

**Report to** Cabinet  
09 October 2019  
**Report of** Director of regeneration and development  
**Subject** Norwich Airport Masterplan

**Item**

**6**

## **KEY DECISION**

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### **Purpose**

To consider whether or not to endorse Norwich Airport's proposals for the expansion of the airport to the year 2045 as set out in its proposed masterplan.

### **Recommendation**

To endorse the proposed masterplan for Norwich Airport.

### **Corporate and service priorities**

The report helps to meet the corporate priorities great neighbourhoods, housing and environment and inclusive economy.

### **Financial implications**

There are no direct financial implications arising from this report. The role of the Council in taking this decision is to consider whether to endorse the document to increase its material status for planning purposes. This decision should be based on consideration of wider public interest issues rather than potential financial impacts on the Council.

However, for the sake of transparency it should be noted that the City Council hold a 40% stake in Legislator 1657, the owner of Site 4. An Option Drawdown Agreement exists enabling the Airport to develop this land at a specified value. Therefore the City Council stands to benefit financially from the development of Site 4.

**Ward/s:** Catton Grove

**Cabinet member:** Councillor Stonard - Sustainable and inclusive growth

### **Contact officers**

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## **Background documents**

None

## Background

1. In line with government guidance as outlined in the Department for Transport's 'Aviation Policy Framework – 2013', UK airports are expected to publish an adopted masterplan approximately every five years. Norwich Airport does not currently have such a masterplan in place but are seeking to produce one. Such a masterplan would not only respond to government guidance but could also be material in planning decisions.
2. Policy DM27 of the Local Plan supports development within the area of the airport within the City's boundary for airport related purposes and indicates that development for alternative uses will not generally be supported in advance of the endorsement of an agreed masterplan for the airport.
3. Norwich Airport (NA) has been seeking to produce a masterplan for the airport for some time. It produced a consultation version of in the summer of 2017. This document is still available to view at <https://www.norwichairport.co.uk/masterplan/>.
4. The City Council's response to the draft Masterplan was considered at Cabinet in September 2017. Paragraphs 12 to 16 of that report summarised the Masterplan as follows:

"The masterplan estimates that passenger numbers will grow steadily from 460,000 in 2015 to 930,000 in 2030, and to 1.4 million in 2045. The majority of the growth is anticipated in scheduled and chartered flights, rising from 77% of all passengers in 2015 to 95% in 2045. It is expected that the off-shore markets will significantly decline as a proportion of passengers over the same period.

Business aviation services are expected to grow within the masterplan period, through Norwich based operators such as Saxonair for example.

The masterplan sets out the main elements of the airport growth strategy to 2045 to support the increased passenger numbers. The majority of proposals are within the first phase of growth to 2030 and include: expansion of the existing main terminal building; additional apron capacity; limited expansion of existing maintenance facilities; increased car parking with new provision either through decking current car parks or potentially through reuse of the existing park and ride site assuming this can be relocated in future

Phase 2 (to 2045) includes: a 500 metre expansion of the main runway to the east (including land in Broadland District Council area) to accommodate larger aircraft in the future; and relocation of the air traffic control tower to the south of the runway. Longer term parking is also proposed on the Paddocks site on Holt Road.

The masterplan estimates a significant increase in jobs growth during its 20 year lifespan. It estimates that direct jobs will increase from the current figure of 1,240 jobs to 1,950 in 2030 and to 2,590 in 2045.”

5. In relation to site 4 (land to the north of the runway which currently has unimplemented planning consent for airport related uses) the draft masterplan stated that it was not required for future aviation purposes but did not provide any objective evidence to support this.
6. Following consideration at Cabinet the Council formally responded to the draft Masterplan. The full response is attached at Appendix 1. This can be summarised as endorsing the masterplan subject to a number of proposed changes being incorporated within the revised document. The key changes required as stated in the committee report were:
  - a) that the Masterplan should contain a clear commitment to producing a Surface Access Strategy within a 3 year period supported by a Transport Assessment, and should commit to an update of the Masterplan, if required, to ensure consistency with the Surface Access Strategy; and
  - b) the masterplan is amended so that it proposes retention of at least a significant part of Site 4 within the operational boundary, in the absence of objective evidence to support its entire removal, to allow long term possible expansion of existing MRO operators or the attraction of further such operators to the airport.
7. These comments led to Norwich Airport engaging specialist consultants (York Aviation) to produce objective evidence in relation to site 4 and whether its potential release for other employment uses would impact on the airport's expansion in the longer term. The consultants concluded that the existing aviation site south of the runway and a reservation of up to 20% of Site 4 would be more than sufficient to enable Norwich Airport to fulfil its realistic aviation potential over the very long term, including its ability to attract wholly new aviation related tenants and operators.
8. The emerging masterplan was updated to reflect the conclusions of the report in April 2018. The revised masterplan was considered to adequately address all the other concerns that the City Council had previously raised, although there remained a concern about the robustness of the evidence in relation to site 4. At this stage Broadland District Council formally endorsed the masterplan.
9. In view of the continuing concerns over the adequacy of the evidence produced to justify the release of most of site 4 for non-aviation purposes, and to inform consideration of a planning application submitted by the airport in late 2018 to amend the existing consent to allow for a minimum of 30,000 sq m of floorspace for aviation related uses and up to 65,035 for other commercial uses, the City Council considered it premature to endorse the masterplan and instead it commissioned its own independent evidence on the matter from Alan Stratford Associates (ASA). The ASA final report is attached as Appendix 2. It concludes that there could at least be some possible constraint on future long-term aviation related development (of all

types) should aviation related floorspace be restricted to just 30,000 sq m of floorspace at Site 4 (see section 6, sub-section 7, on pages 24 to 25 of the report).

10. Because of the extent of previous consideration of the masterplan and the changes made which largely respond to the issues raised, this report does not further consider the acceptability of all aspects of the Masterplan. The remainder of the report focuses primarily on the issues related to site 4.

#### **Site 4**

11. Site 4 is an area of just over 40ha of land which lies in the northern part of Norwich Airport. The site lies partly in the administrative area of Broadland DC but is mostly within the City Council's Area. The site is not allocated in either Local Plan for development but in 2013 both Councils issued planning consent allowing the site to be developed. Within the City Council area the land is covered by policy DM27 which supports the development of the airport and seeks to safeguard land within the operational airport boundary for aviation purposes.
12. The City Council reference number for the original planning approval was 13/00520/O and the description of the development was as follows:  
"Development of northern apron to include detailed planning permission to provide 15,035sqm of aviation related B1(c), B2 and B8 floorspace including associated access to Holt Road, security hut, storage building, parking and landscaping and outline planning permission for up to 80,000sqm of aviation related B1(b), B1(c), B2, B8 and D1 use floorspace with permission for access sought in detail and all other matters reserved."
13. This original application was part detailed and part outline. The detailed element of the application comprised of a 15,035sqm five bay hangar, workshop space and office facilities which were intended to be occupied by Air Livery with the intention of allowing all of Air Livery's UK Narrow Body business to be located on one single site at NIA. (Air Livery operated from Southend, East Midlands and Norwich at the time of the application).
14. Owing to the scale of the application it required the consideration of alternatives as part of the planning process. These were summarised as follows in the committee report "In regard to the proposed development site, the applicant states that there are no available sites to the south of the runway large enough to accommodate the scale of development required either for a commercially viable aviation-related business park or, specifically for the Air Livery facility in isolation. The majority of land to the south is either already taken up by built development or is constrained by operational restrictions. That remaining may be suitable for smaller, discreet airport related development and/or that not necessarily requiring runway or other airport infrastructure access. Sites outside the airport boundary have not been considered as they would not fulfil the locational requirements of aviation-related businesses."
15. In the light of this evidence the application was approved. The conclusion of the report noted "The proposals subject of the detailed element of the

application whilst non-operational, can clearly be described as airport related. A condition can be imposed to ensure that any development that comes forward under the outline element of the application will also be airport or aviation related. On this basis, it is considered that the principle of development is acceptable”.

16. Following the approval of 13/00520/O the development was not implemented. This led the airport to apply to vary the conditions on the approval (application ref 16/00965/VC). The conditions were varied to effectively convert the previously detailed application to develop the facility for Spray Avia to an outline consent with uses restricted in accordance with the earlier outline consent. This process also extended the time limit for the scheme until Aug 2021 and made provision for the site to be access from the NDR.
17. As noted above, the airport applied in late 2018 under application reference number 18/01621/VC to vary the conditions on 16/00965/VC to allow the development of most of Site 4 (approx. 80% of the land area and 65,035sqm (GEA) floorspace) for general employment floorspace in use classes B1(b), B1(c), B2, B8 retaining only up to 30,000sqm (GEA) of aviation related employment floorspace. The rationale for seeking this change is essentially that set out in the emerging Masterplan and the associated York Aviation Study.
18. Recent discussions with the airport on the draft masterplan, and planning application, have resulted in a change of approach by the airport. A revised version of the masterplan has been produced, it is available to review on the committee pages of the city council's website [here](#) and now states in section 9, paragraph 9.34, "...this Masterplan will safeguard 44% of the Site 4 land (20.5 ha) for aviation uses to maximise the opportunity for large scale aviation-related development." This site area represents 50% of the planning application site. Figures 9.1 and 9.2 have been amended accordingly to show this enlarged safeguarding area.
19. In relation to the proposed surface access strategy, the revised masterplan now states at paragraph 10.8: "Upon endorsement of this Masterplan by Norwich City Council, Norwich Airport will commence preparation of an Airport Surface Access Strategy (ASAS) which will be submitted to NCC and BDC within 12 months of the date of endorsement."
20. In addition the planning application has been amended to increase the amount of land safeguarded for aviation uses. The application description now reads: "Variation of conditions 1, 2, 3, 4, 5, 6, 11, 13, 20 and 25 of planning permissions 16/00965/VC and 2016133 to allow up to 47,517.5sqm (GEA) of aviation related employment floorspace and 47,517.5sqm (GEA) of general employment floorspace in use classes B1(b), B1(c), B2, B8 and changes to the development parameters, height parameters and phasing plans." This quantum of development would represent the 44% of site 4 referred to above. This application is still under consideration.

## Conclusion

21. Both the key comments set out in the council's response to the draft masterplan in the Cabinet report of September 2017, and set out at paragraphs 6 (a) and (b) above, have now been addressed satisfactorily. This report's recommendation is therefore to endorse the revised masterplan which will enable it to be a material consideration in planning decision-making.

## Integrated impact assessment



**NORWICH**  
City Council

### Report author to complete

<b>Committee:</b>	Cabinet
<b>Committee date:</b>	09/10/2019
<b>Director / Head of service</b>	Director of regeneration and development
<b>Report subject:</b>	Consideration of the draft masterplan for Norwich Airport
<b>Date assessed:</b>	25 September 2019



	Impact			
<b>Economic</b> (please add an 'x' as appropriate)	<b>Neutral</b>	<b>Positive</b>	<b>Negative</b>	<b>Comments</b>
Finance (value for money)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other departments and services e.g. office facilities, customer contact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ICT services	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Economic development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Financial inclusion	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Social</b> (please add an 'x' as appropriate)	<b>Neutral</b>	<b>Positive</b>	<b>Negative</b>	<b>Comments</b>
Safeguarding children and adults	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<u>S17 crime and disorder act 1998</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Human Rights Act 1998	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Health and well being	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Impact			
Equality and diversity (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Relations between groups (cohesion)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Eliminating discrimination & harassment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Advancing equality of opportunity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Environmental (please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Transportation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Natural and built environment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Waste minimisation & resource use	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pollution	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sustainable procurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Energy and climate change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	Impact			
(Please add an 'x' as appropriate)	Neutral	Positive	Negative	Comments
Risk management	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Recommendations from impact assessment

Positive

None

Negative

None

Neutral

None

Issues

The majority of impacts are assessed as neutral as the assessment is of the impact of the endorsement of the masterplan for Norwich Airport. However having a masterplan in place may in itself have positive impacts for the local economy by providing greater certainty about the growth of the airport.

