

CONSULTATION ON CORE ELEMENTS OF THE REGULATORY FRAMEWORK TO SUPPORT CAPACITY EXPANSION AT HEATHROW

CAP 1541

CONSULTATION - June/Sept 2017

Richmond Heathrow Campaign Response

This document is the response of the Richmond Heathrow Campaign to the CAA Consultation on Economic Regulation of Heathrow Expansion as contained in the document: *Core elements of the regulatory framework to support capacity expansion at Heathrow (CAP 1541), June 2017*.

The Richmond Heathrow Campaign (RHC) represents three amenity groups in the London Borough of Richmond upon Thames: The Richmond Society, The Friends of Richmond Green, and the Kew Society, which together have over 2000 members. The members of our amenity groups are adversely affected by noise from Heathrow Airport's flight paths, poor air quality and road and rail congestion in west London. We acknowledge Heathrow's contribution to the UK economy and seek constructive engagement in pursuit of a better Heathrow. Economic regulation is an important part of this. We are an active participant in the Heathrow Community Noise Forum.

Over recent years we have undertaken extensive research on Heathrow and submitted a large number of papers to the Airports Commission and others - most of which can be found at www.richmondheathrowcampaign.org and www.rhcfacts.org.

Our response is arranged by chapter in response to the specific consultation questions. Chapter 1 is the exception where we question why our response to the previous consultation (CAP 1510) has been largely ignored; as a result we explain our views in more detail. Our response in subsequent chapters is brief because we cover many of the questions in Chapter 1. Where possible we refer back to Chapter 1.

Chapter I summarises our response to the January 2017 consultation, CAP 1510. We then examine the broad economic processes in Heathrow's market including the impact of the CAA's regulation. This is followed by an assessment of Heathrow's excess profits, which we believe are sizable and of the order of £300 million a year. The RAB regulation is not preventing these profits but actually supports them. We find that Heathrow is not contributing adequate amounts to mitigate the environmental costs of its operations and that regulation should better ensure environmental costs are met in future. These could amount to £150 million a year and would reduce some of the excess profit; any remaining excess profit should be prevented by more stringent regulation. We then examine the airlines and find they are unlikely to generate a scarcity rent and excess profits. This is important because it means there is no financial capacity within the airlines to absorb higher aero charges from Heathrow. Instead, increased charges would need to be passed on to passengers and freight owners. We briefly examine the surface access economics.

We then examine the financial impact of Heathrow's Northwest Runway (NWR) expansion. We find that if there is to be no increase in the aero charge compared to the Do-minimum option then Heathrow's shareholders are likely to experience a drop in value of at least £12bn, which approximates most of the debt and equity of Heathrow and clearly is untenable. To breakeven on the expansion requires the aero charge to be increased by 38% from first flight in 2026 compared to the Do-minimum aero charge. We believe a charge of £37.67 per passenger (real 2016 prices) would be unacceptable to airlines and passengers. The only solution we can see at the moment is a substantial reduction in capital expenditure but it is difficult to see how this can be achieved without a material reduction in service and inefficient allocation of resources. Under the circumstances, we urge the Government to confirm without delay that it will not provide any financial support for Heathrow expansion, including, subsidies, guarantees, contingent liabilities or favourable tax treatment.

Chapter 1 January 2017 consultation: stakeholder responses

RHC RESPONSE TO PREVIOUS CONSULTATION, CAP 1510

1. RHC was one of nine respondents to the January 2017 consultation on Heathrow Economic regulation – Jan/March 2017. We are disappointed the CAA has largely ignored our response.
2. In section 1 of our response we argued that there is little or no scarcity rent, which is an important point because the CCA is relying on this rent to absorb the very high costs of Heathrow expansion and as far as possible avoid the pass-through of the costs to passengers.
3. In section 2 we argued that the CAA regulation, in seeking to protect passengers, should consider all UK passengers given the reduced aviation growth and economies at most UK airports caused by the expansion of Heathrow, as is demonstrated by the Airports Commission's evidence. We urged the CAA to include this substantial cost in its regulatory calculations. We also argued that international-to-international transfers provide little or no value to the UK economy and we urged the CAA to discount the value of these transfers as users of Heathrow's capacity. Our detailed assessment of these issues is in our response to the DfT on the draft NPS, which can be found on our website.
4. In section 3 we urged the CAA to consider further how best to incorporate surface access costs and environmental costs in its regulatory model.
5. In section 4 we urged the CAA to place greater emphasis on the shareholder bearing the risks in the regulatory model and the finance being non-recourse to the Treasury.
6. In section 5 we urged the CAA to publish and consult on a definitive regulatory model and its impact well ahead of a Government decision on Heathrow expansion and indeed before scrutiny by Parliamentary Select Committee and before a vote by Parliament on the NPS.
7. None of these issues have been addressed in the current consultation except there is a chapter on surface access. Therefore before addressing the CAA's specific questions in the current consultation we take the opportunity to further explain the concerns raised in our previous response.
8. At the moment we do not believe the regulatory model, as it is being amended, is fit for purpose. Given the high cost of Heathrow expansion and the fact that the CAA's aim is to avoid an increase in passenger fares and charges to freight owners or a tax payer subsidy coupled with the fact that airlines do not have the financial capacity to absorb the costs, the only solution is to increase the burden on Heathrow's lenders and shareholders. If they are incapable or unwilling to pay the cost of expansion then the expansion will not be able to proceed.
9. From a timing point of view, it is important the viability of the Northwest Runway (NWR) is determined before decisions are made by Parliament and the Government. At the moment the CAA propose to take several years to determine the economic cost and risks and how they should be shared. This is far too late.

ECONOMIC PROCESSES IN HEATHROW'S MARKET

10. **Perfect market with competition.** A simple model of Heathrow's economics might be along the following lines. The three stage vertical supply chain for providing a service to passengers comprises the surface access to/from the airport, the progress through the airport to/from the

aircraft and the flight. A similar model applies to freight. Besides this vertical chain, there are parallel services to passengers such as retail. In a perfect market with competition the passenger aeronautical revenue, as determined by price and demand, should match the costs including the cost of capital. The cost of capital is the cost of money plus a margin to cover the risks, which together in accounting terms equal the profit. Surface access, including car parking, has several road and rail suppliers - both private and state owned. The progress through the airport is supplied by a single supplier, Heathrow, and the flights are supplied by the 80 or so airlines operating at Heathrow.

11. **Imperfect market.** Scarcity rents or shadow costs on account of capacity constraint, market power on account of lack of competition, barriers to market entry and regulation by government, EU and international bodies are some of the reasons the market may be imperfect. Imperfect markets can result in excess profits with the rate of return exceeding the cost of capital as made possible by overcharging consumers. There may also be inefficient allocation of revenue and capital resources and less than satisfactory service.
12. **CAA regulation.** The CAA's statutory regulation of market imperfection deals directly only with one stage in the supply chain; it controls Heathrow and aims to balance passenger affordability with Heathrow financeability, while providing incentives to encourage Heathrow's efficiency and satisfactory service levels.
 - a. The CAA is tasked with ensuring the passengers (and freight owners) are not over-charged on account of Heathrow's market powers. The CAA's regulation directly controls aeronautical revenue charges to the airlines and therefore indirectly passenger fares (i.e. affordability) by way of pass-through of these aero charges to the passengers by the airlines and/or absorption of any excess profits accrued by the airlines on account of market imperfections. The CAA caps the aero charges but this may still leave the airlines with excess profits which are not controlled by the CAA.
 - b. The CAA's regulation also seeks to ensure Heathrow's financeability, without which the service would not be provided. The aim is to match Heathrow's rate of return with its cost of capital so that investors provide the capital but do not benefit from excess profit; the CAA regulation matches the revenue from the aeronautical charge with Heathrow's costs including the cost of capital. For simplicity here, we leave aside the practice of the aero-charges being reduced by non-aero income such as retail, which is not directly in the aero supply chain and parking fees which are in the access part of the supply chain.
 - c. There are several ways of regulating utilities and similar organisations. The Regulated Asset Base (RAB) model used by the CAA has the weakness of potentially allowing the supplier to "gold plate" costs, which results in inefficiencies supported by investors. For example, by incurring capital expenditure that is not really needed, the RAB model still ensures the investor is made whole and therefore there is little, if any, incentive to ensure the resources are used efficiently. There is also little incentive for the investor to ensure satisfactory service levels and the investor still makes the return even if service levels decline. The weakness extends to the cost of debt and risks, whereby the equity investor has the regulatory model to protect the equity return. It is therefore important that the regulation also has incentives to counterbalance these weaknesses.
 - d. The RAB model is also weak in allocating the aero charge to the several market segments served by the airlines. Broadly, Heathrow divides the total charge into domestic, European, rest of the world and international-to-international transfers. The purpose of travel such as leisure and business are not represented separately. As discussed later in considering the

question of airline excess profits, Heathrow's dominance on long haul travel is passed through to the airlines.

