

**Transport Committee****18 October 2012****Transcript of Item 6: Tube Performance and Line Upgrades**

**Caroline Pidgeon (Chair):** Mike Brown [Managing Director, London Underground and London Rail, Transport for London] has to leave early today, which is why we are starting our Committee meeting early; you are very welcome this morning. Then we have Gareth Powell who will be taking over the London Underground questions. Gareth is Director of Strategy and Service Development at London Underground. Then welcome back David James. Thank you for coming this morning. David is Chair of the Independent Investment Programme Advisory Group (IIPAG).

I think, Mike, you wanted to say a few brief words before we go into our questions.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, thank you, Chair, and may I thank you and members of the Committee for your forbearance in the early start. I am most grateful.

First of all, thank you for inviting us here today. I know you will want to get straight to the questions, so I will, as I said, be very brief. The last time I was here in front of the Transport Committee was just before the 2012 Olympic and Paralympic Games and the summer we have just had and we discussed at that time our plans for those Games. I am of course delighted that we across at London Underground and indeed the whole of Transport for London (TfL) were able to play our part in getting people to the Games and indeed in keeping the rest of the city moving during the summer. We had tremendous support both from our staff teams, the trade unions and of course from our customers who really responded to help the city operate as it needed to.

During the Olympics and Paralympics, we did see continual improvement in our performance trends that we have seen over the last several years, but in particular, actually, during the Olympics delays were down some 28% from normal levels and 51% during the Paralympics; so I was very pleased with that performance, especially as we were carrying some record numbers of passengers during the Games and, of course, running services for longer periods of time as well. As I said, this is part of a continuing trend. You will know that we have seen a reduction in delays in recent years of some 40% since 2007/2008; so in a sense the Games was just part of this ongoing trend of performance.

My focus obviously now, is to ensure that I look forensically with my team at what went well and why it went well, so that we can put into practice those learnings into our daily service and our daily planning for maintenance and capital programme activity going forward in the way that we did successfully for the Games. I certainly do not want the Games performance in this summer to be an exception to our performance. I want this to become the norm as to how we deliver our services for London and in particular in the context of continuing with the upgrade work and the renewal work that we obviously still have to do.

I know that we have so much more to do. I guess another key development since we last met is the publication of the first annual benchmarking report. IIPAG's conclusions, chaired by David [James], are extremely useful to us, not only in telling us what we are doing right but telling us where we have to do better. In this sense, that is the most important part of it because it does genuinely help frame

our management decisions and the way that we go about improving the way that we manage projects and their integration into operational service in the business and ensure that we have our cost base continually under review and under control.

Benchmarking our performance, including comparison to other metros and organisations, is key, I believe, if we are to continue to demonstrate not just to this Committee but to London more widely that we are delivering value for money for fare-payers and for taxpayers. Of course, I think this is more important than ever right now as we look forward, I hope, to another favourable spending review and further investment in London's transport network hopefully in the next year or so from the Government.

**Caroline Pidgeon (Chair):** Thank you very much for that overview, Mike. I am going to kick off the questions and obviously this is a really good opportunity, following our previous work, to look at progress in improving Tube performance, delivering the line upgrades and obviously the financial savings and the work particularly David is doing, so we are going to be picking up those themes this morning.

I wanted to kick off. Obviously, you have given us some information on Tube performance and previously we had highlighted when we have really looked into the figures that some of the lines had higher proportions of problems. In the latest data we have looked at, it really shows that the Jubilee, Metropolitan and Victoria lines seem to be having the highest proportion of faults per operated kilometre and there are certain stations - Harrow-on-the-Hill, Stratford and Wembley Park - where there are particular problems.

I am just wondering why perhaps the Jubilee, Metropolitan and Victoria lines are failing to reach the record low levels of delay in the year 2011/2012.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** If I just put in context those stations which you mentioned, which I think from memory of what you just said was Wembley Park, Harrow-on-the-Hill and Stratford, clearly, those locations are ones where there are complex junctions and complex linkages with the depot where the trains are based and therefore the number of train movements that you have over those junctions and in and out of those depots is in itself a factor. So, just by the very reality of there being more trains crossing over those particular sections and lines of route, it will mean that there will be more failures highlighted. Earsl Court and other key junctions are also in a similar category.

However, it is fair to say that even within those particular locations that you mentioned, we are now of course seeing an improvement. If I look at the most recent data - and indeed the most recent performance data further from the ones that you are referring to, Chair, will be published in the next few days - that will show that in those locations, as everywhere else, we have seen a significant improvement in performance there, too. They are complex locations. They are places where we put special energy and effort to ensure that we get the technology right and get the reliability right in those locations. Again, I think the performance over the last few months speaks for itself in terms of there not being problems in those areas.

**Caroline Pidgeon (Chair):** We look forward to seeing that more up-to-date data that you say is going to come out in the next few days. What about specifically the wider problems on the Jubilee, Metropolitan and Victoria lines, which do not seem to be performing as well as you would hope?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Actually, again, Chair, if I may, looking at the Jubilee line as we sit right now, the Jubilee line since it was extended has never had a better excess journey time and therefore a better experience for passengers. If you put that in context also about the amount of service that we are now able to provide reliably across the Jubilee line, we are in a very different place even from just a few short months ago.

It is true to say that in the lead-up to the Olympic and Paralympic Games and I think indeed when I was last in front of the Committee here, there were still a few blips occurring on the Jubilee line. I think I made the point at that time that we were doing some work with the rolling stock, with the trains in particular, having taken over the maintenance activity from the previous contractor and taken it in-house for us to do it ourselves. We have found some underlying issues that we were addressing with the fleet of trains. I made the point, I think, that we were confident that reliability levels would be achieved as necessary for the Games and indeed it was. I cannot claim there was not the odd wobbly moment.

So, yes, on the performance of the Jubilee line, we did get that performance level fixed with the fleet which was the last core reliability issue we were addressing before the Games and that is now in a much more steady state. Actually, the performance of the line if you look at it and you track it even from before the summer when I was last in front of the Committee to now has seen a significant improvement in performance both in terms of journey time but more importantly in terms of the number of delays that we have seen on the route for passengers experiencing the service.

**Caroline Pidgeon (Chair):** What about the Metropolitan and Victoria lines?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** The Metropolitan line has actually had its best ever performance in the last few weeks. Over the last eight weeks we have seen --

**Caroline Pidgeon (Chair):** In the last few weeks you are saying, but obviously the data we have gives us 2011/2012.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** It does.

**Caroline Pidgeon (Chair):** We are comparing it and it obviously was not a good year, so --

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** No, and if you put it in the context of the Metropolitan line, that of course was the dying days of the oldest trains running on the UK mainland, which were the old A Stock trains built in the early 1960s. They have now fully disappeared and fully been replaced by the brand new air-conditioned S Stock trains on the Metropolitan line. That is now serving the whole Metropolitan line. Those trains are in themselves proving much more reliable and robust, clearly because they are modern trains and you would expect new trains to perform, and that has made a material difference to the Metropolitan line performance.

So it is certainly true that when you get to the very end of the life of a very old train, it is a big effort to just keep that trundling along on a daily basis as you are poised to introduce the entire new fleet.

**Caroline Pidgeon (Chair):** The Victoria line?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Again, the Committee will recall that we had some issues originally with the Victoria line upgrade and with the doors in particular and the sensitive-edge doors as we described them. Again, before the Olympics, we were able to fit a technical modification which along with the work that the driver was able to do to override clearly spurious activations, those activations from the inside out and therefore ones that presented no safety or any other risk, the driver can now override those and along with this technical fix, that again has put the Victoria line in a very good position.

It is true to say, actually, that really for the first time in the modern history at least of London Underground, for the Victoria and Jubilee lines we are now pushing up the reliability levels of the very best in the world. That is not true across the whole system. We should be in that position for those lines. We have had a lot of money invested. We have had a lot of energy expended in getting us to this point and indeed passengers have put up with some disruption along the way. My challenge is not just how I sit complacent with the level of performance we now have but how we increase it still further. On the Victoria line, for example, we will be increasing the service still further early in the new year to 33 trains an hour in the peak, which is way and away the most we have ever run on any line on the Underground in our history.

**Caroline Pidgeon (Chair):** Your passengers would say that they have had a lot of disruption, not some disruption as you have said, to get to that point. That sounds very good news and I think we would like to look at the newer figures to really see if that is reflected in those.

Before we move to the next set of questioning, I have a question that links to it. One of the issues that we found had had a huge impact on Tube delays had been industrial action in the past and we obviously made some recommendations on that. Obviously, we have had low levels of industrial action probably in the last year. Has that also seen an impact in terms of the performance of the Tube and is there any risk, really, of industrial action coming up particularly with the prospect of driverless Tube trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Let me just perhaps address that issue first and then --

**Caroline Pidgeon (Chair):** We are going to move on to driverless Tube trains. I asked particularly on industrial action.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Let me just say I think it is true to say there have been a few rumbles around the place. I do not think any of the rumbles that we have had in the last several months or the last year or so have had any impact in service delivery whatsoever. Although there have been some so-called overtime bans or so-called work-to-rule, I do not believe that has had any impact in terms of the performance of the railway or the performance of the service that we provide.

I think the important thing is that we continue with the dialogue with our employees. The Committee will again recall that I attended and led 100 separate sessions, day, night and weekend, with all 21,000 of my staff in the lead-up to the Olympic and Paralympic Games. I am not claiming by any means that that makes a difference for life for all those individuals and how they view the world, but I do think it is very important that people hear from time to time from their most senior management what the future

direction of the organisation is and that they begin to look to their managers for support in the day-to-day difficulties and challenges that anyone has in their workplace.

Of course, I believe in the concept of - it is an old-fashioned term - collective bargaining as well and I think trade unions are an important part of the workplace. I think there is a real opportunity for us to try and the working level to work continually collaboratively with the trade unions. Indeed, in many places we do and in many places that works exceptionally well. There will always be some bubbling up of issues from time to time and I cannot predict, unfortunately, what those are going to be. If I could predict them, I suppose I could prevent them before they blew up.

**Caroline Pidgeon (Chair):** Do you do not think there is much strength in the risk of industrial action coming up?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** It is always hard to say. I think that there is a wider context, I suppose, that some of the trade union leaders would look at as well in this and I cannot comment on that. I am not party to their innermost thoughts. I will be arranging to meet with the trade union leadership in the next few months to talk to them about our draft business plan and where we are likely to be looking at the opportunities and challenges going forward. I hope by involving them and giving them some sense of the context in which we are seeking to operate and move forward in the next few months and years, that that will all be part of helping the process of building some trust.

**Valerie Shawcross (Deputy Chair):** Mike, can we go back to basics a little bit on this new breed of train, the driverless train? Can you tell us exactly what it is and how it is managed and how it differs from what you are running at the moment?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** First of all, if I could just be clear, we have no money, there is no order and there is no design --

**Valerie Shawcross (Deputy Chair):** No, can you tell us what the technology is so we can understand what we are talking about? Then we will come on to the timetable.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes. If I give you some examples, there are some examples around the world. Paris has recently converted one of its lines to full automation without --

**Valerie Shawcross (Deputy Chair):** Tell us what it is, though.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** It is basically a train that will operate remotely. It is controlled remotely and without the need for any human being to press buttons or to drive the train or to provide a line of sight as the train moves around.

There are different levels of automation, I should say. If you think of our current context, it is worth saying that there are in effect four levels of automation. I guess at the very base level, there is the automation that we now see on the Central, the Jubilee and the Victoria lines where we have a driver in a driver's cab at the front of the train opening and closing the doors, monitoring the track ahead and being in control of the train, but actually not physically driving the train because the system --

**Valerie Shawcross (Deputy Chair):** So that is automatic train control (ATC)?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** That is automatic train control. There is then a step on from that where you could have a system, for example, like the Docklands Light Railway (DLR) has had since its inception where you have a member of staff on the train. They can control the door opening and closing. Occasionally they drive the train from a driving point at the front of the first car, but actually generally speaking the train drives itself. Then you move on through a spectrum right through to the type of example I was alluding to in Paris or indeed in Sao Paulo or other metros around the world where you have full driverless unattended trains, if you like, with no member of staff on them.

