



Public and Private Sector Roles in the Supply of Transport Infrastructure and Services

OPERATIONAL GUIDANCE FOR WORLD BANK STAFF

Paul Amos



**TRANSPORT
SECTOR
BOARD**

© 2004 The International Bank for Reconstruction and Development/The World Bank
1818 H Street NW
Washington, DC 20433
Telephone 202-473-1000
Internet [www/worldbank.org](http://www.worldbank.org)

The findings, interpretations, and conclusions expressed here are those of the author and do not necessarily reflect the views of the Board of Executive Directors of the World Bank or the governments they represent.

To order additional copies of this publication, please send an e-mail to the Transport Help Desk transport@worldbank.org

TRANSPORT PUBLICATIONS ARE AVAILABLE ON-LINE AT [HTTP://WWW.WORLDBANK.ORG/TRANSPORT/](http://WWW.WORLDBANK.ORG/TRANSPORT/)

ACKNOWLEDGEMENTS

The author would like to thank the members of the Transport Sector Board, the Private Participation in Infrastructure Group, and numerous members of the World Bank's Transport Network for their helpful contributions to this Guidance Note.

CONTENTS

1	INTRODUCTION.....	1
1.1	Purpose of Guidance Note.....	1
1.2	Diversity of Transport Sector.....	1
1.3	Scope of Guidance Note	2
2	ROLES, REFORM AND PUBLIC-PRIVATE OPTIONS.....	2
2.1	Transport Services: Public or Private?.....	2
2.2	Transport Infrastructure: Public or Private?.....	4
2.3	Cases Where Transport Infrastructure and Services are Integrated.....	5
2.4	PPP's in Transport Infrastructure	5
2.5	The Regulatory Framework.....	7
3	OPERATIONAL GUIDANCE	8
3.1	Introduction.....	8
3.2	Road Transport	8
3.3	Maritime and Inland Waterway Transport.....	9
3.4	Air Transport.....	10
3.5	Railway Transport	10
3.6	Urban (Fixed Track) Mass Rapid Transit	11
3.7	Instruments of World Bank Group Support.....	11
	ENDNOTES.....	13

Public and Private Sector Roles in the Supply of Transport Infrastructure and Services

1 INTRODUCTION

1.1 Purpose of Guidance Note

The Bank's Infrastructure Action Plan¹ sets out a series of measures to revitalize the Bank Group's infrastructure business and requires the Bank to provide a broad menu of options for public and private sector infrastructure service provision. There is a need for the Bank to explore and offer clients alternative solutions in the ownership, financing and operation of transport infrastructure and transport services. Implementing a particular approach successfully will often depend on supportive sector policies and regulatory processes.

This Guidance Note:

- provides a framework for Bank Group staff for identifying and assessing the different models for public and private roles in the transport sector;
- highlights policy and regulatory issues which are important in judging the suitability of different models; and
- summarizes the range of instruments available to the Bank Group to support particular models.

The transport challenges facing developing countries are many and various. What may be an acceptable policy in one country may be anathema in another for political, geographical or historical reasons. And what may work in one institutional and market environment may not work in another. Bank staff should match solutions to the country context. Therefore, this Guidance Note does not prescribe fixed solutions. It offers guidance in thinking about the options available and the factors that are important in judging between them.

1.2 Diversity of Transport Sector

Of all infrastructure sectors, the products and markets of the transport industry are most varied. There are several distinct transport products: road transport, maritime and inland

waterway transport, air transport, mass rapid transport, railway transport, and many kinds of informal transport. They serve different freight and passenger transport needs and in different ways. They are often combined by customers themselves or by specialist brokers (such as travel agents and freight forwarders) to produce a single door-to-door passenger trip or freight movement. In responding to country needs, the Bank Group's work may vary from a focus on investment in a single mode and market, to national or regional strategies involving transport and logistics as a whole. While the context of the Bank's interventions will vary, some issues are common to all interventions:

- the Bank's goals of economic development, growth and poverty reduction: Bank interventions involving either public, private or both sectors need to maintain or increase transport access and affordability for the poor;
- "fiscal space" in the country concerned, in terms of public sector debt capacity for public infrastructure loans or the capacity to assume long-term revenue support obligations and other contingent liabilities that may be created by Public Private Partnerships (PPP);
- effective government policies to ensure safety and security in all transport systems, whether operated by the public or private sectors; and
- the importance of environmental and other safeguards.

In addressing such a diverse sector, this Guidance Note draws a basic distinction between:

- *transport services* that serve the public or commercial customers directly, and
- *transport infrastructure* that is used by the transport service providers.

This distinction is reflected, for example, in the difference between road provision and road

haulage, or between port infrastructure and stevedoring services. In practice, some of the entities involved in transport infrastructure and services coincide in one vertically integrated enterprise. Sometimes they are commonly owned but separately operated. Sometimes they are both separately owned and operated. Part of the challenge of reform in transport is to sort out which of these models best suits the circumstances; then, what the roles of public and private sectors should be.

