

London Assembly Transport Committee – 16 May 2018

Transcript of Agenda Item 8 – Tube Delays

Caroline Pidgeon MBE AM (Chair): Now we can get on to our first hearing of the day. Thank you very much. I welcome our guests. We have Peter McNaught, Director of Asset Operations at Transport for London (TfL), and Nigel Holness, Director of Network Operations at TfL. Thank you both very much for coming along today.

We wanted to catch up on issues around the Tube and in particular some of the delays we have seen recently. My first question to you is: is the network resilient?

Peter McNaught (Director of Asset Operations, Transport for London): I will start with that, Chair, thank you. I would say yes, but is it as resilient as we want it to be? No. The reason I say that: Nigel and I work daily, weekly, monthly at continuously trying to drive improvement in the performance of the Underground. It is in our DNA, if you like. It disappoints us and frustrates us that on performance of signalling, for example, last year, we saw a 3% increase in the number of service-affecting signal failures between last year and the year before. However, over four years, if you look back as far as four years, we are still 24% better than we were, and so it is a bump in the road. We are on the case. I have recently put together my dedicated team on asset operations and I have a dedicated team on signals. I have the head of signals across the whole of London Underground that is absolutely focused --

Keith Prince AM: You said something about the four years, sorry?

Peter McNaught (Director of Asset Operations, Transport for London): Yes. If you look as far back as four years, we have seen a 24% improvement in the number of signal failures, but last year we saw a 3% blip. As I say, it is a blip. It is unfortunate for our customers on the District and the Metropolitan lines in particular. That is where we have seen some of the degradation. Of the lines we have, five of the lines have actually improved in performance and five of them have seen a slight reduction, but the main ones that have seen an increase in service-affecting failures have been on the Metropolitan and the District. It is not really a surprise. The Metropolitan and the District are part of the subsurface lines (SSLs). They are some of our oldest signalling equipment, and we do have a major investment project in Four Lines Modernisation (4LM) to improve that performance considerably and replace with modern signalling technology. My team are not sitting around waiting for 4LM to come and rescue us. We have a detailed reliability improvement plan for the SSL signalling to make sure that the performance gets back to where it was and possibly even better in advance of 4LM being introduced.

Caroline Pidgeon MBE AM (Chair): What is your message to passengers, then, who have suffered serious delays? We will get into some of the examples, but the Jubilee line the other week and so on. What is your message to the millions of passengers who are really suffering delays on the Tube?

Peter McNaught (Director of Asset Operations, Transport for London): Our message is: we apologise for those delays. We do not want them to happen. Sometimes there is pain as a result of the investment we are putting in the railway, and the story behind the Jubilee line in particular is an investment programme that we are putting in place to replace emergency power supplies across the network. I do not know if you remember, but maybe midway through last year we had a particularly nasty failure on the south end of the Northern line where customers were badly disrupted on a Friday evening, and that was caused by an emergency power supply that had failed in a redundant way and so we did not know it was not working until it was called on to be used. As a result of that failure, we took ownership of all emergency power supplies across London Underground and we put a project in place to make sure they were all working and replace any obsolete ones. Unfortunately, at Neasden, during that process, an electrician disconnected a neutral wire, which put a voltage spike through the equipment and caused the failure we suffered, but we have been replacing several of these power supplies up until then.

Nigel Holness (Director of Network Operations, Transport for London): If I could add, it just illustrates the importance of the work that we have been doing over many years to upgrade the Tube. Peter talked briefly about the 4LM programme, and that is an example of a project which is trying to address the oldest parts of the network. Committee Members may know that, for example, we have a signalling frame at Edgware Road which dates back to 1926 and that will be coming out of service soon, thankfully. Only two weeks ago, in fact, we opened the new service control centre at Hammersmith, and this summer we will commission the first automatic train operation (ATO) on the SSLs from Hammersmith to Latimer Road. Then, over the next couple of years, we will gradually switch on and switch over to the new ATO signalling system and that will help improve capacity. We hope to see levels of performance that we see on the Northern line today, the Jubilee line notwithstanding that difficult issue a few weeks ago. I fully appreciate and understand that.

