

# **1. OPTIONS FOR BUS SERVICE IMPROVEMENTS IN LONDON**

## **1.1 Introduction**

1.1.1 This paper, one of a series providing background information and advice to Scrutiny Committee Members, examines various options for improving bus services in London depending on key strategic aims and objectives. It is based on:

- An assessment of the key London bus markets
- Oral and written evidence presented at hearings of the GLA Scrutiny Committee by: Transport for London (TfL); bus operators in London; and other key stakeholders
- An assessment of best practice elsewhere in the UK and overseas

1.1.2 As has been highlighted in previous papers London has one of the best bus services in the UK and comparable major cities worldwide and this is demonstrated by the number of bus journeys per person a year which at 200 is higher than that for comparable cities. In addition it ranks amongst the best service providers in terms of bus stop information, comprehensive network coverage, 24 hour services and in some aspects of its ticketing policy.

1.1.3 TfL is also generally well aware of the system's shortcomings and has an ambitious programme of improvements that it would like to bring forward. The majority of options and measures presented in this paper are therefore already being planned or are under consideration by TfL and are presented not as a criticism of TfL's failure to improve the service but in a spirit of partnership and support. London is in the fortunate position of having a growing bus market and therefore the measures set out in this paper relate to increasing patronage still further.

1.1.4 In addition to this, the Mayor is committed to introducing congestion charging in 2003. It is anticipated that this, in itself, will increase the use of public transport both within and outside Central London. The Assembly's scrutiny of Congestion Charging highlighted this: "There is a consensus among all those who have given relevant evidence that if congestion charging is to be effective, there is a need for a significant improvement in public transport, and that much of that improvement must be in place before charging is introduced". Coupled with this is the acknowledgement that many sections of the Underground are so heavily used that they will be unable to absorb any significant extra demand generated by congestion charging. These two issues mean that it is vital for London's bus services to be improved both in terms of quality and performance, but also in terms of capacity. If it does not

improve, the scope for London to continue to thrive as a world city could be severely diminished.

1.1.5 It is apparent from examining best practice elsewhere that road based public transport works best when it is separated from the effects of traffic congestion and is fully integrated with other modes of transport. In addition, to achieve any significant shift from private to public transport, improvements to the latter on their own are not enough and a carrot and stick approach is necessary.

1.1.6 This paper is solely concerned with bus services but it is clear that if public transport in London is to be radically improved investment needs to be made in dedicated public transport links be they light rail, trams, bus ways or similar, that offer faster and more reliable services than can ever be achieved on London's congested road network. Improved transport infrastructure on its own is however only one facet and needs to be coupled with far better integration of services, easier access to the network, better information provision and maintained levels of safety and security.

## **1.2 Options**

1.2.1 Five strategic options are set out below. All are based on retaining the existing market as a minimum:

- Continue to develop all the existing bus passenger markets without emphasising any particular one
- Increase travel to work market share
- Increase off peak patronage
- Increase outer London patronage
- Increase social inclusiveness of the network

1.2.2 Choosing one option does not mean that the others can not be progressed rather it is a recognition that there are limited resources available and a strategy for increasing bus patronage has to be prioritised. Each option contains a variety of measures based on key journey characteristics of bus users in Greater London. These characteristics were covered in detail in a previous paper.

1.2.3 At the end of the paper a summary table sets out for each option the list of measures proposed with an indication of:

- Capital cost (i.e. one off cost in introducing the measure)
- The net operating cost (i.e. the annual cost of the measure minus the expected additional annual revenue from greater patronage)
- The wider benefits to London (eg in terms of reduced road congestion, improved environmental conditions, greater social inclusion)

- How the measure is delivered (eg by whom or in what manner)
- Performance indicator (i.e. the way in which performance will be monitored)
- Timing (whether the measure can be introduced in the short, medium or long term)

1.2.4 A brief summary introduces each set of proposed measures (further details and background can be found in previous papers) which are listed only once although they may be applicable to more than one option. Whilst comments are made about ticketing systems the level of fares charged is outside the scope of this paper.

### **1.3 Option 1: Continue to develop all existing markets**

1.3.1 The measures outlined under this option are also applicable to all the other options as they are aimed at gradual improvements in bus services and hence bus patronage. By itself this option is unlikely to deliver any substantial modal shift but will assist social inclusiveness. It should be borne in mind that 80% of bus trips take place outside central London i.e. outside Zone1.

1.3.2 Besides cost, key drivers of bus use for the existing market are:

- Reliability
- Frequency
- Access to the network
- Ease of interchange
- Information provision
- Journey time
- Safety and security

#### ***Reliability***

1.3.3 Reliability is affected by

- Traffic congestion
- Resource limitations and especially staff shortages
- Operational management issues

1.3.4 Traffic congestion is reported to be a major problem by operators and as one factor responsible for high levels of driver turnover. It exists 7 days a week, on many routes for the whole operating day and it is often unpredictable in terms of timing and location. The removal of bus lay-bys was welcomed by operators as way of improving reliability. However, on some red routes virtual lay-bys have been created by allowing parking just after a bus stop making it difficult for the bus to re-enter moving traffic. Evidence presented suggests the following

measures need to be taken to reduce the impact of traffic congestion on bus reliability:

- Whole route bus priority measures rather than the piecemeal measures that exist on many routes at present. This will require further road space to be reallocated to buses, cycles and taxis and away from other road users.
- All bus lanes to be 24 hour, 7 days a week with lanes clearly marked by different colouring of the road surface. A fall back would be for all bus lanes to be of 12 hours duration (i.e. 7am to 7pm), 7 days a week, with extensions at particular congestion blackspots and with exceptions on key arterial routes on the contra-peak flow.
- Greater enforcement of bus lane and traffic regulations where they affect bus routes with equal priority given by all London Boroughs – could include on-bus parking attendants, more cameras on buses and monitoring bus lanes and key bus stops, allowing TfL to operate its own enforcement teams and towing trucks as occurs in Paris, an aggressive advertising campaign aimed at motorists. (Enforcement has the potential to be self financing).

