Dissertation

A critical review of The Third Way for developing London Underground

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EXECUTIVE SUMMARY

This paper is a critical review of Government's plans for a Public Private Partnership (PPP) termed (*The Third Way*) to meet the extant investment backlog, estimated to be £,000 millions, needed to revitalise London Underground (LU). The methodology for the review focuses upon researching the history of LU so as to compare empirical precedent with current proposals to judge their relative efficacy.

Summary conclusions

This paper concludes as follows:

- Independently, neither the public nor the private sector meets the objectives of a sustainable urban rail network as laid down by this paper;

- the private sector alone does not have the right motivation to lead transport infrastructure development;

- the public sector alone cannot provide the stable budgetary environment necessary for long term planning and lacks the private sector discipline for efficiency;

- in the current economic environment, Government of whatever political persuasion will look for a mechanism to utilise finance from the private sector;

- the corollary to this is that whereas a Conservative Government opts for privatisation and less direct involvement by the public sector, a Labour Government opts for greater direct public sector involvement through a PPP;

- if it could be excluded from public sector accounting, a Public Sector Trust would be an attractive solution to a Labour Government;

- whilst the privatisation of British Rail is not yet delivering the expected benefits, privatisation of other utilities in the UK and around the world has been successful and regulation has proven to be an effective control of the private sector either through contract or licence, the result of the above is that;

- the future for LU as a joint venture involving contributions from both the public and private sectors has more merit than independent development by either sector. However, there is no economic justification for Government's requirement to retain operation of LU in the public sector, the objectives of retention of ownership and control could be achieved without retaining public sector operation.

The conclusion of this paper is that the hypothesis that a PPP is the best way of developing urban rail infrastructure is proven but Government's *Third Way* is not the optimum solution for a PPP. *The Third Way* is politically inspired. It is motivated by Government's desire to avoid partisan political criticism that the proposed solution for LU is a form of privatisation.

Structure of the Paper

This paper describes the ways in which LU met its investment needs as its status changed over this period and identifies a central hypothesis for the joint development of LU by the public and private sectors. That hypothesis is tested by reference to criteria that the paper proposes as the key tenets for the efficient development of any equivalent urban transport infrastructure. The periods of LU's varied ownership are described and the salient features that characterised the best and worst symptoms from that regime are used to highlight the extent to which each period achieved the objectives upon which an urban rail network should be run. Precedents are also drawn from the development of the canal and national rail networks. The New York Subway is also reviewed because it is a closer precedent to LU than other European systems that were developed exclusively in the public sector.

The locus of the paper is Government's proposal for a PPP and the alternative structures for that proposal. The benefits proposed are considered against the achievements of previous periods in LU's history.

By way of conclusion, the paper tests the hypothesis by assessing the efficacy of these various options.

INTRODUCTION

London Underground - a test case for mixing politics and finance

LU is an ideal case through which to compare the merits of the various ways of developing public infrastructure. London has the oldest and at one time the largest underground rail network in the world. Developed exclusively by the private sector it has, since inception in 1863, changed ownership from the private to the public sector as political sentiment changed. During that time LU's status changed a number of times. Originally it was a collection of insular private companies, but by 1915 one company had grown to control a dominant combine of railway, bus and tram interests. After 20 years of public procrastination, Government took LU into the public sector in 1933 by compensating shareholders and consolidating the network into an independently controlled public corporation. In 1948 a wave of nationalisation promoted by a Labour Government turned LU into a department of a central Government body, the British Transport Commission (BTC). On dissolution of the BTC in 1962, LU passed to local Government control until abolition by the Conservative Government of the Greater London Council (GLC), at which time LU changed status again, this time to that of a wholly owned and separately reporting subsidiary of London Regional Transport (LRT). LU retains this position today, as a statutory corporation reporting to and funded by the Department of Transport, Environment and the Regions.

The 'Third Way' to develop London Underground

On 20th March 1998 the UK's Deputy Prime Minister, John Prescott announced a plan by the current Labour Government to rectify the shortfall in capital investment that had hampered the capacity for reinvestment in the supporting infrastructure in London's Underground since it had been transferred to public ownership.

Prescott said, *"The plans I am announcing today will deliver an imaginative, long term solution to the problems caused by decades of neglect and under investment.*

It is not privatisation, nor nationalisation, but a radical new 'Third Way' to generate £7 billion of long term investment while retaining a publicly owned, publicly accountable network – the result of close co-operation with the Treasury. I am determined that the capital should have a first class Tube for everyone" *Reference 1*

Destined for privatisation under the Conservative Government

Less than 12 months earlier, on the 25th February 1997 the previous Conservative Government announced plans to privatise LU. The Secretary of State for Transport, Sir George Young made the following announcement to the House of Commons *"London Underground is the last of the traditional transport nationalised industries and the only major transport operator that is not in the private sector. Since 1979, we have privatised a wide range of transport businesses - for example, British Airways, British Airports Authority and London Transport's bus operating companies. All of them have gone on to prosper, raising money from the market to invest in better services for their customers. Only London Underground remains in the public sector, its status is becoming increasingly anomalous. Against that background my Right Hon. friend the Prime Minister announced in October that we would be considering whether the benefits of privatisation could be extended to London Underground. We have completed the initial stages of that work and the Government have concluded that privatisation is the right way forward"*

Reference 2

Is the PPP pragmatism or a peculiar solution to infrastructure funding

Drucker (1969) says the purpose of Government is to govern – to design strategy and to make decisions. If Government has to run business it is distracted from its fundamental task, which is to govern. This belief was the political imperative for privatisation that characterised 18 years of Conservative Government, many of which were lead by Margaret Thatcher as Prime Minister. Yet Thatcher did not attempt to privatise LU. She believed privatisation would involve disintegration and the creation of a new industry structure to counter a natural monopoly and create an environment of competition. Added to which ongoing subsidy was likely to be necessary.

This paper reviews whether *The Third Way* is capable of avoiding these problems and assesses whether a PPP is nothing more than doctrinal politics or a pragmatic attempt to adjust the traditional roles of the public and private sectors in developing transport infrastructure. This paper seeks to address those topics by empirical review, comparing LU's progress under different political and economic regimes.

Central Hypothesis

PPPs are the best way of developing urban rail networks

The central hypothesis of this paper is that a PPP is the best way of developing urban rail infrastructure. To test this hypothesis it is first necessary to define what constitutes a PPP.

What constitutes a PPP?

The definition of a PPP issued by HM Treasury is more a general mission statement than a defining structure for a relationship. It states that *"PPP's are about negotiating deals that are good for the public and private sectors. The public sector wants contracts where initiatives exist for the private sector supplier to deliver services on time and to a specified standard year after year. In this Government shares an absolute identity of interest with private sector financiers whose return on investment will depend on those services being delivered to those standards"* *Reference 3*

Prime Minister, Tony Blair in July 1997 when asked to described what he meant by a PPP said "*What's best is what works best"*. Richard Ottaway, the opposition member for transport, highlighted the vagueness of the description in January 1988 "*Can anyone in the House give me a clear definition of a public private partnership in the public sector. The Treasury website says that PPP's are all about negotiating deals that are good for both sides. On that definition, contracting out a hospital's laundry service is a public private partnership... there is nothing wrong with that view except that, in defining a specific policy for the future of LU, it is fairly meaningless to those of us that are trying to understand the implications*" *Reference 3& 4*

The current lack of clear definition for a PPP implies either that Government does not wish to limit the range of possibilities or simply they do not yet know what is possible in resolving the complexity of the contractual relationships between the parties. This paper's interpretation of the meaning which the Labour Government ascribe to PPP's is that the public sector is willing to work in some form of non-traditional joint venture with the private sector which extends beyond a concession or franchising.

Options for the relationship between the public and private sectors

Both the previous Conservative Government's plans for privatisation of LU and the Labour Government's plans for a PPP include a number of options for the involvement of the private sector. These options address such issues as segregating the responsibilities of the parties and establishing mechanisms for monitoring and control of the private sector. The involvement of the private sector in some role does not appear to be in doubt, but the nature and quantum of involvement is highly subject to interpretation. The emphasis of the chosen option depends upon the political views of the proposer. The PPP itself is not the solution. Rather, it is a mechanism to blend a chosen political solution with the criteria for proper delivery of the service by LU.

THE OBJECTIVES OF URBAN RAIL SCHEMES

In the absence of Government defining what it wants from a PPP, this paper seeks to establish criteria that should be met in order to achieve the Labour Government's publicly stated objective of an affordable and safe public transport system run for the benefit of the user. To achieve such a system this paper asserts that there are a number of objectives that have to be met. These objectives should not be subject to political interpretation.

The following issues need to be adequately resolved when considering the extent of the private sector's role:

Strategic development of the network

- The public sector should decide the speed and extent of development, what population and which regions should be served and how the network should relate to other transport modes;

Maintaining a stable operating regime

- To allow for the long term planning of investment and the development of operating efficiencies it is essential to avoid the disruption to decision making imposed by short-term budgetary expedients. This paper argues that a sustainable regime requires long term planning ;

Management efficiency and control

- Private sector discipline and incentives are essential. There is a long series of publicly managed projects that have run into material cost and time overruns at the expense of the taxpayer. Examples include Concorde, Humber Bridge, the Jubilee line extension of LU, the British Museum and the M25 motorway. This is not to say simply that the private sector is better at managing risk than the public sector but rather that the public sector could be more efficient at laying off risk to the private sector. The channel tunnel would have been an enormous burden on the taxpayer if it were a public project;

Network integration

- The network must be integrated to be effective. Through ticketing improves usage by giving passengers the freedom to extend journeys beyond individual lines. Access can also be improved by multi-modal tickets for rail, bus and underground together with the Travelcard scheme that allows unlimited usage by zones;

Subsidisation

- It appears that urban rail cannot be self-financing. The metro networks of the UK, US and continental Europe all rely upon a degree of financial support because fares need to be subsidised to encourage usage because the capital cost involved cannot be offset by development gains. There was substantial development gain created by certain of the LU lines but private sector operators in LU were generally unsuccessful in capturing the benefits. LU's operating surplus is insufficient to meet reinvestment needs and pay a dividend to shareholders. This all suggests that either central or local Government must be involved. It can never be left solely to the private sector because it will never be commercially viable. There must be a partnership;

Accountability

- Received wisdom suggests that it is Government's role to be accountable to the taxpayer to protect and police the whole-life maintenance of the assets and to defend the stakeholder interests of passengers. This role has been successfully undertaken by a Government appointed regulator in other utility companies that have been privatised. The private sector will not do this without compulsion because the incentive of commercial gain cannot be relied upon in every instance to protect the long-term future of LU. Although it was Government's failure to invest for the whole life maintenance of LU which caused the current backlog, it seems essential that Government oversee maintenance of the system to ensure the investment backlog is cured;

The need for Regulation

- The role of a regulator will be essential to control the essential elements of service provision such as, the safety case, performance standards and fare increases.

