

Minutes: The Tube Future Priorities Investigative Committee

18 December 2001 at 3.30pm

http://www.london.gov.uk/assembly/assembly_meetings.htm

Present:

Lynne Featherstone (Chair) Samantha Heath
Angie Bray Andrew Pelling
John Biggs

Eric Ollerenshaw was also in attendance as a substitute for Andrew Pelling for part of the meeting.

1. Apologies and Chair's Announcements

An apology for absence was received from Jenny Jones.

2. Minutes

Resolved:

That the minutes of the meetings of the Committee held on 31 October 2001 be confirmed as an accurate record and signed by the Chair.

3. Summary List of Actions

The list of actions was noted.

4. Declarations of Interest

The following declarations of interests were made, in accordance with those declarations made at the meeting of the London Assembly held on 5 December 2001:

Member	(Non-Pecuniary) Interest
John Biggs	Member of MPA Board; Member, LB Tower Hamlets; Board Member, Heart of Thames Gateway Partnership
Lynne Featherstone	Member of LFEPa Board, Member of MPA Board; Member, LB Haringey
Samantha Heath	Member of LFEPa Board; Member, LB Wandsworth
Andrew Pelling	Member of LDA Board; Member, LB Croydon

5. London Underground Ltd. – Presentation and Discussion

5.1 The Chair of the Committee welcomed the following representatives of London Underground Ltd. (LUL) in order to discuss issues relating to the tube in London:

- Adam Goulcher Director of Marketing and Planning
- Mike Strzelecki Director of Safety, Quality and Environment
- Phil McKenna Marketing Manager (Journey Time)
- John Ball Economist (Strategic Planning)
- John Knight Systems Performance Manager

A transcript of the discussion can be found in Annexe 1.

6. Dates of Future Meetings

6.1 The current list of scheduled meetings (detailed below) was noted.

- Wednesday 16 January 2002 at 2.00pm
- Tuesday 12 February 2002 at 3.30pm
- Wednesday 27 February 2002 at 2.00pm

6.2 It was noted that, as further consideration was to be given to the programme of work for the review, that this timetable would be subject to change.

7. Any Business that the Chair considers to be Urgent

7.1 There was no urgent business.

8. Close of Meeting

The meeting closed at 5.32pm

Chair

Date

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Summary Action List from 18 December 2001

Item	Topic	Date Due	Person
5	Discussion with LUL LUL to provide further information on: <ul style="list-style-type: none">• Customers' response over the years to general transport issues and the effects upon tube demand•		

Annexe 1

Chair of the Committee: Thank you very much for coming today to this, the first evidence session of this Committee. I must say a big thank you to London Underground for the written evidence and help we've had so far. You really have been incredibly co-operative and have helped us enormously, which is a good thing, because we would like to think that we're moving the debate on from some of the discussions that have run and are still running. We want to move ahead for London to try and establish, as far as Londoners can reasonably expect, a cheap, standard, benchmarked service against the world in light of what the customers are saying to us.

So, we will go into the question session. We have a range of things we want to ask you and, as they're a bit confusing, we may dart about a bit, because if you're leaving early there are certain questions that come in later sections that we would want you to have the opportunity to answer, and therefore if it dodges about a bit - you know your subject well enough not to worry and I think we're going to know it awfully well by the time we've finished.

So you're going to first give us the presentation [see slides appended below]. Would you, because this is an evidence session, when we get in announce your name before you speak, because we're getting tape recorded and okay, go for it.

Adam Goulcher, LUL: There are 17 minutes describing the context for the Underground and the delivery of service. Look at customers' expectations and how we turned those into certain standards and how we measured our success. This is a chart that shows how the level of customer satisfaction has moved in the last 10 years since we started measuring it. What you can see is that in the early 1990s we started to create a core base. We had great difficulty during that period - it was a couple of years after the Kings Cross fire, which had revealed a number of difficulties, but we very rapidly put new management arrangements in place and you can see the achievement there is a significant increase over the four or five years at the beginning of the 1990s.

What has since then is basically a plateau and so our challenge now obviously is to try and move that curve upwards again, although with customer satisfaction there is obviously a limit to the extent that you can keep on increasing performance.

In broad terms we've changed the questions on a few occasions, but we've always overlapped the surveys so we've been able to keep them on a constant basis.

The other key data, I think, is to look at the trends in both the level of demand and also the level of service that we're offering. The blue curve there shows you the decline through the 1960s and 1970s, basically reflecting decline in public transport throughout the UK as car ownership increased. But from a very, very low level in the early 1980s you can see a massive increase in demand, in fact demand's practically doubled since that low point in the early 1980s back to where we are today, and that's had a very significant impact on our ability to deliver the level of service we would like to deliver. But what you can also see there on the green line, which is a measure of the number of train kilometres that we've operated, is that we've endeavoured to increase the capacity that we've offered, alongside that demand increase, although obviously we haven't been able to do that instantaneously,

it takes time to plan and improvements in timetables and so on. A small increase there in the extent of the network with one or two new lines coming on stream.

Chair of the Committee: I'm just curious - you've got the indications there of the travel card having a huge impact?

Adam Goulcher, LUL: On demand yes. Basically this is where the fares were dramatically reduced, then they were increased again with the Bromley and Peel, and then we had the travel card introduced with a 30% reduction in fares. So a lot of this is created for off-peak traffic, because that benefited the travel card cause.

Female Speaker: And 'Fares Fair'?

Adam Goulcher, LUL: It was all between 1980 and 1982. Travel products came in 1983. These are annual figures from the annual reports. You don't get the detail as being increases and decreases.

In terms then of London Underground's strategy, the key thing for us we know is to make sure that we are focused on the customer and the customer's needs. Possibly more than has been the case in the past. So, it is very important for us to understand what customers' priorities are, and obviously to have projects and plans and so on to meet those needs. We get the information on priorities from a number of surveys, we get feedback directly from customers through emails and letters and so on, and also obviously staff give us very valuable information about what issues that they think are important.

But in terms of just providing a simple overview of priorities, we carry out the survey, which asks people just to tell us what their number one priority is. There is no context, we just simply give them the opportunity to detail their priorities, and you can see there that it breaks into three areas in speed of the service and its reliability, safety and cleanliness, those are the three key areas and those subjects have been where we put our priority in terms of resources and investment and so forth.

On our ongoing reporting, which is through the customer satisfaction surveys, that's a perception survey, so people just tell us, they give us a score out of 0-10. We started a customer satisfaction survey in 1990; Kings Cross was 1987. But what we have seen has been very good - one of the measures that we get the highest score for in fact is security, pretty much our best scoring aspect of the survey - there's 20 things we ask about, and two of the questions are on security.

Chair of the Committee: So I just wanted to know on that and maybe we can dig a little bit further later on, it's just because you've got that nice chart up there. Have you mapped this alongside the previous map at all, to actually overlay them to see the impact over the years and things like that? Customers' response over the years to various issues.

Adam Goulcher, LUL: We have certainly looked at that, yes. I don't think I've got charts with me today that plot those things, but we can look at the time series or safety on customer satisfaction and you can see, for example, that when the Hatfield crash occurred there was an almost instantaneous drop of two points in the subsequent quarter for the London Underground score, even though it had nothing to do with the London Underground. It was a main line railway accident, but you could see that coming through

straight away. I think I have got some charts somewhere later on at peak time, which show how demand growth has impacted on the congestion score, for example, in customer satisfactions.

Chair of the Committee I would be very interested if you have it, not for now to go through, but to see it would be quite an interesting exercise.

Adam Goulcher, LUL: Okay. So having undertaken this research, we've set ourselves what we call our service aim, which you can see there, and what that's about is recognising the fact that one of the major complaints of users of the London Underground is that they can't really be confident that we will actually get them to where they want to go in the time that they would like it to take. So consistency is absolutely critical and building trust with customers is important.

In these areas here, safe arrival and reliability - you can see the map on the previous slide, those are areas we know to be the highest priority, but the other areas are as welcoming, which is about having an environment that is clean and well ordered. Complicity and duration are very important for the infrequent travellers, about half of our customers are on non-work journeys and they're typically people who make a small number of journeys each year, and there is a very large number of them, and they're not familiar with the Underground. We know if we're going to build that market, then we need to pay attention to these factors as well.

So what we're trying to do is to move the London Underground, in terms of customer service, and this is another survey we do which is a benchmarking survey. So once a year we will ask people to compare us with the airlines that they've used, and the supermarkets that they've visited, or their bank, and this - basically we get a score out of a hundred, as you can see, for their ranking of each of these organisations. Generally speaking, so far as the public services go, London Underground scores fairly well. So we see one of our aims going forward is to move ourselves up that league, because with the business we're really in it's the same business as airlines and supermarkets, where we're trying to provide customer service to people and help them get through their busy lives.

Now, in doing all of this the critical consideration is what is realistically achieved at any point in time, or over a period that we're planning for. Obviously funding is an absolutely critical constraint and historically that's been the major weakness in the management of the underground, in the sense that we haven't been able to keep it up with investment and maintenance at such a level that it provides a robust network on the basis there's a quality service. But also we've got a very old network, as you know, and so even if we had had the investment, there are constraints of small tunnels and small trains have, which wouldn't be the case if it was a new build network like some of those in the Far East for example.

So, what we have to do is recognise those constraints, and then work with them to make sure that the money we do have available to us is spent on those things that give the best value for customers, so we do a lot of careful research to understand the relative priority to customers and what it costs us to do improvements, and what resources we've got available, and put our plans together on that basis.

And what we've done, in fact, is to turn all of that analysis and that understanding to a set of standards, and the written response that we've provided to the Committee is very much based on our customer service delivery standards, which is a public document, which describes what we're going to achieve in a number of areas. In fact, all areas of customer service, and it's based on the knowledge that customers want simple service, we know they want high quality and they want consistency across the network so that they have confidence when they enter a tube station to know what the ticketing system is going to be like, how frequently a train is going to be running and so forth. And very importantly as well internally to have clear standards from the point of view of managers understanding their accountabilities, and obviously being able to ensure the performance of their staff meets the requirements, and these standards are the basis of all of our plans, including our long-term investment plans.