Transport services that are privately owned and operated are widespread throughout developed and developing countries. By contrast, privately-owned transport infrastructure (particularly transport networks) is exceptional. Publicly-owned transport infrastructure, operated under concession by the private sector, is also relatively limited compared to the sector as a whole. In developing countries in the ten years 1993-2002, three-quarters of all investment in private transport infrastructure projects in the Bank's *Private Participation in Infrastructure Project database*² took place in just six countries (Argentina, Brazil, Chile, China, Malaysia and Mexico). The State's dominance in transport infrastructure provision may again be increasing. In 2002, the total investment in private transport infrastructure projects in the database stood at USD 5.2 billion, about half the annual average over the last ten years of USD 10.3 billion.

In accordance with the Infrastructure Action Plan, the Bank expects to play an increasing role in financing publicly-owned infrastructure in the transport sector. At the same time it has the instruments and the willingness to work across the range of forms of public, private and combined approaches to transport provision.

1.3 Scope of Guidance Note

In the remainder of this Note, Section 2 discusses the general issues about appropriate public and private sector roles. It first considers transport services, then transport infrastructure and the situations where these are vertically integrated. It also identifies forms of public private partnership (PPP). It suggests questions which Bank staff, as part of their project due diligence, should ask that will help them to judge whether PPP proposals are appropriate and likely to succeed. Finally it stresses the importance of ensuring that regulatory arrangements are appropriate.

Section 3 presents operational guidance in the context of specific modes of transport. It then sets out the main Bank instruments available for deployment in public, private and PPP projects. It shows how Bank Group instruments can be combined to support different public-private options.

2 ROLES, REFORM AND PUBLIC-PRIVATE OPTIONS

2.1 Transport Services: Public or Private?

This section concerns the provision and operation of those transport services which are separable from transport infrastructure; for example, airlines, stevedores, shipping lines, barge companies, road haulage companies, bus companies, freight forwarding and logistics companies, etc. For these services, the Bank will normally favor private operation within competitive (or periodically contestable) markets and, where competitive pressures are limited, within an appropriate regulatory framework (Section 2.5).

Government provision of transport services to the public has been found disappointing in many countries. This may be for a number of reasons:

- ❑ contradictions in a government trying to be policy maker, regulator and operator at the same time;
- ❑ confusion in trying to act commercially while seeking social goals;
- ❑ restrictions on management freedom caused by public service norms and procedures; for example, staffing levels and pay scales determined across sectors rather than by business needs;
- ❑ constraints on financial autonomy and investment due to government budgeting processes;
- ❑ competition for resources from the core government functions of health, education, welfare, etc.; and
- ❑ where the activity creates surplus, cross-subsidization of other government activities rather than re-investment in the profitable business.

Behind many of these issues is the reality that governments have many policy objectives in transport. These can include economic, financial, social, environmental and numerous other objectives such as defense or national prestige. These objectives often conflict, some are difficult to measure, and their priority can alter day-to-day in response to political events. A government's inherent freedom to discern, pursue and reconcile multiple and changeable objectives is essential to the democratic process. But it can make it harder for governments to run businesses well.

Private businesses operating in competitive markets have more focused aims and incentives. International experience suggests that *technical efficiency* (producing outputs at least cost) is more likely to be achieved by a private management responsible and accountable for achieving a stable and measurable commercial objective. *Allocative efficiency* (producing outputs most closely meeting market demands) is more likely to be achieved in a competitive market where consumers are free to express their demands through market choice and where prices tend towards production costs.

Direct government involvement in running transport companies can lessen both technical and allocative efficiency. In terms of technical efficiency, the closer government is to management, the more that decisions which affect technical efficiency (for example, staffing or investment decisions) become influenced by multiple and changeable political aims. Moreover, as performance is politically influenced, it is then difficult to hold managers commercially accountable. So the incentives for technical efficiency are further weakened. Allocative efficiency can be degraded too. Prices which are set to reflect political aims rather than costs can lead to poor allocation of resources. Further, when government itself is a service supplier, its financial interests can conflict with proposals for encouraging competition. The efficiency benefits of contestable markets may then be foregone.

State ownership can have such effects even when governments try not to intrude. The fact of public ownership can, by itself, influence enterprise managers to make political choices they think will satisfy their owners. It can also

discourage market entry by private companies who think they will not be able fairly to compete with a team owned by the referee. These are not just theoretical constructs but real impacts which have been frequently observed in Bank experience.

Creation of "arm's length" between the policy functions of government and the commercial functions of business management is, therefore, central to transport services reform. Privatization is usually the most effective form of separation, with public interests protected by competition and/or independent regulatory capacity, and specific intervention if necessary to preserve access and affordability of services to the poor. Where public subsidy is necessary to enable the poor to enjoy a basic level of service in line with poverty reduction policy, it is desirable for this to be explicit, rather than provided as generalized budget support to the service provider. Such subsidy mechanisms should be targeted, transparent and preferably output based.