DEVELOPMENT UNDER PRIVATE SECTOR OWNERSHIP

Adequate transport infrastructure was essential for the growth of London

The provision of adequate transport infrastructure was an essential element in the economic growth of Britain during the nineteenth century. This is also true in a micro economic sense for the growth of London as one of the major financial centres. The shift from agriculture to industry and manufacturing combined with the significance of London as a port created many new clerical and labouring jobs. The streets were clogged with traffic by 1860, as the quickly growing rail network brought larger numbers of people to London. The size of the community meant that it was no longer possible for workers to live in close proximity to their jobs. The development of an underground railway system was to prove essential to the continued growth of London, yet the Victorian Government left the development of surface and sub-surface public transport to be private sector.

The Private Sector seized the opportunity for an underground railway

The first steam driven underground railway opened in London in 1863. Despite its importance to the economy, successive Victorian Governments, apparently for political and precedential reasons, allowed LU to be promoted by private sector interests attracted by the opportunity for profit from overcrowding of surface transport. A variety of conflicting and competitive proposals were made to build lines, all on a speculative basis and many without the resources or adequate research into cost and ridership figures. This rush spawned an insular approach concentrated upon routes with the most immediate prospects for commercial gain. Government supported new proposals because London was being choked and development of the canal and rail systems had given Government an existing framework of control that they applied to the strategic planning of routes.

LU grew by the First World war to become the largest underground railway network in the world controlled by a number of individual and independent companies which each owned the infrastructure and operating rights to a particular line or lines.

The following section looks at development in the private sector and considers the precedents from the canal and national rail networks, the role and effect of entrepreneurs and the political and economic drivers that were acting upon the state and the economy.

Failure to adequately regulate the private sector

The first major development of transport infrastructure came with development of the canal network. The founders were generally factory owners that saw direct benefits from the reduction in their shipping costs rather than looking for independent revenue from the canal.
The scale of investment in transport was unrivalled in the decades that saw the canal and railway booms – the latter became the major economic events of their years. £8m was raised for canals in the boom years between 1788-95 and this grew to £20m by 1815.

The precedent of unregulated development from the Canal System

Mathias (1983) describes the development of Britain's transport infrastructure as piecemeal and inefficient. *"A great penalty of local initiative determining the evolution of new transport investment in Britain (canals, turnpikes and railways) was the absence of national planning"*. He argued that the economic potential of these transport media was therefore never fully realised. The turnpikes were piecemeal, with many gaps in the system and their management was corrupt. The canals came into existence without a national strategy, with different widths and depths and inefficient routing that caused considerable delays and necessitated transhipment. All this was to be duplicated on an even larger scale with the railways, including the liability of over investment when capital was cheap and the expectations of potential shareholders critically optimistic.

These transport projects were cyclical. Booms in industrial production increased demands on the capacity of transport media and proved the need for expansion. The boom would also release large amounts of capital causing oversupply and reducing interest rates, which in turn made financing large and possibly marginal projects more viable. Savage (1961) identified that the most marked period in the projection of railway investment was in the 1830's and 1840's, coinciding with a period of relative peace. In these periods Government was not plunging heavily into the loan markets thereby causing rates of interest to rise and equally war had not sapped incomes by higher taxation or disturbed trade to cause a recession.

In developing both canals and railways public funding was limited and no public guarantees were given. The system had to be self-sustaining with users paying a fee sufficient to cover costs and provide a dividend to shareholders. Government's sole mechanism of regulation and control was an approval process requiring an Act of Parliament. The act regulated the following:

- it gave monopoly powers;
- it normally set the maximum level of dividends payable and also restricted the capacity to raise tolls without permission;
- it gave compulsory powers to acquire land;
- it allowed capital to be raised publicly with limited liability;
- the act also empowered the company to trade shares on the stock exchange and to raise additional capital by loans or selling annuity debt instruments.

Consequently by the end of the eighteenth century Britain had a functioning stock exchange where private shares were fully negotiable. Also, the debt capital markets had been brought into existence by debt instruments for the first time being offered to a wider population of investors beyond those which hoped to benefit directly from creation of the infrastructure.

Government failed to control speculation in the heavy rail system

In continental Europe many of the railway systems were built under the direction, or at least partly under the control, of Government. In Belgium, Government carefully planned the railway system for political and economic objectives. In New York the authorities controlled an integrated development plan by letting franchises to the private sector.

In Britain and (with a few exceptions) North America, railway development was left with the private sector. In the period 1824-28, nine British railway companies were authorised by Parliament. By 1842 there were 2000 miles of track linking virtually all the major industrial

cities being run by 50 separate companies earning combined revenues of over £4m per annum.

The nineteenth century was punctuated by a number of investment frenzies, particularly: 1824-26, 1836-37 and 1844-47. The latter period was generally based almost exclusively upon railway investment. During 1847 there were 815 new railway schemes lodged before Parliament. If all these schemes had gone ahead it would have provided 21,000 miles of track, costing £350million and equating to 6 times the current GDP.

Eventually there were 75 independent rail companies operating the rail network. Each of these systems had a differing level of profitability and employed different charging policies for fares. Consequently integrated policies such as through ticketing proved difficult to operate. Although ultimately, a central organisation was set up to enable settlement of the financial arrangements for through ticketing between the companies.

Growth of the heavy rail network continued despite the disorderly process

Despite the disorderly process the British rail network grew faster than any other in Europe. By 1849 Britain had a network 3 times larger by track length than France, larger by a factor of ten than Belgium and more than the rest of Europe put together. This was possible for four reasons:

- ***Size of the economy*** – Britain was the largest and most powerful economic trading nation at this time. The private sector had the resources and appetite to raise large sums of money that would not be available in developing countries;
- ***Self interest*** – There was a great deal of railway patronage in Government. At the height of the railway speculation boom more than 90 members of Parliament were directors of railway companies;
- ***Finance*** - Government was weighed down with debt from war during much of the century and could not easily take on the levels of investment that would have been required. A low taxation policy restricted Government's revenues;
- ***Special interests*** - Lobbying power of the private sector was very strong. Particularly the merchant bankers that controlled the wealth of Britain's trading. Bribery was common.

Dramatic changes in investor sentiment exacerbated the depression of the last century

The rail system became a driving force for the success of the British economy at that time but investment in heavy railway was extremely susceptible to economic cycles. Cheap money rates brought boom times and marginal projects were progressed but a tightening of credit brought development almost to a standstill by the middle of the century. Mathias identified these boom-bust changes of sentiment as one of the major contributory factors to the great depression that started in 1875.

Competition was argued by Mathias (1983) to be wasteful, by 1880 the system was generally complete but of the fifteen largest towns in Britain all but Bristol, Hull and Newcastle had competing routes to London. Manchester, Glasgow and Edinburgh each enjoyed three routes competing for travellers. Whilst the regulated and planned French system was now laid out without any overlap.

The financial inefficiencies of using private sector capital

Any method of involving the private sector with transport infrastructure suffers from problems inherent in the role the private sector is capable of playing. There are benefits that the private sector cannot capture without concern that they are acting against the public good. The monopoly position of transport provision needs to be carefully considered and the extra cost associated with asset provision from private capital is only good value for money when allied to risk transfer

This paper argues that there is an implicit inefficiency in leaving the private sector to develop transport infrastructure. That inefficiency has three elements:

- the private sector cannot capture all the benefits from improved transport links;
- private finance is more expensive than public finance. Consequently its use is only appropriate where it is allied to risk transfer; and
- transport Infrastructure tends to a natural monopoly. Why should Government allow a natural monopoly to exist?

Some benefits cannot be captured by the private sector

In Victorian Britain industrialisation could only proceed as the development of investment and innovation in transport kept pace with investment and innovation in production. The size of the market was a vital factor for industrial growth and market size became a function of transport costs, with the relationship between these factors varying according to the degree that goods are bulky relative to their value. Cheap transport thus became economically important according to the degree of its effect upon total costs.

Deane (1992) identified that one of the most significant differences between a pre-industrial economy and an industrialised economy is that the latter has a larger stock of capital. That is to say, each member of the industrial labour force has a great deal more physical capital to assist him in the process of production. To the extent that private sector entrepreneurs purchase the additional capital as they innovate and expand, then the accumulation of the larger national stock is achieved by raising the proportion of profits which the average entrepreneur ploughs back into his business. However, there are some kinds of capital that cannot be accumulated in this way because they require capital outlays out of all proportion to current or immediately expected levels of profit. It is this ‘Social Overhead Capital’ which must be provided before an undeveloped economy can expand its goods and services at a rate which will produce an appreciable growth in incomes per head. Economy in this sense can be a country or a city.

Deane (1992) argued that Social Overhead Capital consists primarily of capital embodied in basic transport facilities such as harbours, roads, bridges, canals and railways. These types of capital investment share the same characteristics:

- projects require much greater outlays of capital than the individual entrepreneur can normally be expected to access;
- construction periods are much longer than more normal types of investment;

- return on the investment happens over an extended period; and
- the gross return on the investment goes indirectly to the community as a whole rather than directly to the initiating entrepreneurs.

Improved transportation links in a developing economy brings growth in land values, reduction in raw materials shipping costs for manufacturing and improved mobility of labour. All go generally uncaptured by private sector promoters. Extending this principle, it can be argued that there is a lack of efficiency, in a social economic sense, in the private sector promoting the development of infrastructure.

