

Drivers and outcomes of private-public partnerships in mass transit systems: an exploratory analysis of selected cases

Joaquim Aragão¹; Enilson Santos²; Rômulo Orrico Filho³; Anísio Brasileiro⁴

Abstract: The present study aims to analyze the policies of the insertion of private capital into mass transit systems. As it is argued in the introduction, the different relative weights of political factors and of economic reasons in every project may produce particular outcomes and affect distinctively the success of the undertaking. A set of question is defined for the scope of the analysis to be performed. Initially, the concept of public-private partnership is explained, and in the further sections, examples of developing and industrialized countries are discussed. A brief conclusion based on the initial questions closes the study.

Resumo: O artigo pretende analisar as políticas de inserção do capital privado em sistemas de transporte de massa. Como se argumenta na introdução, os diferentes pesos relativos dos fatores políticos e dos argumentos econômicos em cada projeto podem levar a resultados diferentes e afetar de forma distinta o sucesso do empreendimento. Uma série de questões selecionadas compõe o escopo analítico a ser desenvolvido. Inicialmente, o conceito de parceria público-privada é explanado, e nas seções subsequentes, casos originários de países em desenvolvimento e industrializados são discutidos. O artigo encerra-se com conclusões pautadas pelo conjunto das questões selecionadas.

1. INTRODUCTION

As it was the case in the different infrastructure industries, the introduction of private investment into mass transit system development has been a mainstream in transit policy in the last decades. In part, this move had been justified by the lack of financial resources for further public investments or by the efficiency gains the private initiative could bring in. On the other side, this move had a political and ideological background after the pitfalls of welfare and socialist economics. Actually, both economic (moreover financial) reasons and political/ideological reasoning were decisive drivers for the move.

However, the weights of economic/financial reasons on one side, and the political voluntarism, on the other, were different from country to country, as well as from project to project. These different weights may have produced different outcomes with respect to the project scope, to the project aims, to the actors involved, to the social and urban impacts, to the success project management and also to the particular financial engineering and involvement of public and private resources. For instance, mainly politically moved projects (e.g. privatization schemes of existing rail services) may require a more generous participation of

public support in terms of pre-investment and delivery of previously state-owned assets, which could be questioned if they were submitted to a more rigorous economic analysis (eg. comparative value-for-money analysis or social cost-benefit analysis). Evidently, political strains and moves are never absent in such a decision, but if privatization processes are more rationally embedded into a economic and industrial policy (e.g., broad public-private partnership policies as practiced in the UK or Ireland) at least there may be a more deep effort to justify the privatization moves in term of financial, industrial or spatial planning gains. Another aspect may also have implied the different outcomes which was the managerial competence of Public Administration. Eventually, political changes may have provoked discontinuities, at least in the intensity or aim orientation of the privatization process.

This article aims to present a preliminary analysis of the recent policy of insertion of private capital in mass transit investments and operation. Some corner examples, both of developing and industrial countries will be outlined. The distinction between the two groups may be justified as the emerging countries were actually forced by international financial institution to follow the privatization path, as they were financially dependent on these agencies. Whereas in the industrialized countries, the decision was more internally driven, by the urge of conservatism in their political arenas (the policies of the European Union may not be considered a strong pressure for the changes).

This said, different selected projects are briefly reviewed in order to get some insights in the following issues. Firstly, were the projects properly inserted in a comprehensive urban planning? What were the main aims of the projects and the insertion of the private in-

¹ **Joaquim Aragão**, Universidade de Brasília. Brasília, DF, Brasil (e-mail: aragao@unb.br).

² **Enilson Santos**, Universidade Federal do Rio Grande do Norte. Natal, RN, Brasil. (e-mail: emsantos@ct.ufrn.br).

³ **Rômulo Orrico Filho**, Universidade Federal do Rio de Janeiro. Rio de Janeiro, RJ, Brasil (e-mail: Rômulo@pet.coppe.ufrj.br).

⁴ **Anísio Brasileiro**, Universidade Federal de Pernambuco. Recife, PE, Brasil. (e-mail: anisiobfd@hotmail.com).

dustry? With respect to the financial engineering, what was the actual participation of the private and public capital? What was the degree of project completion and which discontinuities were observed? Finally, how was the partnership modeled and how was the project management run? Evidently, these questions were selected on the basis of the material that could be collected, and a broader assessment would bring in a bigger lot of issues to be analyzed. Moreover, the material for the different cases could not deliver answers to the different questions put here. Thus the analysis will have a more aggregated nature.

The study starts with a conceptual discussion on the public private partnerships in general. Afterward, the cases for the developing countries and for the industrialized ones are presented. The study closes with a general conclusion based on the questions put above.

Before we start, some words should be said about the new types of concession contracts which have been introduced in Brazil by the Law no. 11.079/2004. This Act has introduced the "administrative" and "(governmentally) sponsored" concession contracts. By the first contract class, the Administration is empowered to sign contracts by which the contractor is rewarded solely by government payments, whereby in the second type, the government payments complete fare or toll revenues paid by the users. These new contract classes, which are called PPP contracts only broaden the spectrum of administrative contracts (O&M contracts, ordinary BOT contracts by which the contractors is solely rewarded by the toll or fare revenues, governmental participation in private projects, private equity participation in public companies, and the like), which are admitted by other Brazilian Acts. In order to avoid the loss of control on public finances, the contract procedures and the limitation for the financial participation of the Administration are extremely rigorous. Even if the new legislation is still restrictive, it is a further step to admit private participation in infrastructure investment.

