

**FIFTH INTERNATIONAL CONFERENCE ON
COMPETITION AND OWNERSHIP IN LAND PASSENGER TRANSPORT**

MANCHESTER METROLINK AND THE PRIVATE INITIATIVE

**W J Tyson, OBE
Director of Planning & Promotion
GMPTE**

1. INTRODUCTION

Metrolink is the "brand" name of the light rail system in Greater Manchester that opened in 1992. It has been an outstanding success not just as a transport system but also as an example of public-private sector partnership in which the private sector has taken an element of risk and has met part of the cost. To understand the reasons for this, it is necessary to look at its conception and development.

The next section of the paper therefore sets out the background to and development of the scheme and its role in Greater Manchester's public transport system. Section 3 then shows how the private sector became involved and the principles of the contract between the private sector and GMPTE. Section 4 explains how the first phase worked in practice whilst Section 5 looks at the conclusions which could be drawn from that experience. These were put into practice in the new contract for the expansion of the system which has just been signed as set out in Section 6. Finally, Section 7 draws some general conclusions.

2. THE BACKGROUND AND DEVELOPMENT OF METROLINK

The Greater Manchester Conurbation

Greater Manchester is one of the largest conurbations in England outside London. It has a population of about 2.5 million and comprises 10 municipalities (known as Metropolitan Districts) whose populations vary from about 200,000 to 450,000. Whilst Manchester is the largest centre in the conurbation and is, indeed, the centre for the North West region, the other Districts are also important shopping and commercial centres in their own right which to a degree, compete with the regional centre.

Public transport policy making

Public transport policy is now one of the few functions that is administered on a county wide basis (the others are police, fire and waste disposal). The body that does this is the Passenger Transport Authority (PTA) which comprises 33 Councillors appointed by their District Councils. The number of PTA members from each District depends on its population. Whilst most public transport services are now provided by private sector operators, the PTA has a number of important roles in providing or procuring the services which the private sector does not. These include:-

- socially necessary bus services
- reduced fares for the elderly and children
- local rail services
- passenger information services
- "infrastructure" - bus stations, shelters and stops
- transport for the mobility impaired
- long-term development of the network.

The PTA sets policies that are carried out by the Greater Manchester Passenger Transport Executive (GMPTE). The Directors of GMPTE are appointed by the PTA but GMPTE is a separate legal entity and employs all other staff.

The transport problem and the public transport network

Over the years, despite new road building, traffic congestion in Greater Manchester has got worse, with the usual impacts on the environment and the economy. Scope for further road building is limited and therefore it was recognised many years ago that in the long-term, public transport would have to play a larger role. Within this, the rail network was seen to be particularly important because it is free from traffic congestion and can, in principle, provide an attractive alternative to the car.

The conurbation has a large rail network the focal point of which is Manchester. Most lines serve a dual purpose carrying long-distance regional and inter-city services as well as local trains. However, there are a number of lines which only carry local services.

There is also a comprehensive network of bus services that, in common with the rest of the country outside London, are deregulated. About 87% of the 137 million vehicle-kilometres operated annually are provided by operators on a commercial basis with the remainder provided under subsidy contracts to GMPTE.

Development of Metrolink

Metrolink originated in the period before both bus deregulation and rail privatisation. In the early 1980s it was becoming increasingly clear that there were serious constraints on the ability of the rail network to attract more passengers within Greater Manchester, particularly from the car. At the same time the costs of subsidising the rail network were rising and the quality of service was falling.

The principal problems of the rail network were:-

1. The stations in central Manchester are all located on the edge of the centre of the city. Therefore, passengers have to complete their journeys on foot or by shuttle bus;
2. the capacity of the network is limited with local trains having to "compete" for slots with long distance trains - which themselves are vital to the economy of Greater Manchester;
3. much of the infrastructure and rolling stock was at the end of its life and substantial capital expenditure would be needed to maintain services;
4. the annual deficit on the network was increasing, representing a larger burden on the PTA's finances.

Many ways of trying to overcome these problems were developed, focusing on overcoming the poor penetration of the city centre by the rail network. These ranged from closure of some lines and their conversion to guided busways to building a tunnel under the city centre.

