OWNERSHIP AND COMPETITION ARE KEY CONSIDERATIONS IN RAIL REFORM AND RAIL PERFORMANCE IMPROVEMENTS – A SOUTH AFRICAN PERSPECTIVE.

Andries J. van der Walt
South African Rail Commuter Corporation, South Africa

Note: The opinions expressed in this paper are the responsibility of the author and do not reflect the official opinion of the South African Rail Commuter Corporation or the National Department of Transport.

ABSTRACT: This paper explains how ownership and competition have become major forces in changing state-owned railways. The various ownership models and structures available to governments, and their implications are analysed and summarised. The author further reviews progress made in South Africa with rail reform and describes the implementation of concessioning with its ownership options. The unique circumstances and challenges in South Africa and the effects on ownership and competition are compared with some international case studies. Vertically integrated concessions, involving the private sector in the provision of public transport services and infrastructure, are motivated as a preferred option for South Africa, over the separation of infrastructure from operations. The importance of a well established planning environment is argued to be a critical pre-requisite for the successful structuring of public-private partnerships.

1. INTRODUCTION – THE CHANGING RAILWAY.

State-owned railways are going through profound change all over the world. They are restructuring as a result of external and internal pressures. The external pressures deal very much with the competitive pressures of deregulation, changing customer requirements, road competition and declining market shares, whereas the internal pressures of poor financial returns, increasing capital expenditure, rising labour costs, poor asset productivity and organisational inertia are pretty much the result of how the ownership is structured. The consequences of state ownership in railways and other public transport functions explain the current global trend of state-owned railway restructuring efforts. The past decade has seen over 50 countries embarking on, or finalising the implementation of full or partial privatisation processes for their state-owned railways.

The choices available for restructuring state-owned railways are categorised into three groups:

- internal reform or re-organisation
- commercialisation
- privatisation

The degree of change vary on a continuum from incremental to fundamental. Internal reform represented on the lower end of the scale as incremental and privatisation on the upper, end reflecting extensive private sector involvement as fundamental change.

The main objectives of all state-owned rail restructuring processes where privatisation principles were strongly favoured had been two-fold:

a) to inject competitive pressure on the railways as an incentive for efficiencies = Effective Competition

b) to create management accountability through risk sharing within the railways = Meaningful Ownership

2. REAL CHANGE CAN ONLY BE ACHIEVED WHEN OWNERSHIP IS TRANSFERRED.

The spectrum of choices available to governments in order to shift the supply and operations of public transport to private supply and operation ranges from outsourcing, leasing, franchising and concessioning to BOO, BOOT, BOT, DCM, DCFM (design, finance, construct and maintain) concepts and even complete divestiture. There is no simple or set model under varying circumstances for public versus private responsibilities in public transport supply and operations. The exact model depends mainly on the country's specific transport policy objectives and the level of development towards an open market economy.