Value for money means optimising risk transfer to the private sector

The main benefit of risk transfer is that it generates the incentives for the private sector to supply cost effective and higher quality services on time but there is an inverted relationship between risk transfer and value for money. As risk transfer grows, value for money deteriorates beyond the point at which the private sector can influence the outcome of risk. After that point the cost of risk transfer becomes a deterrent and value for money decreases.

Private capital has the obvious drawback that it is more expensive than public capital. Investors demand a return commensurate with the level of risk as measured by reference to comparable investments. Consequently, for private capital to be an efficient funding source it must be utilised by Government so as to optimise value for money. HM Treasury, in the paper Public Opportunity Private Benefit says that the test of value for money to the public sector is defined as the optimum combination of whole life costs and benefits. Consequently, if the public sector is transferring the risks and responsibilities associated with aspects of the service provision to the private sector it is efficient to use private capital where the supplier can influence the outcome.

Urban rail tends to a natural monopoly

Clutterbuck (1991) defines the capacity for a natural monopoly to develop where:
- high entry costs preclude effective competition;
- there is no incentive on the incumbent to act efficiently; and
- there is real potential to create or appropriate monopoly rents.

The physical constraint on the number of networks acts as a barrier to entry

Clutterbuck (1991) further argues that all industries dependent upon a network have a tendency to natural monopoly. There can only be a limited number of networks and therefore only limited competition can ever be possible. Whilst the owners of existing networks have a considerable advantage over a new entrant seeking to construct a new railroad, whether this barrier translates into a monopoly in urban rail networks is dependent upon other factors, primarily the competitiveness of other transport modes. In LU's case the capacity for surface competition seems to have been substantially underestimated.

LU had only a weak form of monopoly

In private ownership LU was never free from aggressive competitive pricing from surface transport operators. Whilst LU's first lines were competing with horse drawn cabs, by 1910 surface public transport was much improved. There was an efficient electric tram network and over 1,000 licensed buses. Government allowed market forces to primarily determine the fare policy of the LU lines. The private sector owners argued for co-ordinated fare policies

between LU and the operators of trams and buses following a major deterioration in their earnings. With no exit route and heavily capitalised, the owners of the lines attempted to reduce competition. Two of the largest owners agreed to raise fares for east west journeys from summer of 1907. This co-operation agreement was to include all owners of LU lines and the largest bus and tram operators. The objective was collusion to eliminate unprofitable fares and remove overlapping routes. This lead to the co-ordinated increase of both road and rail fares in December of 1907 but this attempt at fare fixing had broken up by December of 1908. The surface operators had become concerned by the growth in passengers using LU due to the widespread introduction of through fares that improved the image of LU as an integrated system and allowed easier and cheaper usage for medium length journeys across London

The effect of politics on development and decision making

The Victorian Government was non-interventionist

Governmentś role in the development process was reactive. There is no indication of mobilisation or encouragement to the private sector. Government saw its role as imposing restrictions on promoters of new schemes so as to safeguard the interests of property and ensure public safety. This was achieved by setting up committees in the House of Lords to adjudicate upon the various schemes. This reactive approach meant that Governmentś influence was limited to approval or declination of specific schemes. The numerous committees that were set up made general recommendations particularly regarding the need for a single transport authority for London, but without regulatory power these suggestions were often never progressed.

Government's position was a mixture of laissez-faire and economics

Victorian cultural and political values influenced governmentś views on its role in transport development. Turnpikes, stagecoaches, canals and heavy rail were all developed by private capital and by the 1870s the railway companies were capitalised at over £500 millions. Britain from 1840 was one of the largest international economies in an era of belief in empire and an optimistic view of the future. The Great Exhibition at the Crystal Palace was staged as a showcase of British achievement and other ambitious schemes were being developed including at attempt at both a channel tunnel and a tower at Wembley greater than the Eiffel Tower.

Victorian Government's capacity and willingness to finance transport developments

Fiscal policy and debt burden reduced the capacity to finance transport developments. Despite economic prosperity, the middle of the century saw considerable disruption in Europe. There was war in the Balkans involving Britain, the mutiny in Indian, war in Crimea and the movement for an independent Ireland. Financing military operations was by far the largest element of public sector borrowing until the latter half of the nineteenth century.

The 1853 budget significantly reduced Governmentś revenue earning capacity with Sir Robert Peelś great tariff reforms, which by the budget of 1864 had withdrawn almost all tariffs. Hill (1989) describes Gladstone as another important policy forming figure for the latter half of the century. Like Peel he was also committed to the principles of free trade and laissez faire. Abbott describes Gladstone as believing that free enterprise was the best way to encourage economic growth. He believed in a strong State whose aims were to foster the virtues of efficiency and economy and often spoke of retrenchment by which he meant cutting

back Government expenditure and keeping taxation low. Gladstone had been keen to withdraw income tax but was prevented by the need to raise revenue for war in the absence of tariffs. Lowe believes that it was Gladstone's free trade policies at this time combined with improved transport infrastructure in the period 1840-60 which created the golden years of Victorian Britain up to the Great Depression of 1873. This political agenda was to remain in place until after the First World War when Government sought a more interventionist role.

The role of private sector entrepreneurs

By the end of the 19th century the debt and equity capital markets were well developed in London. These markets had by then supplied the sponsors of canal and rail schemes and funded many high-risk projects in the British colonies. Also, investment in railways had played an important part in foreign direct investment emanating from Britain. Deane (1992) says that outward investment at that time was £4 billions. Of this, more than 40% was in railway networks. The Railways were a highly visible sector that was a natural conduit for investor's funds and public offers for shares to sponsor lines were at first well received. Particularly, as many investors would have witnessed the effects of congestion in London

Enthusiasm outstretched dividends

The enthusiasm of entrepreneurs to take risk developing new lines was never matched by returns on investment. Sponsoring companies were generally under financed. Many only had sufficient resources to promote the founding Bill and subsequently sold the rights when they failed to borrow additional funds. With few exceptions, those schemes which came to fruition generally borrowed heavily, ran into cost overruns and time delays during construction and without income in the early years, struggled against debt service costs. Harder still, lines often failed to attract the levels of patronage that had been predicted mainly because of increased surface competition. For example, one of the most profitable lines was the electrified Central London Railway (Central), running east west across the city from the Bank of England to Shepherd's Bush. It carried 41 million passengers in 1901, its first year of operations, operating costs were efficient at 54% of revenues and it paid a dividend of 4% a year until 1905, amongst the highest of the lines. The development of unregulated owner/operator buses and their competition with the major bus companies and tram owners forced dividends to 3% and then by 1907 to 2%.

Charles Yerkes attempted financial levitation

Charles Tyson Yerkes arrived in London in 1900 when only four lines had been successful, the Metropolitan, the District, the Waterloo and City Railway and the Central. The three former lines were the earlier shallow built lines operated by steam engines, the latter the recently opened electric deep tube line. Jackson & Croome (1962) describes Yerkes as a corrupt financier who had served a prison sentence in 1871 for 'technical embezzlement' when he was unable to meet obligations on the Philadelphia stock exchange. Yerkes had been ostracised in Philadelphia and Chicago and he brought his personal fortune from the sale of The Chicago Elevated, estimated at $20 millions, to London to exploit the opportunities in electrifying the underground.

Yerkes first invested £1 million of his own funds to gain control of the District and at the same time acquire the London United Tramways (LUT). He then sought additional backing

to carry out his plans and appointed the merchant bank Speyer Brothers to raise the necessary equity. In total Speyer Brothers raised £5 millions to create The Underground Electric Railway Company of London (UERL) for Yerkes in 1902.

Yerkes raised capital of £5 millions for the development rights of a series of tube lines

Yerkes'ambitions were as follows:

- purchase and electrify the District;
- purchase the Brompton & Piccadilly Circus Railway (Piccadilly);
- acquire and develop the rights to extend the Piccadilly line from Earls Court to Finsbury Circus, east-west across central London;
- acquire the development rights for the Charing Cross, Euston and Hampstead Railway and extend the line to Highgate and Golders Green to capture the property development opportunities;
- buy the half constructed Baker Street and Waterloo Railway (Bakerloo) from the liquidator and act as contractor to complete the line; and
- build a generating station to supply power to the lines (to be the largest in Europe when opened in 1905).

Jackson and Croome (1962) suggest that Yerkes raised finance with the intention of making a short-term profit. Using UERL as a holding company and contractor to the 3 tubes, Yerkes intended to take profit as soon as possible by publicly floating the 3 tubes. This did not happen. Instead Yerkes struggled to find sufficient capital to finish construction. His first attempt was to raise £2 millions by a 4% preference offer for the Piccadilly. The offer was issued in New York, London and Paris, but only 40% was taken up. To compensate for the shortfall, existing shareholders were approached with a 5% profit sharing note issued at 96 for redemption in 1908 when the tubes should have income to meet the capital repayment. Given that comparable returns were 3% or below, Speyer Brothers were successful at this attempt and raised £5 millions. Delays and cost overruns forced Yerkes to issue two further secured fixed rate securities before construction was complete. He eventually raised the enormous sum, in its time, of £13 millions in this way.

A difficult birth for UERL

Yerkes died in 1905 and the last tube was opened in 1907 by which time the state of UERL's finances were now suffering from the heavy debt burden and over optimistic traffic forecasts used to raise the capital for construction. In 1905 the UERL network was forecast to carry 145 million passengers in their first combined year of operation. By 1909 combined usage was only 95 millions. All had started at lower than 50% of that predicted and by 1909 the Piccadilly and Charing Cross had still only achieved 60% of expectations.