2. PUBLIC-PRIVATE PARTNERSHIPS: WHAT IS REALLY NEW IN THIS REGULATORY STRATEGY?

The terminology "public-private partnership" (PPP) has been diffused as a new mainstream regulation and funding strategy for essential facilities. However, its content is still not precise, as the term is moreover used for as an umbrella for different forms of insertion of the private sector into the provision of public services and services in general to the public administration (Lignières, 2000; Perrot and Chatelus, 2000). Sometimes, the notion of partnership is also and abusively extended to different forms of co-operation between the public and the private sectors as for exam-

ple industrial policies, urban renewal programs, etc., which have been practiced along the different phases of capitalism. Actually, the contractual link between an authority and the partner firm may be used to distinguish clearly the present notion of partnership from the other broader co-operation tools.

But even if keeping to the narrower limits of administrative contracts, what are the distinctive features between the partnership contracts and other more conventional ones? As it may be inferred from the respective literature (EMCT, 2000; Fayard, 1999; HM Treasury, 2000; Lignières, 2000; Ministry of Finance, 2002; National Treasury, 2001; NSW Government, 2001; Partnerships Victoria, 2001; Perrot e Chatelus, 2000; Ruegg *et al.*, 1994), the partnership contracts intend to involve the private industry not only in the funding, execution and commercial operation of a service or infrastructure project which has been totally developed by the authorities (as it would be the case in traditional forms of administrative contracts), but also in the conception itself of the project. By this, the Administration aims to appropriate some of the "expertise" of the private industry, especially with respect to the choice of the proper technology, to the final design of the project, to the operation of the infrastructure and to the finance engineering. The Administration would therefore be more concerned in "acquiring the service" following the given performance standards he defines than to provide its material means directly. For doing this, the private investor and/or operator would be rewarded by the fare prices paid by the users, by direct payments from the Government or by a composition of these or other reward modalities; the height of the reward itself would be directly linked to the achieved performance level.

It may be remarked that the terminology PPP has its historical origin in the beginning of the current British Labour Administration, when the former PFI (Private Finance Initiative) terminology has been replaced. This was not a mere change of six for half a dozen: as the PFI notion reflected a policy which preferred unconditionally the presence of the private sector in the resorts it was interested in, in the PPP context, there should be a prior and objective comparative case by case analysis which sector would be better in delivering a concrete service or infrastructure investment.. The choice should correspond to the option which would deliver best value, and for this kind of comparison a method has been adopted by different government agencies, which is the Public Sector Comparator (see Centre for Public Services, 2001; Department of the Environment, Transport and the Regions, 1998; Duchène, 1993; HM Treasury, 2000; Lignières, 2000; Rao, 2001; Reátegui, 1998).

Nowadays, the public-private partnerships are been

adopted by different countries in the different continents, whereby the United Kingdom keeps and markets its pioneer role (International Financial Services, 2003). A huge international market for financial, legal and consultancy services is consolidating itself, dominated by firms from the countries which had pioneered the strategy. Also the different Multilateral Agencies (IRBD, IADB, ADB, etc.) are incited to use this mechanism in their funding operations, and also to build banks of experiences and publish guidelines (Centre for Public Services, 2001; European Investment Bank, 2001; Private Infrastructure Advisory Facility, 2002; Public-Private Partnerships for the Urban Environment / Carl Duisberg Gesellschaft, 1999).

The PPP's have a broad field of application, mainly in the so-called economic infrastructure (water and sewage, transportation, telecom, power, etc.) but also in some social services (health, education, social security), and even in eminent tasks of the public administration (prisons, control, data bank etc., see: Arbeitsgemeinschaft Entwicklungsländer, 1998; Busson, 1993; Carl Duisberg Gesellschaft / United Nations Development Programme, 1999; Centre for Public Services, 2001; Department of Public Enterprise, 2002; Department of the Environment and Local Government, 2000; Fisher and Babbar, 1996; HM Treasury, 2000; House of Commons Library, 2001; Léon-Dufour, 1993; Lignières, 2000; Perrot and Chatelus, 2000; Robinson *et al.*, s.d; Province of Nova Scotia, 2003; Public Private Partnerships Programme, s.d.; Public-Private Partnerships for the Urban Environment / Carl Duisberg Gesellschaft, 1999; Shaikh and Minovi, 1995; United Nations Conference on Trade and Development, 1998).

Which are the reasons alleged for the introduction and the development of the partnerships? Firstly they may arise as a regulatory strategy with the aim to foster efficiency gains in the delivery of public services. The presence of the private sector by means of PPP's is supposed to add value to these activities, compared by their traditional delivery by the public sector. Actually, the financial limitations of the public sector to maintain and to expand the already huge service networks have led the Public Administration even in the industrialized countries to search for complementary private funding sources (Belli, 1996; Department of the Environment and Local Government, 2000; Duchène, 1993; EMCT, 2000; Estache, 1999; Estache and Strong, 2000; HM Treasury, 2000; Jacobson and Tarr, 1995; Landrieu and Roy, 2001; Lignières, 2000; NSW Government, 2001; OCDE, 2000; Rousseau, 1993; Rugg *et al.*, 1994; Shirley and Walsh, 2000; The World Bank, 1996).

In the narrower field of land passenger transportation, public-private partnerships have come to applica-

tions basically in rail systems, both urban and interurban, but also in some bus corridors (Bogotá and Santiago de Chile); in these last cases however the participation of private capital has been restricted to the acquisition and operation of the vehicles, leaving the Public Administration the task to build the infrastructure. In general, passenger transportation has not been able to attract private investment at the level observed in other facilities as sewage, telecom, power, airports, ports and toll roads. The reason would be the considerable political and demand risk involved: passenger transportation used to be regarded as a social issue, whereby the necessary fare price adjustments, even when established by contract, are difficult to implement. Beyond this aspect, the land use impacts raises acid conflicts between the project promoters and the adjacent neighborhood. It shall also be remembered that land value in demographically dense environment, which in principle is prone to rise the needed demand for turning the project feasible, is high, turning expropriation and land acquisition too expensive (Kalthier, 2001).