After careful evaluation, it was found that the best value for money was likely to be obtained from:-

- converting the rail lines which only carried local services (or those from which non-local services could be diverted) to light rail; and
- extending them from their existing stations into the centre of Manchester on street.

Six lines were identified on which this could be done and in 1985 an application was made to the government for the funds to build the first phase of this network - converting the rail lines from Altrincham and Bury to Manchester.

3. INVOLVING THE PRIVATE SECTOR

Background

At the time the Metrolink system was initially conceived, it was assumed that it would be built and operated by GMPTE in the public sector. This "model" had been used in Tyne and Wear - another conurbation. However, once the government had accepted that GMPTE had made a robust case for government grant of 50% of the costs of building the system, they raised the question of private sector involvement. Indeed, this was a key factor in getting final approval for the grant.

Whilst there were examples of private sector involvement in transport infrastructure projects - the Channel Tunnel and the Dartford Bridge - the Private Finance Initiative had not been formally launched. Metrolink was the first major example of an urban public transport project. However, the objective was the same as that of the PFI - getting the private sector to take all or part of the risk on a project and to provide some of the capital costs.

The Metrolink Approach

As the operation of urban rail services was (and is) loss making, some ingenuity was required to find a means of securing private sector interest. A number of options were considered, the most promising of which appeared to GMPTE to be separating the infrastructure from the operations, which was similar to that eventually adopted for the privatisation of British Rail. Under GMPTE's proposals, the track, stations and signalling would have remained in GMPTE ownership and the operations would have been run by a private company who would have bought the rolling stock and paid a rental to GMPTE for the use of the track.

The government did not like this proposal. Its main reason was that it would have involved an on-going annual subsidy because the amount the operator could afford to pay for the track charge would be less than the costs of providing and maintaining the infrastructure. It therefore devised an alternative - which was adopted - the Design, Build, Operate and Maintain approach - DBOM. The essential principles of this are:-

1. there would be a single contract to design and build the system and to operate and maintain it for a period of years (eventually agreed at 15) - this would ensure that those building the system took the long-term operational consequences of their decisions into account;
2. the contractor would pay GMPTE for the concession to operate the system for the 15 years. This payment would partially offset the costs of constructing the system. In this way some private sector finance would be obtained and the impact on the public sector reduced;

3. the operator would take the commercial risks on the operation. This passed risk to the private sector.

This overcame the government's concern about on-going annual subsidy. Once the concession value had been agreed (and it could have been positive or negative in practice) the operator was then responsible for taking all the financial risks. Any public sector contribution would only be made at the outset.

The operating concession

The terms of the operating concession would clearly be of considerable importance in determining whether there would be private sector interest in bidding. The concession is also the instrument which reconciles the private sector's commercial interests and the policy interests of the PTA and GMPTE. It had therefore to be carefully drafted to reconcile the two objectives. It is a complicated document but its main terms are:-

- GMPTE specifies the minimum service levels in terms of frequency and periods of operation. This ensures that transport demands and social requirements are met.
- the operator is free to increase service levels and may apply to GMPTE to reduce them.
- an obligation to provide at least a minimum level of capacity - in the form of a limit on the number of standing passengers and the length of time they have to stand - is included.
- penalties are payable if less than 98% of scheduled tram-kilometres are operated. If less than 70% of tram-kilometres are operated, the contract can be terminated by GMPTE.
- fares are set by the operator - this gives the operator a high degree of commercial freedom. At the same time the existence of competitive bus services can constrain the operator from imposing excessive fare increases.

The concession agreement includes penalties for early termination on the part of the operator. It also allows GMPTE to terminate the concession in the event that authority and funding were obtained to extend the system. This will be discussed again later.

The competition

One of the great uncertainties was the extent of private sector interest in bidding for such a contract. It was decided to invite consortia of companies to bid as no single company was likely to have the skills and resources to build and operate a

light rail system. In the event there was considerable interest at the pre qualification stage and effective competition in the two stages of the bidding process. The winning consortium comprised GEC-Alsthom, Mowlem, AMEC and GM Buses.