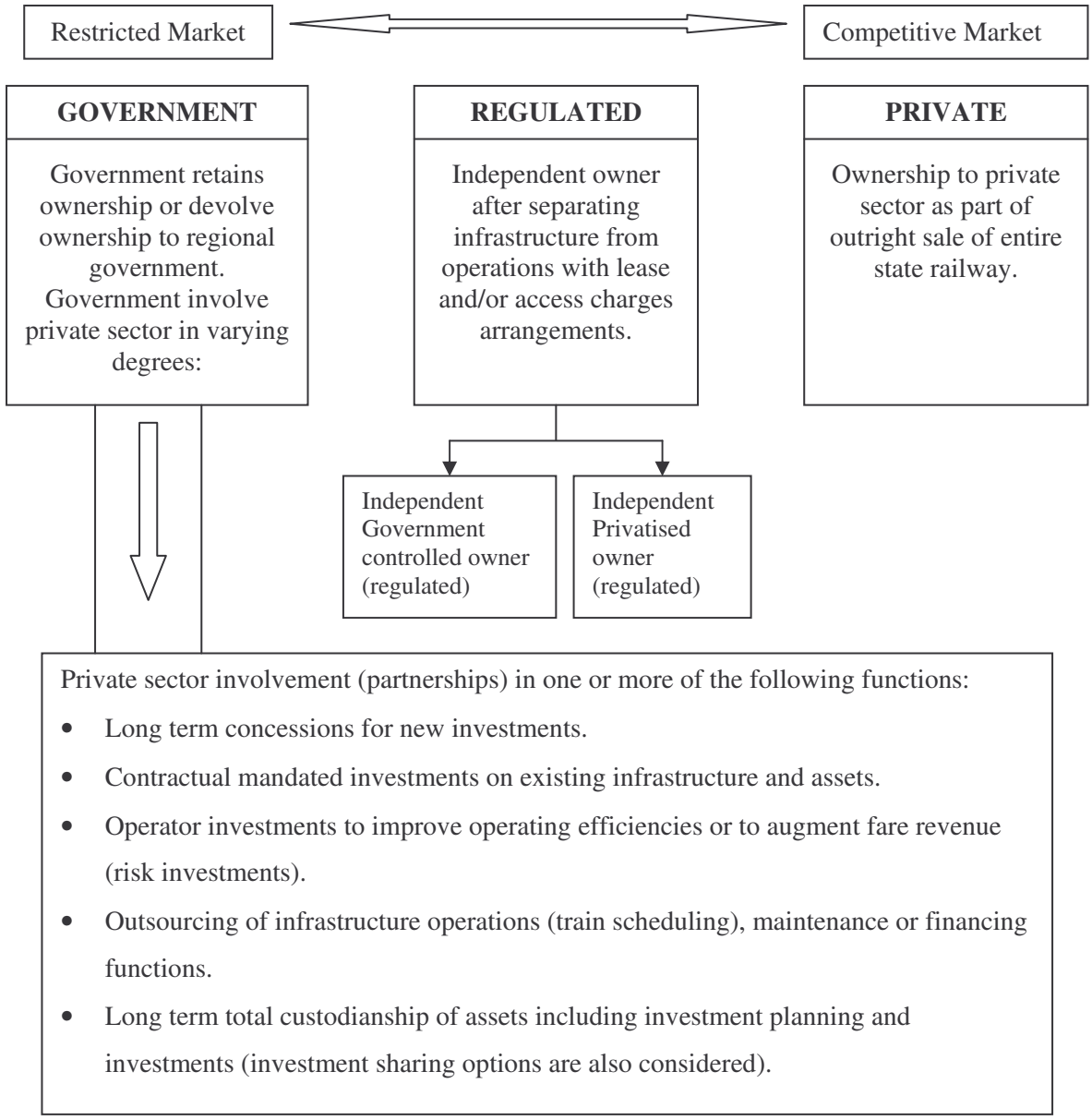
The competitive outsourcing, contracting or franchising of transport service operations have however now been adopted as an accepted international industry standard in the provision of land passenger transport services, and have also been widely implemented. From these arrangements we have learned that real change only occurs when ownership of the business function is transferred to private or public entities which operate under pressures of commercial risks and incentives.

2.1 Changing the ownership of urban rail transport infrastructure and assets.

The ownership model for urban rail infrastructure and other capital intensive equipment such as rolling stock vehicles is however more complex and controversial. Such ownership responsibilities can either be retained by government, transferred to the private sector or managed in partnership with the private sector. Ownership options for public transport infrastructure and assets are summarised and depicted in Fig. 1.

FIG. 1

Ownership options for urban rail transport infrastructure and assets.



