8. Capacity versus Demand – Implications of National Policy Scenarios

8.1. Overview

8.1.1. The preceding chapter of this report outlined the estimated capacity of the current infrastructure that exists at regional airports within the UK.

8.1.2. The purpose of this chapter is to compare this capacity against future demand scenarios and highlight where capacity issues – be they related to runway, terminal or apron/stands constraints – are likely to be evident.

8.1.3. The following section summarises how two sets of demand forecasts that were outlined in Chapter 6, namely the RASCO Reference Case and SEC scenarios, compare against estimates of runway, terminal and stand capacity.

8.1.4. Subsequent sections then provide more detail, at each the regional airports, as to what are the implications of these forecasts for capacity in the future. They also provide commentary on alternative capacity studies which have been undertaken as part of the RASCO exercise or which have been made available during the study.

8.1.5. The final section then provides a summary of the conclusions drawn.

8.2. RRC and SEC Scenario Demand Forecasts

8.2.1. Tables 8.2.1 and 8.2.2 outline the passenger and ATM forecasts for the RRC and SEC demand scenarios respectively. They also highlights capacity estimates of existing runway, terminal and stand facilities at each airport, as outlined in Chapter 7.

Table: 8.2.1: RRC Scenario – Passenger and ATM Forecasts, plus indicative capacities									
AIRPORT	**1998 Pax (million)**	**1998 ATMs ('000)**	**2015 Pax (million)**	**2015 ATMs ('000)**	**2030 Pax (million)**	**2030 ATMs ('000)**	**Est. Runway ATM Capacity ('000) - annual basis**	**Est. Terminal Cap. (mppa)**	**Est. Stand Capacity (mppa)**
ABERDEEN	2.6	93	3.2	78	4.6	95	146	2.6	2.6
BELFAST CITY	1.3	33	2.3	40	3.1	51	98	2.0	3.0
BELFAST INT'L	2.6	39	4.4	52	6	65	195	3.6-4.5	6.0
BIRMINGHAM	6.6	82	17.5	153	33	217	170-190	12.0**	12.3
BOURNEMOUTH	0.3	6	1.8	24	4.4	45	170	0.75	1.0
BRISTOL	1.8	35	4.8	57	8.6	98	135-160	3.0	3.4
CARDIFF WALES	1.2	17	3	30	4.8	45	170-180	3.0	2.8
EAST MIDLANDS	2.1	42	7.5	80	12.5	123	190-220	4.5	4.8
EDINBURGH	4.5	74	10	131	13.5	172	173	5.0-6.0	6.7
EXETER	0.2	8	1.1	23	2	32	155-160	0.9	1.3
GLASGOW	6.4	84	12	123	15.5	151	169	8.0	11.0
HUMBERSIDE	0.3	11	0.8	15	1.6	21	199	0.6-0.8	2.6
INVERNESS	0.3	8	0.6	14	0.5	16	164	0.7	1.0
LEEDS BRADFORD	1.4	26	4	47	6.7	71	167	2.5-3.0	3.0
LIVERPOOL	0.9	29	5.5	85	8.6	115	177	3.0	5.5
MANCHESTER	17.3	160	35	282	60	365	330-440	23.0	28.0
NEWCASTLE	2.9	42	6.3	61	9	81	165	6.0	5.0
NEWQUAY	0.07	3	0.2	3	0.4	7	*50	0.9	*N/A
PLYMOUTH	0.1	6	0.4	6	0.5	7	155-160	0.4	0.6
PRESTWICK	0.5	10	1.8	22	1.8	21	186	2.0	2.0
SHEFFIELD	0.07	2	0.2	4	0.5	8	163	0.1	1.0
TEESSIDE	0.6	12	2	27	3	36	156	1.0	1.8

* dual civil and military use of airside infrastructure at Newquay makes runway and apron capacity estimates dependent upon MoD agreements rather than physical issues.
**including planning permission

Table: 8.2.2: SEC Scenario - Passenger and ATM Forecasts, plus indicative capacities