With sufficient commercial independence and good management, some publicly owned transport service companies will achieve standards of performance and sustainability to attract Bank support. In judging such matters, Bank staff should consider the record of the incumbent state-owned services provider. A framework for such assessment is summarized in Table 1. If such an assessment gives serious grounds for concern, then Bank financial support for such an entity may be justified in the context of a credible reform program. At a minimum, it should address the main impediments to efficiency and financial sustainability within the public sector context. Alternatively (or additionally), it might seek by stages to increase private sector participation.

Reform conditions attached to a specific investment loan should relate to matters within the ambit of responsibility of the main departmental counterpart and organizations that benefit from the loan. Individual projects should not carry wider sector policy conditions unless these are truly essential to the success of the investment itself. Particularly in middle income countries, sector policies should usually be addressed instead through the country dialogue, analytic and advisory activities, and policy-based lending.

Table 1: Judging the Economic Performance of State Transport Service Providers	
Performance Indicator	Useful Analytic Methods/Questions
Technical Efficiency	<ul style="list-style-type: none"> • benchmarking of labor and capital productivity against comparable state and private operators; • existence of budget and business planning disciplines; • extent to which management/organization structure is commercially, rather than functionally, oriented; • quality of board/management (selection by merit, seniority or politics?).
Allocative Efficiency	<ul style="list-style-type: none"> • benchmarking of service levels (coverage, frequency, reliability, customer satisfaction, etc.) against comparable state and private operators; • record of delivering minimum levels of service (in line with specified policies for equitable access); • evidence of monopolistic practices in price -setting; • record of innovation as opposed to standard repetitive service; • absence of competitive neutrality vis a vis private competitors and evidence of stifled competition.
Financial Performance	<ul style="list-style-type: none"> • benchmarking of working and operating ratio, and return on capital employed against comparable state and private operators; • existence of line of business activity reporting where appropriate; • rationality of pricing policies, level and structure; • long-term trends in real revenue and cost per traffic unit; • adequacy of capital resources, rigor of investment selection and capital budgeting procedures.

2.2 Transport Infrastructure: Public or Private?

By comparison with transport services, the arguments for either public or private provision of transport infrastructure are less clear-cut. The concerns about the impacts of state-ownership on efficiency described in Section 2.1 also apply to infrastructure. But other issues can arise which may counterbalance these concerns, for example:

- whereas most transport services can beneficially be made competitive or contestable, much transport infrastructure either has attributes of natural monopoly (such as rail and waterway networks) or, by virtue of locational advantage, creates significant market power for those who control the prime site (this is the case for many ports or airports);
- in some cases, such as roads, it is more difficult to recover infrastructure cost directly from user charges than it is to charge for transport services (though in many cases such as ports, airports, airspace, etc., the infrastructure can be a strong foreign exchange earner);
- its financial returns are often very long-term and, therefore, risky. These risks are

often not attractive to private investors without some public funding or public risk-taking, or government policy guarantees;

- where transport infrastructure costs are not recovered directly, there are distributive consequences which may be politically significant (such consequences should be assessed as these usually tend to favor the non-poor); and
- transport infrastructure sometimes involves major planning, environmental, safety or social issues, which some governments (rightly or wrongly) believe warrants the level of public control that ownership can provide.

In many countries such concerns have reinforced a deeply held perception of transport infrastructure as a part of the public estate which should be provided for the common good, and not as a business for commercial gain. But, whether based on a reasoned policy trade-off or founded on this more intuitive cultural perception, it is the case that the public sector (including national and local government) owns and operates most of the basic transport infrastructure in most parts of the world. This includes nearly all roads, inland waterways, navigable airspace and

shipping channels, most of the basic port and airport infrastructure, metro and tram networks, and nearly all railway infrastructure in four out of five continents (the American continent being the exception). However, the private sector is widely involved as designers and contractors, for both construction and maintenance, in all these activities.

Public ownership and operation of transport infrastructure is, therefore, a common and legitimate policy choice. However, if chosen, the state-owned infrastructure providers should be subject to similar tests of efficiency and sustainability as state-owned transport service enterprises. Separation of enterprise management from government policy functions is similarly important. Therefore, where the State is the owner, the Bank usually favors the corporatization and commercialization of government agencies responsible for transport infrastructure provision. It also encourages the competitive procurement of capital investments and operating resources where practicable, which may include facilities management services. This contrasts with traditional models in which transport infrastructure was often built, managed and maintained by government departments and, therefore, subject to many of the same risks to efficiency outlined for transport services in Section 2.1. To make public infrastructure companies effective normally requires that they have a dedicated source of income from user charges, and that any budgetary contributions are determined by an explicit long-term financial agreement (with appropriate efficiency incentives) between the enterprise and its owner government.

If a government decides to pursue a policy of increased private participation in transport infrastructure there are favorable areas of transport infrastructure for full private ownership or for PPPs. PPPs are discussed specifically in Section 2.4. Private and PPP approaches are discussed in relation to specific modes in Section 3.