2.2 Government involvement in transport infrastructure and assets.

In any country Government want to control the level and structure of infrastructure provision. Infrastructure investment decisions for the provision of public transport will therefore always be made or influenced by governments, especially where the market is restricted (regulated) to achieve specific public transport objectives. These objectives are guided by governments' policy frameworks such as

mobility provision (= social policy), relieving congestion through capacity (= transport policy) and partial replacement of private transport to manage externalities, land-use, modal integration, etc. (= planning policy). In these cases governments do have a basic responsibility towards transport infrastructure such as rail. The dilemma, however for government in assuming full accountability of true ownership of infrastructure, is its inability to control non-political risks (commercial risks), whilst at the same time making the planning and investment decisions. This becomes more severe in cases where core business operations are completely separated from infrastructure ownership and management such as per the European Commission's rail directive 91/440 (Separation of rail infrastructure from operations).

Today there is widespread acceptance for the involvement of the private sector in partnership with public authorities for public projects, especially the funding of public facilities and infrastructure. In these cases the structure of ownership is based on the allocation of risks to the party that can best manage and control specific risks.

The inherent monopolistic nature of rail infrastructure and other public transport assets tends to influence many governments to rather regulate and/or retain a say in the provision of those assets which have extended economic life implications, especially rail or mass transit infrastructure created or governed by transport policy intervention. The conscience of governments and public transport officials probably also play a role in influencing decisions towards assuming some government responsibility for rail infrastructure through regulatory control structures. For years governments have been silent on the total costs to the economy of externalities created by past policies which benefited road based transport (i. e. provision of road infrastructure by governments without allocating or collecting the full costs thereof). Policies have rarely been written to manage such competitive neutrality amongst various modes which compete in the same restricted markets.

There is however less reluctance to motivate a transfer of ownership responsibilities of rail vehicles (rolling stock) to private operators, as it is argued to be an integral part of the actual service delivery and also closer to market choice sensitivities controllable by the operator. Ownership terms of rolling stock vehicles are also easier to transfer to new operators or back to government at the end of the contract term by up-front guaranteeing of take-over conditions and remuneration for the depreciated value of the investment. However, the inclusion of any rolling stock replacements or mandated rolling stock investments in a public/private partnership transaction affects the required contractual term significantly to allow a sufficient payback period for the private investor.

The principle of private sector custodianship of infrastructure and other assets such as rolling stock and stations, where responsibilities for business risk investment decisions are included (e.g. long term

vertically integrated rail concessions in Argentina), is therefore more appropriate than creating new separated private or public infrastructure/asset owning monopolies. For government it should be a simple trade-off between clearly quantified policy objectives and government's own historical motivations for intervening in the provision of transport infrastructure and assets in the first place (i.e. scale of finance required, permanency and life of assets and ultimate owner of state land). This is also evident from the pressures now being exerted on governments by rail passenger franchise/concession holders in specifically the UK and Argentina, where extended contract terms are being negotiated in order to commit major capital investments.

The private sector will always be prepared to bid for any combination of responsibilities/functions which government requires the private sector to perform on its behalf. The dilemma for government usually revolves around dealing with long concession periods required to warrant the returns on the investments made by the private sector. Long concession periods do however create barriers to entry and remove the pressure of regular competitive tendering, all in favour of the incumbent private sector operator. Government should however focus on what the concession delivery is all about which usually has little to do with the actual infrastructure or asset investment and provision. These concerns can easily be accommodated by setting standards and monitoring the service delivery/performance outputs, included in appropriate performance regimes within the concession agreement. Competitive bidding for long term concessions also deals sufficiently with the creation of a contestable market environment before entering into a long term relationship.

It is thus possible for governments to assume their responsibility of providing urban rail or other mass transport systems in order to achieve their policy objectives through the involvement of the private sector in the operations of public transport services as well as in the provision and management of infrastructure, including the financing thereof, without having to opt for an outright sale (full privatisation) of the entire railway or any other mass transit system. Government remains the ultimate owner as it sets the requirements of the delivery and the conditions of the relationship.

2.3 Implications of various ownership restructuring options for urban commuter rail systems.

The various rail ownership restructuring initiatives and their respective accommodation of competition are summarised in Fig.2.

FIG.2

Implications of various ownership restructuring options for urban commuter rail systems.