**Norwich Airport draft masterplan June 2017:  
Norwich City Council response****Introduction**

1. Norwich City Council welcomes the publication of the draft masterplan for Norwich Airport, supporting its aspirations for expansion of the airport and welcoming the positive economic benefits that this will have for the local and regional economy.
2. In addition to its role as local planning authority for the majority of the airport site, Norwich City Council also has a landowner interest in the airport, jointly owning land within the airport boundary (Site 4 – land to the north of the runway) with Norfolk County Council. In addition the city council and county council jointly own the adjacent Norwich Airport Industrial Estate (NAIE).
3. The city council's response to the draft masterplan covers a number of key issues including the airport's growth strategy and how best this can be managed to the benefit of both Norwich Airport and the city, transportation issues including surface access (formulated with input from Transport for Norwich), the future of Site 4, and potential environmental impacts. The response also discusses the interrelationship between the airport and the NAIE and the impact of the airport's expansion.

**Future growth strategy**

4. The city council supports the growth aspirations for the airport set out in the draft masterplan and the 30 year timeframe for its expansion plans.
5. The city council is keen to assist Norwich Airport to maximise the economic potential of the airport whilst addressing environmental impacts. In order to achieve this, the masterplan must provide an appropriate strategic framework to manage airport expansion, demonstrating how this growth will be managed sustainably, which will then inform consideration of future development proposals within the airport boundary.
6. As a principle, the management of the impacts of airport expansion should be linked to the growth in passenger numbers and flights (including freight and helicopter flights), so that growth is sustainable in terms of transportation terms and environmental impact. Norwich City Council therefore expects the masterplan to address the impacts of all aspects of the airport's operations within the masterplan period to ensure that future growth will be genuinely sustainable. The council also recognises that in order to carry out its expansion plans, NA would benefit from a planning framework that provides greater flexibility in responding to changes in the aviation market and demand for flights.

7. Sustainable access is fundamental to the future growth of the airport and the assumptions made about modal shift directly impact on masterplan proposals, for example the level of parking provision. A surface access strategy is therefore required at an early stage to radically change modal shift and ensure that the expansion of the airport is sustainable in transportation terms. The masterplan should contain trigger points for provision of key surface access measures related to the intensification of airport operations. Further specific comments regarding transportation measures are set out in the Transportation section below.

8. The management of environmental impacts is also fundamental to the implementation of the expansion plans and their acceptability for residents in the surrounding area including both Norwich and Broadland council areas. In order to address this, the council suggests that the masterplan commits NA to investigate reviewing current planning controls for the wider airport site in partnership with the local planning authorities as part of the expansion strategy. This could set out principles and parameters around timing of flights which could be beneficial to NA in as it could provide it with greater flexibility in reacting to the demand for additional flights over the lifetime of the masterplan.

9. More detail on these issues is provided below.

### **Transportation issues**

10. Both the city council's planning policy for the airport (DM27 in the Development Management Policies Plan) and the Joint Core Strategy (policies 5 and 6) acknowledge the regional significance of Norwich Airport in supporting wider economic growth. The airport is of major importance as a strategic transport hub as well as being a key business driver for the local and regional economy and an employer in its own right. The JCS supports transportation improvements at the airport to expand business and leisure opportunities, to enable it to expand and cater for a wider range of international and domestic destinations. DM27 focuses on the need to enable the airport to function effectively, to accommodate a transport interchange, and to grow.

11. The Norwich Northern Distributor Road will soon provide much improved road links to the Airport site from across the sub region that will help to realise the aspirations of the Norwich Airport Masterplan in terms of passenger growth and airport development at the terminal and other sites.

12. In addition to development within the Airport boundary, developments in the vicinity are also planned. The airport's role as a transport hub should involve facilitation of travel for these developments. The Airport also has a role to mitigate any off site transport or parking issues that may arise from growth of the Airport itself.

13. As well as addressing a range of considerations related to development potential, land uses, layout, and design etc, the masterplan needs to make necessary and appropriate provision for sustainable travel through a number of measures including a travel plan and surface access strategy. Although the need for sustainable travel is acknowledged in the masterplan, the level of detail included in the document is considered insufficient to ensure that the expansion of the airport will be sustainable in transportation terms in accordance with policies

## DM27 and DM28 (Encouraging Sustainable Travel) in the Development Management Policies Plan.

14. There is currently no Surface Access Strategy for Norwich Airport. The production of such a document is a statutory requirement and it is recommended that Airport Surface Access Strategies include an analysis of the existing surface access arrangements and targets for increasing the proportion of journeys made to the airport by public transport, cycling and walking.

15. This deficiency is recognised in the Masterplan and some potential high level targets are included, as is an undated commitment to producing a Travel Plan. However, this section of the masterplan is considered to be particularly weak especially given that current access to the airport by sustainable forms of transport is generally poor.

16. It is disappointing that a full Surface Access Strategy has not been prepared alongside the Masterplan. Whilst it may not be desirable to delay the preparation of the Masterplan for this to be completed it is considered the Masterplan should contain a clear commit to producing such a Strategy within a 3 year period supported by a Transport Assessment. An update to the Masterplan may be required to ensure consistency with the Surface Access Strategy.

17. It is suggested that the Surface Access Strategy should:

- Be contiguous with the Airport's Operating area. Therefore it will include provision for the Airport Passenger Terminal, Airport Freight Terminal, any private operator e.g. Saxon Air, and Site 4 employment area.
- Reflect the intention of the city council to implement a bus/taxi link from Anson Road to the Airport loop road to facilitate two way traffic movements and the potential this brings for additional scheduled bus services to be routed via the Airport terminal.
- Acknowledge that additional highway links are also planned at Meteor Close (for completion in 2018, general traffic except HGVs) and Heyford Road (date tbc, bus/taxi/cycle only) to improve connectivity of the Airport industrial estate predominantly by bus, cycle and on foot.
- Support the Airport P&R service has a role to play in serving the Airport terminal and passengers from the adjacent Industrial estate, in particular for the Aviation Academy.
- Respond to the enhanced Norwich pedalway network which will serve the Airport terminal and nearby areas via the Purple and Yellow routes.

18. Transport Assessments (TAs) will be required to scope the changing pattern of travel at the Airport associated with its growth and inform the Access Strategy. TAs enable necessary measures to be identified to facilitate travel demand and agree modal shift objectives.

19. For example staff journeys are a very significant element of future traffic generation. The masterplan states that there is no current intention to restrict car parking for staff and that the strategy is to retain sufficient spaces at the airport for

staff. It is acknowledged that a significant number of staff do shift work however there is potential to greatly increase the numbers of staff using public transport and car sharing through increased investment in public transport facilities and other measures (see below), and to reduce future parking requirements accordingly. The masterplan is an opportunity for the airport to encourage a significant reduction in staff and passenger travel by private car.

20. The city council recommends that an initial TA is carried out to initiate the Norwich Airport's Surface Access Strategy and then at future intervals triggered by major development.

21. The Airport TA should consider:

- Adequate provision for travel by all modes
- Explore the feasibility of an Airport Transport Interchange for bus, coach, taxi, private hire, cyclists.
- Benchmarking its provision for sustainable travel against best in class comparator airports in Europe. e.g. London City Airport.

22. The current undated commitment to produce a Travel Plan should be replaced by a commitment to produce one alongside the Access Strategy as it will be an essential means of implementing the Airport Surface Access Strategy on an operational basis. The city council recommends that a Travel Plan is prepared covering the first five years following the production of a Surface Access Strategy, and then reviewed at 5 yearly intervals thereafter, or as triggered by TA revisions or major development. The council also recommends that NA should work with the Park & Ride operator to actively encourage use of this facility by staff and other businesses on the airport site, and on provision of a direct bus link to Norwich railway station too (including working with Greater Anglia). Consideration should also be given to working with key trip generators to the airport, such as the University of East Anglia (UEA) and Norwich Research Park.

23. The Airport Travel Plan should consider:

- Access to the Airport site by all modes of travel including bus, coach, taxi, private hire, cycle, walking, motorcycle, car or car share.
- Provision of high quality and accurate onward travel information from the airport, as well as high quality travel information to the airport from the city centre and other key trip generators, such as UEA and Norwich Research Park.
- Employees, visitors and passengers.
- EV chargepoints should be provided for vehicles (staff parking, passenger parking).
- Development of improved walking and cycling routes from outside of the site to the Industrial Estate and along the A140 to the NDR.

- Establishing a revised Airport P&R service that serves the terminal and provides a direct connection to the rail station.
- Funding measures to implement the travel plan such as subsidy for a new bus service to kick-start it before it becomes commercially viable, or the creation of a Transport Interchange facility, and the funding of Travel Plan officers for day to day support for sustainable travel.

### **Norwich Airport Industrial Estate**

24. The airport is adjacent to the Norwich Airport Industrial Estate (NAIE), which is a defined employment area (under policy DM16 in the Development Management Policies Plan) and is jointly owned by the city and county councils.

25. The regeneration, redevelopment and rationalisation of landholdings within the NAIE are priorities for the city council to enhance its attractiveness for businesses (including airport related businesses); the city and county councils are planning to invest in this established industrial estate. The airport already benefits from proximity to the NAIE; many occupiers are in airport related business.

26. As part of the expansion of the airport, there is potential to increase employment and local economic activity through attracting airport related uses both to the airport operational area and surrounding area. However there is little recognition within the masterplan of the importance of regenerating the NAIE, the airport's role in enabling this regeneration through improved transportation links, and the mutual benefits that this could bring to NA.

27. There is a need for improved linkages between key businesses on the NAIE and the airport (eg the proposed airport hotel and Aviation Academy are located on the NAIE both of which need links to NA but currently have no physical connections).

28. The city council considers it essential to the regeneration of the NAIE for Norwich Airport to enable the implementation of the following measures:

- All publicly accessible roads within the airport to be cycle friendly
- Anson Road to airport loop road (two-way) to serve buses, taxis and cycles is essential along with scheduled bus services

### **Site 4 (land to north of airport runway)**

29. Land to the north of the runway (known as 'Site 4') has outline planning consent for aviation related B1/B2/B8 uses (13/00520/O and 16/00965/VC). The draft airport masterplan states that this land is not required for future operational or expansion purposes and in para 9.32 proposes its removal from the airport operation boundary "...depending on market demand for aviation and/or non-aviation related development".

30. Given that the aim of the masterplan is to enable the sustainable expansion of the airport over the next 30 years, and that the wording in the draft masterplan is unclear about future aviation requirements, the city council currently considers it premature to conclude that all of site 4 may be released from being safeguarded from non-aviation uses on the basis of the lack of current market interest in



building out the consent. Site 4 represents a major opportunity for the long term resilience and success of the airport and offers the scope for new MRO operators to be attracted to the airport. The masterplan does not provide any objective evidence to support the contention that the site is no longer required for operational purposes therefore in policy terms Site 4 remains unacceptable for non-airport related development. In particular there appears to have been no longer term thinking about whether the proposed runway expansion could lead to a demand to have new or larger MRO facilities constructed on the airport.

31. It is recognised that there may be a case to release some of site 4 non aviation employment purposes, especially if this provided the infrastructure and services which increased the prospects of new major aviation relation development attracted to the remaining part of the site. However, it should be noted that the suitability of otherwise of parts of site 4 for non aviation related development will be determined by the Greater Norwich Local Plan and or planning applications and the role of the Masterplan should be confined to considering whether it should be safeguarded rather than seeking to determine acceptable alternative uses should this no longer be the case.

### **Environmental impacts**

32. The airport runway was constructed in 1940 prior to the introduction of the town and country planning system, and flights using the runway are uncontrolled unless they use the terminal buildings (ie holiday flights) which are subject to planning restrictions on hours of operation. This can lead to noise impacts during the night despite the existing restrictions. The expansion of the airport over the next 30 years including a proposed runway extension is likely to give rise to more complaints in terms of noise, air quality and ecology.

33. Noise generation is mostly an issue outside of Norwich City Council's area, particularly within the adjoining Broadland District Council parishes of Hellesdon and Old Catton but also further afield. The city council accepts that there will be some noise impact and that this needs to be mitigated through restriction in operating hours and balanced against the airport's contribution to the local economy.

34. Additional night flights are proposed for 4 nights per week during summer months. The masterplan contains some noise contour maps which indicate a moderate increase in some noise levels however the council would wish to see further evidence of projected levels of noise and disturbance in the surrounding area. A fuller noise impact assessment will need to be carried out to identify changes to the times and aircraft type, which is likely to be fully covered by any application to change usage times and extension of the runway. The noise contour maps appear to relate just to passenger flights. It is not clear what the increase in noise levels will be for all flights from the airport in the future (for example including helicopter flights and business flights), so clarification is required on this issue.