**Valerie Shawcross (Deputy Chair):** Completely unattended trains with no staff?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Other metros are doing this around the world, yes.

**Valerie Shawcross (Deputy Chair):** So absolutely no staff?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Absolutely.

**Valerie Shawcross (Deputy Chair):** When the Mayor talks about driverless trains, because he has expressed enthusiasm for this concept in public, which category of those trains is he talking about?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I cannot possibly put myself in the mind of what the Mayor is referring to in that and you do not expect me to. However, let me just be clear about what I would be talking about and I have been very consistent in saying this.

What I have always said is that when and if - and I hope it is when - we get the opportunity to procure another fleet of trains beyond the orders that we currently have in place, when we get to that position, we have to of course explore all the technology that is available. Technology is available around the world that includes trains without driver's cabs. Therefore, I think it would be foolish of me to rule out at least exploring that as a possibility.

Now, there are some unique characteristics in London that present some challenges to this. The other metros to which I referred that have fully unattended trains do not have single-bore deep-level Tube tunnels like the Piccadilly line has, for example. Therefore, there are some huge issues that we would need to address before we even got to the design stage and the thinking process about what we were going to procure at that point.

The prize for me, if I may say, is actually around ensuring reliability of the system. The reason that we can run 30 trains an hour on the Jubilee, the Central and the Victoria lines and not anywhere else, is because these trains are being driven by the system. They are being driven optimally. The acceleration curves are optimal. The braking curves are optimal. You will never, even with the best driver and we have many great train drivers out there, get that with manual operation.

**Valerie Shawcross (Deputy Chair):** Mike, I am not expecting you to commit now, but you are basically saying to us that that highest level of automation, non-staffed trains, is not something you think would be viable in London?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I think there would be many challenges for us to get to that point. You can never rule anything out because technology moves along and I think --

**Valerie Shawcross (Deputy Chair):** When was the last Tube train under the old-fashioned cab driver model bought?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We are buying them now. We have 191 of them coming for the Metropolitan, which are already delivered. They are also coming into the Circle and the City and District.

**Valerie Shawcross (Deputy Chair):** In terms of this hierarchy of automatic train control, which is what we have now, driver and ATC, all the way up to nobody on the train, the ghost trains, where do these models sit?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** They will sit in exactly the same way as the Jubilee, Central and Victoria lines, as indeed will the Northern line when its upgrade is complete by 2014.

**Valerie Shawcross (Deputy Chair):** When were they procured?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** It would have been about four or five years ago, yes.

**Valerie Shawcross (Deputy Chair):** Do you have a timetable for introducing driverless trains at all?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** The only timetable I have is dependent entirely on the funding envelope. I do not have funding and therefore it is impossible for me to have a clear timeline as to what I could do. We are going to need to replace the Piccadilly line trains which were built in 1973 and the Bakerloo line trains built in 1972 quite soon. At the moment, I cannot let a contract because I have no contract with which to let it.

**Valerie Shawcross (Deputy Chair):** If suddenly the Comprehensive Spending Review tumbles in with money and opportunities, when would you be aiming to introduce the first driverless trains, although we do not know to what technical specification?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I think that is the point. I think, Val, we would have to work through the technical specification and look at all the issues I have alluded to, including the safety issues and other concerns. I am not trying to be elusive here. It is just that this is really dependent very specifically on that piece of work being done.

**Valerie Shawcross (Deputy Chair):** Yes. Are you still on track to provide ATC on 48% of London Underground rolling stock by 2014?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, because the Northern line will be complete at that date.

**Valerie Shawcross (Deputy Chair):** So it will be 48%?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes.

**Valerie Shawcross (Deputy Chair):** Can I just ask you then about industrial relations that Caroline [Pidgion] has raised? The unions are clearly very concerned about public safety on driverless trains and there are clearly some worries there. What are you doing to actually discuss and have dialogue with the unions about this issue?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** As I have just said, I have already talked to the General Secretary some time ago about the concept of this. I have been very open with all of my staff and all of the employees directly about this and the reality that new technology continues to emerge. I am intending to have further meetings this side of Christmas with the general secretaries of the trade unions to continue with that dialogue. So, clearly, I understand their concerns. Frankly, safety is absolutely at the top of my concerns because ultimately I am accountable for the safe operation of the system, so there is no question of me ever putting in a system of operation that does not meet the highest levels of safety criteria.

**Valerie Shawcross (Deputy Chair):** Thank you.

**Richard Tracey (AM):** Mike, you say you do not know what is in the Mayor's mind --

**Valerie Shawcross (AM):** I do not think the Mayor does, either.

**Richard Tracey (AM):** -- but just yesterday the Mayor said very publicly in Mayor's Question Time that what he foresees as driverless trains are trains which do not have a driver in the cab but most certainly do have staff on the trains. As you mentioned, the DLR has staff on the trains. That is the Mayor's idea and it is certainly the view of the Conservative group, my colleagues, that there should be staff on the trains, so we need to be clear with you what we are considering from our end of the political perspective here.

Are you aware of the amount of public support for driverless trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Clearly, the public support and the views of Londoners, the views of our staff and the views of anyone who uses the Tube are very important to me in this context, so, absolutely, I am aware of where people's minds are on this.

I do go back to the point that actually the overarching imperative for introducing new technology is to improve the reliability and the capacity of the system. That is where I come from. It may be a bit of a naïve place to come from, but I think that is what fundamentally Londoners care about, which is how you ensure that you have instead of a train arriving every two and a half minutes, one arriving every two minutes or even less if that is possible. As I say, some of that is only possible by exploiting some of the new technology that we need to, as indeed we have done throughout our entire history as an organisation and any organisation should do.

**Richard Tracey (AM):** Clearly, that is what the public are looking for. They are also looking at the possibility of avoiding industrial disruption which I think we are told costs London £50 million a day when it happens. So the newspapers and the opinion poll people and so on have regularly asked the question and it is coming out at certainly somewhat over 50% and I think over 60% in some cases in terms of public support for it.

Can I ask you: you obviously know far more about the operation of the trains than we do. We have been invited, and many of us have taken up the invitation, to ride on the Jubilee line trains where it is quite clear that the driver may be sitting there but it is simply a matter of the driver pressing a button and then the train is effectively driving itself. The signalling and all of that is controlled by computer remotely. That is surely at a point where it can be further adapted to be automatic train control without a driver sitting there.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, there are technical solutions, clearly, because, as I have said, around the world there are metros that have taken that further leap forward. As I have said and I am in danger of repeating myself, I just want to be absolutely clear that as we exploit, as we should do, new technology as it emerges and as it is proven to operate in other cities and in other contexts, we are absolutely clear on some of the unique operating circumstances within London, one of which I alluded to earlier around the depth and the size of the single-bore tunnels, but also that we are cognisant about what the impact is on the overall reliability of the service.

One of the other things I should just say is that a third of our issues of delays on the Underground if you look at the overall statistics are around so-called passenger action. Not so much on the Jubilee line, clearly, where there are some platform doors on some parts of the network. However, on other parts of the network, people do occasionally find themselves on the track either, unfortunately, because of a deliberate suicide attempt or to retrieve an object or some other foolish thing that people occasionally do because human beings are like that, of course. We all are. I just want to make sure that all of those things are properly reconciled, properly dealt with, properly thought through and therefore I think this just needs calm reflection as and when we get some funding and are able to then consider a design and consider the type of issues we will need to tackle for the procurement of a new fleet of trains.

**Richard Tracey (AM):** We are all obviously aware of the possibilities of people trying to commit suicide. The matter about safety overall, though, clearly you have been in touch with Paris but I think there are getting on for 30 cities in the world now using some sort of driverless trains. What evidence do you have of safety elements in those other cities? Is there any evidence that it is less safe with driverless trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Clearly, each city has its own unique circumstances. What I am interested in is obviously exploring the data from other cities and there is mixed evidence; it has to be said, across the world on this subject. Some countries, culturally and for other reasons, look at these issues slightly differently than we might here and I am quite proud of the way we look at safety in this country actually in terms of our operating systems. So I think it is important that we look at that in terms of the overall context. It should not be the sole driver of the decisions we make in London.

**Richard Tracey (AM):** There is no evidence that they are seriously less safe?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** There are some different circumstances. London's Tube network is constructed entirely differently from any other one in the world because it is a hodgepodge of joining together old railway companies into one holistic system and that creates its own unique challenges. It creates its own unique challenges day-to-day in the operation of the place, but also as you introduce new technology including new trains; so we just have to be very mindful of that going forward. I never rule anything out, but I have to say we have to look at this in a proper, considered, calm way, of course involving people in London, of course involving our trade unions and our employees, all of which I am committed to do.

**Richard Tracey (AM):** The three lines you have mentioned having ATC - the Jubilee, Victoria and Central lines - they are the most likely ones, are they not, for conversion to driverless trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** No, I think it is much more likely that we will see any introduction of further technological developments when we procure a new train because I think these trains are as they are. They are part of an overall system. For example, there are not platform-edge doors apart from on one section of the Jubilee line. On the rest of those lines, that would create some major difficulties and I know for our regulator and for other people who are interested in looking at us, so we do have to kind of work this through in time. I think it is more likely that further new technological developments will emerge with the procurement of a new fleet of trains.

**Richard Tracey (AM):** Can I clarify one point about testing? You made an announcement from TfL that there would be testing of the driverless concept on the Jubilee line, I think. Then there were some reports where you were quoted apparently saying that this was not going to take place. What is the truth there?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I never made an announcement that they were going to be tested and they are not. There is no plan to test them at the moment.

**Richard Tracey (AM):** I certainly recollect a press release.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** There is no plan to test them and I have no plan to test this technology on the railway at this moment in time.

**Richard Tracey (AM):** So it was purely press speculation?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** So it would seem.

**Darren Johnson (AM):** Mayoral speculation.

**Valerie Shawcross (AM):** A Mayoral press release.

**Richard Tracey (AM):** I do not think it was anything from the Mayor's Office. I think it was purely in the press. I think the Financial Times as well as others ran stories about this.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I wish I could control the media more than I can!

**Richard Tracey (AM):** I am sure you do. So tell us: when do you think realistically is the point when Londoners might see driverless trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I think I would refer back to my question earlier on and that really depends on a Comprehensive Spending Review giving us the ability to let a contract, to procure and to go to competitive tender for the development of these new trains, which would have a very clear specification around their reliability, around service levels and what would be required of them, and then that is when the detailed work would need to be thought through as to when and whether we could introduce a level of automation that takes us to that point.

**Richard Tracey (AM):** Thank you.

**Caroline Pidgeon (Chair):** When would the earliest be if you did decide to go ahead?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** The earliest would be in the early 2020s if we were able to in terms of the introduction of a new fleet, I would say, so obviously there would be a lot of work to do. If there was to be a Spending Review early next year, that would be the timeline we would be looking at.

**Caroline Pidgeon (Chair):** Thank you very much.

**Tom Copley (AM):** Just quickly on strikes, from what Richard [Tracey] was saying and certainly my understanding from what I had read in the press, the model the Mayor envisaged when he talks about driverless trains is this train captain model like on the DLR where you have a train captain. In terms of industrial relations, presumably if the train captains go on strike you are in exactly the same situation as you are if the drivers go on strike.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Presumably, yes.