COMMERCIALISATION	OPEN TRACK ACCESS (SEPARATION OF INFRASTRUCTURE)	CONCESSIONING (PUBLIC/PRIVATE PARTNERSHIPS)	PRIVATISATION
COMPETITION • Deregulation of the transport market • Exposure to competitive forces	COMPETITION • On track competition • Management of infrastructure vested in a public/private monopoly	COMPETITION • Competitive bidding • Competition in form of performance measurement against standards as well as peer comparisons	COMPETITION • Fully contestable market • Open, free and direct competition
OWNERSHIP Government ownership retained	OWNERSHIP Change of ownership in service delivery only (Franchising of operations)	OWNERSHIP Change of ownership in service delivery and infrastructure/rolling stock management.	OWNERSHIP Ownership of entire railway transferred to private sector.
MOST IMPORTANT IMPLICATIONS • Status quo remains • Perpetuation of poor and costly service delivery • Risks remain with government	MOST IMPORTANT IMPLICATIONS • Increased transparency of infrastructure costs and greater possibility of government assuming investments responsibilities on same level as road infrastructure • Operator looses control over production process inputs (quality of right of way) • Investment decisions removed from business drivers.	MOST IMPORTANT IMPLICATIONS • Government retains ownership options • Pre-supposes a well established policy and planning environment • Risk sharing	MOST IMPORTANT IMPLICATIONS • Not sensitive to public transport policy objectives but social services clearly identified and funded • Ownership contested through share prices on stock exchange • Operator assumes all risks

2.5 On-track competition for the urban railways? - a South African perspective.

It can surely never have been intended to create a multi-operator environment over a specific rail track section in order to create competition for the same market, especially if that market has been restricted for the achievement of specific transport goals. In a public transport market it is government's or its planning agency's function to identify a higher order capacity transport technology application such as mass or rail based passenger transport systems. This identification is based on growth in demand for services, travel patterns influenced by land-use policy decisions, the assessment of capacities and the feasibility of the project, taking into account the measurable and non-measurable benefits intended by transport policy objectives. This places a new dimension on the government or its planning agency's understanding of competition. In essence it is required of government to follow a policy of securing a non-competitive corridor for the rail based or other mass transport system. The more effective the mass transport system moves passengers within the policy targeted user group, the more cost effective the specific mode and consequently the greater the possibility of cheaper fares. Cheaper fares can be a social policy objective in itself but also attracts more passengers which again improves the viability. This example also relates to government's political risk in a public-private partnership concession where risks are shared and government assumes the risk responsibility of the creation of a regulated market structure to ensure the success for the its own identified projects. Instead of creating competition (in the form of on-track/multi-operator competition) the strategy is rather to limit modal corridor competition, as the market will be contested during the bidding phase to ensure optimum cost for government.

The identification and motivation of projects described above for planning agencies do not only relate to new projects. The same argument holds for existing infrastructure, facilities and services within a planning authority's jurisdiction. Existing systems such as commuter rail systems should be viewed from the existing sunken investment, the optimal use of such infrastructure and the required environment to be created by the authority for improving the success of existing systems. A unique ownership model can even be contemplated in structuring corridor concessions which includes feeder systems and intermodal transfer facilities. In specific instances in South Africa such "forced" integration of modes will be essential in order to achieve overall system and corridor efficiencies. Should the economics of the corridor prove to be beneficial for government and the private sector, the bus and minibus-taxi industry can be offered ownership stakes in the specified concession bidding consortium and the requirements could include the operations of feeder and final destination services.

3. THE IMPORTANCE OF A WELL DEVELOPED PLANNING ENVIRONMENT FOR SUCCESSFUL PRIVATE SECTOR PARTICIPATION IN THE PROVISION OF URBAN TRANSPORT SYSTEMS.