4. THE EXPERIENCE

The Phase 1 system

The first phase of the system involved the conversion of the British Rail lines between Manchester and Bury and Manchester and Altrincham to light rail and joining them with about 3 km of on street running in central Manchester. Much of the latter is actually separated from other traffic and enjoys priority at most (but not all) intersections with other traffic. The contract was signed in 1990 although by then preliminary work on moving underground services had already started. The work was completed in 1992 when the system opened in stages between April and November.

The services

On weekdays trams run every 6 minutes between 0700 and 1800 and every 12 minutes at other times. A similar pattern applies on Saturdays but the 6 minute service starts later in the morning. On Sundays a 15 minute frequency operates all day.

The service has been extremely reliable with well over 99.5% of scheduled tram-kilometres operating. The penalty regime has never been triggered.

Fares

Fares in the peaks are higher than equivalent bus fares but in the off-peaks are about the same or lower than bus fares if return tickets are purchased. Fares are more flexible as all tickets allow passengers to break their journeys within 90 minutes of purchasing their ticket. They can also break their journeys without restriction on the return part of journeys with return tickets. Fares have increased broadly in line with inflation since the system opened. This contrasts with bus fares which have continued to increase faster than inflation.

GMPTE has reached agreements with the operator which allow users of rail services from all stations in Greater Manchester to use Metrolink in the city centre free of charge. This facility is used by over 600,000 passengers per year.

Reduced fares for the elderly and children apply and GMPTE compensates the operator for the revenue loss.

Transportation impacts

The system has been a major success in increasing patronage. Before the rail lines were converted to Metrolink 7.5 million passengers per year were carried. In the year ending 31 March 1997 this had increased to 13.6 million passengers. This growth has come from a combination of new markets (including cross-city through journeys), transfers from car and bus and generation of new trips. The household surveys carried out as part of the monitoring study indicated that Metrolink now accounts for almost 60% of all trips between the catchment areas of its stops. The comparative figure for the old rail service was 17% and the car share has fallen from 55% to 33%.

The extent of transfer from car to Metrolink was originally estimated to be 11.5% of total Metrolink patronage. In practice the estimate was found to be between 12.5% and 14.8% and could well be higher than this. Car traffic on the corridors most affected has fallen by up to 8% in the peak period.

In all, there is no doubt that Metrolink has achieved the objective of improving public transport in the areas it serves to the extent that it has reversed the long-term decline and has attracted former car users. Patronage has continued to increase every year since it opened.

Commercial impacts

The system has been a success in commercial terms as well. The private sector assumed both the cost risk and the revenue risk on operating the system. It very quickly moved into an operating profit which increased year on year.

There are several reasons for this including:-

- the system has good load factors in both directions throughout the day. The reason is that there are strong trip generators and attractors at the outer ends of the line as well as in the city centre.
- the service has attracted high patronage in the off-peak which means that high utilisation is obtained from the assets, particularly the vehicles.

Finally, it has to be said that the payment for the operating concession was only a small proportion of the total costs of the system - £5 million out of £140 million.

5. CONCLUSIONS FROM PHASE 1

The first phase of Manchester Metrolink demonstrated that it is possible for the private sector to both contribute to the capital costs of an urban transport system

and to take the commercial risks on its operation. However, the private sector contribution was very low and, in the event, the operation was profitable almost from the start.

The public sector has been able to ensure that most of the broader transportation requirements for the system have been secured through the operating concession. There is an obligation to operate a high level of service, even at times when commercially there may not have been such good services.

Competitive pressures from bus operators have controlled fares. One disappointment has been the lack of interest in through fares between Metrolink and bus services which feed it - particularly at Bury and Altrincham where the stop is at an interchange in the heart of the town centre.

There is a commercial incentive on the operator to increase patronage and to do so by offering a high quality of service to passengers.

However, there is not such a strong incentive to re-invest profits in improving the system as ownership of all assets rests with GMPTE.

6. LESSONS FOR THE FUTURE AND NETWORK EXPANSION

The first extension

Even before the system opened, GMPTE had statutory powers to extend it partly by converting rail lines and partly on completely new road based routes. The PTA decided in 1993 that the potential of the Private Finance Initiative for helping to fund Metrolink extensions should be explored.