AIRPORT	1998 Pax (million)	1998 ATMs ('000)	2015 Pax (million)	2015 ATMs ('000)	2030 Pax (million)	2030 ATMs ('000)	Est. Runway ATM Capacity ('000) - annual basis	Est. Terminal Cap. (mppa)	Est. Stand Capacity (mppa)
ABERDEEN	2.6	93	3.9	101	4.9	111	146	2.6	2.6
BELFAST CITY	1.3	33	1.9	37	2.3	43	98	2.0	3.0
BELFAST INT'L	2.6	39	4.3	50	5.6	60	195	3.6-4.5	6.0
BIRMINGHAM	6.6	82	18.2	166	41	232	170-190	12.0**	12.3
BOURNEMOUTH	0.3	6	3.9	39	8.4	78	170	0.75	1.0
BRISTOL	1.8	35	7.3	73	13.4	150	135-160	3.0	3.4
CARDIFF WALES	1.2	17	4	38	8.7	71	170-180	3.0	2.8
EAST MIDLANDS	2.1	42	16	132	26.5	239	190-220	4.5	4.8
EDINBURGH	4.5	74	7.5	105	10.6	139	173	5.0-6.0	6.7
EXETER	0.2	8	1	17	4.5	51	155-160	0.9	1.3
GLASGOW	6.4	85	13	136	14.4	140	169	8.0	11.0
HUMBERSIDE	0.3	12	0.9	16	2.2	24	199	0.6-0.8	2.6
INVERNESS	0.3	8	0.3	11	0.3	11	164	0.7	1.0
LEEDS BRADFORD	1.4	26	3.1	37	6.0	65	167	2.5-3.0	3.0
LIVERPOOL	0.9	29	5.8	63	11.1	116	177	3.0	5.5
MANCHESTER	17.3	161	38	263	65	377	330-440	23.0	28.0
NEWCASTLE	2.9	42	5.7	56	8.2	73	165	6.0	5.0
NEWQUAY	0.07	3	0.2	3	0.3	4	*50	0.9	*N/A
PLYMOUTH	0.1	6	0.7	10	1.3	15	155-160	0.4	0.6
PRESTWICK	0.5	10	1.6	22	2.5	29	186	2.0	2.0
SHEFFIELD	0.07	2	0.3	6	0.9	13	163	0.1	1.0
TEESSIDE	0.6	12	2.5	20	3.8	26	156	1.0	1.8

*dual civil and military use of airside infrastructure at Newquay makes runway and apron capacity estimates dependent upon MoD agreements rather than physical issues.
**including planning permission

8.3. Airport Capacity Issues

Wales

8.3.1. The existing runway at **Cardiff Airport** contains more than sufficient capacity for demand under both the RRC and SEC scenarios – the 2030 forecast in the SEC scenario only attains 71,000 ATMs, which is well within the capacity ranges of 170,000-180,000 noted above.

8.3.2. The terminal and stand facilities would be likely to require expansion around 2015 to provide for the RRC forecasts, with this need brought forward slightly under the SEC higher demand scenario. Further additions to both types of infrastructure would be required during the period 2015 to 2030, with this brought progressively further forward in time under the SEC scenario, as the degree of traffic clawed back and spilled from the South East increases in later forecast years. Even under the highest demand scenario, it is unlikely that major additions to the already extensive apron facilities would be required.

8.3.3. Under the RRC scenario, car parking at Cardiff would need continual expansion over the forecast period, with between 4,000 and 6,000 spaces needed by 2015 and between 6,400 and 9,600 spaces by 2030. At 2030, this represents an additional 13-23 hectares of ground level car parking spaces.

Northern Ireland

8.3.4. Subject to local planning consents, **Belfast City Airport's** runway has sufficient capacity for either demand scenario through to 2030, although its length (1,880m) will continue to restrict the range of services offered.

8.3.5. Post 2010 under the RRC scenario, the analysis suggests that the terminal buildings and stand provision would need expansion. Under the SEC scenario, this expansion could possibly be delayed until after 2015 as congestion in the SE puts increasing pressure on flights between the airport and London. The current apron size is most probably sufficient for this level of development.

8.3.6. Between 2015 and 2030, further expansion of these facilities would be required to meet the RRC demand projections and the extent of additional space required (roughly a doubling of the existing terminal and stand facilities) would put pressure on the overall size of the apron area.

8.3.7. Under RRC scenario forecasts, car parking provision at Belfast City would have to increase to between 3,000 and 4,600 spaces by 2015 and further to between 4,100 and 6,200 by 2030, dependant upon the exact passenger to space ratio that emerges in the future. In 2030, this additional (assuming no multi-storey) parking represents between 7 and 13.5 hectares of additional land need. The urban location of the airport would tend, however, to suggest that some degree of multi-storey provision will be required in the future.