35. At present it is considered premature to indicate any acceptance or otherwise of the proposal for additional late night flights at the airport. Such a limited and specific proposal is more properly dealt with by an application seeking to vary the current planning conditions on the terminal building rather than through the masterplan which will need to be determined on its own merits.

36. Indeed it is somewhat surprising that the masterplan doesn't seek to address the issues of the airport operating hours in more substance as it is perhaps questionable how an airport handling 1.5 million passengers per year could effectively operate without any scheduled flying between the hours of 11pm and 6am. Also it should be noted that the current planning framework does allow late flying in certain circumstances and in the first six months of this year the City Council was notified of 22 instances of late flights in accordance with planning controls. In the light of this it is considered that there would be merit in exploring alternative approaches to managing the issue with a view to providing more certainty and support for the long term expansion of the airport.

37. Air quality: based on past air quality monitoring at the airport perimeter the current use of the airport does not give any air quality concerns, and increased usage is not expected to increase air pollution levels to actionable levels. An air quality assessment would be expected with any planning application; this could be a simple calculation of aircraft emissions data and increased aircraft traffic.

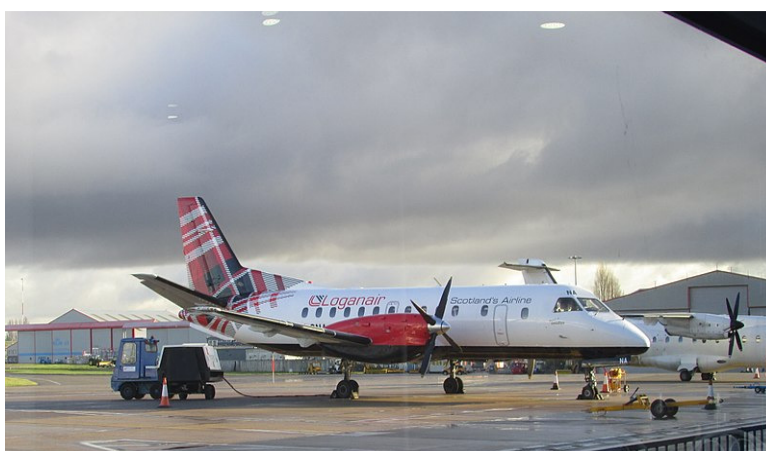
38. Ecology: although the airport site is acknowledged to be of limited ecological value, the masterplan should acknowledge that the proposed expansion could have ecological impacts on surrounding areas of higher ecology value. For example, information provided as part of the Northern Distributor Road planning application states that land adjacent to Site 4 includes a major multi-species bat roost at a barn of Quaker's Farm, a tree roost of Natterers bats, an important bat flight line at Quaker Lane and also several other potential roost trees.

39. Climate change: although the masterplan does address environmental management and the need to reduce CO2 emissions, it does not provide any data about the potential emissions that are likely to result from the growth envisaged in the masterplan. Evidence on future emissions should be provided alongside the final masterplan in order to inform any proposals about the extent of mitigation that may be necessary.

Alan Stratford Associates  
Norwich Airport Masterplan: Land  
safeguarding issues relating to  
the development of Site 4  
(January 2019)

Norwich City Council

**Norwich Airport Masterplan:  
Land safeguarding issues  
relating to the development of Site 4**



Final Report

January 2019



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# 1. Introduction

## 1.1 Study brief

This Final Report has been prepared by Alan Stratford and Associates Limited on behalf of Norwich City Council. Together with Broadland District Council, Norwich City Council is the joint local planning authority responsible for Norwich Airport.

The report provides an assessment of future land use as defined in the Airport's draft masterplan published in April 2018. This includes an appraisal of the appropriate land area to be safeguarded for future aviation use within Site 4 on the northern boundary of the airport. The overall aim of the appraisal is to critically assess evidence provided by the airport in relation to the masterplan to ensure that release of land on Site 4 for non-aviation purposes will not compromise the future growth of the airport. Historically, Site 4 has only had planning consent for development for aviation use, although the airport operator, the Rigby Group, has recently submitted a planning application to amend this to a minimum of 30,000 square metres of floor space for aviation-related use (eg aircraft maintenance hangars) and up to 65,035 square metres for other commercial use. A copy of the study objectives, is given in Appendix C.

The study has been undertaken through a review of the draft airport masterplan and its supporting documentation, including the Planning Statement accompanying the Site 4 planning application prepared by Barton Willmore and a study on the future use of Site 4 by York Aviation. Other supporting documentation provided by Norwich Airport and by Norwich City Council has also been examined, together with other publically available information eg reports on the future of the MRO (aircraft maintenance, repair and overhaul markets).

## 1.2 Overview of Norwich Airport

Norwich Airport is a former RAF station (RAF Horsham St Faith) which was transferred to civil use in the late 1960s under the joint ownership of Norwich City Council and Norfolk County Council. In 2004, the Councils sold a controlling stake in the airport to Omniport, leading it to become a hub for the budget airline, Flybe. In 2014, the Rigby Group purchased Omniport's controlling stake, making it part of its Regional and City Airports Group,

The airport offers a number of domestic routes and a service to Amsterdam operated by KLM. Charter services are also operated to some European destinations, although these are limited due to the short runway length. The airport also handles regular offshore helicopter services to oil rigs and wind turbines in the North Sea. KLM's subsidiary, KLM UK Engineering Ltd, has also established a heavy maintenance base at the airport with some five hangar bays for narrow-bodied aircraft, including B737, A320 and regional jet

types. Air Livery, an aircraft painting and refinishing company, also have hangar facilities at the airport, catering for all aircraft up to B756-300 size.

The Norwich Airport site covers some 280 hectares. The airport has one runway (designated 09/27), 1,841m in length. A shorter 1,285 m (4,216 ft) cross-runway (designated 04/22) was closed in 2006, and is now used as a taxiway (south of Runway 09/27) and parking area for decommissioned aircraft (north of Runway 09/27). The airport has nine parking stands for commercial aircraft. The current passenger terminal was opened in 1988 and was extended in 2005/2006. It is a single level building which was designed to handle 1 to 1.5 million passengers per and is believed by NIA to have a capacity of some 1.2 mppa.

In 2017, the airport handled 527,885 terminal and transit passengers, representing growth of some 4.3% over the previous year. Of these 288,639 travelled on scheduled services (including offshore helicopter flights) and 239,031 on charter services. There were a total of 37,307 aircraft movements, including 6,162 air taxi movements, 1,214 movements relating to aircraft testing and training, 1,023 by the aero club and 2,939 by privately-owned aircraft. At its busiest in recent years (2007), the airport handled 745,000 passengers per annum.

## 2. Airport masterplan

### 2.1 Overview

In line with government guidance as outlined in the Department for Transport's 'Aviation Policy Framework – 2013, UK airports are expected to publish an adopted masterplan approximately every five years. Under the guidance, it is anticipated that most airports should address the following core areas:

- Air traffic forecasts;
- Infrastructure proposals;
- Safeguarding and land/property take
- Impact on people and the natural environment; and
- Proposals to minimise and mitigate impacts.

In 2017, they embarked on this process and produced an initial draft masterplan in July 2017. This was subsequently updated following consultation with stakeholders and the general public, resulting in a further, as yet unpublished, draft masterplan in April 2018. In the opinion of Norwich City Council however, the masterplan and its supporting documentation contains insufficient objective evidence relating to the potential safeguarding of the airport on a long-term basis, particularly in relation to Site 4.

In 2013, planning consent was granted for the development of 95,035 sq m of aviation-related development on Site 4. Phase 1 of the development, which was known as the Aeropark, would be pre-let to the MRO (maintenance,

repair and overhaul) company, Air Livery, who were already based at the airport. Air Livery however subsequently withdrew from the pre-let agreement. The airport is now seeking to vary the conditions of the extant planning consent to accommodate a split between aviation and non-aviation use, with a minimum of 30,000 sq m of floorspace safeguarded for future aviation use and up to 65,035 sq m for non-aviation use. This report provides an independent view on these land safeguarding issues and on the overall land use and development options at the airport in the near and longer terms.

## 2.2 Planning context

At a national level, the policy framework for aviation is the Department for Transport's 'Aviation Policy Framework – 2013 described in Section 3.1 – although this may be superseded or enhanced by its 'Aviation Strategy'. A consultation document on this was published in December 2018.

In 2012, the government established the Airports Commission to consider the need for new airport infrastructure in London and the south east. This recommended the need for a third runway at London Heathrow. Following this, the Government published its National Policy Statement (NPS) confirming this requirement and identifying the process for building this. The NPS was ratified by the UK Parliament in June 2018 and it is anticipated that the new runway could be opened by 2026.

At a local level, the planning framework is based on the Joint Core Strategy for Norwich City, Broadland District and South Norfolk Councils and by Norwich City Council's Local Plan. Under this Local Plan, the policy regarding the development of airport land is defined under Policy DM27 (see Appendix B). This references the need to demonstrate by objective evidence that land identified for development is not required for operational airport use.

## 2.3 Air traffic forecasts

The draft masterplan considered a 30 year period for forecasting, assessment and development proposals, with a base year of 2015. The 30-year period was considered in two phases:

- Phase 1 – 2015-2030
- Phase 2 – 2030-2045

A specialist consultancy, York Aviation, was responsible for the passenger and economic forecasts. The overall preparation of the masterplan was undertaken by Barton Willmore LLP.

### 2.3.1 Passenger forecasts

York Aviation's forecasting methodology for traffic levels between 2015-2030 were based on a market-led bottom-up approach based on the underlying demand from Norwich Airport's catchment area, the Department for

Transport's 2013 aviation growth rates and other adjustments at a route level. For the purposes of the forecasts, the number of passengers travelling to oil and gas platforms in the North Sea (which accounted for some 103,000 passengers pa in 2015) was assumed to be constant up to 2030. Between 2030-2045, the forecasts were derived on Norwich Airport's overall share of the UK market, with some reduction in offshore helicopter operations due to depletion of North Sea oil. Although the draft masterplan indicates that land to the east of the airport would be safeguarded for a runway extension of 500m to enable larger aircraft types to use the airport, it is unclear whether (and when) this has been assumed within the forecasted figures.

Although forecasts beyond 2045 were not given in the draft masterplan, York Aviation have subsequently prepared longer-term passenger forecasts to 2090 in their supporting document, 'Site 4 Objective evidence report' dated August 2018. This is based on two scenarios for passenger growth between 2045-2090 (2.0% pa and 2.5% pa) excluding passengers using offshore helicopters, which are capped at 80,000 per annum<sup>1</sup>. These scenarios show a total throughput of 3.7m and 4.1m passengers per annum respectively by 2090.

York Aviation's forecasts are summarised in Table 3.1 below.

**Table 2.1 Norwich Airport – Air traffic forecasts – 2015-2090**

	2015	2017*	2030	2045	2090
<b>Annual passengers</b>	460,000	528,000	930,000	1,400,000	3,700,000-4,100,000
<b>Annual ATMs</b>	23,000	35,900	27,000	27,000	n/a

\* CAA statistics (not shown in York Aviation's analysis) – Commercial ATMs & Air Taxi movements

It should be pointed out that these forecasts are higher than the Department for Transport (DfT) 2017 Aviation Forecasts (900,000 passengers pa by 2050 under a Heathrow NW runway central scenario). The DfT forecasts do not however take account of a runway extension at Norwich Airport.

The traffic growth rates assumed between 2045 and 2090 are debatable, although it is recognised that some type of long-term forecasting is needed for land safeguarding purposes. We are unable to find any long-term air traffic forecasts beyond 2050 for the UK or indeed on a global basis. It is likely that the propensity to travel (ie the no of annual flights per person) will fall as the UK economy matures. National and international rail links are likely to improve and there may be increasing pressures to switch to more carbon-efficient modes of transport. On the other hand, new technologies such as electric aircraft and VTOL (vertical take-off and landing) aircraft may emerge. The forecasts also do not take account of the commercial and financial pressures of operating the airport, which could limit infrastructure development or even its overall viability in the future.

<sup>1</sup>This is an optimistic assumption due to the expected depletion of North Sea oil reserves (see Section 2.3.3)



On balance, we believe that York Aviation's long-term upper bound of 4.1m passengers pa by 2090, provides a sufficient margin for assessing the airport's infrastructure and land safeguarding requirement in the long term, and this figure is used in our own analysis in Section 3.