Nevertheless, the scarcity of financial resource for the provision of modern transportation means which would be needed to reduce the progressively more critical congestion has pushed governments at least to foster the possibilities of involvement of private capital into the respective investment. In the rule, real estate investment opportunities derived from the consequent rise of adjacent land value, especially near the stations, are considered as complementary receipt sources for the investors, even if the expectations are difficult to fulfill, at least in the amount and speed needed in order to enhance the cash flow during the critical phase.

Given the difficult profile for the aim of feasibility, the financial participation by the public administration uses to be substantial, especially in the construction of the facility and even in the acquisition of the rolling stock. The remaining duties for the private partner go hardly beyond the operation and the maintenance of the facility, and even this has to be pushed by special incentives as e.g. possibilities of commercial exploitation of real estate and other public domains left at disposal for this aim. Turnkey and leasing arrangements for the acquisition of installations and equipments have also been an alternative for the insertion of private investment.

In developing countries (emerging ones), where larger public monopolistic operators in public transportation are not the rule, the insertion of private investment in the operation and modernization of existing systems (South America) and in the construction of new systems (Thailand, Malaysia and India) has been constantly attempted (Kalthier, 2001).

3. CASES OF PRIVATE INVESTMENT IN TRANSIT SCHEMES IN DEVELOPING COUNTRIES

3.1. Privatisation of existing rail services in Buenos Aires and Rio de Janeiro

Buenos Aires privatized during the nineties its 45 km long underground and its 850 km long suburban rail systems, which were until then run by the government on a heavily subsidized basis. Before the concession took place, the suburban rail was turned into a corporation, whereas the metro system was devolved to the capital administration. Both systems were tendered for the least subvention (measured in present value) for a 20 years long period and a given fare price top. The competitors had to prove their operational experience, and the concessionaire would enjoy exclusivity rights on the tracks on which they would operate. The infrastructure and the rolling stock remained property of the government, and real estate which were not immediately tied to the operation were returned to a national railway authority (Ente Nacional de Bienes Ferroviarios, ENABIEF). With respect to subsidy, the concessionaire was entitled to monthly operational and investment payments; however, most of the investment, which amounted to 1.4 Bio. US\$, was in charge of the Government, financed by World Bank loans. After the first years, the concessionaires should pay the government for the concession.

The contracts were awarded in an international procurement procedure, attended by eight consortia after an expensive international road show. The winners were four consortia, basically controlled by local bus operators and constructor groups; accordingly to the prescriptions in the EOI documents, internationally experienced rail service operators were inserted into the consortia, but they had a secondary role. The procurement procedures were conducted by a rail privatization authority (Unidad Coordinadora del Programa de Reestructuración Ferroviaria) which was succeeded later by a national rail regulator CNRT (Comisión Nacional de Regulación de Transporte).

Initially, the success was overwhelming, as after the first five years the patronage had doubled, although this raise was much due to the attraction of bus users, as the participation of individual transportation in the modal split raised from 22% to 28%. But in the subsequent period negative aspects came to day as the lack of transparency and of incentive for producing efficiency gains. The government did not control the actual cost structure and lost its capacity to comply with the contractual subsidy obligations, leading to the suspension of the programmed investments by the concessionaires. The financial robustness of these concessionaires, which had not been properly evalu-

ated during the selection procedure, flawed. The whole concession strategy, which had been executed quickly without any previous value analysis, was not embedded in a more general urban and transportation planning framework, and the conceded rail network remained not integrated with the bus network. The amounting problems led to the need of renegotiation of the contracts, but the negotiation process is presently in deadlock. The modernization investments, especially in the infrastructure, have been halted.

Rio de Janeiro privatized also its urban rail system in 1997/98. Whereas the metro system (2 lines) was already under control of the State government, the suburban rail system had still to be transferred from the Federal urban rail company CBTU to the State government, in order that this one proceeded in an integrated but separate procurement procedure the privatization of both systems. With support from the World Bank a rehabilitation program of the severely run-down suburban rail system (400 Mio. US\$) and a development of a General Transportation Plan were previously executed. An extension of the metro system from 23 to 35 km was financed by the National Development Bank. Both systems were at this time dependent on subsidies at a height of 230 Mio. US\$ per year.

The concession contract for the metro system was awarded for a period of 20 years to a consortium built up by Brazilian and Argentinean investors and bus operators, which would make yearly payments to the Government and fulfill a catalog of quality targets. No operational subsidies were foreseen, and the fare price was fixed ahead (incl. its adaptation rate based on an inflation index). The suburban rail system was also awarded against a payment to a Spanish and Brazilian consortium; however, this payment was not monetary but in value of the proposed rehabilitation investment (additional to the up-front rehabilitation program already executed by the Government). Again, no operational subsidies were foreseen. For both systems, the extension of the concession system remained responsibility of the Government.

