Doc. No. SSE/14.1/a
Case Ref. 2032278
(replaces SSE/14/a)

Appeal by BAA Ltd and Stansted Airport Ltd following the refusal by Uttlesford District Council of planning application UTT/0717/06/FUL

Proof of Evidence on behalf of Stop Stansted Expansion

Surface Access: Rail

John Rhodes MA (Oxon),
FCILT, FRSA

18 September 2007

www.stopstanstedexpansion.com
info@stopstanstedexpansion.com

PO Box 311
Takeley
Bishop's Stortford
Herts, CM22 6PY

Tel: 01279 870558

1 INTRODUCTION

1.1 Personal details

1.1.1 My name is John Andrew Rhodes and I appear at the Public Inquiry on behalf of Stop Stansted Expansion ('SSE') of which I am a member.

1.2 Qualifications and experience

1.2.1 I have a first class honours degree in Modern History from the University of Oxford in 1970. I am a Fellow of the Chartered Institute of Logistics and Transport and a Fellow of the Royal Society of Arts.

1.2.2 Since 1999 I have been an independent public transport consultant, specialising mainly in strategies, organisational structures and regulatory aspects of railways. From 1993-99 I was Passenger Services Director at the Office of the Rail Regulator. For the year before that, I was a senior executive at the British Railways Board, with responsibilities for business planning and the oversight of BR's internal market. I was Director General of West Yorkshire Passenger Transport Executive from 1988-92, a period during which I led the PTE's successful bid for Government funding for the electrification of the local rail network.

1.2.3 For the earlier part of my working life I was a career civil servant, working mainly in the Departments of the Environment and Transport where my responsibilities included financial oversight of the British Railways Board. I therefore have extensive experience of the railways from the perspectives of financial sponsorship at the Department, as a purchaser of services at the PTE, as a senior executive within the industry, as a regulator of the privatised railway, as a consultant and not least as a former regular commuter on the West Anglia route.

1.2.4 I have also been Chairman of the Bishop's Stortford Civic Society (now the Civic Federation) from 2000 to 2007 and I am now the Vice-Chairman. I am appearing separately on their behalf.

2 SCOPE OF EVIDENCE

2.1 Core evidence

2.1.1 Since submission of my proof of evidence SSE/14/a, BAA has produced a revised Addendum [CD/14.2] to the Transport Assessment [CD/14] and the Government have published a new policy statement on the railways – 'Delivering a Sustainable Railway' [CD/433] – which have made it necessary to amend my evidence. This proof of evidence therefore assumes that CD/14.2 represents BAA's most up-to-date view of the Transport Assessment supporting this application, and it supersedes any evidence previously submitted by me. It should be considered in conjunction with revised proofs SSE/13.1/a (Roads) and SSE/15.1/a (Demand for Surface Access) on which it to some extent relies.

3 BAA'S PLANNING ASSUMPTIONS

3.1 BAA's forecasts and rail capacity constraints

3.1.1 BAA's evidence in support of its application assumed the operation of the December 2005 timetable, with a Stansted Express ('STEX') train every 15 minutes and up to

one train per hour ('tph') to and from Stratford and one tph to and from Cambridge and points north. STEX services included intermediate stops at Bishop's Stortford and/or Harlow Town. Frequencies and stopping patterns for non-airport Cambridge services were also those in the December 2005 timetable.[1] Since then, the timetable has gone through several refinements. Early in 2006 a number of train services were withdrawn because the train operator could not operate the full timetable reliably. By December 2006, these service cuts had been restored, but other changes were also made which included additional calls at Stansted Mountfitchet and additional stops by STEX services, for example at Broxbourne, in the morning peak, to relieve pressure on non-airport services.[2]

3.1.2 BAA has modelled increasing STEX from 8 to 12 cars for 25mppa, 35mppa and 35mppa + 15% and also, for the same scenarios, leaving STEX services at 8 cars and extending Cambridge services to 12 cars.[3]

