

**Application by Transport for
London for an Order Granting
Development Consent for the
Silvertown Tunnel**

(Planning Inspectorate Reference: TR010021)

**London Borough of Tower
Hamlets**

(Reference no: SILV-396)

**Further Written Representations
for Deadline 4 - March 2017**

1. GENERAL INTRODUCTION

These are further Written Representations submitted on behalf of the London Borough of Tower Hamlets (LBTH) (“the Council”) in relation to the application by Transport for London (TfL) for a Development Consent Order (DCO) for the Silvertown Tunnel (Planning Inspectorate reference TR010021).

These Representations take into account the submissions made at deadline 3 by TfL including the Update Note (document 8.59), the Second Written questions issued by Examination Panel (ExA) and additional documentation produced by TfL. This follows the welcome commitment made at Deadline 3 to engage with Interested Parties to further develop the proposals set out in the Update Note. In addition account has been taken of the positive discussions that have taken place at two meetings held between TfL and the Host Boroughs and LBTH.

This Written Representation comments on progress that has been made since Deadline 3 on the further steps that need to be taken to fully satisfy the Council’s concerns and aspirations for the Silvertown Tunnel project as set out in section 1.1 of the Further Written Representations submitted for deadline 2. In addition, a number of specific proposals for mitigation are put forward. Finally, comments are made on an updated version of the DCO issued at Deadline 3.

2. THE COUNCIL’S CURRENT CASE

The council’s objectives for the Silvertown Tunnel Scheme are summarised below:

- Reduce congestion around the Blackwall Tunnel but not result in increase in delays elsewhere on the transport network
- Ensure that the forecast air quality improvements are fully secured and any possible adverse impacts upon air quality fully mitigated
- Ensure that the bus usage predicted in the traffic model is secured through actual bus services that serve LBTH
- Provide guarantees that the mitigation of any adverse traffic impacts that do arise will be implemented without delay

In its Written Representations made at both Deadline 1 & 2, the Council set out its lack of confidence in the outputs from Assessed Case model and in particular the uncertainty surrounding drivers behavioural response to user charging. Although the Council recognises that this concern is unlikely to be resolved before the close of the Hearing, its concerns are somewhat ameliorated by TfL’s welcome commitment set out in the proposed Monitoring and Mitigation Strategy (M&MS) to undertake a refreshed assessment of Scheme impacts three years in advance of scheme implementation.

The scope of the proposed refreshed assessment will need to be finessed before it is accepted. This will include agreement of the inputs into the revised model and the local traffic model which will need to be fully validated, and should be agreed with the host boroughs and LBTH. Furthermore, bearing in mind the council's concern regarding the Value of Time (VOT) that has been applied in the Assessed Case Model, then a revised VOT should be agreed prior to it being applied to the proposed refreshed assessment. The extent and validation of the local model that will be used to assess local impacts and potential mitigation will also need to be agreed.

2.1 Monitoring and Mitigation Strategy

The comments set out below are based on draft documents and discussions with TfL and therefore may need to be updated when the final version of the M&MS has been submitted. However, the principle of a single document dealing with monitoring and mitigation is welcomed. This document will need to be agreed before the completion of the Examination if it is to be a certified document.

2.1.1 Monitoring

The Council notes and welcomes the increased emphasis on undertaking monitoring of noise, air quality and socio economic impacts as well as traffic, the use of new data collection methods and the commitment to report the results of monitoring to STIG on regular basis. The Council also welcomes the commitment to report to STIG on a quarterly basis for the first year after Scheme opening. In respect to the proposed traffic monitoring and air quality monitoring locations the council is satisfied that all the locations requested by LBTH have now been included.

The Council welcomes the commitment to monitor socio economic impacts and supports the development of the proposed survey methods particularly the monitoring the socio-economic characteristics of cross-river travellers, as well as wider socio-economic trends. The proposed metrics would also appear to be appropriate although in due course LBTH would want to discuss the geographical extent of socio economic monitoring in order to ensure that the appropriate parts of the Borough are included.

2.1.2 Triggers

At the Host Borough meeting held on 2nd February 2017 TfL presented a Mitigation Triggers discussion note (referred to hereafter as the technical note and attached as an Appendix) in which a number of key questions were posed by TfL in order to progress the further development of the triggers. These are set out below together with the responses made to TfL.

Q1. Is the stated intention of the triggers (i.e. as a useful aid to STIG, rather than a binary measure of the need for mitigation) supported?

