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Dear Ms Hillier

GARDEN BRIDGE

As requested, I attach a Treasury analysis of the business case for the Garden Bridge.

The attached note considers the Strategic Outline Business Case (SOBC) prepared by Transport for London (TfL) in May 2014. It focuses in particular on the economic case, which is the area which has most interested the PAC. The economic case considered a wide range of potential impacts to London and the UK economy. Its conclusion was that there was a good case for public investment in the project, but cited a number of risks, on funding, governance and delivery.

The economic case used a standard methodology, taking the construction costs (and allowing for overruns by applying an 'optimism bias'), and trying to evaluate the potential benefits, using well-established techniques wherever possible; putting everything in present value (PV) terms; to arrive at a benefit-cost ratio (BCR) on which to base decisions.

The construction costs were assessed at £150m for the economic analysis. Adding the future maintenance of the bridge (£2.5m a year), but subtracting the private sector contribution (both to construction and ongoing maintenance) gave a present value cost to the public sector of £57m.

On the benefits side, several (such as the impact on journey quality or road safety) could not be quantified, and so were not scored in the overall appraisal of the project. Of those that were, the two that drove the overall appraisal were the impact on local business and residential property values (the others being second order). But, for completeness, we consider them all (using TfL's terminology):

- walking time savings (PV £7m): this uses a standard methodology routinely applied by the Department for Transport (DfT) in its appraisal of transport projects. Different assumptions could increase or reduce the figure, but without any material impact on the overall BCR estimate;

- health impacts (PV £22m): again, the methodology is standard; again, different assumptions are possible; but again, the impact on the BCR is second-order;

- showcasing Britain (PV £25m): the argument is that the bridge would increase exports by showcasing the UK's design, construction and professional services sector. This may well be true to a degree, but the business case does not provide robust evidence. That said, the figures are small, and the impact on the BCR is second-order;

- tourism (PV £57m): it is reasonable to expect some positive impact on tourism. But the business case does not provide a robust evidence base for the assumptions made in calculating the figure;

- property values (PV £73m): the business case assumes that the bridge would add 5% to the value of recent and planned commercial and residential development in the vicinity. It says there is considerable evidence that new infrastructure and well-designed parks can have a positive impact on property values, in the case of a park generally clustered at around 5% to 7%. Since the proposed project would be a bridge with some of the characteristics of a park, some increase in property value is plausible, but it is difficult to make a judgement on the magnitude, or on how much is genuine additional value and how much is displaced from elsewhere;

- business impacts (PV £310m). The business case says that the increased footfall in the areas leading to and from the bridge could be expected to increase the income of nearby businesses and the value and yield of existing property. It assumes an increase of 5% in revenue for most businesses, but a much higher impact (30%) on planned retail businesses near the north end of the bridge. A positive impact is certainly plausible, but no evidence is provided for either figure, and the latter in particular seems very high. As the business case acknowledges, some of the increase may represent business diverted from elsewhere. In addition, to avoid double-counting, it must be assumed that the increase in property values (above) represents additional amenity value (and not just the price capitalisation of the additional income and rental value already quantified here).

Given the range of factors, the uncertainties and the unique nature of the project, it is not straightforward to come to a single overall judgement. So the attached note gives several examples, varying some of the assumptions made in the business case and looking at the impact on the benefit-cost ratio. For example, assuming no impact at all on construction exports, half the business case estimate on tourism, more conservative assumptions on business income (to remove any possibility of double-counting), and adopting TfL estimates on journey time savings, health benefits and the increase in property values – this would give a BCR of 1.0, indicating neutral or break-even in vfm terms. Less conservative assumptions would point to higher BCRs, and vice versa. The note gives two other examples.

The attached note also considers the financial case. This is a private sector project led by the Garden Bridge Trust. The government and TfL have each committed £30m to the project, but the balance (about two-thirds) is to be financed through private sector contributions. The Garden Bridge Trust is responsible for raising this money, which is to fund part of the construction cost and the full cost of operation and maintenance (estimated in the business case at £2.5m from 2018 onwards).

