



# **GOING UNDERGROUND**

***A statement of evidence  
from the  
London Transport Users Committee  
to the  
Greater London Authority's  
scrutiny of  
The Tube – Moving On***

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## Introduction

The Greater London Authority has appointed an investigative committee to conduct a scrutiny entitled "*The Tube - Moving On*", to which the London Transport Users Committee has been invited to make a submission of evidence.

The aim of this scrutiny is "to set realistic, but demanding, measures of the service quality against which the Tube can be assessed, now and in the future. It will define the Tube service standards Londoners deserve and ought to expect. These are likely to be higher than those that exist now, but reasonable when services taken for granted by other cities with underground railway systems across the world are taken into account."

The GLA has invited responses to the following questions.

1. *What standards do you consider Tube passengers ought reasonably to expect – particularly as regards :*
  - (a) *safety*
  - (b) *security*
  - (c) *waiting*
  - (d) *crowding*
  - (e) *information*
  - (f) *journey times*
  - (g) *reliability*
  - (h) *fares*
  - (i) *comfort*
  - (j) *customer care*
  - (k) *cleanliness*
  - (l) *accessibility*
  - (m) *integration with other transport services?*
2. *How far do the standards identified in answering question 1 reflect those that exist on the Tube now? In answering this question, it would be helpful if you could consider how expectations of the Tube, and the standards you have identified in dealing with question 1, are affected by service levels on the rest of the public transport network and by the Mayor's transport strategy.*
3. *If you have knowledge of similar underground railway services in other cities and countries outside the United Kingdom, are you aware of similar standards that have been adopted for them? How do services elsewhere measure up to the standards identified in question 1, and to those existing now on the London Tube?*
4. *Which of the aspects and standards identified in answering Question 1 are the most important? If achieving a high standard in one makes it more difficult to achieve another (taking safety precautions that reduce service speed, for example), which should have priority?*
5. *Have you any views about how the standards identified in Question 1 could be translated into performance indicators that could be used to identify improvements (or worsening) of services? Is it better to identify a small number of key indicators, to focus on what is really important, or to have a more comprehensive set covering all the important aspects? How can*

*indicators be used and presented in ways that will be accessible and relevant to the widest range of passengers?*

6. *What in your view are most important aspects of Tube services requiring improvement?*

In this statement, these questions are addressed in the sequence listed. Although the questions (and the title of the scrutiny) make specific mention of “the Tube”, it is assumed that they are intended to relate to the whole of the Underground system, and not exclusively to the deep-level bored tunnel sections to which the term “tube” properly refers.

A glossary of abbreviations appears at the end of the document, together with a list of the documents referred to in preparing it.

**Question 1(a) : What standards do you consider Tube passengers ought reasonably to expect as regards safety?**

“Safety” is taken in this context to refer to physical safety, i.e. from the risk of accidents, rather than to personal security, i.e. from the risk of assault.

Attitudinal research by London Underground (LUL) indicates that “personal safety on train” achieves the third highest satisfaction rating from its current users (out of 22 attributes), and “personal safety in station” receives the fourth. Unfortunately, the wording of the question does not make clear which aspect of safety is intended.

In any event, comparative casualty data over the past decade indicate that the Underground is the safest form of surface transport known (and exposes its passengers to lower levels of risk than such other equally commonplace activities as using a domestic kitchen). LUL’s safety management regime underwent a total reorganisation following the report of the Fennell Inquiry into the Kings Cross station fire, and is now widely regarded as a model for similar systems elsewhere. The changes then implemented were the subject of a subsequent scrutiny commissioned by the Health & Safety Executive (HSE), the *Appleton Report*, which concluded that

*“The situation with regard to the risks from fires on the Underground has been transformed. As a result of the joint efforts of LUL and the London Fire Brigade (LFB), a significant reduction in the number of actual fires, effective emergency procedures and staff training, and implementation of new fire precautions regulations, the risk from fires to any individual passenger is now very low.”*

LUL is required by regulations made under the Health & Safety at Work etc Act to produce and regularly to revise a “safety case”, demonstrating that it has identified the risks arising from its activities and taken all reasonably practicable steps to control them. If the HSE is not fully satisfied with the contents of the safety case, or the manner in which it is being applied, it has a range of sanctions at its disposal, including prosecution leading (on conviction) to an unlimited fine.

LUL publishes an annual safety plan, setting out current levels of performance and the strategies it is pursuing to achieve improvements in any identified areas of concern. A feature of this plan is the risk assessment model, which attempts to quantify the relative magnitude of the different categories of risk to which Underground users and staff are exposed, in order to prioritise remedial measures. LUL’s approach to safety management in general, and its use of quantified risk analysis in particular, was singled out as a case study in good practice at the recent Cullen Inquiry into safety management on the national rail network.

Currently the five largest areas of risk are the platform/train interface, derailments, collisions between trains, flooding, and station area accidents. Flooding was until recently much the largest area, but this has been radically reduced by remedial work undertaken on the tunnels beneath the Thames. The safety plan contains details of the targets set for each of ten “safety key performance indicators” and the programmes in place to deliver these, as well as an analysis of the underlying trends. In recent years, there has been an upward drift in the rate of major injuries sustained by passengers, but the great majority of these have been due to falls on stairs, escalators, and elsewhere in stations. The behaviour of the victim has frequently been a contributory factor, and this makes it difficult for LUL to introduce effective remedial measures.

Safety does not feature in LUL's published list of "Customer Service Delivery Standards" (CSDSs), because it is taken as read that the requirements of the safety case and the objectives of the plan take precedence over any other measures.

One of the specific recommendations of the Fennell report was that the London Regional Passengers Committee (now LTUC) should be provided with copies of the reports of the LFB's regular inspections of Underground stations, and of the findings of inquiries held into any incidents actually or potentially affecting passenger safety. These arrangements continue. The LFB reports are scrutinised by LTUC officers, and any matters of concern are brought to members' notice. The inquiry reports are tabled for full discussion at meetings of LTUC's service quality sub-committee, attended when appropriate by relevant officers of LUL and the HSE's railway inspectorate.

When canvassed in connection with this GLA scrutiny, LTUC members indicated that they agreed that safety should be paramount in managing the network. But it did not feature prominently amongst the areas in which improvement is sought because they believed that current standards are high. Where they do have concerns, these are primarily about the *management* of incidents, such as trains stalled in tunnels, which could give rise to risk if not appropriately handled. These undoubtedly have negative psychological and physiological effects, but are not generally a direct cause of injuries. It was also evident that LUL has not yet been wholly successful in allaying concerns raised by some of its critics about the possible consequences for safety of the proposed public-private partnership (PPP) arrangement. And there was some concern that increasing usage may be approaching the levels at which it is having a measurable effect on safety, e.g. trips on staircases and pushing on platforms. But no members saw reintroducing guards on trains as being worthwhile for safety reasons alone.

There are some relatively simple measures, such as better marking of the edges of steps and escalator treads, which can be implemented at low cost. Advances in technology are creating new possibilities, such as audible warnings to visually impaired passengers if they approach the edge of a platform too closely. But others, while feasible, would be disproportionately costly relative to the benefits they might bring – such as retro-fitting platform edge doors to existing stations, or requiring trains to run into and out of stations more slowly, since these would create additional risks of equipment failure and/or significantly reduce capacity. Similarly, while injuries associated with escalators are much more common than with lifts, replacing the former with the latter (whilst maintaining the same handling capacity) would be immensely costly and give rise to other objections, e.g. from passengers who find lifts claustrophobic.

**Question 1(b) : What standards do you consider Tube passengers ought reasonably to expect as regards security?**

“Security” is taken in this context to refer to personal security, i.e. from the risk of assault, rather than to physical safety, i.e. from the risk of accidents

Attitudinal research by London Underground indicates that “personal safety on train” achieves the third highest satisfaction rating from its current users (out of 22 attributes), and “personal safety in station” receives the fourth. Unfortunately, the wording of the question does not make clear which aspect of safety is intended. And by definition, existing users are those who are not deterred from travelling by such concerns. There may be a significant number of potential users who are dissuaded from using the Underground at all for this reason. But even if it was possible radically to improve the perceived security environment of the system, this might have little or no effect on their journey behaviour if they are equally deterred by perceived risks arising outside the system, before and after using the Underground itself.

Other surveys have shown that the *perceived* level of risk is much higher than the reported rate of actual incidents, particularly amongst female travellers. This is the only area of attitudinal research in which there is a marked imbalance in responses according to the gender of the respondent. Actual levels of reported crime may be an imperfect measure of the extent of the problem, because much of the concern is engendered by the conduct of fellow passengers (often in groups, and often influenced by alcohol) which is disquieting rather than actually threatening. Physical assaults on passengers not known to their assailants are rare, but merely witnessing assaults committed on others can be a deeply unsettling experience.

In 1999/2000, the total number of notifiable offences recorded on the Underground was 18,131 – or one per 51,127 passenger journeys (more than twice the number of journeys a daily user would make in a lifetime). And many of these were in categories of which ordinary passengers would be unaware (such as fraud, or drug dealing, or burglary) or might regard as part of the everyday hazards of urban life (such as car theft and pickpocketing). Only seven per day, on a system with 2.5 million daily users, involved violence against the person, sex offences or robbery – the categories most likely to engender fear. This risk is commensurate with the odds against winning a major prize in the national lottery.

When canvassed in connection with this GLA scrutiny, concerns voiced by LTUC members included the problem of aggressive beggars, the sense of confinement below ground if a stranger makes an unwanted approach, and the unsettling effect of being in unfrequented parts of the system at less busy times (even though the commonest crime – pickpocketing – flourishes in crowds). They generally supported the initiatives taken by LUL in recent years, including mirrors at corners in passages, conspicuous CCTV surveillance, station gating (which helps to exclude those with no legitimate reason to be present), improved lighting, and car-end windows on trains. Talk-back alarm systems on trains were welcomed, as were help points on stations (though it is disquieting that many of these are currently out of use, apparently for want of replacement parts). Certainty that it is easy to report incidents, and to summon help speedily, would do much to engender greater peace of mind.

Members felt that it was important that crime-prevention resources should be targeted at times and places where the incidence of crime is known to be greatest, though this can be difficult to reconcile with the general desire for more (visible) staff and police in places where the *perception* - but not necessarily the reality - of risk is

greatest (such as lesser-used stations after dark). It was suggested that more should be done to educate passengers to protect themselves, e.g. against theft. And the importance of maintaining a secure environment around stations was stressed, where this is in LUL's control – e.g. trimming hedges alongside paths leading to and from suburban stations. Speedy removal of graffiti and repair of damage caused by vandalism (including etching of glass) is important in creating the sense of a managed environment, in which LUL is clearly in control and anti-social conduct is discouraged.

**Question 1(c) : What standards do you consider Tube passengers ought reasonably to expect as regards waiting?**

This question is taken to refer to *planned* waiting times, i.e. frequency, as distinct from the actual delivery of the service (discussed subsequently under reliability).