Although TfL accept that in a limited number of cases, the Scheme could lead to moderate localised deteriorations in road network performance on some parts of the road network, the evidence currently presented to the ExamA does not cite the need for mitigation on the current highway network. Since the need for mitigation is to be examined through monitoring data collected by TfL prior to and on scheme opening, the triggers should be a binary measure that prompts the investigation for the need for mitigation and not simply, as stated in the technical note - a useful aid for STIG.

Q2. Is the approach for taking account of scheme impacts suitable?

The response to this particular question is dealt with in sections 2.1.3 and 2.1.4 below.

Q3. Do the draft revised trigger thresholds set out in Appendix A seem appropriate?

In the technical note TfL stated that the initial trigger thresholds submitted at Deadline 2 had now been revised to better reflect the forecast impacts of the Scheme, viz. the expected change between the Reference Case and the Assessed Case (both 2021). The Council's comments on these revised trigger levels are as follows:

- The separation of Blackwall and Silvertown Tunnel triggers is agreed.
- The revised HGV trigger is deemed appropriate whereby any increase in HGV traffic at Blackwall or Silvertown Tunnel will activate a trigger.
- The locations for measurement as set out in the draft monitoring strategy should be maintained as a minimum.
- The Council agrees that all changes in the triggers should be monitored irrespective of whether, for example, there is an increase or decrease in traffic flows. Thus, if traffic flows were lower than in the assessed case, there is the possibility that the User Charge could be reduced.
- The changes in traffic conditions should relate to the volume/capacity/ratio (VCR) and the ratio/flow/capacity (RFC) on the particular traffic corridors. Thus if a link exceeds 85%, then mitigation should be investigated and developed if the RFC at a particular junction exceeds 85%, or 90% for traffic signals, then mitigation should be investigated and developed. The percentage increase in triggers should relate to these standards rather than those set out in Appendix A.

Q4. What is the most appropriate way to take variability and growth into account?

In the technical note TfL presented 3 options dealing with this issue. The Council's preference is to isolate the scheme impacts from background growth and variability by using regression analysis.

Q5 Are the other proposed changes to the triggers (paragraph 15) supported?

Paragraph 15 in the technical note identified four other changes to the proposed triggers which included an allowance for date variability, separate triggers for Blackwall and Silvertown Tunnels, separate triggers for Rotherhithe Tunnel and Tower Bridge and finally an amendment for triggers relating to Heavy Goods Vehicles. The Council considers all these changes to appropriate.

Q6. Should consideration be given to simplifying the triggers? If so, how?

The Council considers that the monitoring locations should not be simplified/reduced. However, the use of both amber and red triggers could be simplified since both changes necessitate action and would ensure that any output from monitoring that is worse than that as reported in the Environmental Statement would be acted upon.

Q7 Is the principle of an air quality trigger, similar to that of the M4 example, supported?

In its Deadline 3 submission the Council welcomed an air quality trigger similar to that adopted for the M4 Smart Motorway Scheme. The Council continues to support such a proposal.

2.1.3 Mitigation – prior to Scheme opening

In its submission at Deadline 3, LBTH expressed concern as to the timetable for agreement to and implementation of mitigation in advance of the scheme opening, especially if physical highway works are required. TfL has now clarified the timetable for this process and the council is satisfied that sufficient time is available in which to implement any mitigation required, albeit TfL will need to prioritise the necessary approvals within its organisation to achieve the necessary timetable. The Council also welcomes TfL's commitment to fund such mitigation works on both TfL and borough roads.

The Council does not support the proposed reference to the Secretary of State (SoS) should there be any disagreement between the affected borough and TfL over

mitigation measures. This approach advocated by TfL in the draft Monitoring and Mitigation Strategy appears contrary to the current DCO process. The Council understands that under the December 2015 DCO guidance, referrals to the SoS relating to non-material changes to the DCO, should as the first step be discussed and agreed with the local stakeholders, PINS and then as necessary submitted to the SoS.

2.1.4 Mitigation - post Scheme opening

The Council welcomes the proposals for post scheme monitoring which appears to give equal weight to traffic, air quality, noise and socio economic impacts and which will be based upon observed data compared to the refreshed assessment of Scheme impacts. The Council welcomes the principle that there will be a presumption in favour of mitigation in event of a trigger activation and that STIG will be fully involved in that decision making process. If the need for some form of post opening mitigation has been identified, the Council welcomes the involvement of the affected local authority in the decision as to the most appropriate form of mitigation and the commitment by TfL to fund the necessary mitigation.