Okay, another slide, just to say that we see customer satisfaction as being the key output measure of how well we're doing. It's not something we can work with day by day, but at the end of the day that's how this, whether or not we're delivering the service that Londoners expect, and that survey obviously reflects people's expectations in respect of their own priorities, because they're free to score us in whatever way they like, depending on the journey they've just had, the things that are important to them and so forth. So that is a key area going forward. I'll leave that there.

Chair of the Committee: Thank you for that. I think we'd like to probably go through the sort of questions that we want you to make sure are the more common and that we get them asked while you're here. We have higher priority and less high priority questions and the high priority questions, and then if we have time we'll go back to others we haven't asked. If in the end the whole session finishes and we run on to eight hours then we would submit those questions to you in writing for a written response, if that is agreeable to you?

Adam Goulcher, LUL: Sure.

Chair of the Committee: Okay, we're starting off with lessons from other systems. You mentioned one sort of benchmarking that you do, which is against airlines and banking and so on, but what other benchmarking studies are you involved in, comparing performance and service levels against other metro systems?

Adam Goulcher, LUL: Well, there's two main areas that we're involved with. One is through something called the International Union of Public Transport, which has, amongst other committees, a metro committee. We participate in that Committee, which itself has a number of sub-committees in engineering areas. For example, operations, marketing and commercial as well and those groups have an ongoing programme at work, they meet quarterly typically, and through that process we are able to pick the brains of other metro operators around the world, as well as contributing our own knowledge. So there's lots and lots of benchmarking through that mechanism.

The second area is through a grouping called Connex, which is referred to in the evidence, which is an organisation of the big metros, which has been working together for some time under the independent management of Imperial College, and the Connex Group have developed a number of performance indicators which are compared on an annual basis and are continually under development, and that gives us a good understanding of how well

we're doing, and obviously leads to more and more questions, because when you see differences you seek to understand why and need to develop your measures and so on.

Chair of the Committee: Can you elucidate as to what sort of performance indicators that you benchmark on, more precisely? And will they be in terms that I will understand? Yes.

Adam Goulcher, LUL: Well the six headline areas; they are actually in the report are they? There are areas like safety, reliability of the service, the financial, the efficiency of the organisation, customer volume, number of people carried, asset utilisation, that's the other one, yes.

Chair of the Committee: How do you find you do compare then in the system with the others that you benchmark against? Samantha [Heath] was suggesting that I ask you for the best and the worst, as opposed to all in between. How you do compare, I mean across the range.

Adam Goulcher, LUL: Where we're strongest and where we're weakest, you mean?

Chair of the Committee: And what the range is and by what the comparative - what the differential is.

Adam Goulcher, LUL: Well, our strongest area is efficiency, because historically we've covered far more of our costs through internally generated income than any of the other metros, in other words saying that as we get less subsidy than all of the other partners in the Connex study, so we're the most financial efficiency, and we perform least well on asset utilisation, which is largely because the underground has in its extremities some rural railways, for example, at the end of the metropolitan line, where obviously the volumes of people travelling are relatively light compared with, for example, a metro like Hong Kong, which has a far smaller number of stations, much more centralised and carries much more consistent volumes across the whole of their network.

Chair of the Committee: We've got more extensive answers in written form so we can refer to that later. Can we be sure what you learn from these other metro systems and could you give me examples of how you look at that benchmark and what it tells you and then what you do about it?

Adam Goulcher, LUL: Well, we look at the differences carefully and there are a number of streams of work that arise from better understanding of what we do well, what we do badly, compared with others. The specific examples here are on safety - not only do we benchmark through Connex performance, but also the way things are done and process benchmarking in effect. Last year, 2000, Imperial College ran a benchmarking study on safety management systems and how all the metros in the group managed safety, and LUL I am pleased to say, came out equal best with Hong Kong as the best safety management arrangements of any of the metros, and that had a great deal of detail as to what all the metros do, the systems they use and so forth.

While we came out sort of equal best with Hong Kong, and considerably in front of others in the way we manage safety, and our safety performance is the best of all the older metros in the world by quite a long way, we were thinking from that, that for example Hong Kong

will do what we don't do and vice versa, so obviously now we are putting in place some of the things that Hong Kong do that we don't do.

Chair of the Committee: Can you give me an example?

Adam Goulcher, LUL: A typical example on safety would be pro-active safety measurement as opposed to reactive safety measurement. A lot of our safety measurement systems measure the outcome after the event, as opposed to the pro-active things that you do in advance of any incidents to make sure they don't happen. So we're putting improvements in place on that front since we discovered that.

Mike Strzelecki, LUL: Another example arising from Connex is when we looked at rolling stock performance and how many failures there are per train kilometre run and so on, London Underground comes out relatively poorly and one of the things we discovered is that the major factor has been the fact that in, for example Moscow, the trains that they have are -- this is one type of train, and they have been able in the past to order those in, you know in one sensible kind of production run on a continuing basis and that has then allowed them to have maintenance procedures and standards that are easy to implement and become kind of perfected, because they're working on the same -- it's a bit like the old route master buses, you know you become very knowledgeable about what works, what doesn't work, whereas in London Underground we know, partly because the previous funding regimes has had to procure trains in a rather ad hoc way over the years and has ended up with a large number of stocks, inconsistencies, different maintenance regimes which all contribute in part to reliability performance. So one reason for putting long-term investment plans in place and seeking to establish with government an arrangement to be able to plan on a long-term basis is to make the service more reliable through mechanisms like that.

John Biggs: Can I start with an apology, which is because I've arrived late and I'm going to have to leave early? I was going to say I'm like an underground train, but I don't think that's necessarily true. But I've got two or three questions with your indulgence, Chair.

The first is, a problem that I've experienced with Connex is, it's a very sound thing, but first of all you can't very easily compare apples and pears, and a lot of these systems are very different and I don't know how you overcome that obstacle. And secondly, there is a sort of culture of, there is an entrenched principle of anonymity isn't there, that you don't publicise the findings of the Connex survey. The information is shared on a confidential basis and that makes it rather difficult for scrutineers, such as ourselves, to benchmark against them. Can you comment on those two points?

Mike Strzelecki, LUL: Well, I said earlier that performance indicators, establishing a sensible set of performance indicators is very difficult as you said, finding apples and apples is not straightforward in all sorts of dimensions, and all I can say is really that over time when we have been refining the set of measures, when we find reasons for the comparison not being valid by identifying differences that don't seem to make any sense at first glance, we build those in on a rolling basis into the survey.

Adam Goulcher, LUL: Building on what Mike said about safety, the safety KPI performance indicator we use is only measuring fatalities. What we are really trying to do now is develop that so it is a measure of total safety performance rather than just fatalities,

because it's rather absolute, so we want to get the pro-activeness into that, so the reason what we're doing following on from that case study can improve the safety KPI.

John Biggs: Perhaps I should also say as well, and you don't have to be surprised to hear me say this if you know who I am, that obviously we're in a very highly charged physical environment in which people's judgements of the underground are coloured by all sorts of physical aspects of what is going on. I mean, my understanding and experience of the London subway and one or two of the other ones in Europe and beyond, is that it's not as good as one that was built yesterday, but it's doing reasonably well, although it's showing some pretty severe signs of wear. Having made that outrageously physical comment, the question about how do you derive your performance indicators is an interesting one, isn't it, because we can get obsessed about Connex, but you did move on to questions of how the public judge your services and I am wondering how London Underground presents itself to the public in terms of setting targets which it's then expected to meet. Can you tell us about how you developed your targets in that environment?

Adam Goulcher, LUL: Well, at the moment we obviously have an arrangement with Government. They are our shareholder and we developed a set of targets with them, and what we sought to do is identify measures which are simple to understand, that reflect customers' priorities, and that drive the right kind of performance from an underground management. In other words, they are not kind of dysfunctional in any way, which you can sometimes find with measures. As I said earlier, top of the list is customer satisfaction, because at the end of the day that allows the user to tell us what they think of the service they've experienced. It's the ultimate output measure. How satisfied are you with what you just experienced? So that's a very important high-level measure for us.

The other key area is the journey time. So we've put in place a journey time measure, which takes all aspects of the journey from moving from the platform, or buying a ticket, to the platform, waiting on the platform and then the journey on the train and obviously all the way out at the other end. And, over the last three or four years we've put surveys in place that provide the information for us to monitor journey time performance on each line every four weeks, and that is the key measure that we use in the most important area as far as customers are concerned, which is speed, reliability and so on.

John Biggs: Would you welcome any environment in which there was an independent appraisal and setting of some of those targets?

Adam Goulcher, LUL: The targets themselves?

John Biggs: Yes. Say for example that London Transport uses community from its current obscurity and get them set up your performance regime, subject to reasonableness I guess, would you welcome that because it's a logical next step from saying that the consumer should be driving what you do?

Adam Goulcher, LUL: Yes, I mean we welcome scrutineers of what we measure and welcome debate about what a sensible set of targets would be, and in fact we've had a lot of dialogue with Transport for London board members about 18 months ago to establish the performance indicators that they wished to see at the TfL Board, which I'm sure you saw in some report or other that they produced.

John Biggs: That was my next question actually, which is whether beneath all this sort of vigorous fighting at street level on the underground, there's been a constructive dialogue to define the performance regime that you'll be working under when you become part of TfL.

Adam Goulcher, LUL: There has yes, we've been working together for many months now, and I attend Mr Kiley's rail advisory panel, where I present underground performance, I think they meet six to eight times a year, describing a set of measures which actually include far more than I've just described. They have indicators on lift performance, escalator performance, numbers of trains cancelled and so forth, a lot of diagnostic information and that's all been constructive and in fact, on a TfL level, the performance indicators that are being applied to the other operators are very much in line with what London Underground had developed beforehand, so we started a customer satisfaction survey that the buses have since introduced as well and now that's seen in TfL as being a key measure and similarly, journey time, I think, is felt by the TfL board to be a very, very important high level measure and they're seeking to I think put that in place for other operators too.

John Biggs: So you're saying that you changed your targets and your performance measurements in response to consultation with TfL?

Adam Goulcher, LUL: Yes, on an ongoing basis, yes. Mainly at a level of detail rather than fundamental change, because they concluded that the measures themselves are the right ones, but there's a number of questions about how frequently you measure, how big the sample size should be, exactly what questions you should ask in your customer satisfaction survey.