This financial structure points to three risks. First, there is plainly a risk about realising the required level of private contributions. While the business case says that a fundraising strategy is being developed it does not assess whether it is realistic to expect it to secure resources on the scale needed. Second, there could be a risk to public funds if there were a shortfall in private sector contributions, or a mismatch in the risks being borne by public and private sectors, and as a result more risk or cost fell now or in the future to the public sector. Third, there is a particular risk to the taxpayer if the Government's contribution is drawn down ahead of the private sector funding, especially during the pre-construction phase before there is certainty that the project will proceed. In the DfT Accounting Officer's view this was a major risk to value for money in the project, which was why a cap was imposed on the Government's pre-construction funding. It was a subsequent relaxation of that cap (and the taxpayer underwriting of potential cancellation costs) which caused the DfT Accounting Officer to ask for a direction in May 2016.

The attached note also considers the strategic case, the commercial case and the management case, which form part of the five case model required by the Green Book.

It is always difficult to make a fair assessment of project evaluation several years after the event, during which time new information will have come to light. That said, there must be a public interest in greater debate on the basis of authoritative information transparently provided at an early stage in the life of a project. I hope that the government's new policy will help here. Following a PAC recommendation, the Treasury has required Accounting Officers to provide to Parliament a summary of their reasons for approving new projects at an early stage (the Strategic Outline Business Case). At the moment this only applies to projects in the government's major projects portfolio (which would not include the Garden Bridge). But it will be open to Accounting Officers to publish their assessments in other cases; I would hope that this would be seen as best practice, in particular for novel or contentious projects; and the government has said that it would keep the position under review, and consider whether it would be appropriate to extend it in due course.

I hope this letter and note are helpful to the Committee.

Yours sincerely

Tom Scholar

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HM Treasury analysis of the Garden Bridge business case

In the 2013 Autumn Statement, the Chancellor announced £30 million of funding for the Garden Bridge, subject to four conditions, including that a satisfactory business case would be produced, demonstrating value for money.

The Garden Bridge business case was produced by Transport for London (TfL) in May 2014 and scrutinised by the Department for Transport (DfT) in July 2014. This Strategic Outline Business Case (SOBC) examined the Garden Bridge project using the Green Book's five case model methodology. This is the appropriate methodology to use for a scheme of this nature. This business case was the basis for the government increasing TfL's block grant for 2014/15 by £30 million, with a cap of £8.2 million that could be spent on pre-construction activities. Although this spending was within DfT's delegated limit, it was considered a novel scheme, and HMT agreement was therefore sought in line with standard processes. The DfT Parliamentary Under Secretary of State wrote to the Chief Secretary to the Treasury on 10 September 2014, stating that "there is a real prospect of the project delivering good value for money", although that was dependent on the level of confidence in the impact on land values and overseas investment and effective delivery of the project. HMT ministers agreed to provide funding based on this assessment.

The SOBC examines the strategic case, the economic case, the commercial case, the financial case and the management case. We consider each in turn, with a particular focus on the economic case, the area which has most interested the PAC.

Strategic Case

The strategic case for the scheme focused on seven core objectives:

- To improve pedestrian connectivity across the Thames in central London to reduce severance and contribute towards an increase in north-south movements across the river by foot
- To contribute towards improving the quality of the pedestrian environment and public realm in central London that will support an increase in walking across central London as a whole and help contribute towards Mayoral Transport Strategy targets
- To improve transport connectivity, efficiency and resilience for the South Bank area by providing better links to the Underground network at Temple
- To support the economic development of areas adjoining the bridge on both sides of the River and to help bring forward development
- To support central London's visitor and tourism economy
- To create a new public open space and garden in central London
- To be affordable.

<u>HMT assessment</u>: The Garden Bridge is an unusual scheme given that, although a 'walking' transport project, many of its potential strategic benefits derive from

its wider amenity value and status as a tourist attraction. The case for the scheme set out by TfL in the SOBC provides a strategic rationale for the project, which is in line with wider government objectives, including in relation to: provision of accessible transport; supporting walking as an alternative to other modes of transport; driving economic growth; helping the UK tourism industry to grow; and supporting vibrant and sustainable arts and culture. Furthermore, part of the vision for this project is that the Garden Bridge has the potential to be a cultural asset which could have broader non-economic benefits beyond those that could be adequately captured in an economic appraisal.