LBTH also accepts that there may be circumstances where either a variation in the User Charge or physical works of mitigation may not be desirable or practicable which could mean that the necessary mitigation could not be implemented even when triggers have been exceeded in accordance with the agreed Monitoring and Mitigation Strategy. To deal with such a situation, LBTH proposes that a Sustainable Transport Fund be set up (and secured via through a s106 agreement) which would offset the impact of traffic not managed by variation in charge and not accommodated through physical mitigation at junctions, for example. Schemes would be implemented by each borough and funded by TfL. Typical measures would be pedestrian and cycling infrastructure which would support active travel and also support the delivery of the Local Plan. This fund would be available for up to five years post implementation.

2.1.5 Potential Mitigation Measures

TfL have now provided a summary of potential mitigation measures that relate to traffic, air quality, noise and socio economic impacts. These are to be welcomed but further discussions will be needed as to how a number of such measures could in practice be implemented. However, at this stage the Council does wish to comment on a number of the proposed measures.

Variation in User Charge: As presently drafted, Article 52 requires TfL and the Mayor to engage in a lengthy process of consultation before implanting a change in the User Charge, albeit Article 53 provides TfL with the ability to vary or waive the

charge. However, the Council considers there may be a need to make changes to the User Charge much more quickly, for example in order to discourage road travel in periods when air quality limits have been exceeded, or when congestion in the area is adversely affecting journey times. The Council suggests that a variable charging system based on environmental conditions is introduced. The proposed charges as set out in the current dDCO would be a minimum charge only. Clarity on whether such an approach could be implemented under the dDCO is required.

Discount on user charge for low income users: In its previous Written Representations the Council has made clear its continuing concern that low income groups would be disadvantaged by the User Charge. The Council therefore very much welcomes the fact that TfL now recognise the need to address this issue. Various means of identifying low income users have been discussed but the Council recognises that it is important that such a discount does not result in traffic and environmental impacts which are noticeably worse than the Assessed Case. Further discussion on appropriate criteria for assessing low income users' needs to be developed in partnership with the boroughs.

Business Transition Scheme: The need to ensure that small businesses are not adversely affected by the user Charge is another matter of which LBTH has made Representations. Although no detailed proposals are available, such a scheme could best be secured by a section 106 Agreement. The necessary fund could be allocated to the boroughs all of whom already employ existing business support staff who could administer such scheme. TfL has discussed this matter with the Host boroughs and LBTH and the Council welcomes further finessing of the proposed scheme.

2.2 Buses and Cycling

2.2.1 Bus Strategy

The Council recognises that commitment by TfL to bus services is secured through Article 13 of Schedule 2 of the DCO which requires TfL to "*implement and act in accordance with the bus strategy*". This document is fundamental to the level of bus service provision applied in the Assessed Case model and in the Economic Assessment Report for the scheme. It is crucial to the Council that the economic benefits provided by these bus services is secured for low income groups - particularly bearing in mind the very low level of car ownership in the borough. Unfortunately, TfL's commitments on bus services still do not provide the level of certainty required by LBTH.

The Council acknowledges that TfL has statutory obligations in relation to the provision of bus services and that it has to comply with its own published bus planning guidelines. It is also recognised that TfL's budget for buses has been frozen

and that s106 contributions from new developments are an important source of startup finance for new bus services (which after a few years may become self-financing). However, this budget and planning position may not be the case when the proposed Silvertown tunnel has been constructed and furthermore this reasoning cannot be accepted as the justification for the lack of certainty on the provision of buses services which are deemed necessary as part of the scheme proposal.

The Council still remains of the view that the commitment to bus services as prescribed in the Economic Assessment Report and Business Case for the scheme should be secured as a requirement in the DCO, either in the Bus Strategy itself or as a separate requirement. If there is proposed to be a phased introduction of bus services, TfL should still give a commitment to the introduction of the full service provision within a reasonable timescale.

In respect to the Mayor's commitment to provide a local residents bus discount for a period of time after opening, the Council considers that the simplest and most cost effective means of achieving this would be to offer a discount on all cross river bus routes using the Silvertown Tunnel since it is highly likely that the great majority of such users would be residents of the three boroughs.