### 2.3.2 Air cargo

Due to its focus on short-haul passenger operations and the limited length of the runway for dedicated freighters, Norwich airport currently handles a very low volume of air cargo (some 332 tonnes in 2017) which we understand is mainly equipment to be transported to and from the North Sea oil rigs. Although there is a cargo depot in the southern area of the airport, this is primarily used for consolidation of road rather than air freight. We do not believe that there is any real opportunity to expand this, at least until a runway extension is built and even then we do not foresee any significant growth. As such it should be possible to use the existing cargo terminal and remote stand facilities.

### 2.3.3 Other aviation activity

In addition to the 29,742 commercial ATMs and 6,162 air charter/business aviation movements<sup>2</sup> in 2017, there were 4,857 movements by light aircraft for pilot training and leisure use. There is only one air charter operator at Norwich Airport, SaxonAir. Norwich is the closest airport for many rigs in the southern oil fields in the North Sea. However, there is likely to be some future fluctuation in the level of helicopter movements due to the extent of North Sea oil activities and the oil price. The overall level of these movements is expected to decline after about 2045 as oil reserves become depleted. Despite the current dip in North Sea helicopter operations due to the low oil price, SaxonAir has indicated that this has been offset by growth in other air charter flights. The market for business aviation, which includes both specialist air charter flights and flights by aircraft owned by major international companies, fluctuates substantially. Eurocontrol predict an average growth rate of 2.3% pa for all business aviation across Europe between 2017-2023. Norwich faces strong competition in this area from Stansted and Cambridge Airports so it seems reasonable to assume that average movement growth of around 2.0% pa might be achieved up to 2045, with a lower rate thereafter as the market begins to saturate.

The market for pilot training in the UK and for leisure flying is at best static at present. The Commercial pilot training in the UK is dominated by a handful of flight training schools, but these mainly offer ground and simulator training with only limited flying time in the UK. Much of the core flying time is subcontracted to schools in the US and in Spain, where the weather conditions are more reliable. Furthermore, unique to the UK, flight training and AVGAS is taxed. There may be some future opportunities in the single engine turboprop (SEIMC) market, which with nine or fewer passengers can operate into both licensed and unlicensed airfields. This would in turn provide

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<sup>2</sup>These include North Sea oil helicopter flights

new and faster links which by-pass increasing road congestion and overcrowded and expensive rail services.

It is difficult to predict the extent of additional facilities that may be required at Norwich airport to cater for this future demand over the next 40-50 years and beyond. There would appear to be some limited scope to extend some of the existing buildings and hangars on the south side – but it is possible that new air charter operators entering the Norwich market may prefer to have new dedicated facilities with good road access – possibly at Site 4 – although this would be subject to cost considerations.

### 2.3.4 Future MRO activity

MRO activity has been an important feature at Norwich Airport since KLM UK Engineering established a base for its narrow-bodied fleet maintenance at the airport. In many cases (apart, for example, for some component overhaul), MRO activities require hangarage, an adjacent apron and direct access to the airport itself.

The future extent of MRO activity at the airport is critical in the context of the future safeguarding of Site 4 as it is the main airport-related infrastructure requirement that potentially might be difficult to accommodate on the southern part of the airport site.

York Aviation has examined the likely future MRO market in the UK and at Norwich Airport in some detail in their report. Their key findings are as follows:

- Norwich Airport is fairly unique amongst smaller UK regional airports in having substantial active aircraft maintenance facilities provided by KLM UK Engineering Ltd and Air Livery
- There is a strong pool of skills in aviation engineering and maintenance due to these MRO companies, which is supported by the International Aviation Academy
- There is a growing trend for most western European airlines to send their aircraft to MROs in central Europe, the Middle East or Asia for heavy maintenance
- Many UK airlines undertake routine overnight maintenance (eg 'A' checks) at airports where they already have based aircraft. Examples include British Airways and Virgin Atlantic and Easyjet at Luton
- There may potentially be some retrenching of heavy maintenance back to western Europe as many qualified staff will wish to be located there due to the higher salaries – potentially presenting opportunities for Norwich Airport and other UK airports competing for MRO business
- Norwich Airport's runway length is unsuitable for widebodied aircraft without a runway extension

- The presence of an existing main MRO (ie KLM UK Engineering) may limit competition from other MRO wishing to establish at Norwich. On the other hand, there may be some synergies from a cluster of MROs (eg where there are benefits from specialist areas such as Air Livery's paint shop)
- Whilst there has been some growth in the UK MRO sector in the last 10-15 years, there have only been limited examples of new hangarage (eg Easyjet's 5,400 sq m hangar at London Gatwick and Monarch Aircraft Engineering's<sup>3</sup> 10,200 sq m hangar at Birmingham Airport).
- Many other UK regional airports, including Liverpool, Bristol, Newcastle and Leeds/Bradford, have or are considering safeguarding land for future possible MROs – although this land may also be used for commercial development and planning consent would be required.
- York Aviation cite the example of the Airport City at Manchester Airport, which occupies a site of some 52.6 hectares in comparison to Site 4's 41 hectares – but states that this does not have any MRO companies as these are located on a nine hectare site on the operational part of the airport. Most of the companies located at the Airport City are not aviation-related and, as such, this does not represent an appropriate comparison to the possible future development of Site 4.

Our overall findings largely back up most of York Aviation's analysis. In particular, we believe that Norwich Airport is unlikely to attract a sufficient nucleus of airlines and based aircraft over the next 40-50 years to establish a large number of hangars for either routine or heavy maintenance. The key issue is likely to be the lack of based airlines and aircraft at the airport to make this viable. Furthermore, in the case of heavy maintenance, it is not clear to us that there may be some retrenchment back to western Europe in the future. A report by Oliver Wyman/CAVOK<sup>4</sup> on behalf of the Aeronautical Repair Station Association forecasts that the growth in the value of the MRO sector in western Europe will grow by 1.6% pa in comparison to 10.1% pa in China, 6.7% in Asia and 5.7% in the Middle East.

In the case of the Airport City at Manchester, this is largely commercial rather than aviation-related development which we believe is driven more by good transport links rather than its proximity to the airport. However, it is noted that many aerospace and logistics companies which do not require direct airport access are often based at clusters around airports (there are good examples in the UK at Prestwick, Farnborough and Newquay airports). Given Site 4's improved access via the new Northern Distributor Road, this type of cluster, together with a small number of MROs and other types of commercial

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<sup>3</sup>Monarch Aircraft Engineering's parent company, Monarch Airlines went into receivership in October 2017. It now operates as a stand-alone company and is majority-owned by the private investment group, Greybull Capital LLP.

<sup>4</sup>[http://arsa.org/wp-content/uploads/2017/03/ARSA-OW-MROMarketAssessment-20170225\\_ES.pdf](http://arsa.org/wp-content/uploads/2017/03/ARSA-OW-MROMarketAssessment-20170225_ES.pdf)

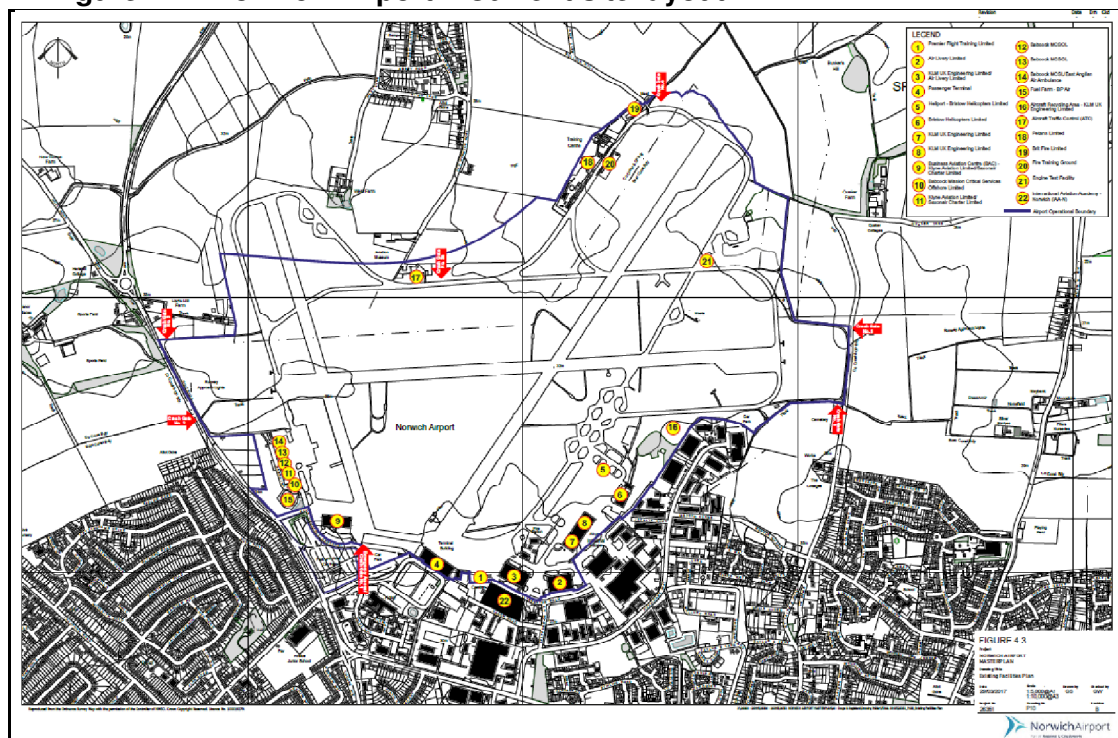
development could be feasible at Norwich airport in the future, although it would need to compete with similar clusters at other UK airports.

Based on our own findings, the implications of the potential growth of MRO and aerospace activity at Norwich in terms of land safeguarding at Site 4 are discussed further in Section 4.

## 2.4 Current airport layout

Figure 2.1 (also reproduced in Appendix A) shows the current layout of the airport site. The airport boundary is marked in blue.

**Figure 2.1 Norwich Airport – Current site layout**



Source: Norwich Airport Draft Masterplan

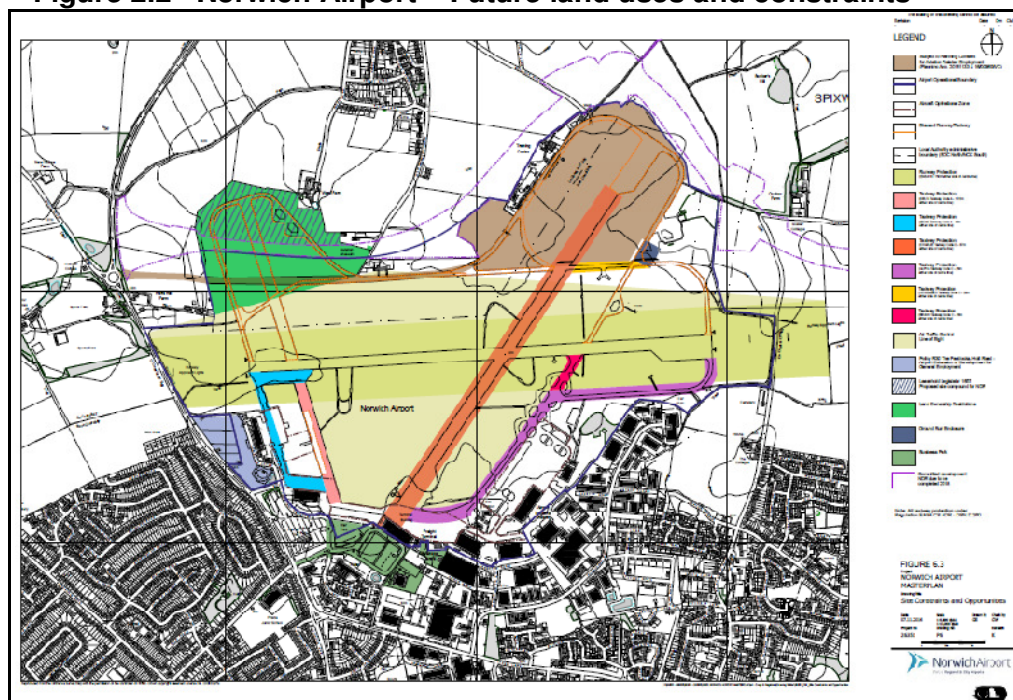
The airport is accessed from the south via Amsterdam Way from the main A140 (Holt Road). The passenger terminal (4) is located on the southern side of the airport and has adjacent short and long stay car parks with a total of 984 spaces. To the west of the airport car park is a Park and Ride car park for journeys to the city centre. This car park is managed by Norfolk County Council and is not expressly used by airport passengers or staff, although the pick-up bus does stop outside the passenger terminal.