3.2. Bus Rapid Transit systems in Bogotá (Transmillenium) and Santiago de Chile (Transantiago)

The ambitious Transmillenium project in *Bogotá* is a major mark in the recent history of the BRT concept, as it has introduced technological and institutional innovations such as centralized operation control and the separate subcontracting of a financial manager for all the private operators (Gómez, s.d.). Starting from 2001 until 2015, 23 bus corridors totaling 388 km shall be in operation, covering 85% of the metropolitan area in such a way that in that area no point will be

more distant than 500 m from the next bus station. The total project investment amounts to 5 Bio. US\$. Whereas the responsibility for the construction of the infrastructure remains with the public administration, the acquisition of the modern fleet and its operation has been contracted to private operators. The Transmillenium (public) corporation plans, controls and contracts the operation (these are run by four consortia) and also the financial management (Lloyds TSB) and the operational control (Angelcom). However, there are remaining operators outside the contracted system, that are trying to build up a competing integrated system. (Celis, s.d).

Based on the experience of Transmillenium, *Santiago de Chile* is building up a whole network of BRT corridors, which shall reinforce the metro lines and be complemented by feeder services in 10 basins. The general framework for the corridor and feeder program is prescribed by the Plan de Transporte Urbano para la Ciudad de Santiago, PTUS, which was issued in 2001. The bus corridor program system has been contracted to the private sector by means of four separate procurement procedures, which has been implemented in 2003-4: the first one referred to the construction and operation of the corridors. The second procedure should contract the services in the feeder basins. A third procedure shall contract the financial administrator of the system, which shall install the fare collection equipment and handling all the fare revenues and distribute them to the operators, and finally the fourth will set up and manage the operation control and information system. The program will be executed from 2005, beginning with the investment in a modern bus fleet and then by the installation of the fare collection equipment.

3.3. Greenfield Projects for Urban Rail Systems in Kuala Lumpur, Manila and Bangkok

In 1996 *Kuala Lumpur* started its first Mass Transit PFI Project, which was a transformation of an existing railway line into a 12 km long modern urban rail system; in 1998, an expansion of 15 km followed. In 1999, 60,000 passengers per day were accounted, which assured a receipt/cost ratio of 1. The concession period is 30 years, and the investment cost amounted to 1 Bio. US\$. Subsequently, the fully automated PUTRA System went in 1999 into operation (29 km, 2.3 Bio. US\$ investment costs, 30 years concession period). One year after going into operation, 110,000 users per day assured a 0.5 fare box ratio. The contract was awarded to a constructor local and real-estate investor; the international loans were guaranteed by the Government (Arbeitsgemeinschaft Entwicklungsländer (AGE), 1998).

In *Manila* an already existing metro line 1, built in 1984, should be complemented by other lines. The line 3 was awarded as concession to a local real estate investor for 25 year by means of a Built-Lease-Transfer contract, by which the investor took over the construction and financing tasks as well the full commercial risk of the operation. The government awarded a return guarantee of 15% to the equity capital. Additional real-estate receipts should be divided between the concessionaire and the government. The capital costs of the 17 km amounted to 700 Mio. US\$. In the first year of the operation 60,000 users per day were counted, whereby the feasibility studies assumed a patronage level 420,000 passengers per day.

With respect to *Bangkok*, in the year 1991, the 7th Seventh Plan Urban and Regional Transport, (SPURT) came to life, which foresaw a list of seven mega projects for private investors in the value of ca. 8 Bio. US\$. Actually, only three projects were executed, one of which was Bangkok BTS-System (Green line), which went in operation in 1999. The contract was awarded in a quick procedure to a local investor (Tanayong) and has been modified several times since then. The project has been totally financed by private capital, under governmental credit guarantee and tax holidays. The fare box and returns from real estate investment should level the project until 2011 to break even. The system has a length of 23.5 km, 23 stops and a capacity of 40,000 passengers/hour. The contract period is 30 years, and the investment costs amounted to 1.7 Bio. US\$ (20% equity). For the financing of the project, a bank consortium was set up led by the KfW, and has a participation of the IFC.

As the SPURT projects were not properly integrated into a broader general transportation plan, the lack of integration with the rest of the transit network led a poor financial result (25% of the proposed breakeven value); other problem factors were the poor institutional integration and the bad project preparation and execution. The high fare price implies in weak patronage especially by the poor social groups. It is hoped that the expansion of the network may raise the patronage (Arbeitsgemeinschaft Entwicklungsländer (AGE), 1998).

3.4. Speed Rail Link in Gauteng Province, South Africa (Gautrain)

In February 2000 the Premier of Gauteng Province announced the intention to plan a Rapid Rail Link (Gautrain) connecting Pretoria, Johannesburg and Johannesburg International Airport (JIA) as one of ten Spatial Development Initiatives (SDIs) - also known as Blue IQ - of the Gauteng Government. Blue IQ is a multi-billion Rand investment initiative of the Gau-

teng Provincial Government to invest in eleven SDI projects. The primary objective of Blue IQ is the creation of a 'smart' Gauteng Province through the enhancement of strategic advantages, which will promote economic growth, and the creation of employment opportunities. If this is achieved, benefits should accrue to the wider population of Gauteng, helping to alleviate poverty, raise incomes and improve quality of life.

The eleven SDI projects, including the Gautrain, are aimed at stimulating development in specific areas of the province with a high potential for economic growth, thereby creating employment opportunities. The Gautrain project is also in line with national Government's stated policy to promote public transport, and to prioritize it over private transport. The project is targeted at attracting current private car-users to the rapid rail system, and thereby alleviating congestion on the roads between Pretoria and Johannesburg, where the traffic volumes have been growing at a rate of approximately 7% per annum for more than a decade.

The proposed Gautrain Rapid Rail Link entails the construction of a modern, state-of-the-art rail connection linking Pretoria, Johannesburg and JIA. The network consists of two spines: a north-south spine linking the two major cities of Pretoria and Johannesburg (a commuter service), and an east-west spine linking Sandton and the East Rand at Rhodesfield in Kempton Park (a commuter service), together with a dedicated service linking Sandton and JIA (an airline passenger service).