In order to ensure a long term commitment to buses, the Council also reiterates its previous request that the Silvertown Tunnel bus lane provisions set out in Article 11 should be made permanent. Such protection is warranted to ensure good bus service reliability using the Silvertown tunnel is secured in perpetuity.

2.2.2 Cycle Provision

In respect to the provision for cyclists and the proposed cycle carrying bus service, TfL has circulated a note providing more details of the proposal which includes possible pick and set down points to the north and south of the Blackwall Tunnel, and options for the type of vehicles to be used for carrying cycles. The Council welcomes the more detailed proposals but recognises the need for further investigations. LBTH remains of the view that the DCO should include a commitment to undertake an appraisal of options, implement the preferred scheme and then operate the scheme for a minimum of five years after Scheme opening.

3. AMENDMENTS TO THE DCO

LBTH has been provided with an updated DCO draft for comment which would appear to have dealt with a number of the Council's concerns as set out in the Deadline 3 Submission. Set below are the Council's outstanding concerns.

Article 50: Classification of Roads

LBTH confirms it has no objections to the reclassification to GLA Roads of the borough roads listed in Schedule 10, Part 1, paras 16-18, and would request that responsibility for the roads listed be transferred to the GLA prior to the commencement of construction of the Scheme.

Article 58: Transfer of Benefit of Order

It is noted that the ExA has also requested clarification as to whether TfL would remain responsible for all matters relating to its statutory responsibilities should the benefits of the Order be transferred to a Third Party.

Article 65: Silvertown Implementation Group

A revised draft A65 was presented at a Host Borough/TfL meeting held on 23rd February 2017 and appeared to have dealt with most of the boroughs concerns in relation to the role, responsibilities and operation of STIG. However, the Council reserves the right to comment further in its response to TfL's D4 submissions once the revised wording for A65 is in the public domain.

Schedule 2: Part 2: Procedure for the Discharge of Requirements

Article 16: Applications made under Requirements

The revised wording as proposed to be submitted at Deadline 4 deals with the council's outstanding concerns.

Mitigation triggers discussion note

Overview

1. The purpose of this note is to provide an update on development of the mitigation triggers for discussion with the Host Boroughs. It outlines current thinking on the factors that should be considered in setting the triggers and presents a draft revised set of trigger thresholds. Whilst the focus of the note is on traffic-related triggers, a potential trigger for air quality is also outlined towards the end of the note.
2. Mitigation triggers are proposed as a means of assisting the identification of any unexpected impacts of the scheme on the highway network following opening of the scheme (likely impacts identified ahead of opening are subject to their own mitigation procedure). Triggers refer to levels of change post scheme opening which exceed the level of change anticipated, and are designed to provide an alert if these levels are breached. The triggers represent appropriate thresholds at which 'amber' or 'red' flags would be triggered for a number of traffic-related metrics, and would be included in the annual monitoring reports for consideration by STIG.
3. It is proposed that the triggers would be reviewed prior to scheme opening and if necessary updated in consultation with STIG to ensure they remain fit for purpose. It should be stressed that STIG can have regard to any information set out in the monitoring reports in forming a view on the impacts of the scheme; a trigger doesn't have to be breached for STIG to explore a potential scheme effect, in the same way that activation of a trigger does not necessarily mean that mitigation is required, simply that it should be considered. Similarly, the triggers do not in any way restrict STIG's ability to apply professional judgement when considering the monitoring reports. Indeed, it is expected that the collective experience of STIG would be put to good use in interpreting the monitoring reports and the triggers.
4. Trigger levels will be set based on expected changes due to the scheme derived from outputs of the modelled scheme and will have regard to observed data collected prior to scheme opening. Details of the data collection methodology are included in the monitoring strategy document. The intention is that the triggers will tell us whether observed scheme impacts are materially different from those forecast in the Assessed Case, over a prolonged period of time. The intention is not that a freak or unusual event causes a trigger, but that there is only a trigger if there is a sustained deviation from expected scheme outcomes.
5. Whilst the triggers are based on traffic-related metrics, they also provide a useful indication of where non-traffic related scheme effects (for example air quality or noise) may need to be considered in more detail. This is because we would not expect material changes in air quality or noise as a result of the scheme without also seeing a change in traffic conditions.