However, if you look at the lines that we have upgraded, an example is the Victoria line. On the Victoria line now we have 36 trains an hour in the peaks, and so we are really looking through this 4LM project and the investment in the Tube to continue to grow the capacity to run more trains per hour, to move more people with more reliability. As I said, that just really illustrates the importance of the need to invest in the Tube, which means that as an organisation we have to be as efficient as we possibly can be, driving our savings, looking at innovative ways of doing maintenance, so that we continue to drive the long-term performance of the Tube in the right direction.

Caroline Pidgeon MBE AM (Chair): OK.

Keith Prince AM: We have seen many severe delays on the District, Piccadilly and Circle lines this year, many over 15 minutes. Looking at the briefing that we had, a lot of that is attributed to staffing issues. What kind of staffing issues are causing that? Is that the main cause of the 15-minute-plus delays, the staffing issues?

Nigel Holness (Director of Network Operations, Transport for London): It is fair to say that there is a wide range of issues on those lines. It would range from things like the age of the fleet. If you look at Piccadilly line trains, for example, they date back to 1973. They are not quite the oldest trains that we have on the Tube, but they take a lot of amazing work from Peter's team to keep the system running. We have had some fleet issues. We have had some customer issues.

We will also always in there have a mix of staffing issues, whether that is availability or whether that is illness. Generally our staff do a great job and I have to say that but, occasionally, they get it wrong as well. It is a mix of things that have caused problems on those lines.

Keith Prince AM: In relation to the staffing issues, is it that you do not have enough staff or is it that they do not perform as well as they did? Historically there has not always been a problem and so why is it a problem now?

Nigel Holness (Director of Network Operations, Transport for London): We are trying to be as efficient as possible. I would say that, on the side of resourcing, the Piccadilly line, again, is a case in point. It is what we call a “feeder line” to the London Underground and so it gets a huge amount of turnover, new drivers coming in, new drivers then staying with the line for period time and moving on, and we have to make sure that we get the pipeline of recruitment right. I would say that, going back a year or two, perhaps one or two decisions were made about the level of resourcing which reflected itself in a number of availability-related delays through the summer. What I would say is that we are in the best position now that we have been in for two years on availability and staff-related errors and so I would like to think that we have come out of that. That particularly affected the Piccadilly line and one or two other lines.

As a more general point about the District line and the Circle line, again, both Peter and I would accept and apologise for the performance of those lines in the last few months. It is a blip, but they are the oldest parts of the network. They are undergoing surgery, actually, as we do 4LM. The future is bright but the journey on to that destination can be quite painful at times.

Keith Prince AM: Was the investment in the Piccadilly line not put back a little while ago? Was there not some delay or deferral in the upgrading, I seem to recall? Is that right?

Nigel Holness (Director of Network Operations, Transport for London): It has moved around, the Piccadilly line upgrade as part of the Deep Tube [Upgrade Programme] has moved around in recent years, but we are hoping now that we are very close to being able to confirm some more investment on the Piccadilly line in particular. We do need to see a new train there. It is an old mechanical-type train. As I said, Peter’s team does a great job keeping it going, but what we really need to get to is similar to what we have on the SSLs with a walk-through, airconditioned Tube, and that is really the goal for the Deep Tube Programme.

Peter McNaught (Director of Asset Operations, Transport for London): Certainly, it is worth mentioning as well with regard to the signalling system on the Piccadilly line that my team and our research and project team over the last year replaced the old programming machines to greatly improve the reliability. If you look back to probably September-October time, the Piccadilly line was suffering just as badly as the District line, but that performance has considerably improved because we finished that project and we are not seeing those signalling errors that we were experiencing just to the sheer age of the old programming machines.

Keith Prince AM: When are we likely to see the improvements on the District line, then?

Peter McNaught (Director of Asset Operations, Transport for London): On the District line, I have a list of things to probably help you, if I take you through what my team are doing to try to bring up the District line while we wait for 4LM to come.

If you imagine, there are probably a few main areas that cause signal failures or are reported where the symptom is a signal failure. One is points or the point mechanisms, and so around the SSLs we are replacing 2,300 point indication pins on our four-foot point mechanisms, which is the most common failure mode on those point mechanisms, and that will be done by September [2018].