1.3.5 Staff shortages account for some 2.5% of lost bus mileage and there is a high dependency on overtime working. Staff turnover rates across operators vary from zero to 50% highlighting the fact that part of the problem relates to individual operators' own terms and conditions of employment. However, there are a number of measures that could be introduced to reduce staffing problems which are partly a matter for TfL and partly for bus operators themselves. Whilst the Mayor's bonus to bus crews will assist retention, the present five year bus contracts lock in wage rates at the prevailing levels causing problems at times of a tight labour market. It is also of note that while bus companies report recruitment and retention problems some 90% of bus drivers are male. This would imply that terms and conditions of employment are not attractive to almost half the workforce and part of the present staffing problems could be resolved if the industry were more attractive to female employees. The following measures could assist the situation:

- Provision of better staff facilities at depots, bus stations and layover points especially toilet facilities which could be included as part of bus shelters at layover points.
- A more positive response from Boroughs to planning requests from bus operators for new bus garages.
- Require bus operators to provide details of the ethnic and gender breakdown of their staff with the steps they are taking to bring them

more into line with the make-up of the communities they serve and recruit in.

- Improve staff security by reducing potential areas of conflict with passengers and by providing special rapid response security teams dedicated to supporting bus staff and passengers.
- Greater contract flexibility with annual increases linked to the increase in average London wage rates rather than the retail price index. (Would not require re-negotiation of contracts rather the annual price inflation built into contracts would take account of movements in London wage rates.)
- Classify bus drivers as key workers and improve access to affordable housing.
- Improve drivers' terms and conditions at the London wide level by, for example, providing free travel on all public transport services in Greater London.
- Improve training and support for staff to assist in raising the image of bus driving

1.3.6 The main operational issues are to provide a more reliable service and to monitor its performance. Evidence presented implied that route supervision had declined due to a reduction in on-route supervisors and the lack of incentives in the tendering system to run a regular service compared with just running the required volume of bus miles. Indeed the present penalty system could have perverse impacts on the quality of service offered. Off route monitoring via AVL is poor due to the unreliability of the equipment and its lack of comprehensive coverage.

- Future contracts should provide greater incentives to bus operators to provide a reliable and high quality service using both bonuses and penalties.
- The reliability of AVL needs to be improved to ensure a high level of bus operator and passenger confidence in the information delivered by it

### *Frequency*

1.3.7 There is a general trade off between frequency and network density. Outside London in the commercial provision of bus services, operators have tended to concentrate on providing high frequency services on core routes, rather than lower frequency services on more spatially dispersed routes. This is due to the former approach generating

the highest revenue which is a clear indicator that frequency drives patronage.

1.3.8 In London the move on some routes to increase frequencies when replacing double with accessible single deckers has also generated increased patronage. Service frequency is generally high (5 an hour or greater) over an 18 hour operating day, 7 days a week. Even some Night Routes achieve frequencies of every 15-20 minutes.

1.3.9 However, service frequencies on many outer London routes tend to be lower and if passengers need to interchange then they can experience long waiting periods and whole journey times.

- All bus routes to operate at a 12 minute frequency (the level at which services are perceived as turn up and go) during the day with a minimum 15 minute service in the early morning and late evening when reliability is generally better.
- Alternatively replace low frequency bus services with high frequency taxi services as provided for by the Transport Act 1985 or by other innovative modes such as Jitneys (i.e. mini-bus type services).

#### ***Access to the network***

1.3.10 It is estimated that some 1 million people live more than 5 minutes walk (400m) from a bus stop and it is known that bus usage markedly declines with distance from a stop. Whilst in recent years the bus service has been extended in its geographic coverage there are still areas that are poorly served either in terms of having no bus service or only a low frequency service. Areas close to the border of Greater London are recognised as being particularly poorly served.

1.3.11 However, it was apparent in the evidence presented that attempts to bring bus services to areas presently not served had met with hostility from local residents and Boroughs acting on their behalf.

1.3.12 The introduction of low floor buses has made bus travel easier for a wide range of passengers with mobility problems and has resulted in increased patronage. However, there are drawbacks with the design of such buses including the reduced number of seats on the lower decks of double deckers, causing problems for some categories of passengers, and difficulties with the reliability of wheelchair ramps. These teething problems are expected to be overcome in due course with further technical and design improvements and possibly also by the introduction of articulated vehicles.

1.3.13 The commitment to retain Routemasters on many central London routes where the alternative is an equally inaccessible underground

network does reduce accessibility to and in the central area for many categories of passenger.