3.1.3 The results indicate, on BAA's assumptions about rail's market share, numbers of transfer passengers and origins and destinations of passengers, that some peak STEX services would have loads exceeding seating capacity on all three passenger throughputs with 8 car trains but increasing STEX capacity to 12 cars would provide a surplus of seats over passengers even at 35mppa + 15%. However, non-airport Stratford slow and Cambridge services would be severely overcrowded.[4]

3.1.4 BAA argued in its original transport assessment that lengthening STEX trains would have little impact on loadings on trains not serving the airport, an assertion which the updated assessment [CD/14.2] repeats.[5]

3.1.5 BAA recognised in its original transport assessment that, in addition to the airport station, Stansted Mountfitchet station would need platform lengthening to accommodate 12 car trains, but BAA made no mention of other stations on the route such as Broxbourne at which STEX is now scheduled to stop.[6] It argues that overcrowding on other services is not BAA's problem because those trains do not call at the airport.[7]

3.1.6 BAA does not volunteer any funding for extending Stansted Mountfitchet station and explicitly assumes that DfT will fund the additional rolling stock to run 12 car trains.[8]

3.1.7 The maximum capacity of the single track airport tunnel is 12 tph, so the current services are the maximum frequency which can be operated through it.[9] In addition, the rest of the Lea Valley route is operating at full capacity in the peaks, so the current timetable would not allow more frequent services to operate to other destinations. The lack of passing loops and number of flat junctions are a

[1] BAA Generation 1 Environmental Statement, Vol 11 [CD/14] Paras 9.2.1 to 9.2.4.
[2] Transport Addendum Update para 4.5.7 [CD/14.2] summarises the changes.
[3] Ibid Table 4.9.
[4] Ibid, Figures 4.1 to 4.8 show peak loadings on some 8 car STEX trains exceeding seating capacity, but with capacity to spare if the same loadings applied to most 12 car STEX trains on all three assumptions about passenger throughput. Tables 4.2 and 4.3 show *average* loadings in the 3-hour peaks on Cambridge and Stratford services ranging between 90% and 103% of seating capacity unless 12 car Cambridge trains are used. Such high average load factors over a three hour period imply that many individual services would be grossly overcrowded.
[5] Ibid para 4.2.2.
[6] CD/14, paras 9.6.1 to 9.6.3.
[7] Ibid para 9.4.3 and summary on p140.
[8] Ibid, p140.
[9] Network Rail Business Plan, 2006, Route 5: West Anglia, p4.

considerable constraint on route capacity.[10] Only Liverpool Street, Tottenham Hale, Harlow Town, Bishop's Stortford, Audley End and Cambridge have platforms long enough for 12 coach trains. Since all non-airport services stop at other stations too, longer trains to those destinations would not deal with overcrowding unless they too had their platforms extended.

3.2 Shortcomings in BAA's planning assumptions

3.2.1 There are a number of flaws in BAA's claim that running longer STEX trains and altering the airport station to accommodate them is all that is needed:

- ~~There still appear to be some discrepancies between the train loading data used in the Update [CD/14.2] and the Route Utilisation Strategy ('RUS') [CD/312]. This applies particularly to forecasts of overcrowding in relation to DfT's standards of PIXC (passengers in excess of capacity) which for West Anglia services regard up to 40% of passengers standing in excess of the seating capacity for up to 20 minutes as being an acceptable level of loading. BAA's sensitivity tests (Table 4.10) forecast that with 8 coach trains on all services, PIXC would be exceeded by between 2.4% and 5.3 % in 2014 in the AM peak 3 hours, depending on the level of passenger throughput at the airport.[11] However, the RUS anticipates (Table 5.5 and supporting text) that by 2016 15% of West Anglia outer services will be in excess of PIXC on 'do minimum' investment assumptions. The discrepancy seems more than can be accounted for by, for example, including G2 at Stansted in the RUS growth assumptions (if indeed that assumption has been made) or by the marginal changes made to the timetable since the RUS was prepared.~~ [point withdrawn during evidence session 3 Oct 07]

- Performance in delivering the current timetable was initially poor, with service cuts to reduce unreliability reinstated only in December 2006 to restore service levels to those originally planned. More recently service delivery has improved, but longer or overcrowded trains carrying more passengers will lead to increased station dwell times, adding to the risk of service performance deterioration.