We also have a mitigation programme for 249 of the Surelock point mechanisms. That is a new model and point mechanism we have fitted which has many benefits but it has a couple of reliability flaws with it, and so we are going back around those 249 sets of points to make sure that those problems are eliminated. We have already eliminated all of those problems on every line apart from the District line and we are working through the District line now to bring that to a close on the District line as well.

We have also introduced three dedicated complete point care teams on the SSLs because points are where tracks and signals come together. What you can get are signalling teams attending a set of points, setting it up perfectly and walking away saying, "It all works fine", but if the points are sitting on uneven track, as soon as the train goes over it, you get all sorts of problems. These dedicated complete point care teams attend a set of points, set it up and make sure the track form underneath it is proper so that they walk away and that asset works properly. They are working around the SSLs and around 55 critical ends of points and they are doing that over the summer period to make sure those points are working properly.

If I move on, then, to train stops, on the old subsystem signalling, where you have a red light, you also have the protection system of a train stop that flicks up so that, if the train goes through the red light, it slams the emergency brakes on the train. Train stops also cause a number of failures on the railway. They are air-operated and they leak air, which results in it not operating properly and manifesting itself as a red signal because the system fails safe. We are going around and we are replacing 1,322 pneumatic motors across the SSLs; 947 of those are on the SSLs. We are doing that over the next year. In addition to that, we have targeted replacement of the contact boxes in the train stops because that is a failure mode of the train stops.

It is worth pointing out that of all the signal failures we have, 37% of them are caught at start of traffic: the railway goes to bed working and it wakes up not working. It is no coincidence that every night between 4,000 and 7,000 human beings access our track every night to do maintenance or project work. By no means all of those people are signalling experts. Some of them are doing civil inspections; some of them are installing new cable for the 4LM project. What we have is those people inadvertently stepping on things and damaging things, and then you go to switch the railway on in the morning and it does not work.

We have a big focus to work through and improve start of traffic. That starts with working with my colleagues in Nigel's organisation, who run service control. If you imagine the Fat Controller running the railway network, in the middle of the night those people are still on duty. What we have set up is a call at 4.00 am in the morning when each of those service controllers on every network has the

responsibility to check that every single signalling track socket is operational. If any of them are down, every one of those 7,000 possible groups of people on the track have a Connect radio and so we can get in touch with them to find out whether it is something they are doing that is causing this failure and whether it will be fixed in time for start of traffic.

We are also looking to tidy up our network. There has been a lot of things done in the past by previous projects and renewals where scrap has not been removed from the railway. We are taking the opportunity to tidy our railway at key intersecting junctions. We call them "critical assets". We are removing scrap. If you take Acton Town, for example, we have already removed 260 tonnes of scrap from the Acton Town area. Our plan is to make these critical asset areas, which have been some of our most untidy areas, our best shining example areas.

The other thing is we are putting strict control in place for what we call "critical jobs". A critical job may be because of the complexity. If people are ripping up the track and trying to put it back together in the two-and-a-half-odd hours they have during engineering hours, that is a critical job. Equally, a critical job might be quite a simple job but in a very high-impact area like Earls Court or Acton Town. When we flag a critical job, there are all sorts of additional protections we are now putting in place that has to be with those people, technical officers from the signalling team to make sure if anything goes wrong we can fix it as quickly as possible to minimise disruption to our customers.

The other thing is education for all these people going onto the track about the damage they can cause and the things they need to look for. On top of that, we are putting in signage. In these key critical asset areas, as you walk along the track and you come to one of those key areas, there will be signs on the track that tell you, "You are entering a key reliability area for London Underground. Take care. Report any damage. Do not leave things lying around".

We are also looking to utilise the public address systems in the stations. If you imagine, we use them for our customers through the day to tell them about taking care. We are looking to start to use them to remind all the people coming on and off the railway, "Have you made sure that you have reported any damage? Please take care. You are entering a critical area. Make sure that you leave the railway in a reliable place".

Caroline Pidgeon MBE AM (Chair): Lovely. Thank you. Tightening up your processes sounds like it is going to work.

Tom Copley AM: Just very quickly looking at the staff levels, is it possible that any of the issues with staffing have anything to do with the TfL Transformation Programme or is that something that would not affect any of these issues under staffing?