1.3.14 Measures to improve access to the network include:

- Identifying those areas that are more than 5 minutes away from a bus stop that offers a frequency of least 4 buses an hour and working with Boroughs, local communities and operators to bring forward options to increase the opportunities for residents in these areas to access the bus network.
- Developing an accessible replacement for the Routemaster.
- Increasing further the number of stops with bus shelters and seats and installing help/information points especially in locations that suffer from high levels of street crime.
- Providing more bus boarders to enable buses to stop more easily alongside the kerb. This will also assist in providing more space for the installation of bus shelters and allow buses to re-enter the traffic flow more easily.

### **Interchange**

1.3.15 The number of interchanges made by passengers between buses and other public transport modes and between bus routes is in excess of ½ million a day. The need to change and poor interchange facilities are oft quoted reasons why people will not use public transport. Interchange needs to be improved in various ways including:

- Better information provision.
- Easier physical interchange between services.
- Better timed connections between services.
- Easier ticketing.

1.3.16 Even regular users of the network are often not aware of all the options available to them when making a journey that requires one or more changes. One of the benefits of computerised journey planners has been to highlight the range of journeys that can be made and thereby making the network more attractive to potential users. It is disappointing that journey planners for TfL services and the Underground are still very rudimentary. The following measures would greatly improve journey experiences even when they do not involve an interchange:

- A multi-modal computerised journey planner available on the internet and CD-Rom with the appropriate terminals available at all major interchanges, shopping centres, key public buildings and eventually at all bus stops.
- The creation of multi-modal local area maps based on the tube map design to show the range of journey possibilities available with 1 or 2 changes by any mode – to avoid complexity such a map would only show high frequency or guaranteed connecting services.
- On board route maps showing every stop, interchange possibilities and key destination points (i.e. public buildings, tourist attractions etc) – as happens in Paris (very few buses work on more than one route in a day so it should be a practical proposition to ensure buses went out with the right route maps each day).
- Automatic announcements of all major stops and interchanges (New York and Paris buses provide such a service).
- Information maps at bus stops showing the location of all local interchange points ideally with signposts.
- A greater human presence at major interchanges and busy stops: providing information; providing the perception of a safer travelling environment and ensuring the less mobile are given priority and help in boarding services.
- On routes where reliability has been improved due to the introduction and enforcement of bus priority measures consideration should be given to recombining routes to reduce the need for interchange.
- Timed tickets to allow interchange between buses without having to pay again

### ***Information provision***

1.3.17 Whilst information provision at bus stops and elsewhere in London is far better than elsewhere in the UK there are still areas where further improvements would provide considerable benefits to passengers. Information is needed:

- before a journey is made:
- at commencement of a journey;
- during the journey; and



- at the end of the journey.

1.3.18 Some of the measures required have been highlighted before but in addition the following would be beneficial:

- Comprehensible real time information at bus stops as well as ticket information and the ability to purchase tickets, including one day bus passes and travelcards.
- The tube style bus maps that are being rolled out are a useful addition but they would be even more beneficial if they showed connecting services as well.
- Extending the number of stops that list key destinations such as hospitals, shopping centres, parks, leisure centres and how to get there would assist many passengers, as will the planned move to bus stop specific timetables.
- Providing maps of the local area as occurs at underground stations would assist those alighting at stops enabling them to complete their journey more confidently.

1.3.19 It is appreciated that space for information at bus stops is at a premium and priorities need to be set based on the local situation.

### ***Journey time***

1.3.20 Bus journey times are slow as a result of lengthy boarding and alighting times and traffic congestion. The use of different vehicle designs can radically increase the former while other measures outlined previously should reduce the latter. In the past, the benefits of bus priority measures that make the service more reliable as well as speeding up journey times, have been lost due to more people using the service and increasing bus stop dwell times.

1.3.21 The following measures would assist in this respect:

- Continue examining the feasibility of introducing articulated multi entry-exit vehicles with the aim of using them on all routes presently operated by double decker vehicles.
- Introduce more express and limited stop services on high volume corridors to separate short hop and longer distance journeys.
- Consider the extension of the Red Arrow express network in central London if congestion charging leads to a significant reduction in traffic.

### *Safety and security*

1.3.22 Bus travel is extremely safe but both passengers and staff have security concerns. For passengers these relate to getting to and from bus stops, waiting at bus stops and to a much lesser extent on board. Graffiti and litter on buses can lead to an intimidating environment and act as a deterrent to certain passenger groups. To further improve safety the following would assist:

- Rollout of help points at bus stops.
- CCTV coverage of bus stops and surrounding areas in locations with high levels of street crime.
- Greater presence of traffic regulation enforcement staff along routes should help improve perceptions of safety.
- Continued rollout of on board bus CCTV.
- Provide cleaners at major terminal points to clean the interior of all buses regardless of operator.
- Ensure all bus stops are well lit.

1.3.23 The Mayor has proposed doubling the number of conductors in London. Evidence presented suggested that this may have minimal benefits due to:

- on-going moves to further increase off bus ticket sales;
- the lack of a suitable place for a conductor to stand on buses other than Routemasters and thereby slowing down boarding times; and
- safety concerns in that conductors are six times more likely to be assaulted than drivers.

1.3.24 If the resources are available to recruit additional staff it has been suggested that they could instead be used in the following roles:

- Customer service staff at main interchanges.
- Off bus conductors providing a range of products including bus passes and travelcards at busy stops.
- Route supervisors to monitor service standards.

- Cleaners at main bus stations.
- Support to bus crews in known trouble spots.