- All the relevant services (not just those serving the airport) should be resurveyed so that reliability and levels of crowding arising from the current timetable can properly be taken into account.

- The GB origin and destination assumptions and those for transfer passengers for an enlarged airport are suspect.**[12]**

- The assumption that rail's market share will follow the recent trend of decline is dependent on the suspect assumptions about origins and destinations and on the current relationship between train and coach fares being maintained.**[13]**

- Rail's modal share of passenger travel to and from the airport has been declining: 27.2% in 2001 to 25.3% in 2005.**[14]** This application appears to have

[10] Ibid, p 4.
[11] ~~Transport Addendum Update [CD/14.2].~~
[12] See SSE/13.1/a and SSE/15.1/a.
[13] Ibid.
[14] CD/14 Table 4.1.

no ambition to reverse this. Indeed, the Transport Addendum appears to contemplate a further decline in rail's market share.[15]

- The claim that overcrowding on non-airport services is nothing to do with Stansted expansion is misleading. The projections show that over the route as a whole, seating capacity will be misallocated, with longer Stansted trains having more than enough capacity to meet demand while other services will have too little. The reason for this is that the timetable as a whole is driven by the aim to provide four fast services per hour to and from the airport at regular 15 minute intervals. These services are clearly treated as 'first on the graph' for timetable planning purposes and effectively determine what other slots are available for services to other destinations which have to be fitted in around them. Both the network (very few passing places) and the stations (most not long enough for 12 coaches) are constrained, so the excess demand for non-airport services cannot be satisfied by running longer trains, and more frequent trains to other destinations could only be provided by curtailing the airport service in the peaks or introducing more intermediate stops into STEX services.

- To retain the current service pattern to the airport and provide an adequate service to other destinations, additional passing loops would need to be built between Tottenham Hale and Broxbourne (most of this was originally a four track railway and there is room to reinstate the tracks). Alternatively, platforms could be lengthened so that 12 coach trains could call at all the stations on the route.[16]

- The assumption that the response to overcrowding on airport services would be for DfT or the train operator to fund additional rolling stock to run 12 car STEX trains is contrary to past experience. Unless prevented from doing so by franchise commitments, the first response of the train operator would be to cut out intermediate stops at Bishop's Stortford and Harlow Town, thus worsening the service to those destinations.[17] By 2014, 'one's' franchise will be coming to an end, and the current rolling stock will then be between 30 and 40 years old. This issue is discussed more fully in Section 5 below.

- In addition to lack of track and train capacity, handling additional passengers may raise safety questions about the adequacy of the passenger circulation areas at Liverpool Street, Tottenham Hale and Seven Sisters.[18] It may well be the case that extra traffic from Stansted could only be contemplated when Crossrail has been completed, enabling Great Eastern inner suburban services to be removed from Liverpool Street station.

[15] Transport Addendum Update [CD/14.2] Table 3.1.
[16] The RUS examines both these options – see section 4 below.
[17] British Rail removed intermediate stops from STEX services as airport traffic increased in the 1990's. BAA and National Express, the owners of train operator 'one', are both advocates of the operation of dedicated airport services, and BAA have proposed this as part of its G2 rail strategy. Question 3 in Stansted Generation 2 Rail Schemes Consultation states 'The Stansted Express should return to becoming dedicated to airport passengers and additional trains should be run for regional passengers.'
[18] Network Rail business Plan 2006, Route 5, West Anglia, p 4. Although not referred to here, the passenger concourse at Liverpool Street is small and rapidly becomes congested if there is service disruption in the evening peak.