8.3.8. At **Belfast International Airport**, no specific constraints to accommodating growth under either demand scenario would appear to exist prior to 2015. Passenger forecasts are broadly similar in 2030 under both demand scenarios and the level forecast 5.6-6.0mppa implies that some additional

terminal development and modest increase in stand provision would be required in later years of the forecast period.

8.3.9. Under RRC scenario forecasts, car parking provision at Belfast International would have to increase to between 9,800 and 13,100 spaces by 2030, dependant upon the exact passenger to space ratio that emerges in the future. In 2030, this additional parking represents a need for up to 20 hectares of additional land which could be accommodated on the existing airport site.

Scotland

8.3.10. The 1,830m runway at Aberdeen, whilst sufficient in terms of total forecast demand, is of a length that will constrain usage to destinations that can be served by short/medium haul jets. The taxiway's interactions with the apron area will also present a limiting factor on throughput at levels below the theoretical capacity of the runway, although demand forecast under either scenario are such that constraints are unlikely to bite before 2030.

8.3.11. Under the RRC and SEC scenarios, passenger terminal constraints would emerge around 2015 at **Aberdeen Airport**. Additional stands will also be needed around the same time, although the existing apron should be large enough to accommodate them.

8.3.12. The period between 2015 and 2030 sees a possible need for further additions to the terminal and stand facilities under all scenarios. Provision of the additional apron may prove difficult and may involve rationalisation of the current apron and taxiway layouts but ultimately should be feasible.

8.3.13. Car parking needs at Aberdeen rise under the RRC scenario to between 6,300 and 10,400 spaces at 2030. In terms of land take, this represents between 7 and 15.5 hectares of additional surface level car parking. The airport site is, however, space constrained, so some degree of multi-storey parking is likely to be required as part of this future provision. As an alternative to meeting this demand on site, the potential for dual use Park and Ride sites (serving both the airport and city centre) might provide a more sustainable way forward in the future.

8.3.14. ATM forecasts of over 120,000 at **Edinburgh Airport** by 2015 under the RRC scenario suggest that peak period runway congestion could be an issue, although much depends upon the 'peakiness' of demand over the period. Under the SEC scenario, however, these pressures are reduced as congestion in the South East puts pressure on continued growth in services to London airports.

8.3.15. Further expansion to the terminal facilities and stands would be needed post 2010 in the RRC scenario – over those improvements that are currently envisaged. Again, in the SEC case, these improvements could potentially be delayed until later in the period.

8.3.16. In the RRC scenario, the existing single runway at Edinburgh is at capacity by 2030, although the SEC scenario forecasts a much lower end state. In the former scenario, further enhancements to the terminal and stand facilities would be needed throughout the 15 year period, whereas more modest improvements would be required under the SEC case.

8.3.17. The RRC forecasts at Edinburgh have marked implications for car parking requirements. In 2015, between 10,000 and 13,300 spaces will be needed – up from the 4,080 that existed in 2000. By 2030, this has risen to between 16,100 and 21,500 – if this was constructed as surface level parking, it would imply a need for an additional 36-52 hectares of land.

8.3.18. In both scenarios, terminal capacity constraints are likely to present themselves at **Glasgow Airport** post 2005. Peak period runway congestion could also occur towards 2015, particularly under the RRC scenario, where ATMs are forecast to reach 136,000 by this time. By 2030, particularly under the RRC scenario, runway constraints are likely to be a major issue at the airport.

8.3.19. Further terminal enhancements are likely to be required under both scenarios post 2015, with additional stands needed post 2020 in the RRC case, although later under SEC scenario demand conditions.

8.3.20. Car parking requirements rise to between 12,000 and 16,000 spaces by 2015 under the RRC scenario. By 2030 this has risen further to between 18,000 and 25,100, implying a need for between 41 and 60 hectares of land for surface car parking at Glasgow.

8.3.21. At **Prestwick Airport**, no particular constraints present themselves under either demand scenario before 2015. Additionally, the existing runway is easily able to accommodate all demand forecasts through to 2030.

8.3.22. The existing stands are also able to service the forecast passenger throughput to 2030 in both RRC and SEC scenarios, although some expansion of terminal facilities will be needed toward 2030 in the RRC scenario..