#### **1.4 Option 2: Increase share of travel to work market**

1.4.1 Around half of travel to work journeys in London are made by car, a quarter by bus and a quarter by rail. However, of those entering central London in the morning peak only around 15% are travelling by car and just 6% by bus. In simplistic terms a 50% reduction in central London car use would require a doubling in bus use on radial routes assuming no extra capacity is available on underground and overground rail services.

1.4.2 Modal shift from car to public transport is generally only achieved when the latter offers what is perceived as a high quality product or there is a joint carrot and stick approach. So on their own, new light and heavy rail schemes tend to attract a higher proportion of passengers from cars than do improved bus services. Where traffic restraint measures are put in place then buses too can achieve a reasonable modal shift. Congestion charging in central London provides a stick but public transport use in the area is already very high. It is in outer London where there is a need for public transport to be made more attractive.

1.4.3 If peak patronage is to be increased then action is required in the following additional areas:

- Journey time;
- Image;
- Information; and
- Ticketing.

#### **Journey time and image**

1.4.4 There is only one express route X68 operating from outer to central London in the peak. Whilst the 607, which serves west London, is the only all day express service. (Some express commuter coach services do operate from just outside London to central London eg from the Medway towns.) Red Arrow services from Waterloo which, by being limited stop (using the Kingsway underpass in the peak), charging flat fares (before these came the norm in Central London) and having a no change policy provides a precedent for what might be achievable elsewhere. Possible measures to markedly speed up journey times include:

- The establishment of express, high frequency, pass only or no change network of services with high quality vehicles operating from outer to central London supported with bus stop based ticket machines or conductors providing the core ticket types.
- A similar express service network based on serving key employment centres in outer London marketed as the equivalent of the overground underground. Possible test beds for this concept may be Kingston, Harrow, Romford and Bromley.
- The introduction of pick up and set down only stops at peak hours on certain routes. That is, in the evening peak buses would not stop to set down passengers until they left the central area, as long as another high frequency service duplicated the route and provided a stopping service.

### **Information**

1.4.5 Commuters often have alternative options available to them if there are problems with the service and therefore information provision and integration are important requirements. Up to date and accurate information is required when accessing the system with details provided of alternative routes if there are problems on the network. Therefore:

- Bus stops should have Countdown extended to include real time travel information on all connecting bus, tube and national rail services plus any other major travel news items.
- At interchanges and/or busy stops real time information enquiry points via the internet could be provided.

### **Ticketing**

1.4.6 Changing working patterns means fewer commuters travel to the same destination at the same time each day of the week so conventional travelcards are not as attractive as they once were. Alternatives may include:

- The introduction of carnets of one day bus passes and travelcards.
- More bus stop ticket issuing machines supported by greater publicity of the discounts and range of tickets offered.

## **1.5 Option 3: increase off peak patronage**

1.5.1 Off peak patronage has grown significantly on the rail network both in the evenings and during inter-peak periods. Night bus travel has also grown strongly leading to the development of 24 hour bus services. These types of trips tend to be less regular and may require the use of either more than one bus or mode of travel. The move to shorter routes in an attempt to reduce the impacts of congestion has reduced the attractiveness of bus services for longer trips.

1.5.2 Most of the measures already outlined will assist in growing the off-peak market. As many of these type of trips will be irregular and to differing destinations the following issues are important:

- Information;
- Interchange;
- Ticketing; and
- Access to the network.

1.5.3 All of these points have been highlighted under other measures discussed above.

1.5.4 In addition the main reason why people use buses in outer London is to go shopping, despite buses not being very user friendly to those carrying bags. The introduction of low floor buses has made life easier but other steps could be taken to persuade people to switch from car to bus including:

- Working with major supermarkets and shopping centres to arrange home delivery at defined times of items brought at the store – as offered by some Iceland stores.
- Providing better services to out of town shopping centres on the edge of London
- Ensuring buses can access key shopping centres rather than being excluded as has happened in some Boroughs.

## **1.6 Option 4: Increase outer London patronage**

1.6.1 London has a very unintegrated public transport service – there is no comprehensive journey planner covering all modes for London – and the intermodal maps there are, are not very informative.

1.6.2 The tube map is well known and widely reproduced helping to promote underground travel in London by both those who are and who are not familiar with the city.

1.6.3 There is an argument for building on that success by developing a multi-modal map that only shows services that operate at least every 15 minutes in a tube map style format to enable easier cross modal journeys. This would also help highlight the difficulties in making many orbital journeys in outer London.

1.6.4 In addition to measures already mentioned the following would assist the growth of outer London journeys:

- Establishment of high frequency 18 hour, 7 day a week, possibly limited stop, services linking the main suburban centres in outer London in an orbital fashion, for example, Uxbridge – Harrow – Edgware – Barnet - Enfield.
- Establishment of multi-modal maps showing only high frequency services in outer London aimed at the vast majority of journeys that do not go into central London.

## **1.7 Option 5: Increase social inclusiveness of network**

1.7.1 Unlike the underground, bus usage generally reflects London's social mix at an aggregate level. The introduction of low floor buses has made the service more accessible to more groups of society while the use of route numbers assists those whose first language is not English.

1.7.2 However, there is still much that can be done to improve the social inclusivity of the bus network. It is very rare for example to see any information at bus stops or on-buses in any language other than English. Staff are pre-dominantly male and safety is still a concern at bus stops.

1.7.3 Great store has been placed on the introduction of smart cards (Prestige) but there is a concern that this will further disadvantage some groups in society as well as occasional users. The present fare structure is heavily biased against short hop occasional users who pay cash.