- e. A further weakness of the RAB model concerns the question of which passengers (and freight owners) should pay for growth. If the marginal cost of growth is higher than the average cost then who should pay for the difference? A family taking one holiday flight a year may not be willing to pay a higher fare so that capacity can be increased to serve additional passengers and freight. We believe that the aero charge should not be pre-loaded with increases in the aero charge per passenger before first flight from a 3rd runway. We believe the airlines take a similar position. Preferably, any subsequent increase in the charge should only be introduced on a unitary basis as passenger numbers grow so that the negative impact on each passenger is spread as fairly as possible. A better solution is to ensure the marginal cost of growth is no higher than the average cost. We discuss this further in the section dealing with NWR expansion.
- f. The RAB model seeks to protect the passenger and freight user from Heathrow making an excess profit. But Heathrow is at the bottom of the supply chain and the model fails to take account of the airlines. The regulatory control on Heathrow ends up protecting Heathrow and its shareholders and lenders without fully reflecting the end user passenger market and the intermediate airlines. The airlines are hugely capital intensive with cyclical performance, as we see from their cyclical investment in new aircraft. This is a case of the tail wagging the dog. We have not had time to provide precise figures but the airlines have an annual turnover of perhaps £20bn from Heathrow compared to Heathrow's aero turnover of around than £1.7bn. The RAB model needs to better reflect the economic power of Heathrow on the airlines and other airports and also take into account the environmental cost on the local community. At the moment the main beneficiaries of the model seem to be Heathrow's lenders and shareholders through pre-determined yields and rates of return. These points are explored in the following sections.

HEATHROW'S FINANCIAL STATISTICS

13. Annex A provides some of the key financial data for Heathrow for the year ended 31 December 2016. Heathrow's EBITDA was £1.648 million on revenue of £2.786 million, i.e. a margin on revenue of 59%. Net of depreciation of £723 million the operating profit before interest and tax was £925 million i.e. a margin on revenue of 33%. The average RAB in 2016 was £15.079 million and therefore the operating profit return on average RAB was 6.1%. The CAA's regulatory forecast was 5.33%.
14. The interest (and related charges) in 2016 was £520 million on net senior and junior debt of £11.908 million, i.e. a yield of 4.37% on average. If the net debt is subtracted from the RAB of £15.237 million at 31 December 2016 then the resulting balance amounts to equity of £3.329 million. The operating profit of £925 million less interest of £416 million (net of tax at 20%) results in a shareholder profit of £509 million which on an equity base of £3.329 million is a rate of return on equity of 15.3%. The real return would be even higher if the actual interest cost were reduced to a real interest cost taking account of inflation. The high financial equity return illustrates the benefit to the shareholder of debt leverage (gearing).

HEATHROW'S EXCESS PROFITS

15. The principle suppliers in the aero chain (airlines and Heathrow, leaving aside for the moment the access suppliers) do not appear to agree on whether there are excess profits and if there are where they lie in the supply chain. The academics are similarly at odds on this subject. The CAA

has said it believes there is currently a scarcity rent due to demand exceeding Heathrow's capacity, and we assume the CAA believes the resulting excess profits are being generated by the airlines and not by Heathrow because the latter is subject to the CAA's regulation that aims to prevent Heathrow from generating excess profits. We examine the issue of excess profits in relation to Heathrow and then the airlines in the following sections.

16. RHC's view is that the current Q6 regulation extended to the end of 2019 allows Heathrow to make excess profits which it takes full advantage of. The equity rate of return of over 15% per annum compares to the current yield on 15 year gilts of around 1.5%. A risk premium of 13.5% is far in excess of the actual operating and financial risks to which Heathrow is exposed from its existing operations.
17. In spite of the recession following 2008, Heathrow's passenger numbers have grown in most years. Larger planes and increasing load factors enable Heathrow to increase passenger numbers to 95 million a year or more in future years.

Heathrow stats Table 1	2008	2009	2010	2011	2012	2013	2014	2015	2016
Passengers (million)	66.9	65.9	65.7	69.4	70.0	72.3	73.4	75.0	75.7
ATMs (thousand)	473	460	449	476	471	470	471	472	473
Revenue (£ million)					2.22	2.47	2.69	2.76	2.80
Profit EBITDA (£ million)					1.16	1.42	1.60	1.60	1.68

The revenue and profit compound annual growth rates between 2012 and 2016 are respectively 6.0% and 9.8%. In a later section examining the NWR project, we calculate the net present value (NPV) of the Do-minimum option as £18bn compared to the average RAB value for 2016 of £15 bn. This is a premium of £3bn, which should not arise under the RAB regulation.

18. Heathrow's investor reports and the rating agencies (Fitch and Standard and Poor's) and prospectuses for bond issuance are all bullish on Heathrow. Research undertaken for the Airports Commission involved meetings with banks, shareholders and credit agencies – all of whom provided bullish statements on the airport. The airlines voiced strong concern in 2014, as the Q6 aero charge was being settled, that the charge is too high. This all supports our view that Heathrow generates excess profits supported by the CAA's RAB regulation.
19. On the following basis, we believe Heathrow's actual regulatory operating (EBITDA) profit of £925 million in 2016 included excess profits of around £300 million. PWC in its appraisal for the Airports Commission suggested the interest spread to provide for the risk of expansion might be 1.75%. If this were added to the gilt yield of 1.5% (risk free other than sovereign risk) then the current cost of new debt could be 3.25%. For the Do-minimum option without the expansion risk the cost might be, say 3% and this conservatively ignores the fact that the real cost of debt after inflation is probably less than 3%. It is true that Heathrow is handicapped with debt raised at historically higher interest rates but much of this matures and will need to be refinanced before long. We have further research to do but at this juncture we believe a reasonable real return on equity for an asset such as Heathrow might be 7% per annum. If one assumes 70% debt and 30% equity and 20% tax relief on interest then the weighted average cost of capital would be 3.8% compared to the actual regulatory rate of return of 6.1% in 2016.
20. We suggest that Heathrow's excess profits arise from a variety of sources as outlined in the following paragraphs. These are high retail return, low cost of debt, insufficient contribution to surface access costs and environmental costs and generally an over provision for risk.
21. Retail revenue amounts to around 20% of Heathrow's total income. The retail revenue in 2016 of £580 million incurred costs of only £18 million (see Annex A). This is extremely high margin income. We appreciate the income is net of 3rd party concession expenses. We do not know

what proportion of Heathrow's RAB is used to support this income but high street retailers get by with much thinner margins and presumably similar asset requirements. The RAB model applies a cost of capital that is far lower than the rate of return on the retail business suggested by these figures. Retailers at Heathrow have a captive market especially with regard to food and beverage so that the retail risk is relatively small compared to the aero account. We believe this situation results in a high risk marginal rate of return compared to the marginal weighted average cost of capital. We appreciate the RAB model offsets the aero charge with the retail income (single till approach) and one might think this neutralises the financial impact of the retail but the offset fails to take into account the costs and hence rate of return, which results in a substantial excess profit.