The main runway (09/27) is some 1,841m and is aligned in an east-west orientation. There are five taxiways in current use. Taxiway A serves the Eastern apron and the 27 runway end. Taxiway C is the old cross runway and services the Northern apron (currently identified as Site 4). Taxiways D and E serve the Western apron and the 09 runway end. A small taxiway (Taxiway N) links Taxiway C to the Engine Test Facility in the northern part of the site.

The passenger terminal has a small apron with some nine contact and remote aircraft stands. To the west of the terminal there is a Business Aviation Centre (9) occupied by SaxonAir and other hangars/offices occupied by SaxonAir, Babcock Mission Critical Services and the East Anglian Air Ambulance (10-14). The airport fuel farm, which is managed by BP Air, is located at (15). To the east of the terminal, there is the Premier Flying School building (1) and various hangars/buildings occupied by KLM UK Engineering and Air Livery (2,3,6, 7 and 8). A new hangar (Hangar 9) is planned to be built adjacent to Hangar 8. Further north on the eastern side of the site but still south of the main runway, there is the Bristow Helicopters heliport and an area designated for KLM Engineering UK recycling. The new International Aviation Academy (22) is located adjacent to but outside the airport boundary. As it evident from the diagram in Appendix A, there is little room for any new airside facilities south of the main runway apart from some isolated pockets of land.

The area identified as Site 4 is in the northern part of the airfield and contains the Northern Apron which is currently used for long-term aircraft parking (designated as the grey area in Figure 2.2). A new Engine Test Facility is located close to its SW corner (dark blue area). Site 4 also contains a Fire Testing Ground, which would also be moved to the SW corner if Site 4 is developed.

**Figure 2.2 Norwich Airport – Future land uses and constraints**



Source: Norwich Airport Draft Masterplan

From a safeguarding standpoint, Norwich airport must conform to CAP 168 and EASA licensing criteria which include the relevant obstacle clearance surfaces and separations from the runway and taxiways and any height or signal constraints arising from its navigational aids including the ILS GP/LLZ, Radar, NDB and the DME. There should also be a clear line of sight across all areas of the airport from the ATC control tower, although new technologies,

such as CCTV, are being introduced at some airports where this is restricted. These issues are discussed further in Section 4.

## 2.5 Infrastructure development

In this report, we have prepared our own assessment of the likely size and preferred location of the future airport facilities, based on the forecasted passenger growth rates prepared by York Aviation and incorporated in the masterplan. This is then used to assess the reasonableness of NIA's masterplan which assumes that future aviation-related development can be located either on the southern side of the airport or within 30,000 sq m of allocated floorspace in Site 4 in the northern part of the airport. Should our assessment show that there was possibility that future long-term aviation development at Norwich airport could not be built within these constraints, then it could be necessary to safeguard a larger area than 30,000 sq m of floorspace at Site 4 for future aviation use.

### 2.5.1 Benchmarking of airport facility and land requirements

The York Aviation study examines and compares the airside land available between the terminal and the main runway and east and west taxiways at NIA with other UK regional airports which are operating at similar levels of activity which Norwich might attain in 2045. This analysis concludes that NIA has, by comparison to other airports, significantly more land area today than, for example the busier Aberdeen and Southampton Airports, at least in terms of airside areas. Both of these airports currently handle more passengers than Norwich is expected to in 2045 at 3 and 2 million annual passengers respectively. However, comparisons of gross land area are not always entirely reliable. The land required for future growth airside is largely driven by aircraft stand demand, accessibility to the runway via the taxiways system and many other factors.

To properly evaluate the feasibility of managing growth in this area we have estimated stand and terminal space demand at the two stages (2045/2090) and prepared a concept plan to test its operational feasibility. In looking at this, we consider whether it is viable to expand the terminal in its current location or to build a new one at an alternative location, either on the south side or hypothetically at Site 4, if this is preferable. We also considered the future requirements for other airport infrastructure, eg the air charter/helicopter operations base, the MRO and air cargo facilities, the flying schools etc to see whether they can be expanded in their current locations or elsewhere on the southern site of the airport – or alternatively whether land should be safeguarded within Site 4 for such use.

When preparing an airport master plan, the best approach to determining the space required for operations, and then to consider options for their provision and the phasing is to establish a probable schedule of busy period passenger and aircraft operations for the target year. Typically this would provide a projection of daily arrivals and departures describing aircraft type and payload and enable the planner to evaluate the areas of buildings and facilities, stand

numbers by aircraft type, car parking needs and so on. The master plan then aims at predicting the busy period scenario such as holiday peaks and weekends in order to minimise congestion, delay and the impact on business.

For this study it has not been possible to undertake such a detailed projection and so we have approached it by looking at a range of UK airports which today handle similar numbers of passengers to those predicted in NIA's masterplan for 2045 (1.4million) and 2090 (4.0 million annually) and examining the scale of the infrastructure which exists at those airports. Of course this method is not perfect for many reasons, particularly not knowing whether the infrastructure has spare capacity or may be operating beyond its capability.

In Table 2.2 below we have summarised data for the selected UK airports with traffic levels between 0.5 mppa (Norwich's current throughput) to 5.3 mppa (Newcastle).

**Table 2.2 Passenger throughput and stand capacity**  
**Selected UK airports - 2017**

<b>Airport</b>	<b>Annual Passengers (mppa)</b>	<b>No of Contact &amp; Remote Stands</b>
<b>Exeter</b>	0.5	8
<b>Southend</b>	1.1	10
<b>Doncaster Sheffield</b>	1.3	8
<b>Cardiff</b>	1.4	17
<b>Southend</b>	2.0	12
<b>Belfast City</b>	2.0	11
<b>Aberdeen</b>	3.0	19
<b>Leeds Bradford</b>	4.0	20
<b>London City</b>	4.5	19
<b>Liverpool</b>	4.7	22
<b>Newcastle</b>	5.3	26
<b>Norwich</b>	<b>0.5</b>	<b>9/10</b>

- Excludes MRO, GA &, helicopters

The relationship between throughput and stand numbers shows some variability and this is to be expected, particularly where throughputs are lower. Some of these airports serve more charter /holiday operation; some have tight business oriented markets with quick turnarounds. They will each have different busy-period schedules which impact upon parking needs. Nonetheless they are a reasonable guide.

There are other operational factors which impact upon apron stand and location needs. These include the mix of aircraft, whether there is a carrier based at the airport requiring overnight stands, the ratio of "remotely parked vs "contact" stands and of course the mix of aircraft types and their payloads and dimensions. Another design parameter which impacts upon the parking arrangement possible is the presence of existing and important infrastructure such as taxiways, hangars, ATC, Fire and Rescue and nav aids. At Norwich for example there are the two main and important taxiways, the Private Jet Hangar/Terminal, a future relocated DME, Fire and Rescue and the KLM hangars which require to a greater or lesser extent access to airside which



may not be obstructed or impacted upon by parked aircraft. So there are other factors which may limit and control layout options and the capacity of the space available.

The mix and type of aircraft is one of the main factors. At the busier airports listed in the table above, most of the stands are sized for a mix of mainly Code C ( e.g. Boeing 737-800 ) and some Code D ( Boeing 767) aircraft meaning aircraft with maximum wingspans of 36m and 52m respectively. For Norwich, planning ahead, we have assumed that most of the stands will be Code C and some Code C/D capable. The apron must also have sufficient capacity to accommodate equipment and vehicles to support the process and provide adequate clearances for safe manoeuvring and, as mentioned above, to safeguard access for other airside operators.

Taking into account the stand needs for the comparable airports we suggest that a reasonable stand demand forecast for Norwich looking forward might be as shown in the table below.

**Table 2.3 Norwich Airport – Forecasted Passenger Traffic and Aircraft Stand Requirements (2045 and 2090)**

	2018	2045	2090
<b>Annual Passengers (mppa)</b>	0.5	1.4	4.0
<b>No of aircraft stands*</b>	8/10	14	20

\* Mainly Code C, eg B-737 and smaller and some Code C/Deg B 767 and smaller

The passenger terminal has not yet been discussed but in terms of land and footprint requirements as it is secondary in the overall context to airside needs. In terms of location, however, the terminal does require landside/airside accessibility and so the development options are limited. The present terminal opened in 1999 and has a floor area of some 6,700 m<sup>2</sup>. At its busiest it once handled about 770,000 passengers per annum. We understand from NIA that the busiest peak hour throughput has been 1,200 passengers per hour (two-way) and that the capacity of the building is about 1.0-1.2 million annually. Although the capacity of a terminal is determined by not only its area but also layout, processing times and resourcing, we would consider this estimate of capacity to be quite reasonable.

Our estimate of the requirement for total floorspace in an extended or new terminal is as follows:

**Table 2.4 Norwich Airport – Forecasted Passenger Traffic and Terminal Floorspace Requirements (2045 and 2090)**

	2018	2045	2090
<b>Annual Passengers (mppa)</b>	0.5	1.4	4.0
<b>Terminal floorspace (sq m)</b>	6,700	8,000	20,000

## 2.5.2 Potential terminal and stand layouts

Having established the basic planning criteria we have considered the options for and the feasibility of catering for medium and shorter term needs entirely



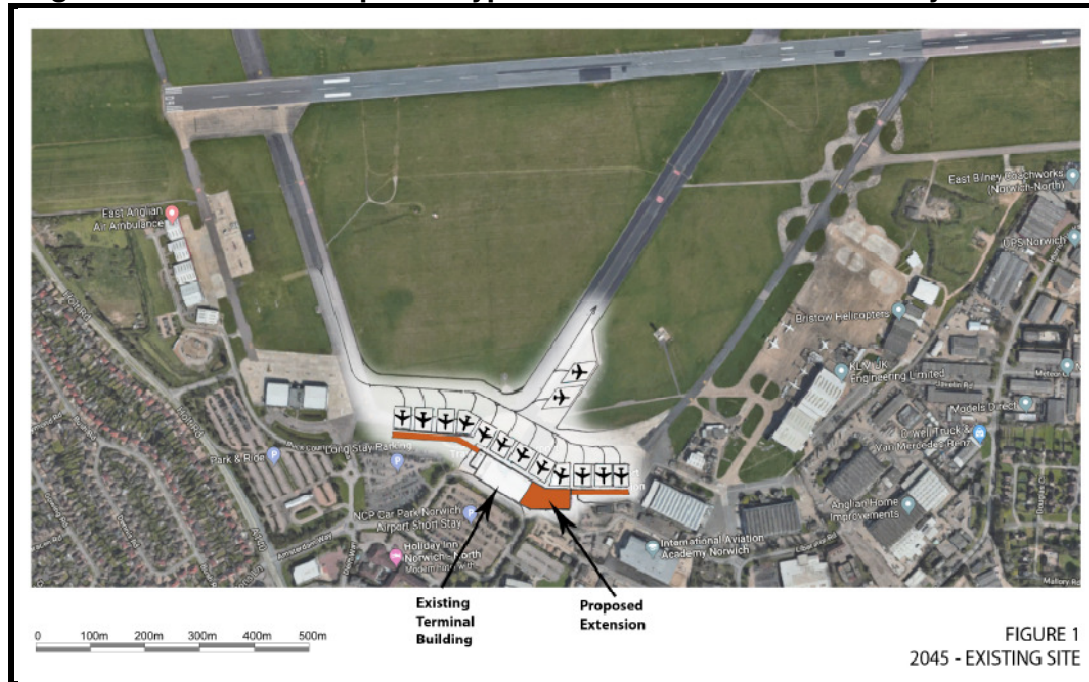
within the southern sector. This planning exercise takes into account the regulatory and design requirements for aircraft parking and manoeuvring and also the presence of important airport infrastructure, equipment and operations essential to the airports operation and business. Also important is the need to find cost-effective proposals by maximising the use of existing pavements and the terminal and the avoidance of relocation of other buildings and businesses.