The maximum frequency that can be operated is determined by the spacing of trains dictated by the signalling system, by their speed, acceleration and deceleration, by dwell times at stations, and by the size and availability of the rolling stock fleet. It is also a function of the layout, e.g. the number of branches and of intersecting movements at junctions. Some metro systems run at frequencies of as many as thirty trains per hour, but these have very simple shuttle layouts and trains designed more for speedy boarding and alighting than for in-journey comfort. It is theoretically possible to schedule thirty trains per hour (per direction) over some trunk sections of the Underground. But this is not necessarily advantageous if it leaves little or no recovery margin in the event any delay to the service, causing rapid blocking-back with consequent irregularity in the spacing (and thus the loading) of subsequent trains.

There is a *minimum* planning standard, set out in the CSDSs, of twelve trains per hour on Mondays to Saturdays, over most of the network. The minimum is six per hour on some of the extremities of the system – i.e. north of Queens Park, Leytonstone, Wembley Park, Acton Town and Finchley Central, west of North Acton and Turnham Green, east of Barking, and south of Surrey Quays. And it is four per hour on the Waterloo and City line, north/west of Moor Park, and on the Woodford/Hainault, Shoreditch and Kensington Olympia branches.

On the outer sections operated at lower frequencies (and especially the Metropolitan line) there are advertised departure times and regular passengers may be expected to turn up for a particular train rather than arriving at random intervals and simply waiting for one to arrive (thus minimising what would otherwise be the longest waits).

But where the service level exceeded these standards in March 1999 (which, in practice, it did over most of the network), that frequency is to be maintained. The current planned frequencies on each line in the central area, in trains per hour per direction, are :

| <b>Line</b>                      | <b>Peak</b> | <b>Off-peak</b> |
|----------------------------------|-------------|-----------------|
| Bakerloo                         | 22          | 18              |
| Central                          | 29          | 18              |
| Circle                           | 7.5         | 7.5             |
| District                         | 22.5        | 17.5            |
| East London                      | 10          | 10              |
| Hammersmith & City               | 7.5         | 7.5             |
| Jubilee                          | 24          | 16              |
| Metropolitan (east of Baker St)  | 15          | 6               |
| Metropolitan (north of Baker St) | 26          | 14              |
| Northern (each branch)           | 19          | 14              |
| Piccadilly                       | 27          | 21              |
| Victoria                         | 28          | 18              |
| Waterloo & City                  | 18          | 12              |

Source : information supplied by London Underground Ltd

Lower standards apply on Sundays (to be kept under review) and on bank holidays (which are planned on a case-by-case basis, e.g. currently there are no Christmas



Day trains). First and last trains are planned so as to arrive at a nominated central area station on each line no later than 0600 on Mondays to Saturdays (0800 on Sundays) and to leave these stations no earlier than 0030 on Mondays to Saturdays (2330 on Sundays). Specific timings govern the first and last trains to/from Heathrow.

LUL's regular polling of passenger satisfaction does not currently cover *planned* waiting times for trains, as distinct from actual waits experienced, perhaps because in practice it is difficult for users to draw this distinction.

When canvassed in connection with this GLA scrutiny, LTUC members expressed little concern at the adequacy of existing weekday service frequencies (and thus of waiting times) except in the late evenings, when a "third peak" now occurs and last trains from central London can be uncomfortably crowded. But the Committee has argued that a careful study should be made of why (and how) some overseas metro systems maintain a 24-hour service, and of the costs and benefits of doing so in London too.

A particular source of irritation is LUL's tendency (after the peaks, and at the end of the operating day) to terminate outbound trains from central London at such stations as Ruislip Gardens, Oakwood, Seven Sisters and Northfields, en route for their depots, rather than running them to the termini of their respective lines before taking them out of service. This means that passengers for the terminal stations suffer disproportionately long waits.

Members are concerned, too, at the inevitable extension of boarding/alighting times as demand grows and trains become more crowded, as this inevitably restricts the frequency of service and the capacity of the system, thus prolonging waits. Apart from "hustle alarms" to announce the imminent closure of the doors, and PA announcements on trains and platforms (e.g. "move well down inside" and "use the full length of the platform") there are few simple remedies available – other than a determined assault on the causes of service irregularity and thus of uneven train loading. But this is clearly an issue to be taken into account in the design of future rolling stock. Indeed, the existing Jubilee line fleet had to be replaced when the extension to Stratford was built simply because its narrow doors would have prolonged dwell times beyond an acceptable limit.

**Question 1(d) : What standards do you consider Tube passengers ought reasonably to expect as regards crowding?**

Attitudinal research by London Underground into users' satisfaction with its services indicates that train crowding ranks 19th out of the 22 attributes about which they are regularly polled. Platform crowding ranks 15th. Clearly, the situation is bad – and as demand has grown faster than any increase in service levels, train loadings have become heavier.

Short of denying would-be passengers access to its services, there are limits to what LUL can do in the short term to alleviate the problem. Most regular users have Travelcards which are valid in the peak, so there is no price incentive for them to vary their travel times. At busy times, the scheduled number of trains is at or close to the limit which the system can accommodate reliably. The speed of the trains is limited by the curvature of the track, spacing of stations, dwell times at platforms, power supply capacity, and their acceleration and braking capabilities. The trains cannot be lengthened without lengthening platforms (except perhaps on the Circle line, if special arrangements can be made at Bayswater). Nor can they be widened without widening the tunnels. The simplest means of increasing their capacity would be to reduce the number of seats in favour of more standing space (as is already the case on the Circle/Hammersmith & City lines, where journeys are relatively short). But this would be extremely unpopular with passengers forced as a result to stand for long journeys from/to stations on the outer sections of the system.

LUL's current planning standards are that seats should be provided for at least one-sixth of the maximum number of people who can be carried in each car, and that no-one should have to stand involuntarily for more than 15 minutes. We are not aware of any measurements of actual standing times (which can be heavily affected by unequal loading along the length of a train), but the most recent train occupancy data are as follows :

| Line               | % chance of being on a train with |          |                                      |          |
|--------------------|-----------------------------------|----------|--------------------------------------|----------|
|                    | all seats full                    |          | >1 standee for each seated passenger |          |
|                    | peak                              | off-peak | peak                                 | off-peak |
| Bakerloo           | 29                                | 2        | 11                                   | 0        |
| Central            | 52                                | 15       | 20                                   | 2        |
| Circle/Hammersmith | 66                                | 25       | 24                                   | 3        |
| District           | 47                                | 26       | 15                                   | 1        |
| East London        | 8                                 | 0        | 0                                    | 0        |
| Jubilee            | 61                                | 15       | 18                                   | 0        |
| Metropolitan       | 24                                | 6        | 1                                    | 0        |
| Northern           | 70                                | 27       | 17                                   | 3        |
| Piccadilly         | 74                                | 7        | 32                                   | 2        |
| Victoria           | 70                                | 36       | 30                                   | 3        |
| Waterloo & City    | 72                                | 53       | 8                                    | 1        |

These observations are recorded at various points along each line, and therefore do not necessarily refer directly to the sections where the heaviest (or lightest) loadings occur. But it is noteworthy that even in the off-peak only East London line users can be sure of obtaining a seat. This may be acceptable in the short term, when Underground travel is a "distress purchase" (i.e. its users have no alternative), but can hardly be so in the long term when no other form of motorised transport expects or requires most of its users to stand.

LTUC would be opposed to a pricing strategy which was deliberately designed to deter use of the Underground, though for those making single journeys the price of bus travel is becoming (relatively) cheap. Given the difficulty of increasing frequencies (and/or of providing additional routes) in the short term, the only palliative measure available is to focus on maintaining even intervals (headways) between trains and thus spread the demand as evenly as possible between them. Passengers have the choice of making their journeys at less-busy times, but if few do so this presumably implies that the discomfort of the journey is outweighed by the advantage of being able to make it at the height of the peak.

In the long term, the Mayor's plans for London's physical development are intended to reduce the need to travel long distances to work. But at the same time, he is keen to maintain the economic vitality of the central area and to foster modal switching in favour of public transport, so there seems little likelihood that demand for Underground travel will reduce. In recent years, it has been increasing steadily – but mainly in off-peak periods, simply because at the height of the peaks the system is effectively full (in the with-flow direction).

When canvassed in connection with this GLA scrutiny, LTUC members generally accepted that provided that the full timetable is run, as reliably as possible, a residual level of crowding in the central area at busy times is inescapable. They suggested that some adjustments to the timetable might help to reduce imbalances, where demand for different branches is unequal (e.g. Hainault/Epping). They also drew attention to the particular problem on Heathrow-bound trains on the Piccadilly line, where crowding is exacerbated by the presence of travellers' luggage, and suggested that this might be relieved by bringing Heathrow Express within the standard London area pricing arrangements. If this is not done, extension of the Piccadilly line to Terminal 5 (if built) will merely worsen the problem.

But LTUC members are concerned about the wider health effects of travelling in severely crowded conditions. Relatively little is known about the health risks of rail travel (as compared with the health effects of car driving, or the safety risks in rail travel). Stress is a major cause of illness and economic loss, but it is not clear to what extent it is exacerbated by the journey-to-work experience. LTUC would like to see research into this topic commissioned.

Members also expressed disquiet at the frequent need to introduce "station control" measures, i.e. temporarily to restrict access to certain stations at busy times because of congestion within, either on an ad-hoc basis (e.g. at Victoria and Oxford Circus) or permanently (e.g. at Camden Town at weekends). Such measures are not reflected in the published statistics for station closures, which refer only to occasions when all passengers (including those arriving by train) are excluded.

LUL has published extremely detailed "*Station Planning Standards and Guidelines*" (SPSGs), which lay down the space requirements for ticket halls, escalators/lifts, staircases, ramps, passageways, platforms, etc, according to formulae which incorporate peak passenger flow and train service headways. These are used in designing new or rebuilt stations, and are based on global best practice. But many existing stations do not conform with them, and the cost (and short-term disruption) involved in bringing them up to these standards would be immense. At a time when all available funds are needed simply to maintain existing assets in a steady-state condition, it is difficult to prioritise such enhancement schemes, even at chronically overcrowded stations such as Covent Garden.

So, in the foreseeable future, there appears to be little alternative to the use of “station control”. It is a tribute to the fortitude and good sense of London’s travellers that they accept such necessary measures with customary stoicism, and co-operate largely uncomplainingly. The potential risks associated with the management of large numbers of people in confined spaces are well-known, and LUL has been obliged to develop detailed strategies for station management. Security alerts have provided it with frequent opportunities to test its emergency plans, to good effect.

**Question 1(e) : What standards do you consider Tube passengers ought reasonably to expect as regards information?**

Attitudinal research by London Underground into users' satisfaction with its services covers five elements of information provision. Satisfaction is highest with maps and information on trains, followed in descending order by train driver announcements, signs and maps at stations, helpfulness of PA and ease of hearing PA.