A network length of approximately 80 km is planned, with provision for future extensions. A feasibility study was conducted in 2000/2001 by a consortium of consultants (the Gautrain technical team) appointed by Gautrans. The proposals for the Gautrain Rapid Rail Link were developed during this period. Also an Environmental Impact Assessment was completed in 2002. The project is sought to involve the private sector (BOT). A Request for Proposals issued in 2002 received ten proposals, of which two remained pre-selected. After the conclusion of the expropriations, construction work will start in 2005.

4. CASES OF PRIVATE INVESTMENT IN TRANSIT SCHEMES IN INDUSTRIALIZED COUNTRIES

In Europe, the bigger monopolistic public operators confirm their presence even in projects which are foreseen as public-private partnerships (High Speed Rail projects in South Holland and between Spain and France). An interesting exception has been the Fertagus project in Lisbon, whose original contract however has been modified significantly. Japan has a long

history of a consolidated private rail industry, even before the privatization of Japan National Rail; but in this country even the larger companies have avoided to invest by herself in new lines and in the extension of the existing ones without a substantive financial participation of the government agencies. For this purpose, specific mixed capital societies (Daisans) have been set up.

4.1. The South Holland High Speed Rail

The major PPP project in the Netherlands is the new high-speed rail line between Amsterdam and the Belgian border to Brussels. The 100 km long line will have a construction cost of 2.4 billion Euros. This project has to be analyzed in the context of the policy of the European Union to build up a network of high-speed railway lines in order to supply an alternative to road and air transport, which are already congested. Since beginning of the nineties this project was considered in the Strategic Planning of the Dutch National Government, and subsequently studies were carried out to see whether construction of a high-speed line was feasible and how the task might best be accomplished. For this purpose, a HSL Project Organisation was set up. Once the government and Parliament had decided to go ahead with the project, the preferred route was identified and an intense dialogue with the society took place, in order to minimize and compensate particular damages to residents.

Following evaluation of objections by the Council of State, the final version of the Route Decision became irrevocable in the course of 2000. However, for the construction of the HSL many thousands of permits, authorizations and consents were required, whereby the Project Organisation had to work closely together with a lot of provincial, municipal and water authorities.

The core strategy for establishing a partnership strategy was to work with multiple partnerships. Since the beginning, two major consultancy firms were hired (Holland Railconsult and DHV). The resulting contract structure was quite complex, as it was decided that the construction works of the rail infrastructure, the maintenance and management of the infrastructure, the operation of the trains and the construction and management of the stations should be awarded in separated, although mutually linked contracts.

For the construction works, six consortia were contracted (the Northern Holland – Consortium, the Tunnel under the Green Heart – Consortium, the South Holland Central South Holland South – Consortium, the Brabant North – Consortium, and the Brabant South – Consortium). From each consortium it was expected to invest in the development of indus-

trial construction techniques involving a degree of prefabrication.

For the linkage of the High-Speed Line to the existing Dutch railway network, another consortium has been contracted, which is the Infrarail consortium. It is responsible for building of new bridges and flyovers and the laying of new points and extra track. The *Infrarail* consortium unites nine Dutch construction companies. Together they will build connections which will allow the high-speed trains to reach the existing stations in Amsterdam and Rotterdam, while fast shuttles will be able to branch off to Breda. The contract has a capital value of over EUR 200 million and comprises connections to existing track at Hoofddorp, between Rotterdam Lombardijen and the Willemsspoor tunnel, between Zevenbergschenhoek and De Mark, and at Breda. A separate contract should be awarded in the course of 2002 for the link from the HSL to Rotterdam Central from the north.

Once built, the infrastructure will be maintained for the first twenty-five years by the Infrasppeed consortium, which has been contracted separately in 1999 to design, build, finance and maintain the HSL's rail systems - that is, in essence, the track, the catenate power supply system and the safety and security systems. It will also be responsible for the management and maintenance of concrete structures. Only after the line has been completed will the government start paying Infrasppeed an annual fee for making the HSL available, so that the Government will be actually paying for line availability. Thus, during the lifetime of the concession until 2030, Infrasppeed will receive from the Dutch State performance based revenues, which will cover the investment cost, the maintenance cost, taxes, the necessary cost of capital as well as the amortization of the investment.

The Infrasppeed consortium has been established in February 1999 consisting of the following members: Fluor Daniel B.V., Siemens Nederland N.V., Siemens A.G., Koninklijke BAM NBM N.V., Innisfree Limited and Charterhouse Project Equity Investments. The tender for the Infrastructure Provider started February 1999. In May 1999 four consortia were selected for the Consultation Phase. The four consortia were:

- Consortium Speed Rail (Ballast Nedam Bouw BV, Balfour Beatty, ABB Daimler Benz Transportation UK Ltd, Arcadis Bouw Infra BV, Systra, PriceWaterhouseCoopers).
- Consortium Infrasppeed (Fluor Daniel BV, NBM Amstelland, Siemens Nederland NV, Siemens AG, Deutsche Bank, ING).
- Consortium Zuid Rail Group (Bechtel Enterprises International Ltd, Amey Plc, Hyder Investments Ltd, Ove Arup & Partners Int. Ltd).
- Consortium Alstom Transport SA, Strukton

Groep NV, Koninklijke Volker Wessels Stevin NV, TUC Rail NV, ABN AMRO Bank NV, HSBC Investment Bank.

This Consultation phase was concluded October 1999. In November 1999 the selected consortia were invited to tender. Bids have been received end of March 2000. Following a period of careful evaluation which included a number of interactive sessions with the bidders, at the end of 2000 two consortia (Infrasppeed and Zuid Rail Groep) received invitations for detailed negotiations.