The American sponsors retained the controlling interest in UERL. They sent over Albert Stanley (later to become Lord Ashfield) to sort out the problems. By 1908 Stanley had achieved a working profit by introducing operating efficiencies as follows:

- improve advertising and co-ordinate the UERL 'brand name' as the Underground
- increase the frequency of rush hour trains by improved signalling;
- introduce through ticketing for UERL journeys;
- increasing revenues by a regional ticket pricing policy;

- arranging a meeting between all the LU lines and the largest bus and tram operators. The objective was to fix unprofitable fares and remove overlapping routes. An agreement was made which stayed in existence for 12 months;
- negotiating extensions to the fixed interest notes;

Creation of 'The UERL Combine'

By 1910 UERL was financially strong enough to make a number of large paper acquisitions:

- the largest bus operator, London General Omnibus Company (LGOC) which had 900 motorised and 1,800 horse drawn buses was acquired in 1911. The offer was again financed on a fixed coupon, mainly 6% preference shares;
- the Metropolitan Electric Tramways was added to the LUT in 1913 to make UERL the largest private tram operator;
- following the MET it was a short step to take over the Central and the City and South London lines, which had been loosing traffic to the surface competition.

Only two independent competitors remained. UERL was now the dominant combine and capable of running feeder services of buses and trams in co-operation with the Underground. During this time the competition was unlicensed bus operators and the LCCs trams. Before the UERL could fully exploit this dominant position the disruption of the First World War lead to the change in political sentiment and Government willing to guarantee capital expenditure for the sake of employment.

Private sector's ability to meet the key objectives of urban rail

The following section identifies the inadequacies of private sector ownership of LU in relation to the key objectives of urban rail identified earlier in this paper.

The difficulties of raising additional capital for extensions

There were fundamental weaknesses with the economic viability of many schemes predicated solely upon passenger revenues. Shareholder returns were very often disappointing and this translated into reticence from shareholders to support extensions to existing schemes. The following also effected the viability of schemes;

- severe competition from trams and buses meant that usage was less than predicted;
- forecasting methods were in their infancy. Predictions exceeded usage on virtually all lines;
- with no exit route and heavily capitalised, competition removed any operating surplus by depressing fare levels that would otherwise have been available for re-investment in new services;
- nationalisation of all utility type services was considered by the progressive left wing London County Council (LCC) to be in the public good. Investors were cautious because of the publicly voiced threat from the LCC that municipal tubes would be built in competition to the existing network.

The private sector fails the test on integration

It is the lack of integration that is the biggest weakness for the private sector when measured against the objectives of urban rail described in this paper. Disputes between operators were as damaging for development of the system as collusion on fare policy. When business priorities change, disputes arose between private sector operators at the interface of their

responsibilities. This was more prevalent were there were multiple private sector parties. To prevent such disputes requires a greater and more complex regulatory regime than would be the case with one operator.

As a consequence of private sector leadership LU developed in a piecemeal and inefficient way. The network is heavily developed in the affluent west and the city business centre, yet the traditional regions for working class housing in the east and Southeast are poorly served because they were unattractive to investors. The consequences of this lack of integration are still felt in the system today. Interchange points between lines are not as frequent as would have been the case had the lines been developed collectively. Whilst this has generally been remedied, it has left many stations with an awkward layout which reduces the throughput capacity for passengers and complicates through journeys. Also, rolling stock is not freely exchangeable between lines because it was built to differing configurations and so the utilisation of carriages is sub-optimal.

LU should be part of an integrated transport policy for London that includes buses trains and underground. During the Victorian period the LU lines were in heavy competition with each other as well as trams and buses. Whilst this proved an effective control for ticket pricing it was subsequently to prove counter productive for the further development of the network when disillusioned investors refused the capital for extensions.

Profit is not the right motive for being in charge of transport infrastructure

The private sector is motivated by profit. The incentive of profit alone is not sufficient to build and operate a system where the social economic benefits of improved transport connections are so significant that Government must be influential in maintaining the sustainability of the system.

The Victorian experience identifies that passenger revenues alone are unlikely to be capable of sustaining stable state operations for urban transport and that development gain is hard to capture. The enthusiasm of Victorian investors enabled the largest underground railway in the world to be built over relatively few years, at a time when Government would have struggled to fund the scheme in competition to its other priorities. However, the clear risks associated with novel construction techniques; technology and optimistic ridership forecasts were not subsequently justified by shareholder returns. This paper concludes that development must be sustainable.

The Private Bill mechanism was an inadequate form of regulation

Society needs protection from private investors exploiting the natural monopoly of a transport network for their own benefit, but this should be achieved through regulation not the exclusive use of market forces as a control mechanism. In circumstances where the natural monopoly of a transport network is weak, because competition has depressed private sector profits, re-investment will be depressed.

Government's role is essential to exert control for the benefit of society. The lack of Government support at the turn of the century lead to the potential for a competing municipal system and exacerbated the lack of capital to extend LU. Government's control process should involve ongoing regulation based upon performance. Relying upon the Private Bill mechanism as the founding framework to determine routes, safety requirements, relationships with other private sector entities and ticket prices proved insufficient. Unchecked, the private sector sub-optimised the benefits of the system by duplicating infrastructure and taking investment decisions for the benefit of shareholders not passengers.

Government was unable to stop collusion

Government could not stop the growing dominance of UERL in the same way that it could not stop the railway owners acquiring the canal companies 50 years before. There were also many instances of concert party agreements in the history of LU. Non-competition pacts were signed, fare prices were agreed between competing operators and routes were allocated to avoid competition. Also, access to stations by competitors was prevented. For example, the Great Northern Railway prevented the underground extending beyond Finsbury Circus for over 20 years to restrict competition between LU and the main line service.

THE CASE FOR PUBLIC SECTOR OWNERSHIP

This section of the paper considers the effects of public sector influence on LU. As political sentiment changed from direct intervention through to the Conservative Government's plans for privatisation LU was required to adapt. This section also reviews the New York Metro that like LU was also developed by the private sector.

LU passed to public ownership for political rather than economic or social reasons. A mechanism for co-ordination was close to receiving statutory approval and competition had been successful in restraining fares. Further, ownership by the private sector was an accepted fact and shareholder returns were sufficiently low so as not to raise public concern. The driving factor appeared to be politics. Chronic unemployment and a change of political sentiment between the two world wars pressed for an end to wasteful competition and ownership of the assets of production to be transferred to the public sector. Public sector control brought a new impetus for expansion in order to create jobs. LU was destined to receive over £100 million of Government guaranteed finance in order to create jobs.

In contrast the New York subway was created with similar leadership and intervention from the public sector but without the significant swings in political interpretation of the roles of the public and private sectors. The result at the turn of the century was the creation of a relatively more efficient and integrated network. The system deteriorated during the eighties but has been revitalised with private sector capital whilst retaining public sector.

The transition to public ownership

Background to the change in political ideology

The First World War forced greater co-operation between the companies that ran the underground. Mobilisation needs required that the system carry large numbers of people. Industries such as coal mining and merchant shipping had been completely taken over and following the war David Lloyd George was Prime Minister of a Liberal/Conservative coalition in power with a manifesto to improve conditions for the working classes. The new Government fostered the belief that the public sector should run public services and subsequent Labour Governments in 1920 and 1948 were to lead to the nationalisation of LU.

Government attempted to unify control of London's transport

In the period between 1918 and 1933 LU was in the private sector and working hard to avoid nationalisation by looking for mutually agreeable ways of co-ordinating services. UERL publicly accepted that Government should be in control of fare policy but wanted protection from competition for its bus operations. UERL, the Metropolitan and the tram network run

by the LCC together dominated public transport in London. Sensing the mood, UERL started discussions aimed at agreeing co-ordinated operations. By 1920, the Ministry of Transport (MoT) chaired these discussions and UERL agreed to have fares set by an MoT tribunal, but the parties could never agree upon a common mechanism for joint management and the talks stalled.

Political intervention in investment planning

The Trade Facilities Act of 1921 was introduced at a time of chronic unemployment and economic hardship between the two world wars. The driving factor was more to do with unemployment than the transport needs of London. Unemployment statistics for the period sourced from Cook and Stevenson (1988) show a range between 1.08 millions in 1921 to 2.52 millions when LU passed into public ownership. Government was struggling with the increased burden of unemployment benefit and a poor economic climate for world trade. They looked for large capital works projects that would need large numbers of men. Lord Ashfield put forward a proposal of extensive refurbishment and extension works. Government approved a 50-year guarantee for £5 millions and the work started in 1922.

The London and Home Counties Advisory Committee (LHCAC)

Reporting to the MoT, LHCAC was appointed as an advisory committee on London traffic. Its first report called for unification of London Transport to remove the *"acute and wasteful competition between the various transport concerns operating within London and its hinterland"*

In 1915 UERL set up a common fund into which the various constituent companies apart from LUT paid their surpluses after working expenses and preference dividends. Barker and Robins (1963) reprints the text from the publication Modern Transport in 1922 '*the great merit of the co-ordination and amalgamation policy of the big company has been that it has, by pooling paying and non-paying routes together, permitted some routes being worked primarily in the public interest rather than with a view to immediate profit'*.

LHCAC considered extending the common fund to all London transport operators. This would achieve co-ordinated operations under common management whilst retaining ownership with the existing proprietors by agreeing a set level of return to the shareholders based upon the performance record of the particular entity. The Metropolitan declined but UERL and LCC agreed and the Co-ordination of Passenger Transport Bill had passed its third reading in the Commons when an election was called.

Creation of the London Passenger Transport Board

The incoming Conservative Government had previously created a number of centrally controlled Boards that were publicly owned but independently operated, including the Central Electricity Generating Board and the British Broadcasting Authority. They decided that the London Passenger Transport Board (LPTB) was to take control of London's transport. LPTB was created in 1933 with a Board of Commissioners drawn from the public and private sectors. Shareholders received compensation and ownership passed to the public sector as an independent corporation. This meant LPTB benefited from Government patronage when raising capital without the degree of political intervention that would be the case with a Government Department. LPTB raised £40 millions in a massive New Works Programme that was guaranteed by Government. The priority was to improve patronage by extending the tube over ground beyond London into the suburbs and improving the capacity of a number of the busiest stations. Once again war changed the political imperative of Government.