Traditionally, "static" information in the form (classically) of the Underground diagram, and of signage at stations and on trains, has been regarded as one of LUL's strengths, and its practices have been widely emulated by metros around the world. "Dynamic" or real-time information is more difficult to provide, particularly at times of service disruption, but LUL's dot-matrix train indicators are another example of an information system in which the Underground has led the world.

Such displays are only as good as the data collection system which supports them, and unfortunately, in LUL's case, the signalling which drives them is often inadequate to allow them to be used to full effect. So trains do not appear on the indicators until very shortly before they arrive, or passengers are invited to "check destination on front of train", or the indicator merely displays the name of the line. They are not yet found on all platforms, including those at some important interchanges such as Earls Court, or at station entrances (where their presence would allow passengers to decide whether and when to descend to the platform and thus "take control" of their journeys).

As new technology becomes available, and passengers' standards change as a result (e.g. the advent first of mobile phones and now of WAP technology), so LUL is challenged to make further improvements. Automated "next station" announcements (both visible and audible) become the norm, as soon as they are introduced on one fleet of new or renovated trains – and all other trains immediately become deficient by comparison. LUL has conducted extensive research into passengers' expectations in this field, and the report of this, entitled "*Right time, right place*", repays careful study.

The CSDSs relating to information are derived from this work, and cover requirements both for normal operations and for times of service disruption. They embrace the provision and use of visual electronic displays (outside stations, at various locations within them, and on trains), audible information (in a similar range of locations), signs and posters, leaflets and leaflet racks, and the role of station and train staff. They also cover off-system sources such as travel information centres, the travel information call centre, teletext, the internet, and local ticket outlets.

When canvassed in connection with this GLA scrutiny, LTUC members generally regarded static information provision within the Underground as good, except for directional signing in some sub-surface stations which can be hard for passengers with impaired vision to follow. Traditionally, it has been much easier to find one's way into and around the Underground than out of it, and much remains to be done to improve signage to important passenger objectives in the locality, including connecting bus services. But the improved area maps, now displayed also at platform level, are a welcome initiative. LUL was particularly complimented on the range of leaflets now available in racks at stations.

In the case of dynamic information, the situation was perceived to be gradually improving. The dot matrix indicators were felt to be generally accurate, though they

can be hard to read from a distance, especially in sunlight, and are often obscured by other clutter. So more than one indicator per platform would often be helpful. Public address announcements on platforms and on trains were felt to be becoming more frequent and more timely, though acoustics can still be problematic, especially on trains moving in tunnels. Posters announcing planned service disruptions due to engineering works were welcomed, though there was felt to be a problem regarding the signing of rail-replacement bus services.

The major area of difficulty was perceived to be the provision of good information at times of unplanned service disruption (which should, ideally, include disruption on connecting services by other Underground lines and other travel modes as well, when it occurs). Messages on whiteboards at station entrances are frequently unclear and/or out of date. It is hard to get timely information to passengers via drivers, because the limited radio channels available are required for operational messages between those managing an incident. Even when drivers do make announcements, these need to be duplicated visually for the benefit of passengers with impaired hearing (and because the audibility of on-train PA is often poor, because of ambient noise levels).

And there is a staffing issue : information assistants in control rooms are hard to justify when all is operating normally, but are consequently in short supply when actually required. The automated Central Information Management System (CIMS) and Station Information Management System (SIMS) installed in the new Jubilee line control centre were intended to address such problems, but it is not clear how successful they have proved in practice.

**Question 1(f) : What standards do you consider Tube passengers ought reasonably to expect as regards journey times?**

This question is taken as relating to *planned* journey times, as distinct from actual times which include an excess element which is the product of unreliability and is considered below. The main elements in journey times are ticket purchase, access to the platforms, waiting time, in-train time, and access to the street (plus, in about four journeys out of ten, time required for changing between trains).

There is no directly apposite question in LUL's customer satisfaction survey, presumably because this is not seen as an element of service which can easily be varied, at least in the case on in-train time.

For ticket purchase, LUL's CSDS is that no more than 5% of people waiting to buy a ticket should have to wait more than three minutes, and that during normal conditions, ticket offices must be open for at least 99% of the advertised hours. If a ticket office has to be closed temporarily, a notice should be displayed stating when it will be re-opened. Additional windows, if available, will be opened to meet demand. Priority will be given to passengers waiting for a ticket to start a journey over those waiting to pay a penalty fare. All ticket halls should be equipped with sufficient passenger-operated machines to meet demand, with a minimum of one. Queueing at ticket windows should be minimised by maximising the use of these machines (with a target of more than 50% of sales to be from machines).

The planned capacity of gatelines, escalators, lifts, staircases, ramps, passageways and platforms is set out in detail in LUL's SPSG according to formulae which incorporate peak passenger flow and train service headways. These are used in designing new or rebuilt stations, and are based on global best practice. But many existing stations do not conform to them, and the cost (and short-term disruption) involved in bringing them up to these standards would be immense. For the foreseeable future, therefore, access/interchange/egress times (particularly during the peaks) are likely to continue to be longer than is desirable. This does, ironically, have one beneficial side-effect, since it diverts a number of short-distance station-to-station trips which might otherwise be made by Underground, and would add to pressure on an already overloaded system.

Waiting time on platforms has been addressed in response to question 1(c) above.

*Planned* in-train time is a function of distance (which cannot be varied) and speed. On a system where there is (over most of the network) only one track in each direction, it is not possible to run trains with different stopping patterns except at the expense of a major loss of line capacity. So journey speed is effectively determined by the design speed of the vehicles, their acceleration and braking rates, the spacing of the stations, and platform dwell times. Most of these are either not variable in the short or medium term (except perhaps by closing stations, which would be very unpopular with their users) or at all – e.g. the maximum acceptable rates of acceleration and deceleration, for reasons of comfort and safety.

The question of dwell times has been touched upon in answer to question 1(c). LUL's CSDSs specify a minimum dwell time of 12 seconds, and allow train operators discretion during peak times and crowded conditions. They also stipulate that those on the train wishing to continue their journey are to be given priority over those on the platform wishing to board. It is not entirely clear what this means, or on what basis this priority has been set. But it is apparently intended to permit operators to close

doors even when there are passengers still attempting to board, and to refuse to reopen them except when necessary for safety reasons. This may be necessary at the busiest times, when some trains would otherwise be indefinitely delayed, but it would be unacceptable to LTUC if such a policy was applied at other times and places when and where frequencies are low.



**Question 1(g) : What standards do you consider Tube passengers ought reasonably to expect as regards reliability?**

Attitudinal research by London Underground into users' satisfaction with its services indicates that "journey time compared with expectations" ranks fourth out of 22 attributes about which they are regularly polled, while "wait for train compared with expectations" ranks tenth. Since these are both measures of passengers' perception of service reliability, the discrepancy between them is interesting. Clearly, waiting time is regarded as more variable (and, when extended, less acceptable) than overall journey time. This confirms market research which shows that passengers particularly dislike "static" elements in their journeys, notably queueing and waiting, and these are weighted accordingly in London Underground's "journey time metric", its overall measure of service reliability as perceived by its users.

The other principal contributory factors to unreliability are queueing times and the availability of lifts and escalators. In the same research, satisfaction with "ease of buying ticket" and "ease of getting to platform" ranked 15th equal. But these are not solely measures of reliability, since the former covers (e.g.) ease of using ticket machines as well as queueing, while the latter also covers (e.g.) delays due to station control imposed as a result of overcrowding.

The most recent performance data available from LUL show an average excess journey time of 3.79 minutes – i.e. compared to the time which would be taken (for the average of a representative basket of journeys across the system) if all elements were operating as planned. Multiplied by the 970 million journeys made last year, this amounts to 61 million hours (or 8.7 hours per head of London's population). Given that the Underground's passengers are drawn disproportionately from those in work, and from those with higher earnings, the economic cost is immense (estimated in 2000 at £566 million, but likely to be greater now).

The composition of these excess 3.79 minutes is instructive. Ticket purchase accounts for 0.21 minutes, access/interchange/egress for 0.84 minutes, platform waits for 1.31 minutes, on-train delays for 1.28 minutes, and station closures for 0.15 minutes.

Delays in ticket purchase can occur either because ticket machines are not working, or because they are in "exact fare only" mode, or because there are insufficient (staffed) ticket windows available. Although LUL has a CSDS for ticket purchase (see response to question 1(e) above), its success in achieving this is no longer publicly reported. But the impact is not equally shared by all passengers. Of all Underground trips, 77% are made using multi-journey tickets, for which no transaction time is involved after initial purchase. Period tickets can be bought by phone or over the internet, as well as from any station and from local pass agents, and can be bought before the date of first use, which can be any day of the week. Even if they are only making single trips, passengers whose journeys begin on the national rail network (both inside and outside London) can buy through tickets for the Underground leg of their journeys.

So most users should normally be able to avoid times and places when/where queueing is most problematic. Nevertheless, there are a limited number of locations where queueing is known to be particularly endemic. These tend to be major central area stations, including interchanges with main line termini, at which many casual journeys originate. In some cases (such as Heathrow, Victoria and Gloucester Road) the problem is exacerbated by a local concentration of visitors to London, who are

unfamiliar with the ticketing system. This problem might be eased by marketing the Visitors Travelcard range more actively, e.g. via hotels which might be persuaded to include it in the price of a stay. In others (such as Farringdon and Covent Garden) there is severe congestion in the ticket hall, limiting the number of ticket windows/machines, and major reconstruction - or the sacrifice of some retail space - is required.

The main contributory factor in extended access/interchange/egress times is inoperative lifts and escalators. The most recent performance data show 5.5% of scheduled lift service hours lost, and 8.9% of escalator hours. These data do not discriminate between hours lost because of equipment failures and hours lost for planned overhauls and replacement. But this distinction is in any case somewhat arbitrary, because breakdowns that cannot easily be repaired tend to become major overhaul works. Much of London Underground's stock of lifts and escalators is in urgent need of replacement and upgrading - not necessarily the oldest equipment, as some machines installed in the relatively recent past have proved insufficiently robust to withstand the wear and tear of Underground operating conditions. The problem is likely to become worse rather than better, from the passenger perspective, while the backlog of work is tackled. The GLA may find it instructive to concentrate part of its scrutiny, in particular, on the apparent weaknesses of the Underground's lift and escalator procurement policies, and to make comparisons with metro systems elsewhere.