This paper has thus far dealt with the traditional state ownership of railways, the consequences of state ownership and a motivation for the involvement of the private sector in the full supply spectrum of urban rail services, including infrastructure ownership responsibilities, even though government may remain the ultimate owner. The missing link in shifting responsibilities from state ownership to extensive private sector involvement through public-private partnerships in public transport, is the requirement of a well-developed and established planning environment. The author includes the following dimensions when referring to the "planning environment":

- Clear transport policy objectives.
- Regulatory environment and control mechanisms which supports policy objectives.
- Transport implementation plans based on accurate and well-analysed information. (Network and investment planning).
- Enabling legislation.
- Empowered institutional structures to assume full responsibility for the planning environment.

A well-developed planning environment is regarded as the crucial link and requirement between the various ownership options and the actual delivery through the private sector. Respective local/regional governments' roles are therefore cut-out and perfectly clear, i.e. to assume full responsibility for the planning function in order to facilitate, control and steer the environment in such a way that it becomes conducive for the success of the authority's own public transport projects, including existing commuter rail systems.

4. PROGRESS IN RESTRUCTURING STATE-OWNED RAILWAYS IN SOUTH AFRICA.

4.1 Historic summary review.

The commuter rail system in South Africa has been part of the national railways of South Africa until 1990. During the preceding years the commuter rail system, partly directly subsidised by government and partly cross subsidised by profitable rail freight revenues, have pretty much been an instrument of the segregation and apartheid policies of the government of the time. African people were settled in dormitory township buffered from traditional white areas by industrial zones or even the railway line itself as a natural divider. The rail commuter system developed as a regional suburban railway feeding into the main Metropolitan areas of South Africa. The deregulation of the freight market in 1990 marked the first real positive rail reform initiative. The national freight railway was corporatised

and changed its name to Transnet Ltd, whereas the responsibility of subsidised rail commuter services became the responsibility of a national state corporation, called the SA Rail Commuter Corporation, which reports directly to the Minister of Transport. The National Government remained the only shareholder of both organisations and the total subsidy was provided for directly in the national budget.

Ownership of dedicated commuter rail networks; land, stations and rolling stock were transferred to the newly formed national Rail Commuter Corporation, which also manages the deficit subsidy on behalf of government. This was the first step in the right direction to re-align the ownership of rail commuter services, firstly as a responsibility of government, since the railways had been used as an instrument to achieve political goals, and secondly to position commuter rail transport closer to the other public transport modes, in order to create a dedicated commuter or public transport focus. Since 1990, the operations of the commuter services have been contracted out to Metrorail, a division of Transnet (the corporatised national railway), who had also, performed the services prior to 1990.

4.2 National Transport Policy directives.

The new national government has reformed and finalised policy frameworks during its first term of governing South Africa. Enabling legislation is currently being passed and institutional structures established to effect policy implementation.

Concessioning of rail commuter services has been adopted as a transport policy instrument in revitalising the commuter rail option. The land passenger transport function has been identified as a concurrent responsibility of central and local government until fully devolved (Ownership and funding functions are the main outstanding issues).

4.3 The objectives of concessioning in South Africa.

- To improve service levels for commuters.
- To minimise the amount of subsidy required.
- To create competition for a previously uncontested market.
- To encourage integration and co-ordination within and between modes.
- The re-capitalisation of infrastructure and rolling stock.
- The alignment of rail transport with local public transport plans.

4.4 The implementation of concessioning in South Africa.

Concessioning has been accepted as a policy principle for the restructuring of rail commuter services in South Africa. A pragmatic implementation programme includes the following:

i) The extension of the current incumbent state-owned operator's contract for five years (until 2003) and transforming the existing agreement with the current operator into a performance type contract (current operator = Metrorail, a division of Transnet).

ii) The identification and implementation of a process to implement concessioning in conjunction with the full devolution of the transport function to regional government, the restructuring of central institutional structures and the facilitation of an improved regional planning environment.

iii) The implementation of the first rail concession will however be implemented prior to 2003 (the initial 5 years). Much work has been completed in identifying and structuring individual concessions in South Africa.

