

The Mayor of London's response to the Airports Commission consultation on shortlisted options

Surface Access

Supplementary Note 04

February 2015

Key findings

- The Commission have published a surface access assessment of the three shortlisted options for airport expansion, and they have identified workable solutions for 2030. This represents a short-term, partial assessment. Conclusions cannot be drawn until a long term assessment of fully-utilised airport development to 2050 is conducted.
- In their short-term assessment, the Commission consistently adopt 'optimistic' assumptions for estimating demand, impact and cost. They potentially underestimate airport passenger and staff demand for road and rail by around 25%. Consequently, their appraisal potentially misses out billions of pounds of new transport infrastructure required to accommodate their proposals in the long-term.
- The Commission assume billions of pounds of currently unplanned road and rail upgrades will be implemented before 2030. In spite of their published evidence showing these upgrades are essential to keeping their airport expansion proposals credible, all such costs are excluded from the appraisal.
- TfL estimate that the Commission is underestimating the surface access cost of expansion at Heathrow and Gatwick by more than £10bn.
- The Commission should make it clear how much of its estimated surface access costs are borne by the airport or publicly financed. Schemes such as the M25 tunnel are explicitly costed as part of Heathrow expansion in their surface access report, but are not included in the equivalent Cost and Commercial Viability assessment for Heathrow.

Key recommendations for further work

- The Commission should conduct a full, long-term surface access assessment of the airport expansion proposals. This should include maximum runway utilisation and airport development, the impact of additional air freight and long-term growth in background transport demand together with additional demand generated from the airport related economic development they forecast.
- The Commission should conduct and present sensitivity tests of key assumptions including mode share and staff efficiencies. The test should show changes in cost of not achieving their adopted optimistic assumptions.
- The Commission should make clear the level of investment in road and rail upgrades they assume will be made prior to airport expansion. This includes the enhancements to strategic roads their analysis shows has to be made prior to expansion and the new rail investment described in their extended baseline scheme list.

A: Key Observations

1. The Commission's surface access assessment is inconsistent with its appraisal framework, only assessing demand, impact and cost to 2030

- 1.1. The Commission's Appraisal Framework sets out the following three primary objectives for airport surface access:

Objective 1 – to maximise the number of passengers and workforce accessing the airport via sustainable modes of transport;

Objective 2 – to accommodate the needs of other users of transport networks, such as commuters, intercity travellers and freight; and

Objective 3 – to enable access to the airport from a wide catchment area.

- 1.2. The Commission have published a short-term surface access assessment of partial airport expansion in 2030. This date is shortly after the estimated completion dates (2026-2028) of each of the Commission's proposed options.
- 1.3. Medium-term (2040) and long-term (2050) surface access assessments need to be undertaken to test full airport development and runway utilisation. This means the Commission should test a three runway Heathrow at 149mppa and a two runway Gatwick at 96mppa – the stated full capacity of each – rather than the lower 2030 figures (103.6mppa for Heathrow and 65mppa for Gatwick).
- 1.4. Modelling of future year scenarios should include the latest forecasts for background surface access demand for these years. Detailed forecast assignment modelling is particularly key for highways as a thorough analysis of the impacts on strategic A roads and key London borough roads has not yet been undertaken.
- 1.5. Without a fuller assessment, it would be premature to draw any firm conclusions regarding the surface access impact and cost of the proposals.

2. The Commission's assessment underestimates surface access demand, in part by omitting growth in freight and additional catalytic airport activity

- 2.1. It is clear that the Commission has not taken proper account of freight demand, despite the envisaged increase in air freight reported in its economic case for airport expansion. Extra freight will add to pressure on the road network and have a disproportionate impact on air quality. Freight access will also rely on the aforementioned billions of pounds of highway upgrades not included in the Commission's surface access appraisal.
- 2.2. The Commission has not taken into account the increase in transport demand

generated by the additional catalytic airport-related business activity – and associated employment and population growth – that they predict in their economic case for airport expansion. This potentially large increase in transport demand should be taken into account in their surface access appraisal.

- 2.3. The Commission adopts unprecedented airport employment efficiencies, particularly for Heathrow, which leads to a significant drop in future staff travel demand. Further elaboration of how this might realistically be achieved needs to be set out.
- 2.4. The Commission's choice of peak hour – 0700-0800 – to use in their analysis may underestimate impact of airport demand on the non-airport travel peak which occurs at 0800-0900. Sensitivity tests are required.
- 2.5. Assumptions for the future proportion of staff that report to work each day and travel to or from work in the peak hours are low and reduce travel demand for staff. More evidence is required to justify these assumptions.
- 2.6. Car occupancy assumptions are too high for some journey purposes, reducing the number of private vehicles. More evidence is required to justify these assumptions.
- 2.7. In evaluating rail capacity, no attempt has been made to factor in space taken up by airport passenger's luggage.
- 2.8. Just focusing on airport passenger and staff surface access demand (i.e. not including catalytic and freight), it is likely the Commission have underestimated demand generated from an expanded Heathrow and Gatwick by around 25%.

