

**From:** [REDACTED]  
**To:** [silvertowntunnel](#)  
**Subject:** Fw: Fwd: Your email of 18 January 2017 to Valerie Shawcross  
**Date:** 07 April 2017 13:49:20  
**Attachments:** [image001.png](#)  
[image002.png](#)

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Dear Richard,

This is somewhat late in the day, but pertinent to the Silvertown planning application.

Please find copied below email correspondence with David Rowe regarding the feasibility of a two-lane, single bore option with either tidal or bidirectional flow at Silvertown.

If you could make the inspectors aware this exists, I assume they will have procedures to follow.

Best,

Dominic

On Friday, 7 April 2017, 13:42, Dominic Leggett [REDACTED] wrote:

----- Forwarded message -----

**From:** **Dominic Leggett** [REDACTED]  
**Date:** Fri, Apr 7, 2017 at 1:01 PM  
**Subject:** Re: Your email of 18 January 2017 to Valerie Shawcross  
**To:** rivercrossings <[SMBrivercrossings@tfl.gov.uk](mailto:SMBrivercrossings@tfl.gov.uk)>  
**Cc:** "Rowe David (ST)" <[DavidRowe@tfl.gov.uk](mailto:DavidRowe@tfl.gov.uk)>, [REDACTED]  
[REDACTED], Daniels Leon <[LeonDaniels@tfl.gov.uk](mailto:LeonDaniels@tfl.gov.uk)>

Dear David,

Thanks for your email.

As you know, a single bore tunnel at Silvertown capable of operating either as a unidirectional tunnel with tidal flow or a bidirectional flow was not considered as an option at any stage in optioneering or consultation.

I assume from your email that beyond the point you previously made about the EU 25K vehicle regulation, which I've responded to, you have no further comments on or objections to the technical & value for money case I've put forward for this option?

In that case, I would see this as a political & financial decision going forward, and one for Val to resolve with the Mayor.

Best,

Dominic



All the relevant information is in section 4 of this document, though I have attached images of two useful graphs.

Objective (1), as you see in the attached graphs, can be achieved by providing capacity for a little under 6,000 vehicles northbound over 3 hours in the AM peak, (when there's no need for more capacity southbound) and capacity for a little under 6,000 vehicles southbound over 3 hours in the PM peak (when there's no need for more capacity southbound). So this objective can easily be achieved by using a single bore, uni-directional two lane tunnel with flow reversed in morning and evening peaks.

(I would also note that this queue-busting objective only requires that the tunnel takes 12K vehicles a day - flow beyond that is somewhat arbitrary and determined by pricing. So if you wanted to keep flows under 25K a day, or some other arbitrary figure, in a bi-directional tunnel, that is also possible. Using the tunnel uni-directionally at peaks and bi-directionally at quiet times is another option.)

Objective (2) can also be achieved with a single bore, uni-directional two-lane tunnel with reversible flow. The tunnel can substitute for whichever of the Blackwall tunnels is out of operation.

In terms of objective (3) building a single bore, reversible flow two lane tunnel will require routing buses via Blackwall, not Silvertown, because flows at Silvertown will reverse during the day and using single-decker bendy buses - but this is a relatively minor compromise given that Blackwall is on the main desire line. The scheme will still remove the main barrier to bus use across the river, which is the long waits at the tunnel.

Clearly, building a single-bore, two lane tunnel with the potential for unidirectional flow in either direction (and/or bidirectional flow), with emergency/bike/pedestrian/ultr alight ev access, entails slightly more complexity in design and management in operation than the existing design - but it will still save £200-300 million with virtually the same benefits (and some added benefits for cyclists & pedestrians)

Best,

Dominic

On Thu, Feb 16, 2017 at 3:10 PM, rivercrossings <[SMRivercrossings@tfl.gov.uk](mailto:SMRivercrossings@tfl.gov.uk)> wrote:

Dear Mr Leggett,

Thank you for your email of 12 February. We have noted the points you make and stand by our previous response.

In terms of the safety case and rationale for a twin bore tunnel, TfL has developed the Silvertown Tunnel scheme in line with [EU Directive 2004/54/EC](#) (brought into UK law via the Road Tunnel Safety Regulations 2007). This Directive reflects advances in road tunnel safety and applies to tunnels at least 500m in length which are part of the Trans-European Road Network. Given the Silvertown Tunnel's size and purpose, we consider

that the design should also be subject to this Directive. Directive 2004/54/EC requires that where a tunnel is forecast to carry more than 10,000 vehicles per lane per day, 'a twin-tube tunnel with unidirectional traffic shall be in place'. Approximately 25,000 vehicles are predicted to pass through the new Silvertown Tunnel each day, with one lane in each direction dedicated for buses and HGVs. This therefore rules out a bidirectional single bore with two lanes as an option for the Scheme.