Excess platform waits and in-train times are largely the product of common factors. A number of measures are published by LUL, which track broadly the same aspect of service from different perspectives. Excess waiting time is the difference between average actual waits and those that would be experienced if all trains ran as planned. Lost kilometres are simply the proportion of planned train service not operated. The percentage of headways met is the proportion of intervals between trains that do not exceed twice the length of the planned intervals (i.e. it is a combined measure of volume and regularity). The rank order of the various lines in the last reporting year (2000/01) was as follows (highest numbers indicating worst results).

| Line                            | Excess waiting time | Kilometres lost | Headways missed |
|---------------------------------|---------------------|-----------------|-----------------|
| Bakerloo                        | 7                   | 10              | 8               |
| Central                         | 2                   | 1= (*)          | 6 (*)           |
| District                        | 8                   | 6               | 9               |
| East London                     | 5                   | 5               | 1               |
| Jubilee                         | 9                   | 7               | 4               |
| Metropolitan/Hammersmith/Circle | 10                  | 8               | 7               |
| Northern                        | 3                   | 1=              | 3               |
| Piccadilly                      | 6                   | 9               | 10              |
| Victoria                        | 4                   | 4               | 2               |
| Waterloo & City                 | 1                   | 1= (*)          | 6 (*)           |

(\*) signifies a combined result for the Central and Waterloo & City lines, which are under common management. Separate data are not provided for the Circle, Hammersmith & City and Metropolitan lines, which also share a common management.

The relative position of different lines has varied over the years, as a result of investment in the renewal and upgrading of equipment. Both the Central and Northern lines once held the "miserable line" tag, but are now among the better performers. The Bakerloo and Piccadilly lines are currently well below average. The sub-surface lines (other than the relatively uncomplicated East London line) are traditionally poor performers, because of the complexity of their layouts, with many branches and flat junctions. The Circle line has invariably performed particularly

badly, but its results are always subsumed in published data with those of the Hammersmith & City line, and more recently the Metropolitan line too, causing the performance of the latter to appear worse than would otherwise be the case. The GLA may wish to investigate in more detail the reasons underlying these discrepancies between lines – e.g. the extent to which they are the product of infrastructure constraints, timetabling defects, or operational control.

The more serious interruptions to the train service (i.e. delays of 15 minutes or more) are currently running at a rate of around ten per day. Of these, 80% are attributable to causes within LUL's control, and 20% are not. The largest single cause of such delays is signal failure (25.0%), followed by train defects (17.1%), staff-related reasons (16.5%), passenger-related reasons (12.3%), track defects (9.9%), safety and security alerts (6.8%) and infrastructure problems (1.6%). Again, the GLA may wish to inquire more deeply into the nature of these causes, and the adequacy of LUL's plans for rectifying them.

Station closures make a relatively minor contribution to overall delays, but are serious for those directly affected. Significant closures (those lasting 15 minutes or more) are currently running at about five per day. Of these, 75% are attributable to causes within LUL's control, and 25% are not. The largest single cause of such closures is lift and escalator defects (24.2%), followed by staff absences (23.3%), security alerts (15.1%), fire alerts (13.4%), safety equipment problems (6.1%), power failures (4.4%) and passenger actions (2.2%).

When canvassed for their views in connection with this GLA scrutiny, members of the Committee particularly stressed the irregularity of the Circle line service, and the unacceptably large number of train delays caused by staff shortages or absences. The apparently increasing unreliability of LUL's signals and points was also noted. It was felt that this was likely to be the inevitable result of deferred spending on renewals, not wholly within LUL's control, but there was a perception that over time the organisation's ability to manage such incidents is deteriorating, as a result of the loss of managers with the relevant experience. Members accepted, however, that increasing passenger demand plays its part, in prolonging boarding/alighting times and queues at ticket windows.

**Question 1(h) : What standards do you consider Tube passengers ought reasonably to expect as regards fares?**

London Underground's routine attitudinal research into users' satisfaction with its services does not include a question on fares or value for money, perhaps because as a publicly-owned body it has little control over the overall level of its fares (which are effectively set by political decision), and which until recently it has been required to raise annually at a rate of about one per cent in excess of the prevailing level of inflation. It does have a measure of freedom to vary the structure of its fares, and the range of tickets offered, provided these generate the target level of income and are compatible with its ticketing agreements with other operators (notably that governing Travelcards).

International comparisons are fraught with difficulty, for a number of reasons. One is that cities (and their metro systems) differ in size and typical journey length. Another is that fare structures differ, e.g. with respect to the amount of taper offered for longer journeys, to whether VAT is charged, to discounts for period tickets, and to discounts for particular groups of users (e.g. children, students and retired people). A third is that they can be significantly affected by the choice of currency conversion formula – e.g. what adjustment (if any) is made for purchasing power parity.

That said, it is clear that the Underground is towards the upper end of the fares range for systems of this type. A TfL study found that in 1999, the average revenue per trip was £1.13, compared with 71p in New York and 56p in Paris. An earlier draft of the same study found that the cost (to the user) per trip was 71% greater in London than for an average of ten major cities (and 223% higher than in the cheapest, Madrid and Athens). But the Underground covered about 129% of its operating costs from the farebox (i.e. it made a surplus on running costs, to help pay for capital renewals and improvements), whereas New York covered only 77% and Paris 63%. This does not mean that the Underground was necessarily more efficient in its use of resources, but simply that as a matter of political choice British governments have been reluctant to subsidise its operating expenditure, since they believed that the cost of providing the service should fall primarily upon those who use it.

From a passenger perspective, there is a powerful attraction in the idea of lower fares. But indiscriminate reductions would have two effects that are not necessarily welcome. One is that if Underground travel became cheaper relative to other modes than is currently the case, some travellers would switch to the Underground. Given that the system is already severely crowded at peak times, and in parts at other times too, this would only serve to increase the pressure it is under. The other is that there is no simple means of lowering fares for new users (or journeys) without lowering them for journeys already made. Therefore most of any additional subsidy would accrue to current passengers, who are travelling anyway. This would not be an effective use of public money, particularly when Underground passengers are drawn disproportionately from social classes AB and C1. LTUC is, of course, aware that high Underground fares bear heavily on the least-advantaged Londoners, but blanket subsidies which principally benefit people other than those for whom they are intended are a costly and inefficient way of assisting people in need.

There is also the risk that since the total level of public funding for the Underground is necessarily finite, additional subsidy for fares would be at the expense of much-needed investment capital. This might bring short-term joy to some present users, but only at the expense of longer-term misery for their successors.

There is therefore a prima facie case for Underground fares to be held constant in real terms. Special fares initiatives can be aimed at niche users, often travelling other than at peak times or on the busiest sections of line in central London, e.g. Family Travelcards, Weekend Travelcards and Youth tickets. But the Government is currently engaged in a review of the role of transport in combating social exclusion, while TfL is reappraising its fares policies across the board. It will be interesting to see what strategies emerge from these exercises.

One particular aspect of LUL's fares policy requires a special mention. This is the system of penalty fares, brought in several years ago as a deterrent to ticketless travel. LTUC's predecessor (LRPC) raised no objection in principle, because the loss of income is otherwise borne by farepayers. But because LUL chose to enforce the system in a particularly inflexible manner, and had no independent appeals mechanism, LRPC was inundated with complaints, many of which were wholly legitimate. Happily, after much pressure from this committee (and following the installation of ticket gates at virtually all LUL-controlled stations), a new code of practice on the enforcement of penalty fares has now been put in place. This appears to be working well, as there has been a steep decline in the number of penalty fares levied and consequently in the committee's caseload.

When canvassed in connection with this GLA scrutiny. LTUC members did not generally regard fares reductions as the best use of any additional funding that might be made available to LUL, and recognised the risks of encouraging demand which the system lacks the capacity to meet. There is, however, some dissatisfaction at the general inability of Underground stations to issue through tickets to more than a limited number of destinations on the national rail network (even where LUL manages a station also served by a national rail operator), and at the non-acceptance of discount railcards for Underground journeys. These shortcomings continue despite the fact that one of LUL's CSDSs is to "be active in promoting the availability of through tickets with other operators and their services."

**Question 1(i) : What standards do you consider Tube passengers ought reasonably to expect as regards comfort?**

Train and platform crowding are addressed in answer to question 1(d) above. The only other element of comfort covered in LUL's regular polling of user satisfaction is smoothness of ride, which currently ranks 15th of out 22 service attributes covered. This is very much a function of the quality of track and speed of trains. There are a number of sections of line (e.g. at the eastern end of the Central line) where poor formations (i.e. the bed on which the track is laid) contribute to a high level of jolting, which it will be difficult and costly to remedy. Similarly, there are certain classes of rolling stock (notably that used on the Hammersmith/Circle lines) which are notorious for their poor ride quality, partly because of bogie design.

LUL's CSDSs cover a wide range of topics under the headings of "ambience" and "amenities and facilities", all or most of which can be regarded as contributing to the comfort of its passengers. These include the management of building works, clearance of ice and snow, seepages, visual clutter, flower beds, advertising, train and station lighting, air quality, noise and vibration, station décor and fittings, canopies, clocks, seats, waiting rooms, litter receptacles, cash machines, public telephones, photo booths, public toilets, retail units and vending machines. They are couched in general terms, and are not subject to specific numerical targets, but they are all matters which – if properly addressed – help to make journeys easier and more comfortable. LTUC therefore welcomes LUL's recognition of the importance of these matters, and supports any measures to improve performance in these areas.

When polled in connection with this GLA scrutiny, the comfort-related issue of greatest concern to LTUC members was the provision and upkeep of toilets. Members felt that the location of stations with toilets should be better publicised, and that it was unacceptable for a high proportion of them to be out of use because of vandalism. They felt that experience elsewhere (e.g. motorway service areas) showed that with modern equipment and materials, this problem could be overcome. The general perception was that (like other station operators) LUL would be pleased to abandon toilet provision entirely. But this would show scant concern for the welfare of its passengers, especially (e.g.) those - particularly women - whose medical condition means that ready access to these facilities is important, or who are travelling with small children. Members suggested that there should be a published target for toilet availability, and a dedicated manager appointed to supervise them. All new or renovated stations should incorporate toilets as a matter of course. Members accepted, however, that it would be burdensome for this responsibility to fall exclusively on LUL, and favoured joint working with the national rail operators and the local authorities (many of whom seemed inclined to ignore the matter entirely). The provision of toilet facilities on and around London's rail networks is to be the theme of a forthcoming LTUC research study.

The second most frequently mentioned comfort problem was the lack of adequate ventilation on trains, particularly when heavily loaded and in deep tunnel sections. Limitations of space inside and outside trains make it difficult to provide forced-air ventilation on the "tube" lines (though some drivers' cabs now have air conditioning), but this constraint is less significant on the sub-surface lines. Ironically, at the times when this problem is most acute (i.e. when trains are stalled in tunnels for long periods), air conditioning would be inoperative if the current has to be switched off. The only solution to this would be current supply via an overhead rail, which may be desirable on safety grounds but would be costly to install (not least because the current collection system on the trains would have to be adapted accordingly).

