

Transport Committee

17 January 2012

Transcript of Update on Hammersmith Flyover

Caroline Pidgeon (Chair): Before we move on to river services, we have Leon Daniels here, Managing Director of Surface Transport, Transport for London (TfL). I was wondering, Leon, if you could give us a brief update on the latest on the Hammersmith Flyover, which I know many Londoners are very concerned about?

Leon Daniels (Managing Director of Surface Transport, TfL): I am happy to do that and I am happy to do so having only, on Friday, for the fourth time been inside the Hammersmith Flyover myself with another group of interested parties to see it. Just so that Members are aware, this busy road is part of the A4. The structure was built between 1959 and 1961 and it is of a type of construction that makes it almost unique.

The Hammersmith Flyover is built with concrete sections which are bound together under tension using post-tensioned steel rods. Those rods are bunches of cables that link three or four spans together in overlapping sections. So it is rather like, if I might say so, if you were trying to take ten books off your bookshelves only by holding the outside ones and pushing inwards. That is how the flyover has to be held together.

The Hammersmith Flyover was built to have electric surface heating, like a number of constructions of the period - Spaghetti Junction [Gravelly Hill Interchange] is another one - as a result of which it was never expected to be gritted. The electric surfacing never worked. Therefore, for the last 50 years it has been gritted and the effect of salt water working its way through into the flyover has been the primary cause of the deterioration of these bunches of steel cables.

There are many hundreds of these steel cables and we have been concerned for a couple of years about the rate of deterioration of those cables. They are all encased in concrete. So apart from digging the concrete out, the only way to determine what conditions they are in is by ultrasonic testing, which we installed a year or two ago. From that, we can determine the rate at which those bunches are failing and extrapolate from that how long it is before intervention is required.

We believed, from the results of those tests, that we had a considerable period to think of and design a repair; but, in fact, during December as part of routine checking, when we dug out some concrete and looked at some areas that we thought were sound, they turned out to have failed. The reason the flyover was closed on 22 December 2011 was because, if what we had found in those areas been common throughout the structure then there would have been a danger of collapse. That is the reason it had to be closed without warning.

We were very lucky that we then had two weeks of the quiet Christmas traffic period. I know that is not very nice for those people who were forced to use that particular section of road during the Christmas and New Year period but I promise you traffic was lighter and we had a team of up to 80 people working night and day; again, nearly all inside the structure, so nothing to see from the outside. We have carried out a detailed examination of the whole of the structure.

We did not find anything as bad as the section that worried us back in December and, since we now have been able to calculate precisely from the minute inspection the loading resilience in the structure, we were able last Friday to open the traffic to two lanes, one in each direction, of cars only. That is enforced by a width restriction. That can now continue and we are starting work now on the repair.

That repair effectively involves re-stringing the flyover from inside with new steel cables and this time around, broadly, we will be using a different type of steel that will not deteriorate at the rate the 50-year-old steel has deteriorated. We will not encase it in concrete so that we can see physically the state of those cables at all times. Much of that work will be able to be done inside the flyover, using the spare lane that we have on top of the flyover where necessary, and that will allow us to get back to the full four lanes with up to 44-ton traffic in the spring.

Caroline Pidgeon (Chair): What is the likely cost of this work and what is it budgeted for?

Leon Daniels (Managing Director of Surface Transport, TfL): We have obviously done the immediate repair work in order to get the flyover open to traffic straight away. We are currently computing the cost of the whole work but we are into tens of millions of pounds.

Caroline Pidgeon (Chair): Do you have reserves to be able to cover that?

Leon Daniels (Managing Director of Surface Transport, TfL): We have a plan as to how to pay for it.

Valerie Shawcross (Deputy Chair): I appreciate this is a horrendous thing to happen and to have to manage, particularly since we have the pressure of the Olympics to get this sorted. The thing I did not quite understand, Leon, and I know you have not been with us very long, is how come the inspection regime did not show up that really seriously deteriorated area sooner? I think there was a similar major failing in Spaghetti Junction, wasn't there, that was repaired in 2010? We would have thought that alarm bells would have meant that more serious inspection and intervention would have gone on at an earlier stage.

Leon Daniels (Managing Director of Surface Transport, TfL): In fact that was what was going on. You will understand that, obviously, as these steel cables fail the resulting pressure on the remainder increases. Therefore, the rate of failure is likely to grow exponentially because of the rate of failure. We were doing all this work from ultrasonic testing and some physical checking. Now, we are very loathe to do too much digging out of the concrete in order to inspect physically because that concrete itself forms part of the resilience of the structure.

Valerie Shawcross (Deputy Chair): That is a problem, yes.