**Tom Copley (AM):** That was all.

**Caroline Pidgeon (Chair):** It was useful to clarify that, Tom.

**Roger Evans (AM):** Mike, you talked right back at the beginning of this section, with justifiable pride, I think, about how when there is industrial action you ensure that it actually has very little effect on the service and on the customers' experience of using the Tube. How do you do that?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I think there are two things. One thing I would say is that actually the support levels for a number of the recent industrial action activities we had have been very low in terms of the numbers of people either voting or voting in the affirmative to take industrial action. I think therefore that has enabled us to have an effective dialogue with our employees, the large majority of our employees who are not interested in

industrial action, and reassure them of the particular issues of concern that may have been highlighted and addressed. We have had people coming to work during industrial action periods and we have also been able to mitigate it by other properly and fully qualified people doing some of the jobs as well.

**Roger Evans (AM):** Are you saying that people are voting for industrial action but then still coming to work?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** If you look at the experience, actually, of recent times, the turnout for ballots for industrial action has been very low in terms of those who have been asked to vote. So there may have been a majority secured of that minority who voted, if I can use that term, and therefore I think it has been clearly difficult for those who would seek to mobilise those people, to take prolonged industrial action to be able to do so.

**Roger Evans (AM):** You also said that you have other people who can help out to fill those jobs. I worked for the Royal Mail for ten years and that is how we dealt with a lot of the strike problems we had. I know that had a cost to it. It was effectively some built-in redundancy within the organisation to actually deal with that. Do you know what the cost is?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I cannot put my hand on it right now, other than to say that what we do now as a matter of course when people move into a management job or into a specialist services role within the organisation is we now seek much more to keep people's licensing up to date, their technical vocational licences up to date, so that people are able and fully competent to perform particular job roles that they may have done historically. I think actually that is a really important thing to do, not just for the individual in their ongoing development but actually for the cohesiveness of the organisation.

Just going back to the Olympics, one thing that I was exceptionally proud of was the fact that 3,500 of our head office staff across TfL – and most of them were from London Underground but across TfL – were out there in their pink tabards on the front line at the stations. Those were people who do not do those jobs normally. They were not doing safety-critical roles in that context. They were providing tourist information and Games venue information to people. I think they did a fantastic job and now of course they have a new skill. When we have other big events, they will be able to help us out. This is not for industrial action but for wider events they have that additional skill. I think that concept of having people across the organisation, particularly as we are a transport delivery organisation, to have the skills to be able to do something close to our passengers is a good thing to have.

**Roger Evans (AM):** Yes. However, you are also an organisation that, like every other member of the GLA family, and indeed like every other public sector organisation, is having to cut its cloth and take account of unnecessary costs.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, absolutely.

**Roger Evans (AM):** Obviously I may have surprised you by asking this question here, but it is a useful thing to know, is it not? Can you let us know what the cost of that effective redundant capacity that you need to deal with industrial relations is?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I will and it will be very low because it literally is keeping people in their licensing levels that they already had before; so it is a maintenance thing rather than proactively getting more people to be trained up on stuff.

**Roger Evans (AM):** Yes. I think TfL's idea of very low amounts of money is not always the same as the one that the rest of us have. I would be interested to see the figures.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I would just say, if I may, that we are well on progress to deliver the £2.3 billion worth of savings --

**Caroline Pidgeon (Chair):** We will come on to that later on.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** -- from the Tube that we are committed to by 2014/2015, and I think actually our increase in productivity stands the test against any comparator within the public sector.

**Caroline Pidgeon (Chair):** We will come on to that financial one.

**Tony Arbour (AM):** Two very brief questions relating to driverless trains. I have read the submissions which have been submitted by ASLEF (the Associated Society of Locomotive Engineers and Firemen)) and the RMT (National Union of Rail, Maritime and Transport Workers). Both of them have as their principal objection to driverless trains a fear that safety will be compromised. Is the only way that one can test whether or not that foreboding of the unions is correct to test driverless trains?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Ultimately, I suppose, yes, although I have to say I think there is an awful lot of work that I have alluded to already before we get to that point. Again, just to make it absolutely clear, there is no prospect of me leading this organisation into any situation where we do compromise safety. It is just not conceivable for me to be doing this job in that situation. What we do have to ensure is that where there is no technology it is properly applied, properly scrutinised and properly assessed as to whether we can provide a service given the new technology and what the implications of that new technology will be on the delivery of that service, and then follow it through in a proper way with proper consultation with our employees, with the trade unions and with other interested parties.

**Tony Arbour (AM):** I do not doubt your good intentions on that and I am absolutely certain that there is no one who believes that TfL would behave irresponsibly on this. Clearly, the only way that one can test this principal limb of opposition to driverless trains would be to test them. Is it therefore completely inconsistent and indeed irresponsible and irreconcilable for the trade unions to prevent that testing which could prove the hypothesis one way or the other?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I suppose there is an element of irony that if the trade unions are deciding that they do not want to get involved in the testing of driverless trains, there is a logical conclusion to that discussion. I have to say that this is hypothetical, as we said, at the moment because there is not a plan to test them on the railway at this moment in time. There may be at some point in the future, in which case if there is there will be a proper discussion, consultation and involvement of our employees and no doubt their trade union representatives. There is no plan at the moment. There simply is not. When and if there is, then of course we will cross that bridge.

**Tony Arbour (AM):** The tenor of their statements is that you are never going to reach that point because they are not going to allow you to test them.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I am afraid I cannot comment for the --

**Tony Arbour (AM):** It is worse than irony. It is Luddism, is it not?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Those are your words. What I would say is that there has been new technology introduced throughout the 150-year history of the Underground. Frankly, if there was not, we would still see steam trains running around the Circle line.

**Caroline Pidgeon (Chair):** We may well see steam trains in January running on the Tube.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We may well.

**Andrew Dismore (AM):** Could I explore with you the Mayor's subject of reducing the delays by 30% in three years' time? The experience of this year so far does not really suggest you are on track for that, does it?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Except that if you look at the figures that we will be publishing in the next few days, actually during the summer period we did hit that target and early. I know that is only a snapshot of time, but we did hit it at that moment in time. So I think what has been really interesting about this summer and I kind of alluded to it earlier on is that in a sense it has been a live laboratory experiment where we have been able to try some things out in terms of our maintenance processes and techniques, try some things out in terms of our response teams, things like the response of our emergency response unit on the blue light, having a working partnership with the British Transport Police and having some trained medics from the police force to respond to people being ill on trains or on station platforms that cause delays. All of those issues combined have led to some really good performance over the summer. As I said earlier on, I am determined that as we continue to develop our plans for achieving the 30% reliability improvement, those are fed into a part of that work going forward. They will be and they are.

**Andrew Dismore (AM):** I was going to come on to that in a moment on the Olympic legacy for the Tube. Obviously, that was a special quarter because of the Olympics and because of all the effort that went into trying to deal with delays. We will talk in a moment, I hope, about how far those lessons can be carried forward more generally. Parking that issue for one moment, you have one quarter there which was good and there were a lot of special factors, a lot of special effort and so on. Apart from that, the early part of the year was not very successful as far as delays were concerned, was it?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I think, if you look at the overall trend, again, it is worth saying that the last financial year was the best ever performance in the history of the Tube. That continues a trend, as I say, that has seen a 40% reduction in lost customer hours, which is the way we measure it, since 2007/2008 and that follows a continual improvement over the last ten years that we have seen in terms of the performance of the Tube. If you add to that the fact that we are running more services and we are carrying significantly

more passengers than we have ever done in our history, then we are on a trajectory of improvement. Of course you will get blips from week-to-week and from month- to- month. Of course you will and any statistician will tell you of course that those blips will happen from time to time.

The important thing is whether we are getting better month-by-month. Are we improving the service provision to our passengers who are increasing in their number all the time? The simple answer is, yes, we are. Do we have a lot more to do? Absolutely, we have a lot more to do.

**Andrew Dismore (AM):** In the first three quarters, you were 4% worse than the comparative, weren't you?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We also had the highest ever customer satisfaction levels even before the Olympic Games, notwithstanding what we achieved during the Olympic Games; so actually we are hitting some of the metrics very effectively. Now, I do not want to give any sense to you or anyone on the Committee that I am complacent about this: I am not. We have a huge challenge still ahead of us. We have a huge challenge both in terms of continuing our rebuilding programme, replacing some old kit and putting in new signalling systems and other new systems while we improve the reliability of the old and the new kit as well. So I am absolutely not complacent. There is a huge amount of work still to do. We will deliver this.

**Andrew Dismore (AM):** What is your prediction for the quarter after the Olympics?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** My prediction at the moment is we have continued the performance trends of the Olympics since the Olympics. The performance level has continued to be very positive.

**Andrew Dismore (AM):** Obviously there was a lot of extra effort and time and money and everything else that went into that period and you mentioned some of the things like the rapid response teams and so on. How much of that are you now able to carry forward into the next quarter and into the foreseeable future?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Clearly, that is what we are looking at. Clearly, we are looking at --

**Andrew Dismore (AM):** Looking at it is one thing. How much are you actually doing?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** You would not expect me in the course of six weeks after the Olympics when none of my team has had a day off all summer to have a whole detailed plan on everything. What I will tell you is we are working through forensically every single issue that we identified in the Games that gave us some good performance and every single issue in terms of the response gangs we had out there. Some of the things are easy to continue like the additional spares provision that we had allocated - and again, I think I referred that to the Committee the last time I was here - around the network.

I am confident that the success and the worldwide plaudits that we got for the delivery of the best Olympic Games with the best transport performance ever in the history of these Games will be carried forward. I am sure the Committee would wish to acknowledge that performance and will support me in those endeavours to ensure it is carried forward.

**Andrew Dismore (AM):** Certainly at the last meeting we did acknowledge to Peter Hendy [Commissioner, TfL] that the transport system had done very well. After the plaudits, we then have to get into the detail and hard analysis.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Absolutely.

**Andrew Dismore (AM):** When do you think that that analysis of the lessons from the Olympics will be completed?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I have got somebody working directly for me in a senior role in the organisation to pull together all the strands of activity both in the operational areas and in the project delivery areas and in the maintenance areas to ensure that we do have one coherent plan for the Tube and indeed for London Overground, for the DLR and for trams as well to ensure that we have a coherent plan with our partners in terms of those other organisations and other parts of my organisation to ensure that we do have a coherent plan as to what we will do and by when. That plan is being developed and I would expect that to be publicly available in the next few months.

**Andrew Dismore (AM):** Can you be a little more precise?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** In the next few months because I do not have all the detail yet. He is just gathering all this work at the moment, so the important thing is he will gather the work. He will then come and report to me and give me an indication of when he thinks he is going to be ready to put it in front of me and my executive board.

**Andrew Dismore (AM):** Is it going to contain all the lessons from the Olympics?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, absolutely. I am determined that we do. And not just from the Olympics because, again, it is worth pointing out that the Olympics was a positive but nonetheless a continuation of our continual improving trend that we have seen.

**Caroline Pidgeon (Chair):** Thank you very much.

**Roger Evans (AM):** We are moving on to more about the reliability plan. Obviously we have heard quite a lot in the last year about the measures which have been put in place. You have had them there for a while now. What is working best? What is the most effective?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** In different category areas, there are some different things that have worked particularly well, so I would say on the technical side, on the engineering side, I think having a different approach to what we call predicting and therefore preventing before failures occur has been really successful, so some of the new technologies we have introduced. As an example, the camera that we have installed on the District line trains to monitor the geometry of the track layout and therefore assess where there are potential failures going to emerge before they do emerge so we can intervene properly. Some of the remote monitoring of some of our sets of points, some of our escalators, some of our other pieces of equipment to ensure that we again are able to get in just before these things fail rather than to

respond to them as a casualty when they do fail. So those have been very important on the maintenance side.

I think it is also true that on the passenger side - and I alluded to it earlier on - the response of the British Transport Police medic team has been a hugely successful partnership arrangement with them where sometimes - no disrespect to the Ambulance Service or paramedic response - just the very fact that we have so many police officers around the network and having some of those trained for paramedic response and able to get to incidents that potentially are delaying a train stuck in a station in the morning peak with trains stuck behind and getting that person off the train to be treated more effectively .