22. We recommend that there be a separate profit centre for retail which accounts for revenue, operating costs, financing costs, assets, profit and rate of return. There needs to be increased transparency. This does not preclude continuation of the single till approach for retail.
23. Heathrow's regulated cost of debt is based on a notional debt to equity ratio of 60% but the actual ratio is higher. Also the interest cost is based on historical interest yields but new debt is at much lower rates in today's debt markets. These two factors leverage the equity return to high levels, which are further increased by tax relief on interest. The regulatory model itself and the tax relief dampen the financial risks from high debt leverage (gearing). The result is that the rates of return on debt and especially on equity are high in relation to the costs of debt and equity capital (the result is excess profit).
24. The costs of surface access are not fully included in Heathrow's regulatory model. We believe that not only does Heathrow receive increasing income from car parking but it does not contribute adequately to the cost of surface access. The deficiencies in surface access provision result in road congestion which in turn leads to air pollution and inconvenience to passengers. We have gone into detail on the surface access issue in our response to the DfT on the draft NPS and we include here in Annex E an extract of our NPS response.
25. Heathrow, in our view, is not meeting the environmental cost of its operations. We have referred to the air pollution in the previous paragraph. But noise from aircraft affects a large number of Londoners and more could be done to reduce the noise. Heathrow has offered a package of at least £700 million to provide insulation should a third runway be built. This suggests Heathrow acknowledges the impact of noise but contributes far less than £700 million to reduce the existing noise problem.
26. Our examination of Heathrow's corporate cash flow between 2016 and 2015 is discussed later but it appears that the margin on sales is likely to increase from 59.2% in 2016 to 65% over the coming years, assuming the CAA's current regulatory model. We appreciate that Heathrow has ongoing core capital expenditure and a significant amount of replacement expenditure, even without developing a 3rd runway. But from our analysis, the aero charge in real terms (2016 money) seemingly will rise from £22.35 per passenger in 2016 to £27.00 by 2028. We believe this growth in aero charge will add to Heathrow's excess profits.
27. The airlines no doubt would support a reduction in Heathrow's excess profits and it is in their interests to support better surface access. But they may be more reticent about Heathrow being required to incur additional environmental costs. Heathrow no doubt will oppose any pressure to reduce the aero charge or to incurring costs to mitigate the environmental impact of its operations.

28. **We urge the CAA to reduce Heathrow's excess profit by first including the environment costs we refer to above and we suggest a figure of at least £150 million a year. Any remaining excess profit should be eliminated through the RAB model bearing down on the aero charge.**
29. **We regard the issue of excess profit as a major concern. Should the CAA be unable to tackle the problem of excess profit and under-provision for environmental costs then we believe the matter ought to be referred to the competition authorities and Heathrow's economic licence to operate and the associated conditions should be reviewed.**

HEATHROW'S AIRLINE EXCESS PROFITS

30. The CAA's starting premise is that Heathrow is full and has been for several years and that therefore there is a scarcity rent due to a capacity constraint. The CAA's conclusion seems to be that the airlines can lower demand to match capacity by increasing fares with the support of suppressed demand. It seems the CAA further concludes that the resulting excess profit accrues to the airlines because the CAA's regulatory control over Heathrow, notwithstanding its monopoly power, prevents it from sharing in excess profits.
31. We do not believe there is an overall scarcity rent or excess profits made by the airlines, as was explained in our response to the CAA's January consultation. The airline responses to the consultation seem to agree when they argued their margins are wafer thin. Evidence presented elsewhere suggests the high value of slot transfers demonstrates there is a scarcity rent. But the benefit to a legacy airline from acquiring a pair of slots accrues not just from those slots but also from the high incremental profit of transfer traffic on other network slots. The actual profit per passenger is less than it might seem. We do not think the slot transfer price proves there is a scarcity rent.
32. Competition at Heathrow between the airlines and between services available at other airports we believe prevents Heathrow's fares rising to produce a scarcity rent. Low cost carriers at London's four other airports provide competition and greater connectivity for short haul flights. Annex A provides an analysis of Heathrow's passengers in 2016. European passengers numbered 31.7 million out of £75.7 million. Heathrow's higher cost legacy airlines with substantial networks attract short haul passengers as transfers. We do not have all the detail, but we suspect the long haul market in effect subsidises the transfers. The transfers are also supported by their exemption from Air Passenger Duty and Heathrow's discounted aero charges for transfer passengers. Regional airports also provide competition in the short haul market. Furthermore, we believe the short haul market and particularly the leisure segment is price elastic and that although London provides a huge O&D market that could afford higher fares, generally speaking people will not pay higher fares in the short haul market.
33. The long haul market segment does give the Heathrow airlines an advantage over low cost carriers for several reasons. Long haul cannot avail of the same operational efficiencies as short haul. However, this barrier is increasingly being broken by airlines such as Norwegian and others that are introducing low cost long haul routes. The legacy airlines have somewhat of a hold on long haul networks but there are signs this is being broken by low cost carriers entering into agreements with long haul carriers at Gatwick and elsewhere. Even if the airlines do generate some scarcity rent from the long haul market segment we believe this is traded away on the transfer segment.
34. The transfer market segment is important to the Heathrow airlines because in effect it increases their catchment area and feeds the long haul routes with passengers. As we have said on many occasions (for example in our response to the draft NPS) the transfer business provides little economic value to the UK as a whole. Our analysis has shown that just 2% of Heathrow's

international-to-international transfers are on long haul low frequency routes. Only 7 of the 44 such routes have any transfers. So transfers do not provide much support for making low frequency flights viable but they do add frequency to the most popular high frequency routes. Heathrow's international-to-international transfers amount to around 30% of Heathrow's passenger numbers (note the passengers are counted twice). Increasing competition from other hubs in the middle-east and hubs such as Schipol provide competition for the high elastic price sensitive transfer market. We do not believe the airlines accrue a scarcity rent from transfers at Heathrow.

35. Besides the question of competition and price elasticity there is a fallacy over Heathrow's capacity and use. In Table 1 above, it can be seen how passenger numbers at Heathrow continue to rise each year. There is wide consensus that Heathrow has runway capacity for over 95 million passengers a year compared to current use of around 76 million. The average aircraft load is currently around 160 passengers which it is widely acknowledged is likely to increase to over 200 passengers per flight. The load factor (passengers per available seat) is around 74% and is increasing. Heathrow has said they intend to add 25, 000 more flights without resilience deteriorating.
36. We also argue that were the APD exemption to be removed from transfer passenger fares then the number of transfer passengers would be reduced and provide capacity for terminating passengers to the benefit of the UK as a whole. In 2011 for example there were just 51.6 million terminating passengers a year using Heathrow compared to runway capacity of 95 million.
37. Examination of the demand figures produced by the Airports Commission does not reveal any substantial suppressed demand that might be expected to arise if capacity were a constraint. Suppressed demand means either that prospective passengers use other airports instead of Heathrow or that they decide not to fly. Examination of the passenger numbers across the UK and at individual airports once a 3rd runway is opened does not show a surge of demand flowing back to Heathrow from other airports, though Heathrow expansion does reduce growth at other UK airports over the longer term. The greatest impact is on transfer passengers which reduce to an estimated 8 million out of 94 million in 2050 in the Do-minimum option but grow to 30 million out of 135 million in the NWR expansion option (50% of a 3rd runway's capacity).
38. Were a scarcity rent to exist it does not necessarily translate into excess profit. If the costs are high any such rent may be extinguished. Heathrow is the world's most expensive major airport. According to the Airports Commission, Heathrow's aeronautical charges to airlines were around £22.53 per passenger in 2014 rising to £31.23 in 2035 with expansion. This compares to around £9 at Gatwick, £12 at Schipol, £8 at Dublin and Manchester and £11 at New York JFK, for example.
39. In summary, we do not believe the capacity constraint said to exist at Heathrow does actually exist in a form that enables airlines to generate a scarcity rent. Moreover, the competition from airlines at other airports and the price elasticity of demand is more than capable of preventing a scarcity rent. The airlines themselves are adamant they do not generate excess profit. The significance of this conclusion is that there is not any excess profit generated by the airlines that can absorb higher aero charges resulting from expansion of Heathrow. Higher charges can only be passed through to passengers and freight owners.

