

Post-hearing submission by Mark Barnes (SILV-123), following the hearing on 17 January 2017 (supplementing the outline representation of 14 July 2016).

Summary

The concerns I expressed in my outline submission of 14 July 2016 appear to be borne out by TfL's own figures. The Transport Assessment ("TA") S 3.1 makes clear that the main object of this scheme is to reduce traffic congestion, but on TfL's own figures it seems that the effect will be to displace, rather than reduce, congestion, and indeed to make congestion even worse in peak hours. TfL's submissions on 17 January 2017 indicate that the current position is already worse than the base case, and that they have no real policy to address congestion in the surrounding road network – specifically the network in South London with which I am most familiar.

There are secondary advantages to the scheme in terms of public transport and resilience, but it is submitted that the project can only be justified as part of a package that adequately addresses the primary issue of congestion.

Submission

1. Congestion at the Blackwall Tunnel is even now a very real problem. The question is whether this proposal solves that problem or just displaces it.

2. TA S.4.4 described the current problem thus:

"the Blackwall Tunnel is one of the most heavily congested major traffic routes in London. While all of the highway crossings in the ESR are operating at or close to capacity, high levels of demand at the Blackwall Tunnel in particular mean that there are long queues on the approach roads to the tunnel particularly in peak periods".

That assessment needs to be updated: it was based on traffic flows averaging around 91,000 trips per day (S.4.1). At the hearing on 17 January TfL submitted figures showing that the average for 2016 was around 101,000 trips per day.

3. This problem is going to get worse. TfL expects the demand for river crossings to increase by about 40% by 2021 (relative to 2012) - TA S.5.3:

" At the Blackwall Tunnel, demand relative to capacity will increase significantly at peak times, particularly in the southbound direction during the PM peak when demand relative to actual flow is forecast to increase from 104% in 2012 to 142% in the 2021 Reference Case".

There is every reason to think that demand will markedly increase, and I have no reason to doubt that forecast. The TA does not actually explain the implications on the Reference case of this increase in demand, but according to S.4.4 there are already (even on the un-updated figures)

"... long queues on the approach roads to the tunnel particularly in peak periods, and average speeds are low. In the northbound direction in the AM peak, queues routinely stretch back 3.2km from the tunnel portal while in the southbound direction in the PM peak queues can often stretch back 2.7km. This congestion can add, on average, around 20 minutes to users' journey times and often more".

4. it is obvious that if the present situation is bad, a 40% increase in demand across the Blackwall Tunnel (in the Reference Case) will produce much worse results. It is worth bearing this in mind when looking at comparisons of the Reference Case and the Assessed Case. I assume (suspending disbelief for the purposes of this submission) that TfL can use the toll to keep traffic under the Assessed Case to the same levels as under the Reference Case. But the fact that the Assessed Case (on that assumption) makes things marginally better or not much worse than the Reference Case, fails to address the problem that both cases assume much higher levels of traffic, that the road network simply cannot cope with.
5. At the hearing on 17 January it was explained that the Silvertown tunnel is forecast to take about 25% of the overall demand. But if the overall demand has increased by 40%, that is not much help. It implies that even if the new tunnel is built, demand relative to actual flow at the Blackwall Tunnel will still be worse than it is in the 2012 base case (75% of 142% = 107%).
6. Of course, drivers in 2023 (or whenever the tunnel is built) who are faced with the same queues they face at present may be expected to divert to the Silvertown tunnel, even if that is a less convenient route. That means that flows at the Silvertown portal are likely to be much higher than the 25% currently forecast. At the hearing on 17 January it was suggested by TfL that if such flows were higher than forecast, there might be need for mitigation. It seems that this is virtually certain and should be planned for now.
7. The impact on the surrounding road network of the increased congestion (in the Reference Case and the Assessed Case) will be dire. In the passages quoted above, TA S 4.4 focusses on *the approaches* to the Blackwall Tunnel only. The same is noticeable in TA 5.4.18-5.4.22. It is as if the Blackwall Tunnel were the only problem. But it is not. If one assumes that under the Assessed Case the Blackwall Tunnel bottleneck is relieved (by, say, 50% of traffic choosing to take the Silvertown tunnel), there will still be further bottlenecks downstream. As a Greenwich resident, I am most familiar with the road network south of the river. In my outline submission of July 2016 I said:

"The roads south of the Blackwall tunnel are already heavily used and very often congested. The proposal assumes that current congestion is all due to the bottleneck at the Blackwall tunnel. If that were true, then southbound traffic (away from the tunnel), would normally run freely. In fact, afternoon peak traffic southbound away from the tunnel from the Woolwich flyover onwards is often at a crawl, sometimes as far as Sidcup. This indicates that the roads themselves are already at or near capacity. That limited capacity is itself a further bottleneck. "
8. This is somewhat faintly recognised by TfL in TA 4.2.34 and 4.2.36:

"4.2.34: On the wider network south of the River Thames there are also capacity issues evident on the A206 Woolwich Road, the A207 Shooters Hill Road, the A2 Rochester Way and the A20 Sidcup Road. To the north, sections of the A13, the A118 Romford Road and the A1205 Burdett Road are also operating above theoretical capacity and there are also issues in evidence on many other more minor roads in the vicinity of the tunnel portals and beyond. In most cases these capacity issues are not linked to capacity constraints at the Blackwall Tunnel; rather they represent other constraints across the wider network.