### **Terminal and stand layout in 2045**

To meet 2045 demand we estimate that we would need total floorspace of some 8,000 m<sup>2</sup> for the main terminal to handle 1.4 mppa, including all public, commercial and management/operational needs. This is not significantly more than the present terminal (6,700 m<sup>2</sup>) but it has been taken into account that the terminal did earlier handle 770,000 passengers per annum and has a reported capacity of 1.0–1.2 mppa. Our hypothetical terminal area layout, illustrated in Figure 2.3 below, extends the current terminal in this first stage eastwards, requiring the demolition and relocation of the buildings currently occupied by Premier Flight Training, Norwich Airport Taxi Association and Europcar. Also shown is a covered walkway serving the stands to the east and to the west.

The option to extend eastwards is to establish a worthwhile longer term objective to provide as much terminal contact with aircraft stands as achievable and hence to fix the terminal's airside facade along the airside/landside boundary. It is estimated that the level of demand would also require some 14 stands, mainly Code C but with some Code C/D, which adds an additional 4/5 stands to today's layout. In order to contain stand provision to the proximity of the terminal we have provided four new stands to the west of the existing apron and there will be two remote stands, as already provided, on the old turning pad at the end of the old secondary runway opposite the main terminal. Additional pavement would have to be provided to the NE of the terminal to provide for aircraft taxiing from the western taxiway to the apron stands. Apart from the building removal and the need to compensate for this if needed, this hypothetical layout is entirely confined to the southern sector and does not obstruct any of the associated operations such as the SaxonAir terminal, the KLM hangars or the airport's Fire and Rescue facility.

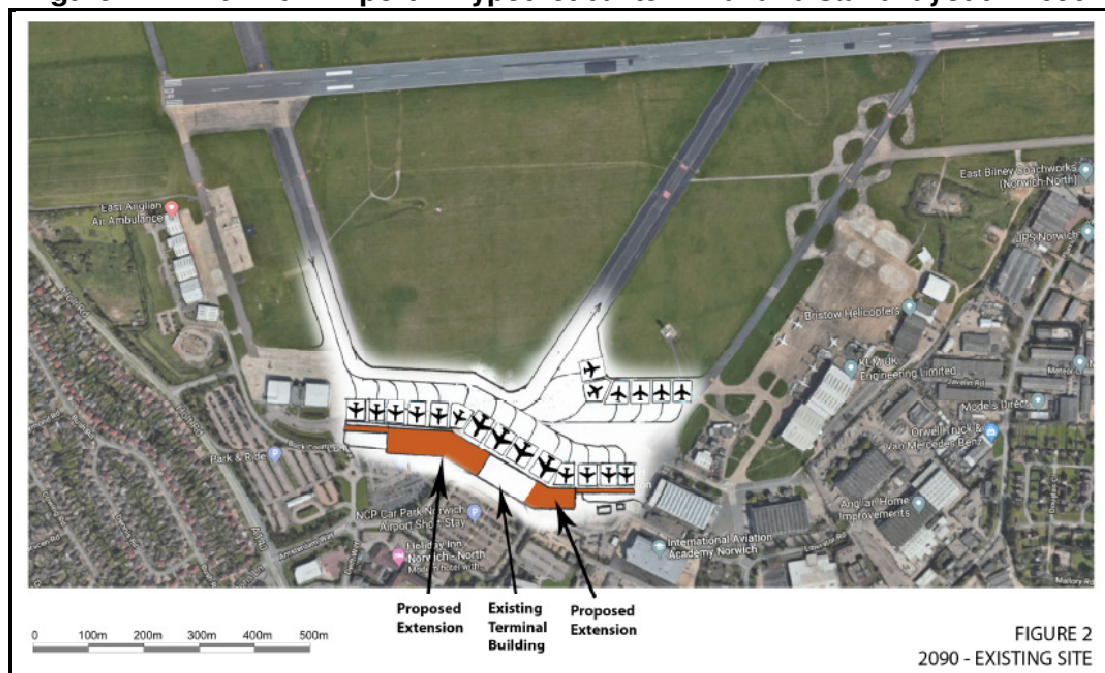
**Figure 2.3 Norwich Airport – Hypothetical terminal and stand layout - 2045**



### **Terminal and stand layout in 2090**

To meet 2090 demand (4 mppa) we estimate that total terminal floor area of at least 20,000 m<sup>2</sup> would be required. This can theoretically be accommodated by extending the existing terminal further westwards together with a short length of covered walkway to the new westernmost stands (see Figure 2.4).

**Figure 2.4 Norwich Airport – Hypothetical terminal and stand layout – 2090**



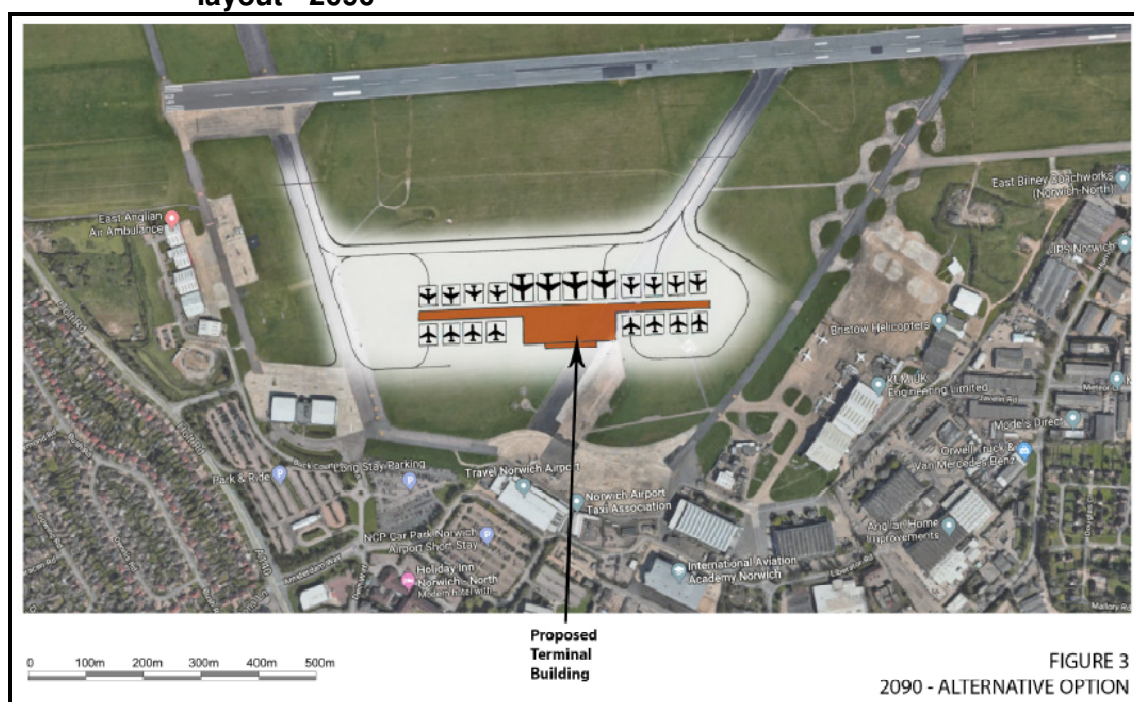
We assume that terminal floorspace in 2090 will reduce pro-rata with throughput by comparison to 2045. We would also need some 20 stands, and

again, the requirement for stands will tend to reduce slightly rather than increase pro-rata with annual throughput as aircraft will tend to get larger with increasing demand. As with 2045, the layout preserves all existing operations and will require the construction of an infill to extend the apron's eastern end northwards, as already indicated in the Master Plan. However, space is now limited in the southern zone and although it is all feasible, we will have to position 6 remote stands to the north-east to make it work.

Given that the layout in Figure 2.4 almost entirely utilises the land available without increasing the number of remote stands we have considered an alternative (Figure 2.5) which exploits the vacant airside land north of the terminal area but south of the runway.

This option has the same number of stands and terminal area as in Figure 2.4 although there are three advantages. Firstly the new terminal would be vertically segregated with a first floor level pier and a smaller footprint, which is easier to expand going further forward than a single level structure. Secondly, we have an all-contact stand solution by moving the terminal about 300m northwards with a new east-west taxiway and new apron. The added advantage here is that we release land to the south for parking/P+R or airport related development, or perhaps NAIE expansion. The third advantage is that, by constructing a new terminal whilst the existing one is in place, the disruption to the airport's operations is minimized.

**Figure 2.5 Norwich Airport – Alternative hypothetical terminal and stand layout - 2090**



The new terminal area is located so as not to infringe the regulatory (EASA) obstacle limitation requirement associated with the transitional surface for a Code 4 precision approach runway because parked aircraft and the terminal itself would be positioned 180m and 230 m respectively south of

the edge of the runway strip which is far enough to allow at least a 30m high building. The airport's PSR (Primary Surveillance Radar) and the DME (Distance Measuring Equipment) which is shortly to be moved to a new position south of the runway, may, however, need to be moved to accommodate this layout if the equipment such as a DME is still in use at this future time.

In our opinion, this alternative hypothetical option is better aligned with good longer term master planning and whilst a new terminal in this location might not strictly be necessary until passenger throughput reaches 3-4 mppa, the freeing up of land in the present terminal's location and the minimization of disruption to the airport's operations during construction suggests that a smaller scale (but expandable) terminal in this location might be built at an earlier date

### **Development of other airport facilities**

As is indicated in Section 2.4, the land area available for development of car parking, additional MRO, air charter or other general aviation facilities in the southern part of the airfield is limited. The number of car parking spaces currently available to the south of the airport is shown in Table 2.5.

**Table 2.5 Norwich Airport – Current no of car parking spaces**

	<b>No of spaces</b>
<b>Airport Short Stay</b>	590.
<b>Airport Long Stay</b>	394
<b>Airport Staff Car Parking</b>	110
<b>Park &amp; Ride (Non-Airport)</b>	1,100
<b>Total</b>	2,194

The Park and Ride car park to the south west of the terminal is owned by Norfolk County Council and is used by commuters and those wishing to access the city centre. In the longer term, it is possible that this may be made available for future airport use. There are some pockets of land on the western side of the southern perimeter of the airport which might also be used for airport car parking. Most passengers using Norwich tend to be dropped off at the airport either by private car or by taxi rather than park their cars at the airport. Whilst it is difficult to assess the possible access modal split in 50-70 years time, accommodating car parking for potentially up to eight times the current level of passenger traffic will be highly challenging and it seems likely that additional off-airport sites will be required.

In terms of other airport facilities, it might theoretically be possible to locate some buildings in the middle rather than at the edge of the southern area, although there would be obstacle clearance and navigational constraints. Operations at these facilities would also be constrained by the taxiway use. Whilst Norwich may have a relatively large land area in comparison to other UK airports, we do not agree with York Aviation that there is scope for significant development south of the runway, apart perhaps for some minor facilities on some isolated pockets of available land on the airport perimeter.



