed rate	Relevant interest rate (i.e.market rate and risk)

The public authorities must put in place a clear and stable frame of reference that is sufficiently transparent for the private partner. This is notably the case for technical standards (which must focus more on results than on means), taxation (which must not evolve solely with respect to the sector) and the setting of toll levels.

The report overviews the principles of costing and pricing for road transport as for today the developments in pricing and charging technology made possible to deliver solutions which were considered previously only as theoretical options. Although the technical possibilities are more or less given (practically only the price can be a question), the legal side concerning the enforcement seems to be still open in many countries. As of course there are many advantages from implementing road costing and pricing measures, but there are many inconsistencies and constraints from the different solutions.

The report identifies that a key goal of infrastructure costing and charging policies should be fairness. Transport taxes and charges, in every mode of transport, should be varied to reflect the cost of different pollution levels, travelling times and damage costs as well as infrastructure costs. This strategy should help to apply the polluter pays principle and provide clear fiscal incentives to help achieve the goals of reducing transport's congestion and pollution, re-balancing the modal split and try to control and reduce transport growth. The report tries to identify the possibilities for the future development in this field based on the current tendencies. As a result getting transport users to pay, according to the report should help to make a better use of existing infrastructure capacity.

TOPIC 1: ROAD PRICING – CONCEPTS AND APPLICATIONS

T.1.a. Background

In its broadest sense road pricing is the payment of a fee or charge that has been levied to recoup, from the road user, the costs of providing and using the road network. Pricing the use of a road or even whole networks is increasingly being seen by policy makers and road managers as a means of resolving a range of issues facing the road sector. At present the direct pricing of road use is restricted while roads are funded by a broad range of mechanisms, including:

- hypothecation of taxes or charges levied by governments;
- direct funds from government budgets with no linkages back to use;
- more direct forms of road use charging including tolls and/or permits.

As a result of the wide range of mechanisms used, in most cases road users do not have the same market relationship with a road owner or road provider as they do with nearly all other service providers within the economy. Most users are treated alike, irrespective of the infrastructure damage, bottlenecks and pollution they cause. This also means that there are also many cost transfers and cross subsidies occurring between different classes of road users and other members of society. Direct road pricing is often promoted as the panacea to society's concerns about transport, and road transport in particular. It is seen as a means to increase the efficiency of road use, improve the efficiency of road provision, reduce congestion and emissions, provide funding for roads, provide a return on the investment made in roads and deliver equity between different classes of users. Road pricing can also be considered to deliver competitive neutrality between modes, particularly road and rail.

T.1.b. Objectives, Constraints and Inconsistencies

- What are the reasons why governments adopt road costing and pricing? What can be the outcomes that may be expected from alternate ways of implementing road costing and pricing?
- To promote efficiency in the use of the road network
- To promote efficiency in the provision of the road network
- To promote equity or fairness between types of road users and non-users
- To generate revenue.

Efficient use of a road network will be ensured when consumers are charged at short run marginal or incremental social cost of each trip they undertake. These are costs that a road user imposes on others and are generally not taken into account by the road user when making travel decisions (as externalities). This occurs because there are no incentives for the individual to take them into account. Toll ring type schemes such as operate in Singapore and are proposed for London are examples of pricing schemes that have this objective associated with their operations.

The gains from efficient pricing depend, in part, upon optimal levels of investment, or road provision, not just efficient trip consumption. Cost information should relate to the present and future, and not to the past – future rather than historic costs are of relevance in the accounts, since costs incurred in the past are sunk costs that cannot be influenced in any way. Future costs include the costs of new infrastructure and renewals. Pricing use at a level that delivers better congestion outcomes or better freight productivity will then lead to investment patterns for the development of the road network that relate the desires of society to actually pay for investments in transport infrastructure (see the German case study in the Appendix).

An objective of pricing may be to ensure that those who create the costs pay for them. The removal of current cross subsidies through road pricing is, therefore, a potential objective. When considering this objective of road pricing it is important to consider not just equity issues between classes of vehicle operator, or car owners. Equally important is to give consideration to the equity issues that arise between vehicle users and other general taxpayers, who may be affected by the decisions of vehicle users.

In many countries, taxes on fuel form a useful source of general revenue. Increasingly, governments are looking to tolls to finance roads, particularly in the context of private provision as the resources involved in constructing, maintaining and managing road networks are significant. An objective for road pricing via a toll or vignette is often simply to generate revenue.