1.7.4 Many of the areas poorly served by bus are amongst the most deprived, some of the largest council estates, for example, which were not designed to be penetrated by traditional buses.

1.7.5 Some of the measures outlined above address various aspects of social inclusiveness while the issue of mobility is the subject of a separate scrutiny.

## **1.8 Need for greater co-operation**

1.8.1 It is clear from the evidence presented that there is a need for greater communication, co-operation and the adopting of common standards across London in many areas that affect bus operations. It is therefore recommended that TfL should bring together the bus operators, London Boroughs, the Police and the GLA on a regular basis to exchange information, discuss and agree policies on:

- Bus priority measures and enforcement;
- Improving access to the bus network;
- Development of the bus network, siting of stops, ensuring suitable road accessibility for buses;
- Social inclusivity;
- Driver recruitment and training especially to address the issue of under representation of certain groups;
- Siting of bus garages;
- Availability of affordable houses;
- Providing better facilities for bus drivers;
- Improving security for bus passengers; and
- Road works.

1.8.2 This would be in addition and separate from the cross-agency Enforcement Committee.

## Costings

This section provides an indicative cost for each measure. These will be confirmed in time for inclusion in the final report. Wider benefits are scored from 1 to 3 +. The more + the greater the wider benefit.

### Option 1

Measure	Capital cost	Net operating cost	Wider benefits	Delivered by	Performance indicator	Timing
Monitoring of gender/ethnicity of drivers			++	Bus operators	Gender and ethnicity characteristics of bus crews vis a vis Greater London	1 year
Contract flexibility to take account of labour market dynamics		±£2.5m - -£2.5m	+	TfL Via tender review	Bus crew turnover	1 year
London wide improvements in bus crews' terms		-£2.5m	+	TfL	Bus crew turnover	1 year
Greater incentives/penalties for operators to run higher quality services		±£10m - -£10m	++	TfL Via tender review	Range of customer satisfaction indicators and excess waiting time	1 year
On bus detailed route maps	£2m	£1m	+	TfL	Proportion of buses with a route map which is correct	1 year
Customer service staff at major interchanges	£1m	-£10m	++	TfL	Proportion of major interchanges with customer service staff	1 year
Provide cleaners at major terminal points for interior cleaning of all operators buses		±£1m - -£1m	+	TfL	CSS scores on cleanliness	1 year
Ensure all bus stops are well lit at night	£5m	±£2.5m - £2.5m	++	TfL	CSS scores on bus stops	1 year
Identification of areas presently poorly served by bus	£1m		+	TfL/Boroughs	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	1 years
Whole route bus priority measures	£250-500m	£25-35m	++	Extending LBI to all routes	Proportion of passengers carried on routes with complete bus priority measures	10 years
Traffic enforcement	£2.5-£5m	£20m	+++	Boroughs/ Police	Number of parking and bus lane offences per mile of bus route	1-2 years
Establishment of rapid security response teams	£1m	-£30m	++	TfL	Offences against bus crews and passengers	2 years
Introduce high frequency taxi/minibuses on low frequency		-£1m	++	TfL Via network reviews and tendering		2 years



bus routes						
Multi-modal journey planner	£2-10m	£10-15m	+++	TfL	Number of hits on website as a proportion of patronage	2 years
Local multi modal maps indicating frequency of services	£2.5m	£1m	+	TfL		2 years
Interchange maps at applicable bus stops	£1m	£1m	+	TfL	Proportion of interchange points with maps	2 years
Re-instatement of longer bus routes		£5m	+	TfL		2 years
Tube style bus maps at stops showing interconnecting services	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Provision of destination information at bus stops showing where interchanges are required	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Local area maps at bus stops	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
24 hour bus lanes	£50-100m	£20m	+	TfL, Boroughs	Proportion of bus lanes in place for 24 hours a day	2-3 years
TfL funded staff facilities	£5m	£5-10m	++	TfL/Boroughs	Proportion of route layovers with staff toilets	2-3 years
Provide CCTV on all buses		£2.5m - -£2.5m	+++	Bus operators via tender requirements	Proportion of bus fleet covered by CCTV	2-3 years
Ensuring all bus stops are provided with shelters with seats	£10m	£2.5m	+	TfL	Proportion of stops equipped with shelters	3 years
Bus stop based ticket machines and information	£40-50m	£10m	++	TfL	Proportion of cashless trips	3 years
Provide CCTV coverage of bus stops and surroundings area that suffer from high levels of street crime	£30-50m	£5m - -£5m	+++	TfL	Proportion of stops covered by CCTV	3-5 years
All services to operate at least every 12 minutes		-£80m	++	TfL Via network reviews and tendering	Proportion of routes operated that are high frequency	5 years
Developing high frequency services to areas presently poorly served		-£75m	+++	TfL	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	5 years
Accessible Routemaster replacement	£20m					5 years
Providing help/information points especially in areas with street crime problems	£10m	£2.5m	++	TfL	Proportion of stops equipped with help/information points	5 years
Installing bus boarders where appropriate	£30m	£5-10m	++	TfL	Proportion of stops equipped with boarders	5 years