**Roger Evans (AM):** Yes, getting that person off the train onto the platform.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Exactly, and that I think has been very positive as well. I think some of the other things that we have seen from the Games, which again is a legacy point of the Games that I should have referred to, was of course for the first time in the history of transport in London we have been able to change the behaviour of some of our passengers. So, on the busiest day ever in the Tube's history with 4.57 million people travelling on the Tube on that busiest day, we did not have crowd control in Victoria Station for the morning peak. The reason we did not was because the spread of people was much more even across the whole day, so I think we have to follow up some of that as well.

**Roger Evans (AM):** You are not going to get that as a matter of course, are you, because it was in the middle of the summer holidays and you do not have your usual travel to work patterns to Victoria station, for example.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** No, quite. There were some unique circumstances, absolutely. But I think that it does not take that many people, actually, to change their journey patterns just marginally, maybe just one day a week, for there to be some really exciting opportunities for us to be able to run the place better. Actually, if you have a very congested network, clearly one of the things that happen is people get their foot caught in the door. That just adds a few seconds here and therefore the door to close. It is not a very pleasant experience for people. Trains stay longer in platforms. All that kind of stuff can add to the impact of a relatively small delay on a much wider group of people travelling around.

**Roger Evans (AM):** Are you going to extend things like the automated track monitoring to other lines?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Absolutely. We are extending that across the network, so those are the sorts of things that are feeding out now across the network. They will of course form part of the reliability plan that I alluded to in answer to your colleague earlier.

**Roger Evans (AM):** I think we have - this is just anecdotally - noticed an improvement in things. And you are going to have a new plan. Can you hint at some of the things that would be in that plan, perhaps?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** The new plan is an extension of a lot of what we have been doing already. Clearly, again, as I think I said to this Committee, in advance of the Games, my priority was quite tactical. My priority was to ensure that we had all those things that you could get in place in advance of the Games to ensure a successful Games. So we did that tick in the box. We achieved that.

What we now need to do is assess – and this is what we are doing – those elements in that plan that now require perhaps some more investment, small levels of investment, to put in more structurally within the DNA of the place to ensure we continue those going forward. We need, as was alluded to earlier on quite rightly, to look at the cost of some of those and how we can do something of those initiatives cheaper and, yes, indeed, explore what else we can do, what further things we can do, given what we have learned over the summer that may have worked on a particular line or a particular station or a particular part of the network that actually we would want to replicate elsewhere. That is exactly what we are looking at.

**Roger Evans (AM):** How much money have you got for that initiative?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We are working through the business planning process at the moment and that is clearly one of the things that I have been talking to my colleagues and the Commissioner across TfL about as to what spending we have for that particular piece of work and we are having very positive discussions on that.

**Roger Evans (AM):** Sometimes that type of thing is actually more effective than building new lines or introducing new toys.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, I think you have to do both. As I said earlier on, you have to continue to exploit further and improve the reliability of those lines you have upgraded, so Jubilee, Victoria and DLR in that case, but also ensure that you are spending wisely but effective money on those lines that have yet to have their upgrades so that even in advance of them getting new equipment you are able to sustain and improve their performance, even though, as members of the Committee will well know, some of the components have to be made in a bespoke way because it is so ancient and so old that nobody else in the world uses it.

**Roger Evans (AM):** Would you let the Committee have the plan when it comes out?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I will be delighted to share the plans with the Committee. I am sure I will be here again at some point in the future.

**Caroline Pidgeon (Chair):** Can I just pick up, David, in your role as chair of IIPAG, are you happy with the reliability programme and the works that London Underground (LU) are doing in this area?

**David James (Chair, Independent Investment Programme Advisory Group):** Are we happy with it? I think we were deeply concerned that historically it has not moved on and it is beginning to move on at a pace now. We were very concerned at the lack of investment in the automation of gathering survey material and asset condition. That is undoubtedly improving.

What we are trying to do at the moment is to persuade people that it is not just money and ribbon-cutting type initiatives of fleets of trains and so on, but it is money into maintenance which is going to contribute quite strongly to the reliability issue.

**Caroline Pidgeon (Chair):** That message that you have given is being heard, you think, clearly by LU?

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, I think so. LU is remarkable. You know far more about it than I do, I suspect, but it is a remarkable organisation because it shifts all these people around pretty successfully and it comes under huge scrutiny. Could it do a lot of things better? Yes, of course it could. We are hopefully putting them on that path. I think they work quite well with us now. As I am sure you are aware, we had our moments in the early days but everybody understands where we sit now. I think it is working pretty well.

**Caroline Pidgeon (Chair):** Good. We will come on to more of that in a bit.

**Andrew Dismore (AM):** I was going to ask you about the progress with the upgrades and how far you have got. I would particularly ask you about the Jubilee, Victoria and Northern lines. As far as the Jubilee is concerned, is that one now finished from your perspective?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, it is pretty much finished. There are a few things that still need to be finished off and we have not signed off the closure of the project as such because there are a few small issues, but they are at the periphery of the project. The core signalling equipment has been delivered, the modifications to the trains have been delivered and therefore, yes, it is broadly complete.

**Andrew Dismore (AM):** Is it live, as it were?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Absolutely. It is all live, yes.

**Andrew Dismore (AM):** Good. Is 30 trains an hour in peak periods the target?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Absolutely. That is the target and that is what is being delivered, yes.

**Andrew Dismore (AM):** Just moving ahead a bit on that and the constituency issue if I may? West Hampstead Tube, what is the prospect of getting disabled access in the lift?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** One of the things that we have been focusing on is clearly those big central London schemes, so for example places like Victoria with its big station upgrade, Bond Street and Tottenham Court Road with the work coincident with Crossrail will deliver a huge number of accessible schemes that are able to cater for large volumes of people going through those very busy stations. I am very well aware there are many other priorities that sit in the more suburban parts of London that clearly we are continuing to look at and see what opportunities we have for them.

**Andrew Dismore (AM):** So the short answer is not in the foreseeable future?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Not at this moment in time, it is fair to say.

**Andrew Dismore (AM):** Does that mean the foreseeable future as well?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes. Again, it is always subject to the funding realities and clearly somewhere like West Hampstead is very important because of its connection to other routes and we have to keep these things under review. I do think that sometimes in the past we have been maybe focused a little bit too much in the very extreme stations around the network and almost said that that is yet another one that we can claim credit. I am not sure of the pure number. I could quote 66 stations are now fully accessible on the Tube. I am not sure it is the number that is really the important number. The number I would suggest that is more important is the number of journey opportunities it creates given how well a station is used. That is the important thing, as well as of course ensuring there is a core accessibility network around the Tube. Again, from the Olympics it has to be said that the building of the platform humps on stations and the use of the manual boarding ramps was widely welcomed by various groups and by passengers more generally across the city and clearly that is why we are seeking to preserve those going forward.

**Andrew Dismore (AM):** Going back to the detail on the Victoria line, is that --

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** The Victoria line is pretty much complete with the caveat that we have the additional trains per hour being introduced early in the new year, so that will again improve the service still further, but again the project is largely complete, yes.

**Andrew Dismore (AM):** So what is the deadline for final completion of everything, do you think?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** For the final completion of the Victoria line, it is basically by the early part of the new-year when we have the new trains in. That will all be completed, yes.

**Andrew Dismore (AM):** Then the Northern line?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Yes, 2014. It is on schedule, doing very well. Most of the installation of the kit has taken place. A huge amount of good work has happened. We have already been running some trains under the new signalling system on the High Barnet branch. That is proving to be very positive so far in terms of the overall project delivery plan.

**Andrew Dismore (AM):** One of the issues that has arisen is the number of weekend closures on the Northern line, particularly at my end. Are those closures absolutely necessary? What exactly are you doing during those closures?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We are doing two things. Actually, the main reason for the weekend closures is around track work. The difficulty with track work is there is really no alternative other than closing. You simply cannot remove the rails, all the ballasts, the track bed and the drainage and replace the drainage systems without closing the

line. Clearly, to get the Northern line in a position to be able to sustain the additional service that we will be running after the signalling is installed, that is a necessary piece of work that we need to do. Actually, any railway in the world replaces something like 4.5-5% of its track form every year. Look at the stats of any other railway in the world and we broadly do about the same and we should do, just to preserve the continual reliability of the track itself.

**Andrew Dismore (AM):** Presumably, you are doing rather more than 4% on the Northern line if you are closing every weekend.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** There are large sections, of course. It is large geographic sections up there, which have not been touched for decades.

**Andrew Dismore (AM):** So, when we see the closures that run through to the end of the year, is that it or will there be more next year?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** I am not sure if I have the full look-ahead with me but there will be some further closures to commission the system. We are obviously very mindful of the fact of individual groups of residents and businesses in particular areas. That is why I work with business groups on a regular basis like Camden Town Unlimited and others to talk about the way we construct these closures in the fullness of time. It is why we also explore things like blockade closures and so-called accelerated closures, one of which we have in the next few weeks on the Hainault loop on the Central line. So we continue to look at all options open to us. Some inevitably have to happen. We absolutely are going to do our best to keep these to a minimum.

**Andrew Dismore (AM):** When will you know how many closures on the Northern line you are going to need next year?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** We have some of that information now, so we can certainly send the Committee the details of that.

**Caroline Pidgeon (Chair):** Circulate that, yes.

**Andrew Dismore (AM):** Yes. And having raised the question of Camden Town, one directly on Camden Town and one indirectly. Splitting the Northern line has been floating around as an idea for a while, a few years now, I guess. What are your present intentions in relation to that?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** My present intentions are that I would like to split the Northern line at the south end, at the Kennington end, but there is no prospect at the moment of splitting it at the Camden Town end in the foreseeable future because you would need to do some significant realignment of the station there to ensure that you had proper connectivity and proper linkages for interchange there, so that is not something that we are contemplating at the moment.

**Andrew Dismore (AM):** Following on from that, then, the redevelopment, rebuild, modernisation or whatever of the Camden Town Tube, which is horrendously overcrowded and has to close on Sundays and so on. Where have you got to with that? Is that still on the agenda?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** It is very much still on the agenda, not least for the reasons you outlined in that it does allow you to at least explore the possibility of splitting the Northern line because it gives you that greater connectivity. But there is not a specific plan with dates on it at the moment because we have not had the funding available for that.

**Andrew Dismore (AM):** So when do you think you might be interested in doing that?

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Again, that is very dependent on funding, so I cannot speculate until I know what the funding envelope would be.

**Andrew Dismore (AM):** OK, thanks.

**Caroline Pidgeon (Chair):** I am conscious of the time, Mike. If you want to leave now, please feel free to and Gareth, I am sure, will pick up the baton of questions here.

**Mike Brown (Managing Director, London Underground and London Rail, TfL):** Gareth will ably take over. Thank you. I do really apologise again, Chair, for having to leave early. Thank you for your forbearance. I am most grateful to you and the Committee.

**Caroline Pidgeon (Chair):** We understand. Thank you for your help this morning. That was very, very useful.

**Joanne McCartney (AM):** I want to continue and ask about the three lines that have yet not got funding for their upgrades and I have asked about the Piccadilly line on a number of occasions but there are also the Bakerloo and the Central. Can I just ask what work you are doing to make that funding case to the Government?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** I think there are two aspects to that. The first is that we have the opportunity now in the post-Public Private Partnership (PPP) era to look at these lines as a programme going forward. What that allows us to do is to ensure that we get the best synergies out of a steady upgrade programme rather than treating each line independently. That should mean that it is more efficient in the long-term to be able to upgrade those. We can retain the level of in-house knowledge that we need, we can have efficient deployment of teams and, crucially, we can engage the supply chain in a way that they can then properly and efficiently man up to be able to deliver these things. So being able to look at these lines as a programme is going to be a very important part of our discussions in the future and to be able to say that actually what we need to do is to look at the upgrade of the Tube going forward not as a series of individual catch-up events but actually as a programme to renew these assets over a period of time.