Economic Case

The economic case set out the value for money assessment of the Garden Bridge project. This is a novel and innovative scheme, with potential impacts beyond the transport sector, so some of the evidence and techniques used are taken from DfT's standard methodology (WebTAG[1]), but TfL also made use of other evidence, for instance around business and property value uplifts.

The following methodology was used for the calculation of the BCRs. The numerator includes the gross benefits of the scheme (journey time savings, health, business and property impacts, tourism and construction sector exports), VAT (as a benefit to the Exchequer) and the dis-benefits (the cost to the private sector of the Bridge, including operational costs). The denominator includes the total construction costs, including VAT, minus the private sector contributions, to arrive at the public sector contribution.

The present value of this public sector contribution is £57 million. This is based on a construction cost of £150 million, with an optimism bias added, and the total discounted to give a present value. It is appropriate for an allowance for optimism bias to be included, although the business case does not set out what rate was chosen or use evidence to justify that choice.

The appraisal period was 60 years, consistent with WebTAG methodology, and the discount rates used were consistent with the Green Book.

This WebTAG methodology has two noticeable features that affect the BCRs. Firstly, it includes VAT on both sides, despite it being a transfer payment. This treatment of VAT increases the denominator proportionately more than the numerator (as the value of the denominator is lower) and so has the effect of reducing the BCR. Secondly, including the dis-benefits to the private sector as equal to the private sector contribution to the cost assumes there is no benefit to the private sector donors who part-fund the Garden Bridge. This seems unlikely - given they are willing to donate, it is more likely they would receive some sort of return, for example through the ability to host corporate events on the Bridge or demonstrating their commitment to social responsibility. While both these methodological points do affect the BCR, we have not attempted to

[1] Web Transport Analysis Guidance – DfT's official guidance on the conduct of transport studies.

adjust the methodology to take account of them. Both make the BCR less favourable to the case for the bridge.

The economic case in the TfL SOBC set out a range of BCRs for the project, as it is particularly sensitive to the assumptions made in relation to business impacts and property values. The case sets out that with the full impact of these included, the BCR is 5.8, indicating very high value for money. When these impacts are halved, the BCR is 2.4, and when removed entirely the BCR reduces to -1.5, indicating poor value for money. It is unusual to have such a wide range of possible BCRs, which is evidence of considerable uncertainty in the economic case.

The following offers a line by line assessment of the benefits quantified in the economic case:

i) Journey time savings (present value £7 million, or £4 million after accounting for disruption): based on shorter journey times for existing pedestrian journeys across Waterloo Bridge.

The journey time savings, which are a core transport benefit, were calculated through modelling existing pedestrian footfall and the change in existing journeys that would occur if the Garden Bridge was built. Existing pedestrian footfall is where a journey time saving is most likely to be valued, as new journeys may be leisure trips where a journey time saving is less valued. This modelling identified a number of journeys where the journey would be shortened by the existence of the Garden Bridge.

To calculate the benefit of this journey time saving, a value has to be placed on this time saved. TfL used a value of £6.81 an hour, which, at the time of the business case, was WebTAG's recommended value of non-working time for commuters, leading to the annualised benefit stated in the business case of £180,000, in present value terms £7 million. This does not include the impact of the Bridge closing for a maximum of 12 days a year for fundraising events, but neither does it include any allowance for weekend trips or trips in work time, where the value of time is much higher.

<u>HMT assessment</u>: This approach – and the values used – is consistent with DfT's WebTAG methodology for the appraisal of transport projects and can be considered robust. However, it is not a major driver of the value of the project, representing c. 1% of the total quantified benefits.

ii) Health benefits (present value £22 million): assuming 0.5 lives per year saved due to increased physical activity as a result of mode switch towards walking.

The health benefits outlined in the business case are the result of increased physical activity, and are calculated using the World Health Organization's Health Economic Assessment Tool – this is the suggested way of measuring the health benefits from active travel schemes in WebTAG. It is estimated that 864 walking trips a day would be generated as a result of the Bridge, as part of a modal shift away from buses. This data comes from origin-destination surveys of bridge users and surveys of Waterloo station users. Using this approach suggests an annual benefit of £963,000, or a present value benefit of £22 million.