Tailoring the triggers based on Assessed Case impacts

6. One of the key points raised in response to the initial triggers submitted at Deadline 2 was the need for them to reflect the forecast impacts of the scheme (i.e. the Assessed Case). We acknowledge the importance of this if the triggers are to be meaningful and fit for purpose.
7. The initial trigger thresholds have now been revised to better reflect the forecast impacts of the Scheme, viz. the *expected change* between the Reference Case and the Assessed Case (both 2021). So, by way of example, a small reduction in daily traffic flow of around 3% is expected at the Blackwall and Silvertown tunnels in the Assessed Case and the trigger

threshold for this location has been revised such that if overall traffic levels remained the same or increased, a trigger would be activated, whilst a decrease notably greater than 3% would also activate a trigger (all other things being equal).

8. By appropriately reflecting the expected change caused by the scheme, the triggers thresholds would remain applicable if background conditions across the network (i.e. the Reference Case) were different from those currently forecast. Setting the trigger thresholds based on absolute values is not considered appropriate because changes in background conditions, which are not a result of the scheme, could render the triggers irrelevant. A trigger based on an absolute traffic flow of x at a certain location, for instance, may not be breached even if the scheme was having an unforeseen effect if background growth across the network was lower than forecast. Similarly, if background growth was higher than forecast, the trigger could be breached purely by traffic growth regardless of the scheme's effect.
9. Were background conditions observed to be notably different in practice to those forecast, this would be identified as part of the pre-scheme monitoring and the refreshed assessment of scheme impacts undertaken prior to opening. TfL would then take appropriate steps to ensure the impacts of the scheme were not materially worse than those assessed in the Environmental Statement, for example through the implementation of mitigation and adjustments to user charging. The post-opening triggers in effect provide an additional level of surety that unanticipated scheme effects can be identified and addressed post scheme opening.
10. The draft revised initial trigger thresholds, which take into account Assessed Case impacts, can be found in Appendix A.

Accounting for variability and growth

11. Due to the need for sustained change to be distinguished from expected variation in flows (over a given time period) we cannot simply base the trigger thresholds on variance from the forecast scheme impacts alone. This is particularly the case for triggers based on traffic flows, but could also apply to a lesser degree for triggers based on other metrics (for example journey time reliability).
12. Currently there is high variability in daily traffic flow across the network – in a given week, for example, flows may vary by $\pm 20\%$ so a trigger which simply looks for a 5% difference in expected flow will trigger frequently but may not actually pick up a sustained trend in the change in traffic flow. Although considering data on a quarterly basis will help to reduce the level of variability, significant variability remains. Similarly and as explained above, the method for a trigger to be activated needs to take into account growth, as otherwise background growth may cause a trigger to activate rather than an unexpected scheme effect.
13. There are a number of potential methods of accounting for this, which are summarised below.
 - a. *Method A – Build in an allowance for variability and growth now*

This method involves factoring in an allowance for variability and growth based on current observed levels of variability and forecast growth. In order to determine what the allowance should be, consideration of the acceptable number of false positives is

required. If this approach is used the trigger thresholds would be increased accordingly to include the allowance agreed. Note that the trigger thresholds included in TIMS for Deadline 2 were based on this approach, and that current proposed allowances for variability and growth are set out in Appendix B.

- b. *Method B – Build in an allowance for variability and growth based on observed data collected through the monitoring strategy*

This is similar to the above method, with the exception being that the allowance for variability and growth is applied at a later date, prior to scheme opening, with the benefit of observed variability and growth. Using this method means that the allowance (and hence the final trigger thresholds) would more accurately reflect actual variability and growth observed at the locations on which the triggers apply.

- c. *Method C – Isolate the scheme impacts from background growth and variability using regression*

This method would use observed data collected through the monitoring strategy to produce the expected flows (that is, flow on a day for which flow doesn't vary from the mean rather than a flow forecast including variability) in the future, assuming that current patterns in flow variation continue. The level of flow and patterns in variation may change after scheme opening. Observed data would be collected post scheme opening and would be used to produce the expected flows in the future, assuming that patterns in flow variation (observed post scheme) continue. By taking into account observed patterns in flow and variability both pre- and post- scheme we are able to produce the expected flows which can be compared to see what the expected change in flow due to the scheme is, and by extension see whether the change breaches a trigger. The benefit of this approach is that the trigger thresholds do not need to be increased to account for variability.

14. All of the above methods enable suitable account to be given to variability and growth. The key consideration is when this is taken into account – now, based on currently available data (Method A), or at a later date – either prior to scheme opening (Method B) or post opening (Method C)?