John Biggs: Just keep answering questions if you like. Okay, just finally then, does that mean then that there is a consensus, as you understand it between yourselves and TfL? We might ask TfL the same question, by the way, as to what the objectives are meant to be?

Adam Goulcher, LUL: I believe so, I think obviously as we move into the GLA and TfL in due course, the DTLR will formally be discussing that with the GLA, but we're very much party to those discussions at both ends if you like, but at the end of the day it's there, there's a formal process.

John Biggs: Okay.

Samantha Heath: Yes, I'm just been looking in the briefing notes, and we're alarmingly expensive if you compare ourselves with other cities. And there's obviously the political bits about subsidy, but the costs are - I'll just give you the Paris one, one day ticket it's £2.75, oh that's New York £2.75 and ours is £5.10, if you want a two zone. And Paris, I've got here £72.60 for one to two season tickets and it's £27 in Paris. It is a remarkable difference. Yes.

Adam Goulcher, LUL: There are differences. London has travel cards, which makes fares comparisons quite difficult, because as you know with a travel card you get free travel for a whole range of journeys if you're buying it mainly for commuting, you've got it at the weekend and so forth but those studies do try to take account of that. At the end of the

day price levels have been a political policy decision formerly with central government, presently with the Mayor.

Our view is that with current levels of congestion on the underground, cutting fares would actually probably lead to a worse level of service overall for users. We know from a lot of work that we have done to understand customers' priorities, that they would rather see the fares go up if it meant that the money that was raised was spent on improving the level of service that they received. That's something we're certain about, and in fact if you look at fares trends over the years in London, fares have lagged behind London earnings by quite a substantial margin, so in fact the average Londoner has got richer and fares relative to earnings have therefore fallen, although they have risen in relation to inflation. Yes, if we have more subsidy, of course we could both keep fares low and invest in improved quality, but both subsidy levels and levels of fares are a matter for politicians.

Samantha Heath: So productivity, is it an issue?

Adam Goulcher, LUL: No, I wouldn't say that. Productivity certainly is an issue. I haven't got the chart with me, but we've greatly increased over most of the 1990s what we call the operating margin, the excess of revenue over operating costs and a large part of that has been through internal efficiency programmes. What we found when we were looking at the chart before of the demand growth and the service levels, what we found, however, is that with the demand growth we had to invest more in the number of trains that we run, more staff to deal with congestion and those sorts of things, so in the last year or two we haven't been able to sustain the decreasing costs because we've had to invest in improved service levels.

Samantha Heath: My last question, you did sort of allude to it, but if we did put the prices down congestion would be unplentiful, if that's English. How much does your pricing policy reflect the congestion and so for instance, do you find that you're too congested in which case you are tempted to put the prices up to reduce congestion or demand?

Adam Goulcher, LUL: There's limited flexibility with pricing and the dilemma is the extent to which you keep fares simple which, as you'll know with buses in London now there has been a great benefit in terms of attracting new users to buses and moving towards flat fares is a good thing, we believe. So, we haven't introduced a complex set of fares for that reason, but what we have got is the one day travel card, which encourages people to travel after the morning peak, and what we've got coming in the reasonably near future is a smart card system which will enable us to have pricing that is different at different times of the day, so that's certainly something that I'm sure the Mayor will be considering when he puts together his pass.

Mike Strzelecki, LUL: Can I just add that there are significant safety impacts from higher levels of number of people using the system, particularly in the peaks, and therefore we have to be very careful indeed in the peaks in the central area which is where most of the underground railway; we have very stringent safety management arrangements for congestion and we are more or less at the limits of capacity, both in stations aimed upon the tube lines themselves during peak periods. So, the only way to get more people riding the system in peak times is to add a capacity, which is extremely expensive. You're talking billions of pounds, which is partly what the PPP is about, but that's a normal time scale. So

we can't just put fares down to encourage people to use it, because we won't be able to cope within the peaks.

Samantha Heath: I was wondering if you'd put fares up to keep congestion down, and that was putting it quite brutally?

Adam Goulcher, LUL: When we set our prices before, it became the responsibility of the Mayor, then part of the equation would be that although fares were going up, going up was a bad thing, because it meant consumers were worse off. There was a benefit to the extent that it did reduce the level of congestion, so that was part of the equation, but on balance because we needed the extra finance to invest in service improvements, it was the right thing for us to do.

Chair of the Committee: Okay, I'm going to move on to safety and personal security, safety being accidents. The statistics you have given us showing your figures for customer major injuries and fatalities, 1995 and 1996, which is higher than 2001, showed that while fatalities have remained fairly low, actual injuries have been increasing during that period, quite significantly. So we wondered if you would be able to tell us the reason for this rise, i.e. to what extent has overcrowding on escalators or platforms played a part in planning, or actually what is the reason, because it's a noticeable differential?

Mike Strzelecki, LUL: Right, the actual number of injuries is roughly the same. The reason that the graph you see there goes up, is because from 1 April 1996 the regulations that governed the reporting of what we call major injuries, (inaudible) reporting of injuries, Dangerous Occurrence Regulations, changed the definition of what's recorded to include accidents where people dislocated a limb, which previously didn't count, and also accidents where people went unconscious, which weren't previously counted as well. So if you fell over and banged your head and were unconscious, that's now counted as a major injury.

Samantha Heath: So you're telling me it's a change in reporting, it's not a change in actual injuries?

Mike Strzelecki, LUL: That's correct, and the trend is broadly stable when it's normalised to take account of the number of people travelling on the system, because the numbers as Adam showed early in his presentation have gone up, so we measure the rate of the major injuries, the number per million customer journeys is what we actually measure.

Samantha Heath: There's been no real perceptible change in even minor injuries, I mean is that a different statistic, does that come in somewhere else?

Mike Strzelecki, LUL: That is a different statistic.

Samantha Heath: Where is that statistic?

Mike Strzelecki, LUL: We measure that primarily, I mean minor injuries are when you know people hurt their wrist or something like that, they don't actually do anything to it; it's like catching some of the gates, the ticketing gates or whatever. Those again are broadly stable, that information I believe is in there, but we do have our confirmation.

Samantha Heath: Something like when people got stuck in the tunnel, would they not have added to that statistic in some way?

Mike Strzelecki, LUL: Not unless they fell within the definition of the regulations which are set by the health and safety committee.

Samantha Heath: So even if they were taken to hospital, as long as nothing was done they wouldn't -- it's very strict definition then, it's not terribly, it might not give an exact picture?

Mike Strzelecki, LUL: If they were taken to hospital it is counted as a major injury. That is part of the definition. Anybody that is taken to hospital and is hospitalised, it counts as a major injury.

Samantha Heath: But if they were sitting on the platform and they just needed water and a bit of attention, it wouldn't count as an injury?

Mike Strzelecki, LUL: It wouldn't count as an injury, of any sort.

Chair of the Committee: Okay. John.

John Biggs: As I recall in East London, when the East London line shut and was then helpfully spot listed by English heritage, which extended their closure to two and a half years or something, the length of time meant that it had to be re-commissioned as a new railway, which meant that it had to pass modern health and safety standards. As I understand it, you take for example the central line, which is approaching its 100th birthday, it doesn't have to comply with those standards because its been open since whenever it was, 1900 and something, to what extent is it an issue for Londoners that we're operating subways which wouldn't achieve an operating licence and, correct me if I'm wrong, if they were built today to those standards, to what extent should we be concerned about that as Londoners?

Mike Strzelecki, LUL: Well, I will have to correct you because you're, well, wrong. The East London line when it was shut, as you mentioned, when it was reopened it had to get approvals under the Railways Approvals of Work Plants and Equipment Regulations 1994. There are dozens of these regulations that railways have to comply with, which means that the operator -- us -- has to demonstrate to the Railway Inspectorate that all the stuff we used, the equipment, the people, the processes will ensure the risks are managed to as low as reasonably practical, which is the standard set by the Health and Safety at Work Act 1974. That's what we do. Similarly the central line, which has had a lot of money spent on it in the last decade and a bit, new trains, new signalling systems, new control systems and so forth, also meets the requirements of those regulations and many others. So, I would suggest that the tube safety record, which is good but not perfect, and has been getting better slowly, is not a matter for concern for Londoners.

John Biggs: Can I just follow that up briefly? I suppose part of the problem is that too many Londoners have been abroad and they've been on systems which have air conditioning and modern lines and so on, you have little walkways alongside the trains so that if it needs to be evacuated you can get out and follow along it. So maybe people have been led to expect a higher standard than the current underground can seriously offer, but

there was that incident recently when the tube broke down on the Victoria line and people needed medical attention, having been stuck in the train. Now, anecdotally, that doesn't seem a reasonable state of affairs that you can have a public transport system, which, if it goes wrong, will present people with an environment, which can damage their health, and if they had the wrong health indicators, it could presumably be fatal for them. Now how do you deal with that as a safety point?

Mike Strzelecki, LUL: Well, it is an issue that is a concern. In that particular incident actually somebody interfered with some safety equipment, which caused the incident and so that was vandalism if you like. But the modern standards you refer to, as we have on the Jubilee line extension, one is a walkway alongside the train. There just isn't room to put that in the old tunnels. Therefore we have procedures, which are designed to get people out safely in the event of breakdowns or, in this case, vandalism, which disables the train and the driver couldn't move it. So, and those unfortunately have been proven to be effective, although unpleasant for the people concerned, both staff and customers, to be safe, but there are risks. I would not pretend that there are no risks at all, but they're very, very low. We have a very sophisticated safety management risk assessment or control system process in the underground which was built since the Kings Cross accident back in 1987 and it does show that the risks are very, very low indeed. But they are not nil. But then, you can never get any operation to have no risk at all.

John Biggs: I've got one final question which is, as I understand it, overcrowding has acceptable levels depending on the sort of journey that people will undertake, so it's reasonable to be packed like the proverbial sardine if you're only going to be on it for an average of 20 minutes or something. But presumably if the thing breaks down you're then stuck in that position for two hours or something, you know worst case -- that would no longer be acceptable. Does that raise a challenge in safety terms?

Mike Strzelecki, LUL: Well there'd be health and safety point and then perhaps Adam can talk about the crowding level issue, because he's more up to speed on that than I am.