Whatever the technical challenges, however, this is a problem which in the medium and longer term LUL will have to address. Much of the Underground was built in the era of the horse bus. Standards of comfort provided on other transport modes have risen dramatically since then, and it is not acceptable for the Underground to lag behind indefinitely.

Some members expressed a preference, on comfort grounds, for latitudinal (or cross) seating on trains over longitudinal seating (aligned with the car sides). But it is acknowledged that latitudinal seating reduces the passenger carrying capacity, exacerbating overcrowding, and cannot in any case be provided at the ends of "tube" stock trains whose wheels penetrate the floor.

**Question 1(j) : What standards do you consider Tube passengers ought reasonably to expect as regards customer care?**

LUL's front-line staff are - or should be - the most obvious embodiment of its approach to customer care. Attitudinal research by London Underground into users' satisfaction with its services indicates that "help and appearance of ticket office staff" ranks eleventh out of 22 attributes about which they are regularly polled. "Help and appearance of staff around station" ranks 20th, while "station staff availability when needed" ranks last. It is ironic that the degree of dissatisfaction with the non-availability of staff is almost matched by the degree of dissatisfaction with staff when present. Ensuring the *visible* presence of recognisable, helpful, informed, polite and attentive staff is clearly seen as an area in which LUL is currently under-performing, although in practice its stations tend to be much more generously staffed than those on the national rail network or on comparable metro systems elsewhere. Although the question is directed at attitudes to staff on stations, it may be that the answers also reflect users' perceptions of staff on trains, who are normally encountered in a revenue protection role (and thus in potentially confrontational situations).

LUL's CSDSs provide for its staff to be smartly dressed, approachable and proactive in meeting customers' needs. In the event of train delays, train staff should inform customers of the cause and likely duration. All staff are expected to be knowledgeable about services and facilities available, including interchange opportunities and facilities in the vicinity of the station. Travel information staff and those at local ticket outlets should be able to deal with inquiries and know where to refer customers for further information. All staff are expected to be proactive and to offer advice and help when appropriate. They should be able to assist mobility-impaired users, and have the necessary skills to deal with difficult situations and to respond to people in distress. All front line staff must receive security awareness training. "Head office" staff whose work does not bring them into frequent contact with customers are expected to spend at least one day each quarter shadowing and working with "customer facing" colleagues.

The findings of LUL's attitudinal research suggest that the organisation has some way to go before the aspirations embodied in its CSDSs are fully realised. Uncertainty about the future structure and funding of the company has had a negative effect on industrial relations in the recent past, and this may be reflected in the user satisfaction ratings. It is evident by casual observation that it has had considerable success in making its front-line staff conspicuous at busy times and locations - but ironically, this has had the side effect of making their absence at other times more obvious, and for some users it is precisely these times when their visible presence would be most reassuring.

Customer relations are a further dimension of customer care, and are also covered in the LUL CSDSs. Under these, the company is committed to conducting regular research into users' views, and to producing a jargon-free customer charter setting out LUL's aims and objectives together with its refunds policy. Currently, passengers can claim a voucher for the value of the fare for the journey they are making, if they are delayed by 15 minutes or more for reasons within LUL's control (an arrangement which LTUC regards as much to be preferred to the complex and capricious compensation arrangements applying on the national rail system).

Other elements of its customer relations policy include publishing information on its performance (see comment under question 5, below), keeping users informed of the progress of major works at stations, publicising the procedure for making comments,



ensuring that comments are properly recorded and investigated, and providing for contact to be available by all appropriated media. The Customer Service Centre has a target of responding to 90% of comments within seven working days and to all of them within 15 (though performance against this target is not published). LUL is also committed to conducting education and information campaigns aimed at its users, addressing known problems including safety and security, and to evaluating the results.

When polled in connection with this GLA scrutiny, LTUC members were generally positive in their comments about the limited sample of LUL's front-line staff with whom they had had dealings, describing them as helpful to those who are unfamiliar with the system and ready to assist those with problems (e.g. lost property, or being taken ill). In some cases, better training in "network" knowledge is needed, but the quality of LUL staff was rated as considerably higher than those of most of main line rail operators in the London area. This experience may appear to be at variance with the findings of the customer satisfaction survey mentioned, but the survey question covered availability as well as helpfulness, and LTUC members certainly shared the wider concern at the adequacy of the number of front-line staff at stations.

Relative to the number of passengers carried, and setting aside cases involving penalty fares, LTUC receives far fewer appeals arising from complaints about Underground travel than it does about the national railways, and this is due at least in part to LUL's greater proficiency in handling them appropriately.

**Question 1(k) : What standards do you consider Tube passengers ought reasonably to expect as regards cleanliness?**

Attitudinal research by London Underground into users' satisfaction with its services indicates that station cleanliness ranks 18th out of 22 attributes about which they are regularly polled, while train cleanliness ranks 21st. This is clearly an aspect of LUL's service to its users in which its current levels of achievement fall well short of their expectations.

It is a complex issue, because the term covers both routine cleaning performance (mainly litter clearance and train washing), more difficult challenges such as preventing and removing graffiti, and the less tangible perception of shabbiness which stems from the age of some stations and the materials used in their construction. Given the propensity of a proportion of the Underground's millions of daily users to strew litter about its premises, the security considerations which have necessitated the removal of all litter bins, and the difficulty of cleaning trains and platforms whilst in use by passengers for 18 hours each day, the scale of the challenge faced by the company's cleaning personnel should not be underestimated. The popularity of the Underground as a venue for the distribution of free magazines and newspapers, not least Metro, inevitably adds to the substantial tonnage of waste removed daily from the system.

LUL's CSDSs provide for stations and trains to be checked regularly, and for litter, spillages, graffiti and other cleaning-related faults to be promptly reported so that they can be dealt with by cleaning contractors' staff. All cleaning activity on the Underground is contracted to specialist firms. The standards also address lineside litter, and graffiti on trains, stations and trackside structures (including scratched glass). "Ambience" issues include hiding cables and minimising the visual impact of operational equipment and plant, as well as the décor of stations and trains.

When canvassed in connection with this GLA scrutiny, LTUC members felt that in general the standard of cleanliness on the Underground has been improving in recent years. Stations were perceived to be generally better than trains, except those in urgent need of renovation (e.g. Elephant & Castle) where "poor conditions engender filth". There is usually a quick response if a potential hazard is reported on a station, e.g. a pool of liquid. Trains are clean internally when they go into service (except for the inevitable and gradual deterioration of seat coverings), but are allowed to accumulate rubbish throughout the day because there is often no - or wholly insufficient - cleaning at the ends of journeys. Newspapers and food and drink containers are seen as the main problem, but this was regarded as being at least partly self-induced, given the income that LUL enjoys from the retailing or distribution of such products on its premises.

**Question 1(l) : What standards do you consider Tube passengers ought reasonably to expect as regards accessibility?**

“Accessibility” is a term with a number of meanings. It is commonly used as a shorthand description of the user-friendliness of transport systems to people with physical or sensory impairments. But it can also refer, more loosely, to the physical relationship between a system and its surroundings, particularly the ease of interchange between modes. There are no questions specifically addressed to this in LUL’s routine user satisfaction surveys, although a number of topics which are covered (e.g. quality of information, or ease of access to platforms) may bear on it in a general way.

Much of the Underground dates from an era long before modern standards of accessibility (e.g. those enshrined in the Disability Discrimination Act) (DDA) were the norm. Therefore step-free access to platforms is the exception rather than the rule, even in stations equipped with lifts (which seldom descend directly to platform level). And there are many vertical and horizontal gaps between trains and platforms. The relative simplicity (and fixed nature) of the network means that for regular users, in normal operating conditions, impaired sight or hearing is not necessarily a major barrier to use. But such passengers may experience considerable difficulties when services are disrupted, because of the problems of communicating real-time service information.

In response to pressure from LTUC’s predecessor, and other bodies, LUL has lifted the ban which once applied to carrying wheelchairs through the sections of its system in bored tunnel (the reason for which related to the difficulty of evacuating such passengers via the interconnecting doors and the track in an emergency), provided that these passengers can join and leave trains elsewhere. Escalators are stopped on request to allow guide dogs to walk up and down. Induction loops are fitted at ticket office windows. Tactile and colour-contrasting numerals and lettering are used on lift control panels, and colour-contrasting grab rails are used in trains. Step edges are highlighted by yellow marking, and continuous handrails are provided on steps and across landings. Textured surfacing is provided along platform edges when they are renewed. Where the train/platform gap exceeds current standards, audible and visible “mind the gap” warnings are provided. There is an audible warning that train doors are about to close. Maps and service information are available in large print, Braille and on tapes. There is a publication entitled “*Access to the Underground*” which offers “a step by step guide to each station for elderly and disabled people” and includes much useful information of a general nature about using the system. All front line staff receive disability awareness training.

LUL has drawn up a programme for making a number of “core stations” fully accessible, and is experimenting with platform edge ramps (or humps) at fixed points on platforms to facilitate boarding and alighting by wheelchair users. Newly built (and, where practicable, rebuilt) stations will have full step-free access. But given the scale and cost of the physical works involved, and the urgent call on available funding simply to maintain and renovate the system in its current guise, creating a fully-accessible Underground system will unfortunately remain a very long-term goal. It would give greater confidence to mobility-impaired users that LUL is indeed committed to delivering the standards set by the DDA if it was to publish a target programme for delivering full accessibility at the core stations, with a ring-fenced budget and regular monitoring of the progress made towards achieving it.

And it is not yet apparent that all parts of the organisation are fully committed to delivering LUL's professed objectives in this sphere. For example, many of the interior fixtures and fittings of stations on the recently opened Jubilee Line extension are made of glass, steel or concrete, and have limited if any colour contrast. This suggests that consideration for the needs of visually impaired users has been subordinated to architectural aesthetics insufficiently informed by an awareness of good practice in this sphere. And the inoperable state of the lifts at these stations, long after their opening, was a disgrace.

When canvassed in connection with this GLA scrutiny, LTUC members voiced awareness of the difficulties presented by long interchange passages and frequent changes of level. But they recognised the impracticability, in the short term, of radically reshaping the architectural legacy of the past. Their principal concern, therefore, was with smaller-scale or (hopefully) more temporary issues. For example, the luggage ports fitted to ticket gatelines can be difficult to use, but it is not always easy to attract the attention of a member of staff to ask for the manual gate to be opened. And stationary escalators are very awkward to walk down when carrying luggage and/or accompanied by small children (when full escalator service cannot be provided, LUL's rules – quite correctly - require priority to be given to running in the upward direction).

A specific problem has arisen at a number of stations on surface sections of the network as a result of the recent extension of ticket gates throughout the Underground. Such gates are a useful means of reducing ticketless travel (or underpayment for journeys made), and of reducing queues at barrier lines. But the gates are costly, and at several stations lesser-used side entrances/exits were closed - without consultation or warning – to avoid the cost of gating them (which may involve the additional cost of providing shelters over the gates). Where such side entrances/exits provided the only step-free means of access to particular platforms, use of the Underground has been denied to some passengers as a result. LTUC was glad to receive an assurance from LUL's managing director, given in public at a meeting of the committee, that this practice will stop.