8.3.23. Between 3,700 and 5,600 car parking spaces are forecast to be needed at Prestwick under the RRC scenario by 2030. This represents between an additional 6 and 12 hectares of surface parking. Readily available land and no green belt designations would tend to suggest that this can readily be accommodated.

8.3.24. No runway capacity problems present themselves at **Inverness Airport** before 2030, although the length of the existing runway will present an operational constraint on the range of aircraft that can be used. Terminal facilities would appear to be sufficient until 2030 under all scenarios except the RRC.

8.3.25. The only notable development requirement in the first half of the 30 year period would appear to be additional stands that are likely to be needed around 2010 if RRC scenario demand conditions are realised. In the SEC case, pressure on London services suggests that this need may well be delayed by 5 years or so.

8.3.26. Post 2015, additional apron space will probably be required in both scenarios, although release of the current area earmarked for GA could provide this space. Further stands are also likely to be required, notably under the RRC scenario.

8.3.27. The traffic forecasts within the RRC scenario imply an increase in demand for car parking at Inverness. Need rises to between 1,100 and 1,600 spaces by 2015, relative to the 300 spaces that existed in 2000. If built as surface parking, this represents between 2 and 4 hectares of additional car parking, which should be possible within the existing site boundaries.

North of England

8.3.28. Under both demand scenarios, existing terminal facilities at **Humberside Airport** are likely to be at capacity by 2015. Pressure to provide additional stands will also be evident around this time.

8.3.29. During the period 2015-2030, further terminal expansion is likely to be necessary, as is provision of additional stands and an expansion of the apron area. The higher demand forecasts within the SEC scenario would mean an earlier 'need date' than the RRC scenario.

8.3.30. No runway constraints are evident at Humberside Airport, with the existing infrastructure of a length sufficient to operate a range of aircraft types up to A330 size, if required.

8.3.31. Car parking demand is forecast to rise to between 1,000 and 1,600 spaces by 2015 and to between 2,100 and 3,200 by 2030 under the RRC scenario. This translates into a need for an additional 3 to 6.5 hectares of surface car parking land by the end of the forecasting period, for which space exists within the existing site.

8.3.32. Expansion of terminal facilities at **Leeds Bradford Airport** are likely to be required post 2005 if RRC scenario forecasts prevail. Lower SEC case passenger forecasts imply that these extensions will not be needed until around 2010. Post 2015 in the RRC scenario, further terminal enhancements are likely to be necessary, along with additional stands. In addition, the existing apron is likely to need extending between 2015 and 2020. Under the SEC scenario, all these improvements would be pushed back until later in the period, although potentially still required.

8.3.33. Although the 2,250m main runway has sufficient capacity for the forseeable future and can accommodate larger aircraft, it would benefit from the provision of a parallel taxiway. In addition, there may be a need for a runway extension in the medium term to allow larger aircraft to operate with full payloads on long haul services.

8.3.34. By 2030, at Leeds Bradford, car parking demand is forecast to have risen to between 6,700 and 9,000 spaces under the RRC scenario. In terms of additional land this translates into between 11 and 17.5 hectares of surface parking facilities. It is difficult to envisage this being possible without recourse to some degree of multi-storey parking. It may be prudent to explore Park and Ride options from the Leeds Super Tram network and/or from upgraded bus corridors. This approach would have the added benefits of intercepting airport bound traffic before it reaches the congested parts of the road network in the vicinity of the airport.

8.3.35. Proposed expansion to the apron areas at **Liverpool John Lennon Airport** is likely to cater for demand through to around 2015 under both demand scenarios. In the longer term, further remodelling may be required to fully

realise capacity of the existing taxiway systems – to remove conflict between this and the apron areas. Post 2015, additional stands are also likely to be needed under both sets of demand forecasts.

8.3.36. Terminal expansion to 32,600 sq. metres, which is also proposed, would cater for forecast demand to around 2010, although beyond this point, continued forecast passenger growth will require further expansion to be implemented.

8.3.37. Although the single runway of 2,286m is sufficient for the forecast ATM demand to 2030, a runway extension combined with taxiway improvements would allow for the expansion of the existing freight operation and the potential for long haul charter operations.

8.3.38. Between 5,500 and 7,300 car park spaces are forecast to be needed at Liverpool Airport under the RRC scenario by 2015. By 2030, this rises to between 8,600 and 11,500 – or between 18 and 26 hectares of additional surface car parking by this time. Such provision is possible on site. Remote parking options with appropriate rail and/or Metro links to the airport may become suitable in the longer term.