Leon Daniels (Managing Director of Surface Transport, TfL): What we were doing and we have been doing for some time - and certainly this was on my agenda in the summer - was we were seeing the rate of decline in the physical structure, but the computations very clearly showed that we had many months before any intervention was required. Nevertheless, because the science of ultrasonic testing is not, of course, perfect, there were some physical investigations taking place. It was as a result of that enhanced checking regime, which was the physical checking of some of the cables, that we uncovered the particular area that gave us the original concern. So it was as a result of enhanced checking that we discovered it.

Valerie Shawcross (Deputy Chair): Why was there not enhanced checking at an earlier stage then?

Leon Daniels (Managing Director of Surface Transport, TfL): There has been a continuous process of enhanced checking but what frightened us was when we found an area where, this time, the physical evidence was different to the ultrasonic evidence.

Valerie Shawcross (Deputy Chair): So there had been a very rapid period of deterioration - is that what you are saying - perhaps last winter? Why had this happened so quickly?

Leon Daniels (Managing Director of Surface Transport, TfL): I am afraid the rate of deterioration across the structure is far from uniform. There are about half a dozen segments that are in worse condition than others. This is not just a case of every cable in the structure deteriorating at the same rate and the ultrasonic testing has its limitations. So, as we have found areas of the structure that were in worse condition we were carrying out more physical investigations and that is what was going on.

Valerie Shawcross (Deputy Chair): OK. I understand what you are saying now. Is there going to be 24-hour working?

Leon Daniels (Managing Director of Surface Transport, TfL): Yes, there is. There has been 24-hour working continuously since 22 December. Again, apologies to those people who perhaps were stuck in the traffic and appeared to see no work going on. That is because, I promise you, they were all inside. If we could have taken the end off it so people could have seen people beavering away inside, we would have loved to have done so.

Valerie Shawcross (Deputy Chair): I think it is important that you say that actually because people do feed these things back.

Leon Daniels (Managing Director of Surface Transport, TfL): I promise you, on Christmas Day I spoke to the site manager. He had a number of people on site. They had just stopped for their Portakabin Christmas lunch before going back in to carry on with work. So people were working night and day across Christmas and New Year.

Valerie Shawcross (Deputy Chair): I think we are grateful for that night and day working. Last question: are there any other similar structures – similar age, similar design – anywhere in London?

Leon Daniels (Managing Director of Surface Transport, TfL): No.

Valerie Shawcross (Deputy Chair): You are certain of that?

Leon Daniels (Managing Director of Surface Transport, TfL): Absolutely certain because, you will not be surprised to know that, as my other part of Christmas homework, that was an obviously place to go and see.

Valerie Shawcross (Deputy Chair): Yes, that was my next question.

Leon Daniels (Managing Director of Surface Transport, TfL): This is the oldest structure of its type. Since I have learnt this I am very happy to share it. Structures that are built like this now are not just built with these sections brought together and joined together. They are made to fit each other. Every concrete segment in a structure like this now is made to fit precisely to the one next to it. In 1959 these sections were all made generically and then stuck and glued and pulled tight together. In more modern forms of construction this sort of failure does not happen.

Murad Qureshi (AM): Caroline, I would not have intervened but for attending a public event on Saturday in Hammersmith where there are actually a lot of residents concerned, not just from Hammersmith but also Chiswick, which is clearly adversely affected. There are one or two issues that they brought up. One was, whatever measures are taken, what is going to be the extended life of the flyover?

Leon Daniels (Managing Director of Surface Transport, TfL): It is really important to clarify that because I had and TfL had said that this was a fix that might last us seven to ten years, which would give a seven to ten year window to a new Hammersmith Flyover or tunnel or whatever to be designed and constructed. Much more recently we have discovered as a result of all the work that the concrete in the structure is in very good condition. For as long as the concrete is in very good condition then effectively re-stringing the whole the flyover has a much longer lifespan than we had expected. The concrete has to be in good condition because that is what it is bolted to.

All the evidence now from both the investigations into the state of the concrete and increased assurance as far as the repair is concerned and the fact that we will be able to monitor the cables physically, continuously, this is now a very long-term repair, which means that the structure will be safe for decades. Therefore, any rush to design a replacement structure in the next seven to ten-year horizon is no longer the case. We are confident this will last for a very long time.

Murad Qureshi (AM): That was one of the things, as I said, that was clearly of concern to residents and they have their own views about what should be possibly replacing it. I will not go

into that. The other area, which touches on what Val said, is about other similar flyovers. Can I just confirm that we do not have similar issues with the Chiswick Flyover over the Hogarth Roundabout, because that certainly was a temporary measure and still feels like it when you go over it?

Leon Daniels (Managing Director of Surface Transport, TfL): Just to understand, this is the one from the A316 on to the A4?

Murad Qureshi (AM): Yes.