To safely provide a bidirectional single bore tunnel with four lanes that is compliant with the EU Directive, would require a tunnel of over 18 metres in diameter. Such a large tunnel is not a viable consideration for the Silvertown Tunnel scheme, as in order to prevent the top of an 18m tunnel from being dangerously close to the River Thames, the gradient of the roads into and out of the tunnel would have to be in breach of the maximum 5% gradient permitted by the Directive. It is also worth noting that an 18m plus diameter bore would require excavating a larger amount of earth, and thus cost more money, than our twin bore proposal currently being examined by the Planning Inspectorate.

In your recent response you referenced Standard [BD78/99](#). In light of this you may be interested to note that this standard is currently being updated by the Highways Agency in order to better reflect current best-practice in the design and operation of tunnels. This includes incorporation of the lessons learnt following the fatal Mont Blanc fire in 1999, which are reflected in the European Directive referenced above but not currently in BD78/99.

Best regards

**David Rowe**  
**Head of Silvertown Tunnel Sponsorship Team**  
Transport for London

**From:** Dominic Leggett [mailto: ]  
**Sent:** 12 February 2017 21:57  
**To:** rivercrossings; Rowe David (ST); Valerie Shawcross; Daniels Leon  
**Subject:** Re: Your email of 18 January 2017 to Valerie Shawcross

Dear David and Val,

To take your points in order.

*A single-bore tunnel carrying two-way traffic would not be permissible in the UK today for safety reasons.*

To the best of my knowledge, this just isn't true. [BD 78/99](#) doesn't rule out bi-directional tunnels for trunk roads. In fact, it gives guidance for maximum lane capacity for bi-directional tunnels.

Tunnel Flow/Type		Cut and Cover	Bored Tunnels	Immersed Tubes
Uni-directional	v/hr/lane	TD20 (DMRB 5.1)	2000	2000
Bi-directional	v/hr/lane	TD20 (DMRB 5.1)	1800	1800

Note: Over or underestimation of traffic capacities can lead to severe economic penalties especially for major tunnels. Special scheme specific studies may be beneficial. Refer to PIARC Technical Committee on Road Tunnels report XVII World Roads Congress, Sydney 1983.

Usefully, this v/hr/lane is higher than the peak flow TfL expect at Silvertown - so it's clear a bi-directional, 2-lane tunnel will have significantly more capacity than TfL expect to need, even at peak.

*The Rotherhithe Tunnel for example would never be permitted if proposed today.*

This is true. A new single-bore bi-directional tunnel would need less sharp curves, wider lanes, and much better fire escape and suppression arrangements (which, as far as I can tell, are more significant in creating a safe tunnel than the uni-direction/bi-direction element)

*In addition, a single-bore Silvertown Tunnel would:*

- Be more prone to complete closure than would a two-bore tunnel since any kind of incident in a single-bore tunnel would entail the closure of the entire link. With two bores it is possible in principle to operate the link – in one direction only – during any such closure affecting the other bore.*

This is true - but given that the Silvertown Tunnel is essentially a third and fourth bore for Blackwall, the Silvertown Tunnel gives resilience to Blackwall (that's part of its purpose) and vice-versa. So a second bore is not needed for this.

- Be less efficient as an alternative to the Blackwall Tunnel during any closures of the existing tunnel. Putting aside the fact that a single-bore tunnel would not be permissible, it would not offer sufficient capacity as an alternative to the Blackwall Tunnel.*

*The Blackwall Tunnel is particularly susceptible to incidents that require that it be closed temporarily, and a key reason that the new Silvertown Tunnel is required is to improve the resilience of the road network in east London to incidents at the existing tunnel*

A single bore tunnel at Silvertown would be sufficient to ensure that traffic can cross the river in both directions when any one of the bores at Blackwall or at Silvertown is closed. If, further, the bore at Silvertown can also be used unidirectionally, then even with one bore closed, we return to today's situation, with, essentially, the same traffic levels, according to TfL's forecasts. This is a massive improvement in resilience from the existing situation. Any further improvement in resilience obtains rapidly decreasing returns, at vast expense.

- Not afford the opportunity to provide bus lanes in both directions to support the proposed step-change in cross river services in the east London that the*

*Silvertown Tunnel enables.*

As I've mentioned previously, the Silvertown Tunnel is forecast to have free-flowing traffic - it will move congestion elsewhere. In free-flowing traffic, bus lanes give little to no advantage either to buses or other traffic. In fact TfL's decision to provide bus lanes here represents a tacit acceptance of the fact that they're over-providing traffic capacity in this scheme. Just to note also that, to the best of my knowledge, TfL has no real analysis of demand for these cross-river services. If there is sufficient demand, why don't they exist already (using high-capacity bendy buses, if needs be..)