Special provision has been made to involve and consult labour at both Government and organisational levels in well established transformation and restructuring committees. These structures are a requirement of a reference agreement between government and labour for the restructuring of the economy and state assets, called the National Framework Agreement.

4.5 The performance of the rail commuter system in South Africa.

It is important to review the performance of rail commuter operations in South Africa to serve as motivation for change. The performance of the commuter rail system in South Africa should not only be reviewed from its operational efficiency and financial effectiveness point of view. The historic deployment of rail as a political instrument and the effects of past segregation policies followed in South Africa on land-use development and patterns cannot be underestimated. The poor performance of the commuter rail system in South Africa is therefore much more attributable to a land-use issue than the actual operational performance of the system. The performance of the system as motivation for change should therefore be viewed from the following two perspectives:

a) Operational performance of the commuter rail system. (Fig 3)

b) The effects of the policy and planning environment on the performance of the commuter rail system. (Fig 4)

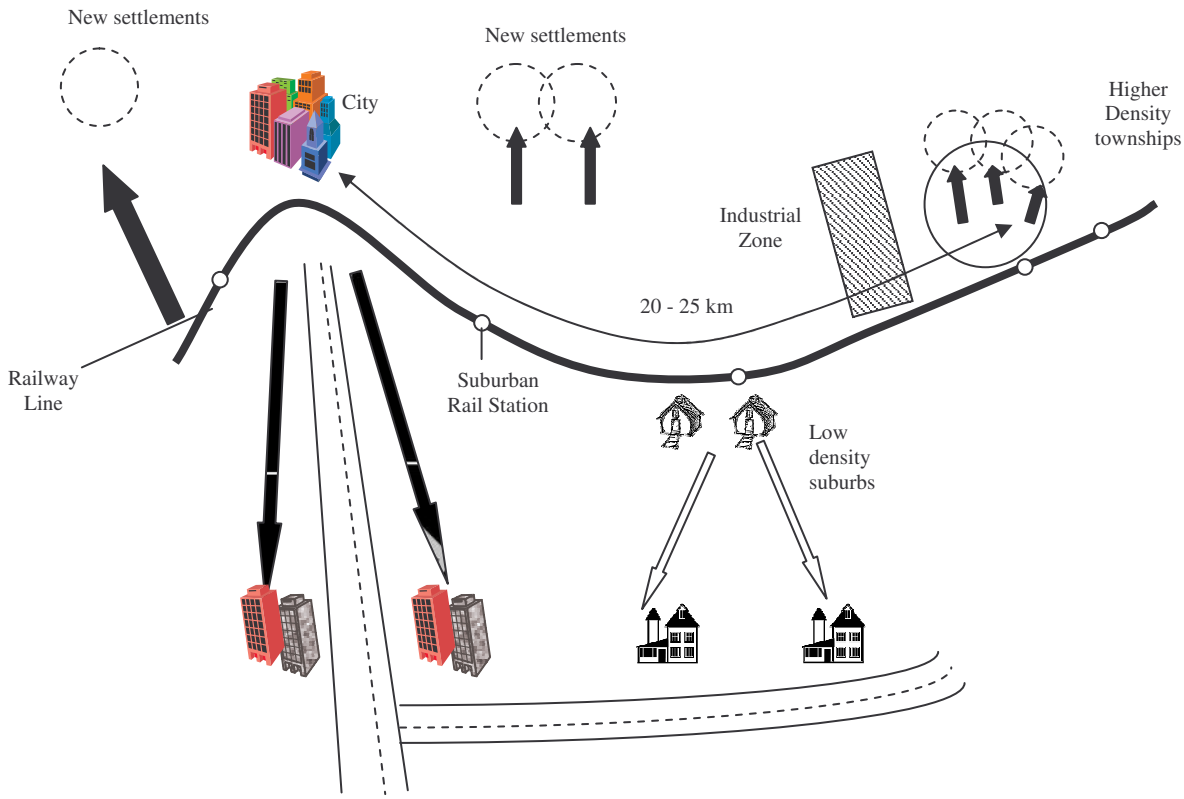
a) The performance the commuter system in South Africa, fig 3.