Nationalisation brought more capital investment constraints

The Labour Government brought to power in 1945 under Clement Atlee undertook a massive nationalisation programme. Starting with the Bank of England in 1945, airways, coal mines, power generation and iron and steel soon followed. In 1948 the LPTB was nationalised and became an executive of The British Transport Commission (BTC) which now had six boards, one of which was London Transport. The Executive of LPTB became political appointees. The requirement of the nationalisation act was that LU was to be self-supporting. Immediately, the Executive sought powers to reduce unprofitable activities, cutting down non-peak services, removing Sunday services and shortening the working day. This policy was to lead to a long period of under investment, during which time despite the social and economic desirability of extending LU further into the suburbs, only extensions to the Central and Victoria lines went ahead.

Investment decisions in the Underground had to fit in with the broader priorities of national rail investment and the main lines took priority. An example of this was the Victoria line. First identified in the 1948 London Railway Plan as a crucial missing link between the heavily populated Northeast London and the shopping and offices of West, detailed planning was delayed until 1955. Government was reluctant to contribute toward the capital cost of £50 millions and consequently the scheme did not proceed until August 1962 when a Government guaranteed loan was approved.

The BTC was finally dissolved in 1962 and responsibility for London Transport was passed from central to local Government, the GLC. By 1970 a background of high inflation made ticket prices look expensive. Usage declined and operating subsidies were necessary to sustain the system. These subsidies only covered operating shortfalls. No allowance was made for the depreciation and renewal of assets. LU was in a period of decline.

The 1980s were the nadir of LU's history

Political intervention brought dramatic changes in policy

A clear example of the inadequacies of political management is the period between 1977 to 1981. The operation of LU was subjected to diametrically opposed political views in short succession. In 1977 a Conservative run GLC increased fares by the rate of inflation and sought to reduce operating costs by restructuring management. The GLC sought to reverse the period of decline by using consultants to thin unnecessary layers in the bureaucratic and hierarchical reporting structures and shift the organisational focus of LU into eight geographic regions. This appeared to be producing successful results when in 1981 a left wing, labour controlled GLC reversed the fare policy and introduced a 30% reduction, at a time when inflation was running at 20%. The subsidy that had previously been 30% of costs increased dramatically to 54%. The local authorities that funded the grant included Bromley, a suburb that was not served by LU. Bromley successfully challenged the legality of the GLC decision by appeal to the House of Lords. Fares were returned to a more economically viable level in March 1982, to the detriment of the passenger, by a 96% increase in one step.

Usage increased but investment declined

Usage of LU rose from just over 400million in 1980 to over 900million by 1990. Whilst this additional revenue turned the operating shortfall into profit the ageing system was struggling

to cope. Rolling stock particularly on the Central and Northern lines was long past its serviceable life. The escalators installed 70 years earlier at stations were equally outdated, breakdowns were frequent and ultimately poor maintenance systems together with a poor operating regime for station staff was found to be the cause of the Kings Cross fire in 1987. The power station, which Yerkes had built 90 years earlier, was still relied upon for a large part of LU's power but it could not cope with the demands of modern stock. The problems of LU needed resolving quickly. Against this background it is perhaps surprising that Mrs Thatcher did not attempt to privatise LU.

Conservative plans for privatisation

The Thatcher years avoided the privatisation of LU

According to Riddell (1991), Thatcherism was an attack on socialism and collectivism. Thatcherism developed from the ideas of F.A.Hayek. In his book *The Road to Serfdom* Hayek argued for reducing state intervention to the absolute minimum and allowing market forces to rule the economy. Mrs Thatcher made much of a return to Victorian values. She felt that the economy must be left free to develop according to the demands of the market but Mrs Thatcher did not attempt to privatise LU.

Lord Hurd said that the privatisation process started in the UK with stand-alone companies that were profitable and could be privatised in their existing form. The first companies were British Aerospace and Cable and Wireless sold in February 1981 and October 1981 respectively. Both had previously been in the private sector, were profit making, and could be sold intact.

Concentration on companies capable of being privatised in their existing form

The watershed privatisation in the UK was the sale of British Telecom (BT) in 1984. It encompassed the sale of 51 percent of the State monopoly supplier. It was also Government's first attempt to establish a suitable regulatory framework and in addition required substantial corporate restructuring before privatisation. The privatisation of BT lead the way for British Gas, Rolls Royce (1987), British Airports Authority (1987), British Airways (1987), British Steel (1988), The 10 water authorities (1989) and the electricity companies followed in 1990 and 1991.

The more difficult challenge was utilities requiring considerable restructuring

Lord Hurd said that the privatisation of British Coal and British Rail were tackled last because they required a more complex means of privatisation involving their disintegration and the creation of a radically new industry structure to counter a natural monopoly and create an environment of competition. He went on to say that Government at the time doubted LU could be privatised without considerable cost and effort. Government envisaged that substantial endowment investment would be necessary to create an attractive company for private shareholders.

Whilst LU is one of the few underground railways around the world which is capable of making an operating profit it was thought unlikely that acceptable fare levels could be achieved whilst meeting the needs of shareholders for dividends on their investment. Mrs Thatcher did not support privatisation of an entity that would be likely to require ongoing

subsidy. This paper suggests that the weaker form of monopoly enjoyed by LU gives elasticity of demand such that LU may never be able to achieve full financial independence.

Major's Government announces plans for privatisation

Despite previous reticence, Sir George Young announced in February 1997 that Government intended to review mechanisms for the privatisation of LU. Consultants were appointed to look at the three possible models below:

- sale of LU as a single business;
- sale or franchising of vertically integrated lines or group of lines; or
- national railways model with a track authority owning the network and franchisees running trains on individual lines or groups of lines.

The Conservative election defeat on 1st May 1997 curtailed this work.

Options for structuring the privatisation of LU

Whilst an urban rail network like LU provides an element of natural monopoly if it is sold as a single business, it is always possible to separate the monopoly elements from the contestable elements. Whilst provision of rail infrastructure facilities (in a region with only a single network) is clearly a natural monopoly, running trains over those facilities is not. Accordingly, one option would be to separate vertically the infrastructure ownership from operations.

Alternatively, privatisation could subdivide the monopoly assets into smaller units to transfer to different owners effectively creating a large number of vertically integrated residual monopolies. Although these units will not be in direct competition with each other, this type of indirect competition can be an effective performance measure. This is the model that has been implemented into the UK heavy rail network. Ownership of the track has been passed in its entirety to one single company (Railtrack). Provision of services including passenger, freight and maintenance services using the network have been divided up and let to over forty different companies on short term operating concessions (Opsco's) for periods of between 7-15 years. Government transferred ownership of all existing rolling stock to three rolling stock-leasing companies (Rosco's) which lease existing rolling stock to the Opsco's and thereby facilitate Government's capacity to replace an Opsco's at the end of a concession.

In the following section this paper considers the relative benefits of these options and reviews the experience of the privatisation of British Rail as a proxy for the issues that could be faced by a privatised LU.

The case against privatisation

At the height of the privatisation boom in the late eighties the Trades Union Congress (TUC) summarised their concerns for the UK's privatisation programme. The TUC cited what it believed was a doctrinal policy to remove the State from the delivery of services despite the claim that it was not expanding competition. Rather it was creating a series of private sector monopolies that ignored Government's responsibility to provide certain services in the national interest. The TUC claimed that the nation's assets were being sold off undervalue and that the early experience of private sector utilities was that labour relations were poor and poor performance meant consumers were not benefiting. This was a view held widely

within the opposition Labour party who talked of re-nationalisation and creating aggressive regulatory regimes. *Reference 5*

To some extent these views have stayed current within the Labour party. Recent Hansard extracts suggest the labour Government has four problems with the privatisation of British Rail, and these problems colour their view on the future of LU:

- The rail industry received £ billions of subsidy at privatisation that flow through the passenger franchises to Railtrack via inflated track access charges. Albeit this has reduced to £.5billions this is unlikely to be eliminated in the near future;
- The Railtrack share price has grown by 500 percent to its height in June 1998 and is currently 230 percent higher than at issue;
- Regulation has been successful in closing the investment backlog but has not been able to eliminate it;
- The performance records of the Opsco's have deteriorated for all but one franchise

Public sector leadership in New York brought better planning

New York is relevant to LU because it was developed at approximately the same time and suffered similar reinvestment problems during the late 1970s. The difference for New York was that although there was extensive private sector involvement, in both instances the projects were led by the local authority. The private sector played a major part in both construction and operations and shared risk accordingly, but the interventionist approach of the local authority meant that the projects were funded, or guaranteed, by the public sector.

A long wait for the first train but a more organised process

New York at the turn of the century had similar traffic problems to London. Private sector interests had proposed an underground railway and attempts to promote private schemes started in 1868 and 1872. Both were unsuccessful in raising sufficient capital, but spurred the debate and by 1884 legislation for underground roads was under discussion. The Rapid Transit Act was passed in 1891 allowing construction of the first line of an underground railway (Elm Street). Construction was completed in 1904, almost 30 years after the idea was first raised. The private sector was involved through an operating concession let for 50 years. However, the system was lead by the City Administration and funded by the local authority.

By 1905 further extensions to the system were necessary and the local authority once again took the lead. Plans were devised for an integrated network. The large network extension in 1910 raised $35m for the system with an additional £.75m for stations and termini. Bids for construction and combined construction and operations were sought and special powers were established in the construction contract to allow the local authority to commit to fund for only one year at a time, as so avoid breaching its funding thresholds.

To avoid later delays and disruption, the local authority obtained planning approval before the contract was let to the private sector. Bids were invited and assessment undertaken upon a range of options as follows:

- Financed by public capital with private construction and operation;
- Financed by private capital with private construction and operation;

- Let as three separate routes; or
- Let as one integrated route.

The Indiscriminate Franchise Law of 1909

The Indiscriminate Franchise Law was devised as a mechanism to boost the letting of franchise agreements for subsequent transport infrastructure concessions. It subsequently proved very popular and despite being drafted 90 years ago, it looks remarkably similar to current day arrangements.
The segregation of responsibilities is as follows:

- The operating company is responsible for equipping, or building and equipping, the line;
- The operating company funds the project with private finance under a franchise;
- The franchise is let by way of a variable concession that reverts when investment has been repaid. The calculation of repayment includes an allowance for interest on borrowing and dividends;
- The local authority has a right to purchase the project after 10 years;
- The operating company is entitled to compensation if the purchase option is exercised;
- There is capacity for the cost of outlying routes to be partly covered by raising a transport tax levied on the property to benefit *Reference 6*

A more organised and pre-determined apportionment of risk

The clarity of this contractual arrangement meant that risks were identified and apportioned to the party best able to manage them. The contractor took construction risk. Overruns of both time and amount were the responsibility of the contractor and consequently, the local authority had protection with certainty of costs. This meant that the contractor was incentivised to push ahead with construction because practical completion signalled the start of revenues. The local authority appointed a checker to oversee the works and specified their requirements extensively. As protection from under performance, surety and performance bonds were required of the contractor.