Specifically on the Piccadilly line, the Bakerloo line and the Central line of course, they are the lines that have not been upgraded. They were the ones that were at the back end of the PPP programme and indeed into the future and we are very clear that those do need investment. Mike outlined the fact that the trains are very old - 1972 and 1973 - on the Bakerloo and the Piccadilly line and we will be making that case to the Government when we get the opportunity.

**Joanne McCartney (AM):** So I take it from what you have said that your plan now is to do some work as part of a bit more than maintenance at the moment and then your bid for the Government will be, rather than a large sum of money to do an upgrade front to end, over a longer period of time and less money. Is that right?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** Let us be clear. We need to replace the trains. We need to upgrade the signalling systems because on the Piccadilly line particularly, as you will know, there is huge demand and we need to get trains running closer together and more frequently in the same way that we have done on the Jubilee line and the Victoria line. So we are making the case that the capacity uplift is required, that we need to replace the train assets, we need to renew the signalling systems not only for the capacity but also to improve the reliability of the system and all the things that go with that, so the power that is needed, the rest of the infrastructure around the track that we have already talked about in the case of other upgrades. So what we need to do is to treat these lines as a system.

The point I was making to you is that actually it is not a choice, I do not think, between the Piccadilly line or the Bakerloo line or the Central line. What this is about is establishing for the future the need to invest in the Tube for the long term and not to treat these things separately.

**Joanne McCartney (AM):** So if you get the money you require, when could we see work starting on those upgrades?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** As Mike [Brown] said in relation to the new trains, for example, I would say the 2020s is the place where we would end up seeing new trains arriving on the system. Clearly, what we have to do is to work with the Government to see what the availability of funding would be and then to be able to make the case to do that as quickly and efficiently as we can. So we will obviously be making the case for the funding as soon as we can have it because, particularly on the Piccadilly line, the capacity is there today and the constraints are there today. You only have to go to many of the places on the Piccadilly line to understand how desperate it is to get additional capacity into the Piccadilly line. But that is wholly dependent on our conversations with the Government and being able to get that funding.

**Joanne McCartney (AM):** How are those conversations going?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** It is not really for me to comment directly on that because I am not involved in any direct conversations with the Government. I would say is that we continue to make the case and I am sure the Mayor will make the case and others in the Committee will support us in making that case when those conversations are able to happen.

**Joanne McCartney (AM):** I noticed that you stated that you are actually undergoing a Deep Tube Programme at the moment on those three lines. Could you just briefly explain what that entails and how that will help the upgrade in the future?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** So that is what I am referring to. The Deep Tube Programme is the long-term programme to look at the remainder of the upgrades which all happen to be on deep tube lines. So at the moment we have all the upgrade work happening on the subsurface lines, so Hammersmith and City and the District line

and so on and you have seen the new trains coming in. We are doing work on the track and the signalling currently. The remainder of the lines that have not been upgraded are all deep tube, so it is simply referred to as the Deep Tube Programme for the reason I have just outlined, which is that we want to look at this as a consistent programme going forward.

**Joanne McCartney (AM):** Thank you.

**Caroline Pidgeon (Chair):** Thank you very much. Murad wanted to come in.

**Murad Qureshi (AM):** Before I go on to the other forgotten lines, will any upgrade of the Piccadilly line include proposals to stop more regularly at Turnham Green and Chiswick Park?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** On Turnham Green specifically, we have said that we are going to consult the users of the Piccadilly line on that. The upgrade itself is about producing capacity for the whole of the line, not specifically about any one particular area, and indeed the service patterns for the whole of the line in the future when we have the signalling system is something that will be developed as we go through the feasibility work and we understand the capability of any new system that we are going to put on there. I would say to you that the upgrade programme is about the long-term future of the Piccadilly line and the capacity for it. That is not directly related to any specific conversations about Turnham Green.

**Murad Qureshi (AM):** I presume, if you are going to increase capacity, you should talk also to the local residents around there in particular. That was not what I wanted to come in on. With the line upgrades, why has the oldest bit of the Tube been rather neglected?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** I am not sure if it is the oldest bit of the Tube. I think --

**Murad Qureshi (AM):** Between Paddington and Farringdon is what I am talking about.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** Of course the subsurface upgrade is coming through now to upgrade precisely those areas. What I would say to you is that the upgrade programme is something that is borne in the history of the PPP. It was borne out of the need to replace both rolling stock and signalling systems in the areas that needed it most. That sequence of lines has been established for a very long period of time. It so happened that the Piccadilly line and the Bakerloo line are at the back of that sequence and that is where we are now, so we have a contract in place for the subsurface lines. That is going through and that will be complete by 2018. Beyond that, we need to continue with the upgrades which will be the Bakerloo, the Piccadilly and then the Central, which of course was upgraded in the 1990s and now is coming back to needing upgrading again.

**Murad Qureshi (AM):** I think it is useful to put it in the historical context because at Baker Street you have a platform where there is leaking at the moment on platform 5. You have a signal box at Edgware Road which dates back to the 1920s. We all know if you improve that you will have a lot more trains shooting through. The catalogue is there.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** It is.

**Murad Qureshi (AM):** It has been listed for some time. Every time I raise these questions, every other line gets prioritised. I just feel that in the historical context, given that this bit of track is now 150 years old, it should have been given a bit more focus and attention.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** It is being upgraded as part of the subsurface upgrade and the runway at the moment. So whether or not it should have been earlier or in a different way I cannot comment on, but it is there now. The plans are in place and that is going to go ahead.

**Murad Qureshi (AM):** We have seen some operational changes and people are thankful that we now have the Circle line going to Hammersmith. The District line has been more controversial because of the impacts on Olympia. Why have you not seized the opportunity to do things to improve the District line branch from Edgware Road to Wimbledon? That clearly has scope and would improve a lot of journey times for people waiting at Wimbledon and Putney.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** Of course, we went through a consultation process around the changes to service patterns to Olympia. One of the factors involved in that was indeed improving the service on the Wimbledon branch of the District line, improving the number of trains that can be going through there in the morning peak, for example. The overall subsurface programme including the District line and the new trains does increase the frequency of trains that can pass through the central section, which is the major constraint for the District line, the central section on the south of the Circle line. That capacity to push trains wherever they arrive from through there is the major constraint to how many trains can ultimately end up servicing any one branch line, so the core part of the subsurface signalling upgrade is to make sure that we can get capacity going through that central section that allows us to have a better service to each of the branches. However, you are right to say that we do constantly look at the service patterns and try to make sure that we push our existing resources and our existing trains to the areas where we see the most demand and the areas where we can service most of our customers' needs.

**Murad Qureshi (AM):** Finally, what noticeable change would regular suffering travellers through there see in the immediate future?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** They will see new trains. Those trains will be air-conditioned. They will be walk-through in the same way that they are currently on the Metropolitan line with the new subsurface stock. They are going to see more frequent trains after the upgrade and they are going to see therefore an overall travelling experience --

**Murad Qureshi (AM):** I did ask for when. Like I said, I have heard this for a while now.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** The new trains are being introduced on the Metropolitan line and that has been completed. We now have the first trains running around on the Circle line. Then they are going to come to the District line. The trains will then be introduced gradually onto the District line. The whole thing including the signalling will be complete by 2018.

**Murad Qureshi (AM):** Finally, when are the tracks and signalling going to be sorted along those tracks, in particular the Edgware Road junction where we have 30% of Tube trains going through anyway?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** Between now and 2018 is when all of the track work necessary and all of the signalling work is going to be done and the contracts are already in place to do that.

**Caroline Pidgeon (Chair):** Thank you for that.

**Tom Copley (AM):** What I would say, just as an observation, on Camden Town at the moment is that with the closure of the High Barnet branch at weekends, people like me who usually go to Kentish Town are all coming down to Camden Town and it is even worse than it usually is; so that is a big issue.

**Caroline Pidgeon (Chair):** It is a pressure point at the moment.

**Roger Evans (AM):** I have had a text from one of my constituents this morning to tell me how well the Central line is running and what a good job we have done upgrading it. I hesitate to let her know we have not started yet.

However, certainly earlier this year there were several closures on the Central line which involved the introduction of a weekend bus service to replace the line and it did not work very well. Stratford Station is pretty crowded anyway to be running extra buses from. The interchange at Leytonstone was confusing. The interchange at Snaresbrook was confusing and potentially dangerous, I think, with people running backwards and forwards across the main road to get to buses.

How do you make sure that when you are putting in a replacement bus service it is basically as painless as it possibly can be for local people?

**Gareth Powell (Director of Strategy & Service Development, London Underground):** First of all, I think we are acutely aware of the disruption to customers that is experienced when we have to take sections of line out. That is a thing that we do with a heavy heart and with a good deal of planning and a good deal of trepidation, actually, because we want to ensure that people are able to make their journeys in a way that is as least impacted as possible. We do have to close certain sections of the line at the weekends and we have talked about some of the reasons for that.

In terms of the specifics for the planning, we look at each of the individual cases where we do need to close a line. We look at the existing bus capacity. We look at whether that needs to be augmented by specific rail replacement buses. Then we look at the interchanges where those buses are going to deposit people and in many cases we put extra staff on those interchanges and we have dedicated people to do signage and so on. We spend a lot of time trying to advertise how to get around London, as you know, in advance by a variety of different media these days to ensure that people know about that. There is a good deal of planning that goes into each one. I cannot say that we get every single one right and there are always things we can learn and we do go back and look at the experiences of customers in any one particular closure and try to learn from that to put things in place in the future. But each one is planned individually ready for the weekend in which it is planned to occur.

**Roger Evans (AM):** Do you work with surface rail providers as well? I certainly know that the other way around, when the surface rail to Liverpool Street is closed, they put a bus on which dumps

everyone at Newbury Park. I am not sure whether that is working with us or whether that is just something they unilaterally do.

**Gareth Powell (Director of Strategy & Service Development, London Underground):** We certainly work with them. The closures and the network rail upgrade plans are published well in advance to us and we work to make sure that any closures we need to have are planned in conjunction with the network rail closures in order that there is a service available on parallel routes as far as we can possibly do it.

In terms of the specifics about what the proposals are for a train operating company in terms of replacement buses and so on, we do work with them. We do look at the capacity of our network so, for example, in recent times on the north end of the Victoria line to take people that otherwise would have been travelling on the overground National Rail network when that was closed and to work out what additional staffing we might need at our stations in order to be able to absorb those passenger flows.

We do recognise overall the ideal situation of course would be not to have weekend closures, but that just simply is not the place that we can operate within.

**Darren Johnson (AM):** Yes, this is on the issue of closures. I think most Londoners accept that upgrade work needs to be done, but they are not always convinced that it is done in the way that minimises disruption. Mike Brown seemed to be indicating that there was a change in thinking at TfL on managing disruption, so can you just say a bit more about that?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Well I think there are two things to say: first is how we plan to do the work and we have said in the past, and most recently, that we are going to look at whether it is a better idea and a more efficient idea to have what is known as a blockade, which is a longer closure period and to try to plan that in the least disruptive time for customers. Now we have one coming up, which is the Hainault loop on the Central line. It is much more efficient for us, we can get much more work done, if we are able to have a longer period, simply having longer shifts, being able to do longer pieces of work without all the clearing away and so on and so forth that happens. So we are interested in exploring whether the concept of blockades of longer closures would be a better way for Londoners and customers in general and would enable us to deliver more work more effectively.

**Darren Johnson (AM):** Why is this a new idea, new thinking? It sounds commonsense that it is the most efficient way of getting things done, how come it has just come up as a new idea?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** We have done two significant blockades, had two significant blockades in the past, there was one last year around Edgware Road that you may remember in the summer. What I would say to you is though that as we go forward with the upgrade works, we learn more about how we can co-ordinate to get more activities done in any one period of line closure. When you can do that, we can be confident as an organisation that we are making absolute best use of a longer closure period. In the past, you will recall, under the PPP days, the closures were treated very differently and they were an access right from the PPP contractors. We are not in that world; that is one of the things that we are very pleased about in the post-PPP world, and we are now able to evaluate all these options in the way that we simply were not under the constraints of the PPP. So we are looking at that very actively.