From a safety perspective, the way we operate at peak times when it's crowded and many other times it's crowded as well, the way that our procedures work to deal with trains that get stuck in tunnels, are assessed to be safe. Unpleasant, but not unsafe. In other words, the likelihood of you dying, or being seriously injured because the train has broken down in the tunnel and is stuck there, or any other cause of making the train not being able to go, you won't die and you won't be seriously injured. No one will pretend that it's pleasant, it's not. It's airless, but you know you're not going to suffocate when it gets hot and unpleasant. Now that is a feature of the system built by our Victorian forebears, which would be phenomenally expensive to do anything about, and there are no proposals on the table anywhere to try and enlarge the tunnel systems. You are talking -- you'd have to shut the railway, you couldn't do it with the railway open. You could do it physically, I happen to be a chartered civil engineer by background, you know it's an engineering doable thing if you've literally hundreds of billions of pounds, and I'm afraid we haven't.

Samantha Heath: You've got that fact on a technical level. The black hole of Calcutta comes to mind, and it depends how long you're stuck on the train. It's like with your nose stuck in somebody's armpit for quite a length of time, I can't think that's the healthiest environment to be in. How often does it happen, that people are stuck for over an hour in a tunnel?

Mike Strzelecki, LUL: To be stuck for over an hour is rare. You're talking about, on average, two occurrences a year. The worst we've ever had was on the Central Line; I think it was in February 1992, when I happened to be the General Manager of the Central Line at that time, when we had two coincident bomb scares, and at that time the IRA was extremely active, and we ended up with six trains stuck all at once in the morning peak, which is when they're at their busiest, and it took us six and a half hours to get out the people stuck which was 6,722 people. Again it was very unpleasant for those people and for our staff and managers who were dealing with that very unfortunate situation, but nobody was injured, lots of people were in a pretty unpleasant condition, no toilets and things like that down there, but nobody was hurt in a physical way. It's a feature of the system, it's a feature of the way it was built and in that particular example, which is the worst we know of, it was caused as I say by bomb threats, which brought the whole line to a grinding halt.

Chair of the Committee: Thank you. Have you finished?

Samantha Heath: Yes I have.

Chair of the Committee: Can I just ask what the current arrangements are then for evacuating stations in the event of a security alert or fire? Today, what do you do?

Mike Strzelecki, LUL: Stations or trains?

Chair of the Committee: Stations.

Mike Strzelecki, LUL: Stations, again unfortunately we have lots and lots of practice of evacuating our stations for a number of reasons. There are very strict safety standards to meet the requirements of the many regulations I mentioned earlier, but also because of the security situation that's prevailed in London, mainly because of the IRA over the last decade and a bit more. We can evacuate and regularly have to, unfortunately, any of our stations in less than six minutes at the height of peak, and we have very well practised staff, they rehearse those procedures every Sunday for real and we can evacuate the whole network in the peak and we have to do this twice every train, every station, in less than 20 minutes. Which, I put it to you is pretty good going, most of the major buildings in London couldn't get all their workers out of their building in that time. That's over half a million people at once.

Chair of the Committee: So you're saying that these sort of levels of overcrowding that we're seeing, particularly at peak -- at some key stations then actually present problems beyond what you said, six minutes; say somewhere like Victoria when it's packed at peak.

Mike Strzelecki, LUL: And even bigger stations than Victoria like Bank, which is a huge rabbit warren, if I can describe it that way, it's probably one of our biggest rabbit warrens along with London Bridge now, because of the Jubilee Line extension, you'll have 3,000, 4,000 people in there at once and they'll all get out in less than six minutes.

Chair of the Committee: Okay, I mean it's just hard to conceive what you're saying, being caught in overcrowding situations, it doesn't feel, but maybe six minutes is longer than one imagines. You know, I'm just wondering if there's a perception gap here?

Mike Strzelecki, LUL: Yes, you can be sure, perceptions are very important when it comes to time. We know for example now ticket selling is something that seems to take much longer than if you're actually travelling on the train and so yes, six minutes if you're being evacuated would seem like an eternity, probably.

Chair of the Committee: When you say you do it for real on a Sunday, you don't have that amount of people to get out.

Mike Strzelecki, LUL: No, but it's a question of the staff all knowing what they've got to do, making sure they're in the right places, the supervisor who is in charge giving the right instructions, making sure the staff members know who to talk to.

Chair of the Committee: So in the last year there would have been incidents when you had to evacuate the stations?

Mike Strzelecki, LUL: Yes, many.

Chair of the Committee: And do you have a record of timing, do you monitor that at the time and report on each one, presumably?

Mike Strzelecki, LUL: Every time. We do. Occasionally it goes wrong. For example there was one, I can't remember exactly when, but about six months ago, where a member of staff instead of switching an escalator off, reversed it, and so that it was going down rather than up. It's just that he misunderstood the instructions, as a result because it was going down the people at the bottom of the escalator then couldn't get up. Now as it happened there was an alternative route out, but there might not have been, because in some places there aren't.

As a result of that error, we have changed the evacuation plan -- where every station has one and the detailed procedures that go with it, so every station and every other facility on our underground has a detailed emergency plan, which includes all the evacuation arrangements to par for courses, the whole lot. All of that is documented and trained into our staff.

Chair of the Committee: I can't remember if it was you, or some other group that came to a commission meeting, following an incident of detraining, which went wrong as you described. So you're saying that any incident gets a report and an incident that goes wrong, I mean the concern there was communication, because no-one was stopped coming down onto the platform an already jammed full platform with 1,000 to 1,200 extra people getting off the train, so much so the guard said, "He couldn't move and people were not stopped from coming off other platforms". Where would that have gone that incident?

Mike Strzelecki, LUL: A very serious incident like that where things have gone wrong, there is a full (inaudible) investigation conducted by London Underground with a formal written report which analyses the immediate causes, the root causes of why it went wrong and therefore what one needs to do to minimise the chances of that going wrong in the future. The Railway Inspectorate, independent of us, also reviews those formal reports.

Chair of the Committee: Just to clarify something on the injuries first. There is no step change in your chart. So is the increase purely due to more customers each year. Is that what you're saying?

Mike Strzelecki, LUL: No, it's basically due to the fact that --

Chair of the Committee: But you said you normalise it here?

Mike Strzelecki, LUL: Yes, it's normalised with one million customers

Chair of the Committee: But on the grass roots perspective it doesn't go like that, it goes like that? [The Chair indicated that the graph did not represent a smooth slope but that it was steeply stepped.]

Mike Strzelecki, LUL: Yes, because we reckon that when reporting definition changed, we reckon that if, I don't have it with me unfortunately, I didn't know you were going to ask about it, but I have a chart which shows what happens with the extra types of injuries that I mentioned, that taken out of the numbers and it's level, and we're pretty sure that happened as it was initial under reporting of the new types of incident.

Chair of the Committee: Right, okay, well we will come back to you if we want some clarification around that area. There's no change, there's no significant change in injury levels, and yet the introduction of initiatives to improve safety in recent years, such as barriers at the end of each platform to stop people from wandering onto the track and so on. Have any of your recent initiatives - you know you were saying you put in place and make changes and there's no reduction as a result then of the initiatives you've taken on safety to those injury numbers.

Mike Strzelecki, LUL: Right, the management of safety is not just about the accidents that do occur, it's also about minimising the overall level of safety risk. We first assessed all the major accident types that can occur on the underground, which are of 16 different types of major accident where you could get multiple fatalities and major injuries; we first did a scientific assessment with them in 1992, we started in 1989, it took three years to do this very complex process using more than sophisticated risk assessment techniques, and we found at that time that the major accident risk that predominated the risk profile was flooding and that contributed 98 point something of the total safety risk on the underground.

Since then, we have invested hundreds of millions of pounds in flood defence measures on the underground to get that risk down. So that's now at a very low level, but again it's not nil, you don't get safety risks with nil, every activity carries safety risks of a level. We've also attacked all the other major accident risks, such that overall the safety risk profile now today is 11 times less than it was in 1992 when we first assessed it, and that is because we have systematically assessed the risks and driven them down by investing in the underground in better staff training, better management training and so forth. So the idea is preventative, so that we don't have what most people worry about most, which is, major accidents. The last major accident was the Kings Cross fire, and before that it was the Margate disaster, so we haven't had a train accident of any consequence whatsoever for 27 years, and that is because we have very high integrity safety management systems. Our

signalling systems, for example, are of a far higher safety standard than on the national railway.

Chair of the Committee: So what you're saying, in fact, is you have taken care of the best things and that's reduced down to the statistics you don't gather, which are, what people wouldn't bother to report, like tripping if you get onto an escalator, or something similar.

Mike Strzelecki, LUL: Those do get reported, if the customers tell us about them.

Chair of the Committee: What I'm saying, I would imagine the majority of people do not report the majority of small things, unless they actually hurt themselves.

Mike Strzelecki, LUL: That, I think is the basis.

Samantha Heath: How do you then assess low cost suggestions, ideas to improve safety, such as tactile markings at the start of escalators, or what efforts do you make to consult on suggestions that the public make, or other people make, or bodies make to you, whether it's through (several inaudible words) groups or --

Mike Strzelecki, LUL: Well, again, Adam's [Goulcher] people run the workshops, they research these things with customers.

Adam Goulcher, LUL: Focus groups.

Mike Strzelecki, LUL: Focus groups, that's it, and we've had a campaign on customer safety going for some time now, about five or six years, to try and get our customers to (a) be more aware of the much lower order risks like falling down escalators and stairs, which is where most of those major injuries come from, and I have to say that very many of them involve alcohol, i.e. the person who's fallen down has been drinking, and that's just over 70% of those major injuries are people falling down stairs and escalators, and about 60% of them involve alcohol, and while we don't object to people drinking alcohol we are trying to persuade them to be more careful when they're travelling on the tube and most of the fatalities, which average five a year, are people falling off the platform edge, or getting off the platform and going onto the track and either getting struck by a train or electrocuted, although usually it's struck by a train. So we're running a major safety campaign and have been doing for about five or six years, which we've recently refreshed, which does include researching our customers' attitudes to safety, their understanding of the risks while travelling on a railway, and their ideas for improvements, and we have been implementing and have comprehensive safety improvement programmes which are extensive and expensive to address those lower order risks as well as the major accident risks.

Chair of the Committee: When talking about risk, which part of the system presents the greatest fire risk?