The contractor and the local authority shared demand risk, as payment during the first 10 years of operation was subject, in part, to ridership levels.

Using private sector skills but lead by the public sector

The following is a summary of an interview with Dr Glaister on the New York Subway with regard to his paper *A Fourth Way for the London Underground*.

The Metropolitan Transport Authority (MTA) ran New York's subway. The status of MTA was a public body known as a Public Benefit Corporation (Trust). By the late 1970's, New York faced similar problems to LU when the city's fiscal crisis exacerbated the under investment in the subway to an extent where operating shortfalls might not have been met. The City again took an interventionist approach to solve the problem. To capture the necessary funding the local authority, backed by special State legislation were allowed to undertake the following:

- issue State backed guarantees for bonds;
- charge the surplus toll receipts from the Triborough Bridge and Tunnel Authority in support of the bonds;
- levy certain local taxes specifically in support of the subway.

This system appears to have been particularly successful, from a Preliminary Bond Statement issued in 1998 there was $14 billions outstanding in such bonds and $23 billions had been raised since 1982.

Dr Glaister identified the benefits of this approach as follows:

- public private commitment to use a combination of public funds and dedicated taxes;
- clearly defined investment horizon to provide the necessary scope for planning and procurement;
- issuance of dedicated bonds that had been clearly separated from other public sector commitments; and
- the public benefit organisational structure retained public control of the vital transport system as a public trust and therefor delivered proper accountability to the travelling public, the business community and elected officials

Public sector's ability to meet the key objectives of urban rail

Public sector ownership has the potential to achieve many of the key tenets identified by this paper for delivering an adequate urban rail network. The public sector is highly accountable and plays an important and distinct role as a single point of responsibility for public interface to protect the stakeholder interests of passengers. Equally important, are the ease with which an operating subsidy could be provided by central Government to a public sector operator and the lower regulatory requirements that are needed.

Direct comparison of LU whilst in public and private ownership phases is complicated by the fact that it went through different development phases during these periods. As private companies, the construction of new lines was the major activity and whilst a public company providing the service was the main activity. However, this paper concludes that public sector ownership failed to maintain the existing asset base of LU.

Public ownership suffers from a blurring of political and economic decisions

Whilst a public company LU was constrained in undertaking capital programs because of the imposition of self-sufficiency requirements. Government appeared to wish to restrain ticket prices below the economic level necessary for re-investment without giving an adequate level of subsidy. Equally Government used LU as an investment vehicle to create jobs on three occasions. Later, the GLC made decisions on fare policy as a tool for implementing a political agenda and subsequently Mrs. Thatcher forced LU to undertake the Jubilee Line extension to Londons Docklands in the early 1990s without providing additional subsidy. There was never any doubt that the remainder of the service could only decline with such a large capital drain.

This paper concludes that despite the superficial attractiveness of public ownership there are significant drawbacks. LU requires private sector management disciplines. This suggests that a joint venture is the appropriate way forward.

OPTIONS FOR GOVERNMENT'S PPP

Government expressed the intention to safeguard and improve LU's service to passengers and to maintain a rigorous approach to safety standards. The investment backlog, estimated

by LU to be £1,200 millions, was to be eliminated. The current Government shared the previous Government's willingness to involve the private sector in the funding of LU and was keen to find a mechanism to attract private investment that ensured genuine transfer of risk to the private sector.

Government chose four options to review

In July 1997, Government put out to tender the role of financial adviser to assist them in evaluating the PPP options for LU. Government had selected four options that they wished to consider:

- ***Option A*** long, single concession for the whole of LU's business;
- ***Option B*** public private joint venture Infraco or infrastructure concession with a public, private or public-private operating concession;
- ***Option C*** public private joint venture for the whole of LU's business;
- ***Option D*** individual, vertically integrated line franchises.

Government set the following objectives in evaluating these options:

- safeguard and improve safety to passengers, with guaranteed safety standards;
- quickly reduce or eliminate LU's investment backlog;
- attract private investment , with genuine transfer of risk to the private sector;
- provide value for money for the taxpayer through improved efficiency and management;
- contribute towards an integrated transport policy for London.

Government's advisers identified two options

The consultancy arm of the accountancy firm PWC won the competition to advise Government. A first draft report was issued in early September. In the report PWC proposed closer examination of two favoured options. Either vertically integrate the system into four units of equal size, or adopt the mechanism used for the privatisation of British Rail with horizontal integration of private sector providers of infrastructure services, passenger operating companies and electricity. Neither of these options found favour with Government and delay ensued as the advisers were asked to rework their proposals. The second draft of PWC's report has not been made public.

Review of the proposed options

This paper now reviews the four models and looks at the efficacy of each model and its capacity to meet Government's objectives before considering the rationale behind the decision to implement *The Third Way*.

Franchise LU as a whole to a single operator (Option A)

This mechanism is familiar to many successful projects. Government has already let many similar concessions for operation of transport infrastructure by this method. Size and structure would not be problematic, projects such as Channel Tunnel, and Channel Tunnel Rail Link are both similar in size to LU. The option is capable of meeting Government's objectives through contractual terms and a regulatory framework for safety standards. Financial penalties can be imposed for digressions but competitive forces acting upon the

concessionaire are limited. Value for money could be judged through awarding the concession to the lowest cost bidder but ongoing benchmarking would be difficult.

The potential attractions of this option to Government are that it ensures the ultimate ownership of LU remains in the public sector and that restructuring can be kept to a minimum. In addition, implementation could proceed at a faster pace than other options allowing early implementation of critical projects. There is public comment that LU has suspended many initiatives pending the outcome of the restructuring proposals. An early resolution would allow attention to re-focus upon critical issues such as the financing of the backlog and the financial status of LU going forward.

Optimising concession terms would be important for this option

Government would need to carefully consider the length of the concession. An optimum balance should encourage investment whilst securing value for money measured in terms of subsidy cost to the Government. Private sector concessionaires are likely to favour longer-term concessions, if they are to accept the risk and obtain the benefits from cost savings and revenue improvements that flow from investment on their own account. A concession of say 30 years has dangers for Government if the concessionaire was not properly incentivised and controlled. A regime whereby a long term operator with performance barely above the minimum acceptable level and suffering financial penalties for frequent small service lapses but who could not be replaced, would be embarrassing to Government.

Government has a potential conflict between the competitive benefits of re-tendering for the concession and securing investment. One possible way of reconciling this conflict would be to make the length of the concession and investment requirements part of the competitive bidding process. This could raise difficulties in evaluation of tenders due to lack of comparability. An alternative might be to adopt renewable concessions, under which the original concessionaire would keep the concession, if they so wished, provided that they met specified performance criteria. It would then be left to bilateral negotiations between Government and the concessionaire to agree renewal terms for the new concession. This could involve setting new, possibly higher, performance targets and resetting subsidy to take account of some of the revenue and efficiency gains made during the first concession period. The terms obtained during the first concession period, for example in relation to subsidy, could thus be used as a benchmark in negotiations with the original concessionaire for renewal. However, it could still be argued that this option does not introduce as much competition from the private sector as other options.

Maintaining Investment throughout the life of the concession is essential

Another concern for Government would be to ensure the concessionaire maintained investment in the latter stages of the concession. This could be achieved by specifying reversionary asset condition in detail at the start the concession. Alternatively, setting specific performance targets should ensure the necessary investment is carried out. The performance target regime would probably need to be reviewed and reset periodically during the life of the concession and could be policed by penalties for failure to achieve the required standard. The prospect of Government being able to review the concession subject to performance, investment and agreement on terms should act as an additional incentive to the concessionaire.

Vertical integration of a single entity may be difficult to achieve

Whilst larger projects have been undertaken, there is currently no equivalent sized operator to LU in the private sector in the UK. The physical size of LUs undertaking is likely to mitigate against finding any one suitable private sector operator for the whole of a vertically integrated concession. As an example of the size of the operation, there are 245 stations, 1,100km of track, 300km of tunnels, 4,000 carriages and 14,000 personnel employed throughout the network.

The obligation for investment would require a substantial amount of financial backing. Whilst the majority of finance could be sourced through the debt capital markets the sizeable need for equity would favour only major entities. Railtrack would be such an entity but over reliance on Railtrack increases its singular dominance of the market and its power in future negotiations with the regulator. Without comparable experience in the private sector of running an undertaking of this magnitude and diversity, consortia would be formed that included a large number of separate companies. Experience would be at a premium and the additional complexity of the contractual structure between these entities could add to inefficiency. Consequently, the success of franchising LU as a whole seems limited.

Separating operations from maintenance and improvement of infrastructure (Option B)

This option is similar in construct to the privatisation of British Rail in that it separates the responsibilities horizontally into operating and infrastructure companies but through a concession for both companies. Any ongoing subsidy would only be paid to the Infrastructure Company (Infraco). Government did not express a view on which of the entities should own the rolling stock under this option - the Infraco or the Operations Company (Opsco) and a third such party such as a rolling stock leasing company could own the rolling stock.

Government envisages this option will be just two businesses split by business line, there is no suggestion of grouping around lines. Government also expects to be involved in the Infraco but is open to the ownership of the operating concession.

Contractual transparency could be a benefit to Government

This option has the benefit that it could provide greater financial transparency to the cost of the network. Government would need to decide if, as a matter of policy, transparency was important. This could be useful in the case, as this paper goes on to argue where a decision has been made to shift more of the cost of LU to the user. Any subsidy, which would include the cost of access to the infrastructure, could be clearly identifiable and paid to the Infraco through a framework agreement with the Opsco. Alternatively the cost of the network could be met directly by Government. However, the private sector may be less convinced of the continuing availability of funding for infrastructure investment in these circumstances unless committed in some way, say as an inclusion to the framework agreement referred to above.