HEATHROW'S SURFACE ACCESS

40. The bottom stage of the passenger supply chain is the surface access. We have gone into detail on the surface access issue in our response to the DfT on the draft NPS and we include here in Annex E an extract of our NPS response. Heathrow's surface access is already inadequate and contributing to road congestion and air pollution. In 2011 according to the Airports Commission there were 52 million terminating passengers at Heathrow of which 21 million used public transport and 31 million used the roads. In addition there are staff and freight users. The number of terminating passengers and road users accessing Heathrow is likely to rise even without a 3rd runway. Air pollution (NOX) concentration around Heathrow is already in breach of statutory limit values.
41. The issues raised by surface access fall to several organisations, including Heathrow, the London Mayor, TfL, Highways England, Network Rail and local authorities. There has been a distinct lack of co-ordination in tackling current and future problems of access to Heathrow. The Airports Commission, late in its appraisal process, prepared some proposals but was both judge and jury. There are no firm estimates for how access might be improved, what the cost might be and how those costs might be shared between stakeholders.
42. There are no consolidated figures that we have been able to find that account for Heathrow's surface access or plan for its future. In the NWR option discussed later, Heathrow estimated its share of future access costs as less than £2bn but the Airports Commission estimated the costs as £5.7bn. TfL and others, including ourselves, have estimated much higher costs with some scenarios suggesting over £15bn.
43. Heathrow itself accounts for its share of Heathrow Express and airside car parking – both of which are included in the CAA RAB model. We recommend consideration being given to establishing an organisation to oversee all of Heathrow's surface access which would include Heathrow Express and car parking. As with our retail recommendation, we recommend that there be a separate profit centre for surface access which accounts for revenue, operating costs, financing costs, assets, profit and rate of return. There needs to be increased transparency. This does not preclude continuation of the single till approach for surface access.
44. Firm proposals for surface access need to be published without further delay.

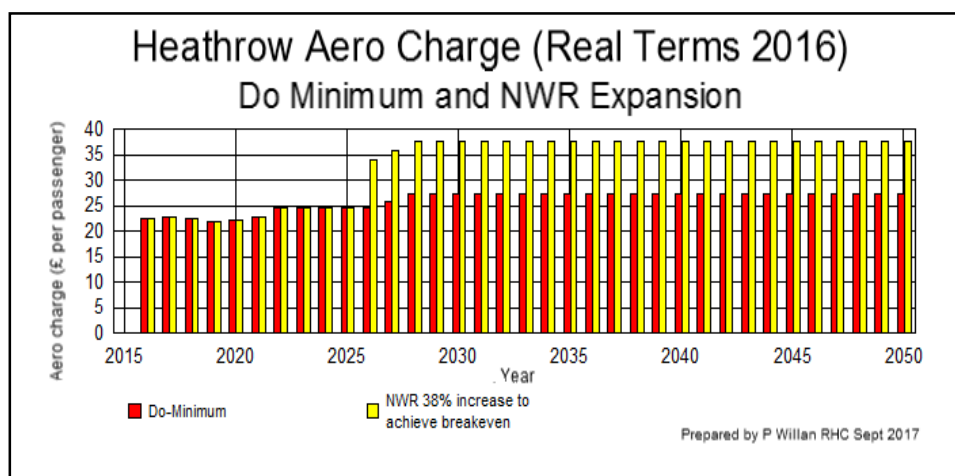
HEATHROW'S NORTH WEST RUNWAY (NWR) EXPANSION

45. In this section we examine Heathrow's corporate financial outcome from the NWR option. It is important to look at the incremental outcome and not just the outcome from an expanded Heathrow in total.
46. The CAA's argument seems to suggest that if the capacity constraint were removed by Heathrow's NWR expansion, there is sufficient competition in the airline market and sufficient suppressed demand to result in reduced fares and more passengers. Furthermore, there will be capacity for subsequent growth. These factors thereby result in a consumer surplus which is a principal CAA statutory objective. We questioned the impact of scarcity rent and Heathrow's capacity constraint on the existing business in the previous section on airline excess profits and we further extend our concerns to the NWR expansion.
47. Lower fares potentially result in a producer loss (the producer being the airlines and Heathrow and in turn their shareholders and lenders) and in turn the tax payer. But this is only part of the story because the producer loss will depend on the incremental profit or loss from the

expansion, i.e. the incremental revenue less the incremental costs and even if there were higher fares there still could be a producer loss.

48. The airlines have every reason to believe, as expressed in their responses to the January consultation, that Heathrow's expansion will be too expensive and that they will bear the burden rather than the passengers or Heathrow.
49. We have examined the incremental outcome of the NWR option by comparing the Do-minimum and NWR options. The cash flows have been modelled for each option over the years from 2016 to 2050, initially in money of the day terms (mod) and then deflated to produce the cash flows in real terms (2016 prices). The increment is derived by subtracting the Do-minimum option from the NWR option. We have modelled two scenarios: the first is where the NWR option aero charges are set to match those in the Do-minimum option. The second scenario increases the aero charges from the time of first flight in 2026 to a level that sustains Heathrow's economic value to that derived from the Do-minimum option, i.e. the increment breaks even.
50. The first scenario, where aero charges match those of the Do-minimum option, results in a substantial incremental loss in value to Heathrow's shareholders of at least £12bn (NPV), which approximates most of the debt and equity of Heathrow and clearly is untenable. It cannot be imagined that the shareholders would wish to proceed with the NWR option under these circumstances. Heathrow's value drops from £18bn to £6bn. While arguably the business is still viable given the positive value of £6bn, it seems very unlikely the shareholders would wish to impair the existing business in such a way. Immediately on committing to the expansion the balance sheet account would have to be written down. It is hard to imagine the banks and bond investors would allow this deterioration in their credit risk. The debt security conditions would be triggered thus potentially placing Heathrow into administration.
51. Annex F lists the current shareholders of Heathrow and their equity interests. We believe some of these are not established to take on the development and financial risks of substantial loss that may arise from Heathrow expansion.
52. The second scenario increases the aero charge from first flight in 2026 to a level that just eliminates the incremental loss to shareholders. Heathrow thus retains its Do-minimum value. To achieve this outcome the aero charge has to increase by 38% from a peak of £27.30 per passenger in the Do-minimum option to £37.67 in the NWR option starting in 2026. The figures are in real terms (2016 prices). These results are not dissimilar from those estimated by the Airports Commission (i.e. £31.23 in 2035) after adjusting from 2014 to 2016 money and including surface access costs. Willie Walsh, CEO of IAG, has suggested the aero charge might rise to £40. We have not included the environmental costs referred to earlier, and therefore in practice the charge is likely to be higher still. Heathrow have offered over £2bn to meet such costs including compensation for loss of homes and these have not been included. As argued earlier, the airlines do not have any excess profits to absorb this increase in aero charge, which therefore would have to be passed on to passengers and freight owners. Given the competition and price elasticity of the market, it seems likely that demand for Heathrow's services would be seriously depressed. This again raises a big question as to whether the shareholders and lenders would be willing to commit to the risk. We think probably not.
53. We note that the aero charge of £27.30 in the first scenario is still higher than today (e.g. £22.35 in 2016) and an estimated £24.56 in 2025 - the last year before first flight. We understand the Government and the airlines seek no increase in aero charge from today as a result of the NWR option. One of the airlines in responding to the January consultation sought a reduction in charge. We do not think pre-loading the charge before first flight would be acceptable to the

airlines or fair to passengers and in any event would reduce the peak charge only marginally. The following chart shows the projected aero charge for the two scenarios.