Mike Strzelecki, LUL: First of all the fire risk on the underground these days is extremely low indeed and the highest level of risk for this, very low, is on trains and caused by what's known as arcing, which is major likely cause of which we have a variety of safeguards against, which is where the traction power flashes over to earth, and those are very rare events and we have a variety of engineered precautions against those and the order of risk,

which we estimate for major accidents, is what is known as the average, meaning fatalities avoided by the measures that we take and for fires it's in the order of .005 fatalities per year, whereas for train accidents it's about a thousand times that, but still, I emphasise, extremely low. If you're interested in that I'm perfectly happy to give you more detail on it, but it is a complex subject.

Samantha Heath: I understand what you were saying about the perception of risk being different from the risk itself, but the risk that people express to me is this, it's you've got overcrowding on a platform and you are therefore required to stand closer to the edge than you want. So the first question really, how high is that risk when we have overcrowding on platforms, and the five deaths that you talk about, how do you identify the difference, presumably you do, and how many of those is a result of overcrowding, or someone maliciously being pushed, or someone being drunk or whatever?

Mike Strzelecki, LUL: None of those deaths that I mentioned have been due to overcrowding, not one. We did have, and it's the first time it's occurred since records that we have access to, show an incident a few weeks ago of somebody being deliberately pushed off the platform in front of a train. Fortunately the person wasn't badly injured, but he was extremely lucky. It had nothing to do with overcrowding, that's a criminal act basically, which the police are treating as murder, or attempted murder rather, and we had another incident a week and a half ago, the same thing. Fortunately a train wasn't coming at the time and we suspect, but don't know, that it's the same person who is probably deranged in some way. Unfortunately we haven't, or the police have not yet discovered this individual. But as I say that's a very recent thing, literally within the last few weeks.

In terms of the level of risk of the platform train interface again it is low, but it is the area where most people get killed on the underground, and not due to congestion but due to inattentive behaviour basically.

Chair of the Committee: So then that leads onto where you put that risk as relatively high risk, because it's actually a fatality. So what steps are you taking and how do you budget for etc the improvements along say the lines of the Jubilee Line extension, where you've got the barriers so that people -- that just isn't an option, or that you've got some form of platform edge that reduces that risk, or some bright coloured lights absolutely illuminated along there or whatever?

Mike Strzelecki, LUL: Well, we have a platform-train interface risk, which is shortened to PTI. We've had a programme to address those risks, which has been steadily making a variety and testing a variety of improvements, because it's not an easy area to control, and you will notice now that all underground platforms have a yellow line 300 mm back from the edge, which by experimentation was found to be the right distance to make people stand away, because if it was any further back, ill-advised people would walk right along the edge because there was enough room to do it. You still see it even now occasionally. Lunatics, frankly, I mean they don't realise that they could fall off and they're not going to have necessarily enough time to get out from the train. We have a whole variety of other measures, the lighting is good, you will find that platforms with curves on them, where the gap's bigger, have lights underneath and so forth.

Samantha Heath: Do you believe the arm barrier method is something that you wouldn't be contemplating on retrofitting, it's something just for new use?

Mike Strzelecki, LUL: We have examined the possibility of retro fitting them, and as you can imagine that will be extremely expensive and unfortunately the business case doesn't stack up, although it might do at a few selected locations like on the Victoria Line. There are all sorts of very difficult engineering challenges to retrofit that kind of equipment.

Chair of the Committee: In Washington I noticed that they have flashing lights along the platform which do both of those things, they inhibit people from going forward, but they also signal to deaf people who go to the Tube. I know when a train's coming, but a deaf person wouldn't, so I mean would that be an alternative to a barrier, does it have the effect, the preventative effect you're talking about, but cheaper actually than the barrier, with much --

Mike Strzelecki, LUL: Well, it's certainly cheaper than the barrier, but again it's this issue of retrofitting. Remember, we're dealing with very small levels of risk here and most, I'd just emphasise this again, most people are doing stupid things. For example a lady dropped a mobile phone, and instead of calling a member of staff she got down on the track and was immediately run over by a train that was coming, and there's no way you stop a train just like that, so she died.

Chair of the Committee: It staggers belief at that level that people will do --

Mike Strzelecki, LUL: Yeah. People do some amazing things.

Chair of the Committee: Eric, I should also introduce Eric Ollerenshaw, who's substituting at the moment for Andrew Pelling.

Eric Ollerenshaw: Can I just ask a boring -- a kind of obvious question in a sense, in declaring an interest in travelling on the Victoria Line having frequent stops in tunnels and people commenting and looking at the side of the tunnel, which seems to be caked with kind of old - it's either dirt or oil or something. I mean, are those things checked out - is it just dirt or is it oil or from old wiring, or what is it? You know you sit there as a passenger observing as you wait to move.

Mike Strzelecki, LUL: It's dust, it's caked on dust, it's a mixture of iron from the action of the rail on the wheel and vice versa, it's human dust in terms of skin and hair particles which we all shed routinely, and it's quartz from the brake locks on trains. Now, a lot of research has been done into this over the years, including very recently, indeed we had an Institute examine all the research that's been done to determine whether this stuff is dangerous to people's health or not, and the answer is that there is no evidence that it is, and the most sort of compelling evidence that it isn't, is that the staff who work on the underground who are obviously are in the underground environment much longer than customers, there is no evidence of any medical problems occurring from long hours and many years of exposure, working in the underground.

Eric Ollerenshaw: Is there a fire risk?

Mike Strzelecki, LUL: No, it doesn't burn.

Chair of the Committee: Look, if you have to leave at 5:00, we're going to just get to a question that really is now out of sequence, but I do want - well, all of you, obviously to answer it before you leave, which is what in LUL's view are the key priorities for investment on the underground?

Adam Goulcher, LUL: Well, I showed the chart earlier that said what the most important issues were, which were a faster journey and a more reliable journey.

The Chair: Where would you spend the money?

Adam Goulcher, LUL: What we have to understand first is how expensive it is to improve something, because if it's as Mike [Strzelecki] suggested with the platform edge doors for example, although that might be a very valuable thing if it costs ten times as much as it is worth in terms of reduced accidents, it wouldn't be a sensible place to invest the limited funds, so it's always a question of looking at the priorities on the one hand and the cost of projects or improvements on the other hand, but the things that typically give us very good value for money are frequency enhancements, particularly in peak where we can do that, which isn't --

Chair of the Committee: So what are you spending the money on to do that?

Adam Goulcher, LUL: More train operators, extra power to provide the enhanced service, additional maintenance for the trains, but the opportunities are limited there, because of the number of trains and the signalling systems are pretty much at full capacity, but that's a key area.

Chair of the Committee: So that would be the good value bit and then if you had lots of money you'd buy trains and --

Adam Goulcher, LUL: Yes, and that's obviously longer term as well, but that's increasing the capacity on the network generally. On the train side is probably the highest priority and gives us the greatest benefits. But there is a whole range of things, for example CCTV, installing CCTV on trains, on those fleets that we don't have it at the moment is valued very highly. Why is it valued highly? Because customers tell us that they want the assurance that they're not isolated in a carriage on their own, particularly late at night, particularly women, so you know, we know that's an important area in terms of perceptions of safety really, and crime and so forth.

Chair of the Committee: We'll come back to that anyway at some stage.

Samantha Heath: Yeah, it's just to get it absolutely clear in my mind's eye, we've got some statistics. I'll finish - how much more at risk are we in the underground on a train of being attacked and mugged or whatever than in the street?

Adam Goulcher, LUL: Three times less on the underground than railroads. Much safer than being on the streets, on average in London, and generally the levels of crime have been dropping for many years due to the fact of the way we police and staff the network, so both the British Transport Police and our own staff and the security measures, closed circuit television etc.

Samantha Heath: But the perception is high.

John Knight: The perception of crime on the underground? We know it's a concern to people, but the satisfaction survey, which is a perception survey that I mentioned, actually says that there isn't a great concern about the level of security, really backing up what Mike says about the facts, so I think that, people have a good level of understanding of how safe it is, which is pretty safe.

Angie Bray: Thank you. Apologies for arriving late. I've sort of, myself, would think twice about sitting in a relatively empty train at 11.00pm at night. I do think that there is a perception - a fear of crime, which may not be absolutely realistically founded, but I've always thought that's part of the problem in dealing with that and I just wonder whether with that in mind, CCTV cameras, which I know were supposedly the answer to ascertaining this, to put CCTV in and everything will be fine, but don't you think that sometimes it's actually having real people, staff on a platform that can make that difference, because after all, you know, if something does happen untoward, the camera may record it but there isn't anybody actually there to help whoever it is that's suffering the problem, and I wonder whether you do have a view on staffing numbers as well and their importance?

Adam Goulcher, LUL: Yeah, I agree with everything you said, and relatively speaking, the underground is well staffed compared with national railways for example, as you'll know suburban stations in London often don't have any members of staff at all, or perhaps just one in a ticket office, and we know it's a priority for customers, particularly as I was saying at the beginning, because so many users of the underground are infrequent users and therefore don't know where they're going and have a fear of getting lost, and perceptions of insecurity because of that, having staff available is critical and we, from our analysis of staffing levels, we're pretty confident that we've actually got staffing levels just about right in terms of whether it's better to put more resource into that area compared with, for example, the train services I was talking about earlier.

Mike Strzelecki, LUL: I think it's worth highlighting very briefly that our staffing levels are far higher than all the other metros around the world. Far, far higher, and that's a choice we've made too, because our customers say they want it, because we ask them what they want, whereas many of the other metros don't ask their customers, they just provide it. If you go to Paris or New York you'll hardly see a member of staff.

Chair of the Committee: Can I just say, your plans at the moment then are to move towards CCTV everywhere, or are they to increase staff or maintain staff at this level?

John Knight, LUL: No, we've no plans to reduce the levels of staff and --

Chair of the Committee: Any plans to increase?

John Knight, LUL: To increase the levels of staff? Well, should something be available it would be on the list of things to consider, but with a number of initiatives we've got around ticketing for example, which is taking ticket office sales off the network onto the Internet, or through the subsequent introduction of stored value ticketing for example, the plan is to release more staff from ticket office duties where they're stuck behind a window, for them to be able to provide customer service around stations.

Chair of the Committee: Then who gets to watch the CCTV?