Contractual complexity will be time consuming to document

This option will involve a greater degree of restructuring and a great deal of effort to record the contractual responsibilities of the parties and document procedures. Consequently it will take longer to implement than Options A and C. As a consequence of the need for the contractual separation, it will be necessary to ensure that the parties work together in the interests of the passenger. Incentives to maintain and to improve services to customers without additional cost to the taxpayer would be critical, together with mechanisms for fault

attribution and minimising disputes. The capacity for linking fares and service quality could also be considered so that the passenger contributes, at least in part, to the cost of the enhanced service.

Competition could be generated at the operating company level

Both the Infraco and the Opsco would be monopolies in terms of the provision of the network infrastructure and services respectively. However, Option B would more readily allow an element of competition than options A and C because short term operating concessions could be benchmarked. Another option might be a more extreme form of Option A where LU becomes established as a holding company with separate businesses corresponding to the range of activities, i.e. network operations, network maintenance, trains, train maintenance, operations and support services. A private sector partner could be introduced at the holding entity level and/or at the business levels enabling different capital and financing structures to be used for different businesses. The advantage of such an option is that it maintains the integrity of the network yet provides significant scope and flexibility for introducing private sector involvement

Government's role is unclear

The role that Government wishes to play in this option is unclear. They see themselves as part of the Infraco but appear open to participation in the role of the operator. The relationship between the companies will be important and dynamic. The Victorian experience confirms that any breakdown in the relationship between the companies can have an immediate effect upon the passenger and Government are right to question whether better supervision could be achieved by their participation in one of the entities. However, without a profit motive the private sector are likely to be concerned about Government's objectives will require a clear understanding of what decisions Government wants to influence. The private sector is likely to want management control.

Because of the separation of disciplines this option has the capacity to clearly identify responsibilities and allow payment of a subsidy to the infrastructure provider. An element of competition could be generated within the private sector franchise but with Governments role unclear and the eventuality that Government was party to both entities suggests this option would need considerable work to attract the private sector.

Public private joint venture for the whole of LU's business (Option C)

In this option LU would remain a single business. This option is similar to Option A except that it represents a sale of 51 percent of the business as opposed to a concession of the whole and is effectively privatisation of LU. Government has stated that they would enter into a framework agreement for the payment of subsidy prior to sale of a majority stake.

A public offering may not offer the right balance of interests

The structure of the so-called joint venture would be important to the private sector. If the proposal were to issue shares to the general public by way of a public offering, Government would still be the largest single shareholder amongst an otherwise widely dispersed shareholder base and clearly very able to influence the management of the company.

Majority ownership in the private sector would be a substantial benefit in that it would free LU to borrow in the debt capital markets. LU is one of the few underground railways in the world that is capable of making an operating profit. However, it is thought unlikely that fare levels acceptable to Government could be achieved whilst meeting the needs of private shareholders for dividends on their investment, at least in the early years. To some extent any subsidy would be used to support dividends.

If the sale were to be to a trade investor, majority ownership would pass management control for day to day issues to the private sector partner without the need for other agreements. Government would be able to block any decision that requires super majority voting, but this could be achieved without retaining such a large block of shares through mechanisms such as a golden share. As described earlier it is difficult to determine which companies would be suitable for this role other than Railtrack. Government may wish not to extend Railtrack's dominance over more of the industry, particularly where there is no concession with which to exert control and reliance would be placed solely upon regulation.

Privatisation of British Rail has as yet delivered few benefits

Railtrack was privatised through a sale by way of public offering for the majority of the company. It has many similarities to the Infraco proposed by the current Government and acts as a reasonable proxy for the problems that a private Infraco of LU would be required to face. The current evidence is that the privatised national rail network has not yet brought obvious benefits to passengers. The benefit has been for Government. Upon privatisation, Railtrack's investment needs of £7 billions up to 2009 have been removed from the public sector's accounts thereby reducing the PSBR.

When Railtrack was privatised in 1996, the Conservative Government had a small majority but was viewed as unpopular with the electorate. The perception of the Labour party forming the next Government was strong. The Labour leader, Tony Blair said at the annual general conference that year *"We will give Britain a modern integrated transport network, built in partnership between public and private finance, and restoring a unified system of railways with a publicly owned, publicly accountable British Rail at its core. Good for us and good for business"*. *Reference 7*

This statement was judged by Government and their advisers to be a deliberate attempt to frustrate the privatisation process and subsequently deemed to have a material effect upon investor appetite in the run up to privatisation. As a consequence, the success of floatation in such a difficult political environment the Conservative Government is charged with selling under value with an implicit subsidy built into the price. Success was also considered a higher priority than rigorous and consistent regulatory control and a relatively benign regime was put in place. Government has been trying since privatisation to redress the balance.

Vertically integrated split of businesses corresponding to different lines (Option D)

This option could allow for either PPP's or letting to concession. Like options A and C, this option gives each Concessionaire the freedom to implement private sector efficiencies. The Concessionaire would take responsibility for operating and maintaining a line on the basis of performance specifications. They would also determine what investment was needed to provide the level of service required. Many of the issues are similar to those discussed under the other options but the balance between improved efficiency by removing costs, which are incurred in maintaining LU as a whole and economies of scale (e.g. in relation to common services), would need to be considered.

This structure would be subject to significant interface complexities

This option potentially involves the most restructuring prior to the introduction of private sector partners/concessionaires, involving multiple schemes for the transfer of assets and complex contractual relations between the restructured businesses to be fixed before introduction of the private sector partners. It would entail the separation of assets and liabilities, the allocation of staff, access arrangements, revenue allocation systems, if not new fares structures and common operating procedures with potential implications for existing staff benefits, travel and pensions. The private sector would need to accept the new contractual relationships, although the national rail privatisation has demonstrated that the risks associated with this type of restructuring can be transferred to the private sector.

Competition between operators will benefit passengers

There are two specific areas in which this approach could, through competition, produce better value for the taxpayer and for the passenger. First, the programme of rail franchises shows that bids for subsidy became increasingly competitive as the programme of sales proceeded. Given the potential interest of the same bidders in LU it should be possible to build on that foundation. Second, benchmarking of comparative statistics should cause operators to improve service provision in line with their peer group**.**

There is merit in separating the services by region. Some lines such as the Northern and Central lines both need significant investment, the Victoria and Jubilee lines are relatively new and need little early investment. The Metropolitan, District and Circle lines are shallow and have different problems to the deep tubes. With multiple franchising, grouping the lines will be important to extract value. Individually some lines may not get bidders.

A number of significant issues would need to be adequately addressed in the later detail of this structure, not least integration of the network and interface issues between Concessionaires. Value for money to the taxpayer should be assured through competition between operators but vertical integration reduces Government's capacity to specify the investment obligations and transfers the responsibility to the Concessionaire through an overall performance specification. Risk transfer is assured because the private sector suffers the consequence of poor performance by reduced usage.

The structure of Government's proposed PPP

In March 1998, having completed their review, John Prescott announced Government's proposed solution *The Third Way*. The announcement can be summarised by the following points:

- maintain operation of LU in a single public sector operating company;
- preserve terms and conditions of employment for all staff;
- involve the private sector by awarding (later identified as three) contracts to finance, maintain and modernise LU's assets, such as trains, track signalling, stations and escalators; and
- subject contractors to a performance regime with incentives and penalties designed to ensure that the contractors deliver the improvements specified by the operating company.
- return all the assets to the public sector at the end of the contract;
- transfer the operating company, with the rest of London Transport into an agency called *Transport for London*, as part of the Greater London Authority (GLA) which will be established in 2000;

The segregation of responsibilities between the public and private sectors

Under these proposals the public sector is to remain responsible for operating LU (as an Opsco) including setting fares and service levels, providing tickets, running train and station operations, controlling the network, operating signalling and control systems and ensuring operational safety. The public sector through LU will also retain responsibility for developments on sites owned by London Transport together with the associated facilities management, building services and office accommodation for LU.

The private sector will be responsible for the provision and maintenance of the entire infrastructure that Opsco uses. This will include infrastructure services to stations and tunnels, station refurbishment, replacing and maintaining signalling systems and maintaining and replacing rolling stock. Opsco will pay them for these services against performance standards but excluding usage risk that will remain with the public sector.

Problems with the structure proposed for The Third Way

The Third Way avoids the complexities of joint ventures between the public and private sectors within the same entity. Horizontal separation is a useful structure for LU where the split of the skills required to improve infrastructure is different from the operation of the railway. Public sector management of operations means the public sector will collect the revenue from the system. Consequently it is likely that the private sector concessionaire will be insulated from revenue risk. This may reduce the cost of funding but less risk is taken by the private sector and this may impact Government's objective of real risk transfer. The practicality is that there will be little commercial benefit to the private sector in performing beyond the agreed standard. There will be no incentive to the private sector in promoting activities that increase usage and consequently revenue such as better advertising or making services more attractive.

Retaining operations in the public sector is not the only mechanism of control

Although there may be no private sector alternative to LU, retaining ownership in the public sector acts to deter the introduction of private sector efficiencies that have been proven in other privatised utilities. Government's response to the problems of Railtrack has been to appoint a new, and it is suggested more adversarial, rail regulatory body. However, this paper suggests that there is a dichotomy between Government's solution for Railtrack and its solution to the problems of LU. The creation of a new regulatory body for Railtrack suggests that Government have faith in the mechanism of regulation to control the private sector operation of a transport network. Indeed, it could also be possible to use the new regulator to control the private sector interests in LU. Yet Government discounts the capacity of a regulator to control private sector operation of LU. It implies that ownership of the assets and controls by regulation are insufficient and it is only through direct public sector operation that the integrity of the service can be maintained.