4 DRAFT ROUTE UTILISATION STRATEGY

4.1 Relevance to this application

The following points from Network Rail's RUS [CD/312] are particularly pertinent to BAA's application.

4.1.1 The draft RUS appears to confirm many of our reservations expressed above about the ability of the network and the existing train timetable to support additional airport traffic simultaneously with the other growth pressures on the corridor. The following points made in the draft RUS are particularly relevant:

- 'The West Anglia Route carries a mixture of traffic types with significant variations in speed, acceleration and stopping pattern. There are serious issues with capacity because of this mix of services and stopping patterns… The two track section on the Lea Valley and the mix of trains causes a performance risk throughout much of the day.' (para 3.7.2)

- 'Liverpool Street to Broxbourne' and 'Broxbourne to Cambridge' are identified as two of the five route sections in Greater Anglia on which the highest levels of delay occur. (para 3.8.7)

- Table 5.3 shows that by 2016, 2,900 trips would be 'crowded off' – i.e. that level of demand would be suppressed by overcrowding – in the morning peak on West Anglia services with the figure rising to 4,000 trips by 2021 under the 'do minimum' option. This is essentially the timetable option on which BAA has based its forecasts.

- Table 5.5 shows West Anglia outer (including Stansted Express) services rising from 3% of morning peak trains being over PIXC limits in the base year to 15% in 2016 and 19% in 2021 under the 'do minimum' option.

- Table 5.9 includes not only BAA's forecasts of airport boarders at Stansted in 2016 but also a 15% higher figure supplied by the DfT, which suggests that they too may be sceptical about the quality of BAA's input data.[19]

4.1.2 To deal with these problems Network Rail proposes two possible solutions:

- The first option ('Option 8') would involve lengthening all the shorter stations to enable Cambridge or Stansted Airport trains to be lengthened to 12 cars to call at them. This would provide enough peak capacity to maintain current average peak load factors (which include significant standing) during the morning peak until 2016, but with too much capacity north of Stansted Mountfitchet and not enough further south. This would have a capital cost of £100m (2002 prices) and an estimated benefit to cost ratio of 1.4 ('BCR').

- The second option ('Option 12') would also involve station lengthening (though perhaps not at Broxbourne) and the reinstatement of one or two additional tracks between Tottenham Hale and Broxbourne to enable a more frequent service to be run as well as longer trains. This would eliminate overcrowding in the morning peak beyond 2021 and eliminate standing up to 2016. There are two variants proposed, one with a capital cost of £253m (2002 prices) and a

[19] While BAA appear to have addressed numbers of boarders in the sensitivity test in the Update [CD/14.2] Section 4.7, the discrepancy about PIXC forecasts still remains.

BCR of 2.3, and a second with a capital cost of £608m (2002 prices) and a BCR of 4.2.

4.1.3 None of these schemes has been worked up in detail or secured funding from any source. It must be open to question as to how far any of these proposals could or would be delivered by 2016. The more likely prospect for users of West Anglia services is unfortunately that described in tables 5.3 and 5.5 in the RUS, unless the airport is capped at its present 25mppa limit and the timetable rearranged to provide more capacity for commuters.

5 DELIVERING A SUSTAINABLE RAILWAY

5.1 Relevance to this application

The following points from the 'Delivering a Sustainable Railway' White Paper[20] are particularly pertinent to BAA's application.

5.1.1 This Government White Paper, as well as setting out its general policies, includes a Statement of Funds Available and a High Level Output Specification ('HLOS') covering the period 2009-14. The purpose of these is to inform the Office of Rail Regulation's ('ORR') decisions about Network Rail's funding requirements over that period, and to enable ORR to decide on which outputs (which might be investment schemes or service levels) to reduce to meet the funds available if that should be necessary. The document makes no reference to any infrastructure enhancement over this period which might be necessary to enable longer trains to be run on the West Anglia route. The following points made in the White Paper might also be regarded as relevant:

- An improvement is to be delivered in the current public performance measurement (the measurement of service reliability) from the current 88% to 93% for London and South East Services.[21]

- A 31% increase in passenger/km is expected on the West Anglia route over the 5 year control period 2009-14.[22]

- Increases in passenger numbers of 10,600 in the peak three hours and 4,900 in the high peak hour at Liverpool Street station are expected by the end of the control period, with maximum load factors of 67% and 76% respectively.[23] It is not clear whether this is consistent with the Government's objective in the White Paper para 4.20 which is to move average load factors towards 70% where they exceed this.