Other developments

15. In response to feedback received from the Host Borough meeting on 6th January and the ISH on 17th January 2017, several other changes to the proposed triggers have been considered and these are listed below. Subject to agreement from stakeholders, these changes will be made to the combined Monitoring and Mitigation Strategy to be submitted for Deadline 4.
- a. An allowance for measurement error has been specified for each trigger threshold where the collection of data itself is subject to some variability, for example traffic flow data collected through the use of ATCs (which have an assumed accuracy of total traffic $\pm 5\%$). This makes it easier to identify the anticipated scheme effect input to the trigger threshold.
- b. Separate trigger thresholds have been set for traffic flows for the Blackwall and Silvertown tunnels, based the proportion of the total traffic carried by each crossing. A

combined trigger for the crossings is also still proposed meaning that both total traffic and the split of traffic between the tunnels will be covered by the trigger.

- c. The triggers for the Rotherhithe Tunnel and Tower Bridge have been split, meaning that changes in conditions on each crossing can be more easily identified.
 - d. The trigger thresholds based on the proportion of HGVs relative to total traffic have been reduced, to reflect concerns about the disproportionate impacts HGVs can have on the network. So, for example, any increase in HGV traffic at Blackwall/Silvertown would now activate a trigger.
16. All of the changes listed above are reflected in the revised trigger thresholds which can be found as Appendix A.

Potential for simplifying the triggers

17. The proposed approach to the triggers has attempted to ensure good use is made of the monitoring data and a range of potential traffic-related scheme impacts can be identified. The current triggers are based on a number of metrics and locations, and by necessity take into account a number of complex factors. As a result the traffic-related triggers as whole are both numerous (there are at least 28 triggers) and quite complex.
18. Given the above and bearing in mind that the triggers are only intended as a guide to help STIG consider the impacts of the scheme, there may be merit in simplifying the triggers so that they are a more useful aid to STIG. Simplifying the traffic-related triggers would also bring them more in line with the potential air quality trigger that is currently being considered (discussed below).
19. There are a number of options for simplifying the triggers, for example by:
- a. Reducing the number of locations and/or metrics considered;
 - b. Combining ‘amber’ and ‘red’ alerts into a single alert, given that STIG’s response to a trigger activations is essentially the same;
 - c. Considering only increases or worsening (for instance increases in traffic flow) as opposed to increases and decreases;
 - d. Basing the triggers exclusively on traffic flows, on the basis that this is likely to be the key metric for assessing the scheme impacts on the highway network.
20. Two potential examples of simplified triggers can be found in Appendix C for consideration.

Potential trigger for air quality

21. At the ISH on 18th January 2017 a request was made for TfL and stakeholders to consider the merits of a trigger relating to air quality. The air quality trigger adopted for the M4 Smart Motorways scheme was given as an example of how such a trigger could be worded (included in Appendix D for reference).
22. It is planned that an air quality mitigation trigger will be included in the combined Monitoring and Mitigation Strategy to be submitted for Deadline 4. This will be developed with regard to the M4 example, the principle of which is that air quality monitoring will be undertaken and an objective assessment by an air quality expert will be completed at agreed intervals to consider whether there has been a material worsening in air quality where there are

exceedances of national air quality objectives. If a material worsening is identified appropriate mitigation must be developed and implemented.

23. A trigger of this nature could potentially be applied to the scheme and would provide additional surety that unexpected air quality impacts would be identified and addressed. This approach is less detailed than the approach for traffic-related triggers as the process for assessing whether a material worsening has occurred would be determined at a later date (i.e. post DCO) by an air quality expert.

Next steps and key questions for consideration

24. It is planned that the triggers will be further developed over the next few weeks taking into account views received from the Host Boroughs and other stakeholders. The revised trigger thresholds and any changes to the overall approach will then be set out in the combined Monitoring and Mitigation Strategy to be submitted for Deadline 4.
25. The in-principle support for the mitigation triggers from the Host Boroughs is welcomed, and Host Boroughs are invited to comment on any aspect of the proposed triggers as they continue to be developed. Key questions on which the views of borough officers would be especially useful are as follows:
- a. Is the stated intention of the triggers (i.e. as a useful aid to STIG, rather than a binary measure of the need for mitigation) supported?
 - b. Is the approach for taking account of scheme impacts suitable?
 - c. Do the draft revised trigger thresholds set out in Appendix A seem appropriate?
 - d. What is the most appropriate way to take variability and growth into account?
 - e. Are the other proposed changes to the triggers (paragraph 15) supported?
 - f. Should consideration be given to simplifying the triggers? If so, how?
 - g. Is the principle of an air quality trigger, similar to that of the M4 example, supported?