8.3.39. At **Manchester Airport**, the existing spare terminal capacity will be filled at around 2006 under RRC demand forecasts and slightly earlier if SEC forecasts are borne out. The period 2015-2030 is likely to see a further need for additional terminal space, as well as new stands. The need for a new terminal is considered as a 'major project' assessed in Chapter 10 of this report.

8.3.40. The 2030 RRC forecasts for Manchester Airport suggest that car parking provision may need to increase to between 24,000 and 40,000 spaces depending upon the proportion of passengers accessing the airport by public transport at this time. Whilst figures toward the top of this range are most likely unrealistic – if the airport is not achieving a public transport mode share of towards 40% by this time then road congestion will be a far more pressing issue than car parking – even the lower figure will present a challenge. Remote check-in facilities associated with new terminal facilities will, in all probability need to be pursued in conjunction with other remote parking / Park and Ride initiatives to minimise pressure on the site.

8.3.41. As noted in Chapter 6, if certain demand scenarios were to emerge, it is possible that Manchester may get to a stage in its development where a third runway would be required to meet demand. Given the timing of this likely need, towards the very end of the 30-year horizon of this study and also the need for very particular demand scenarios to be borne out, we have not considered this as one of the 'major project' assessed in Chapter 10 of this report.

8.3.42. To accommodate larger aircraft as demand grows, a runway extension at **Newcastle Airport** is likely to be required post 2010. Apron/taxiway interaction may also present a constraint on runway capacity. Pressure on terminal space will also be evident towards 2015, although slightly later in the SEC scenario. During the later half of the forecast period, further terminal space will probably be needed, as will additional stand capacity.

8.3.43. 2030 RRC scenario demand at Newcastle suggests that car parking space provision may need to rise to between 9,000 and 12,000 spaces – or between

13 and 22 hectares of additional surface car parking land. The provision of additional spaces will need to take account of the green belt designations surrounding the site.

8.3.44. At **Teesside Airport**, the existing terminal facilities will probably come under pressure at around 2005 in the RRC case and 2007/8 under SEC demand conditions. Further expansions is likely to be needed between 2015 and 2030 under either demand forecast, as will additions to the apron space and stand provision. Furthermore, interaction between the taxiway system and the apron areas may need to be addressed to fully utilise the capacity of the existing runway.

8.3.45. A runway extension would have a realistic business case if a specific operator or operators came forward wanting to operate routes from Teesside requiring greater runway length. Although this could happen, and there is certainly scope to extend the airport's runway, the balance of probabilities suggests this is more likely to occur at Newcastle.

8.3.46. Forecast 2030 car parking space requirements under the RRC scenario are between 4,000 and 6,000 at Teesside – from the 1,500 that are currently available. In terms of additional land take, this represents between 8 and 13.5 hectares of land required if constructed as surface parking. Whilst available space to accommodate such forecasts is not envisaged to be a major constraint, there are issues in relation to countryside designations that will have to be addressed in the future.

South West

8.3.47. The terminal at **Bournemouth Airport** is currently 4,600 sq. m, although the airport has recently secured planning permission for a new terminal of 8,400 sq. m. on a new site. The expansion is envisaged to cater for up to 1.25 mppa, which would accommodate forecast passenger growth under the RRC demand scenario through to around 2010. In the SEC scenario, however, the airport gains significant amounts of traffic spilled from the South East and terminal improvements would be required at a much earlier date. After this time, further expansion of the terminal facilities would be required under both scenarios. Any development proposals would need to be in line with green belt policies.

8.3.48. Whilst the apron (at 12,000 sq. m) is sufficient for short/medium term requirements, the small number of stands (currently only 6) is a known limitation on operations. As demand grows, additional stands will be required in the immediate future, with expansion to both apron and stands post 2010 (before in the SEC scenario) to cater for further growth, particularly if larger aircraft become more prevalent.

8.3.49. The runway itself does not pose any capacity problems for the airport's growth, with estimated capacity in excess of 200,000 ATMs/annum.

8.3.50. The RRC demand forecasts for Bournemouth imply that parking space demand will rise to between 2,400 and 3,600 by 2015 and then to between 5,800 and 8,800 by 2030. If constructed as surface parking, this implies a need for an additional 12 to 21 hectares of land, depending upon eventual usage ratios. Tight environmental constraints exist around the airport and

any major future provision is likely to have to be remote from site and linked via bus shuttle.