Although there can be clear objectives, some constraints should be taken into account. The most common can be identified as follows: existing regulations or legal conditions, privacy, current public opinion (e.g. general willingness to pay and specially concerning the heavy goods vehicles and its operators), current political concerns. These can be real constraints in short run, but perhaps there can be a change in long run if there is a professional or political will to make the necessary economic evaluation to study the consequences of a road pricing scheme and to accept the results if they are in favour of this solution.

Inconsistencies can be identified between the different objectives. Funding new roads can give a quite different approach than pricing the marginal external costs. Different studies show huge differences in marginal external costs between congested and not congested road networks. Some surveys estimate the contribution from congestion to be more than 90% of the total marginal external costs. Tolls for funding, or on the other hand a policy based on the principle that the users should pay all the actual marginal external costs, could give huge differences in both the prices and the system for toll collecting.

It must be made clear for the tolling policy makers that except for congested facilities, a marginal cost-based charging system will not cover the total costs. It means that a stand-alone operator (be either a stately owned or a private one) would not be able to reach the financial equilibrium. Even for congested or very polluting facilities the question will remain: how to allocate the income generated from infrastructure charging while if the negative externalities are really cured, the net income will again not allow to cover the total cost.

T.1.c. Development possibilities, tendencies for the future

Most users treat road use as a free good, but in reality there is “no free lunch”. Whether it be through indirect taxation measures or road use charges, the revenue required to provide new roads, and maintain existing ones, needs to be generated for works that are economically justified. Equally, people do suffer from the externalities associated with road use and therefore do pay the price that others have avoided.

Why then do we not have more road pricing already? At a basic level there would appear to be two (historical) impediments to direct road use charging. One, being the presence of prohibitive transaction costs. The second, being the public perception of what this reform implies, and misinformation, disbelief or scepticism over what the economic and social benefits could be.

The first issue is one that is being addressed by new technology. Developments in these areas, in a very short time frame, will ensure that transaction costs associated with implementing a network wide, fleet wide road pricing system will be at a marginal level.

Addressing the second issue is more challenging for policy makers and road operators. Some of the concerns the public have are "real" in that there is uncertainty regarding the impact road use charging will have, and the magnitude of the benefits that can be attributed to this type of reform. Many public concerns however, are clearly misconceptions and/or are evidence that economists and other administrators have been unable to explain how road pricing would bring about change, explain what changes would occur, and assure the public that there will be benefits for them.

However, to take it beyond a revenue raising measure and use prices for road use as a means to promote optimisation of road use, type of vehicle used, time of travel and infrastructure investment will require governments to adopt increasing sophistication in terms of both the policy underlying the implementation of pricing and also in the choice of pricing instrument chosen and how it may be implemented. There will also be a need to ensure that road users understand why road pricing is being adopted and that there is a common understanding of the terms being used in any discussion of road pricing initiatives.

As we begin to better understand the role that each pricing instrument can play and technology develops to a stage where transaction costs can be kept very low the opportunity will exist to introduce real prices for the use of the public road network.

But it should be made carefully though road pricing may be a very efficient way to optimise the transportation system, it works smoothly if it is embedded in a global mix with regulation, land and network planning, production process, etc.

TOPIC 2: ROAD FINANCING – PUBLIC AND PRIVATE SOURCES

T.2.1. Introduction and conclusions

PIARC's Committee on Financial and Economic Evaluation publicized a Guide for New Methods of Financing and Public/Private Partnership in 2000. Recent research of the committee has been aimed at identifying new forms of funding/financing, best practices and evaluation of success. The research is based on a questionnaire that was sent to 25 countries in the C9 committee; of which 16 responded.

This introductory report gives a short summary of the most important findings and conclusions of the report on "Public/private and other innovative partnerships in financing infrastructure". The report contains, besides more detail, also full case-descriptions and all examples found.

The investigation shows a variety of partnerships related to the motives for the partnership. These motives depend on the demographical and economic circumstances of a country and the matureness of its road-network. A general conclusion is that the choice how to involve different public and private parties will reflect these characteristics of society.

Financing is the dominant motive for partnerships and concession schemes are therefore common in developing countries. But quality of the environment is becoming more important for densely populated areas where land is highly valued.

Procedures for tendering have to be carefully designed to keep risks acceptable to both parties and at the same time not limit competition. Partnerships, especially concessions, also ask for contractual arrangements in which responsibilities and performance-indicators are well defined.

Special attention has to be given to tolling policy, making tolls affordable for road-users and acceptable to the public in general. Supplementary financing by government may be needed to make a concession financially viable and avoid adverse effects.