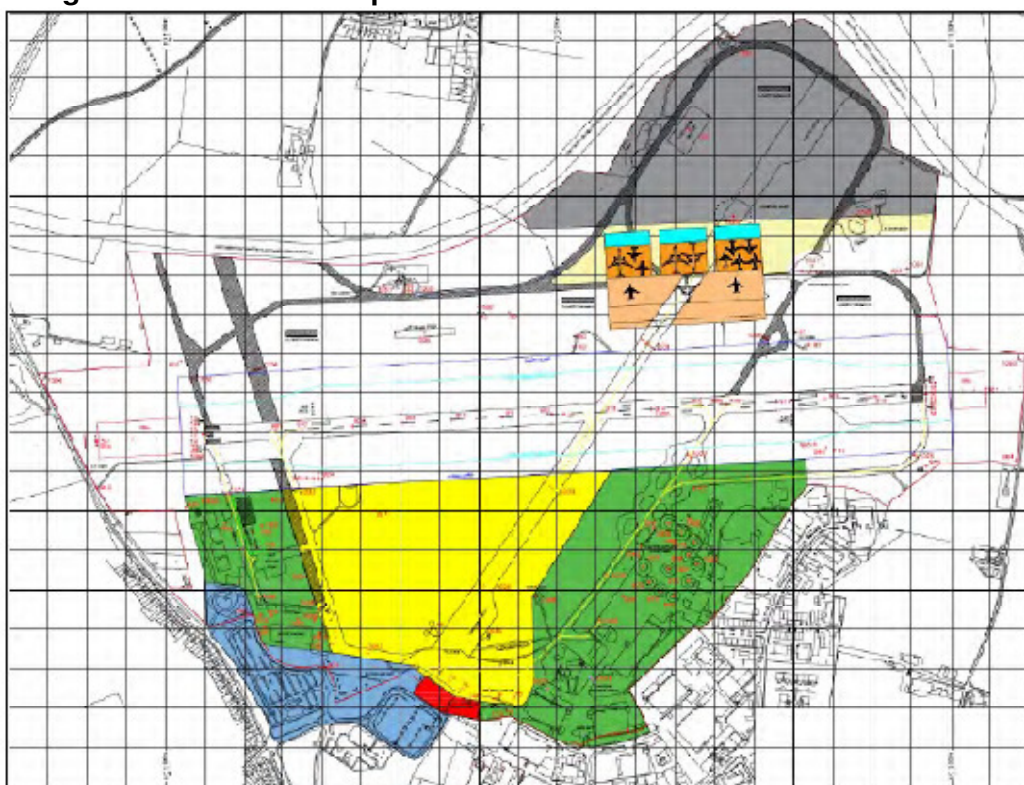
We conclude this section by restating that we do not believe it is necessary to safeguard any land in Site 4 for airport terminal or associated stand/apron development. There is sufficient land available on the southern side of the airport for such development. Although a new terminal location at Site 4 would provide improved airport access, the additional infrastructure required, including aprons and taxiways would be extensive and would be unlikely to be financially viable.

### 3. Site 4 development

Whilst York Aviation maintain that there is potential for the development of MRO, air charter and other general aviation facilities south of the runway, they also acknowledge that, in the very long-term, it is appropriate to safeguard some land in Site 4 for future aviation use. In view of the land constraints south of the runway, we have examined whether it might be prudent to reserve Site 4 for a new terminal and apron in the longer-term. This would have the advantage of good road access via the NDR, although there would only be limited land for associated car parking. On balance we feel that this option would not be financially viable and that the site could be better used for MROs and other airport facilities as required in the future.

York Aviation believe that three large-scale (10,000 sq m) MRO hangars could be accommodated on a strip of land on the southern boundary of Site 4 adjacent to the airport (see Figure 3.1). This strip of land shown represents approximately 22% of the total land area of Site 4.

**Figure 3.1 Norwich Airport - Site 4 - Illustrative aviation-related use**



We agree with York Aviation that the development of three hangars of this size should probably be an optimistic scenario, even in the long-term, although the strip of land could also be used for other airport facilities (eg a business/GA terminal), if required. Such development would theoretically be in the line of sight from the ATC control tower, although CCTV and other similar technologies could be used to overcome this.

On balance, we believe that the allocation of 30,000 sq m for aviation use and the reservation of the land strip adjacent to the airport representing 22% of the land area of Site 4 is broadly sufficient for long-term safeguarding purposes for direct airport-related infrastructure. It should however be pointed out that the types of aviation use proposed under the new planning application is wide-ranging and covers both companies and organisations needing aircraft access to the airport and those that do not require this. In this context it is possible that more than 30,000 sq m of floor area might be needed in the longer-term, if Site 4 is developed as an aerospace cluster in the future

The UK aerospace sector is the largest in Europe. According to data collected by its trade association, ADS, the UK aerospace industry has grown by some 39% over the past five years and the sector employs nearly 250,000 people directly or indirectly across the country. The UK government actively supports the growth of this sector<sup>5</sup>, with government funding available under a variety of programmes. Given that aviation use development supports the role of the airport as a whole, it is important that the spatial configuration of Site 4 enables this potential use to be maximised. Should, for example, the planning consent be granted and the 65,035 sq m of floorspace quite quickly allocated to non-aviation commercial use, the 30,000 sq m available for potential longer-term aviation/aerospace cluster use and for other potential airport facilities (eg a business aviation terminal) could be quite restrictive.

It is difficult to predict the likelihood of Norwich airport developing as an aerospace cluster. It would need to compete with similar clusters at other UK airports, including Farnborough, Glasgow Prestwick, Manchester, Newquay and Solent – although it does have an existing nucleus of MRO businesses and a specialist aeronautics college. In addition, we are advised that Norwich City Council has received a number of enquiries from both SMEs and larger aviation-related businesses<sup>6</sup> interested in relocating to Norwich, although the names of these are confidential. We would estimate that there might be say, a 25-50% probability that more than 30,000 sq m of floorspace might be needed to cover all airport-related and other aerospace development in the next 40-50 years – although this probability would increase if financial incentives are offered to firms wishing to relocate to Norwich. On this basis, we believe that there could at least be some possible constraint on future long-term aviation-related development (of all types) should this be restricted to just 30,000 sq m of floor space at Site 4.

To put the proposed Site 4 development in context, we should point out that there are other options for commercial development in Norwich, although an

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<sup>5</sup>See 'Aerospace: Sector Deal', Department for Transport, Dec 2018

<sup>6</sup> The names of these businesses are confidential

evaluation of these is beyond the remit of this study. There are a number of sites promoted for employment development through the emerging Greater Norwich Local Plan (GNLP), including Site 4. Several are in the vicinity of the airport, in Broadland District Council's area. Just because a site is promoted for inclusion in the plan there is no guarantee that this will happen. The GNLP Growth Options document, consulted on earlier in 2018, which states that Greater Norwich currently has around 340 hectares of undeveloped employment land that is allocated and permitted. The Greater Norwich Employment, Town Centre and Retail Study<sup>7</sup> concludes that, even to support an enhanced level of employment growth, the overall need for land is significantly less at 114 hectares. In this context, the land area available at Site 4 (41 hectares), despite its good road access, may seem disproportionate.

## 4. Airport safeguarding requirements

To maintain safe operations under the terms of its CAA license, Norwich Airport needs to ensure that the location of its buildings and navigational aids do not infringe EASA/CAP 168 obstacle limitation surfaces (OLS) and signal degradation control. In addition, the ATC control tower needs to have a clear line of sight across all areas of the airfield.

The land available for new facilities on the south side of the airfield will be limited by the OLS at locations close to the runway (see Figure 2.2) and there will be height restrictions for any nearby buildings due to the side slope constraints. This will restrict the development on the both the eastern and western perimeter of the southern side of the airport. In the case of any midfield development (eg the alternative terminal development option presented in Section 2.5.2), there would need to be appropriate statutory separation distances from the existing and the proposed new taxiway – although this would be technically feasible.

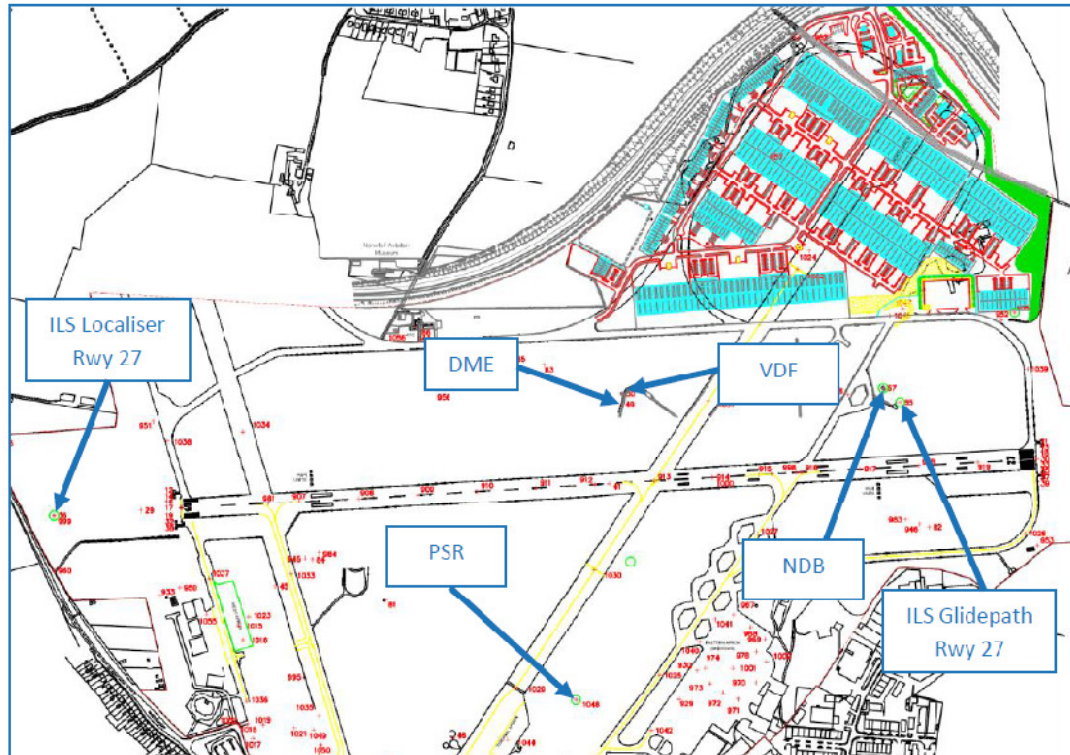
Any development of Site 4 for aviation use would also require a new apron/taxiway within the main part of the airport (ie not in Site 4 itself), with appropriate separations and clearances from the taxiway to the hangars and potentially to other buildings in Site 4. As it stands, the height restrictions in the current planning application for Site 4 are sufficient to prevent any breach of these clearances.

In addition to this, the signals from the airport's nav aids eg its Primary Surveillance Radar (PSR), the Instrument Landing System (ILS) localizer and glide path and DME (Distance Measuring Equipment), VHF Direction Finding System (VDF) and Non-Directional Beacon (NDB) can potentially be distorted by a range of factors including nearby buildings. The current locations of these nav aids in relation to the proposed development of Site 4 are shown in Figure 4.1.

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<sup>7</sup><https://gnlp.idi-consult.net/localplan/readdoc.php?docid=14>

**Figure 4.1 Norwich Airport – Current locations of nav aids**



The potential signal distortion of these nav aids was assessed by a specialist consultancy, Cyrrus in October 2017<sup>8</sup>. A subsequent report<sup>9</sup> by Cyrrus examined the potential signal distortion by the existing buildings if the DME was moved to the south of the runway (see Figure 3.3).

The initial report assumed a maximum ridge height of any buildings on Site 4 did not exceed 20m. The preliminary safeguarding assessment indicated that some of the proposed buildings in Site 4 would penetrate the safeguarding areas for all of these nav aids except the PSR and the ILS localiser as defined under CAP 670<sup>10</sup>. This safeguarding area, however, is based on a worst-case scenario of signal distortion – so Cyrrus undertook some detailed modeling of the signal shadowing and reflection impacts. This indicated that there were no significant signal distortions that would impact operationally on aircraft using the airport, although the VDF would need to be tested in flight once the buildings on Site 4 had been constructed. There would, however, be a temporary (4 seconds) loss of the actual DME signal on approach to R27 and, whilst the signal output would continue in ‘velocity memory’ mode without impacting the aircraft’s approach. As a result, Cyrrus noted that the DME might be resited south of the runway (see Figure 4.2) to avoid the impact of reflections and losses. but acknowledged that by so doing this would bring other buildings to the south and south-east such as the KLM hangars and the proposed new Hangar 9 into consideration which would need to be evaluated.