Peter McNaught (Director of Asset Operations, Transport for London): To Nigel's point, it is probably helpful to explain what a "feeder line" is. When train operators apply for a job with London Underground, they get allocated to a line but, because the Piccadilly line is a manually controlled train and so is the District line, people tend to want to move away from a manually controlled train to get onto an automatic train because it is easier. It is less difficult with less chance of having a spark. What we see is a migration of train operators from those lines to the automatic lines and the

new recruits end up coming into the Piccadilly and District lines. In answer to your question, it is nothing to do with the transformation. We have had an issue with feeding --

Tom Copley AM: That issue is to do with the train drivers and things, not to do with staffing to do with engineering or anything like that?

Peter McNaught (Director of Asset Operations, Transport for London): Yes.

Nigel Holness (Director of Network Operations, Transport for London): In fact, our frontline staff are not involved in this transformation work that we are doing to make TfL more efficient.

Caroline Pidgeon MBE AM (Chair): Thank you. Joanne, you wanted to pick up?

Joanne McCartney AM: Yes, it nicely follows on from that because my constituents rely on the Piccadilly line. Thankfully, recently, at the northern end rather than the southern end. Could you just update us as to the procurement of your new trains? Is that still on track?

Peter McNaught (Director of Asset Operations, Transport for London): It is still on track. It has not been announced yet, I do not think, and --

Joanne McCartney AM: Are we still waiting?

Peter McNaught (Director of Asset Operations, Transport for London): -- I am excluded from knowing which supplier it is. They all have codenames. It has not been announced yet, but I believe the announcement is going to be soon, this month, I think.

Joanne McCartney AM: It is still on track?

Peter McNaught (Director of Asset Operations, Transport for London): It is still on track.

Joanne McCartney AM: Thank you.

Caroline Pidgeon MBE AM (Chair): Lovely. Thank you.

Shaun Bailey AM: Good morning, gentlemen. You made a comment earlier on about an electrician reconnecting something wrongly on that earth line, I think you said, and that putting stuff down, but is there anything particularly wrong with the power supply that is leading to so many failures? How are you managing your relationship with UK Power Networks?

Nigel Holness (Director of Network Operations, Transport for London): I can have a go, but I guess it is predominantly Peter's area. We have a pretty resilient supply. For example, the stations have three levels of supply. We have our own supply and we have the street supply and we have a battery backup system. We have our own power control room and we do high-voltage switching and low-voltage switching, so we have a pretty diverse power supply.

The problem that comes is that still in one or two locations I guess we have the risk of a single point failure or the risk of somebody doing something wrong, which is effectively what has happened on the Jubilee line two or three weeks ago. Thankfully, it is a very rare occurrence but, when it does go wrong, it is very difficult and very challenging for the organisation and of course its customers as well.

Really, we are thoroughly investigating that particular issue. There is a formal investigation being carried out right now. It will be completed by the end of the month and that will identify some recommendations, probably around control of work, control of access, better planning and these sorts of things because they have been indicated as the causes of that particular failure. However, generally our power supply is very strong and very resilient.

Shaun Bailey AM: Peter, do you have anything you want to add?

Peter McNaught (Director of Asset Operations, Transport for London): No. Nigel has covered it. I can think of examples and, actually, part of the role of the emergency power supply I spoke about is that if one power supply fails, this device switches across to a second power supply, and so we have dual power supply to all our stations, etc. If we develop a problem - sometimes I might get reports of lifts and escalators not being as reliable as we want them to be because of ripple on the power supply - I will work with UK Power Networks to understand where that is coming from, but while we are doing that I will switch the device of course to run from our other supply while we put instrumentation on the supply to understand the cause.

Shaun Bailey AM: Thank you for that. Are some of the delays we are experiencing the consequences of reduced maintenance spend? By some estimations, the maintenance spend has reduced by almost £6 million. Is that having any onward effect? It seems like quite a large sum.