As PPP projects are still in relatively early stages in many countries, systematic evaluations are rare. Some concessions failed because of less than expected traffic. Others are considered successful because of reasonable costs and less initial financing.

T.2.2. Starting point : classic public private partnerships

The inquiry for this report was based on the most important typical frameworks for the co-operation between the public administration and the private sector; as described and classified in the report prepared by G. Maring and G. Estermann to the World Congress, Montreal 1995. Looking at these frameworks and the findings in this State of the art report it is evident that most projects called PPP have the following characteristics :

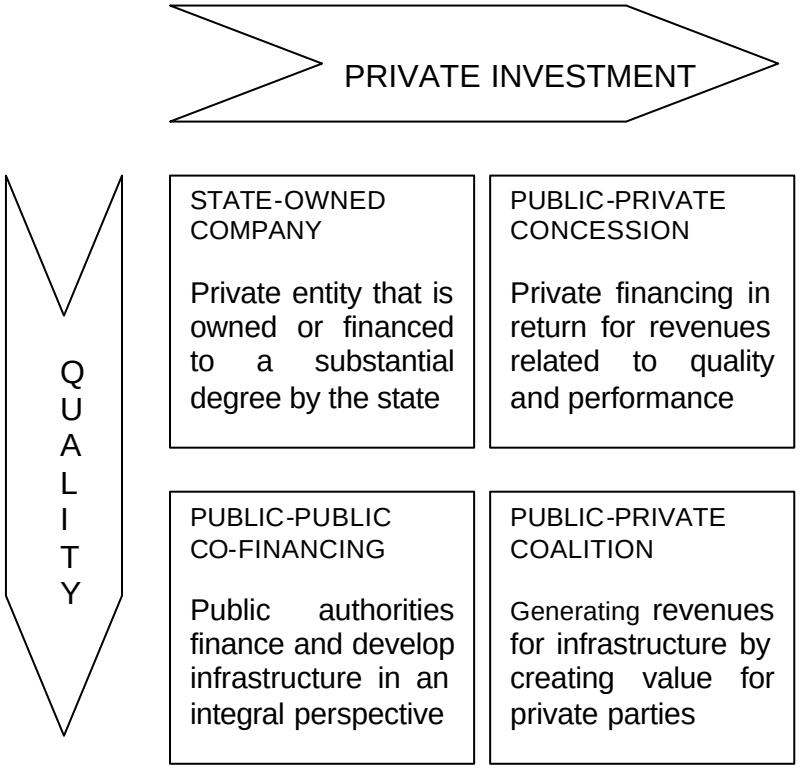
The infrastructure is, at least for a substantial part, financed by a private entity. The private entity operates the infrastructure for a given period of time; usually 30 years. After this period the infrastructure may be transferred to the state or the contract may be renewed.

The private entity receives revenues related to the operation of the infrastructure. These revenues may be collected from road users or from government. The revenues are always dependent on quantitative or qualitative measures for the services provided.

T.2.3. Diversity : a conceptual framework

The inquiry showed that the boundaries of the above definition were not as strict as they seemed. Also other partnerships, although less represented in the inquiry, seemed interesting enough to include in this report. Therefore a wider scope was adopted; aiming at all forms of cooperation meant to create maximum road user and local benefits from the realization of infrastructure by incorporating contributions or investments from interested parties in the realization and / or operation of the infrastructure.

One essential element here is the creation of benefits. These benefits could be the availability and quality of the road, but also the way the road effects the quality of the environment. A second important element in the above definition is the contribution or investment. Although the partnerships discussed here always have a financial aspect; there is a variation in the importance of financing. The financial contribution may be very large, up to 100%, and absolutely necessary to realize the project; as in many concession schemes. But it may also be meant only to create extra quality for a project that would be realized anyway. The research for this report indicates that the relative importance of these two aspects, financing and quality, determines the form of the partnership. This is illustrated in the diagram below.



T.2.4. Mixed forms

We find it important not only to point out the advantages and pitfalls with the classical PPP – the concession - but also investigate why some countries chose hybrid forms. E.g. state owned or state financed companies are not real public-private partnerships; but may be a way to manage infrastructure in a more business-like manner or to get-around restrictions on state-lending. And public-public partnerships do not involve any private financing at all, but do create new possibilities to integrate environmental aspects and urban development in realizing infrastructure.