- Figure 5.4 of the White Paper envisages moving the load factor at Liverpool Street up from 69% to 70% and mentions train lengthening inter alia for Cambridge and Stansted services.

- The Section in the White Paper 'Access to Airports' paras 8.5 to 8.11 highlights the Government's view that dedicated airport train services are unlikely on

[20] Cm 7176 [CD/433].
[21] Ibid p148 Table A2.
[22] Ibid p 150 table A3.
[23] Ibid p 152 table A5. The load factor figures allow for up to 40% of passengers in excess of seating capacity to be standing for up to 20 minutes. On the West Anglia route, the station with the highest loadings is Tottenham Hale, not Liverpool Street.

congested parts of the railway network and that the funding of airport specific rail improvements should be based on the principle that the beneficiary pays. This means (para 8.11) that 'It is likely, therefore that airport operators and developers will have to bear a proportion of those costs.'

5.1.2 The Transport Addendum Update [CD/14.2] para 4.8.7 also notes that 'one' Railway has published an Official Journal of the European Union ('OJEU') notice inviting expressions of interest in delivering 'between 80 and 120 new electric multiple units'. This is not the case – the invitation is for that number of *vehicles,* which would form between 20 and 30 four-car units.[24] It should be noted that the invitation implies no commitment. There may be no expressions of interest or none on acceptable terms. Any deliveries may simply be used to enable 'one' to retire the oldest assets within its existing fleet rather than adding to capacity. It is in any case unlikely that new trains, for which deliveries have to start in 2009, would run on the West Anglia route. Deliveries within that timescale could only be of an existing approved vehicle type. Modern trains have carriages 23m long, compared with 20m vehicles used on the West Anglia route, and a different type of traction equipment. It is unlikely that modern trains could operate on the route without modifications to the infrastructure clearances, platform lengths, signalling equipment and berthing facilities, none of which appear to have been allowed for in the Government's HLOS.[25] The Government has said it will publish its rolling stock plan by January 2008.[26] In the meantime the timing, extent and funding of any increase in capacity on the West Anglia route is purely speculative.

6 CONCLUSIONS

6.1 Even on the basis of BAA's own assumptions about origins, destinations and transfers of airport passengers, a strategy which relies solely on the existing timetable, minimal infrastructure enhancements and longer STEX trains cannot be relied upon to meet the demands of both airport and non airport users on the West Anglia route. If precedence continues to be given to STEX trains in planning the timetable, then the capacity available to serve the non-airport market cannot be increased.

6.2 However, there are still some doubts about the train loading projections, the assumptions for airport passenger origins, destinations and transfers appear to be suspect, the strategy makes no contribution towards reducing car use by airport users and the timing and funding of any rail improvements is entirely unclear.

6.3 There is a strategy which BAA could follow which would at least provide certainty about both the delivery and the timing of certain improvements in capacity on the West Anglia route. It is the strategy which BAA signed up to as part of the 2003 s106 agreement associated with its current planning permission for 25mppa. The relevant extract is attached for convenience as an annex to this proof. If BAA's application is refused and the airport remains capped at 25mppa, the existing s106 agreement will continue to

[24] Halcrow have accepted that this is correct in their most recent response to SSE's questions [SSE/15.1/d].