Appendix A – Revised mitigation trigger thresholds

Metric	Location	Blackwall / Silvertown	Blackwall Tunnel	Silvertown Tunnel	Rotherhithe Tunnel	Tower Bridge	Woolwich Ferry	MTS corridors	Local roads	Notes
Traffic flows	Red alert	+4%	82%	32%	+8%	+7%	+5%	+7%	+7%	Change (absolute percentage) from baseline. Forecast change is based on change between Ref and Assessed Case. The individual triggers for Blackwall and Silvertown are based on the proportion of traffic flow at each crossing relative to the combined flow.
	Amber alert	0%	78%	28%	+4%	+3%	+1%	+3%	+3%	
	Measurement range	-1%	77%	27%	+3%	+2%	0%	+2%	+2%	
	Forecast change in flow	-3%	75%	25%	+1%	0%	-2%	0%	0%	
	Measurement range	-5%	73%	23%	-1%	-2%	-4%	-2%	-2%	
	Amber alert	-6%	72%	22%	-2%	-3%	-5%	-3%	-3%	
	Red alert	-10%	68%	18%	-6%	-7%	-9%	-7%	-7%	
			Based on proportion of traffic flow relative to combined flow							
Vehicle comp (HGVs)	Red alert	0%				+9%	+9%	+7%	+7%	Change (absolute percentage) from baseline. Forecast change is based on change between Ref and Assessed Case.
	Amber alert	-4%				+5%	+5%	+3%	+3%	
	Measurement range	-5%				+4%	+4%	+2%	+2%	
	Forecast change in HGVs	-7%				2%	2%	0%	0%	
	Measurement range	-9%				0%	0%	-2%	-2%	
	Amber alert	-10%				-1%	-1%	-3%	-3%	
Red alert	-14%				-5%	-5%	-7%	-7%		
JT reliability	Forecast JTR	TLRN mean	TLRN mean	TLRN mean	TLRN mean	TLRN mean		TLRN mean		Change (percentage points) from TLRN average, on the basis that currently JTR at Blackwall Tunnel is significantly worse than
	Amber alert	-3%	-3%	-3%	-3%	-3%		-3%		
	Red alert	-6%	-6%	-6%	-6%	-6%		-6%		
Queues extending beyond a certain point	Red alert									Change from baseline. Forecast change will be determined based on baseline conditions.
	Amber alert									
	Measurement range									
	Forecast change in usage							Tbc		
	Measurement range									
	Red alert									
Bus reliability (EWT)	Forecast EWT	EWT mean	EWT mean	EWT mean				EWT mean	EWT mean	Change from London-wide average, on the basis that currently bus reliability at Blackwall Tunnel is significantly worse than average.
	Amber alert	-2%	-2%	-2%				-2%	-2%	
	Red alert	-5%	-5%	-5%				-5%	-5%	
Road safety	Amber alert - SI	1-2	1-2	1-2						Absolute numbers of KSIs.
	Red alert - SI	>2	>2	>2						
	Amber alert - Fatal	>0	>0	>0						
	Red alert - Fatal	>1	>1	>1						
Junction perform.	Forecast DoS							Tbc	Tbc	Change from baseline. Forecast change will be determined based on baseline conditions.
	Amber alert									
	Red alert									

Appendix B – Potential allowances for variability and growth (Method A)

Metric		Location	Blackwall / Silvertow	Blackwall Tunnel	Silvertow n Tunnel	Rotherhit he Tunnel	Tower Bridge	Woolwich Ferry	MTS corridors	Local roads
Traffic flows	Variability allowance		4%			4%	4%	4%	3%	3%
	Growth allowance		1% p.a.			1% p.a.	1% p.a.	1% p.a.	1% p.a.	1% p.a.
Traffic flows proportion relative to combined flow	Variability allowance			4%	4%					
	Growth allowance			-	-					
Vehicle comp (HGVs)	Variability allowance		3%	3%	3%	3%	3%	3%	3%	3%
	Growth allowance		-	-	-	-	-	-	-	-
JT reliability	Variability allowance		2%	2%	2%	2%	2%	2%	2%	2%
	Growth allowance		-	-	-	-	-	-	-	-