Many countries have found good reason to use other forms of financing and contracting. Although these can not be defined as PPP in the classical meaning they are important tools to create an efficient infrastructure. An example are Design and Build (and Maintain) contracts with a fixed price. Pre-financing, State-guaranties or subsidies may be used to make projects feasible.

T.2.5. Subsidizing local communities in Sweden

Another mixed form of public-private partnership is the one that have been used in Sweden for many centuries.

66 % or 284 000 kilometres of the Swedish roads are managed by private associations. These vary in size from and structure from a common exit road for 3-4 properties to the total road network within a community of 3-4 000 inhabitants. Every fourth transport in Sweden ends or starts on these roads.

The road associations get subsidies from the Swedish government for roads that satisfy certain conditions: that the road is open for public, is technically and functionally sound, is at least 1 km long, the operation and maintenance costs are reasonable, a private road association (PRA) has been formed. This “PPP”-model is proved to give great incentives for efficient use of resources while the association takes full responsibility and can use the subsidy as they like.

T.2.6. Partnerships for quality

The development of infrastructure can have a great impact on the area that is dissected by it, especially in densely populated areas where space for housing, mobility and business is scarce. In these areas an integral perspective, aimed at the enhancement of the public value of the area in total, can be beneficial. An integral perspective aims at looking for plausible combinations of functions or integral solutions, which sometimes means that a broader project scope has to be taken into consideration.

This also means that the number of public parties involved in the project will increase. After all, it is not only a matter for the national government, responsible for the infrastructure, but also for regional and local communities, which are confronted with the infrastructure in their area. Different interests have to be met in order to reach an optimal solution for the total of the area. Different plans for different functions have to be tuned and coordinated.

The principle of public-public co-financing is that if a party’s specific interests are to be integrated in the project, this party will substantially contribute to the related costs. The quality of a project, e.g. for the environment, can thus be greater than would have been possible if it was financed only from the State budget.

Private interests may be involved in a project in a similar way in the form of a public-private coalition. The difference is that private parties may have revenues offsetting the contribution they have to make for their interests to be met. The revenues for private parties may be in the exploitation of land for housing or industrial purposes. Incorporating the commercial exploitation of the land in the financial evaluation of a project in the Netherlands made it possible to create extra value for the environment. There was no direct private involvement in financing the infrastructure; but the expected revenues for the housing development were deducted from the construction price.

T.2.7. Integrated development in The Netherlands

The Netherlands are amongst the most densely populated countries in the world and have a very high car-ownership. As gateway to Europe it also has a lot of trucks on the road. Congestion is high and still increasing. Especially in or near cities, increasing road capacity is often in conflict with local interests. This causes delays in development and increases costs. The Netherlands have used "public-public co-financing" as well as "public-private coalition" to cope with these problems. They incorporated several interested parties in the planning phase of projects and at the same time attracted funds from these parties to reduce pollution and noise levels. This created better conditions for housing, offices and recreational areas. The increased value of the land motivated private parties to bear part of the extra costs for a land-based tunnel. Improved possibilities for urban development was the reason for local authorities to contribute to construction of a highway on a beneath-surface level.

T.2.8. Partnerships for financing

New road projects are often motivated by the desire to have better connections for economic and other development. Cost-benefit studies are often made to ensure a project's economic viability. This does however not mean that a project is also financially viable. A concessionaire receives revenues related to the operation of the infrastructure and services provided. These usually consist of distance related tolls, that are collected from road users. But such tolls may be higher than desirable, thus shifting traffic to other roads. This in turn leads to less than expected revenues for the concessionaire. PPP is also seen as a more permanent change in the role of the State, introducing the "user pays" principle for financing infrastructure. But in countries with low public purchasing power, concessionaires have had to be rescued or taken over by the State. A solution for this problem is to repay the concessionaire from the State budget by a shadow toll scheme or on the basis of performance. Also mixed state and private financing may be chosen if revenues are not expected to cover total costs.

T.2.9. Resistance to tolling in Hungary

In 1990, because of the real budgetary constraints and high public debts, the first freely elected Hungarian Government's started a large concession programme. Subsequent governments however limited foreign private participation, turned to state-owned companies and eventually to state financing. This was the result of public debate around PPP projects, mainly focused on tolling policies.