Journey planner terminals in public places	£5m	£10-15m	++	TfL	Number of terminals available	5 years
On bus announcements of bus stops	£5m	£1m	+	TfL	Proportion of buses on which announcements are made	5 years
Continuing roll out of Countdown	£100m	£10m	++	TfL	Proportion of stops with Countdown	5 years
Introduce express services on high volume corridors		£20-30m	+++	TfL	Average bus speeds	5 years
Introduce “Red Arrow” express service in Central London	£5m	£5-10m	++	TfL after congestion charging introduced	Average bus speeds	5 years
Introduction of articulated buses	£20m	£30-60m	++	TfL		5-10 years

### Option 2

Measure	Capital cost	Net operating cost	Wider benefits	Delivered by	Performance indicator	Timing
Pick up/Set down only stops on central London services		£5m	+	TfL	Average bus speeds	1 year
Carnet, travelcards		+\$10 - -\$5m	++	TfL	Proportion of revenue taken off-bus	1 year
Monitoring of gender/ethnicity of drivers			++	Bus operators	Gender and ethnicity characteristics of bus crews vis a vis Greater London	1 year
Contract flexibility to take account of labour market dynamics		+\$2.5m - -\$2.5m	+	TfL Via tender review	Bus crew turnover	1 year
London wide improvements in bus crews’ terms		-\$2.5m	+	TfL	Bus crew turnover	1 year
Greater incentives/penalties for operators to run higher quality services		+\$10m - -\$10m	++	TfL Via tender review	Range of customer satisfaction indicators and excess waiting time	1 year
On bus detailed route maps	£2m	£1m	+	TfL	Proportion of buses with a route map which is correct	1 year
Customer service staff at major interchanges	£1m	-\$10m	++	TfL	Proportion of major interchanges with customer service staff	1 year
Provide cleaners at major terminal points for interior cleaning of all operators buses		+\$1m - -\$1m	+	TfL	CSS scores on cleanliness	1 year
Ensure all bus stops are well lit at night	£5m	+\$2.5m - -\$2.5m	++	TfL	CSS scores on bus stops	1 year
Identification of areas presently	£1m		+	TfL/Boroughs	Proportion of residents living	1 years

poorly served by bus					more than 400m from a bus stop with a minimum 15 minute frequency	
Whole route bus priority measures	£250-500m	£25-35m	++	Extending LBI to all routes	Proportion of passengers carried on routes with complete bus priority measures	10 years
Traffic enforcement	£2.5-£5m	£20m	+++	Boroughs/ Police	Number of parking and bus lane offences per mile of bus route	1-2 years
Establishment of rapid security response teams	£1m	-£30m	++	TfL	Offences against bus crews and passengers	2 years
Introduce high frequency taxi/minibuses on low frequency bus routes		-£1m	++	TfL Via network reviews and tendering		2 years
Multi-modal journey planner	£2-10m	£10-15m	+++	TfL	Number of hits on website as a proportion of patronage	2 years
Local multi modal maps indicating frequency of services	£2.5m	£1m	+	TfL		2 years
Interchange maps at applicable bus stops	£1m	£1m	+	TfL	Proportion of interchange points with maps	2 years
Re-instatement of longer bus routes		£5m	+	TfL		2 years
Tube style bus maps at stops showing interconnecting services	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Provision of destination information at bus stops showing where interchanges are required	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Local area maps at bus stops	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
24 hour bus lanes	£50-100m	£20m	+	TfL, Boroughs	Proportion of bus lanes in place for 24 hours a day	2-3 years
TfL funded staff facilities	£5m	£5-10m	++	TfL/Boroughs	Proportion of route layovers with staff toilets	2-3 years
Provide CCTV on all buses		£2.5m - -£2.5m	+++	Bus operators via tender requirements	Proportion of bus fleet covered by CCTV	2-3 years
Express bus network using high specification vehicles serving central London		£10-20m	+++	TfL via tender process	Average bus speeds	3 years
Ensuring all bus stops are provided with shelters with seats	£10m	£2.5m	+	TfL	Proportion of stops equipped with shelters	3 years
Bus stop based ticket machines and information	£40-50m	£10m	++	TfL	Proportion of cashless trips	3 years
Provide CCTV coverage of bus stops and surroundings area that	£30-50m	£5m - -£5m	+++	TfL	Proportion of stops covered by CCTV	3-5 years

suffer from high levels of street crime						
Express bus network using high specification vehicles serving outer London		+£5m - -£10m	+++	TfL via tender process	Average bus speeds	5 years
All services to operate at least every 12 minutes		-£80m	++	TfL Via network reviews and tendering	Proportion of routes operated that are high frequency	5 years
Developing high frequency services to areas presently poorly served		-£75m	+++	TfL	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	5 years
Accessible Routemaster replacement	£20m					5 years
Providing help/information points especially in areas with street crime problems	£10m	£2.5m	++	TfL	Proportion of stops equipped with help/information points	5 years
Installing bus boarders where appropriate	£30m	£5-10m	++	TfL	Proportion of stops equipped with boarders	5 years
Journey planner terminals in public places	£5m	£10-15m	++	TfL	Number of terminals available	5 years
On bus announcements of bus stops	£5m	£1m	+	TfL	Proportion of buses on which announcements are made	5 years
Continuing roll out of Countdown	£100m	£10m	++	TfL	Proportion of stops with Countdown	5 years
Introduce express services on high volume corridors		£20-30m	+++	TfL	Average bus speeds	5 years
Introduce "Red Arrow" express service in Central London	£5m	£5-10m	++	TfL after congestion charging introduced	Average bus speeds	5 years
Introduction of articulated buses	£20m	£30-60m	++	TfL		5-10 years