In considering expansion, the PTA and GMPTE were keen to overcome the disadvantages of the concession agreement from their point of view and to increase the scale of the private sector contribution. The development of the PFI helped in this as private sector contributions to a whole range of public sector projects were being developed. Coupled with the experience and success of Phase 1 the prospects for achieving these objectives in the network expansion were good.

A new extension to Eccles, to the west of Manchester, via Salford Quays - a former dockland which has already undergone major regeneration - was selected as the first extension.

The Phase 1 contract provisions

The contract for the operation of Phase 1 already provided for expansion of the system. In summary, the Phase 1 operator had the opportunity to make GMPTE an offer for extending the concession to include the new extension. If this was not acceptable to GMPTE, the concession could be terminated - with appropriate compensation being paid to the concessionaire.

The new competition

In the event, this is exactly what happened and as a result there was a new competition for:-

- designing and building the Eccles extension; and
- operating the expanded network - including the Bury and Altrincham lines.

This type of arrangement was made easier by the fact that GMPTE owns the assets and could therefore transfer the operation to another operator at relatively short notice.

A similar two-stage bidding process was carried out. Although the original consortium competed they were not successful and a new consortium - Altram won. Altram comprises John Laing, Serco and Ansaldo Trasporti. Work will commence shortly with operation to Salford Quays expected in mid-1999 and to Eccles about a year later.

The new concession agreement

The basis of the new contract was similar to Phase 1 with the contractor taking both the cost and the revenue risks on the operation for a period of just over 17 years from May 1997.

However, it has proved possible to improve the terms of the concession agreement from GMPTE's point of view - for example there is an obligation to enter into through ticketing agreements with both bus and train operators.

Private sector contributions

The most striking feature of the new contract is, however, the extent of private sector funding. On this line, it has proved possible to get contributions in cash and in free transfer of land from property owners, developers and occupiers in the Salford Quays area. These total £13 million.

In addition, the bid for the concession has attracted much larger private sector contributions of over £90 million, out of a total construction cost of just over £100 million. However, the total project costs, which include costs of moving statutory services, compensation to GMMML, land acquisition and GMPTE's project management costs are over £140 million.

A main reason for the increased concession value is that the system has now established a trading record and a highly successful one at that. The public sector has, by virtue of the expansion of the system, been able to capture a large proportion of this and apply it to expanding the system.

Public sector funding

The public sector funding sources have been ERDF, Capital Challenge and receipts from the sale of PTA capital assets.

7. CONCLUSIONS

Manchester Metrolink has shown that it is possible to use the principles of the PFI to get the private sector to participate on a risk taking basis in the funding and operation of urban public transport systems. However, this does not mean that the private sector will be able to fund other systems to the same extent. The PFI in itself does not provide a panacea for funding investment in new public transport systems. The key factor in determining the extent of private sector interest and funding is the commercial performance of the system. In this respect Manchester has been a success for the reasons set out earlier in the paper.

Even in the first phase, Metrolink was taking over existing rail lines which had a patronage base so that the private sector had some basis on which to take a view on prospective revenues.

There are a number of general conclusions which can be drawn from the Manchester experience:-

1. if the private sector is to operate the system, they must have control over the commercial parameters in the business - at the very least this means allowing them to control costs and revenues. Some constraints can be imposed (e.g. with minimum service levels) but the more constraints the public sector imposes the less attractive the system will be to the private sector.
2. the DBOM contract is a means of getting private sector interest and contributions - it has worked twice in Manchester.
3. the public sector needs to be clear about what objectives it wants from the system and ingenious about ensuring that they are obtained through the concession agreement.
4. it is possible to reconcile public sector objectives with private sector funding and operation.
5. the commercial viability of the system is a key factor.

Looking to the future, GMPTE is still wanting to expand the Metrolink network further. We will therefore be continuing to examine ways in which the public-private sector partnerships we have developed can be expanded. Our objective is to achieve the Metrolink 2000 network with lines to Oldham and

Rochdale (the next priority), Manchester Airport and Ashton-under-Lyne. We intend to achieve it.

W.J. TYSON
6 MAY 1997