**Question 1(m) : What standards do you consider Tube passengers ought reasonably to expect as regards integration with other transport modes?**

On the issue of interchange, which is a key element in integration, LUL's CSDSs cover such issues as improving co-ordination between services, promoting easy movement between lines and modes, minimising walk times, signposting, pre- and in-journey information, through ticketing, and "co-ordination with private modes" (i.e. cycles and cars). Some of these topics are covered by other questions raised in this scrutiny, as they are common to movement within the Underground and between it and other modes.

In relation to interchanges with the national rail system, there is no network standard, and scope for improvement is assessed on an ad hoc basis. This can result in widely varying levels of provision, depending on whether a station served by more than one operator is managed by LUL or by a train company (since, at least at minor stations, LUL's standards of staffing and upkeep tend to be considerably higher – for which reason, the transfer to LUL of the stations on the southern part of the Wimbledon branch was generally welcomed). The quality of information provided at joint stations can be noticeably uneven – both in terms of signage, displays and staff knowledge. In LTUC's view, Underground passengers should be entitled to the same standards of service and amenity (including information and ticketing facilities) irrespective of whether or not a particular station is in LUL's ownership or management, and there should be a programme to address current deficiencies. But these shortcomings are not unilateral : information about the national railways' services can be equally poor at jointly-served stations under LUL's control, and this is equally indefensible.

In the past, there has been surprisingly little co-ordination with bus service planners, even though London's buses and the Underground have been in common ownership (or, more recently, control). Even where bus and rail stations are adjacent, movement between the two can be circuitous (e.g. at the comparatively modern Edgware interchange), while on-street bus stops are often sited with little apparent reference to station entrances. Information about either network on the premises of the other (especially real-time information) tends to be sparse. Attention to first and last connections is still required, both by service planners and in actual operation. There is scope for improvement generally, and the recent dissolution of Transport for London's short-lived Integration Directorate is not a promising augury.

Where taxi or private hire operations impinge on LUL property, they are required to be licensed and approved. LTUC welcomed LUL's "Homelink" initiative (launched three years ago, but now effectively fallen into disuse), under which passengers could pre-book a taxi to meet them at their destination when returning at night. But it was limited to only nine stations (in Barnet, Enfield, Merton and Wandsworth), and did not achieve anything comparable with the popularity of the "trein-taxi" scheme pioneered by Netherlands Railways. The reasons for this merit some research). LTUC understands that LUL is now working with the Public Carriage Office to find other ways of improving links with the taxi service generally.

Station car parking, where provided at all, is concentrated in the outer parts of the system. Its presence or absence is largely a matter of historical chance – e.g. whether surface stations were once provided with goods yards which have lent themselves to conversion for such use. LUL has standards for lighting and security, and fixes its parking charges on a commercial basis (taking account of effects on passenger demand levels). Whilst LTUC has no objection in principle to LUL

obtaining a revenue stream from this source, it has reservations about new car park developments (e.g. at North Greenwich) which may encourage diversion of trips from other public transport services and add to pressure on the local road network. On-street parking in the vicinity of stations can cause conflict with frontagers, but this is a matter largely outwith LUL's ability to influence.

It is now LUL's policy to provide cycle racks (with shelter) or cycle lockers at stations, where space permits, and to monitor these regularly (while removing cycles locked to any unapproved fixtures). LTUC welcomes this evidence of a more positive approach to promoting cycle/rail interchange. But there are signs that LUL may wish to discontinue the carriage of cycles on open-air and sub-surface sections of the system. Since the use made of this facility is limited, and few if any problems result, it is not clear why such a change should be proposed. The ban on carrying cycles on the Piccadilly Line between Hatton Cross and Heathrow Terminals 1,2,3 is particularly problematic, as BAA bans them from the access tunnel to the central area and they are not carried on ordinary buses.

When canvassed in connection with this GLA scrutiny, LTUC members felt that the principal area in which there is scope for further integration (apart from information – for which, see question 1(e) above) lies in ticketing. For regular users, making frequent journeys in geographically defined areas, the range of Travelcards now available (coupled with Freedom Cards, for those entitled to them) has largely eliminated the barriers between the various operators' ticketing arrangements. But there is still no through ticketing from the Underground to buses (or vice versa) for one-off trips. In the case of the National Railways, through ticketing to any point on the Underground is available from ticket offices (but not necessarily from passenger-operated machines) – but the range of through tickets available for journeys originating at Underground stations is very limited. The advent of Smartcard technology may help to mitigate these problems, at least in relation to the buses. Ultimately, the aim should be for it to be possible to buy a single ticket covering any point-to-point journey in London by any mode or combination of modes.

**Question 2 : How far do the standards identified in answering question 1 reflect those that exist on the Tube now? In answering this question, it would be helpful if you could consider how expectations of the Tube, and the standards you have identified in dealing with question 1, are affected by service levels on the rest of the public transport network and by the Mayor's transport strategy.**

It is difficult (and would be somewhat academic) to discuss standards that might reasonably be expected except by reference to those currently prevailing, so to a large extent this question has been addressed in response to the various sections of Question 1 above.

Comparisons with service levels on other sections of the public transport network are fraught with some difficulty, because of their distinctive technical and operational characteristics.

It would not be sensible, for instance, to expect the same range of amenities at bus stops as might reasonably be specified at Underground stations. There is no legal limit to the number of passengers who can be carried on a train – because, unlike a bus, there are numerous doors and therefore no means of controlling the numbers who board. Since the bus operators do not have direct control of the infrastructure on which their vehicles run, passengers are more willing to make allowances for traffic-related delays to their services than would be the case with (e.g.) signal or track failures on the Underground. But because trains cannot be diverted as easily as buses when sections of the network require “down time” for maintenance, passengers are more willing to tolerate pre-planned temporary withdrawals of Underground service than would be the case with the bus network.

In the case of the national rail network, direct comparisons can more readily be drawn, but even here the parallels are not exact. It is, for example, physically practicable to provide certain amenities on main line trains (such as toilets, air conditioning, and space for cycles) which it would be much more difficult and costly to provide on trains running on the deep-level “tube” sections of the Underground, and which most passengers would not normally expect to find there. On the other hand, the more intensive use made of most of the Underground, compared with most of the suburban rail network, means that passengers have higher expectations of it in other respects – notably in terms of service frequency and levels of station staffing, and perhaps also in the provision of such amenities as lifts/escalators and (at new stations) of platform-edge doors.

There are a number of other service attributes where direct comparisons between the systems could more legitimately be made, such as vehicle cleanliness, information provision and staff helpfulness. There are user satisfaction surveys carried out on each of the networks, the results of which are published. But as they differ in the details of their methodology (sample size, frequency, timing of questions pre- or post-journey, phrasing of questions, etc) their findings are – unfortunately - not directly comparable. LTUC's impression, based on many years' experience as regular users of the networks and as the appellate body for dissatisfied consumers, is that the Underground's standards of achievement in these areas are generally no worse than those of other modes, and often better. It would be interesting, however, to see the results if the GLA was minded to commission some comparative research into this question as part of its current scrutiny.

One area in which direct comparisons can be made is that of fares. The advent of period Travelcards means that, for passengers who travel frequently within a fixed geographical area, there may no longer be any fares differential between the modes, (and they can all be used interchangeably, at no additional cost except in the case of river services). But this does not apply to those travelling more than short distances in outer London, where there is now only one fare zone on the buses compared with three on the Underground and the national railways. Nor does it apply for journeys made on ordinary single or return tickets, where each mode is unique. Buses have flat fares (except when crossing into or out of the central area), and no return tickets. On the Underground, there are zonal fares but no discounts for return journeys (except in the guise of one-day Travelcards, for certain zonal combinations only). On the national railways, fares are graduated on a point-to-point basis, ordinary returns are cheaper than two singles, and cheap off-peak returns are available. And there are differences between the modes in relation to the times from which one-day tickets are valid for use.

Such differentials are not necessarily unjustifiable. They may reflect variations in the relative speed, comfort and frequency of the different modes. They may be part of a conscious strategy to promote use of one mode rather than another, in order to match demand more closely to available capacity. They may be related to the time and place at which tickets are sold (complex on-vehicle transactions, on buses, have a direct effect on service performance). They may be the consequence of policies such as those applied by the Strategic Rail Authority (but not by TfL or LUL) to link changes to fares to differences in service quality, particularly reliability. And they may be both the cause and the consequence of perceived differences in the social profile of the users of each mode, since bus users in London generally have lower incomes than do rail passengers.

The GLA may find it particularly interesting, therefore, to investigate the extent of, the effects of, and the justification for these variations in the level and structure of fares for the various public transport modes.

The Mayor's transport strategy, in its final form, has only recently been issued, and the Underground is not yet within TfL's corporate embrace. It is therefore a little early to proffer views as to the extent to which the strategy will materially affect the issues covered by this scrutiny. It correctly identifies a list of passengers' wants, and contains a number of "proposals" to address current shortcomings. But these are necessarily couched in somewhat general terms, e.g. "to implement a focused programme to solve the problem of out of service lifts and escalators" or "to develop and implement a prioritised programme to improve conditions at London's most congested stations." Such concerns are laudable, but the only specific targets (with one exception) relate to the timescales by which these programmes of improvement are to be drawn up, generally during 2002. The only concrete service performance target set is that of halving the delays caused by equipment failures by 2008 (against a 2000/2001 base).

But if (as it currently intends) the Government does not transfer LUL to TfL's ownership until after its planned public-private partnership (PPP) contracts have been let, the Mayor's ability to influence the scale and quality of service provided to Underground users is likely to be heavily restricted by the terms of these contractual arrangements. LUL asserts – and we have no reason to disbelieve – that they are designed to unlock a significant stream of private sector investment which will deliver a substantial improvement, over time, in the quality and availability of the Underground's operating assets.



Until very recently, the precise nature of these improvements, their sequencing, and the rate at which they are to be delivered, had not been spelled out in detail in any public document of which LTUC was aware. All that was known is that the contracts would contain output-based performance specifications, and that these would cover three categories, viz : capability, availability and ambience. Capability is described as “a measure of the total capacity LUL could provide for passengers on each line, given the infrastructure the relevant infraco (infrastructure stewardship company) provides.” Availability is described as “a real time (minute-by-minute) check on problems and their causes.” Ambience is “a measure of how good the service feels to passengers, tested by mystery shopper surveys.”

The situation was improved by the appearance in October 2001 of the DTLR publication “*Your Tube : Publicly Run, Privately Built – Investing for Improvement*”. This describes, in general terms and on a line-by-line basis, the nature of the changes which the PPP project is intended to deliver. But much more detail would be welcome, particularly about the benchmarks and milestones by which the progress of the project is to be tracked.