### Option 3

Measure	Capital cost	Net operating cost	Wider benefits	Delivered by	Performance indicator	Timing
Monitoring of gender/ethnicity of drivers			++	Bus operators	Gender and ethnicity characteristics of bus crews vis a vis Greater London	1 year
Contract flexibility to take account of labour market dynamics		+£2.5m - -£2.5m	+	TfL Via tender review	Bus crew turnover	1 year
London wide improvements in bus		-£2.5m	+	TfL	Bus crew turnover	1 year

crews' terms						
Greater incentives/penalties for operators to run higher quality services		+£10m - -£10m	++	TfL Via tender review	Range of customer satisfaction indicators and excess waiting time	1 year
On bus detailed route maps	£2m	£1m	+	TfL	Proportion of buses with a route map which is correct	1 year
Customer service staff at major interchanges	£1m	-£10m	++	TfL	Proportion of major interchanges with customer service staff	1 year
Provide cleaners at major terminal points for interior cleaning of all operators buses		+£1m - -£1m	+	TfL	CSS scores on cleanliness	1 year
Ensure all bus stops are well lit at night	£5m	+£2.5m - £2.5m	++	TfL	CSS scores on bus stops	1 year
Identification of areas presently poorly served by bus	£1m		+	TfL/Boroughs	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	1 years
Whole route bus priority measures	£250-500m	£25-35m	++	Extending LBI to all routes	Proportion of passengers carried on routes with complete bus priority measures	10 years
Traffic enforcement	£2.5-£5m	£20m	+++	Boroughs/ Police	Number of parking and bus lane offences per mile of bus route	1-2 years
Establishment of rapid security response teams	£1m	-£30m	++	TfL	Offences against bus crews and passengers	2 years
Introduce high frequency taxi/minibuses on low frequency bus routes		-£1m	++	TfL Via network reviews and tendering		2 years
Multi-modal journey planner	£2-10m	£10-15m	+++	TfL	Number of hits on website as a proportion of patronage	2 years
Local multi modal maps indicating frequency of services	£2.5m	£1m	+	TfL		2 years
Interchange maps at applicable bus stops	£1m	£1m	+	TfL	Proportion of interchange points with maps	2 years
Re-instatement of longer bus routes		£5m	+	TfL		2 years
Tube style bus maps at stops showing interconnecting services	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Provision of destination information at bus stops showing where interchanges are required	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Local area maps at bus stops	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
24 hour bus lanes	£50-100m	£20m	+	TfL, Boroughs	Proportion of bus lanes in place	2-3 years

					for 24 hours a day	
TfL funded staff facilities	£5m	£5-10m	++	TfL/Boroughs	Proportion of route layovers with staff toilets	2-3 years
Provide CCTV on all buses		£2.5m - -£2.5m	+++	Bus operators via tender requirements	Proportion of bus fleet covered by CCTV	2-3 years
Establishment of home delivery service	£10m	£20-30m	+++	TfL in co-operation with major stores	Proportion of off-peak passengers using the service for shopping	3 years
Ensuring all bus stops are provided with shelters with seats	£10m	£2.5m	+	TfL	Proportion of stops equipped with shelters	3 years
Bus stop based ticket machines and information	£40-50m	£10m	++	TfL	Proportion of cashless trips	3 years
Provide CCTV coverage of bus stops and surroundings area that suffer from high levels of street crime	£30-50m	£5m - -£5m	+++	TfL	Proportion of stops covered by CCTV	3-5 years
All services to operate at least every 12 minutes		-£80m	++	TfL Via network reviews and tendering	Proportion of routes operated that are high frequency	5 years
Developing high frequency services to areas presently poorly served		-£75m	+++	TfL	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	5 years
Accessible Routemaster replacement	£20m					5 years
Providing help/information points especially in areas with street crime problems	£10m	£2.5m	++	TfL	Proportion of stops equipped with help/information points	5 years
Installing bus boarders where appropriate	£30m	£5-10m	++	TfL	Proportion of stops equipped with boarders	5 years
Journey planner terminals in public places	£5m	£10-15m	++	TfL	Number of terminals available	5 years
On bus announcements of bus stops	£5m	£1m	+	TfL	Proportion of buses on which announcements are made	5 years
Continuing roll out of Countdown	£100m	£10m	++	TfL	Proportion of stops with Countdown	5 years
Introduce express services on high volume corridors		£20-30m	+++	TfL	Average bus speeds	5 years
Introduce "Red Arrow" express service in Central London	£5m	£5-10m	++	TfL after congestion charging introduced	Average bus speeds	5 years
Introduction of articulated buses	£20m	£30-60m	++	TfL		5-10 years