Appendix C – Potential options for simplifying the triggers

Example 1

- Fewer triggers
- Single trigger alert
- Only concerned with increases / worsenings

Metric	Location	Blackwall / Silvertow	Blackwall Tunnel	Silvertow n Tunnel	Rotherhit he Tunnel	Tower Bridge	Woolwich Ferry	MTS corridors	Local roads
Traffic flows	Trigger alert	+1%	80%	30%	+5%	+4%		+4%	+4%
	Measurement range	-1%	77%	27%	+3%	+2%		+2%	+2%
	Forecast change in flow	-3%	75%	25%	+1%	0%		0%	0%
			Based on proportion of traffic flow relative to combined flow						
Vehicle comp (HGVs)	Trigger alert	-3%				+5%	+6%	+4%	+4%
	Measurement range	-5%				+4%	+4%	+2%	+2%
	Forecast change in HGVs	-7%				2%	2%	0%	0%
JT reliability	Forecast JTR		TLRN mean	TLRN mean	TLRN mean	TLRN mean		TLRN mean	
	Trigger alert		-3%	-3%	-3%	-3%		-3%	
Usage	Trigger alert						+3%		
	Measurement range						0%		
	Forecast change in usage						-2%		
Bus reliability (EWT)	Forecast JTR		EWT mean	EWT mean				EWT mean	EWT mean
	Trigger alert		-2%	-2%				-2%	-2%
Road safety	Trigger alert	1-2							

Example 2

- Based on traffic flows only

Changes in traffic flows (do minimum option)			
Location	Forecast flow	Trigger activated if:	
Blackwall Tunnel	75% of combined flow	Flow is more than 80% of combined flow	
Silvertown Tunnel	25% of combined flow	Flow is more than 30% of combined flow	
Blackwall and Silvertown Tunnel combined	3% less than baseline	Flow is higher than baseline	
Other river crossings	1% more than baseline	Flow is >5% higher than baseline	
MTS corridors	No change from baseline	Flow is >4% higher than baseline	
Local roads	No change from baseline	Flow is >4% higher than baseline	

Appendix D – Requirement 26 from the M4 Smart Motorway DCO

Air quality monitoring and management 26. —

(1) No part of the authorised development is to commence until the undertaker has prepared a monitoring scheme for Nitrogen Dioxide (“NO₂”). The monitoring scheme must—

1. (a) be prepared in consultation with the relevant local authorities (“the air quality authorities”) for those Air Quality Management Areas in which the authorised development is located where both a change in air quality in excess of 0.4µg/m³ is predicted in the environmental statement, and where annual mean concentrations are above the national air quality objective value;
2. (b) set out the location and specification for operation and data provision for any monitors to be installed in line with guidance on air quality monitoring issued by the Department for Environment, Food and Rural Affairs from time to time (but the duplication of existing monitoring is not required where its data is available); and
3. (c) provide for the monitors to—
 - (i) be installed during the construction period of the authorised development;
 - (ii) be operated from the opening of the authorised development for public use; and
 - (iii) remain in place for a period of 3 years or until the monitoring shows a continuous period of 12 months in which there is no exceedance of the annual national air quality objective for the NO₂ monitored, whichever is the longer (“the monitoring period”).

(2) During the monitoring period, the undertaker must make all data obtained from the monitors available to the air quality authorities.

(3) The monitoring data must be accompanied by a review undertaken by a firm of air quality experts appointed by the undertaker in consultation with the air quality authorities and submitted at 12-monthly intervals during the monitoring period. If any such review demonstrates in the opinion of the appointed firm of experts that the authorised development has materially worsened air quality where there are exceedances of national air quality objectives, the undertaker must—

1. (a) consult with the air quality authorities on a scheme of mitigation (including a programme for its implementation) within 6 months of the data review, taking into consideration any local air quality action plans adopted by each air quality authority as part of its local air quality management duties;
2. (b) submit the scheme of mitigation to the Secretary of State for approval within 1 month of concluding its consultation with the air quality authorities; and
3. (c) implement the scheme of mitigation in accordance with the programme contained in the scheme of mitigation following approval by the Secretary of State.

(4) Before considering whether to approve the scheme of mitigation, the Secretary of State must consult the air quality authorities and take into consideration any local air quality action plans adopted by an air quality authority as part of its local air quality management duties.