John Knight, LUL: Well, CCTV is monitored in control rooms, and we have a programme to ensure that the coverage of the control rooms is enhanced over time and brought up to date, linked into the help points as well, which is something we are seeking to roll out across the network.

Member of the Committee: I'm just going through your improvements suggestion and it just goes on from what Angie Bray was asking you about.

It is this passenger safety issue, because you don't actually have this as an issue here in the bit that I've looked at, indicating that passenger safety is an issue. I'm talking about security as in leaving a station, I'm just trying to think of one of the ones with the long tunnel, like Finsbury Park, you've got this big long tunnel to get through, and it's not particularly well lit. I mean, I'm trying to actually grapple with how you prioritise those sorts of improvements along the lines of additional staff, painting the tunnel white, which could have an impact on making you feel a bit safer and CCTV, and how do you actually address that, because it is a question of priorities I believe? It's just like, for instance, do you say okay we're having the Northern Line at the moment, we're going to do a hit on the Northern Line, because there's been more risks on the Northern Line and therefore we're going to do something to upgrade the stations? Where is the priorities, upgrading, more staff, CCTV, what and how do you grapple with those?

Adam Goulcher, LUL: The approach we take is to look at the full set of possibilities that there are. We seek to quantify the value to customers of improvements in different areas, we do a survey, our customer priority survey that attaches a value to a range of improvements, about 150 things that we put to customers saying how much would you value this compared with that. That gives us a good understanding of the benefits. We then have done work in all of those areas to understand the costs, and we basically take a benefit cost approach to prioritise, so we do those things that give the most benefit for pounds spent, and then as I mentioned at the beginning, what we have done is turn that understanding of priorities into a set of standards, so we pitched these standards at a level that gives maximum value for money and defines across three categories of stations, taking stations, defines what it is we plan to deliver there and then we have a programme of station projects, station modernisation refurbishment projects currently planned over the next seven and a half years, planned in a way that will minimise disruption to the network and distribute the work in a sensible fashion, and then over that period we're aiming to fill the gaps to take us up to the standard that we've identified as that that's required, listening to customers and --

Member of the Committee: So, yeah, the reason I'm grappling, is that we have had it in the past, the Mayor had said that he criticised some of the work that was going to be engaged under the PPP, which is station improvements, and he'd sort of implied that it was the creation of liquor shops, or whatever at the stations, rather than the very important elements, which is upgrading it so that you feel more comfortable and what I'm trying to grapple with is, is it just cosmetic improvements or do you put, with the station improvements that have been mooted are they on a needs based, or are property based, as in you can get more revenue from the liquor shop in the centre of town than you can trying to sort out Highbury Grove Station?

Mike Strzelecki, LUL: Well, we have a ranking of priority, safety first, then it's customer's journey time, which means making sure you can get people from the platform to the street as quickly as possible, then it's what we call ambience, which means the customer environment, which is whether it's clean, bright, smelly, windy, all those sorts of things and then if there is secondary revenue opportunities to be had by utilising surplus space, which is also a facility that we know customers value actually, as well, then we will include that within station modernisation programmes.

Chair of the Committee: In the station modernisation, is accessibility part of that issue? Or is it simply that you'll say, "Oh getting access for somebody in a wheelchair to the stations is going to be way too expensive, therefore we're not going to do it", or when you do a station now, do you do it cheapest or deluxe super charged?

Mike Strzelecki, LUL: Well, in relation to accessibility, what we've done is look at creating a network of what would be just over 100 stations which will enable most people to get most places in a wheelchair and that, the delivery of step free access is defined as a set of specific projects at some stations, but it's tied in with stations that are going to be modernised anyway, or where there are congestion relief schemes, so we don't routinely provide step free access at every station, we look at the difficulties that there are at a particular location and try and make sure we do --

Angie Bray: Have you published that network, or is it something you're working on, that -
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Mike Strzelecki, LUL: It's something we're working on, I'm sure it's in the public domain. I can't recall precisely where --

Chair of the Committee: It's not quite published yet, I've seen the draft.

Mike Strzelecki, LUL: Yeah, there's certainly a policy that's been published, and we're currently producing a document to circulate publicly.

Chair of the Committee: The issue with it is, because the modern wheelchairs apparently require a different gap, and therefore everything has got to be re-measured and it's less than when you did the first draft of the map. Well, that's my understanding anyway. Anyway, can we push on, because before you go, I've got a couple more for you and then you can escape.

Adam Goulcher, LUL: Well, I'm happy to come back, I'd understood that we had an hour, so I would have tried to make alternative arrangements.

Chair of the Committee: These sessions are always much, much longer than that.

Adam Goulcher, LUL: Okay, I was misinformed.

Chair of the Committee: It's a reliability question. In terms of the number of delays over 15 minutes, we've noticed that train reliability has steadily worsened since the mid-1990s. Measures such as the percentage of peak time trains cancelled and the percentage of train kilometres not run have also increased in recent years. What are the main reasons for that?

Mike Strzelecki, LUL: Well, unreliability, is caused by a number of factors. There's obviously asset performance in terms of rolling stock failures or signals not working properly and there we've had a deteriorating trend as a consequence of the limited amount of maintenance and investment that we've been able to put in place. So ongoing asset deterioration is a difficulty. Lack of train operators is another cause of unreliability, which was at a very poor level about 18 months ago, but over the last year or so has been, in fact, the number one priority for our trains team and has now been brought back down to a very low level and then there's a whole range of factors such as customer action, if you like, so, people holding doors open, people falling ill, people misbehaving and pulling alarms or playing with fire extinguishers --

Chair of the Committee: What sort of percentage is that?

Mike Strzelecki, LUL: I've got the figure here.

Adam Goulcher, LUL: It's roughly customer action a third, asset failure's a third and operational problems a third. Roughly speaking.

Mike Strzelecki, LUL: Yeah, something like that. I can provide you with the detailed figures, but each of those factors have a different cause so for example, customer incidents, as the level of demand, or the level of usage of the underground increases, i.e. there are more people about then unfortunately, you know, you'll see more of those incidents, and a single incident has the same effect.

Chair of the Committee: But in terms of saying the asset thing, presumably on the Jubilee Line they're not deteriorated assets, they're good assets, new assets, so why is the unreliability on that line no different?

Mike Strzelecki, LUL: Well, if we look at it line by line, there are different pictures that can be drawn. I was going to say that there's a cycle with new assets. So if you come from the Northern Line now, which had new trains several years ago, performance is fabulous. It's actually the highest level of reliability that has been seen for many, many years on the Northern Line. The Central Line is starting to deliver significantly improved reliability now, reduced journey times, with the investment in automatic train operation that has been introduced there and new trains. The Jubilee Line over the last few months has been much better than it was the six months before that, but has some way to go, because it's unfortunately still at the point of what we call "snagging", and with new assets clearing up

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Chair of the Committee: How long is snagging then, on a new line?

Adam Goulcher, LUL: The main issue is the signalling system on the Jubilee Line, which was not installed to the original specification, because the contractor, Westinghouse Signals Limited said, "They could do", moving block signalling, as it's known technically, and then it became quite obvious while it was being built that they couldn't do it and it wasn't going to work, so they had to revert to an older form of signalling which doesn't have the same capacity, curbs the number of trains it can cope with and not only that, but the cost of the problems with the Jubilee Line extension in terms of total time and money, it was installed in a rush and its reliability is problematic and a whole series of work is being done on that signalling. But obviously signalling is a high safety integrity system, which has to be

treated extremely carefully, so the work will go on to make it progressively more and more reliable over the next two years.

Chair of the Committee: Obviously I've looked at tube stuff for a year or two. I'm more interested than I ever wished to really and the thing that always gets me is there's always kind of an answer, I mean, for each thing and although it's rational in itself, it makes making judgements or analysing, extremely difficult, and I can't tell as effectively a member of Joe public how we are to do that. Now you as the managers, or the Directors of London Underground, must have a means of analysing issues. Could you explain to me in terms of how you then deal - I mean if there a specific level of unreliability, does that trigger a particular reaction in you? How do you manage unreliability?

Adam Goulcher, LUL: Well, I mean, the basic approach is to make sure that we've got good performance information so that we know what's happening. That's the first point, so we've invested a lot in measurement of service performance, and what we do is we look at that each four week period to identify trends and opportunities for improvement, and from that we've created what we call our reliability programme, which has a number of strands of work, one of which was to deal with the issue that I mentioned earlier about not having enough operators and making sure through better management of attendance, through extra recruitment and other measures, making sure that we tackle that problem, because we knew that that was a major cause and it was something we could do something about, and that the value of investing our resource in that area was substantial and that's been effective, and then there are other similar areas like how quickly we deal with incidents, asset failures, when they've occurred, where we've got a programme of work to pick off the opportunities for improvement there. We've identified which termini, or which junctions typically fail or cause delay, and looked carefully at each of those locations to see what opportunities there are for tighter management, perhaps putting an extra supervisor in place at a particular location to make sure that train operators do the right things to minimise the delays and so forth.

Customer incidents, part of the programme was looking at how we manage people who fall ill on trains, and how we can encourage them to, in a nice way, to leave the train to be treated at the first station possible so that the train can then resume in service and so forth.

So, we look carefully at the causes, we monitor performance and we're putting action plans in place.

Chair of the Committee: Just two small, very small questions. Are there particular, I don't know how it works, junction boxes? You know, I've always seen bits of failing wiring is often an accusation. I mean that shows up in your scheme so you could have a programme of renewal or repair to key junctions, or signalling bits, yeah? And do other metro systems, their reliability programmes, do they work in the same way as you, or are they different?

Samantha Heath: How do you compare?

Adam Goulcher, LUL: We don't compare very well, I said earlier before you arrived, we looked at the benchmarking and that's not our strongest area. One of the big factors behind the reliability difficulty that we have is that when demand was falling, as I showed in the slide, in the 1960s and 1970s, as a way of containing costs a lot of the flexibility that

we had in the network was taken out so, you know, little sidings that were actually helpful to pop trains into the service or to take them out if they're failing were removed. Signalling and other assets were kind of reduced in terms of capacity, and what you'll find is that most of the other metros, especially the new ones, that even some of the old ones like New York, have a much greater ability to deal with the difficulties that inevitably arise with the service because, for example, in New York they have four tracks where we have two so they can do maintenance during the operating day in a way that we can't without stopping the railway completely. Moscow has a whole, you know, a kind of whole wealth of infrastructure that we know through the benchmarking work helps them to maintain a level of reliability that we can't just can't deliver at present.