Leon Daniels (Managing Director of Surface Transport, TfL): It is a totally different form of construction. It carries nothing like the weight of the Hammersmith Flyover, which is taking 90,000-odd a day.

Murad Qureshi (AM): Finally, the Westway.

Leon Daniels (Managing Director of Surface Transport, TfL): The Westway is a much newer construction.

Murad Qureshi (AM): There are no issues there at all?

Leon Daniels (Managing Director of Surface Transport, TfL): None at all.

Roger Evans (AM): I am not sure I am reassured by that actually because, certainly in recent years, in my part of London we have had problems with the Gallows Corner Flyover, which was discovered at very short notice to need repairs that led to its closure. We also had problems with work on the Gants Hill Roundabout because they discovered that the concrete it was built on was reinforced and so it would take much longer to do a project there than expected. I think the whole of this business really raises questions around the asset management of TfL streets and, because all your structures are different, it is actually quite difficult to predict which ones are going to have a problem next, isn't it?

Leon Daniels (Managing Director of Surface Transport, TfL): It is indeed and you will not be surprised to know that we have a very good list of the condition, as we understand it, of all of the assets including the major structures such as you describe. Bearing in mind we inherited this particular Hammersmith Flyover from the Highways Agency in 2000. Since it has been in our custody we have been working very hard to understand the condition of it and the same with the other structures. We have a definitive list of the structures, the condition in which they are in, the sorts of repairs which are necessary and indeed a programme which, subject to funding, allows us to carry out temporary remedial work or more substantial remedial work in order to keep them in good condition.

Roger Evans (AM): One more question. Certainly looking at Gallows Corner and at this particular episode, you will see we have one lane open on each side and restrictions to traffic in quite a lot of other places which occur not because work is happening on the road but because of the weight that is being carried or whatever. Do you give any thought to utilising that spare

road space for, say, cycle traffic or something like that? It is sitting there, it is not being dug up and road space is at a premium in London.

Leon Daniels (Managing Director of Surface Transport, TfL): Indeed. In the case of the Hammersmith Flyover, the post tension steel cables I described emerge on to the surface at various points and that is the point at which we do the tensioning so that we have one lane open to light traffic. We are using the other lane for the access. It is the outside lane in both cases. So, physically, you will see us digging up the central reservation and accessing those.

I am afraid we do not have the other lane available even to cyclists. If we did - if I might just say so - the prospects of getting cyclists safely into the outside lane of a three-lane road in order to utilise a bit of flyover space and get them safely back into the kerb on the other side would be serious and it is something we have considered in a different context to do with cyclist safety. So it is unlikely for both of those reasons, I am afraid.

Jenny Jones (AM): I was wondering about traffic mitigation measures. I went past about three weeks ago and it was clear there was a lot of rat-running because people were trying to avoid the whole Shepherd's Bush area. Are you keeping figures on levels of traffic and what are you doing to actually make it easier, apart from telling people not to use that area?

Leon Daniels (Managing Director of Surface Transport, TfL): If I might explain. Firstly, the information about the closure of the Hammersmith Flyer was on the variable messaging signs right out as far as Banbury and Basingstoke and so on - all the trunk roads coming in from the west. For the record, just to say we do not signpost diversion routes because it is of no value diverting 100% of the traffic somewhere else. In any case, everybody's journey is different and, therefore, we need to tell people what the problem is and help them devise their own personal solution. We were very lucky, if I may say so, that this was discovered the week before Christmas because we did get the period across the Christmas and New Year holiday when traffic was lower. Even on the week of 6 January, which we have just had, overall traffic on the A4 corridor through Hammersmith was between 30% and 50% lower than usual and traffic on the diversionary routes around it were up by about 20%. So a proportion of the traffic disappeared.

Jenny Jones (AM): So you are keeping figures both in the area and the wide --

Leon Daniels (Managing Director of Surface Transport, TfL): Yes. Again, just to say, we spoke directly to Southwest Trains and Great Western, both of whom were making marketing initiatives to encourage people to avoid the flyover by using rail services. We had some other plans in place, that in the event we did not need to use, that would have provided alternatives for people that did not want to use their own cars on this particular section of road.

Jenny Jones (AM): What, buses or --

Leon Daniels (Managing Director of Surface Transport, TfL): And so on, yes. So we keep that under review. The really good news is that a lot of people heeded the warnings and either did not use their vehicles on this stretch of road at all or found diversions around it. We

also made lots of changes to the traffic signals in order to deal with the inevitable diversion of traffic on to other roads. For example, there is a way from Hogarth Roundabout up on to the Chiswick High Road and we made sure that you could get more than two cars out on to the Chiswick High Road at a time by manipulating the traffic signals.

Caroline Pidgeon (Chair): Thank you very much.