**Question 3 : *If you have knowledge of similar underground railway services in other cities and countries outside the United Kingdom, are you aware of similar standards that have been adopted for them? How do services elsewhere measure up to the standards identified in question 1, and to those existing now on the London Tube?***

The primary source of comparative data on the performance of major metro systems around the world is the on-going COMET (Community of Metropolitan Railways) benchmarking project based in the Department of Civil Engineering at the Imperial College of Science Technology and Medicine in the University of London. The GLA's scrutiny will doubtless have recourse to this information.

But at the insistence of some of the participating systems, the project's findings have so far been released (outside the management of the systems concerned) only on an anonymised basis. So, while it is possible to identify the range of variation amongst them, according to the various performance yardsticks used, it is not possible to say (publicly) which of the data apply specifically to the Underground and, therefore, how London's system stands comparison with its counterparts elsewhere. If the GLA wishes to have this restriction lifted, at least in relation to the Underground-specific data, it will have to seek LUL's consent.

And the COMET data are primarily concerned with technical indices of performance, such as the reliability of various engineering assets. It is clearly useful to know, from the standpoint of the managers of each system, how they compare with respect to (e.g.) the frequency of train or signal failures. But these measures translate only indirectly into aspects of performance perceived by users of the system (e.g. regularity of train intervals), and do not relate at all to some of the less tangible – but no less important – issues listed by the GLA for the scrutiny, such as information availability or perceived levels of personal security.

For comparative information on fares, the most recent data known to LTUC are contained in the study conducted for London Transport by Halcrow Fox and the Open University in 1998/99, of which a summary was issued in 2000 by the Integration Department of Transport for London (see answer to Question 1(h) above).

But information about fares must be interpreted in the context of the financial regime within which each system operates, particularly the extent to which it is required to recover its operating costs through the farebox, and the extent to which expenditure on maintenance and renewals, and on new works, is financed from revenue or by borrowing or by grants. Even where the overall level of subsidy is similar, its effects on fares can vary considerably, depending on (e.g.) the extent to which it is applied on a "blanket" basis or is targeted at specific categories of users, e.g. students or retired people.

And apparent discrepancies in the "efficiency" of different systems may be due to differences in their physical characteristics and operating policies. On the Paris metro and New York subway systems, for instance, the stations are much more closely spaced than on the Underground. So, if all else is equal, for a given level of station staffing per million passenger trips, the Underground will appear to have lower standards. But in fact, all else is not equal – not least because the Underground actually has higher levels of staffing, particularly at platform level, and because the New York system operates 24 hours per day.

Similarly, London and Paris no longer use guards on trains, but New York retains conductors – so it will appear, superficially, to be less efficient in its utilisation of train operating staff. Whether this perception is correct depends on a value judgement about the safety and security benefits accruing from the presence of such personnel. And comparisons of crime rates can only sensibly be made in the knowledge of the level of resources required by each system to deliver them : the numerical strength of the Underground division of the British Transport Police is about a tenth of that of the New York City Transit Authority's police department.

The QUATTRO study of quality assurance in public transport systems, recently carried out on behalf of the European Union, was directed at identifying good practice in identifying users' requirements and delivering services more closely attuned to meeting them. London Transport contributed to this work, which was conducted in parallel with an initiative by CEN (the European standards body) to draw up an international standard for "*Public passenger transport : service quality definition, targeting and measurement.*" Both London Transport and LTUC's predecessor (LRPC) were represented on the BSI working party which provided the British input into this international collaborative exercise. The published standard contains a detailed list of illustrative indicators which are designed to be used by tendering authorities, and transport operators, in drawing up output specifications for inclusion in service contracts. The list was compiled by the British working party, and circulated to its counterparts in all of the other participating countries. It was noteworthy that very little comment was received, and very few changes proposed – suggesting that British (or more specifically, London) practice is in the forefront internationally in this particular sphere.

LTUC is unaware of any other European public transport system which conducts (or, at any rate, publishes the results of) surveys of the "softer" or qualitative areas of its performance, i.e. in terms of user satisfaction, on a basis as comprehensive as that developed by London Transport and its successors. But there is a performance-related element in the contract payments for bus services in Copenhagen, and some information has been published in English about the Parisian approach to performance incentives. About 0.5% of the total budget of RATP (the Parisian equivalent of the former London Transport) comes in the form of bonus payments geared to its performance against 22 service quality indicators (see Comlan, 2001).

The transit authorities in New York and Chicago routinely carry out such surveys, and examples of their findings can be made available by LTUC to the GLA, if required. But a similar caveat applies to that entered in answer to question 2 above. Provided the methodology is consistent, such surveys are useful for "longitudinal" comparisons within a specific system, i.e. for tracking changes through time. But differences in the method of data collection and analysis mean that their utility for making "cross sectional" comparisons between different systems is limited.

That said, it was interesting to note the results of a comparative *Which?*-style study of public transport in 20 European cities recently published in the journal of ADAC, the German motoring organisation. This ranked London's system third overall. It received a positive rating for safety, connectivity, ticket range, comfort while waiting, service frequency, comfort while travelling and punctuality. Negative scores were awarded for information, ticket selling arrangements and cost. But the survey was conducted on "public transport", and these results are not necessarily specific to the Underground.

**Question 4 : Which of the aspects and standards identified in answering Question 1 are the most important? If achieving a high standard in one makes it more difficult to achieve another (taking safety precautions that reduce service speed, for example), which should have priority?**

When canvassed in connection with this GLA scrutiny, LTUC members identified service reliability as the issue of greatest concern to them. This was followed by reducing overcrowding and by the need for real-time information when services are disrupted (both of which are, in part or whole, consequences of inadequate reliability). Other matters identified in response to this question were : staff availability and visibility (especially late at night) to improve security, and the related issue of crime prevention; service frequency; updating infrastructure (which would contribute both to improved reliability and greater perceived security); accessibility; fares; and escalator performance. There was also a desire for greater consistency in service standards across the network.

These answers must be seen in the context of the question posed, i.e. the aspects of performance in greatest need of improvement. This is not necessarily the same as the most important aspects of service overall. The lack of reference to safety, for example, does not imply a lack of recognition of its importance but, rather, a belief that LUL's performance in this respect is better than in others and that it is therefore not a strong candidate for further improvement.

In translating such a list into a programme for action, however, regard must be paid to the relationship between costs and benefits. If performance can be improved more quickly and economically in respect of one aspect of service than another, it may be appropriate to give precedence the former even if it ranks lower in the overall list of passenger preferences than the latter, if net user satisfaction per pound spent can thereby be maximised. For example, passengers may (hypothetically) dislike waiting one extra minute for a train more than they dislike waiting one extra minute in a ticket queue. But if reducing the ticket queueing time (by deploying staff to open an extra ticket window) can be accomplished much more easily and cheaply than reducing waiting time on the platform (by resignalling the line and acquiring additional trains), it may nevertheless have a stronger claim on available funds.

LUL has adopted such an analytical approach in its work on strategic planning. Using stated preference techniques, it has investigated users' willingness to pay for specified levels of improvement in the various facets of its service. [The concept of willingness to pay is used as a measure of value – it does not necessarily imply that the cost of achieving these results should be met from fares rather than other sources of funding.] It is not an indication of how highly passengers value *current* levels of provision but, rather, how much they would value any *improvements* over the standards currently achieved. It reveals, for instance, that enhancements to trains are generally valued more highly than enhancements to stations, but that in both cases enhancements to security and to information are seen as particularly important. By putting monetary values on the benefit that passengers would receive from such improvements, it is then possible to compare them with the cost of delivering these in order to calculate a comparative rate of return on alternative spending options, in order to maximise the overall level of benefit delivered. Further information about the methodology used, and its practical application, is available from LUL.

**Question 5 : Have you any views about how the standards identified in Question 1 could be translated into performance indicators that could be used to identify improvements (or worsening) of services? Is it better to identify a small number of key indicators, to focus on what is really important, or to have a more comprehensive set covering all the important aspects? How can indicators be used and presented in ways that will be accessible and relevant to the widest range of passengers?**

There are many types of performance indicator. Some are measures of *inputs*, such as units of electricity consumed or number of staff employed. Some are measures of *outputs*, such as train kilometres operated or number of ticket windows staffed. Some are measures of *efficiency*, such as operating cost per passenger journey or percentage of scheduled escalator hours delivered. And some are measures of *outcomes*, such as excess journey time per passenger or user satisfaction with specific service attributes.

A large number of “key performance indicators” are recorded and used within LUL. A selection of these are reported publicly in TfL’s quarterly Service Performance Report, issued to LTUC, the London boroughs and a selection of other recipients, including members of Parliament representing London constituencies. Some additional data are reported separately to LTUC, at its request. A number of these (marked T) are the subject of performance targets.

The indicators currently reported are :

- Cleanliness of stations and trains (CSS) (T) – whole system only
- Information on stations and trains (CSS) (T) – whole system only
- Staff helpfulness and availability (CSS) (T) – whole system only
- Train service quality (CSS) (T) – whole system only
- Safety and security on stations and trains (CSS) (T) – whole system only
- Excess (unweighted) journey time (T) – by component elements
- Excess (weighted) journey time – by component elements
- Overall (weighted) journey time – by component elements
- Train kilometres operated (T) – whole system only
- Passenger journeys – whole system only
- Passenger kilometres – whole system only
- Train service reliability (proportion of scheduled kilometres operated) – whole system only
- Availability of escalator service – whole system only
- Availability of lift service – whole system only
- Scheduled/excess waiting times (peak and off-peak) – by line
- Chance of waiting X minutes – by line
- Loading/overcrowding (passengers per seat provided) – by line
- Train service regularity (planned intervals achieved) – by line
- Reasons for peak train cancellations – by line
- Reasons for train delays – by line
- Reasons for station closures – by line

In this list, CSS denotes composite measures derived from the results of LUL’s “customer satisfaction survey”, based on regular polling of a large sample of passengers exiting the system about the journeys they have just made. In addition, LUL conducts a parallel “mystery shopper survey” (MSS), in which trained observers use a predetermined marking scheme to record the standard of a large number of

train and station attributes in the course of planned journeys covering the entire system. MTS data are used extensively within the organisation to identify areas of comparative strength and weakness in performance, but are not currently reported more widely.

The concept of weighted journey time requires a note of explanation. LUL's "journey time metric" is based on a representative sample of journeys, covering various parts of the system at various times of the day and week, from station entry to station exit. The time actually required to make them, from sample surveys, is measured and compared with the time that would be required if all elements in the journey performed at the planned level (taking due account of the "normal" level of congestion which would remain). The difference between the two is the excess journey time. But it is known from attitudinal research that delays to some elements of the journey are disliked more than others – e.g. queueing time is disliked more than walking time, and time spent on platforms is disliked more than time spent in trains. So the various time elements of the journey are weighted to reflect this, and to produce a "perceived" journey time. This "metric" is a sophisticated measure of overall service quality, and is useful to LUL in directing its resources and managerial attention to the aspects of journey time performance which will deliver the greatest benefits in terms of overall user satisfaction. But it has the disadvantage of being difficult to explain simply to a mass audience, and is therefore of limited value for purpose of public target setting.