The other thing I would say to you is that we are trying to learn from the experience of the Games as Mike [Brown] alluded to, so the sort of travel information that was available to people during the Games, the getaheadofthegames.com site and so on, the ability to explain to people how to alter their journey patterns when we need them to. Well, that is a bit of learning that we want to carry forward and to understand how we can use some of those communication techniques to better effect to help Londoners plan their journey around closures and disruptions.

**Darren Johnson (AM):** What specific points from the 2012 experiences, so far, do you want to apply?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** As Mike [Brown] said, there is a process in place at the moment and Mike has appointed somebody to look at and collate all of the learning from the Games. That includes the way in which we communicated with customers and the way in which customers interacted with our network during the Games. So, all of that is being brought together into the plan that Mike spoke about earlier and I do not want to repeat his comments there.

**Darren Johnson (AM):** I think the other thing, when we had Peter Hendy [Commissioner of Transport] here, the previous meeting just after the Games, he was saying one of the big lessons was the different transport providers talking to each other, which again, one of those things that sounds pretty basic commonsense and it is nice that it has taken the Olympics for the transport providers to realise that is a good idea. Obviously, when there are closures and so on, then you need information across the entire transport network, no matter who is providing it, about alternatives and so on. So are those lessons being applied already; you are not waiting for a thorough review or whatever; you are continuing to talk to the other transport providers about alternatives in the way that you did during the Games?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Absolutely, and indeed we are exploring the possibilities presented to us by the real-time information and by the modern communication tools that people have, the applications that people have on their own smartphones and so on. We are constantly looking at the ways in which we can improve the information that Londoners get. That is not just for London Underground services, but for London Rail services, for national rail services, and indeed the bus network.

**Darren Johnson (AM):** So that was not a temporary blip during the Games; this is now an ongoing process?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Absolutely.

**Darren Johnson (AM):** OK, thank you.

**Caroline Pidgeon (Chair):** Can I just pick up on a point, before I bring Richard in, David, we have been talking about the upgrade and the impact on passengers, but how satisfied are you with how the upgrade programme is going at London Underground and do you think they really have a grip on all of these issues?

**David James (Chair, Independent Investment Programme Advisory Group):** Right, I think we have come to a period, which basically was inherited from the PPP, so the programmes in general were set 13-15 years ago, and so the objective over the last couple of years from our viewpoint is to make sure that the ongoing projects were being done in a better economic and efficient manner. That is one side of the job. The other side of the job is now, going forward, where we have made the point to Mr Hendy and his team that the next Spending Review and the way that they approach that is going to be fundamental for the next, not just the spending review, but certainly through until the early 2020s. Therefore the programme has to be well thought through and coherently put together. So we are working with them on that as well at the moment.

If you come back to something like the deep tube, which you have been discussing, I will come back to blockades as well if I may, but let us take deep tube to start with. The commitment in the Spending Review of 2010 was that TfL would produce a prototype locomotive by the year 2015 that could operate on the deep tube. The idea, when it was agreed, was to put together a new locomotive, which could operate at a deep level, could probably cope with air conditioning, would not use very much power, would be very light, would carry hundreds more people than the current one. It was pretty unrealistic quite frankly. I think to be fair to TfL, they have seen that has been unrealistic and with some encouragement from ourselves they have broadened the work they are doing to be a complete review of what the deep tube in particular, but the railway here in London will be like for the next 30-40 years. So there is some fundamental work now being done which is going to influence the way that the London travellers will be accommodated in the future. I think everything is moving in the right direction. Is it moving quickly enough? We would like to see something move quicker obviously, but that is maybe the machinery that we work with.

On blockades, for example, we think that TfL in particular is and was fundamentally an operational company, and it is really obsessed with delivering to the travelling public the best service it can, and often we think at the expense of finance. So service is probably over-provided in terms of what the public might put up with. In blockades in particular, the point made earlier, I think it is pretty obvious at times that you can obviously do much more work in a blockade than you can in four hours of engineering work every night. We have made the point to Mr Hendy and his team that, if you publicly make available the thinking and the planning and the manner in which people might transfer their travel habits, then you may get a better response. That was then proven in the Olympics I think and since then I have had discussion with Mr Hendy. I think I would say he is changing his mind gradually that the first port of call, if you like, is not to have blockades. I think now TfL will consider much more strongly that they will entertain the benefit of blockades and that they can perhaps sell it to the public through good communications and so on.

In terms of the ongoing programme, Jubilee line is interesting, when I listen to the discussion going on here. Jubilee line was not a line upgrade, it was a vast improvement. Jubilee line itself has not been upgraded, so you have new facilities running on the track, but the track is old, the track is 'bullnose track', there are steam-driven points, and we have gone from 25 trains an hour to 33 trains an hour, so we have more trains travelling on old track, and those were decisions taken a long time ago, and they are wrong. But that is what they have to live with. So we have an improving situation on the service of Jubilee, and I can talk quite well about Jubilee because it is an ongoing project. We have not closed it out; it came to us last week through the gateway process, gate E is the sign off of closure, and as Mike [Brown] said we all agreed that it was not quite ready for closure yet, there are outstanding issues. We have been monitoring it for the last year in terms of performance because we knew the importance of it through this year, and it is fair to say that the underlying performance on the Jubilee

line has been one of betterment continuously for the last 12 months. There have been these occasional spikes, which I am sure you are all aware of, you read them in the Evening Standard, where something has gone wrong and it has taken several hours to put right. Those things are obviously very important, but through the upgrade process they have not been predictable, whereas generally speaking the majority of other issues have been predictable and they have been dealt with.

The spikes, as I now call them, are getting less and less, and the lessons learned are being transferred to the Northern line, which is what Mike [Brown] was saying earlier; the Northern line progress is very much on programme I am pleased to say, and that is quite impressive. Hopefully, the Northern Line will be a very successful project because it is learning everything from the Jubilee line. But I would not want you to go away from here thinking that everything is going to be final on Jubilee for ever more, because we are still looking at modern equipment on old railway lines, and the two do not go together very well; so there is a lot of work that has to be done.

Then you come back to the investment in the automation of information gathering in particular and predicting where maintenance should be applied, and that will be certainly the case on Jubilee line because the wear and tear on the track will be much greater now than it used to be, and so that needs to be monitored and we are trying to encourage much more investment in what we are calling proactive maintenance, so we are trying to predict when things are likely to fail; therefore we go in before that, as opposed to what has been inherited I think, which is reactive maintenance where there are gangs of 30 men going out at midnight following somebody who inspects, finds a problem, they then work on it. If they do not find a problem, they do not work on it, but they are still there working. It is a very inefficient system that has been traditionally used; that is gradually being changed now and, as I say, more science put into the prediction of what should be applied.

**Caroline Pidgeon (Chair):** That is very good. It sounds like you are obviously keeping a very close eye on this and there are some positive things as well as some areas that you are concerned about. I think the blockade point we are particularly pleased to hear about because we put this forward as a suggestion several years ago from the Committee, having heard from the Metro Madrid, and London Underground were rather mocking of our idea, but they now seem to be coming around, and we did some passenger survey work as part of that and passengers did say, for up to about three weeks, they would be happy for a block closure, I think particularly if they were given information, "In this time we have managed to do all these things", I think people accept that.

**David James (Chair, Independent Investment Programme Advisory Group):** You should have spoken to me earlier then; I could have helped you with that.

**Caroline Pidgeon (Chair):** Absolutely.

**Richard Tracey (AM):** I think that is very helpful, what you have just been telling us, but one of the points you made was your suggestion that the public should be informed much earlier of what was planned, and of course I am speaking particularly of the Northern line and my constituency covers the southern end of the Northern line, and people have complained endlessly about a lack of information and indeed the co-ordination of alternative bus services when London Underground wanted to close a section of line for the weekend, for example. Have you made some suggestions about that in what you have said on informing the public better?

**David James (Chair, Independent Investment Programme Advisory Group):** We are not employed really to make detailed suggestions on specifics, but on the Northern line in particular I can tell you that, where you are lucky that it is now in the hands of TfL rather than old Tube Lines, because old Tube Lines, you would have had endless blockades and closures because of the way the contract was structured. They were encouraged basically to close out at weekends. I think my recollection is there were going to be eight closures on the Northern line, I may be wrong on that, but my recollection is that there will only be eight, whereas there were probably going to be about 30 originally.

**Richard Tracey (AM):** Yes, I recollect that.

**David James (Chair, Independent Investment Programme Advisory Group):** The thinking is much more sympathetic to the public and, as I say, I think it comes from almost a doctrine really in TfL that we will not have closures, which gradually I hope they are now overcoming. I cannot help you on buses, I am sorry.

**Richard Tracey (AM):** No, I mean it is absolutely key though to the public to know first of all when the closures are going to be, but then what bus services will cope with the transfer of them between particular places, and certainly my evidence has been there has been great worry and frustration.

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, I think that we were involved in over viewing what was done on the roads for the Olympics here, and there is no doubt that the communication with the public there was so intense and so fulfilling that it was very successful. There is no reason you cannot do the same on the Underground.

**Richard Tracey (AM):** I think this Committee would claim a bit of credit for the amount of nagging we did about that in advance. Thank you very much.

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Just to answer the point made there about buses if I may, and information. We are absolutely committed to giving as much information in advance as we can about Tube closures. We would give information for four years ahead if we had it. We do not. We try to do a six-month look-ahead on our website. As you know, we try to talk to local affected businesses, we plan our closures around particular big events that are happening in London, and we have to co-ordinate a multitude of different demands for closures. So one of the challenges we have is that we have huge demands, as Mike [Brown] said, to replace up to 5% of your track every year, independent of the closures you might need for new signalling systems on a particular line, for the National Rail to do their closures and so on; there is a lot of co-ordination involved.

What I would say is that we are very keen to learn from specific instances. Unfortunately, of course, with closures what you want to do is to close a section of line, do what you need to do, and then not come back for some time. In the sense of specifics, you have to take the general learning and then apply it to other areas, but we are very committed on the information point and in fact we are investing in making sure the information is available for apps and so on. So I do take your point that the more information we can give, the more successful this will be from a customer perspective.

**Richard Tracey (AM):** Well several of my constituents in the Tooting and Balham area did send pretty detailed critiques of this, which I did send on to you. So it is in your files.

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Great, thank you.

**Caroline Pidgeon (Chair):** Thank you. We are going to move on to financial savings now. Steve.

**Steve O'Connell (AM):** Thank you very much. I think the first part of the question is particularly for Gareth, and then I think we are going over to -- I mean this is the other side of the balance sheet. We have talked at length around upgrades and investment, speaking myself as a rare user, coming from Croydon, I was delighted by the service in the limited time that I have been using it. Mike [Brown] mentioned earlier around the 2.3 billion target, the savings, leading up to 2014/2015. So first of all, Gareth, how are you getting on with achieving that sort of target?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Well, so far we are on track to deliver those savings. We have a comprehensive programme in place, which is monitored by the executive team within London Underground for the London Underground savings and is monitored overall across TfL by the Chief Officer and by Peter [Hendy] and his direct team.

The savings programme is made up of savings across the organisation. It is not the situation where there is one particular initiative that delivers the bulk of the savings; this is a comprehensive approach to driving out costs in all areas of the organisation, and I would say there has been some significant progress over the last couple of years in driving out costs. We have the plans in place to deliver the savings that we need for this financial year and we are confident of achieving the overall savings target going forward.