<u>HMT assessment</u>: As with the journey time savings, the methodology employed here is consistent with WebTAG and so can be considered robust. This may be a conservative estimate as it does not include the impact of existing walking being extended to go through the Garden Bridge or new trips generated by those who live or work close to it. However, it is not a major driver of the value of the project, representing c. 4% of the total quantified benefits.

iii) One-off increase in residential and commercial property values (present value £73 million): assuming a 5% increase in the value of £1.7 billion of planned residential and commercial property. This totals £84.1 million or £73 million in present value terms. To this is added the ***combined impact of an ongoing increase in business rents/revenues (present value £310 million):*** assuming a 5% increase in revenues for nearby businesses such as the National Theatre and Oxo Tower; a 5% increase in forecast rental yields/revenue for nearby planned hotel and office space; and that 30% of revenues in new retail units planned for the North Bank would be due to the Garden Bridge. This gives an annualised benefit of £13.5 million p.a. (split £4 million for existing businesses and £9.5 million for new businesses) or a present value benefit of £310 million.

<u>HMT assessment</u>: The business and property impacts assessment is a critical element of the business case, representing around 63% of the quantified benefits for business and 15% for property. It is reasonable to assume some positive value for business and property impact, but this is subject to a high degree of uncertainty both around the scale of the benefit and the methodology. There are a number of factors to consider:

- The <u>5% uplift figure</u> is derived from assessing the evidence of previous studies which aim to estimate the impact on nearby properties and businesses of a park or garden. It is reasonable to assume that there would be a benefit to nearby business and property values. However, the Garden Bridge is a unique project and there is a potential debate over the validity of studies of other parks and gardens to the Garden Bridge. Little supporting evidence is provided in the business case.
- The assumption that <u>30% of revenues in new retail units on the North Bank</u> would be due to the Garden Bridge is not supported by evidence and should be treated with caution.
- No account appears to be taken of the extent to which increased business revenues around the Garden Bridge would be displaced from elsewhere in the UK economy. The level of this displacement is difficult to quantify, but could be material. (The business case recognises this as an issue, but does not attempt to quantify it.)

- There is also some risk that the property and business impacts contain some double counting. The increase in property values may represent the price capitalisation of the increased rental values and revenue streams already quantified in the business impacts section of the business case. On the other hand, the increase in values estimated may represent the amenity value of the Bridge, separate to the capitalised business impacts. Furthermore, some of the property value increase is to planned residential property, which should not be affected by the price capitalisation of business impacts. It is not clear therefore whether and to what extent there is double counting, but no allowance was made for the risk of it in the business case.

An alternative approach which could have addressed the double counting risk identified above would be to apportion the business impacts. As noted above, of the £13.5 million p.a. annualised business impact, £4 million comes from existing businesses with the rest from planned developments, whilst the uplift in property values is for planned developments only. Therefore, calculating the business impacts on existing businesses only and leaving the property value increases on planned developments unchanged should avoid double counting. This approach also removes the unsupported assumption of a 30% uplift in the revenues for new retails units. We have used this more cautious approach in one of the illustrative calculations set out in the last section of this note.

iv) Tourism revenues (present value £57m): assuming that 1% of international visitors to London's parks and gardens would spend an additional hour in London as a result of the Garden Bridge. The business case estimated the tourism benefits to be £2.5 million a year, or £57 million in present value terms. This was based on an illustrative scenario that 1% of international visitors to London's parks and gardens stay for an hour longer in London and there is a proportionate increase in tourism spend.

<u>HMT assessment</u>: This represents 12% of the total benefits. Tourism benefits are inherently difficult to quantify accurately, and it is challenging to make a causal association between revenues and a particular tourist offer. It is reasonable to assume that by adding to the tourist offer, there would be some benefit to tourism resulting from the Garden Bridge, and the success of New York's High Line and similar projects illustrates this. However, the 1% and 1 hour figures are not well evidenced and this element of the business case is weak. Research commissioned by the Department for Culture, Media and Sport suggests that, only 25-50% of spend resulting from Visit England marketing is additional, with the rest being displaced from tourism spend that would otherwise occur. The business case would have been stronger with a more rigorous assessment of tourism benefits, potentially by using more than just one illustrative scenario and an adjustment for displacement. There is also a risk of double counting, since the extra money spent by international tourists may already be scored as part of the increase in revenues to local businesses considered in the previous section (unless

that is purely accounted for by UK-based visitors). The business case does not address this risk.

v) Construction sector exports (present value £25m): assuming a 0.5% increase in exports of construction services through showcasing the UK's design, construction and professional services sector. It is assumed that the initial benefit reduces over time, which is why the benefits are only allowed for 5 years.