4.2.36 *In the PM peak hour, both tunnel bores operate at between 90% and 100% of theoretical capacity, and a number of key approach links on the north side are reported as in excess of 100% of capacity, including the A12 southbound and the slip roads to the A102 northern Blackwall Tunnel portal at the junction with the A13 East India Dock*

Road. Capacity issues are also in evidence on sections of the strategic road network to the south of the River Thames, including the A2 and A20." (emphases added)

That is the current position. Now factor in a 40% increase in demand for cross tunnel traffic, for both the Reference and Assessed Cases.

9. The congestion on these roads is not all the result of traffic through the tunnel. The figures in TA 4.2.29 illustrate the point, with southbound PCUs/hr during the PM peak hour increasing with distance from the tunnel:

"4.2.29 In the PM peak hour (Figure 4-17) the same roads carry the highest volumes of traffic in the area but a tidal flow outbound from London is in evidence. Southbound flow through the Tunnel reaches over 3,700 PCUs/hr with just under 3,000 northbound. On the A102 approaching Sun-in-the-Sands Roundabout southbound, flows exceed 3,900 with over 2,900 in the opposite direction, and on the A2 southbound (shown on the inset plan in the figure) flows exceed 5,100 with over 3,600 in the opposite direction ..."

10. The new tunnel will nevertheless aggravate the situation. Paragraph 4 of my outline submission suggested:

"The proposed tunnel will relieve the bottleneck at the tunnel, but not that further bottleneck in the roads to the south: indeed, it will make the problem worse, because in the AM peak the Silvertown tunnel will attract the larger and most polluting HGVs that cannot currently use the northbound Blackwall tunnel, and in the PM peak the extra tunnel capacity will pour the southbound traffic more quickly into a road network that is already overwhelmed."

It appeared at the hearing of 17 January 2017 that TfL has to some extent recognised the former point and has updated the TA to reflect the impact of HGVs northbound¹. The latter point is recognised in TA 7.2.27 and figure 7-7, and in 7.3.47 and 7.3.52. Indeed, TA 7.3.14 suggests that, under the Assessed Case, traffic through the two tunnels in 2021 would add about 1,600 PCUs in the PM peak hour compared to the Reference Case.

11. At the hearing on 17 January 2017, TfL made some mention of monitoring such problems and taking action to mitigate them, in particular at the 'Sun-in-the-Sands' roundabout. From these comments, from TA Appendix C and from the introduction to the 'Traffic Impact Mitigation Strategy' document, it would seem that there is as yet little or no such strategy, the general approach being to 'suck it and see' ('monitoring').
12. TA Appendix C does, however, condescend to some examples of possible mitigation. In one example, table C-2 suggests measures that might be introduced to improve performance of the A2 between the Sun-in-the-Sands Roundabout and Eltham Tunnel. However,
 - The proposal to add traffic lights on the roundabouts and slip roads simply means that the congestion will be spread onto surrounding roads, that are already heavily congested. Even slight disturbances (for example, a recent burst water main in Blackheath) have been known to cause gridlock.

¹ I have since been referred to paragraph 1.1.6 of the Updated Air Quality and Health Assessment of December 2016)

- To lower permanent speed limits or to use VSMLs is meaningless unless the limits are set lower than the speed that the congested traffic is managing anyway.
 - To use the hard shoulder through the Eltham tunnel would add a third lane up to that point, but since the southbound carriageway is 2-lane on the far side of the Eltham tunnel (and as far as Falconwood) it would merely result in an additional pinch point as the three lanes merge into two.
 - The current congestion typically goes well beyond the Eltham tunnel, and there is no reason to think that will change. Indeed, figure 7-25 appears to indicate that under the Assessed Case as compared with the Reference Case the greatest adverse VCR change (>80 to >100) starts just beyond the Eltham tunnel. (A red line is just visible at the bottom right of the map)².
13. The lack of any strategy for the southern road network may appear to be justified by the results of the study summarised in table C-1. This table shows under 'RXHAM summary' either no, negligible or very minor effects on a number of different junctions south of the river. But RXHAM is "traffic modelling software to assess the impact of new river crossings on highway network performance" (TA C 4.5), so this (like figures 7-23 and 7-25) is presumably a comparison of the Assessed Case with the Reference Case. It ignores the fact that congestion on the southern road network will be appalling under the Reference Case. These figures and comments simply indicate that the Silvertown Tunnel would do little to help, and would if anything make the situation worse.
14. That is in essence my concern: that we are at risk of spending vast amounts of money simply to displace the congestion without addressing it, and even to make its impact worse. Unless and until a comprehensive package is developed that addresses the congestion, the project is simply not worth undertaking.
15. It was striking during the hearing in December 2016 that all the host boroughs indicated that they supported the principle of a new tunnel 'as part of a package of crossings'. TfL recognises that such a package could begin to address the expected congestion (see section 2 of the Traffic Forecasting Report). It is submitted that the Silvertown tunnel cannot be justified except as part of such a package which does just that.

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² It is not immediately clear whether the changes shown in the figures are from the Reference Case to the Assessed Case, or *vice versa*. It is not helped by the fact that the description in the caption is the reverse of that in the legend. However, comparing figure 7-25 with, for example, the text at 7.3.52, it is clear that the changes shown in the legend are 'from' VCRs in the Reference Case 'to' VCRs in the Assessed Case. In short: green indicates that the Assessed Case is better, red indicates it is worse.