FIG. 3

	PERFORMANCE	**CRITICAL ISSUES**
Technically	Performing at world standards.	Capital investments – re-capitalisation only 30% of actual annual requirement. Rolling stock = 25 years old
Operationally	Passenger trips: 500 m. per annum Productivity and efficiency can improve.	Labour costs accounts for 60 – 65% of total costs.
Economically	Cost coverage can improve from existing 33% country wide average. Historic cost of assets.	Capacity utilisation, fare evasion and costs levels. Returns on investments.
Institutionally	Operator established with own identity. Responsibilities at authority/planning level unclear.	Still public monopoly with budget deficit subsidy and insufficient operator risk.
Market	Move 2 million passengers per day but market share is less 20%	Market responsiveness, security and access.

b) The effects of the policy and planning environment on the performance of the commuter rail system, fig 4.

FIG. 4



Resultant characteristics of historic public transport and land-use policies affecting the rail system in South Africa

- Rapid urbanisation, but settlement away from existing rail corridors.
- Poor land-use, urban sprawl, and depopulation of cities by business and industry.
- Low densities in townships and suburbs.
- Increasing car ownership.
- Public roads backlog and serious peak period road congestion.
- Virtually no integration between public transport modes.
- Train, bus and kombi-taxi offer parallel services as result of two major peak periods.
- Huge fare disparities among public transport modes.
- Lack of metropolitan, local and regional public transport co-ordinating bodies.
- Modes not deployed in niche markets and competing freely with each other.
- Rail consumes 50% of available public transport subsidy whilst retaining only 25% of the market share.
- Kombi-taxi moves 50%-60% of passengers with no direct subsidies or funding.

5. RESTRUCTURING, OWNERSHIP AND CONCESSIONING OF COMMUTER RAIL SERVICES IN SOUTH AFRICA – AUTHOR'S COMMENTS.

It is clear from arguments of the author in this paper that vertically integrated concessions with public-private partnerships are preferred over the organic separation of operations and infrastructure.

Some opposing views from consultants and other stakeholders in South Africa are promoting one of the following structures: i) a separation of infrastructure and/or

ii) the structuring of regional network concessions (i.e. an entire regional metropolitan commuter rail network as is currently being operated).

The two main reference cases used in restructuring and modelling the commuter rail concessioning structure in South Africa are those of the United Kingdom and Argentina. A passenger rail network comparison of the main characteristics of the structure of commuter rail concessions in Argentina and passenger franchises in the United Kingdom versus those in South Africa:

a) Argentina

In Argentina most of the commuter lines feeding Buenos Aires have total independent origin and destination nodes or points within the boundaries of the metropolitan area. Many of these lines even have different track gauges and rolling stock specifications. Integrated vertical concessions make perfect sense when one considers the investment requirements of the government in their strategy to revive the operations of a total neglected and run-down rail commuter system.

b) United Kingdom

The 25 Passenger franchises offered to the private sector in the UK consisted mainly of inter-city service connections, independent regional services or suburban lines/services that feed directly into central London. One big difference between Argentina and the UK is the degree of common track usage in the UK between passenger and freight operations. The level of the integrated nature of the UK rail network for passenger operations prior to privatisation did not really motivate the separation of infrastructure from operations. The separation has been more a result of: a) The European Commission's directive on infrastructure separation.

b) The creation of on-track competition for the railways.

c) The multi-operator network requirements as a result of common routes used by passenger and freight services.