Option 4

Measure	Capital cost	Net operating cost	Wider benefits	Delivered by	Performance indicator	Timing
Whole route bus priority measures	£250-500m	£25-35m	++	Extending LBI to all routes	Proportion of passengers carried on routes with complete bus priority measures	10 years
Monitoring of gender/ethnicity of drivers			++	Bus operators	Gender and ethnicity characteristics of bus crews vis a vis Greater London	1 year
Establishment of rapid security response teams	£1m	-£30m	++	TfL	Offences against bus crews and passengers	2 years
Contract flexibility to take account of labour market dynamics		+£2.5m - -£2.5m	+	TfL Via tender review	Bus crew turnover	1 year
London wide improvements in bus crews' terms		-£2.5m	+	TfL	Bus crew turnover	1 year
Greater incentives/penalties for operators to run higher quality services		+£10m - -£10m	++	TfL Via tender review	Range of customer satisfaction indicators and excess waiting time	1 year
All services to operate at least every 12 minutes		-£80m	++	TfL Via network reviews and tendering	Proportion of routes operated that are high frequency	5 years
Introduce high frequency taxi/minibuses on low frequency bus routes		-£1m	++	TfL Via network reviews and tendering		2 years
Identification of areas presently poorly served by bus	£1m		+	TfL/Boroughs	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	1 years
Developing high frequency services to areas presently poorly served		-£75m	+++	TfL	Proportion of residents living more than 400m from a bus stop with a minimum 15 minute frequency	5 years
Accessible Routemaster replacement	£20m					5 years
Ensuring all bus stops are provided with shelters with seats	£10m	£2.5m	+	TfL	Proportion of stops equipped with shelters	3 years
Providing help/information points especially in areas with street crime problems	£10m	£2.5m	++	TfL	Proportion of stops equipped with help/information points	5 years
Installing bus boarders where appropriate	£30m	£5-10m	++	TfL	Proportion of stops equipped with boarders	5 years
Multi-modal journey planner	£2-10m	£10-15m	+++	TfL	Number of hits on website as a proportion of patronage	2 years

Journey planner terminals in public places	£5m	£10-15m	++	TfL	Number of terminals available	5 years
Local multi modal maps indicating frequency of services	£2.5m	£1m	+	TfL		2 years
On bus detailed route maps	£2m	£1m	+	TfL	Proportion of buses with a route map which is correct	1 year
On bus announcements of bus stops	£5m	£1m	+	TfL	Proportion of buses on which announcements are made	5 years
Interchange maps at applicable bus stops	£1m	£1m	+	TfL	Proportion of interchange points with maps	2 years
Customer service staff at major interchanges	£1m	-£10m	++	TfL	Proportion of major interchanges with customer service staff	1 year
Re-instatement of longer bus routes		£5m	+	TfL		2 years
Continuing roll out of Countdown	£100m	£10m	++	TfL	Proportion of stops with Countdown	5 years
Bus stop based ticket machines and information	£40-50m	£10m	++	TfL	Proportion of cashless trips	3 years
Tube style bus maps at stops showing interconnecting services	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Provision of destination information at bus stops showing where interchanges are required	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Local area maps at bus stops	£1m	£1m	+	TfL	CSS scores on bus stops	2 years
Introduce express services on high volume corridors		£20-30m	+++	TfL	Average bus speeds	5 years
Introduce "Red Arrow" express service in Central London	£5m	£5-10m	++	TfL after congestion charging introduced	Average bus speeds	5 years
Provide cleaners at major terminal points for interior cleaning of all operators buses		+£1m - -£1m	+	TfL	CSS scores on cleanliness	1 year
Ensure all bus stops are well lit at night	£5m	+£2.5m - £2.5m	++	TfL	CSS scores on bus stops	1 year
Traffic enforcement	£2.5-£5m	£20m	+++	Boroughs/ Police	Number of parking and bus lane offences per mile of bus route	1-2 years
24 hour bus lanes	£50-100m	£20m	+	TfL, Boroughs	Proportion of bus lanes in place for 24 hours a day	2-3 years
TfL funded staff facilities	£5m	£5-10m	++	TfL/Boroughs	Proportion of route layovers with staff toilets	2-3 years
Provide CCTV on all buses		£2.5m - -£2.5m	+++	Bus operators via tender requirements	Proportion of bus fleet covered by CCTV	2-3 years
High frequency orbital services		£0 - -£15m	+++	TfL	Average bus speeds	3-5 years



Provide CCTV coverage of bus stops and surroundings area that suffer from high levels of street crime	£30-50m	£5m - -£5m	+++	TfL	Proportion of stops covered by CCTV	3-5 years
Introduction of articulated buses	£20m	£30-60m	++	TfL		5-10 years

## **TfL Questions**

- 1) Where does TfL see future bus growth coming from and how would it prioritise the above options and why?
- 2) Why do you think that there is no reference to improving bus services in outer London in the draft Transport Strategy?
- 3) What changes do you expect to see in the final draft of the Transport Strategy in supporting TfL Buses in implementing their plans to increase the capacity and quality/performance of London's bus services?
- 4) What targets do you expect to see in the final draft of the Transport Strategy in relation to bus service improvements?
- 5) Realistically, what improvements can be made by May 2004 in the following:
  - the capacity of the bus network in Central London?
  - the capacity of the bus network in Outer London?
  - the overall quality of bus services?
  - the performance of bus services?
- 6) What and when will the first tangible improvements be made in London's bus services that London's travelling public will notice?
- 7) Are there any other policies that TfL Buses would like to see the Mayor support to improve bus services in London?
- 8) What changes does TfL propose to make to bus services in Central London to capture the benefits of reduced road traffic levels?
- 9) How does TfL plan to provide fast, frequent links between key centres and transport interchanges in outer London thereby radically improving many orbital journeys?
- 10) How will TfL ensure co-operation and communication between all parties involved in delivering high quality public transport in London is radically improved from the present situation?

## **Questions for Other Parties**

- 1) Which option would you choose from those listed in the report and why?
- 2) Within the option you have selected, which three measures within that option would you prioritise and why?
- 3) How would you wish to see the draft Transport Strategy revised to take account of your chosen option and priorities?