2.3 Cases Where Transport Infrastructure and Services are Integrated.

Transport infrastructure and transport services are sometimes provided in one vertically integrated operation. When such integration extends a natural infrastructure monopoly into a transport services supply market, the need for such integration should be questioned.

There is a prima facie case for vertical separation where (a) the infrastructure component may be viewed as a natural monopoly because of economies of scale and/or scope in its use; but (b) the services component does not exhibit such economies and may be made competitive or periodically contestable. In countries that are reluctant to privatize basic infrastructure, such separation may also be a more acceptable model for introducing at least some private involvement (through the services side). Such benefits have been gained in many countries in the past by the separation of stevedoring from port infrastructure and of national airlines from their primary airports. In these cases both private participation *and* competition in transport services can be facilitated by separation.

In the case of railways and mass transit (metros and tram systems) the situation is more complex. The technological and economic interface between the infrastructure and the vehicles that use it is complex. When separated, the management of this interface can be difficult and/or costly. Moreover, the ability to sustain significant “on-track” competition on passenger railways may not be so evident, though periodic contestability of concessions and franchises can be introduced. There is as yet no persuasive evidence (from the few countries where it has been implemented) that the economic advantages of vertical separation of rail infrastructure from rail operations will always offset the technical disadvantages. The Bank remains open-minded on this issue and is prepared to work with both kinds of railway structure, depending on the circumstances and the commitment of operators and government to efficiency and sustainability.

2.4 PPP's in Transport Infrastructure

There are a number of different models of private sector participation in transport infrastructure; IFC has been involved in financing such approaches for many years. The main forms are summarized in the Bank's *Criteria and Terminology of the Private Participation in Infrastructure Project database (Appendix 1)*.³ Four of these forms can be characterized as public-private partnerships in cases where they share risks between the public and private sectors. These are management contracts, lease contracts, concessions for existing transport infrastructure, and concessions for new “greenfield” transport infrastructure.

In all cases, the arrangement must be financially attractive to the private sector to be viable. But the degree of risk transfer to the private sector tends to increase progressively through these categories. As risk increases, the cost of debt and equity to the private sponsors will increase; the projected returns then need to be higher if the PPP is to be financeable. Public sector risk often remains substantial in transport concession agreements to facilitate the transaction at acceptable cost. The public sector risks are sometimes expressed through full or partial revenue guarantees but there are many other types and gradations of risk-sharing which can differ by project. This section considers in particular how Bank staff should judge the appropriateness for Bank Group support of those PPP concessions which involve significant levels of public sector cost and risk. It is important that standards for judging PPPs are not inclined against them compared to conventional public procurement, but any complex mix of public and private interests poses some specific issues which need to be considered:

- ❑ What are the objectives of the PPP?
- ❑ What are the chances that a PPP can actually be implemented?
- ❑ Is the PPP approach likely to provide best value for money?

Project Objectives: As emphasized in Section 1.2, PPP projects need to meet the same criteria as fully public ones to qualify for Bank Group support. They should maintain or improve transport access and affordability to the poor. They must meet the Bank environmental and other safeguards. They should be economically justified. Government entities sometimes propose PPPs with no clear reason for doing so other than to deliver politically high-profile but uneconomic projects at no cost to the budget. Or they have aims which are clear but wholly unrealistic, involving the private sector assuming high risks for low rewards. Such projects are usually doomed, but it can still be costly in time, money and government credibility to get to the point of failure. Alternatively, such projects may be saved only by the gradual accretion to government of all the risks they had hoped to transfer. This defeats the main purposes of a PPP. Properly structured private involvement should deliver risk transfer and efficiency benefits. But a PPP can never turn a poor investment into a good one. And all PPPs by their nature will involve some long-term

budgetary impact, either actual and/or contingent.

Practicality: Significant increases in private participation in transport projects can generally only occur when there is a strong policy commitment to private approaches across a range of government functions and a defined administrative process for handling PPP project proposals. For most major transport projects PPP financing requires a sophisticated legal enabling and enforcement environment. It also needs skilled legal and financial advisors and, therefore, often involves high transaction costs. Not all sponsoring ministries have sufficient capacity to implement, or to manage implementation by specialist advisers. Ministries need patience and staying power to drive the process over what might be several years preparation, and need an ongoing capability to ensure the agreement is properly monitored. A PPP also requires a willing private partner. It is prudent to do some early market tests to establish whether there will be significant private sector interest by credible participants. Up-front market fears of a tainted selection process, or of weak regulation or of an inability to enforce concession agreements, are danger signals which suggest that the institutional environment needs strengthening before PPPs can be successful.