<u>HMT assessment</u>: This is a relatively minor aspect of the business case, representing c. 5% of the benefits, and this element of the business case is weak. There is little evidential support for why the increase should be 0.5%, rather than any other number, and an increase in construction sector exports may displace output of something else. There may well be positive benefits, but absent more detailed evidence to support the export benefits from major construction projects, it is hard to assess the reliability of this element of the business case.

vi) Other benefits: There were a number of benefits that were identified but not quantified in the business case, such as journey quality, road safety and reduced crowding at stations. These benefits could not be quantified and so were not scored in the overall project appraisal.

Commercial Case

This section sets out the planned commercial and contractual arrangements for the Garden Bridge across the three phases of the project – development, construction and operational. In the development phase, planning and consent activities were to be led by TfL, which had contracted Arup to work on the project. The construction phase would be led and managed by the Garden Bridge Trust, with TfL potentially providing project management expertise. During the operational phase, the Bridge would be owned and operated by the Trust, who would be responsible for managing and maintaining the structure and the garden.

A draft procurement strategy had also been developed for the scheme, including a recommendation that the open competitive tendering process would be for a design and build, fixed-price contract, giving the Trust certainty of outturn price. The strategy also sets out the risks that would remain with the Trust, and those that would be transferred to the contractor.

<u>HMT assessment</u>: The growing role of the Garden Bridge Trust in the commercial management of the Bridge is consistent with its capability growing over time, and the expertise that TfL have in developing and constructing transport projects.

Financial Case

As set out in the SOBC, the Garden Bridge Trust is responsible for delivering and securing the overall funding of this project. The overall construction cost for the Garden Bridge scheme as set out in the financial case is £144 million (2014 prices). The contribution sought from central government was £30 million, with a further £30 million to be provided by TfL. The total public sector exposure to the scheme was therefore £60 million, and the Trust would be responsible for securing the remaining necessary funds for delivering and maintenance. This portion of the cost was to be financed through contributions from private donations, and the financial case noted a fundraising strategy was being developed.

The costs of owning and maintaining the bridge were estimated at £2.5 million per annum. The financial case states that the overall funding package for this would be set out and secured by the Trust.

<u>HMT assessment</u>: The Garden Bridge project is a novel scheme, in which the government / public sector is a funder but not the lead delivery agent. The financing arrangements – including that the private sector funding was not in place at the point of government commitment to the scheme – created a higher risk than is normal for publically funded infrastructure projects of relatively low expenditure. The fact that the Garden Bridge Trust was a newly established body at the point at which the SOBC was developed, with limited capabilities, accentuated these risks.

The financial case relies upon the Trust raising significant sums from private donations for the construction of the Bridge. It does not provide any evidence of how the Trust could raise these sums and whether it was realistic to expect to receive such amounts. Further detail, for example an externally commissioned analysis of the likelihood that the project would be able to raise the required level of private finance, would have strengthened the case here. Private donations are susceptible to market conditions and the business case did not identify this as a risk. Given the absence of evidence in the case of how this fundraising is to be achieved in practice, the levels suggested appear optimistic.

One of the financing risks that can be identified from the business case is that if the Garden Bridge Trust were not able to raise the full amount of private sector contributions required for the scheme, the public sector contribution to the scheme would be at risk. There are two separate risks: that the project would be cancelled, and the public sector contribution would be lost; or that it would go ahead, and a funding shortfall for the Trust would lead to pressure on the government to provide further funding.

The government sought to manage this risk at the time of the business case by limiting the overall level of central government's contribution to a maximum of £30 million, limiting the initial pre-construction exposure to £8.2 million, requiring TfL to manage the flow of money to the Trust, and investing pari passu with TfL.