Toll rates, which contained the full development costs, were high compared to other European countries. As the primary investors were foreign, profit was believed to leave the country, instead of being reinvested in the network. Toll was also considered as a new way of taxing the motorists. Also tolls diverted traffic to the parallel free road because of limited purchasing capability. This caused unfavorable environmental and traffic conditions. Inhabitants along these roads protested fiercely. High costs were incurred to mitigate these adverse effects. Also discount systems for frequent and local users were introduced, leading to a partial shadow-toll system. Nowadays however, Hungary still has some private and state owned motorway companies. But tolls have been replaced by a unified vignette system to cover only operation and maintenance.

T.2.10. Contracting and division of risks

Most contracts include Design, Build, Financing and Operation (and maintenance) (DBFO). In non-toll contracts financing and operation are usually less prominent aspects.

Contracts for PPP projects will still include some technical specifications or standards. But functional criteria for construction and performance indicators for operation seem to be more prominent. In the selection of a concessionaire countries will of course check compliance with basic requirements. The less stringent these are, the more proposals will be judged on quality and performance. Selection procedures may even start with proposals from the private sector, for which no plan has yet been approved. This is illustrated by the South African policy on unsollicitated proposals. In evaluating such ideas, as well as in finally selecting a concessionaire, the costs, revenues and funding will be extremely important aspects.

That is if there is sufficient competition. Public, often international, tendering usually leads to enough bidders. Most concessionaires consist of financial and construction companies. But state-owned companies may also participate in - or act as concessionaire; which means less competition or none at all.

T.2.11. Unsolicited proposals in South-Africa

South Africa designed it's "Unsolicited Proposal Policy" to make use of the creativity and innovative ideas of private enterprises during the planning and design of infrastructure projects. The policy explains how proposals will be dealt with by the Agency, and lays down procedures which will be followed in order to stimulate a competitive environment, ensure transparency, offer the public protection from monopolistic practices and protect the environment. Approvals of the tolling strategy and environmental studies are a prerequisite for procurement. This reduces risks and delays, e.g. as a consequence of public resistance, during the procurement process. Tendering only starts after the initial proposal is approved and further developed. The resulting technical proposal from the scheme developer is used as bases for a normal bid evaluation and award process. The unsolicited proposal policy was welcomed by the industry and, since 1999, six unsolicited proposals have been accepted to the combined value of 1 billion USD.

T.2.12. Managing

Many countries have special laws enacted to make PPP possible. Some founded State-owned project companies or a road agency, operating at arms length from government.

The division of risks and responsibilities in PPP projects does not seem to differ greatly between countries. In general all legislation, planning and design usually stay a responsibility of the State. But all operation, commercial and financial risks will be for the concessionaire. The main risk for the concessionaire seems to be in expected traffic levels.

Control on the delivery of the product and on performance is based on reports form the concessionaire and audits or monitoring by government or independent engineers. Control is often linked to payments to be made or withheld. Also (if there are no more payments) penalties or other sanctions may be imposed.

T.2.13. French five-year plans for flexibility

There is a tension between the long-term of a typical PPP contract and the flexibility needed to accommodate to changing circumstances. The government will want to preserve at least some possibilities for new policies to be implemented or needs to be accommodated in existing infrastructure. The private party may also have to cope with new developments, e.g. regulations. An interesting option, administered in France, is the five-year planning contract. These contracts see to aspects that were not, or not in that detail, dealt with in the concession contract.

Since 1994 five-year planning contracts have been signed between the State and each concessionaire. The contracts provide a frame of reference that stabilizes the legal and economic conditions for the participants and gives a clear mid-term horizon. They fix the obligations in terms of toll tariff evolution, investments and financial situation, looking for a balance between these three aspects. These five-year contracts however, also contain obligations concerning road safety, social policy and environmental protection.

The first generation of these contracts has elapsed at the end of 1999. Due to uncertainties and reforms in the concession system some time elapsed before preparations for new contracts could begin. Now two new contracts have been signed and others are being negotiated.

T.2.14. Evaluation

New road projects are often motivated by the desire to have better connections for economic and other development. Cost-benefit studies are often made to ensure a project's economic viability.

However, as PPP projects are still in relatively early stages in many countries, systematic evaluations are rare. Projects are often considered successful if goals are realized and contracts complied to. Several countries feel that costs were at least reasonable and that less initial financing was required. But in some countries PPP projects failed due to less than expected traffic.

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APPENDIX

GERMANY

The German government had decided to introduce a new charge for heavy goods vehicles (HGV) which will be based on the kilometres driven on motorways. This charge will replace the existing time based user fee "Euro-Vignette" and will be collected with an GPS/GSM-based electronic system with the additional possibility of booking into the system (on terminals or by internet, etc.) for vehicles not equipped with the necessary OBU (on board unit). The system should go into operation for all lorries and trucks above 12 tonnes permissible weight by end of August 2003.