**Steve O'Connell (AM):** So you are treating it, as you say, holistically, which is holistically across TfL and holistically within London Underground, and you are breaking it down. Are you breaking it down in annual targets of savings; are you doing it in that sort of précis to arrive at the particular target?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Yes, absolutely. So we have a target obviously for savings in any given budget year. When the budget is established, those are in the budget, and we need to hit our budget targets, and I think you will see that over time, even in the course of a year, if we can find additional savings that we can make then we make them, and we show those in the accounts, and you can see where we have not spend money that we do not need to, we do not spend it. So we do have a programme in place. As I say, every department is touched by it. My own department, even the way in which we deliver our capital works, we are doing a lot to look at the efficiency of how those are delivered and to try and make sure that the unit costs that we employ, both in the way we do our capital programmes and of course in the way we do maintenance, and the way we operate the system, that those are driving down year on year.

Would we like to be able to do it faster? Would we have golden bullet to do these things? Yes. However, that is not the case, so what we have is a programme in each area to look at those unit costs and to really understand the detail of how to drive the costs out of the business.

**Steve O'Connell (AM):** You mentioned the capital programme, I mean clearly when you have to make such significant savings, and going forward possibly even greater savings, is that influencing your capital programme? Are you reviewing your capital programme? I know it is funded in all sorts of different ways, but are you reviewing the capital programme, which is going back to investment, which you touched upon earlier?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Yes, we are, and in fact we are looking at the way in which, and David Waboso [Director of Capital Programmes at London Underground, who is the director of capital programmes, is looking very intensively at the way in which capital programmes are delivered to make sure they are delivered more efficiently. One of the things we talked about on blockades, for example, if I were to use the example of track, replacing large sections of track, it is essentially a volume business. The longer you have on the track, the more you can do, the more you can drive your unit rates down. So we are looking at all of those things. We are looking at the way in which we organise the gangs of people to come out and do the work, right up to when you are looking at refurbishing a station, which of course is quite hard to benchmark, breaking that down into individual repeatable items, looking at the cost of escalators as distinct from the cost of lifts, and so on and so forth. There is quite a focus on the capital programme to deliver it more efficiently going forward.

**Steve O'Connell (AM):** Because often, when you have to make savings of these sort of significant levels, and you would have had a history of savings essentially to both tube lines. There comes a stage where you have to look at processes, whole pieces of work, and I guess you will be using comparisons with other Metro systems around the world, which sometimes have been spoken about as being sometimes efficient in savings, or more efficient, or whatsoever. I do not want to go down that debate, but are you looking at other models to see what you can learn from, to see how they are making savings around processes, for example?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Yes, absolutely, around the sorts of things that David was talking about earlier and Mike was talking about, about predicting where failures are going to happen. It is much more efficient, as David was alluding to, it is much more efficient to predict the failures, go in, do a targeted piece of work in a planned way, and come out. That is efficiency because when you have to do things when they have broken, when you are in a casualty situation that is much less efficient. Other Metros have processes for that; other industries have processes for that, and we are looking at both of those things to make sure that we can take the best learning and apply it to our investment spend.

**Steve O'Connell (AM):** We have spoken at length about the improvements and how Londoners will see a better service, but going through these efficiencies and savings, and indeed arguably cuts, because that is a different thing altogether, do you worry or envisage that there will be elements that Londoners will see a reduction in service because of the efficiencies and savings, something noticeable?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Our challenge is to be able to deliver savings to the unit costs of running the place and upgrading it and maintaining it, while delivering the level of service that Londoners request; that is our management challenge, and that is what we set out to do. So we set out with the challenge that says that precisely the situation you observed does not occur because our job is to be able to drive the costs down while improving the service and that is what we are setting out to do.

**Steve O'Connell (AM):** Lastly from me, obviously there would be an implication, it must be connected to revenue and to fares assumptions, I mean clearly if you have a target of driving down costs and making ends meet and meeting that savings forecast, that must have an implication on fares, any aspirations about increasing, freezing or reducing fares, there has to be a link between the two.

**Gareth Powell (Director of Strategy and Service Development, London Underground):**

Obviously, as you know, the level of fares is a matter for the Mayor, I cannot comment on that, but what I would say to you is that obviously through the business planning process, what the business planning team across TfL do in conjunction with the Board and then ultimately it is for the Mayor to decide, look at the overall balance of the business plan, and the business plan needs to be a balanced entity. So fares are part of that, as are the level of savings, as is the level of Government grant, and as is the base cost of our expenditure, and they are all part of how the business plan is put together.

**Steve O'Connell (AM):** Thank you very much.

**Caroline Pidgeon (Chair):** Could we pick up perhaps with David about how in line the costs are with Metros overseas in terms of LU's functions. Are they coming more in line or are they still considerably higher?

**David James (Chair, Independent Investment Programme Advisory Group):** We are moving into sort of the benchmarking arena; fundamentally we see benchmarking as a tool for assisting in the prediction of what is called whole-life asset management, so that you look at the whole life of an entity and the cost of that. We do not think that the costing information from international Metros is particularly robust and you have to be quite careful how you compare detailed issues, one with another. It is quite difficult even within TfL to compare the performance of, let us say, Tube Lines with London Underground, for example. So trying to compare the performance of TfL with Sao Paulo or something like that is questionable.

What is undoubtedly true that you can compare is obviously the larger numbers of passengers, mileage, and so on and so forth. When you go deeply into benchmarking, you suddenly get into a sort of reactive negative mode, defensive mode, protecting the arguments that you are going to promote. So you have to be quite careful how you interpret some of that information quite frankly.

**Caroline Pidgeon (Chair):** I wanted to pick up with you, David, about how you think TfL are able to realise further savings on the Tube, including a greater than 20% reduction in maintenance costs by 2014. Are you looking at that; what suggestions are you making to London Underground?

**David James (Chair, Independent Investment Programme Advisory Group):** That is predicted by London Underground; it is an ambition and it is an ambition in a way to catch up with Tube Lines over a six-year period. It is a reflection in many ways of the investment that has to be made in the automation, as we have referred to already. There is undoubtedly real opportunity to upgrade the maintenance capability within the Underground. If that can be coupled with blockades and issues like that then there is no doubt at all that some of those benefits can be accrued. However, they are going to change, working practices are going to have to change, and certainly the perception of those people responsible for the overall investment has to change, as I said earlier, from glorious schemes to -- you know, maintenance is not very sexy quite frankly, but it is essential.

**Caroline Pidgeon (Chair):** Absolutely, but you are confident that they can achieve the 20% to bring them in line, as you said, with Tube Lines?

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, I think it is a very tough and ambitious target; I think they will do well to do that.

**Caroline Pidgeon (Chair):** Obviously you have been doing a lot of work with TfL, with London Underground, what other potential savings have you found through your recent work? Last year you reported to us £100 million had been saved due to some of the work you have done. What other savings have you found over the last year?

**David James (Chair, Independent Investment Programme Advisory Group):** About this time last year, we identified the issue of the practice of, what I will call for the sake of ease, contingency pots and risk pots in the capital programme. So if you take the breakdown of a major project you get cost of the works and then you have a pot for contingency and you have a pot for risk. Risk is a thing that you predict; you examine it and you try and put a price on it, as I am sure you are aware. Contingency is traditionally within TfL when we arrived we found people who wanted to spend the contingency pot because they thought it was available in the project to spend. That is now not the case and in fact the contingency pots are now not available to the projects; they have all been consolidated into Steve Allen's [Director of Corporate Finance TfL] corporate pot, if you like. That is a significant figure; that is into nine figures, I mean it is a massive figure over the programme up until 2015. Now it is quite clear that historically Treasury has recommended the optimism bias, because they were fed up with people coming and wanting more money for projects. However, the industry has improved itself to the point where the contingencies are not necessarily required, and in fact since it was consolidated into Steve Allen's pot we have not found I think any projects through the last year that have come back for money from the contingency pot, because we have encouraged them to manage their risk pot. So they are spending from their risk pot on, quite rightly, overcoming the risks in the job, but in the main I think it is fair to say the majority of capital projects are now coming in under their approved cost. So there is an efficiency factor been brought in with the sort of pressure, if you like, which is imposed on the project teams of the expectations of management now. They are expected not to require the contingency pot; they are expected to manage the risk pot and they are expected to come in under the estimated final cost.

So the system is much more efficient and it is now moving forward to the point that you may know there is something like £600 million-plus planned to be spent on Bank Station, but there is a huge amount of effort going in at the front end now, which is where we think major savings can be planned and made, there is a huge amount of effort going in, trying to work with the supply chain to ensure that, unlike in many cases in the past, a project gets hit by additional costs right at the end, it is all thought through right from the outset and we know what the costs are most likely to be, and we do not get these sudden surprises, and that has been -- we have two cases in the Roads Department now and Surface Transport, where there is consideration of the way in which they are treating with the supply chain, and certainly the Bank Station, and it is very impressive quite frankly, and people are really trying.

**Caroline Pidgeon (Chair):** So it is a complete change of culture and better project management?

**David James (Chair, Independent Investment Programme Advisory Group):** I would not say it is complete, but it is on the way, yes, certainly.

**Caroline Pidgeon (Chair):** So you are shifting the culture, and you are talking hundreds of millions of pounds effectively you have been able to save just by dealing with that contingency.

**David James (Chair, Independent Investment Programme Advisory Group):** I would not say they are saved, I mean they are there, that is for sure, they should not have been spent historically the way they were spent, but people thought that they had to spend it; they were in a culture where they thought that the amount of money approved for the project was for the project, so if I add something on here then I have the money to do it. However, if you do not add it on you do not need the money.

**Caroline Pidgeon (Chair):** So that money has been saved in a central pot that can be spent on other things.

**David James (Chair, Independent Investment Programme Advisory Group):** Yes.

**Caroline Pidgeon (Chair):** That is very impressive.

**Jennette Arnold (AM):** David, can I just take you back to the savings that you are supportive of around maintenance, and just help me here. Is it not true that, once you start lowering spend on maintenance, then you may well then get an increase in, if you like, health and safety issues perhaps not being followed through, and then would you not be in a situation where what would then increase would be concerns over the safety of passengers? Why I say this is that maintenance and the budget to do with maintenance, is that not related to staff, a specific group of staff that come in and clean and maintain escalators and these everyday things? So I am just concerned that when you talk about taking out savings to do with maintenance that we should be seeing that in terms of the health and safety of the service and was that in your thinking when you came up to support this £20 million reduction?

**David James (Chair, Independent Investment Programme Advisory Group):** No, I think I have possibly confused you. The working practices have to be reviewed and there are better working practices that could be adopted, which will undoubtedly drive efficiencies. I should start off by saying to you that, despite what I said earlier about international comparisons, and this is a macro comparison if you like, which is one I support internationally, London Underground has one of the safest records for its staff of all the Undergrounds in the world, so from that point of view London Underground is very good; so they do look after their staff. But, the maintenance I am talking about is the physical maintenance of the railway itself; I had not included in my mind anyway the cleaning of the stations and so on and so forth, but I take your point on that.

**Jennette Arnold (AM):** So you are talking about track and you are talking about --

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, in the main it is track.

**Jennette Arnold (AM):** Track, and it would not be trains, so it is solely to do with track?

**David James (Chair, Independent Investment Programme Advisory Group):** No, there are trains as well in the depots, but not trains on the track, if I can distinguish between the two.

**Jennette Arnold (AM):** So it would be the maintenance of trains when they go to depot and how you believe that could be done more efficiently, what, with less staff?

**David James (Chair, Independent Investment Programme Advisory Group):** Our primary focus has been on track; the performance of Tube Lines on rolling stock, for example, is exemplary, is world class, and London Underground are endeavouring to get to the same levels, but at the moment Tube Lines are much better at that particular skill. Whereas, on the track, the performance is not world class, but it is improving.

**Jennette Arnold (AM):** Right, thank you for that clarity. I was thinking that you were talking about overall maintenance, because then we would have to then clearly look at the associated impact of reducing maintenance in terms of the general environment of our stations.

**David James (Chair, Independent Investment Programme Advisory Group):** I am not sure that our views would mean a reduction of maintenance skilled staff, it is more of applying them in a much better way.