A separate set of indices is used in LUL's reporting (currently for information only) to the TfL Board and to its Rail Services Advisory Panel. The indicators reported to the full Board are percentage of scheduled train kilometres operated, excess weighted journey time (by principal cause), fatalities and injuries, and overall customer satisfaction. None of this is disaggregated by line. Data supplied to the full Board are in the public domain, via TfL's internet site, but the much more detailed performance indicators supplied to its Advisory Panel are not.

Safety performance is not covered in the Service Performance Review, but a separate report is (or until recently was) produced covering matters within the scope of the Safety Quality and Environment directorate. This contains (or contained) data on, inter alia, injury and fatality rates, "Section 12" (fire precautions) contravention rates, signals passed at danger, incorrect door openings, and incidents at the platform-door interface. But it does not appear to have been published since January 2001.

Annual totals for reportable accidents and incidents on the Underground, by type, are also listed in the annual report on railway safety published by the Health & Safety Executive. A similar analysis of reported crimes on the Underground appears in the annual report of the British Transport Police.

LTUC (and passengers at large) are not directly concerned with measures of financial performance, or asset utilisation. So the indicators published in the Service Performance Review are primarily related to outcomes, i.e. quality of service delivered to the user. Where appropriate (in the case of journey times, train delays and station closures) some causal disaggregation is offered. Inter-line comparisons are offered in relation to the various measures of train service reliability. The contents of the document have evolved over time, primarily to meet the LTUC's requirements, and are broadly appropriate to their purpose, though changes in the Government's reporting requirements have sometimes caused changes to be made which would not necessarily have been initiated by this committee. The measure for ticket purchase times, for example, has been subsumed within the weighted journey

time statistic, while data for unweighted excess waiting times on a consolidated basis (i.e. not separated into peak and off-peak components) no longer appear. But these are matters which are due to be addressed in the context of a forthcoming review, with TfL, of the future of this report and of LTUC's requirements.

Although it is useful to be able to track all aspects of service quality, there are disadvantages in having too large a number of performance *targets*. If the organisation is required to deliver improvements in too many areas simultaneously, there is a danger that effort will be diffused and gains in any one area will be too small to be discernible. It is therefore important that the most significant aspects from the end users' perspective are identified, and that attention is focussed upon these, but that the danger of robbing untargeted Peter to pay targeted Paul is recognised..

It is also important that targets should be attainable, and therefore set at realistic levels. A target set at or close to perfection is unlikely ever to be achieved, and therefore becomes at best irrelevant and at worst actually demotivating. Until recently, it has been regarded as politically unacceptable for targets ever to be lowered, even if aspects of the service are in decline for known reasons (e.g. reduced lift and escalator availability when machines are taken out of service for repair or replacement). So there has been a long tradition within LUL for its performance targets to be routinely missed, and this has tended to discredit the entire concept.

These service performance targets have been set annually for London Underground for the past decade, as part of the previous government's Citizen's Charter initiative (now known as Service First). Some are based on objective measures of service delivery (such as escalator availability) and others on the findings of attitudinal research amongst passengers (such as cleanliness of trains and stations or staff helpfulness and availability).

Until now, the targets have been formally promulgated by the Secretary of State for Transport, following quadrilateral consultations between the Government Office for London, the Service First unit (part of the Cabinet Office), London Transport and LTUC. In recent years, there has been a tendency for this process to be subject to considerable delay (mainly as a result of uncertainties about the short-term funding of the system, which clearly impacts on its performance aspirations), and for it to be rather perfunctory, but it has not been formally discontinued.

LTUC expects that as a matter of course, if and when TfL inherits ownership of London Underground, similar arrangements will be put in place. We believe that it is important that all relevant parties should participate fully in this process, not least ourselves as the official watchdog body representing the interests of Underground users. We have to say, however, that we have received no indication that it is TfL's intention to do so, and we must register our disquiet at the fact that performance targets for London's buses appear to have been set by TfL without any such consultation or, indeed, any formal notification to this committee. This is not an encouraging precedent.

In its current review of LUL's PPP proposals, the Transport sub-committee of the House of Commons select committee on Transport, Local Government and Regional Affairs has raised the interesting question of how performance targets might be made enforceable. As matters currently stand, the targets merely represent aspirations. Managers may be incentivised to achieve them by including a performance-related element in their remuneration, but there are no sanctions applied to the organisation

for failing to achieve its targets – an outcome which, as already noted, has frequently occurred. In the case of those which are based on user satisfaction polling, it is not immediately clear what form of sanctions would be relevant.

But the situation is quite different on the national rail network, where a system of financial rewards and penalties is in place to incentivise train operators to (e.g.) run punctually, not cancel trains, and operate them at their planned length. No such arrangements exist for LUL, though they do in the case of the Metro in Paris (see Comlan, 2001). The national rail system of fares control also includes a performance-related element, so that increases are moderated (or prevented) when service quality has deteriorated. No similar linkage exists with Underground fares. The only material redress currently available to Underground users is a refund of their fare (in the form of a voucher) if they suffer a delay exceeding 15 minutes for reasons attributable to LUL. But oddly, minimising such delays is not one of the performance targets set for the business.

The GLA's question also asks how indicators can be used in ways that will be accessible and relevant to passengers. In considering this, it is worth examining London Underground's recent experience in this respect.

One of the requirements of the Citizens Charter initiative, in the early 1990s, was that all public sector bodies for which targets were set should publicise these, and regularly report progress towards attaining them. So the first version of London Underground's passengers charter was a multi-page booklet setting out its targets in detail. To accompany this, LUL produced a monthly leaflet, freely available on request, reporting its achievements relative to the targets. But subsequent market research revealed that the vast majority of passengers either disbelieved the results reported or had no interest in the performance of the system as a whole, as distinct from its impact on their particular journey experiences. Demand for the leaflet was negligible. As a result, the current version of the Charter consists of little more than the application form for compensation in the event of a delayed journey, which is the only element in which there was any significant evidence of user interest. The leaflets were abandoned, and even the posters in ticket halls showing relative train service performance by lines have not been maintained.

LUL's experience in this respect has not been unique. Local authorities and other public sector bodies have also been required to publish outcome-related performance indicators (ORPIs). The purpose of these, according to a standard text on the subject (see Smith, 1995) is "to enhance the accountability of devolved public sector organisations to external interested parties." These parties might include "service users, the electorate, taxpayers, the central government, and independent auditors acting on behalf of one or more of these constituencies" (of which the Audit Commission is cited as an example). Their role is "to furnish external users with information about the organisation's activities so that they can make informed judgements about [its] performance and informed choices about future activities." But it is conceded that "little notice [has been] taken of the statistics" by the public at large.

In LTUC's view, there is no point in squandering scarce resources on producing and distributing performance information in hard copy for which there is, at best, very limited demand. But it is important that it should be readily accessible to anyone who may find it of interest and value. For those who do not have it domestically, access to the internet is now becoming available at public libraries. The simplest solution would therefore appear to be to place the performance results on LUL's website, as



well as making them freely available in print on specific request, and to advertise this fact on the information posters at stations.

*A glossary of abbreviations appears at the end of this report*

**Question 6 : What in your view are most important aspects of Tube services requiring improvement?**

This has been answered in response to question 4.

**ANNEX A : Documents consulted in preparing this submission**

- ADAC : *Städte-Test (2001)*  
British Transport Police : *Annual Report 1999/2000 (2000)*  
Centre Europeen de Normalisation : *Transportation – Logistics and Services – Public passenger transport – Service quality definition, targeting and measurement (2000)*  
Chicago Transit Authority : *Customer Satisfaction Survey of CTA Riders (1997)*  
Comlan P : *New policies for improving the quality of public transport in Ile-de-France (Association for European Transport 2001)*  
Department of Transport Local Government and the Regions : *Your Tube : Publicly Run, Privately Built – Investing for Improvement (2001)*  
Greater London Authority : *The Mayor's Transport Strategy (2001)*  
Health & Safety Executive : *Appleton Inquiry Report (1992)*  
Health & Safety Executive : *Railway Safety 1999/2000 (2000)*  
London Transport : *International Fares Study 1999 (draft) (1999)*  
London Underground Ltd : *Inspections Summary (2001)*  
London Underground Ltd : *London Underground's Commitment to Customer Service (2001)*  
London Underground Ltd : *Passenger priorities (1993)*  
London Underground Ltd : *Quarterly Safety & Environmental Report (2001)*  
London Underground Ltd : *Right time, right place ( )*  
London Underground Ltd : *Safety Plan 2000 (2000)*  
London Underground Ltd : *Station Planning Standards & Guidelines (1998)*  
London Underground Ltd : *The PPP Explained (2000)*  
New York City Transit : *Subway service quarterly performance indicators (1999)*  
Smith P : *Outcome-related performance indicators and organisational control in the public sector*, in Holloway Lewis and Mallory (eds) : *Performance measurement and evaluation (1995)*  
Transport for London : *Access to the Underground (2000)*  
Transport for London and London Underground Ltd : *Fares and tickets (2001)*  
Transport for London (Board paper) : *Finance and performance report (2001)*  
Transport for London : *International fares comparisons : London – Paris – New York (2000)*  
Transport for London : *Public transport in London : Market report 2000 (2000)*  
Transport for London : *Service Performance Review Third Quarter 2000/01 (with additional information for LTUC) (2001)*

## **ANNEX B : Glossary of abbreviations used**

|         |  |
|---------|--|
| BSI     | British Standards Institution                            |
| CIMS    | Customer information management system                   |
| COMET   | Community of Metropolitan Railways                       |
| CSDSs   | Customer service delivery standards                      |
| CSS     | Customer satisfaction survey                             |
| DDA     | Disability Discrimination Act                            |
| DTLR    | Department of Transport Local Government and the Regions |
| GLA     | Greater London Authority                                 |
| HSE     | Health & Safety Executive                                |
| LFB     | London Fire Brigade                                      |
| LRPC    | London Regional Passengers Committee                     |
| LTUC    | London Transport Users Committee                         |
| LUL     | London Underground Ltd                                   |
| MSS     | Mystery shopper survey                                   |
| PA      | Public address   |
| PPP     | Public-private partnership                               |
| OPRIs   | Outcome-related performance indicators                   |
| QUATTRO | Quality assurance in tendering for transport operations  |
| RATP    | Regie Autonome des Transports Parisiens                  |
| SIMS    | Station information management system                    |
| SPSGs   | Station planning standards and guidelines                |
| TfL     | Transport for London                                     |
| VAT     | Value added tax  |
| WAP     | Wireless access protocol                                 |