Value for money: PPP proposals should be expected to provide equivalent or better value for money than a public sector project approach. It is necessary to develop a public sector "base case" (or comparator situation), and against this to assess the incremental net benefits that may be obtained by the PPP. Benefits may accrue from earlier implementation (particularly if government is fiscally constrained), lower whole life costs and possibly better service. It is important to make this assessment against an appropriate distribution of risks. If too little risk is transferred to the private sector, the likely costs to government will be correspondingly higher. At the other extreme, if inappropriate risks are transferred that the private sector cannot realistically manage or well quantify, the financing costs will escalate, again increasing the costs relative to the comparator. Where business assumptions seem optimistic, staff should also take a realistic view of the contingent costs to government of possible re-negotiation at some stage in favor of the concessionaire. About half of all concessions become subject to re-negotiation, often due to inflated demand or yield estimations, or unrealistic operating cost assumptions.

Table 2 summarizes some factors that might suggest to Bank Group staff that a PPP approach involving significant public cost and risk would be appropriate for Bank support. There are three suggested levels of screening. The first is in regard to basic objectives and these are necessary conditions for proceeding. The second level screening is a more practical one: if the proposed project fails to meet most

of the “practicality” screening factors, the chances of successful implementation are low and of wasted effort high. The third level is most complex: detailed financial due diligence by Bank staff will usually only be justified when PPP proposals can be pre-qualified at the first two levels of screening. Indeed, value for money can only be finally assessed when priced proposals are actually available.

Table 2: Due Diligence Factors for PPP Transport Infrastructure Proposals	
Screening 1: Project Objectives	
<ul style="list-style-type: none"> • Project meets overall tests of economic value • Government has clearly articulated aims for deploying private sector skills and capital • Planned risk allocation realistically reflects ability to bear risk • Access and affordability of services to the poor maintained or increased • Project meets Bank environmental and other safeguards 	
Screening 2: Practicality	
<ul style="list-style-type: none"> • Adequate enabling legal and compliance environment • Government willing to cede appropriate commercial controls to private sector to achieve project objectives • Credibility of cost recovery proposals through user fees/ budget contributions • Strong administrative capacity by promoting ministries • Government willingness to accept and recruit experienced advisors • Record of successful PPP's in the country in other sectors • Record of successful PPP's in the sector in other countries • Expectation of continuing commitment through changes of government • Record of fair and transparent procurement • Existence of or credible plans for regulatory arrangements which will be adequate to protect the parties in their delivery of proposed objectives (see 2.5) • Strong early private sector interest including likelihood of financing at acceptable risk premiums 	
Screening 3: Value for Money	
<ul style="list-style-type: none"> • Net benefit compared to public sector approach • Proposals are financially sustainable taking account of sensitivity to assumptions (and possibility of renegotiation where sensitivity to aggressive market or cost assumptions is high) • Impact on government capital expenditure and long-term operating expenditure is realistic and sustainable, allowing for contingent liabilities. 	

2.5 The Regulatory Framework

The economic regulations which govern transport are important in situations where (a) the transport infrastructure or service involved is a natural monopoly (such as a railway network or a major city airport), and/or (b) where it confers significant market power (for example, a time-bound exclusive operating concession for bus services, or for providing all stevedoring services at a particular port); and/or (c) when the rights and obligations contained within a PPP agreement rely on regulatory interpretation. These conditions do not always apply, particularly in the supply of transport services. In cases where there is reasonable competition in supply (for example,

as is usually the case in road haulage), market forces will normally be preferred to economic regulation. Examples of transport sector regulation can be found elsewhere.⁴

Where the establishment of a regulatory entity can be justified on public interest grounds, the Bank Group favors independent regulation rather than regulation by a government department. This is an especially important aim in markets where government is a player in an industry, either by virtue of ownership of one of the participants (for example, by owning a shipping company or airline) or because it is a customer (for example, as a contract purchaser of public transport services). Fully independent regulation is not

always achievable in the short-term, but it should be an explicit objective and be reflected in the way that service is regulated from the outset.

Vague proposals to appoint a regulator should never be accepted simply as a token solution to make private participation politically acceptable. Even where independent regulation is established, experience suggests it can be ineffective, captured or subverted by special interest groups, including government. The details of the proposed regulatory structure should be fully analyzed, namely:

- ❑ its real independence from special interests of any of the parties to the regulation, including any government-owned participants in the industry;
- ❑ the effectiveness of its legal rights and obligations to meet its regulatory objectives; and
- ❑ the skills and resources available to it to carry out its functions on a continuing basis. In some countries resource constraints may suggest the desirability of a multi-sector regulator or the contracting out of some regulatory functions.

When Bank Group projects depend on an effective regulatory framework, Bank staff should consider how to give support to governments to establish appropriate regulatory regimes. They should also try to ensure availability of financing and skills for a minimum regulatory toolkit (including asset valuation, regulatory accounting methods, efficiency measurement techniques, consultation processes, etc.).⁵ Monitoring of regulatory performance should thereafter be an important part of the project monitoring.