54. If there is to be an NWR expansion then it seems that it would have to be at a significantly lower capital cost. We have not yet had time to assess what that might be but at the moment the model's capital costs in mod terms (2016 money terms in brackets) amount to £86bn (£55.6bn) from 2016 to 2050. This comprises £24.6bn (£18.9bn) for the NWR scheme, £21.7bn (£14.3bn) for core capex, £31.1bn (£16.3bn) for asset replacement and £7.5bn (£6.0bn) for surface access. Deferring some of the investment may benefit the financial returns and if demand is exposed to high aero charges a more prudent build-up of flights might be advisable anyway. There is a risk that corners would be cut and the service level would suffer. Whether the reduced cost scheme would result in an efficient allocation of resources is questionable.

55. We have referred to demand risk arising from higher aero charges. We believe there is also the possibility that airspace and noise restrictions may cap the number of flights to 700,000 instead of 740,000 currently planned. Resilience might be improved thus benefiting passengers and the development scope and costs might be reduced.

56. The source of the figures for the cash flows is primarily from the PWC reports to the Airports Commission in 2014. The PWC estimates were from 2014 to 2050 so we have updated 2016 estimates to actuals and rebased the real values to 2016 instead of 2014. The 2017 figures are slightly anomalous because we have had to bridge the actuals for 2016 with the PWC estimates for 2018 but any anomalies should have little impact on the overall outcomes from 2016 to 2050. We have used PWC's Base Case demand forecasts, operating costs and capital expenditure except for surface access which we have added. Given the lack of public transport access capacity (even including planned increases) we doubt the surface access costs would be sufficient. TfL estimates costs exceeding £15bn in some scenarios. We have discounted the mod values by 7% and the real values by 5% to produce the NPV values in 2016. Escalation rates are those proposed by PWC.

57. The cash flows are shown in 4 Annexes plus a summary:

Annex B1:	NWR Aero charge equals Do-minimum charge	MOD
Annex B2:	" " " " "	Real 2016 prices
Annex C1:	NWR Aero charge increased by 38% from 2026	MOD
Annex C2:	" " " " "	Real 2016 prices
Annex D:	Summary	

58. **NWR Aero charge equals Do-minimum charge.** Annex D col (a) line 40 shows the incremental NPV shareholder value from the NWR expansion as a loss of £12.2bn in MOD terms. The undiscounted incremental loss is less at £8.9bn. The incremental NPV loss is the difference between the Values of Heathrow with NWR, i.e. £5.8bn (col (a) line 27) and Heathrow Do-minimum, i.e. £18.0bn (col (a) line 14). The details are shown in Annex B1. Annex D col (c) shows the results in real terms. The shareholder loss is £10.8bn. The details are shown in Annex B2.
59. **NWR Aero charge increased by 38% from 2026.** Annex D col (e) line 40 shows the incremental NPV shareholder value from the NWR expansion as a gain of £0.5bn in MOD terms. The undiscounted incremental gain is £53.6bn. The incremental NPV gain is the difference between the Values of Heathrow with NWR, i.e. £18.5bn (col (e) line 27) and Heathrow Do-minimum, i.e. £18.0bn (col (e) line 14). The details are shown in Annex C1. Annex D col (h) shows the results in real terms. The shareholder loss is £0.4bn. The details are shown in Annex C2. The relatively small gain in MOD terms is balanced by a similar loss in real terms. We suggest this approximates breakeven.
60. **Given the assessment presented above we urge the CAA to consider the financial outcomes and whether the several stakeholders can expect fair and reasonable participation in the NWR proposal which at the moment appears to be decidedly unviable financially.**
61. **If the NWR expansion were to go ahead, it is important that the excess profits generated by the existing airport should not continue with an expanded Heathrow. Furthermore, it is important the environmental costs are mitigated by Heathrow. In our response to the DfT on the draft NPS we raised concerns at the harm caused by Heathrow to the UK aviation market as a whole. Very nearly all UK airports would experience a reduction in growth and local economies would suffer. This outcome is based on evidence in the Airports Commission's report. We are not sure how but we believe consideration should be given to Heathrow compensating other airports for the harm caused as a result of its market dominance.**
62. **Given the excess profits earned to date by the current shareholders of Heathrow, which profits have been distributed as dividends, we believe it would be appropriate to limit and possibly avoid any running yield to shareholders during construction of a 3rd runway.**
63. **It is essential that Government give water tight assurance that it will not in any way support financially the NWR expansion. HAL is a private company. This means the Government should not provide financial assistance through subsidies, guarantees or contingent liabilities and will not provide special tax treatment. There is a sense the industry is expecting that eventually Government will come to its rescue. This idea needs to be quashed firmly and without delay.**

WIDER ECONOMICS OF HEATHROW NWR EXPANSION

64. The results of the corporate business model illustrated here are mirrored by the Airports Commission's WebTag wider economics. In our response to the DfT on the draft NPS we showed how the wider economic value to the UK of the NWR expansion option was likely to exceed a net present value loss of £15 bn in the carbon capped scenario and a loss of between £5bn and £10bn in the carbon traded scenario. These figures were based on the Airports Commission evidence updated by the DfT in its publications in October 2016.
65. One particular issue that does not fall within the RAB model and is not included in our WebTag assessment is the tax foregone by the aviation industry. On other occasions we have argued that aviation is under taxed. Government receipts from APD represent around 25% of the tax exemption the industry receives on fuel duty and VAT. The APD yield in 2012/13 was £2.8bn.

Tax, including APD and corporation tax are disproportionately low compared to other sectors of the economy, as was examined in our report to the Airports Commission in July 2013 on Long Term Proposals, which is on the RHC website. We believe that the tax payer is already subsidising Heathrow and the airlines and that demand is artificially increased as a result.

Chapter 2 Regulatory Framework

- The Regulatory asset base (RAB) and regulatory depreciation,
- Alternative delivery mechanisms,
- Single till.

CAA Questions:

☐ any further steps we could reasonably take to facilitate (rather than mandate) the use of alternative delivery arrangements, and how comfort could be provided by promoters of any such arrangements to demonstrate that they would clearly be in the interests of all consumers.

RHC Response:

66. In paras 21 and 43 we recommended retail and surface access accounting be given greater clarity and in the case of surface access we recommended consideration be given to establishing a separate organisation to focus on Heathrow's surface access.

67. In answer to the question about Heathrow sharing responsibility for development through joint ventures, bi-lateral contracts etc. we believe that only one body should have overall responsibility for development and that should be Heathrow. Joint ventures work in other industries such as the oil industry but they are headed up by one oil company – the operator. The others share in the decision making and crucially the internal audits of the operator.

68. We recommend that the airline economics and surface access economics be better integrated with Heathrow's economics in the regulatory process. We are not suggesting the airlines or surface access be regulated.

☐ whether there are any further safeguards (for example in relation to any particular commercial arrangements) that should be built into the regulatory regime to ensure that the boundary of the single till remains appropriate and sufficiently protects the interests of consumers?

RHC Response:

69. While we understand the intention is to combine the NWR scheme with the existing business it is important that the accounts accurately allocate costs and expenses to the relevant account, which includes the need for allocation and apportionment of overhead and joint expenditure.

Chapter 3 Incentives

- **Incentivising timely delivery, outcomes and resilience**
- **Duration of the price control and long term commitments**
- **Reopening the price control**

CAA Questions:

☐ we consider that the key regulatory incentives for HAL are those associated with (i) capital efficiency; (ii) the cost of debt finance; (iii) operating expenditure; (iv) commercial revenues; (v) service quality (including resilience); and (vi) passenger traffic volumes? Do stakeholders agree? Are other incentives equally important?

RHC Response:

70. Broadly we agree with the scope of the incentives listed. We believe timely delivery of development should be added to the list.