**Valerie Shawcross (Deputy Chair):** It is incredibly helpful to have informed commentary from an independent insider as yourself. I am very impressed by London Rail, I think all of us are, and their financial efficiency seems to be as good as their ability to clean graffiti off the trackside. I mean at every level they seem to be performing incredibly well. Are there any lessons to be learned from London Rail, from the 'Over ground people', within London Underground? Perhaps you do not agree that they are quite as good as I think they are.

**David James (Chair, Independent Investment Programme Advisory Group):** I think from a capital programme viewpoint, I do not think they are any more outstanding than London Underground quite frankly.

**Valerie Shawcross (Deputy Chair):** Right, what about general things like maintenance and --

**David James (Chair, Independent Investment Programme Advisory Group):** I do not think I know enough about London Rail to comment on that, to be frank with you. Much of our work on maintenance has come out of benchmarking work, which we have done for the last year. That focused predominantly on LU and Tube Lines. Going forward, we are beginning to look at London Rail, and we are also beginning to look at surface in this current year, but I do not really have enough background to give you a constructive comment on that I think.

**Valerie Shawcross (Deputy Chair):** So there is nothing obvious that strikes you at the moment?

**David James (Chair, Independent Investment Programme Advisory Group):** No.

**Valerie Shawcross (Deputy Chair):** The PPP Arbiter [Chris Bolt] did have some findings on the high costs of the tube. Are your findings similar to what our previous PPP Arbiter had to say?

**David James (Chair, Independent Investment Programme Advisory Group):** I think the Arbiter and the manner in which benchmarking was tackled within TfL previously had some heated moments; it was a little bit more adversarial than our approach. I think our comments are true and factual, so I stand by the comments that we have in the -- some of it supported the Arbiter and I think in the main the Arbiter was trying to do a good job but in adversarial conditions, and I think that was quite tough for him and for both sides. We have tried to take that aggression out of it. I think we have a situation where the benchmarking report we directed has been accepted by London Underground, even though

in many ways parts of it were quite critical of London Underground, as I am sure you have read. That may not have been the case with the Arbiter there because --

**Valerie Shawcross (Deputy Chair):** OK, David, but what you are talking about is a change of style, what about the substance? Would you disagree fundamentally with any of the Arbiter's analysis of the high costs in London Underground?

**David James (Chair, Independent Investment Programme Advisory Group):** I think some of his estimates of costs were probably on the top side. I think in principle in the main many of the things he said were correct and they are in line with the way we tackled it too.

**Valerie Shawcross (Deputy Chair):** Are you therefore following up and trying to pursue TfL, London Underground, to implement any of the Arbiter's findings as well as your own?

**David James (Chair, Independent Investment Programme Advisory Group):** We are focusing on our own.

**Valerie Shawcross (Deputy Chair):** So is there anything from Chris Bolt's work that was left hanging that you think ought to be picked up?

**David James (Chair, Independent Investment Programme Advisory Group):** I think in principle some of the things that we are following, Chris Bolt would support, and equally he probably did promote in the first place, but I think, in dealing with people, as I am sure you realise, you have to pick the situation where you know you can get the best result, and it is far better for us now to move on without too much reference to the Arbiter. We have agreement on the way forward --

**Valerie Shawcross (Deputy Chair):** That is a bit sad though, is it not, David, that there was all that work done for all that time, and I know it was a different context, but then it has just been sort of kind of, I am not going to say shelved, but walked away from in a way, and it is a shame there is not a bit more continuity.

**David James (Chair, Independent Investment Programme Advisory Group):** There is continuity. The staff that we hired to deal with benchmarking were members of Chris Bolt's team, so --

**Valerie Shawcross (Deputy Chair):** So you did not lose any of the information.

**David James (Chair, Independent Investment Programme Advisory Group):** -- we had continuity right the way through. We took the aggression out of the discussions.

**Valerie Shawcross (Deputy Chair):** OK, and is there anything more you want to say about how you are working with TfL to act on your findings then?

**David James (Chair, Independent Investment Programme Advisory Group):** I think an interesting topic is this issue of lost customer hours and the Mayor's proposal to reduce it by 30%. If you look at the background to lost customer hours, there are three fundamental issues: one is industrial relations/management; another is the public, the way the public behaves; and the third one is technical, if you like, and investment. When you look at the reasons for lost customer hours historically, they basically fall a third, a third, a third. So to get the reduction that the Mayor is talking

about, you have to just tackle three issues. You cannot just get it all from an investment viewpoint by putting in platform-edge doors or something like that. You have to tackle some fundamental management issues, you have to tackle investment issues, and you have to tackle the behaviour of the public. So to get to that area, I do not think the Mayor is going to achieve his objective, and I hope people have not closed their minds to the fact that there are other measures other than just spending money.

**Valerie Shawcross (Deputy Chair):** Have you been making any representations or suggestions on those other measures?

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, we have passed comment on the way things have to be certainly approached and tackled. I think the initial approach has always been to invest money in some of the updating of equipment and so on that is perceived necessary in that programme, but that will only tackle a third of the problem.

**Valerie Shawcross (Deputy Chair):** Have you made comments in the other areas, it is not your remit, but --

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, if you take management/industrial relations, let us take a very simple example, if somebody is physically sick on a train, then the train is taken out of service. Again, if you look at international comparisons, most systems will close the car but still continue with the train. So you have lost a complete train out of the service just for that one incident, and we think those sort of things can be managed quite strongly, both through strong management and discussion with unions and so on and so forth.

**Valerie Shawcross (Deputy Chair):** Gareth, are you picking those proposals up?

**Gareth Powell (Director of Strategy and Service Development, London Underground):** Absolutely, so we are looking at the reliability programme in the three areas that David outlined. I think you would have seen some attempts to explain to our customers the impact that sometimes things like litter have on the reliability of the service, and we recently launched a campaign to look at that because cans of drink can get stuck on track and they can cause signal failures because of their electrical connectivity, to give you an example.

We are also acutely conscious of the way in which we deal with incidents from customers, like the example that David [Brown] gave, or indeed the way in which we respond to service recovery after such an incident such as a passenger ill on a train and so on. So I absolutely agree with David, there are the three areas that we have to cover and we have to look, not only at the assets themselves, but the way in which our customers interact with those assets. So one final example I would give you is that we did have, particularly on the Victoria line, when we introduced the new trains, as you will know, accelerated very fast, and some customers would lean against the wall and happened to activate a passenger emergency alarm. Now obviously that is an accidental activation by a customer, so what we looked at doing is making sure that those alarms are situated in a place where that does not happen, and indeed that they have covers on them so that accidental activation does not happen. So it is looking at the interactions in the round to say, "That is a cause of delay", it is not an issue with the customers or indeed with the failure of the asset, but it is about looking at the interaction and treating the whole thing as a holistic subject, and that is exactly the approach that we are adopting to try and hit the targets that we have.

**Valerie Shawcross (Deputy Chair):** Thanks.

**Caroline Pidgeon (Chair):** Thank you. Richard, you want to pick up the issue of transparency.

**Richard Tracey (AM):** David, you have heard how much we appreciate you coming here and giving us this insight, and indeed we have had a discussion with you before about getting some more insight and some more transparency. I think the situation is that you report to the Mayor, but what we would like of course is far more detail of the work you are planning and then indeed the results of particular benchmarking exercises, rather than simply being told in an annual report that I think 14 different benchmarking exercises have happened or are going to happen. So is there any possibility of relaxing this somewhat and you being able to tell us rather more, which I think would inform our scrutiny of TfL much more greatly?

**David James (Chair, Independent Investment Programme Advisory Group):** Our terms of reference have not changed. They were refreshed in July but they have not changed. So we are bound by reporting to the Mayor, as I have reported to you previously. What I would say to you is, in terms of benchmarking, we were aware of your views on that. We have recommended and we will be producing quarterly benchmarking reports going forward and I would have thought the Mayor would make those available to you quite frankly.

**Richard Tracey (AM):** I see, you are making them available to him, but --

**David James (Chair, Independent Investment Programme Advisory Group):** That is our terms of reference. I do not write our terms of reference, I respond to them.

**Richard Tracey (AM):** Well I mean we can obviously go and talk to the Mayor about this because it does seem to us to be a void in the work we are trying to do. We really need as much information as possible and clearly you are producing some extremely valuable information, which we really need. But you, I think, said before that a year ago, or whenever it was, that you would need the Mayor to direct you to give it to us, but you are really saying that we ought to go and nag him to pass it over when you produce these quarterly reports.

**David James (Chair, Independent Investment Programme Advisory Group):** It is a decision between the Mayor and the Secretary of State, as far as I understand it. I have no right to circulate -- none of our documents get circulated anywhere other than straight to the Mayor and they then get circulated to the Department for Transport (DfT) for example, and I think some of them get circulated to you. We have an annual report, which is our second annual report is just about to come out; that was circulated publicly, but after the Mayor had signed it off. So everything goes to the Mayor first.

**Richard Tracey (AM):** Yes. You understand what we are saying that we could do with this?

**David James (Chair, Independent Investment Programme Advisory Group):** Of course I understand what you are saying, yes, but you also understand my position.

**Richard Tracey (AM):** Yes, I understand the position you have been put in, but, as you say, the Secretary of State and the Department for Transport gets it, now there is another ingredient in this, London First, which you are no doubt aware of London First, they have said that, if there was far more

information coming through publicly, or more or less publicly, about the benchmarking work and the various recommendations you make, if it was coming through publicly, it would be that much easier and that much more effective to make the case to Government for more investment in the infrastructure of London Underground. That is the view of London First. It does seem to make some sense to me that, if we know where we are starting from, we can all make a much better case to Government to get more funding and improve the infrastructure.

**David James (Chair, Independent Investment Programme Advisory Group):** I am not sure that producing more reports is -- I think the funding that TfL needs is pretty clear, why they need funding is pretty clear to the majority of people involved in it now. I sat in on their budget meeting two weeks ago; I think they are quite clear on where they want to go; I think most of it is very sensible. Some of the issues that are being looked at are exceedingly expensive, but if you want to maintain or produce a world-class fleet throughout the system then you have to spend money both in terms of the capital spend up front and then the maintenance money going forward.

**Richard Tracey (AM):** Yes, but you will understand that -- I mean I can see where London First are coming from that with more information they could be supporting the Mayor and London in asking for the funding and so could we. That seems to me pretty clear. I mean I agree with you that a lot of money is required but indeed we shall be coming up with even more ideas, which will require a lot more funding I think, which we will be putting to TfL. Anyway, thank you very much for that.

**Caroline Pidgeon (Chair):** Thank you. When did you say your second annual report is going to be published, David?

**David James (Chair, Independent Investment Programme Advisory Group):** It is going to the November Finance and Policy Committee.

**Caroline Pidgeon (Chair):** Thank you for that. Obviously we have written to you previously, including 24 October, about the state of the Underground. In that we were only asking you for your future work programme.

**David James (Chair, Independent Investment Programme Advisory Group):** Which is in the annual report.

**Caroline Pidgeon (Chair):** That is in the annual report?

**David James (Chair, Independent Investment Programme Advisory Group):** Yes.

**Caroline Pidgeon (Chair):** Will your new annual report cover all areas, not just the Underground that you are looking at, because your remit is clearly far wider?

**David James (Chair, Independent Investment Programme Advisory Group):** Yes, it is a much more readable document than the benchmarking report.

**Caroline Pidgeon (Chair):** Fantastic, we look forward to seeing that, but obviously we wrote to you and it has taken a year just to get an email back, it would have been helpful for you to have either said it is going to be published in this or to have stated it back to us. It is really valuable, your contribution to our Committee, and I hope maybe on some other areas where you were doing work we might be

able to potentially get you back as well rather than just always on the Underground, because you are clearly doing some hugely valuable work. So thank you, David, thank you, Gareth, for your time, and obviously Mike [Brown] for the first hour, I really appreciate it has been a very useful session, so thank you very much for that.