Peter McNaught (Director of Asset Operations, Transport for London): I do not think so at all. I am in charge of all of the asset areas and it is me who has been working to reduce how we spend the money and what money we spend. One of the areas that we insisted that our efficiency programme did not affect was safety or reliability. It is not allowed to affect that and so we have not cut from the frontline maintenance. We have saved a lot of money in some of our external contracts and we have brought work in-house and we have looked at how we can do things more efficiently, but we have not reduced the actual maintenance that we do, if that makes sense.

Shaun Bailey AM: You are very confident that your current programme of cost-saving has generated that saving rather than it disappearing from your budget and that causing you any difficulties?

Peter McNaught (Director of Asset Operations, Transport for London): That is correct.

Shaun Bailey AM: OK. Thanks, Chair.

Caroline Pidgeon MBE AM (Chair): Lovely. Thank you very much. And then Navin on this weekend?

Navin Shah AM: Yes, thank you, Chair. Match and event days at Wembley Stadium, as we all know, are always very challenging and complex in normal days. This Saturday, we have the Football Association Challenge (FA) Cup final at Wembley Stadium with a London club involved, as well as the Royal Wedding with street parties and it is going to be really buzzing in that area. Do you think it is wise to have not - and should you not have - suspended plant engineering works over this weekend? That is going to contribute a huge problem both operationally as well as to the communities and neighbourhoods and people going to the Stadium, as well as the other flow of traffic.

Nigel Holness (Director of Network Operations, Transport for London): The decision on when we hold planned closures for essential engineering works is never an easy one. We have been talking about the District line performance and reliability and this weekend sees a closure predominately on the District and Circle lines, which is doing some really essential work for us around Earls Court, Gloucester Road, Fulham Broadway, Putney and West Kensington. There is a significant amount of work that is going on this weekend.

Thankfully, the vast majority of TfL services are running and certainly, if you look at some of the specific locations, Wembley will be fully served by the Metropolitan line, it will be fully served by the Jubilee line, and of course the Bakerloo line also be serving Wembley Central. The Metropolitan and Jubilee lines will be running a full service up there and we will do our usual matchday work there.

If we look at the Royal Wedding, clearly, it is in Windsor. These closures were planned. The planning for these is about a year to two years in advance. A lot of planning goes into these and of course we are very conscious of the impact on communities and customers and the need to keep London moving, really. We have worked very closely with Network Rail and the train operators to make sure people can get to and from Windsor. Again, Paddington will be served by the Circle and Hammersmith lines and Waterloo will be served by the Northern line, the Bakerloo line and the Jubilee line, and so people will be able to come and go from Windsor.

It is not easy to find a place where we can do this work in what is a massively packed calendar of events for London. We need to avoid football matches. We need to avoid, in this particular area, things like Wimbledon coming up, the Queen's Club [Championships] tennis coming up, Polo in the Park coming up and lots of events in Hyde Park, and of course we have to fit in other closures; for example, the 4LM. Really, this is all about ensuring that we continue to have a safe and reliable railway.

Having reviewed this after the date of the Royal Wedding was announced, we are still confident that it is OK for us to have this closure and get this important work done. As I said, the vast majority of our services will be running and we will have additional staff out there, particularly at the key locations, supporting people who are traveling in and around London.

Navin Shah AM: This is going to be an exceptional day, albeit one day, but given the large number of passengers on Saturday and generally over the weekend, are you confident that you are going to be able to deal with the increase in passengers on the network?

Nigel Holness (Director of Network Operations, Transport for London): I am confident, actually. We did look back at the last Royal Wedding at Windsor with Prince Charles and Camilla Parker Bowles, and we have looked at the gate line data that we collected on people, and we factored that into the decision. There was no discernible impact on people around that time travelling to and from Windsor. We have those services running again with our National Rail colleagues and we are working closely with them to make sure people can get to and from Windsor and can get to and from the Underground. As I say, it is a very difficult judgement and a very difficult balance. We do need to get this work done. It is essential. It is about the underlying reliability of the Tube and the things that we have just been talking about. It is difficult to balance it and find a space in a busy calendar. If you look forward at the closures through the summer, almost every weekend we have vital works going on and it is really very difficult in a very busy calendar to find the right place to do this work.

Navin Shah AM: Are you able to give an absolute assurance to my residents in Brent living in and around the Wembley area that you have taken adequate measures to avoid any disruption - this is going to be just a major day - and that there will not be any chaos or disruption that they will be facing?