c) South Africa

South African cities are heavily dependent on the very integrated nature of its rail services and the integrated rail network for its rail commuter operations, feeding into the metropolitan areas. Right of way is largely dedicated for either commuter rail or rail freight operations. Some common

usage arrangements between rail freight and rail commuter operations are required and are accommodated in mutual access and hire agreements without any operational problems. Many commuter services however have to share the access/exist throats of the central city station and its direct supporting rail network. In most cases separate platforms would be the only infrastructure identity separator possible for individual concessions. From this perspective then the main motivation for either a separation of the infrastructure or the allocation of an entire integrated regional rail network as a regional concession. The degree of a multi-operator environment in South Africa caused by i)commuter services sharing access throats and networks for relatively small sections of the rail network, and ii) the limited interaction between freight and commuter operations for sharing the same track, cannot serve as the motivating factors for a principle decision to separate rail infrastructure from operations. The structuring of an entire regional network as one concession will again create barriers to entry, especially when long-term investment linked concessions are considered. It will further also limit peer comparisons as a form of performance competition. The specific circumstances in South Africa influenced by i) the unique land-use situation, ii) the undecided demarcation of functional transport authority boundaries as well as iii) the integrated nature of the commuter rail networks in the metropolitan areas create a complex framework for the establishment of a definite South African concessioning model for the commuter rail system. The unique regional differences might even influence different and unique models for each metropolitan region.

5.1 The main ownership and concession structure options for commuter rail operations in South Africa.

(a) Vertically integrated concessions based on rail travel patterns. Multi operator infrastructure overlaps to be allocated to the main operator and covered in relevant common usage agreements. Rolling stock owned by operator or leased from separate national/regional private sector entity. (Vertically integrated = operations plus infrastructure and/or rolling stock maintenance /investment decisions).

(b) Vertically integrated concessions based on functional transport areas and public transport corridors, including modal integration arrangements (feeder services and interchange facilities). Overlaps across political authority boundaries to be accommodated in agreements or in most appropriate institutional structure (i.e. higher level of political responsibility such as provincial or metropolitan government or even in a special custom created authority structure). Rolling stock owned by operator or leased from separate national/regional private sector entity.

(c) Operational franchises based on travel patterns with rolling stock replacement concessions and a separation of infrastructure. Ownership of infrastructure devolved to provincial government and managed by regional private infrastructure entities.

In all of the above options it is envisaged that transport authorities will in the long term assume full responsibility for the planning function. Special interim arrangements and structures will be required to accommodate scarce rail expertise, economies of scale and a strategic rail management function on behalf of government.

6. CONCLUSION.

Real change in state-owned railways can only be achieved if private sector structures and practices are involved in the full supply and provision of public transport services. Private sector involvement in the provision of public transport, such as commuter rail systems should not be limited to operational contracts only. If private sector capital is sought after in partnership with the public sector for the creation of public infrastructure, long term vertically integrated concessions should be considered to restructure business risks to the private sector whom can best deal with the commercial risks. Ownership and responsibilities thereof are transferred to the private sector on a custodianship basis and performed on behalf of government. Government therefore improves efficiencies and effectiveness through the involvement of private sector on clear specification requirements. Governments do not need to separate infrastructure from operations in order to assume its ownership responsibilities. Government will always remain the ultimate owner of public transport provision and infrastructure and therefore also has to create and regulate the environment to ensure success of its projects in order to achieve policy objectives, even if it means limiting network competition, user choices and the total free movement of motor vehicles.

REFERENCES:

Huff, L.W. and Thompson, L.S.
World Bank Working Papers 1990
Techniques for Railway Restructuring

Productivity Commission, Australia
Draft report on Progress in Rail Reform 1999

Poole Robert W. Jr.
Testimony delivered at subcommittee on Transportation, USA Senate
Replacing Amtrack

van der Walt, Andries, J.
CODATU VIII Paper, Cape Town 1998
Concessioning of Rail Services in South Africa as policy instrument in revitalising the rail option

Thompson, L.S.
World Bank Concessioning Conference Working Papers, South Africa
Concessioning in Transport

Erskine, L.J.
UITP 53rd Congress and Exhibition, Toronto, 1999
The influence of BOT/BOOT Procurement on Light Rapid Transit project specifications

Brändli, H. Prof.
Institute of Transportation, Traffic, Highway and Railway Engineering, Switzerland.
Public Transport objectives.