*TfL considered a wide range of alternative options before arriving at the proposed Silvertown Tunnel scheme. The alternatives TfL has considered include:*

- Road-based alternatives such as bridge and different tunnel options*
- Public transport options*
- Walking and cycling options*
- User charging and demand management options*
- Options at different locations*

*TfL found that the Silvertown Tunnel scheme was the only solution to fully address the problems of congestion, closures and resilience at the Blackwall Tunnel. TfL included in its application for Development Consent for the Silvertown Tunnel the 'Case for the Scheme' document, which contains a full account of the options assessment process undertaken by TfL. This sets out the full range of options considered and the factors that TfL took into account to select between the options. The document is available to download via the following link:*

*<https://infrastructure.plannin.ginspectorate.gov.uk/wp-content/uploads/projects/TR010021/TR010021-000228-7.1%20Case%20for%20the%20Scheme.pdf>*

I've read this. There was no consideration of a single-bore tunnel at Silvertown, and a third bore at Blackwall was rejected on the (incorrect) assumption that it could only operate as a uni-directional tunnel (though, in fact, given the tidal flow, a uni-directional tunnel at Blackwall or Silvertown, with the capability of operating as uni-directional in both directions, would also provide most of the benefits of the Silvertown Tunnel at a much lower cost...)

*There have also been six separate consultations which have included proposals for the Silvertown Tunnel scheme. The scheme was first proposed in the Mayor's Transport Strategy, which was subject to consultation from October 2009. The proposals were included in the Mayor's London Plan, which was also subject to consultation from October 2009. TfL then held three separate consultations, firstly in relation to a package of river crossings in east London (which included proposals for the Silvertown Tunnel), from February – March 2012 and October – February 2013 and then in relation to the specific proposals for the Scheme between October – December 2014. TfL then held a statutory consultation on the scheme from October – November 2015. These consultations helped TfL to*

*develop its proposals with the benefit of feedback from the public and other stakeholders.*

This is true. None of these consultations included an option for a single-bore tunnel (either uni-directional, or bi-directional) at either Blackwall or Silvertown, or for the possibility of including a cycle/ebike/pedestrian/emergency access in the tunnel, (an option that was pre-emptively rejected by TfL) - so it wasn't possible for the public to comment on any single-bore option.

*We do not accept your comments about Richard de Cini or the Garden Bridge. The optioneering and design work for the Garden Bridge was carried out following a thorough and competitive procurement process.*

This is an opinion that isn't shared by anyone I know of who has looked closely at this process. And the various failures in the commissioning of the Garden Bridge project (notably the acceptance of a very poor business case and business plan, and handing the management of a large infrastructure project in a sensitive location to an organisation with no financial resources of its own) have led directly to its dire situation now.

I'd be happy to join both of you on a call to talk through the technical and regulatory details here if that's useful - or to be corrected on any of the points I've made - but please correct me with technical evidence, not just unjustified assertions. I assume the difference in price here between the options we're looking at is of the order of £200-400m. That's a lot of money for Londoners to pay (through tolls) for road tunnel capacity that likely will never be used - and it's money that, in these times of difficult budgets, could be spent on something of real value (bike infrastructure, public transport)..

Best,

Dominic

Yours sincerely

David Rowe  
Lead Sponsor, Silvertown Tunnel

**From:** Dominic Leggett [REDACTED]  
**Date:** 18 January 2017 at 23:31:53 GMT  
**To:** Valerie Shawcross [REDACTED]  
**Subject:** Silvertown

Dear Val,

Just to say I'd be very happy to chat with you briefly about Silvertown, if that's at all useful.

Looked at objectively, the project as it stands is nuts. It doubles the capacity across the river at Blackwall, at massive expense, - to carry more or less the same amount of traffic as now. Everything useful the scheme wants to achieve in terms of queue reduction and resilience can clearly be achieved with a much less ambitious design.

I suspect what happened here was that Richard de Cani played fast and loose with the process in the early stages of optioneering & design - as he did with the Garden Bridge - and then disappeared into the private sector, leaving his colleagues with a project that had by this point received a great deal of investment of time & money - but doesn't really stand up in this form.

Obviously, given their sunk costs here, TfL now have very strong to push on regardless. So they've brought in the useless bus lanes to try to justify the scale of the project, and they're making the false argument that a single bore tunnel can't be made safe to try to justify the second bore.

For you & the Mayor, though, I don't see there's any reason to push forward with this massively wasteful design. You can save £300-400 million by building a single-bore tunnel (not the most urgent project out there, but i do acknowledge the politics), and use the rest of the toll money (that is, after all, coming from Londoners' pockets..) to do something that's actually useful like build bike infra & improve public transport. Why would you not?

All best,

Dominic

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