Part of the negotiation phase was that the consortia were invited to submit their best and final offers. After the negotiation phase during the first months of 2001, the Infrasppeed consortium was selected as the Infrastructure Provider. On April 25th of that year, the so called Memorandum of Understanding was signed between the project organization HSL-Zuid and Infrasppeed and confirmed by the Minister of Transport and Finance, May 23rd. In the summer the State and Infrasppeed signed the implementation agreement and some side letters.

From that day the financial close period started, which was within the scope of the Infrasppeed obligations. On 30 October 2001 the actual financial arrangements were made that made the contract final. After that the supplemental agreement was incorporated in the implementation agreement. On the 5 December the newly composed implementation agreement was signed by the Ministers of Transport and Finance.

The respective tender procedure started with the announcement in the Official Journal of the European Communities on 10 June 1999, when the Registration Document was sent to 25 companies, marking also the start of the consultation phase. Fourteen parties have registered in the period up to September 1999. Following this phase and also an evaluation phase, the Government decided that the best outcome could be achieved through public tender of both the domestic and international rail transport services, and in December 1999 the Government issued the Invitation to Registered Parties starting then the phase of tender preparations, when an intense dialogue ("Market Dialogue") with the invited parties took place. In February 2000 the Government organized an Information Meeting, for all the Registered and other relevant parties, in which the procedure was explained in depth and data were presented. In June 2000 the Cabinet decided to issue a call for tender for train operations, and in July 2000 a qualification document was sent to all Registered Parties. They had the opportunity to apply for the contracts on offer until 15 September. On that date 4 consortia put themselves forward:

1. Arriva Nederland (Netherlands) and Deutsche

- Bahn (Germany)
2. Connexion (Netherlands), CGEA-Connex (France) and SJ International (Sweden)
 3. Stagecoach Holdings Plc (United Kingdom)
 4. NS Reizigers B.V. (Netherlands), N.V. Koninklijke Luchtvaart Maatschappij (Netherlands)

The four parties all qualified, and they were sent an Invitation to Tender (ITT) on 15 December 2000. They then had until 2nd of May 2001 to present their bid. On that date three of the above mentioned consortia submitted a bid. During the next two months the government evaluated the bids and decided whether to go through to the next phase in the tender procedure.

After a thorough assessment of the bids by independent experts DB/Arriva was excluded from the procedure. The Government started negotiations with NS/KLM and signed a Memorandum of Understanding with this consortium. Meanwhile, CGEA/SJ/Connexion was placed in a waiting room.

The contract with NS/KLM was made final on the 5th of December 2001, and their consortium was named High Speed Alliance (HSA). This agreement covers both the period leading up to the commencement of high-speed train operations (the implementation period) and the period during which train services are actually offered to the public (the concession period, which will last 15 years). It is expected that the concession period will commence in April 2007. By the agreement, the High Speed Alliance (HSA) consortium is granted the right to operate domestic and international train services on the high-speed infrastructure. In respect of domestic services this right is exclusive; in respect of international services it is governed by EC Directive 2001/14.

The State guarantees the High Speed Alliance (HSA) consortium the infrastructural capacity rights that are needed to carry out the service pattern and will instruct the infrastructure operator to ensure a reasonable distribution of services through the hour and reasonable stability over the years

Accordingly to the agreement, 32 trains will run between Amsterdam and Brussels in each direction daily, stopping at Schiphol Airport, Rotterdam Central and Antwerp; 16 of these trains in each direction will originate or terminate in Paris. Moreover, 4 trains will run daily between The Hague and Brussels, in each direction; and also 16 trains per day will run between Breda and Brussels, again in each direction, with cooperation with the NMBS (Belgian Railways). With respect to domestic services, 2 trains per hour in each direction will run between Amsterdam and Rotterdam, with a minimum of 32 trains per day; other 2 trains per hour in each direction, will run between Amsterdam and Breda, with a minimum of 32 trains per day.

The service pattern may be different at weekends and on public holidays.

For this service frequency, the High Speed Alliance (HSA) consortium will have a settling-in period of two years in which it shall achieve the full service pattern for domestic trains. During this period, Amsterdam-Rotterdam and Amsterdam-Breda services will be operated at a frequency of no less than one train per hour in each direction and the consortium will use its best efforts to operate a half-hourly service. The build-up to the full international service pattern will take place in consultation with NMBS and SNCF.

The high-speed train (HST) will have to compete against conventional rail, air travel and road transport. That being so, and because under the terms of the concession the High Speed Alliance (HSA) consortium will have to pay a substantial fee to the State and therefore has an interest in carrying as many fare-paying passengers as possible, it has been decided not to impose restrictions on the consortium's entrepreneurial freedom with regard to passenger fares. However, the agreement does include the possibility for the State to introduce fare restrictions if necessary, but against a established reduction in concession fees.

With respect to the contracted quality patterns, the following basis has been agreed:

- a. International and business class passengers will have a guaranteed seat as all tickets must be reserved in advance. Passengers travelling second-class on domestic services will enjoy seat availability of at least 98%, even in the busiest trains on the busiest sectors.
- b. The HSA consortium will cause no more than 5% unpunctuality in its train services.
- c. The HSA consortium will cancel less than 5% of its train services.
- d. The HSA consortium will use a customer-friendly system to offer monetary compensation to passengers for delays which are of its own making.
- e. Due account will be taken of the needs of passengers with physical functional impairments and of aspects of public safety and security.
- f. Customer satisfaction levels will be ensured in such a manner that 80% of passengers rate it with a 7 or more on a scale of ten.