8.3.51. For the period through to 2015, the only potential infrastructure constraint that presents itself at **Bristol Airport** would appear to be a need for expansion of the terminal and stand facilities post 2010 in the RRC scenario. In the SEC scenario, however, this requirement is likely to be brought forward several years as clawback and spill from the South East increases passenger throughput at a higher rate.

8.3.52. Whilst the 2030 RRC scenario forecasts do not suggest that runway capacity issues will become an issue for the airport, the SEC 2030 forecasts of 150k ATMs suggest that capacity problems may well be emerging by this time, with particular peak hour difficulties present. As noted in Chapter 7, however, the existing runway requires lengthening in order to provide for a full range of services in the future.

8.3.53. The runway length will also present a potential constraint through the inability to make maximum use of RETs[1], as will the current layout of the taxiway / apron areas due to movement conflicts.

8.3.54. The combination of these factors suggest that, even with a lengthened runway, Bristol may well be experiencing fairly severe runway constraint problems towards the end of the forecast period if the SEC scenario were to be borne out.

8.3.55. Further terminal expansion is likely to be required, particularly under the SEC scenario, which sees passenger throughput increase nearly five times from its current level. Additional stand facilities to accompany the terminal developments in later years is also a potential need, although the size of the overall site does not pose a constraint on this development.

8.3.56. Under the 2030 RRC scenario it is possible that the airport may need to find the equivalent of a further 4 to 13 hectares of surface level parking to meet demand. Environmental constraints would tend to suggest that remote provision will be required as a long-term solution – either from sites in regeneration areas of the city of from a new Park and Ride site adjacent to the M5.

8.3.57. Whilst overall passenger demand forecasts do not present an issue for the existing runway at **Exeter Airport**, its capacity is constrained by the poor taxiway system. Also a runway extension would be needed if the airport were to handle larger aircraft on long haul routes.

8.3.58. 2015 passenger forecasts are similar under both RRC and SEC scenarios and they tend to indicate that expansion of both terminal and stand facilities is likely to be needed post 2010 to accommodate the forecast growth. Further expansion of these facilities in later forecast years is also a possible need and the existing apron areas are likely to require expansion to cater for this development. This is particularly the case in the SEC scenario, where post 2015, passenger growth is forecast to increase at a faster rate than under RRC demand conditions.

[1] Rapid Exit Taxiways

8.3.59. The airport has recently submitted a planning application to relocate the terminal and apron to the other side of the airport contiguous with the proposed Skypark development. If successful, this would allow all forecasts to be met.

8.3.60. The 2030 RRC scenario forecasts are such that car parking space demand will rise to between 2,600 and 4,000 spaces – from the current provision of around 1,100. In terms of land take, this implies between 5 and 9 hectares of additional surface car parking being provided by the end of the forecast period at Exeter.

8.3.61. Passenger forecasts under both demand scenarios are modest at **Newquay Airport** and the planned terminal developments are potentially sufficient to cater for forecast increases in traffic. No other major constraints present themselves during the forecast period but an additional 450-850 car parking spaces may be needed by 2030 requiring 1-2 hectares of land.

8.3.62. Runway length is already acknowledged to be the major constraining factor on development at **Plymouth Airport** as at 1,075m it is insufficient to allow even medium-sized aircraft to operate with commercial payloads. Although capacity is sufficient for forecast demand, a runway extension is therefore essential if larger aircraft are to be accommodated. Steep slopes annd industrial development at the eastern end of the runway make any extension expensive but do not preclude it.

8.3.63. If improvements are implemented, expansions to terminal and stand facilities are likely to be required post 2015 to cater for forecast demand, with pressure greatest under the SEC scenario.

8.3.64. The 2030 RRC scenario at Plymouth implies that need for between 1 and 2 hectares of additional car parking land to provide for the projected demand of between 660 and 1,000 spaces. . Whilst it should be possible to accommodate this level of development on site, a degree of multi-storey may be required.

Midlands

8.3.65. At **Birmingham Airport**, peak period runway capacity[2] is already becoming an issue and this would become a major constraint in the SEC scenario by 2015 – and slightly later in the RRC scenario. By 2030, both sets of passenger forecasts indicate that the airport is likely to have exceeded the capacity of its existing single runway by this time. To serve a full range of long haul destinations, the airport will require an extension to the existing runway, probably within the next decade.