☐ how should we ensure that we have the best forecasts of operational expenditure, commercial revenues and passenger traffic volumes to support our assessment of affordability and financeability later this year and, in due course, to help set the price control?

RHC Response:

71. The forecasts should be based on historical evidence and sound assumptions for the projections. Sensitivity analysis and assessment of risk and its mitigation are essential.

72. We are not sufficiently familiar with the RAB process details to comment on the merits or otherwise of the ex ante and ex post tools.

73. In providing for expansion we believe it is essential to have a firm definition of the project scope and total cost to complete and well developed processes for creating and then releasing contingencies.

74. It is important for Heathrow to be clear on which if any contracts are fixed price so as to provide a clear understanding of who bears the risks.

75. We are not clear what controls there are at Heathrow in seeking productivity but this is important to the long term viability of the airport.

☐ we consider that our starting point should be to retain the existing incentives for efficiency for operational expenditure and commercial revenues. Do stakeholders consider that this is appropriate?

☐ we consider that is reasonable to look again at the incentives we adopt for passenger traffic volumes (in particular, for price control period H8, following the opening of new capacity) and debt interest costs. Do stakeholders agree with this approach?

RHC Response:

76. We have commented at some length on the subject of suppressed demand and scarcity rent and also the price elasticity of demand. It is important to recognise passenger demand is segmented each with different characteristics.

77. Heathrow has historic debt at relatively high interest rates. Incentives to replace this with lower cost debt and prepare to finance expansion before rates rise would seem prudent.

78. We urge the CAA to consider the question of international-to-international transfers and whether capacity would not be better used by terminating passengers and support of these transfers by the RAB regulation and tax exemption being withdrawn.

☐ should we develop a new licence condition for HAL further to incentivise its development and maintenance of an efficient and resilient airport?

RHC Response:

79. Ref para 3.28 of the consultation, we support Heathrow's licence being strengthened to commit Heathrow to timely, efficient outcomes.

Chapter 4 Costs: Incentives and efficiency assessment

- Operating expenditure
- Capital expenditure
- Procurement
- Early stage construction costs (“early Category C” costs)

CAA Questions:

what steps should we take to ensure that we have the best forecasts of costs to inform the setting of price control incentives, for our assessment of affordability and financeability and to develop better incentives for efficiency?

RHC Response:

80. Companies engaged in large capital expenditure projects (for example mining and oil companies) generally speaking rely more on cash flow assessment than accounting based assessment to plan and monitor performance. We are not suggesting the depreciation approach is redundant but that in some way cash flows should form part of the regulatory control of Heathrow. Straight-line depreciation does not well match the expansion spend or replacement spend of Heathrow.

how should early stage construction costs be treated in the existing capital expenditure governance process and are there additional steps we should take to provide appropriate incentives for efficiency?

RHC Response:

81. We do not support development assets being included in the aero charge before use of those assets and preferably the subsequent charge should only be increased in relation to the use, i.e. number of passengers. Heathrow should take the risk on these types of cost and it is not fair to passengers to pre-load the charges.

82. We do not support Category B costs (costs associated with obtaining planning permission) and Category C costs (early development costs such as for home purchase) being included in the aero charge until first flight. Heathrow should take the risk on these types of cost and it is not fair to passengers.

83. We do not support financing costs for the expansion being capitalised ahead of first flight and thereby being included in the aero charge pre- first flight. Heathrow should take the risk on these types of cost and it is not fair to passengers.

Chapter 5 Affordability and Financeability

- Affordability
- Financeability and cost of capital
- Assessing financeability
- Financial robustness and ring fencing
- Different measures of Inflation

CAA Questions:

what are the advantages and disadvantages of our previous approach to assessing financeability (which focused on metrics attractive to providers of investment grade debt finance), and how might these be best adapted to the circumstances of capacity expansion?

how can HAL best demonstrate to stakeholders that its proposals for financing capacity expansion provide appropriate assurance with respect to financial stability and resilience?

RHC Response:

84. Given the excess profits earned by shareholders over recent years and the need for capital to expand Heathrow we do not support a running yield during development of the NWR option.

☐ *do stakeholders support our initial thinking on maintaining RPI indexation of the RAB while remaining open minded on whether the form of the price control should be in relation to CPI or RPI (i.e. CPI+/-X or RPI+/-X?)*

RHC Response:

85. On balance we suggest the RAB regulation stick with RPI. In practice many of the costs inflate at different rates and these should be used rather than an overall rate. Debt and equity can usefully be planned using RPI.

RHC General responses:

86. Given the harm caused by Heathrow expansion to the growth at other UK airports we recommend some form of compensation being levied on Heathrow.

87. Earlier we referred to the excess profits we believe Heathrow has been generating and we urge the CAA to remove these excess profits without delay.

88. Earlier we referred to environmental costs and we urge the CAA to require Heathrow to increase its contribution to environmental costs.

89. We do not think the aviation industry is paying a fair share of tax and that this needs to be recognised.

Chapter 6 Surface Access

- CAA surface access policy
- Government policy
- Recent development

CAA Question:

Views are invited on any matters relating to our policy for allowing surface access costs and in particular on whether our policy remains robust and fit for purpose in the circumstances of capacity expansion at Heathrow.

RHC Response:

90. Please see our responses in paras 40 to 44.

Chapter 7 Timetable and the Extension of the price control

- Time table for developing the regulatory framework assuming 1 year extension of Q6

CAA Question:

Views are invited on any matters relating to the timetable for setting the next HAL price control and the further extension of the existing price control. In particular, we would welcome views on how consumers' interests are best served in setting the terms of the price caps that will apply in the additional 12 month period (i.e. 2020) and our general approach to a possible extension beyond that time.

RHC Response:

91. Please see our responses in paras 9, 29, 44 and 63.

92. We believe that a 5 year RAB periods work for the existing business but that in some way a longer term approach needs to be included where the development and its success runs at least until financial payback is achieved.

Contact details:

Peter Willan BSc Eng(Hons), MBA, ARSM, FCMA, FEI, HonRCM
Chair, Richmond Heathrow Campaign

Email: willan829@btinternet.com

www.richmondheathrowcampaign.com

September 2017

File: Regulation
19-Sep-17

Heathrow Regulatory Accounts Year ended 31 December 2016

	Revenue	
	£ million	%
Airport Charges:		
Departing passenger charges	1,231	44.2%
Landing charges	397	14.2%
Aircraft parking charges	64	2.3%
Non-passenger flights	7	0.3%
Total Aero Revenue	1,699	61.0%
Retail:		
Duty and tax free	138	5.0%
Airside specialist shops	115	4.1%
Bureau de change	50	1.8%
Catering	50	1.8%
Other retail revenue	113	4.1%
Retail income before parking	466	16.7%
Car parking	114	4.1%
Retail expenditure	-18	-0.6%
Net retail income	562	20.2%
Property	115	4.1%
Baggage check-in	130	4.7%
Other regulated charges	102	3.7%
Rail	134	4.8%
Other	44	1.6%
Total Non-Aero Revenue	1,087	39.0%
Total Revenue	2,786	100.0%

	Operating Costs	
	£ million	
Staff:		
Security	142	
Other operational	97	
Non operational	112	
Pension	71	
	422	
Maintenance & Equipment	174	
Rent	14	
Rates	132	
Utilities	75	
Other	321	
Total Operational	1,138	
Depreciation	723	
Total expenditure	1,861	

	£ million
Regulatory operating profit	925
Regulatory EBITDA	1,648

	RAB £ million
Opening RAB 1/1/16	14,921
Additions in year capex	668
Assumed ordinary depreciation	-723
Indexation at 31/12/16	371
Closing RAB 31/12/16 (x)	15,237
Average RAB	15,079
Return on average RAB	6.1%

Heathrow Passengers:	'000
UK	4,650
Europe	31,738
North America	17,188
Asia Pacific	10,774
Middle East	6,975
Africa	3,164
Latin America	1,226
	75,715
Airport charges per passenger	£22.35
Net retail income per passenger	£7.42

Statutory Accounting Statement Heathrow (SP)	£ million
Revenue	2,807
EBITDA	1,682
Adjusted Cash Flow (y)	1,302

Senior debt (a)	10,828
Junior debt (b)	1,740
Cash & cash equivalents (c)	-660
Consolidated net debt (d)	11,908

Senior Regulatory Asset Ratio (a+c)/x	66.7%
Junior Regulatory Asset Ratio (d/x)	78.2%

Interest & charges:	£ million
Senior debt (e)	417
Junior debt (f)	103
Yield:	
Senior debt	3.9%
Junior debt	5.9%

Senior Debt Interest Cover (y/e)	3.1
Junior Debt Interest Cover (y/(e+f))	2.5

BASE CASE: NWR aero charge increased 38% Over Do Minimum aero charge from 2026

Table with columns for Year, cost of cap, NPV, £ million, and Nominal (money of the day) for Do Minimum Option. Rows include Revenue, Operating costs, Operating Surplus, and Cash Flow before interest and tax.