A recent World Bank Working Paper⁶ makes a strong case for considering the merits, specifically within PPP structures, of creating “regulatory contracts.” These contracts set out the specific rights and obligations of the public and private parties, rather than relying on the interpretation of a regulatory body. Regulation by contract is typically used in the transport sector for specific projects rather than industry-wide regulation. Toll-road concessions and long-term ports and airport concessions are often regulated by contract. A regulatory entity is not required if there is sufficient confidence that contract law and arbitration

arrangements can provide a remedy to the parties in the event of dispute.

Safety regulation is not the subject of this Guidance Note, but is essential for transport operations. An efficient safety regime, encompassing both the infrastructure operator and service provider, should underpin any balance of public and private roles. There is no intrinsic reason for preferring either public or private transport operations on safety grounds. But economic regulation, introduced alongside private sector approaches, should be structured in a way which will not reduce safety incentives nor inadvertently create safety disincentives. In some cases, such as air transport, safety and other regulation may be most efficiently organized on a regional basis.

3 OPERATIONAL GUIDANCE

3.1 Introduction

International experience in market economies indicates some common patterns. Broadly, private ownership of transport services has been much higher than for transport infrastructure; it has been more common for freight transport than for passenger transport; it has been predominant in road haulage and freight forwarding, but in most parts of the world remains exceptional for railway services. International experience is one important factor in determining the range of acceptable options. The Bank should also be ready to advocate more radical options where the enabling environment is supportive and clear benefits can be anticipated. Without being overly prescriptive, the remainder of Section 3 considers public and private roles within different modes of transport and those which would be more likely to meet the Bank’s criteria for support. More detailed analysis of these sub-sectors with international examples, is given in a series of sector toolkits and papers.^{7 8 9 10}

3.2 Road Transport

Road Infrastructure. Construction, rehabilitation and maintenance is expected to be financed mainly by the public sector for the foreseeable future, with work executed under competitively-bid contracts. The Bank supports the creation of independent Roads Boards to represent user groups in overseeing the road network. Construction and maintenance should be the responsibility of specialist Road

Agencies rather than government departments. The Bank sometimes endorses public enterprise style "Road Funds" to redress long-term under-funding of maintenance. These should be supported by road users through appropriate charge mechanisms, and subject to high governance standards with oversight by the Roads Board. There continues to be scope for PPP approaches to deliver additional capacity in the form of major highways, bridges and tunnels. It is likely that multi-year, area-wide road maintenance contracts and concessions will provide increasing opportunities for the private sector. Intelligent Transport Systems (ITS) technologies, such as area-wide road pricing, are also possible candidates for PPP as technology risks may be partly defrayed to the private sector.

Road Haulage. International experience suggests that road freight services are best provided by the private sector in competitive markets. It is unlikely that the Bank would provide financial support for a state-owned road haulage company. However, the industry is poorly developed in many client countries where there may be a case for enterprise development assistance to road freight operators, and to help build freight forwarding capacity.

Road Passenger Services. The Bank's preferred model is the creation of competitive or periodically contestable operations by private bus companies, with specific reimbursements or public service contracts to meet public service obligations. However, public ownership remains widespread in some borrower countries. Support may be given for those that have efficient and sustainable business models, and/or in association with the implementation of credible reform plans involving staged approaches to private participation in service delivery.

Informal Services. These include pedestrians carrying goods, bicycles, country-boats, and small-motorized vehicles, with the latter increasing dramatically where incomes rise. A rich variety of small-scale transport operators exist in many developing countries, frequently being more significant than formal providers and providing major sources of low-income employment. These modes often provide the only viable low-cost means of local transport. In the absence of developed capital markets, the Bank Group may help support such activities through micro-finance initiatives. It may also have a role in advising on whether

and how to regulate such services (if there is any persuasive public interest case for intervention) without stifling their entrepreneurial nature or reducing their affordability.

3.3 Maritime and Inland Waterway Transport

Navigation Infrastructure. Responsibility for providing and maintaining common user facilities, such as shipping channels, canal navigation, navigation safety aids, is almost universally a public sector role. This is partly because of traditional concepts of "freedom of navigation" and partly because of the difficulty of levying direct user fees. There have been very few PPPs in this area. Many functions (such as dredging, provision and maintenance of navigation aids) can be beneficially contracted out to private companies. Also, some stand-alone facilities, such as major new ship-locks, may be privately supplied and costs recovered through user fees.

Port Infrastructure. Public ownership of port infrastructure is common throughout the world. For the larger public ports, the Bank favors a "landlord" model. In this model the role of the public sector is as a corporatized and commercially run port landlord. The public sector landlord does not provide stevedoring services to shippers but is responsible for maintaining channels, wharves, utilities and common areas (such as internal roadways). Many of these functions, such as tug services, maintenance of wharves, etc., may themselves be contracted out to the private sector.

Private ownership of ports is also supported, and competition between ports is beneficial where it can be sustained. When private investment is conditional upon exclusive rights, then it is important that allocation of such rights is by a fair and transparent process and that an appropriate regulatory framework is adopted.