8.3.66. Independent capacity analysis has also been undertaken for Birmingham Airport[3], albeit to a time horizon of 2015. Birmingham Airport's own forecasts through to 2015 exhibit a much lower PAX/ATM ratio (88.4) than does the RRC scenario at 114.4. Even under SEC demand conditions, where increased passenger traffic implies an earlier switch to larger aircraft, the figure is still 109.4 in 2015. The SWK team, for the purposes of their analysis,

[2] See Midlands Part 3 Runway Study for fuller details of proposed runway development options at Birmingham.
[3] Birmingham International Airport Capacity Study – Final Report, Scott Wilson Kirkpatrick (SWK), September 2000.

did make a slight upwards adjustment to the figure of 88.4 noted above, but the resultant figure of 92 is still notably lower than the RRC ratio.

8.3.67. The lower figures employed in the Birmingham study would bring forward the need for a new runway at the airport – the analysis undertaken by SWK suggests that this may be in the order of 5 years, from 2020 to 2015.

8.3.68. A third passenger terminal and associated stand facilities is likely to be required post 2010 and further expansion of these facilities would probably be needed at periodic points between 2015 and 2030 to cater for forecast demand. Apron space would also become an issue in the later years under the RRC scenario and after 2020 in the SEC case.

8.3.69. Car parking additions will continue to be needed at Birmingham. By 2030, the RRC scenario suggests that between 22,000 and 33,000 spaces might be required. Whilst much of this would, in all probability be provided via multi storey parking, this level equates to between an additional 29 to 62 hectares of surface level parking.

8.3.70. Current peak period runway constraints[4] at **East Midlands Airport** will worsen as demand grows. Whilst Tables 8.2.1 and 8.2.2 only show passenger demand, the large scale freight operations at the airport will be the driving factor behind runway capacity issues. 2030 passenger ATM forecasts alone in the SEC scenario would exceed the capacity of the current single runway. When freight is included in the assessment, mid period sees capacity problems presenting themselves.

8.3.71. Post 2010 in the RRC scenario and post 2005 in the SEC case, the existing terminal facilities are likely to require expansion to accommodate forecast traffic, along with associated development of stands. The large existing apron area is more than sufficient for freight operation development, although the combined passenger and freight activities will put pressure on this post 2020.

8.3.72. By 2030, the RRC scenario forecasts suggest that between 12,500 and 16,700 car parking spaces might be required at East Midlands. In terms of land take, this translates into between 25 and 38 hectares of additional surface level car parking.

8.4. Summary

8.4.1. The analysis presented above has provided an overview of when and where potential capacity constraints are likely to appear at regional airports under two future scenarios of demand. This section summarises key points to emerge from the analysis.

8.4.2. The most pressing runway capacity constraint issues, over and above known lengthening requirements, are likely to emerge in the Midlands and particularly at Birmingham Airport. Under the SEC scenario, or indeed under the RRC scenario with a lower PAX/ATM ratio (as assumed in the SWK analysis), then this point will be reached sometime after 2015.

[4] See Midlands Part 3 Runway Study for fuller details of proposed runway development options at East Midlands.

8.4.3. Peak period runway constraints will also be a constraint on further development at East Midlands. If additional capacity is not provided at Birmingham then this will worsen at a rapid rate post 2015.

8.4.4. Scotland represents the other region where runway constraints will become evident. Whilst potentially this will occur at a later point in the 30-year time horizon, Edinburgh in particular is likely to be at or close to capacity post 2025, particularly in the RRC scenario.

8.4.5. The length of existing runways will act as constraints on full development of services at Newcastle, Bristol, Birmingham, Leeds Bradford, Liverpool John Lennon, Plymouth and Teesside airports. Whilst traffic projections suggest that it would not be likely, the same is potentially true for Humberside airport as well.

8.4.6. Terminal expansions will be required at all the RASCO airports, with a major new terminal at Birmingham required by 2015 and at Manchester at around the same time.

8.4.7. As above, most sites will require expansion of their current stand and apron facilities to cater for growth throughout the period such as Bournemouth, Exeter, Glasgow, Humberside, Leeds Bradford and Teesside.

8.4.8. Virtually every site will require expansion of car parking facilities. Even where proactive public transport policies are being pursued, this additional requirement can be quite extensive by the end of the forecast period.