The toll rates will be differentiated by the number of axles and by the emission class of the vehicle. On behalf of the German Ministry for Transport a high level Commission studied the possibilities for future financing of the transport infrastructure and recommended to change from tax financing to more use oriented modes of financing by charges. The Commission calculated that an average price of 0,15 Euro per kilometre would be appropriate to collect enough revenue to finance those costs of motorways which could be allocated to HGVs.

According to the framework for toll and charges set by the EU directive (99/62/EU) on charging of heavy goods vehicles the average toll rates will be oriented at the costs of road infrastructure and differentiated by the environmental performance ("EURO standard") of the vehicles.

That new motorway charge in Germany expects the following effects:

- the impacts on the environmental situation will be positive as the percentage of vehicles with high pollution will rapidly decrease after few years of operation of the charging system;
- there will be a certain percentage of traffic diversion to parallel roads without toll as long as only motorways will be charged. The longer is the travel distance the more vehicles stay on the tolled motorway;
- vehicles with higher pollution divert more and earlier;
- to meet significant traffic diversion from road to rail a substantial improvement of the level of service on railways in addition to motorway charges would be necessary;
- most of the transport companies would primarily react with internal adjustments of their transport logistic, e.g. change of the vehicle fleet or optimisation of round trip tours. But also actions out of the legal frame will have to be expected.

SWITZERLAND

The Heavy Vehicle Fee (HVF) in Switzerland

The fee collection came into effect on 1 January 2001. It is based on the "polluter pays" principle (the more you drive the more you pay). Heavy Freight Vehicles of over 3.5 tons are subjected to the fee. The HVF is calculated on the basis of the kilometres driven, the maximum weight of the vehicle permitted as well as the emission class of the trailer.

For vehicles registered in Switzerland, the road use data is recorded by an electronic on-board unit-OBU (tons/km). This device is connected to the tachograph and registers the mileage automatically. Installation has to be carried out by an authorized workshop. A microwave radio connection is needed to register changes in the status of the OBU (inland/abroad) to initiate the mileage registration device at border crossings. This technology called Dedicated Short Range Communication (DSRC) is also used for control purposes on the Swiss road network. International Standards are applied. A GPS antenna is used to control the status of the OBU (inland/abroad) and to register crossings of the border in case of motorail service. It can also be used to check the accuracy of the tachograph.

The OBU displays information about its status outside the vehicle by small lamps. Inland, this allows, beside DSRC checks, to make visual checks. For the declaration of the trailers, chipcards and a selection menu are used. However, it is possible to enter data manually.

For foreign trucks that choose not to install an OBU, the fee is collected by an identification card (ID card) and special terminals for HVF clearance at the border. With each entry to Switzerland, the driver inserts the ID card into the chipcard reader at the clearance terminal and activates thereby the vehicle data stored in the system. Then the driver inputs manually the actual mileage, data about the trailer and the route he plans to travel (individually selected or predefined by the customs, e.g. direct transit Basel to Chiasso). The driver receives a receipt in two copies which he/she will have to complete with the new mileage and his/her signature when leaving the country. The customs will check the declared data randomly at border crossings. The fee can be paid in cash, by using gas station credit cards or a debit account with the Swiss Customs.

The sliding scale of fees according to polluting emissions resulted in a considerable renewal of vehicle fleets, with a positive impact on the environment. The costs increase has remained low. According to the Swiss Federal Office for Statistics, the price increase resulting from HVF amounts to 0.1% maximum. The HVF income has reached the level forecast by the Confederation (750 million Swiss francs). Two thirds of this income is invested in infrastructure projects for public transport, in particular the New Alpine Rail Transversal, which also fosters heavy vehicle transfer onto rail. However, the proportion still remains modest.

The HVF performance is particularly impressive as regards the flow of heavy vehicles. Since the fees have been introduced, the number of trucks has decreased by approximately 5% in 2001, while it increased by 7% a year before the HVF. However, this change is mainly due to an improved efficiency of the road transport sector, and not so much to transfer onto rail. Empty vehicle trips are avoided as much as possible and the higher weight limit allows to improve vehicle operations. CFF, the Swiss Railway company, are expecting a sustained transfer onto rail starting in 2005, as the HVF effect (once raised to 2.5 Swiss cents by ton/km) will then compensate the increased productivity of road traffic.