Stevedoring Services. Within the "landlord port" concept the stevedoring services would be privately run. This can be achieved through a number of different leasing, concession or ownership structures. If the traffic can sustain it, competition between stevedores is also desirable. The Bank does not rule out financial support for existing public stevedoring services in ports that have proven efficient and sustainable business models; or as transitory arrangements leading to private participation and, if possible, competition. At very small

common user ports (such as river ports), the various activities may not be economically separable and an integrated publicly-owned port may be an appropriate solution, possibly with a private management/maintenance contract.

Shipping/Barge Services. Sea and river transport services are usually best provided by the private sector within competitive markets. It is, therefore, unlikely that the Bank would provide direct financial support for investments in state-owned shipping companies unless as part of a privatization plan. There are specific circumstances, such as road ferries, which are essentially part of an otherwise public road network when the Bank might consider funding publicly-owned vessel services. However, even in such cases, the trend is towards contracting services on the basis of competitive bidding.

3.4 Air Transport

Air Navigation Infrastructure. The public sector provides air navigation services in nearly all countries. Air navigation is a geographic monopoly. However it is also an area in which there are well-developed and accepted systems for levying direct user air navigation charges. Revenue potential is often sufficient to make a PPP approach attractive, but most countries have chosen not to do so partly because of public concerns about safety. While ANS services are likely to remain in the public sector in most countries, there is a strong case for corporatization of ANS functions. This approach is supported by the International Civil Aviation Organization (ICAO).

Airport Infrastructure. Most major airports in most countries are publicly owned and operated, though private participation is increasing. Governments have often been reluctant to privatize major airports for strategic and/or regional monopoly reasons, and the minor ones because they are not financially self-supporting. The Bank is unlikely to support a more traditional departmentally administered airport except as part of a transition to a more commercial model.

One approach is to corporatize within a framework similar to a "landlord port" model, with a state-owned company hosting a range of different private "tenants." But airports can also provide good opportunities for privatization or for long-term private concessions (with appropriate regulatory

arrangements). This is true of both complete airports and key airport infrastructure facilities, such as passenger and freight terminals.

Airport Services. The private sector is preferred as supplier of airport services, such as baggage handling, catering, aircraft fuelling, car parks, etc. Private supply can be achieved through a number of different and well developed management, leasing, concession or ownership structures. However, for regional airports, the various activities may not be economically separable from the landlord functions. An integrated publicly-owned airport may then be an appropriate solution, possibly with a private management contract.

Airline And Airfreight Services. Airline (and general aviation) services are usually best provided by the private sector within competitive markets. It is unlikely that the Bank would provide direct financial support for investments in state-owned commercial airlines, unless as part of a privatization plan.

3.5 Railway Transport

Railway Infrastructure. Railway infrastructure includes railway track, bridges, tunnels, marshalling yards, transformers and electrical catenary, telecommunications and train control systems. Most of the recent increases in private participation in rail infrastructure has been through the concessioning or privatization of vertically integrated, predominantly freight railways. The Bank Group has supported a number of railway privatizations of this type, and will continue so to do.

By contrast, most predominantly passenger railways remain publicly-owned with budgetary support for both train operations and infrastructure investment. Typically they cannot be financially self-supporting either as public or private companies. In general, Bank support for such railways will be given where they can efficiently fulfill an important social and/or economic role which cannot easily be replaced by other means. Financial support for a vertically integrated railway will often be in the context of sector reforms involving corporatization and restructuring on business lines, with targeted and sustainable revenue support mechanisms.

PPPs have a promising role in railway infrastructure in certain well defined conditions. This is particularly so for separable or

“greenfield” projects, such as dedicated high speed lines, new freight lines, new railway telecommunications systems, major station redevelopments, etc. It is much harder to graft a PPP approach onto a specific infrastructure project located on an already operating passenger railway. This involves complex interface risks involving train operations, engineering possessions, and financial and safety impact. Such risks may be difficult to allocate and manage.

Train Operations. Most railways internationally remain vertically integrated, either within the same company or within related divisions or companies under a holding structure. Fully separated models (as in some countries of Europe and in Australia) have yet to prove a more efficient long-term approach. As noted in Section 2.3, the Bank is prepared to work with integrated and separated railway enterprises on financing infrastructure and rolling-stock needs, depending on the commitment of operators and government to efficiency and sustainability. Moreover, the emergence in recent years of a few independent international private train operating companies to supply freight and regional passenger services is promising. It is drawing the private sector into the industry and promoting some contestability of markets.

3.6 Urban (Fixed Track) Mass Rapid Transit

For both technical and economic reasons these systems, mainly metros, are in nearly all cases vertically integrated. Most existing systems are publicly-owned and some are very well-managed. But there are also examples of successful concessioning of metros and this approach should be considered when an incumbent public operator is failing. Financial support for rehabilitation, extension and re-equipment of MRT's can be considered both through public and PPP approaches, depending on circumstances.

Building *new* MRT systems is very complex and very expensive. New MRT systems are rare in poorer countries, but becoming more common

in middle-income countries. Where they can be economically justified, some form of private participation will normally be the preferred approach, though heavy financial support is usually unavoidable and the fiscal capacity of governments may be a major constraint.