ANNEX C 1

BASE CASE: NWR aero charge increased 38% Over Do Minimum aero charge from 2026

Table with columns for Year, cost of cap, NPV, £ million, and Nominal (money of the day) for NWR Option. Rows include Revenue, Operating costs, Operating Surplus, and Cash Flow before interest and tax.

BASE CASE: NWR aero charge increased 38% Over Do Minimum aero charge from 2026

Table with columns for Year, cost of cap, NPV, £ million, and INCREMENT - NWR Option minus Do Minimum Option. Rows include Revenue, Operating costs, Operating Surplus, and Cash Flow before interest and tax.

519

17-Sep-17

Prepared by P Willan RHC

	NWR Aero charge equals Do Minimum charge				NWR aero charge increased by 38% from 2026				
	Annex B1		Annex B2		Annex C1		Annex C2		
	MOD		Real 2016		MOD		Real 2016		
	2016-2050		2016-2050		2016-2050		2016-2050		
	col a	col b	col c	col d	col e	col f	col g	col h	
	NPV@7%	Cash	NPV@5%	Cash	NPV@7%	Cash	NPV@5%	Cash	
DO MINIMUM									
1	Passengers million	2,986		2,986		2,986		2,986	
	Revenue:	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	
2	Aeronautical revenue 3.0%pa esc	38,999	139,716	34,192	78,025	38,999	139,716	34,192	78,025
3	Non-aero revenue 2.1%pa esc	17,776	55,807	17,685	38,190	17,776	55,807	17,685	38,190
4	Revenue total	56,775	195,523	51,878	116,215	56,775	195,523	51,878	116,215
	Operating costs:								
5	Operating Expenses 3.0%pa esc	20,972	70,675	18,584	40,445	20,972	70,675	18,584	40,445
6	Environment costs	0	0	0	0	0	0	0	0
7	Operating costs total	20,972	70,675	18,584	40,445	20,972	70,675	18,584	40,445
						0	0	0	0
8	Operating Surplus	35,803	124,847	33,293	75,769	35,803	124,847	33,293	75,769
	Capital Expenditure:								
9	NWR capex 3.5%pa esc	0	0	0	0	0	0	0	0
10	Core capex 3.5%pa esc	10,335	18,969	9,355	14,348	10,335	18,969	9,355	14,348
11	Asset replacement 3.5%pa esc	7,487	24,478	6,332	13,017	7,487	24,478	6,332	13,017
12	Surface Access	0	0	0	0	0	0	0	0
13	Capital expenditure total	17,822	43,447	15,687	27,365	17,822	43,447	15,687	27,365
14	Cash Flow before interest and tax	17,981	81,400	17,607	48,404	17,981	81,400	17,607	48,404
NWR EXPANSION									
	Passengers million		3,802		3,802		3,802		3,802
	Revenue:	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill
15	Aeronautical revenue 3.0%pa esc	47,739	185,265	41,260	100,266	60,449	247,716	51,654	131,467
16	Non-aero revenue 2.1%pa esc	19,512	64,603	19,383	43,527	19,512	64,603	19,383	43,527
17	Revenue total	67,251	249,868	60,644	143,792	79,961	312,319	71,037	174,993
	Operating costs:								
18	Operating Expenses 3.0%pa esc	25,040	91,383	21,889	50,646	25,040	91,383	21,889	50,646
19	Environment costs	0	0	0	0	0	0	0	0
20	Operating costs total	25,040	91,383	21,889	50,646	25,040	91,383	21,889	50,646
21	Operating Surplus	42,211	158,484	38,754	93,147	54,921	220,936	49,148	124,348
	Capital Expenditure:								
22	NWR capex 3.5%pa esc	13,746	24,626	12,480	18,901	13,746	24,626	12,480	18,901
23	Core capex 3.5%pa esc	9,183	21,693	7,896	14,347	9,183	21,693	7,896	14,347
24	Asset replacement 3.5%pa esc	8,920	32,139	7,372	16,313	8,920	32,139	7,372	16,313
25	Surface Access	4,572	7,500	4,230	6,027	4,572	7,500	4,230	6,027
26	Capital expenditure total	36,421	85,957	31,978	55,587	36,421	85,957	31,978	55,587
27	Cash Flow before interest and tax	5,790	72,527	6,776	37,560	18,500	134,979	17,169	68,761
INCREMENT									
	Passengers million		817		817		817		817
	Revenue:	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill	£ mill
28	Aeronautical revenue 3.0%pa esc	8,740	45,549	7,068	22,241	21,450	108,000	17,462	53,442
29	Non-aero revenue 2.1%pa esc	1,736	8,796	1,698	5,337	1,736	8,796	1,698	5,337
30	Revenue total	10,476	54,345	8,766	27,578	23,186	116,796	19,159	58,779
	Operating costs:								
31	Operating Expenses 3.0%pa esc	4,068	20,708	3,305	10,201	4,068	20,708	3,305	10,201
32	Environment costs								
33	Operating costs total	4,068	20,708	3,305	10,201	4,068	20,708	3,305	10,201
34	Operating Surplus	6,408	33,637	5,461	17,377	19,118	96,088	15,854	48,578
	Capital Expenditure:								
35	NWR capex 3.5%pa esc	13,746	24,626	12,480	18,901	13,746	24,626	12,480	18,901
36	Core capex 3.5%pa esc	-1,152	2,723	-1,459	-1	-1,152	2,723	-1,459	-1
37	Asset replacement 3.5%pa esc	1,433	7,660	1,040	3,296	1,433	7,660	1,040	3,296
38	Surface Access	4,572	7,500	4,230	6,027	4,572	7,500	4,230	6,027
39	Capital expenditure total	18,599	42,510	16,291	28,222	18,599	42,510	16,291	28,222
40	Cash Flow before interest and tax	-12,191	-8,873	-10,831	-10,845	519	53,579	-437	20,356

SURFACE ACCESS

Extract from the response by Richmond Heathrow Campaign to the DfT's Consultation on the draft NPS, May 2017.

Impacts and requirements (Ch 5)

Question 4: The Government has set out its approach to surface access for a Heathrow Northwest Runway scheme. Please tell us your views.

1. The analysis of surface transport breaks down broadly into:

- What's the demand?
- What's the capacity?
- What's the gap between demand and capacity?
- What's the impact of demand on service level (including time taken, convenience and journey comfort)?
- What's the impact on road congestion?
- What's the impact on pollution?
- What's the capacity cost and how can funding be shared?

2. What's the demand for surface transport to and from Heathrow?

a. Demand is made up of (a) background demand and (b) Heathrow specific demand. While Heathrow demand may be relatively small compared to background demand, it can be critical at peak times and when demand is near to or exceeds capacity. Heathrow demand includes terminating passengers, staff and freight.

b. Background demand is growing (based on population growth of 37% in London as a whole between 2011 and 2050 according to the London Plan).

c. With NWR expansion, Heathrow terminating passenger demand is forecast by the Commission to grow from 52 million passengers per annum (mppa) in 2011 to 65 mppa in 2030 , 94 mppa in 2040 and 105 mppa in 2050 (Assessment of Need carbon capped). These figures are shown in the following table.