Every three months the High Speed Alliance (HSA) consortium will report to the State on the agreed quality standards. If at the end of any calendar year the HSA consortium is found to be consistently failing to meet the established quality standards, it will be granted one year in which to bring about improvements. If these fail to materialize, the State will be able either to impose a fine of up to EUR 5m per calendar quarter or to dissolve the agreement.

As the market for the High-Speed Line has still to be built up, the fee that the High Speed Alliance (HSA) consortium will pay for the concession has been set at EUR 148.26m p.a. subject to a settling-in period during which a discount will apply of 60%, 45%, 30% and 15% respectively. The full concession fee will include the usage fee for the use of the infrastructure. The concession fee will be paid on the basis of the number of train paths (A train path is defined as the infrastructure capacity needed to run a train between two places over a given time period.)

4.2. The Fertagus Railway in Lisbon

Since Salazar's years the lower platform of the 25 de Abril Bridge (formerly Salazar Bridge) had a provision for a railway service which would tie the urban areas on both margins of the Tejo river. This would only happen at the end of the 20th century, when the Fertagus link of 54 km was opened between the northern outskirts of Lisbon and to the outskirts south to the Tejo, by means of a public-private partnership. The full project shall in near future link the Exposition area in the Northwest of the capital (Gare do Oriente) to Setúbal.

Once built the infrastructure, it would be transferred to the public rail network operator Refer. The payment to Refer for the utilization of the infrastructure would be only due if the patronage reached the lower limit of a contracted spread. If instead the upper limit was reached, additional payments to the Government would be due.

Initially, the 1 billion euro worth contract (750 million for the link between Lisbon and its southern outskirts, and 250 million for the extension to Setúbal), which was awarded in 1998 after an international procurement procedure (start 1997), foresaw a total period of thirty years. The mid-term patronage was established at 130,000 passengers, but since the inauguration it has not even reached 70,000; for 2005, thanks to the extension to Setúbal opened in 2004, it is hoped that the 100,000 mark will be reached. As the investment obligations are tied to the patronage results, the investment in rolling stock is still incomplete, leading to a lower service frequency than previewed. The Fertagus consortium exploits also bus feeder services and parking lots.

Due to the reversal of the patronage expectation, the contract is now under renegotiation, its expiration deadline is foreseen for 2010, but may be extended for another nine years.

4.3. Japan's Daisans: some examples

The Third Sector Company (Daisan) is a very common organizational solution for infrastructure investment in Japan. In this country, the dense railway network is run by a great number of private and public

companies, and often these companies share their tracks in order to assure continuous services to their customers, sparing them costly and inconvenient changes. Another Japanese tradition is the use by the municipal or regional Governments of tracks of foreign companies, which abandoned them for commercial reasons. Base upon these traditions, new line investment has increasingly been put forward by joint ventures between public and private companies, particularly in the railway sector. Often private third parties participate in the respective investments. It shall be remembered that although the number of railway companies is huge, their market areas have been protected for decades, as the construction of new lines was dependent on the consent of the "area operators". A recent deregulation policy will hardly bring changes in the market, since new track investments have turned increasingly prohibitive.

4.3.1. The Hokuso Kaihatsu Railway between Tokyo and Chiba

Following the new towns program around Tokyo of the Japanese Housing and Urban Development Corporation (HUD), the construction of new mass transit lines has been a major issue in this already congested and costly area. In the area between Tokyo and Chiba, the Keisei Railway Company is the major established railway operator, and he was also expected to put forward the necessary investment. As the company refused to do so, a special "Third Sector" rail track company, the Hokuso Kaihatsu Railway Co. Ltd., was built up, with the following distribution of the respective equity stocks: Keisei Company: 47.5%; private financial institutes: 7.4%; other private investors: 1.4%; the HUD: 17.2%; the Chiba Regional Prefecture: 23.0%; the City of Chiba: 3.5% (Hokuso Kaihatsu Railway Co. Ltd., s.d.). Initially, the railway would be 19.8 km long, but the services would continue on the tracks of the Keisei Company and of the Toei Underground Company (belonging to the City of Tokyo), extending the rail service for other 12.2 km.

In 1984, an extension to the International Airport in Narita was decided, starting from the core of the new town built by the HUD. For its construction, another special public corporation was set up by the HUD, the Hokuso Kodan Line, on whose track the trains of the Keisei Company would run. Its investment costs amounted to 21.6 billion yens, of which 4.7 billion were covered by subsidies from the National Government and from the Regional Prefecture. The HUD and again the Regional Prefecture of Chiba have assumed other 2.3 billion yens as real estate incorporators. Other 2 billion came from the Company's own stock capital.

4.3.2. *The Tozai Line in Kyoto*

Kyoto's metro system went 1981 in operation and runs today two lines, amounting 26.4 km. It is directly operated by the City Council and carries daily 338,000 passengers. The construction of the second line (Tozai line), which is 12.7 km long, afforded a special institutional and funding structure. A first stretch of 3.3 km length runs in the core of the city; a second stretch uses the right-of-way of the Keihan Company but ends in a tunnel under a mountain. On the other side, a 6.3 km long stretch runs along a valley until it ends in a station belonging both to the JR Railways and the same Keihan Company. Whereas the first and third stretch belong to the City Government, the second one was constructed by a Third Sector Company, the Kyoto Rapid Railway Co. Ltd., whose stock capital belongs to the City Government, to Keihan and a couple investors (mostly pension funds). The second stretch is used both by the metro and the Keihan Railway Company.