3.7 Instruments of World Bank Group Support

The World Bank Group has a range of general instruments that can be used to assist in the development, improvement and sustainability of transport infrastructure and services:

- ❑ Policy Dialogue
- ❑ Technical Assistance
- ❑ IFC Investment Loans
- ❑ IBRD/IDA Investment Loans
- ❑ IBRD/IDA Program Loans
- ❑ MIGA Guarantees and Insurance Products
- ❑ IDA/IBRD guarantees

These instruments are a means to the ends summarized in Section 1.2, whether interventions are in the public or private sectors or structured as PPPs. The instruments are summarized in Table 3, with brief comments on their application. The instruments are not mutually exclusive. For example, World Bank and IFC loans, and MIGA guarantees could all contribute to delivery of a single PPP project. In addition there are specific instruments, such as the Global Environment Facility, that give grants to projects that promote sustainable urban transport, and can be used to support public or private approaches.

Bank Group staff should take a broad view of the spectrum of roles which the public and private sectors can legitimately play in the transport sector; equally, of the range of Bank Group instruments available to support policy and investment options along that spectrum. By so doing, the Bank Group will provide a better service to its clients.

Table 3: Indicative Applications Of Main World Bank Group Instruments			
	Public Transport Infrastructure and Services	Private Transport Infrastructure and Services	PPPs in Transport Infrastructure and/or Services
Policy Dialogue	Insights into local problems and presentation of well-researched policy options for sector and/or projects (public, private and PPP), and international experience with lessons learned.		
Technical Assistance	Can be used to identify and/or implement institutional, organizational, regulatory or business process reforms in government enterprises; or to move them towards greater private participation.	TA is not provided to private companies, but benchmarking studies of the private sector, and post-privatization or concession performance can be useful to provide models for other governments considering such policies.	PPPs typically impose heavy requirements for professional services that TA can help to fund, subject to successful initial screening (see Table 2).
IFC Loans	IFC financial support could be given for a publicly owned entity in the context of pre-privatization equity. IFC could alternatively help provide financing needs (including acquisition costs) of a private purchase of a State-owned entity.	IFC loans can be made to any private company in the transport sector (whether infrastructure or transport operators).	IFC loans can be made to the successful private bidder in a PPP transport scheme.
IBRD/IDA Investment Loans	IBRD/IDA loans can be made for public sector transport enterprises, either for investment, structural reforms or transition costs such as labor force restructuring.	Loans can be made to government, or guaranteed by government, for on-lending to small and medium private transport operators, for example, as part of a rural development project.	IBRD/IDA loans can be made to the public sector to meet a capital financial commitment to a PPP scheme. May complement an IFC loan as above.
IBRD/IDA Policy/ Program Loans	Can be used by client subject to a program of sector reforms which would be inappropriate to associate with a specific investment loan.		Part of a program loan could be used to support the public sector financial commitment to a PPP.
MIGA Guarantees		MIGA is available to provide non-commercial risk guarantees (Transfer and Inconvertibility, Expropriation, War and Civil Disturbance and Breach of Contract) to investors, including Contractors and Operations & Maintenance providers, as well as commercial banks. Breach of Contract coverage is of particular interest for PPPs as it guarantees the investor/lender against the non-honoring of sovereign or sub-sovereign obligations regarding the PPP project, including payment obligations.	
IBRD/IDA Guarantees		Partial risk and partial credit guarantees can cover debt or cash flow to private investors for specified project risks related to areas of government responsibility or payment obligation or specified political risks. Subject to counter-guarantee from government.	

ENDNOTES

1. Infrastructure Action Plan. July 2003. Infrastructure Vice Presidency. World Bank, Washington, DC.
2. Private Participation in Infrastructure Project Database. World Bank, Washington, DC.
<http://rru.worldbank/org/ppi/>
3. Criteria and Terminology of the Private Participation in Infrastructure Project Database (Appendix 1). World Bank, Washington, DC.
4. Estache, A. and G. de Rus, eds. 2000. Privatization and Regulation of Transport Infrastructure: WBI Development Studies. World Bank, Washington, DC.
5. Estache, A. 2003. Institutional Aspects of Infrastructure Regulation. Conference Paper, Berlin.
6. Bakovic, T., B. Tenenbaum, and F. Woolf. 2003. Regulation by Contract. Working Paper No 14. World Bank, Washington, DC.
7. Public-Private Options for Developing, Operating and Maintaining Highways: Toolkit for Policymakers. 2003. World Bank, Washington, DC.
8. Port Reform Toolkit. 2003. World Bank, Washington, DC.
9. Kopicki, R. and L. Thompson. 1995. Best Methods of Railway Restructuring and Privatization. World Bank, Washington, DC.
10. Gwilliam, K., L. Thompson and N. Shaw. 1996. Concessions in Transport. TWU-27. World Bank, Washington, DC.