The business case assumed that the Trust would be able to fund ongoing operating and maintenance costs, once the bridge was built. At this point, the Trust would by definition be operating at full capability, and would have already raised significant private funding. It would be reasonable to expect it to secure some degree of ongoing funding through, for example, events and donations. But there is no evidence or quantification of this in the business case.

Overall, the evidence in the business case suggests overall project risk could not be eliminated for either central government or TfL, as any cost overruns or funding shortfalls could put pressure on the public sector to step in and provide the funding needed. At the time of the business case, there was no agreement over who would assume responsibility for cost overruns or ongoing maintenance if the Trust were unable to meet these.

Management Case

This section set out the management arrangements for delivery of the Garden Bridge. The scheme was promoted and delivered by the Garden Bridge Trust, an independent company limited by guarantee with registered charity status. The Project Delivery Board has responsibility for overseeing the design, delivery and handover into maintenance of the bridge.

TfL's role was that of project enabler. TfL provided project management assistance and management resource while the Garden Bridge Trust established itself and developed its capabilities. TfL produced the SOBC, the preparation of the planning consent applications and some land negotiations. At the time of the SOBC, Arup and Bircham Dyson Bell were contracted to TfL. The intention was for TfL's supporting role to reduce as the Trust's capabilities increased and for any contracts to novate to the Trust by August 2014.

At the time of the SOBC, a project plan with critical path and milestones existed for the Design and Planning, Tender and Contract Award and Client Enabling Activities stages of the project. The Construction phase did not initially have a detailed project plan worked up as this was to be the responsibility of a contractor awarded a design and build contract.

<u>HMT assessment</u>: The initial role of TfL in the set-up phase of the Garden Bridge project appears sensible given the initially limited capability of the Trust. It is not unusual for project arrangements and contracts to novate from one body to another during the set-up phase, nor for a 'design and build' contractor to have responsibility for developing the detailed project plan. The board membership identified in the business case is a credible one, with senior representation and expertise from a variety of fields.

Conclusion

This analysis of the business case has demonstrated that the potential of the scheme to deliver reasonable value for money is highly sensitive to a number of key assumptions, in particular regarding the property values and business impacts. We also found that several of the assumptions could have been more strongly supported by evidence, in particular the tourism and construction exports benefits, while we have identified some risk of double counting in the assessment of property and business impacts, and tourism. The business case itself set out an unusually wide range of possible BCRs, evidence of the considerable uncertainties here.

However, this does not mean that the project could not generate a positive Benefit Cost Ratio (BCR). The following set of assumptions would give a neutral BCR for the project:
- allow for 100% of the benefits for walking, health and property uplift;
- allow only for the business impacts on existing businesses (which removes potential double counting, and the implausibly high figure for new retail units on the North Bank);
- allow for 50% of the tourism benefits
- remove all construction export benefits.

This provides a BCR of 1. Of course all of these assumptions could be varied. If they are thought to be too conservative, the project could be seen as having a reasonable prospect of generating a positive BCR, and vice versa.

To illustrate the impact of a different set of assumptions: keeping the assumptions on journey time savings and health benefits; removing 100% of construction export sector and tourism benefits; changing the assumption regarding new retail revenues on the North Bank from 30% to 5%; and retaining the TfL assumptions on property uplift and the remainder of business impacts provides a BCR of 1.6.

Keeping all the above assumptions but allowing 50% of the tourism benefits produces a BCR of 2.1. Removing the tourism benefits but changing the increased revenues on new retail units from 5% to 15%, produces a BCR of 2.7.

Our overall conclusion is that the business case presented in 2014 was finely balanced and subject to an unusually high level of uncertainty, and could have been strengthened in several respects. Our analysis shows that the value for money case for the project rests above all on the potential business and property impact, where there are significant uncertainties.

Looking ahead, there are clearly issues still to be addressed, given the need to raise sufficient private funding and secure planning consents on the South Bank. The government's financial exposure to the project has also increased – on approving the business case, central government's contribution of £30 million allowed only £8.2 million to be used for pre-construction costs. This pre-construction exposure is now £22.5 million, with a Ministerial direction having been issued to enable a proportion of this contribution to cover cancellation liabilities if necessary. This suggests that the overall case for the project is weaker today than it was in 2014.