Regulation can satisfactorily control private sector utilities

There are common characteristics between the utilities which cross the sectoral divide. Electricity, water and rail all have a significant network where service delivery is highly regulated, they share the need for significant capital expenditure on infrastructure and pricing policy in each sector is by reference to indexation. They are all high profile consumer businesses that have a major interface with the public and are highly accountable for their actions. Based upon these similarities there is reason to argue that if the regulatory regime of Railtrack is successfully addressed there should be the capacity for operational efficiencies in line with the other utilities. Both the electricity and water sectors have delivered substantial savings for the benefit of the user. Since privatisation there has been a 28 percent decline in real terms, in the aggregate net operating costs across the electricity sector, excluding depreciation, grid charges and business rates and on a similar basis a 12 percent decline in the operating costs of the water industry. The potential contractual structure of LU will be different to both the electricity and water industries. Whilst it may not be possible to determine the quantum of the efficiency savings in this manner it is sufficient to record the precedent that regulation has proved adequate to force through savings for the customer and such regulation could be similarly employed in LU.

Retaining the responsibility for operations in the public sector will stifle the introduction of greater commercialism

Generally the private sector has been prepared to restructure and to introduce change driven by profit considerations. Government does not need to own to influence and impose obligations. The integrity of the network can be regulated via contractual relationships, these can be secured contractually with incentives and penalties reinforcing those obligations. However, with continuing public sector management of operations there will be considerable scope for argument about the way that the service specifications are met.

CONCLUSIONS

Proof of the hypothesis is based upon an iteration of ideas

Neither sector adequately met the objectives of urban rail schemes

Neither the public sector nor the private sector independently met the criteria this paper set as key tenets for the development of urban rail. The reasons for the failures of each sector are trailed at the end of the relevant section. This paper finds that a mixture of public and private sector disciplines is necessary to develop transport infrastructure.

The private sector cannot lead development

This paper concludes that leaving the formation of transport infrastructure to the private sector is not delegation but abdication by Government of its responsibilities. Empirical evidence from the Victorian period has proven that it is inefficient for the private sector to operate independently of Government. The profit motive is not the right incentive for building a transport medium that has wider social and economic effects than transporting passengers for profit. The private sector cannot develop urban rail networks in its own right, the substantial capital expenditure at the start of the project prejudices the economic viability of the scheme. That is not to say that unprofitable means unnecessary. Rather, it is for Government to facilitate the social overhead capital necessary for economic growth. Private sector finance has a role if the capital for such investment is not available from the public sector, but Government must control that role by contract or licence. Further, an element of subsidy is necessary for the public good, either implicitly by protection from competition or explicitly through grant or revenue support. The nature and amount of subsidy has a political interpretation and depends upon the extent to which Government wishes to see the user pay for the service.

Further, the private sector cannot be responsible for strategic development of the network or maintaining the long-term quality of assets, unless by way of an obligation under a performance regime administered by a public sector regulator. The private sector also generally needs regulation to enforce co-operative integration. Real efficiency in urban transport comes from cross modal integration not competition. Passengers benefited from improved services when competition was removed under public sector ownership because LU was operated as part of an integrated network with surface transport.

LU's current situation was caused by failing to maintain the asset base

The common criticism of the public sector ownership of LU has been that with the absence of a profit motive it cannot deliver the benefits of managerial efficiency that would otherwise have been achieved in the private sector. Also, public ownership does not provide a stable budgetary regime that allows long term investment plans to be made. Both of these criticisms can be levelled at LU. It was Government's failing to invest for the whole life maintenance of LU that caused the current investment backlog. This is a constant theme of criticism of state run utilities. The International Finance Corporation (IFC) undertook the financing of 88 infrastructure projects between 1966 and 1994. They report two reasons for the world-wide trend in developing countries to involve the private sector in state run utilities. First, under investment by many state utilities has resulted in a backlog of unmet demand for

infrastructure services, and in many countries this is the principle constraint to growth. Second, fiscal constraints on Government have led to an increasing realisation that the investment backlog will only be cured by private finance. Despite this indictment of Government's role, it remains essential that the public sector oversee maintenance of the system to ensure the investment backlog is cured.

Accounting has been a major influence in determining the context of the PPP

The political imperative is to attract private sector finance but neither party wished to have the asset accounted as part of the Public Sector Borrowing Requirement (PSBR). The Labour Government and the preceding Conservative Government were in broad agreement upon the issues to be faced to rectify the problems of LU. This paper maintains that both saw re-investment as critical to delivering a better service and to achieve this objective, both focused upon a form of relationship with the private sector which passed the obligation for financing investment to the private sector. This paper has previously described the conceptualisation for the efficient use of private capital to ensure value for money to the public sector, but the merits of public or private finance are secondary to whether or not Government has the budgetary capacity for the investment to go ahead.

The Labour Government has similar budgetary constraints to the previous Government. For the UK to achieve the convergence criteria for the European Single Currency the policy of restrained public sector borrowing must continue. Whilst the doctrinal belief in privatisation is not shared by the Labour Government, the continuing need to reduce public sector borrowing would require Government to defer other projects if it wished to invest in LU. The increasing costs to the nation of social welfare; education, policing and retirement benefits for an ageing population substantially reduce the capacity of Government to fund infrastructure investment. The onus of meeting the cost of the service has fallen upon the user as it has generally with other utilities such as electricity, water and gas where subsidies no longer exist. Consequently, the public sector accounting treatment of various PPP options has influenced Government's proposal for a PPP.

The Public Sector Trust impacts the PSBR

London First put forward a solution for LU based upon a concept similar to that in use in the New York Metro, a Public Sector Trust that could be set up by the new GLA. The Trust has two significant benefits. First, because of its status as being financially backed by the GLA, it would be able to raise money on the capital markets at fine rates and second, the payment of a subsidy by Government to a Trust is much less controversial than the payment to a private sector company. This is well received by commentators who argue that private capital is less attractive than public funding because it is more expensive. The example of New York has shown the Trust has real merit that should prove attractive to Government because it leaves them with control of the system. A report in the Financial Times of 6th April stated "*there are growing debates in his (Mr Prescott's) Department as to whether the PPP scheme will offer the best solution to the tube's problems… some transport analysts are urging Government to turn the tube into a Public Sector Trust …Mr Prescott is understood to be attracted to this*

.

This paper suggests that Government dismissed this option because of unfavourable public accounting treatment.

Privatisation may not be the answer

There is nothing in this research which suggests that the experience of a privatised LU would be materially different from Railtrack. Both networks face similar investment problems, both have experienced significant growth in passenger levels over recent years and both have similar operational difficulties. This paper concludes that current regulatory problems with Railtrack have coloured Government's view of the options for LU.

Like Railtrack the traditional criticisms of public sector companies being over manned and bureaucratically managed with inefficient systems may all, to some degree, be true of LU. However, staff costs, system redesign and management structure improvements provide limited benefits in utilities based on capital intensive infrastructure. Ultimately, performance improvements are dependent upon investment in new equipment. It is investment that will improve reliability and safety, reduce operating and maintenance costs and increase revenues by attracting higher usage levels by passengers. Privatisation of LU would not automatically ensure that investment was forthcoming, in the same way that the private sector cannot fund social overhead capital.

Regulation successfully controls other utilities

This paper concludes that there is no economic advantage in the public sector retaining control of operation. The objectives are to maintain ownership and increased control. Contract and regulation can satisfactorily do this without retaining operations in the public sector. There are PPP structures that would not require public sector control of operations. Indeed, Government has already been party to other PPPs in transport infrastructure where operation is the responsibility of the private sector. There is an implicit dichotomy in Government appointing a new regulator for Railtrack whilst asserting that the operation of LU must be retained in the public sector to maintain the integrity of the service to the public. Government's possible concern that there is 'no going back' from operation in the private sector could be assuaged by short term operating concessions that are separate from infrastructure.

Hypothesis proven

A joint venture will provide sustainable maintenance of LU's asset base

The locus of this paper is the hypothesis that a PPP is the best way of developing urban rail infrastructure. To prove the hypothesis requires the subjective interpretation of the phrase "the best way". This paper contends that the best way is the structure that allows for sustainable maintenance of the asset base. This occurs when each of the stakeholders, that is Government, passengers, shareholders and the taxpayers, achieve an appropriate level of benefit from the project. Without this balance, continued development is disrupted. Whilst in the private sector, shareholder interests in LU were initially disadvantaged to the benefit of the passenger and Government. Subsequently, when the private sector attempted to redress this balance the passenger suffered with higher prices, poorer services and overcrowding. With LU in the public sector, the taxpayer was disadvantaged because other necessary projects were foregone when investment was made in LU for the benefit of the passenger and

the economy. On the evidence of this paper, the author's conclusion is that the hypothesis is proven. LU requires a careful balance of skills and interests from the public and private sectors. The empirical evidence is that this balance cannot be achieved solely by regulation and a new method acknowledging the contribution of both sectors is required. A PPP is the best mechanism for this joint venture, but within the definition of a PPP there is scope for many forms of joint venture. Retaining operations in the public sector is not the necessary consequence of a PPP.

The Third Way is not the optimum solution for a joint venture

Government has stated that it believes the only way to maintain the public focus of LU and retain acceptable standards of service and safety is to reserve operation of the network in the public sector. *The Third Way* meets this objective by relying upon public operation whilst also having the capacity to meet the criteria set by this paper for the successful operation of an urban rail scheme. However, there is no evidence that *The Third Way* will be more efficient than a PPP with well-regulated private operation benefiting from the proven efficiencies of private sector management. Variously, experience from regulation of other utilities in the UK, Government's plans for Railtrack and the world-wide trend for private operation of utilities suggests that adequate solutions to control the private sector operators have been found.

The nature of the relationship between the public and private sectors

This paper finds that the optimum balance of contribution to a PPP should match the capabilities from each sector of the economy. The capability of the private sector is to take risk for reward and deliver with it the efficiency of management that profit motivation brings. Whereas, the capability of the public sector is to provide the social overhead capital necessary for economic growth and also to act as a regulator to the private sector so as to ensure the benefits of the project are appropriately allocated between the stakeholders. This paper concludes that Government's proposal for *The Third Way* is politically motivated and driven by the desire to retain ownership and the maximum operational involvement in LU whilst using funding from the private sector. The research from this paper suggests that solution is a sub-optimal for a public private partnership.

Word count: 18,950

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