Mike Strzelecki, LUL: I think it's worth saying though that equal bottom in the reliability stakes are London and New York and they're two of the oldest and biggest systems in the world and Paris is better than us, but it has had a much higher level of subsidy for decades and a constant level of subsidy as well, whereas ours has gone up and down like a yo-yo and had been at no point adequate.

Adam Goulcher, LUL: Forgive me, I'm terribly sorry, obviously I'm sure my colleagues can carry on – I have to leave.

Chair of the Committee: I have one question- now we're going to go through a downturn, the demand is affected, so what are we planning to cut?

Adam Goulcher, LUL: Well, the downturn that we're talking about here is nothing like the decline we saw in the 1960s and 1970s. We may be seeing a reduction of about 4% year on year in the volume, largely off-peak, because it's affected people's willingness to come to central London for example. If that sustained itself over time we might tweak back off peak service levels, but frankly they're lagging behind.

Chair of the Committee: Adam, thank you very much, we'll let you go and I want to move onto the high priority questions on capacity. What have been the trends in peak time crowding levels over the last five to ten years?

Mike Strzelecki, LUL: The peak time crowding over the last five years is upward, because of the large number of people increasingly choose to use the tube, which if you think about it is somewhat counter-intuitive, if it's as bad as everybody would like to make out, because I often wonder while it's far from perfect, it's not as bad as some of the media coverage purports, or anything near it and we are now carrying record numbers of people, highest ever by a long way, 970 million journeys in the last financial year. The low point in 1982 as Adam showed earlier was only just less than 500 million a year, so a huge difference, so the trend continues upwards. As Adam [Goulcher] also explained the recession in travel, if I can put in that way, looks like it'll knock about 4% off that number next year, yeah.

Chair of the Committee: What projections have you got in terms of overcrowding increase and usage for the next coming five to ten years? You know, the Mayor's plan forecast a huge growth anyway in population of London and I don't know where that equates, or what projections you're making for overcrowding on capacity in the next five to ten years.

Mike Strzelecki, LUL: If I could ask Phil to talk about that because he's our expert in this particular area.

Phil McKenna, LUL: Okay, we're looking at having a 30 or 20 year horizon at growth of, on average, about 15% over the next 20 years of the underground. Some of it of course, this hasn't even been announced, there'll be a lot more in Docklands for example than in other parts of London.

Chair of the Committee: The Capital Transport campaign says that on the busiest parts of some lines in peak trains are already carrying more passengers than is their design capacity. So is that an increasing trend, because you're saying in Docklands it may be new capacity?

Phil McKenna, LUL: In parallel with that increase in expected volumes of course we're looking at a plan to increase capacity of the service, of broadly the same amount in terms of the frequency of service. We're looking over the next 20 years to step up frequencies from typically in the peak lines 30 trains an hour to around 33, as I say 28 to 33 trains an hour, so it's roughly about 15% across the network. So we would expect that the amount of crowding on the network to be broadly similar over that period, unless there was additional capacity provided through projects like Cross Rail, or Chelsea, Hackney, or Thames Link, or whatever. But the underground expectations are to sort of basically keep track with the volume.

Chair of the Committee: So you're saying there would be no improvement in the overcrowding, i.e. it's going to be roughly the same?

Phil McKenna, LUL: Broadly speaking, yes. We're increasing the capacity to probably what is technically capable from modern signalling systems, so we'd like to go further but technically it's difficult to go much further and there aren't many other systems in the world in fact that could go much further than we're aspiring to in future years.

Chair of the Committee: On that 20 year programme, I don't know what the projections or what year they've got, is it an even increase over the 5, 10, 15, 20 years or is it going to suddenly be somewhere, if you know what I mean, or, don't quite know how -- do you know I'm getting at?

Phil McKenna, LUL: Yes, yes. It's wouldn't be all at one big rush, because the supply industry can't deal with one big rush. It would be, what, because we're working through the PPP, we've got certain projects which are already working, for example the Central Line over the next few months, we'll actually see if service there will increase in the peak and there's a bit more to come with Central. Then we're looking at other lines like the Victoria, the Jubilee and the Circle Metropolitan Line. Further out you'll see Piccadilly, District Line, so it'll be - just about the peak of the improvement will be about on the cusp of the 10 years, around about 2011 will be when we'll be seeing quite a large number of extra capacity to come on board.

Chair of the Committee: So the extra capacity will deal with growth, it won't deal with improving current standards? I mean one of the key things that you put up there was people's dissatisfaction with overcrowding and actually there isn't going to be a noticeable difference there.

Mike Strzelecki, LUL: Can I just address this point? The underground, like other metro systems around the world is a mass transit system, that's what it's designed to be. You mentioned earlier on that's about the design capacity of the trains. The trains are designed to have people crammed into them, to be blunt, because it is a mass transit system. What Phil has described is that to the limits of technology we are planning under the PPP to invest in creating extra capacity across the network as fast as we possibly can, given that we have to keep operating the network at the same time, so you have to be doing all this technical engineering work in the background in the middle of the night and all the rest of it, which makes it more expensive. All our estimates show, and all experience shows, that whatever capacity we add at whatever rate, it will fill up and so anybody that has expectations that the tube will become, in the peaks in particular, a pleasant travelling environment, it won't. It will continue to have trains crammed with people, and the reason is that the demand for travel in London overall, all modes is greater than capacity of all the modes added together which is why you have congestion on the roads, congestion on the tube, congestion on suburban rail etc. And that is a fact of city life. The only way to overcome that is to invest massively in modal capacity, be it tube, rail, roads, whatever.

Chair of the Committee: Well, I think that's the aspiration overall, is to improve all modes to reduce the need to travel and all of those things, but we are where we are. Can I just ask you about benchmarking in overcrowding because you said it's a mass transit system, and that's what people basically must expect. I'm not sure that has gotten across to people at the level at which they're currently crowded in and in terms of trying to find benchmarks, I'm not sure, you have either two people standing to one sitting or four standing to one sitting and I'm not sure, but I've never seen people counted on so when you say it exceeds capacity that is just because you know it does? Sorry, I mean, I'm just trying --

Mike Strzelecki, LUL: I'll ask Phil to talk about the technical bits in a minute, but if you go into Tokyo or Hong Kong, you try and see what being crushed is like, because it's a lot more crushed than it is ever is on the London tube. As for your technical points, Chair, if I could ask Phil to address those.

Phil McKenna, LUL: We actually use the gates that you use to put your ticket through to check the numbers of people coming into each station every day. We can check it by quarter of an hour to see the volumes of people using the network and it's translated into a sort of (inaudible) profile, and that way we can just cross check. We also do, separately from that, surveys of congestion just to see how many people on a sampling basis are in each car so we can actually work out the density. So we've got two different ways in doing it.

Chair of the Committee: I think there's a misconception going on here, because I think the London public expects there to be an improvement and a benchmark that perhaps might be understood would be something like everyone entitled to two inches clear space around, I don't know, but a humanly understandable benchmark of what is acceptable and when you say Tokyo is bad and Hong Kong is bad, you know, how terrible they are, and I'm sure that's not a direction which London would wish to move. By the same token what is the benchmarks, the other way to the best of the benchmarks on overcrowding?

Mike Strzelecki, LUL: All our estimates show and our experience shows, if you create extra capacity, like when the Victoria Line was first introduced in the late 1960s, all the

transport planners predicted that it would take several years to grow to various levels and it was almost instantaneous, within a few months, rather than years it was very crowded indeed, and still is, in fact it's more crowded now than it was then and I think what people should expect is that it's going to stay, in terms of crowding on trains, like it is on average. For example when we increase the Central Line peak service, in January I think initially it'll seem a little less crowded, but what will happen is that people will get to know that there's now more room on the Central Line, more people will travel on it. That happens, and when we gradually add capacity through the PPP investments over the coming years that capacity will fill up. People will find it's there and they will use it. The only way you can constrain that, other than the physical constraints that are already there, you know, the trains are only so big, there are only so many of them per hour etc, is by price.

Now we've already said that the travel in London on the tube is more expensive than all its international counterparts and that is because the level of subsidy is a hell of a lot lower than the wider international counterparts and that's what the politicians have chosen to do it that way, which is the only way of doing it, and if we want to reduce price we've got to have more capacity otherwise we won't be able to cope with the people that will try and switch from other modes onto us. So it's a difficult balancing act, but I agree, Chair, that the expectations that people have of congestion and overcrowded trains are unrealistic. It's not going to happen and I don't care whether we do it with a PPP or any other way, it just won't happen.

Chair of the Committee: I think that's a little way forward because, if anything, this committee is trying to establish what's real as opposed to, you know, this lack of funding mechanism to one side in a sense, so I'm grateful for that very clear answer. It's not a very happy answer, but it's a very clear answer. I mean in terms of constraints on increasing capacity there's nothing basically, you're saying, that you can do really with trains or stations outside, I mean, you know, signalling system maybe.

Mike Strzelecki, LUL: The trains themselves are limited by the length of the platforms and we exploit that to the full and the dimensions of it. So the (inaudible) get on the trains themselves. You'd get a little bit more by being clever on design, but only a little bit and the signalling, you can get a little bit more by having cleverer, more intelligent signalling systems but there are safety limits that have to be recognised.

Chair of the Committee: Why push all of those to their nth degree, because I mean, then there will be nowhere to go. I just wonder if we reach the absolute --

Phil McKenna, LUL: I think, if they're to be integrated, a bit careful about that, to a level where we believe our suppliers can reliably provide a high capacity network. We don't want to go initially to the most leading edge technology because we want to make sure it can work.