Heathrow Passengers and Modal share - NWR Option	2011	2030	2040	2050
Passengers mppa note (a)	52	77	94	105
Promise 1: modal share increase:				
Modal share: public transport	40%	50%	55%	55%
Public transport (passengers)	21	39	52	58
Car (passengers)	31	38	42	47
Promise 2: no more cars than today (pax equivalent):				
Modal share: public transport Required	40%	60%	67%	70%
Public transport (passengers)	21	46	63	74
Car No more cars on the road (passengers)	31	31	31	31
Note (a): Airports Commission Assessment of Need carbon capped.				

Heathrow's first promise is to achieve 50 % public transport by 2030 and 55% by 2040. This still results in a 22% increase in road users between 2011 and 2030 and a 35% increase by 2040. We cannot see how air quality targets will be met even were this modal shift achieved. Furthermore, the figures depend on a significant shift in peoples' behaviour towards public transport. Even if they wanted to shift we doubt there will be the public transport capacity unless considerably more is spent than the £5.7 billion estimated by the Commission.

The second promise is that there shall be no more cars than today. In the table we assume that the number of passengers per car remains little changed. The modal share of public transport would need to increase to 60% (cf 50%) by 2030, 67% (cf 55%) by 2040 and 70% by 2050. The modal shift would be unprecedented by a wide margin compared to that achieved anywhere else in the world. The public transport capacity would have to be increased by two times by 2030 and by three times by 2040, which we do not believe could be achieved without the cost between £15 bn and £20 bn.

d. Staff numbers tend to be proportional to passenger numbers, so are likely to grow from a base of around 84,000 in 2011. Freight is also expected to grow at similar rates and be a major contributor to surface access demand.

e. Surface access demand depends on Heathrow's catchment area and on where people travel to and from within that area. Rail transport projects - HS2 and the Western Rail Access projects - will substantially increase the catchment area to the north and west of the country according to the Commission.

f. The way people choose to travel - the modal share of total demand - is especially important. This means the proportions travelling by road (car and bus) and by rail (network rail, over-ground and underground). Behaviour change and interventions such as congestion charging zones can have an effect on people's choices. However, the promises by Heathrow have not been fully assessed and are not binding.

g. The Commission in our view significantly under-estimated surface access demand in its original analysis. Our view continues to be that the demand estimates remain unrealistically low and that the mode shift to public transport is over optimistic. It is particularly important to consider the peak hour demand and segments of the road and rail networks that are overloaded. For example, the morning peak hour 2-way Heathrow demand was estimated by the Commission in its original projections to be a total of 20,000 trips in 2030 compared to TfL's estimate, when the airport is subsequently full, of 35,000 trips, which is 75% greater. Similar disparity arose in the underlying road and rail demand. The Commission estimated 12,300 road trips, while TfL estimated 23,900 trips. The Commission estimated 7,400 rail trips while TfL estimated 11,500 trips.

3. What's the capacity for surface transport to and from Heathrow?

a. The surface access capacity predicted by the Commission and Government update comprises a Core baseline and an Extended transport baseline which together are expected to be in place by 2030. The Core baseline includes Heathrow Express, London Underground Piccadilly line, Crossrail and HS2 with Heathrow passengers connecting at Old Oak Common. For roads, it includes "smart motorway" upgrades to certain junctions on the M23, M25 and M3. A smart motorway is a section which uses active traffic management techniques to increase capacity, e.g. variable speed limits and hard shoulder

running at busy times. The Extended baseline includes Western Rail Access (WRA) to Heathrow. Two additional schemes that are not included in the baselines are a Southern Rail Access (SRA) linking Staines to Waterloo via Richmond and increased Crossrail frequency. These are allocated to the Heathrow project rather than to background demand.

b. We concluded that the original Commission projections of capacity for Heathrow expansion projects would not be sufficient. So far our analysis of the updates by the Government suggests there is still a lack of capacity. For example, the WRA has still to be funded and the SRA (previously known as Airtrack) ran into considerable problems when last considered because of the impact on the several level crossings that would have to be closed for more of the time with consequential impact on local traffic. Demand for seating capacity on segments of the Piccadilly line and Crossrail far exceeds the available seating capacity. While this might be a lesser problem for non-airport users, Heathrow's passengers may have luggage, have long flights ahead or behind them, and include families with children. By 2030, with or without a third runway, overall rail access to Heathrow (including Crossrail, underground and Heathrow Express) does not improve for 8 London boroughs, and marginally reduces for 15 boroughs. Only 8 boroughs are likely to experience any improvement. We are concerned that the SRA will be over-crowded, especially from Richmond to Waterloo and in peak hours.

The current row between Heathrow and the Government on the Heathrow Express whereby Heathrow seeks to recoup past investment means that Cross rail may be turned around before reaching Heathrow, which would seriously impact the access to Heathrow.

c. Inadequate capacity leads to road congestion and pollution

The cost of inadequate surface access is significant in terms of overcrowding on the rail system, less convenience and comfort and congestion and pollution on the road network. Furthermore, with pollution subject to statutory limits it is quite possible that Heathrow will not be able to make full use of an additional runway. It is not clear what service level is being considered in the planning - low, intermediate or high. This considerably alters the cost.

d. What's the capacity cost and how can funding be shared

The Commission estimates the surface access investment required for servicing an expanded Heathrow will be £5.7 billion. But TfL believe the sum required will be up to £20 billion. The Commission estimates that HAL will need to find as much as £34 billion to finance a third runway and ongoing cash outflow, excluding the funding of surface access. It is not clear from the Commission, Heathrow and importantly the draft NPS and associated material who is expected to fund the surface access and what proportion can Heathrow pass on as charges. But it is clear from the Commission's reports and that it thinks even without the surface access funding, the markets may find it difficult to fund the size of investment required. It could prove unacceptable economically and politically for the State to fund the scheme as direct grants or by guarantees.

The draft NPS - Mitigation

1. Chapter 5 of the draft NPS discusses surface access mitigation. We comment here.
2. Para 5.15. We agree that Heathrow should set out its access strategy to support expansion. The draft NPS says this should be 'appropriately secured'. This statement establishes no meaningful criteria as to how the matter will be secured and what happens if it fails. Also, the

NPS should make it clear that the level of service for non airport users compared to the Do-minimum option should be no worse.

3. Para 5.16. This para sets out the test for public transport mode which we examined in our para 2c above. Based on the Commission's demand figures, the mode shift target will inevitably fail in our view and the question arises what will be the consequences. Will the passenger throughput at Heathrow be restricted with all the financial consequences that entails? One possible solution would be for Heathrow to pay into an escrow account from the time its DCO were approved. £250 million a year might provide an insurance against Heathrow failing in its surface access promises. The escrow money would be made available to mitigate the under-provision of public transport capacity and other measures required to contain air pollution. A similar approach could be applied to securing other commitments. It is evident from promises given over the years regarding Heathrow that promises and commitments have not been kept.
4. Para 5.18. Surely the NPS needs to be much clearer on the scope of the surface access projects required to provide satisfactory nil detriment or level service and how and who will share in paying for the access.
5. Para 5.19. This talks about the need for public funding on a case by case basis including deferred parts of the project. Surely, the NPS should be much more definitive.

ANNEX F

Heathrow Shareholders	Equity %	Equity 2014 £ mill
Ferrovial S.A.	25.00%	759
Quatar Holding LLC	20.00%	607
Caisse de depot et placement du Quebec	13.29%	404
The Government of Singapore Investment Corporation (GIC)	11.88%	361
Alinda Capital Partners	11.18%	340
China Investment Corporation CIC	10.00%	304
Universities Superannuation Scheme (USS)	8.65%	263
	100.00%	3,037