3. The Commission's assessment underestimates surface access infrastructure costs through an approach that leads to an omission of key infrastructure interventions

- 3.1. Because of the issues highlighted above, the Commission is likely to be understating demand and this has implications for the infrastructure required and costed. Additionally there are concerns with the Commission's methodological approach to cost.
- 3.2. The Commission has assumed that if a highway is already forecast to be at capacity, then no widening or enhancement cost should be included in the appraisal as this will be dealt with elsewhere. This applies to the sections of the M25 near Heathrow and Gatwick as well as parts of the M4 near Heathrow. This approach is not credible.
- 3.3. The Commission has included the benefits of a number of uncommitted and unfunded airport access rail schemes which are essential for airport expansion, but not their costs. This includes Western Rail Access to Heathrow (WRAtH), additional Crossrail trains serving Heathrow than are currently planned, and future upgrades to the Brighton Mainline (BML). Some allowance for the costs of these schemes must be made.

- 3.4. Highway maintenance costs appear to have been underestimated while the disruption costs associated with construction have been omitted entirely. This is particularly the case for the Heathrow options which result in placing the M25 in tunnel; given the complexity of the undertaking, the cost estimates provided appear low.
- 3.5. Overall, it is not clear whether the Commission's published surface access costs represent its estimation for the airport contribution or the level of public finance required. For instance, in the surface access report, it is implied that the M25 tunnel, essential to both Heathrow proposals, will be contributed to by the promoter. The Commission must make explicit those schemes which are to:
- be wholly funded by the airport
 - have a significant partial contribution from the airport, and the approximate extent of this contribution
 - be wholly publicly financed
- 3.6. TfL estimate that the cost of the new infrastructure required to support a third runway at Heathrow is currently being underestimated by the Airports Commission. To ensure that a fully utilised three runway Heathrow, or two runway Gatwick can fully meet the Airports Commission's surface access objectives in the long-term (as described in paragraph 1.1), the transport network alone could require more than £10 billion of investment in addition to the figures which the Airports Commission currently identify. Currently, any such funding shortfalls would have to be met by the public purse.
- 3.7. The makeup of this £10bn figure assumes the inclusion of planned public transport schemes such as Western Rail Access to Heathrow (for Heathrow options), brand new rail connections to key airport trip generators across London and the South East, an optimal level of service for all users, additional motorway and major road enhancements, and ongoing maintenance and operating costs.

4. The Commission's assumed levels of mode shift should be treated with caution

- 4.1. Whilst the Commission have attempted to construct a demand model to predict the likely changes in mode share and both the methodology and calibration for this undertaking seem reasonable, it is a complex undertaking. The Commission have not used highway and rail assignment models (or a multi-modal assignment model) to validate their assumptions, and therefore these forecasts should be treated with caution.
- 4.2. The Commission's demand model's prediction of significant shift from road to rail needs further validation with observed data, sensitivity tests and further evidence of the drivers of behavioural change.

- 4.3. It is also worth noting that, given the number of uncommitted and unfunded surface access schemes (as per paragraph 3.3) upon which the assessment relies, there is a significant risk that the predicted mode shift will not be achievable if some of these schemes do not come to fruition.

B: Does the Commission’s assessment constitute a robust approach?

To be robust, the option appraisal must entail a complete assessment. It must also be consistent across all the options, with the Commission’s previous analysis, with best practice in the appraisal of large infrastructure projects – including principles of HM Treasury Green Book and DfT Transport Appraisal Guidance (WebTAG) – as well being aligned with the Commission’s own Appraisal Framework. The table below sets out a summary of the extent to which the Commission’s assessment meets these requirements.

Table 1: Does the Airports Commission’s assessment constitute a robust approach

Criteria	Met?	Comments/examples
Approach to Assessment		
Aligned with Airports Commission Appraisal Framework?	Partial	Assessment does not look beyond 2030 and is therefore inconsistent with AC’s long-term objective
Consistent approach to assessment: <ul style="list-style-type: none"> Between options? With previously considered options? With best practice/Green Book? 	Partial	Assessment is consistent between options but not with previously considered options. Assessment does not rigorously follow DfT Transport Appraisal Guidance.
Assessment complete (evidence gaps addressed, suitable geographic/temporal scope)?	No	Surface access impact and cost beyond 2030 are not considered – therefore appraisal incomplete.
Assumptions		
When multiple scenario/assumption sets used, has the most appropriate been identified – or worst case scenario tested?	n/a	Commission have adopted several assumptions that can be viewed to generate an ‘optimistic’ scenario.
Analysis: impacts and conclusions		
Risks fully stated and impact reflected in conclusions?	No	Risks and mitigations not defined or evaluated.
Understanding of net/cumulative impacts?	No	Only assesses impact of partial development and background growth to 2030.