Mike Strzelecki, LUL: Just to add there, as I mentioned earlier, on the Jubilee Line we did specify leading edge technology on the signalling, because that was (overspeaking). Exactly, and our predecessors, because I've only been a member of the Board for two years, got their fingers burnt on that and we are suffering the consequences and so are all the people that travel on it. But obviously it is still a very useful addition to the transport system in London and it is very full, which again shows that the demand is there for yet more service. We will be increasing capacity on that line as with all the others, but as Phil

has said, we've got to do it at a rate that the supply market can cope with. I have to say that the rail industry throughout the world is a very fragmented industry, think of it more or less as a sort of cottage industry if you like, and because of the fragmentation and because, while other countries have done rail better than us in some ways, a lot of them took a long time getting there. So it doesn't have the quality built in that you see, for example, in most of the motor manufacturing industry, where you would expect your car when it comes out of the showroom gleaming and beautiful etc to be reliable, and they are these days, that's because of mass production techniques and all the benefits of volume production you get. With trains, signalling systems, you don't get that anywhere in the world. They all have this uniqueness about them, they're small batch numbers and it's something that the rail industry across the world is going to take years to sort out in my opinion, and it won't do it unless there's stable funding available to do it because the manufacturers won't invest.

Angie Bray: Yes. Are you able to tell us particular constraints on particular lines, are there some lines that have got worse constraints than others, or a particular type of constraint? Can you give us a picture of how the various lines are affected by the constraints on the work needed doing?

Mike Strzelecki, LUL: The lines are different, but the platforms lengths are different from one line to the other. The obvious one is Waterloo City is sort of half the length of the normal train, and it's actually probably the most congested line in the whole network. See, those kinds of constraints. The other big difference is you've got the lines that we call sub-surface, like the Districts Metropolitan Circle. You can get sort of physically more space because you're not hemmed in there, there's a bit more room there. On the other hand, those lines do all interconnect with each other and it's a bit more difficult to get the very high frequencies, because you've got to get junctions to work, one with another, and that's a greater challenge and you need very sophisticated systems of signalling control to make that work. But by and large, in terms of frequency, we're looking towards somewhere between 30 and 33 trains an hour on the trunk sections of line within the long term. Some trains may be a bit shorter than others.

Chair of the Committee: Another constraint really is the fact that stations have to close quite often.

Mike Strzelecki, LUL: Yes, that's quite a good point, that the stations themselves, we have to look at the capacity of the station to handle the flows in and out, and we have a number of stations which we know today are problematical. Victoria's probably the worst for it has daily closing. But behind that we've got places like Kings Cross, Bank and so on, and we are looking in parallel we've had a programme of station modernise - upgrade, capacity upgrades for those critical stations. They do take a long time however to implement, and there's quite a big interface with local authority issues and land use issues and other operators, which has to be sorted as well. It's in some ways more complex than the train service change.

Chair of the Committee: But I'm not sure how people react, whether they eventually start going to a different station for their destination or not, you'd know more than I. But if you increased the capacity of the station, but there aren't enough trains to take those people away, what will it do, it won't do anything. I mean, you have won't stop people outside, you'll stop --

Mike Strzelecki, LUL: If you have plenty of station capacity, but not enough trains, you may find that we have to limit the number of people who are going into the station. (inaudible) terribly easy to get people out of the station. The Jubilee Line's a bit like that, it's got wonderful stations. The contrary example is the Victoria Line, which has got a bigger high capacity service even today, but we can't get everybody onto the platforms, particularly at Victoria, because of the limited station and escalator capacity. So they get held outside for that reason, because you can't get them into the station.

Mike Strzelecki, LUL: Could I just add, Chair, that it's also excessively expensive, the station capacity issues. The works at Kings Cross, I was just making a point that station capacity enhancement works are excessively expensive because they're in such a hostile and difficult environment. The works at Kings Cross to allow the interchange with the Channel Tunnel Rail link and improve the interchanges of the existing railways there, cost £280 million. That's one station.

Chair of the Committee: It's just been relayed to me that we have to finish at 5:30, I thought we could go on as long as we liked. I don't know if Mike would like to - you probably have the very same view I would guess, about what would be your priority for investment on the underground? I mean, I assume it's the same as Adam's but I might be wrong.

Mike Strzelecki, LUL: Just to add to what Adam said, perhaps the investment priorities in terms of capital investment in the infrastructure, and the assets of the underground system are part of the PPP, and they go into both trains, signalling systems in train service control systems on the one hand, and stations on the other hand, and the reason that it's both is because the rate at which we can do the works on the lines, on the signalling control systems and trains, is limited by the fact that we can't do everywhere at once, the supply market doesn't have the capacity and the network couldn't cope with the disruption that would be caused to normal service while all these works are going on, yet at the same time we can do works on stations to improve those, because the access arrangements are different and all the rest of it, so it is both, and as Adam also said, we are investing in more staff, more train drivers to run these higher levels of train service and so forth.

Chair of the Committee: Lastly, the thing we're trying to do in this investigation is to come out with effective benchmarks that, because they're benchmarked against what other metros do, and my assumption has been, or I have been telling people that you will be happy to work with us. You know, well, we'll be asking you in the last session to examine some of the things we have found in doing the work, consultants particularly with the deskwork that they're doing. But there will be a discussion that we're able to have, I mean my idea is that we go forward together, because whatever the political stance is in this, we're all going to be in the same ball game when all the dust settles, whichever way it is settled so I wanted you to just to -- good old metaphors!


Thank you very much for coming. We will submit, we've got through the high priority questions, but we haven't really touched on the secondary level of questions that I would have liked to have asked you, but I won't. So we'll send you those, if we may, for written answer, and I thank you very much for coming today and look forward to seeing you in further session at the other end of this process.

Mike Strzelecki, LUL: Thank you Chair, and just to confirm we are happy to work with anybody to move the underground forward. We're not interested in the politics, we try and stay well clear of that, and we're focused on improving the underground system from a long history and very aged and we'd more than willing to work with you and anybody else that's got a constructive approach to taking things forward.

Slide 1

**'The Tube - Moving On'
Scrutiny**

Adam Goulcher
Director of Marketing & Planning
London Underground
18 December 2001




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Slide 2

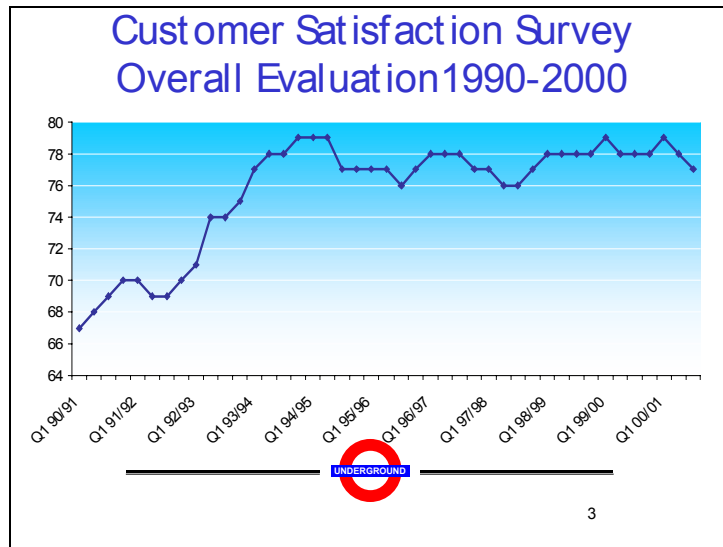
Contents

- Context
- Customer expectations
- Service Delivery Standards
- Measuring our success

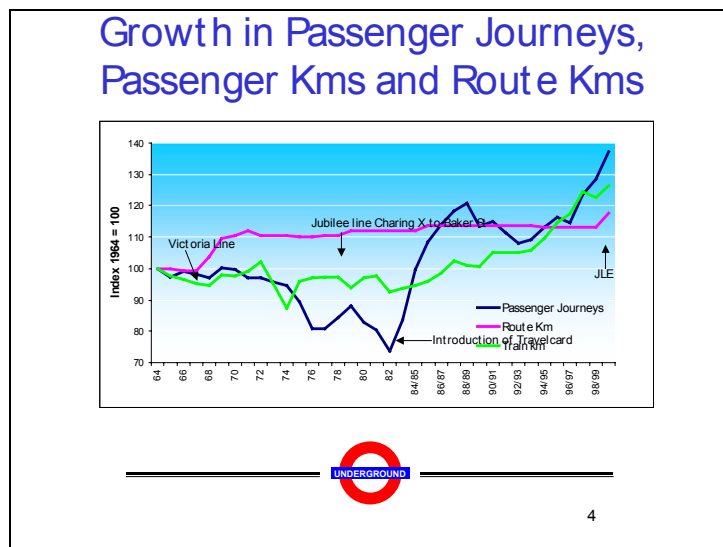


2

Slide 3




Slide 4



Slide 5

Listening to Customers

- Customer-led organisation
- Identifying and satisfying customer needs
- Information sources
 - surveys
 - customer comments
 - staff



5

Slide 6

Customers' priorities



Aspect	% respondents citing each aspect
More trains/more frequent trains	28
Reduce overcrowding	26
Less/reduce delays	18
Improve passenger safety	18
Cleaner stations	16
Cleaner trains	15

Fast/reliableSafeClean




6

Slide 7

Our Service Aim

Customers will trust us to help them move swiftly around London:

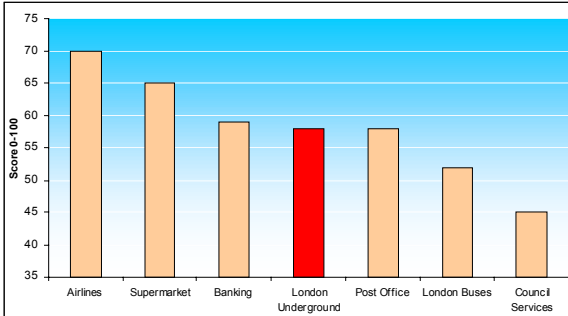
- Safe
- Reliable
- Fast
- Welcoming
- Simple
- Integrated




7

Slide 8

Feeling valued as a customer



Service	Score (0-100)
Airlines	70
Supermarket	65
Banking	59
London Underground	58
Post Office	58
London Buses	52
Council Services	45




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Slide 9

Prioritisation

- Perfection is unrealistic
 - funding
 - network
- Plans optimise value added per £ spent
 - value of improvements
 - costs of delivery
 - resources




9

Slide 10

Customer Service Delivery Standards

- Describe level and quality of service to be delivered:
- Customers require quality, consistency, simplicity
- Balancing customer wants and business capabilities
- Clear service specification to all
- Embedded in PPP, Service Plan and delivery units



10

Measuring Progress

- Customer satisfaction is key indicator
- Reflects:
- Current performance
 - expectations
 - customer priorities
 - perceptions