Nigel Holness (Director of Network Operations, Transport for London): I have to say I understand the point you are making. We are very experienced at handling events at Wembley and other locations and we are very confident in our plans to get people to and from the football very safely on Saturday.

Navin Shah AM: Is there a number that people can dial if they have issues arising from that?

Nigel Holness (Director of Network Operations, Transport for London): People can contact the TfL customer contact centre. It is advertised very widely on the Tube. I cannot quite remember what the number is myself, but people can do that. They can write to us, they can email us and they can call us if they have any concerns. All of our stations are all staffed as well and so I encourage people to ask any member of station staff if they have any concerns. We are running full services on those lines that are serving Wembley at the weekend as well as Paddington and Waterloo.

Navin Shah AM: I am still concerned about the planned engineering works. What would be the consequence of halting that work, certainly for Saturday? Is it not doable? Will it disrupt and destroy your complete management plan or whatever operational arrangements you have made?

Nigel Holness (Director of Network Operations, Transport for London): At this point, it is not the primary consideration but it is an important consideration that the cost of abortive works will be significant. Far more importantly, we are doing work on track renewal. I have the detail here, but it is points and crossings work, track renewal at Earls Court, track renewal at Gloucester Road, work around Parsons Green, West Brompton, Wimbledon and East Putney. There are millions of millions of pounds being spent on the reliability of the District line to ensure that it is better for customers. Therefore, again, having evaluated this and re-evaluated it after the date of the Royal Wedding was announced, we are confident that, balancing all of these factors together, it is the best time to do the work. We are confident that people can get to the football and we are confident that people can use Paddington and Waterloo to get out and back to the Royal Wedding.

Peter McNaught (Director of Asset Operations, Transport for London): It is worth pointing out in support of Nigel --

Navin Shah AM: It will be no more than what you generally find in the conditions when you have matches or major events at Wembley Stadium. Is that what you are telling me?

Nigel Holness (Director of Network Operations, Transport for London): Yes. We have had closures before that have coincided with matches at Wembley Stadium. Even this season --

Navin Shah AM: No, here we are talking about the Royal Wedding as well.

Nigel Holness (Director of Network Operations, Transport for London): Yes. Taking the match first of all, Tottenham Hotspur has been playing at Wembley all season and has sold out virtually every game, and so we are very well practiced at managing that. Of course, we have managed that in and around closures of the Underground as well when we have had to get essential maintenance work.

I can only really go back to my last point, which was that we have looked at the data for the last Royal Wedding at Windsor, we have looked at the planned closures, we have looked at the services that we have supporting Waterloo and Paddington to get to and from Windsor, and we have worked closely with Network Rail on its closure programme and the train operators - South Western Railways, Southeastern and Great Western - to ensure that we have a really joined-up approach and get people to and from the Royal Wedding.

Caroline Pidgeon MBE AM (Chair): I have quite a lot of Members wanting to come in, but the scale of this wedding is rather different to Prince Charles's wedding in Windsor and it is more akin to Katherine and William's. It is not just about people getting to Windsor; it is people going to events in London, going to see family and using the wedding as an occasion to get together and celebrate. It is about Londoners getting around to see their families and friends and go to events, not just people wanting to go to Windsor.

Keith Prince AM: There is the FA Cup as well on the same day.

Caroline Pidgeon MBE AM (Chair): It is the same with the FA Cup. People use that [route], quite. I just wanted to pick up before I bring in other Members: what additional staff are you putting on at key stations such as Waterloo, such as Clapham Junction and the like, where people will be using the Overground and the Underground to then go out to perhaps Windsor and places? What links do you have with Network Rail? Too often - and I raise this a lot through Mayor's Questions - you have closures at the same time as Network Rail. In west London, huge chunks are out when trying to get to Ealing from central London. It is impossible because both of you are doing works at the same time.

Nigel Holness (Director of Network Operations, Transport for London): We have worked very closely with Network Rail on this weekend's services and in particular with the train operators we have been working at managing director level to ensure that we have a seamless approach. We

have looked at the key pinch points - I will not go over them again - and we have checked to ensure that we have enough staff. On TfL we will supplement our existing staff at Waterloo and at Paddington, for example, both with our regular operational staff and also with our TfL Ambassadors. These are voluntary staff who will go out and help support customers as well. Therefore, we are confident that the staffing levels will be adequate.