The investment costs for the first and third stretches amounted to 300 billion yens, whereas the second stretch afforded 154 billion yens. The stretches belonging to the City Government have been funded by fiscal loans (59.5 billion yens), subsidies from the Central Government (70.6 billion yens), subsidies from the City Government (another 70.6 billion yens), debt issues acquired by a consortium of banks (95.6 billion yens) and stock capital of the metro company (2.7 billion yens; see Kyoto Municipal Transportation Bureau, 1998). The stretch belonging to the Kyoto Rapid Railway Co. Ltd. has had the following funding structure: loans from the Japanese Railways Corporation (96.5 billion yens), own stock (13.7 billion yens), lending from the City Government (33.5 billion yens), loans from the Regional Government of Kyoto (4.2 billion yens) and loans from banks (6.5 billion yens; *ibid.*).

The metro line project was imbedded into a whole urban development program which foresees also the construction of underground parking garages and real estate development. However, all these commercial opportunities were not integrated into the investment package of the Kyoto Rapid Railway Co. Ltd., and have been executed by other Third Sector companies.

4.3.3. *The Kamiida Renkaku Line in Nagoya*

Differing from other Japanese great cities, in Nagoya the individual transport is dominant. But since the sixties the City Government has invested in a large metro systems which counts today 5 lines totaling 76.5 km length and carries 1 million daily passengers (Transport Bureau of the City of Nagoya, 1995). However, this system has to be heavily subsidized, and investment in new lines is becoming progressively difficult.

For a particular line extension which should reach the end station of a private suburban rail line (Meitetsu Line), the City Government set up a Third Sector Company together with the Meitetsu Company, so that both companies would use the tracks for their services in an integrated system. The new company, which was named Kamiida Renraku-sen, would be owned by the City Government, the Meitetsu company and other private investors.

5. CONCLUSIONS

As shown in this study, the insertion of private investment in land passenger transport systems have multiple subjects and purposes. The case for this insertion may involve the simple concession of the operation of existing urban rail systems, some of which were run-down when operated by the Government sector (Buenos Aires and Rio de Janeiro), but also the setting up of green field projects (new rail lines, as seen in Kuala Lumpur, Manila and South Holland; a bus corridor in Bangkok) or the construction of a relevant missing link in the current network (Fertagus and the cases of the Japanese Daisans). In the Bogotá and Santiago case, public or private investment in bus corridors came along with structural and regulatory reorganization of a whole privately run bus industry.

In general, the insertion of private capital may arise by political and ideological reasoning (liberalism) or by the financial restrictions for the Government, but also by the search of efficiency gains. In most of the cases, combinations of these motivations are observed. Both financial restrictions for running and investing with government resources and a strong policy orientation by international agencies (World Bank) were decisive in the privatization of the existing rail systems in Buenos Aires and Rio de Janeiro. A more internal policy driven choice for private investment can be observed in the other green field projects (Kuala Lumpur, Manila, Bangkok, Fertagus, South Holland). In other situations, the industry is in the rule already operated by the private sector (Bogotá, Santiago and Japan), and the government has decided to upgrade these privately run systems by purely public (Bogotá) or by a mixed partnership investment (Santiago and Japan).

Even if the insertion of private capital is a major aim, public finance or at least a new public debt or other financial support (ex. guarantee) is generally in place. Public support may occur in the manner of previous investment (Buenos Aires, Rio de Janeiro, Bogotá, Santiago, Fertagus), fare subsidy (again Buenos Aires, Rio de Janeiro, Fertagus, South Holland), fare box guarantees (South Holland, Fertagus), guarantees for loans (Kuala Lumpur, Manila, Bangkok) or direct

share of investments with the private sector by means of a new mix capital corporation (Daisans in Japan). World Bank loans or loans by the Inter American Bank or other development Agency (e.g. KfW) to the Public Administration are observed in the projects in developing countries. The presence of national/regional development banks or other para-fiscal funds are also in the rule.

It may happen that the projects selected are opportunity driven, without any insertion in a broader regional/urban development plan or even a master plan for the transportation sector (Manila). In the rule, a broader regional or transportation plan is legally mandatory (South Holland, Japan) or a previous condition for agency loans (Rio de Janeiro). In the contrary, projects may be inserted into a comprehensive regional economic development plan (Gautrain) or an international/regional transportation plan (Bangkok, South Holland, Japanese Daisans). The privatization or private investment project may even be disconnected with other transportation subsystems in the region or the city, as it happened in Buenos Aires, Rio de Janeiro, Bogotá and Manila, affecting negatively the economic and financial results of the undertaking. The combination of the transportation investment with major real estate investments within the influence area is still not the rule but may be observed (Manila, Hokuso Kaihatsu in Japan).

As said before, the lack of integration with the broader urban or regional transportation network is a major rule for financial failure or even political difficulties in the continuation of the project, the cases of Buenos Aires, Bogotá, Manila, and Bangkok being examples for this. Elsewhere, the patronage targets are set too high in order to attract private investments (Bangkok, Fertagus), but the failure of the market to correspond to the provisions leads in the rule to the renegotiation of the contracts, whereby the investment obligations by the private sector are rolled back (Buenos Aires, Fertagus) or the contract period is extended (Bangkok). Other pitfalls occurs when the planning or procurement process is precipitated (Rio de Janeiro, Buenos Aires, Bangkok), often in order to break with political resistance by establishing accomplished and irreversible facts. Other nuisance is provoked when the Public Administration does not comply with its own investment or subsidy or regulatory obligations (e.g. fare price adjustments foreseen in contract; see Buenos Aires). Simple mismanagement of the project, especially when they are too complex, is also visible. At last, growing political resistance to the project by negatively affecting stakeholders or a simple change of policy direction by a new government threatens the continuity of the projects (Bogotá).

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