[25] For a fuller account of this point, see the exchange of correspondence between SSE and Halcrow [SSE/15.1/d] under the heading 'Rolling Stock Availability'. Halcrow's most recent response that 'The rolling stock market will offer vehicles that are compatible with the routes without change to the Network Rail infrastructure or systems unless those changes are agreed with Network Rail and can be delivered before the introduction of the new vehicles.' is correct only in the sense that any tautology is by definition correct. In practice there is no realistic prospect of stock currently in production being capable of operating on the West Anglia route by 2009.

[26] CD/312 para 13.24.

apply to its planning consent. There is no difficulty in principle in BAA funding directly the additional facilities described in the Annex and to do so would provide greater certainty as to their delivery which would not otherwise be the case.

6.4 The 2003 s106 agreement is defective in that its operation is contingent on BAA having first exercised its consent to develop certain airport terminal facilities (which presumably has not happened yet). However, conditions about improving rail infrastructure should logically relate to passenger numbers pure and simple, not to the developments which take place to handle them inside the airport. Since BAA is committed to funding these rail enhancements for a 25mppa airport, their delivery should clearly have been completed before any expansion beyond that limit is allowed. It would be entirely consistent with the statement of Government policy quoted in the last bullet point of para 5.1.1 above for BAA to now make these commitments unconditionally.

6.5 However, the application as it stands seeks to evade the commitments BAA appeared to make in 2003 and anticipates that rail's contribution to meeting the surface access needs of the airport should be allowed to continue to decline at the same time as the airport expansion which it seeks will create a greater surface access requirement. As such, the strategy is wholly inadequate and moreover will fail to contribute to BAA's own stated objectives for surface access.[27] The Appeal should therefore be dismissed.

[27] BAA op cit Volume 11 [CD/14] Table 2.2 describes the first key objective of the Transport Assessment as being to 'Propose measures to improve access by public transport, walking and cycling, to reduce travel, especially by car.'

ANNEX 1

SECTION 106 AGREEMENT

Part 5 – Obligations relating to rail infra-structure and train capacity

1. Not to implement the Development on site A nor to permit site B to be used for the loading or unloading of passenger aircraft without first:-

   1.1. entering into a binding legal agreement with SRA for STAL to:-

   1.1.1. meet the costs of and be responsible for ensuring the delivery of:

   1.1.1.1 works at the Airport to provide a headshunt and fully serviced sidings

   1.1.1.2 platform extensions at Broxbourne station to enable it to be served by 12 car trains

   1.1.1.3 platform extensions at Stansted Mountfitchet station to enable it to be served by 12 car trains

   1.1.1.4 any other works which shall reasonably be required by SRA to permit the introduction of 12 car trains

   1.1.2. meet the costs of and be responsible for ensuring the delivery of:

   1.1.2.1 improved vertical circulation at the Airport station

   1.1.2.2 shelter for rail passengers on platform 2 at the Airport station

   1.1.3. fund the deficit (if any) of revenue compared to rolling stock costs arising from the need for additional rolling stock to serve the Development

   1.1.4. construct a second tunnel bore to the mainline or to construct works to facilitate increased tunnel capacity within the Airport when necessary

   1.1.5. assist SRA in planning long term developments to enhance the West Anglia Railway and to make reasonable and proportionate contributions towards the costs of studies commissioned by SRA directly associated with such enhancements that are relevant to the Development as SRA shall reasonably require not exceeding £1.5m in total

   1.2. providing evidence to UDC that the obligations referred to in paragraph 1.1. of this Part have been complied with by producing certified copies of the agreement or (in the event that the agreement with SRA shall contain a confidentiality clause or SRA otherwise objecting to its production) a certificate signed by the solicitor for SRA that the requirements of paragraph 1.1. of this Part have been satisfied

2. From the Date of Grant until 31st December 2009 to preserve and maintain free of any permanent obstruction:-

   2.1. Land safeguarded for the provision of rail facilities shown by the dotted line on Plan 1 the facilities to include a headshunt with potential provision for freight access

   2.2. Land at the Airport extending from the safeguarded land referred to in paragraph 2.1 of this Part sufficient to allow the construction of a new railway line entering the Airport from an easterly direction together with the associated infrastructure.