Caroline Pidgeon MBE AM (Chair): That is great. On this particular point, before I bring Florence [Eshalomi AM] in on a different one, Keith [Prince AM] and Caroline [Russell AM] also wanted to come in.

Keith Prince AM: No, it is fine.

Caroline Russell AM: It is almost completely covered, but I just want to know what evidence you have that this Royal Wedding will be the same levels of people wanting to move around as the one of Prince Charles a few years ago. This seems to be at such a much bigger scale.

Nigel Holness (Director of Network Operations, Transport for London): The main data we have used is gate line data of people tapping in and tapping out to look at people moving across London and moving to and from Windsor --

Caroline Russell AM: That is making the assumption this wedding is the same size in terms of people wanting to move. Have you modelled a scenario where many more people are travelling?

Nigel Holness (Director of Network Operations, Transport for London): I cannot explicitly say that here. What we will do is we will provide some evidence to you outside of the meeting of the approach that we have taken to assess the impact of this Royal Wedding on central London.

Caroline Russell AM (Chair): Thank you. She is an international television (TV) star, is she not? That just adds another level of interest from people. A separate issue before we close, Florence?

Florence Eshalomi AM (Deputy Chair): It is a separate issue but it is linked to delays and work. You will be aware that the Bank branch of the Northern line at Kennington will be closed for a period of 16 weeks. Chair, I should declare an interest because that is the station that I use to commute here in the morning and so, obviously, I would want that work to be speedily completed.

I have been discussing this with other colleagues in TfL, but just going back to the first question from the Chair to you, Peter, in terms of the additional stations that we are going to be asking commuters to use, mainly Elephant and Castle, Oval and Waterloo, which we know are already bursting at the seams at peak times, the closure is going to start on 26 May [2018], which is a Saturday, and then we fall into that half-term weekend. The real test is going to be on Monday, 4 June [2018], when everyone is going back to work and school. Is the network going to be resilient for that closure?

Peter McNaught (Director of Asset Operations, Transport for London): Yes. We, in addition to Nigel, first of all taking the weekend just coming, are putting additional technical officers on duty. These are our insurance policy people who are spread across the network in the event of any

failure. Equally, on 4 June, we will have additional resource available to attend and deal with any failure if one occurs.

On the Network Rail point, it is also worth mentioning that in our London Underground Control Centre (LUCC) at Palestra, we have a permanent member of Network Rail now in there. That link is absolute in real time with anything with Network Rail so that, if they have a problem, we know about it and we can deal with it and we can work across our stations to help move the flow of customers and deal with it.

Nigel Holness (Director of Network Operations, Transport for London): Can I pick up the Bank particular issue? The work at Bank at Kennington is part of the Northern line extension and we have to create some new passageways there. We have extensively looked at the different options for doing the work, from engineering work to weekend closures. We looked at the cost options. We looked at the safety issues: can we keep those platforms open? We were down there on a site visit only the other week. Our conclusion is that this is the best way and this is the optimum way to get the work done. I do accept that there is significant disruption, but this is all about improving the overall performance of the Northern line and supporting the Northern line extension.

Again, the destination is worth the journey, but it will be challenging for people. We are putting a huge amount of effort into what we call travel demand management publicity and so people will see the yellow flash stickers around the Underground and hear announcements. There will be additional staff. We will be absolutely monitoring it very closely to make sure that it is safe.

We have to get the work done and so I would apologise for the disruption that it is going to cause you and other customers who use Kennington. It is never easy on a system that is very old and is very busy, but we will do our very best to get the work done as quickly as possible and we will be monitoring it very closely.

Florence Eshalomi AM (Deputy Chair): That is good. Thank you.

Caroline Pidgeon MBE AM (Chair): Lovely. Thank you very much, Peter and Nigel, for your openness this morning and answers to our questions. If there is anything further, we will write to you to perhaps get some of that real detail on the lines that you set out, Peter, so that we have that on record. Thank you very much for your time.