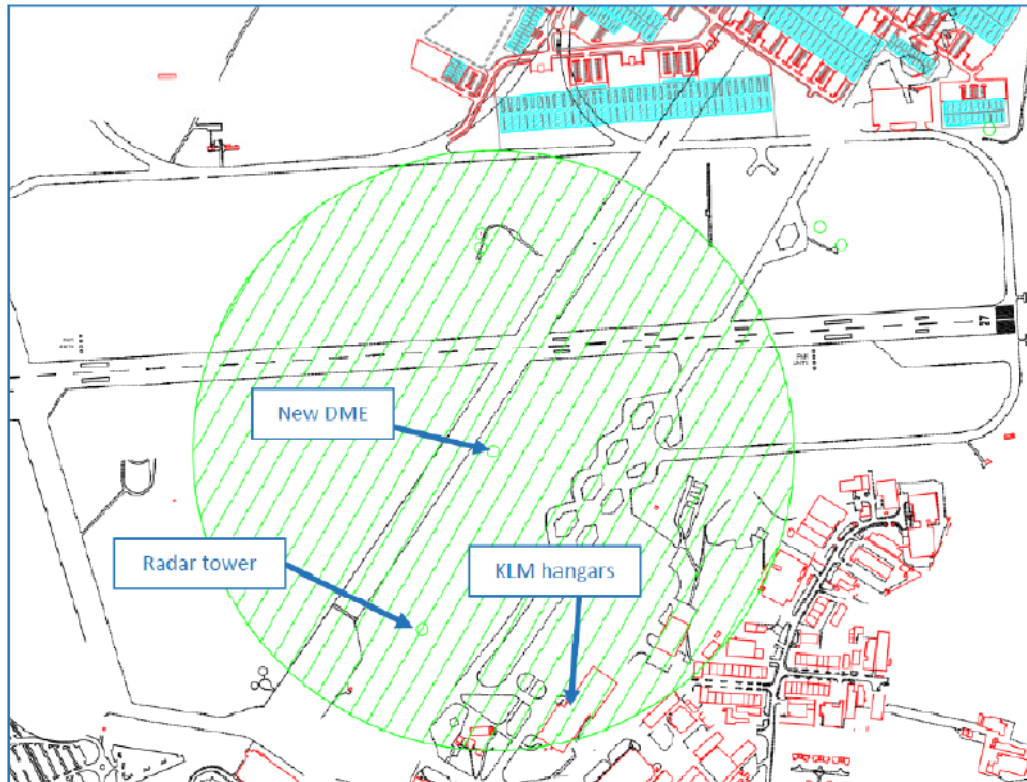
<sup>8</sup>Technical Safeguarding Report – Norwich Airport – Imperial Park Development (v10c), Cyrrus, Oct 2017

<sup>9</sup>DME Relocation Assessment – Norwich Airport – Imperial Park (v10c), Cyrrus, Oct 2017.

<sup>10</sup>UK CAA CAP 670 Air Traffic Services Safety Requirements, May 2014



**Figure 4.2 Norwich Airport – Relocated DME and safeguarding area**



In its proposed new location, the DME's safeguarding area under a 'worst case scenario' would potentially be penetrated by the KLM/Air Livery hangars as is illustrated by the green hatching in Figure 4.2. As a result of this preliminary assessment, Cyrrus undertook more detailed modeling which indicated that the signal for DME and the associated ILS localiser would not, in practice, have any operational impact on aircraft using the airport..

It should also be noted that the illustrative terminal for 2045 and 2090 shown in Figures 2.1 and 2.2 would not interfere with the DME and the associated ILS localiser signal if the DME is moved to its new position. In the case of the alternative terminal and stand layout for 2090 shown in Figure 2.3, the PSR and potentially the DME would probably need to be moved to new locations. DME equipment will, however, be superseded by GNSS (Global Navigation Satellite Systems) well before this date.

## 5. Recommendations for Airport Masterplan

In common with many other UK airports, Norwich Airport is currently preparing its masterplan in line with recommendations by the Department for Transport.

The draft masterplan prepared in April 2018 has all the essential components expected for this document, although it would normally be supplemented by a Surface Access Strategy. We understand that, following discussions with Norwich City Council, the airport has agreed to prepare this within three years of publication of the masterplan.

We recognise that all stakeholders, including Norwich City Council, have had an opportunity to provide input into the masterplan. Whilst it is recognized that the masterplan only covers the period 2015-2045, we feel that some reference to the longer term safeguarding and land use requirements at the airport need to be shown in the main document as this underpins how the airport could be developed up to 2045. This could be a short summary of the key points raised by York Aviation and ourselves on this issue.

Otherwise, we feel that the draft masterplan generally fulfils its purpose – although we note that other airport masterplans have provided additional detail on the future infrastructure requirements (eg the passenger terminal and stands) and have indicated how new technologies (eg passenger and baggage screening, self check-in kiosks etc) will be used in the future. We also note that other airport masterplans show how the airport engages with the local community, not just in the masterplanning process but also on an ongoing basis

## 6. Key findings and conclusions

Our main findings and conclusions as a result of this study can be summarized as follows:

- (1) York Aviation has proposed that a strip of land on the southern side of Site 4 adjacent to the airport should be safeguarded for aviation use. This represents approximately 22% of the land area of Site 4. They indicate that this would be sufficient for three MRO hangars each with 10,000 sq m of floorspace. The hangar apron facilities and a through taxiway would need to be constructed to the south of Site 4.
- (2) The future long-term needs of new aviation-related infrastructure at the airport are very difficult to predict and will depend on its future air traffic growth, the nature of its based airlines, the financial position of the airport operator and the future opportunities for Norwich to develop an aerospace cluster.
- (3) We have examined the need for new MRO and other airport facilities in the context of the likely long-term growth in passenger traffic, business/general aviation and in the MRO market and, in the light of this, we have assessed what proportion of Site 4 should be retained for airport-related infrastructure. In this context, we have shown that it would technically be feasible to expand the existing passenger terminal on the southern side to the east and to the west and build additional contact and remote stands to cater for up to 4 mppa. Although the likely demand is difficult to predict, there is likely to be a lack of onsite car parking space at from around 2 mppa upwards. An alternative, operationally feasible and expandable option at a future stage may be to build a new terminal to the north west of its current location, thereby freeing up some land for car parking at the existing terminal site, although this would be subject to cost considerations.

- (4) In view of this, we do not believe it is necessary or cost-effective to use Site 4 for a new passenger terminal. The need to build new MRO facilities at Norwich is difficult to predict in the longer-term. There will be a requirement for some new hangar facilities at UK airports, although we believe that these will largely be for routine rather than major maintenance. On the one hand, with its International Aviation Academy and its existing MRO businesses, Norwich may have a pool of trained staff suitable for additional MRO facilities. However, due to the relative size of Norwich Airport, the number of based airlines and aircraft will be limited, thereby making it difficult to switch aircraft into and out of service in comparison to possible MRO locations at other airports.
- (5) In isolation, we would regard the provision of three additional 10,000 sq m MRO hangars at Site 4 to be an optimistic scenario. However, the combination of potential floorspace requirements for new airport facilities such as a business aviation FBO (Fixed Based Operator), new MRO hangars and other aerospace sector industrial development over the next 40-50 years could exceed 30,000 sq m.
- (6) We would regard the scope for significant aviation-related development beyond the proposed 30,000 sq m allocation to be limited, except perhaps in the event of development of an aerospace cluster at Norwich Airport. Typically such clusters are located at or near airports and comprise a range of different aerospace businesses which may or may not require direct airport access. The proposed definition of 'aviation use' under the proposed planning conditions for Site 4 includes all types of aerospace businesses. However, the proposed 30,000 sq m of floorspace and the strip of land allocated for aviation-use would be inadequate for a sizeable aerospace cluster, particularly if other areas of Site 4 had already been developed for other commercial uses.
- (7) The UK aerospace industry is the largest in Europe and, according to data collected by its trade association, ADS, grew by some 39% over the past five years. Expansion of the sector is supported by a variety of government funding programmes. It is difficult to predict the likelihood of Norwich airport developing as an aerospace cluster over the next 30-40 years. It would need to compete with similar clusters at other UK airports, including Farnborough, Glasgow Prestwick, Manchester, Newquay and Solent – although Norwich does have an existing nucleus of MRO businesses and a specialist aeronautics college. In addition, we are advised that Norwich City Council has received a number of enquiries from both SMEs and larger aviation-related businesses interested in relocating to Norwich, although the names of these are confidential. We would estimate that there might be say, a 25-50% probability that more than 30,000 sq m of floorspace might be needed to cover all airport-related and other aerospace development in the next 40-50 years – although this probability would increase if financial incentives are offered to firms wishing to relocate to Norwich. On this basis, we conclude that there could at least be some

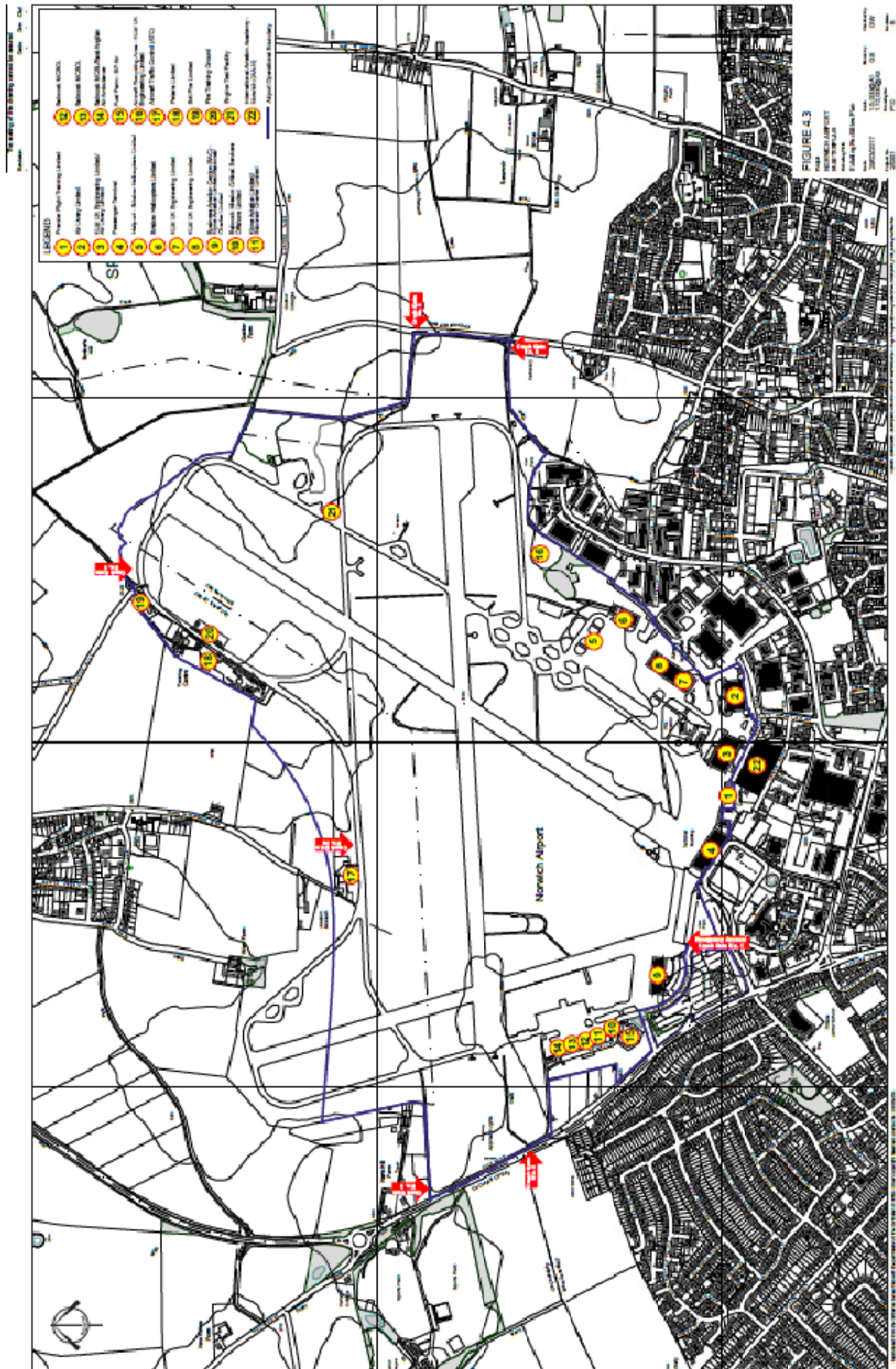
possible constraint on future long-term aviation-related development (of all types) should this be restricted to just 30,000 sq m of floor space at Site 4

- (8) Whilst we recognise that Norwich Airport has submitted a planning application to vary the consent for Site 4 for a hybrid of aviation and commercial development, we note that it is one of a number of possible sites for commercial development identified in the Greater Norwich Local Plan (GNLP).
- (9) We have reviewed the work undertaken by Cyrrus on the safeguarding requirements for the navigational aids (navaids) at Norwich and their implications in terms of the proposed building development at Site 4. Cyrrus has carried out some detailed modeling on the expected navaid signal degradation assuming a maximum building height of 20m. They concluded that there would be no major operational impacts for aircraft using the airport – although there would be a temporary loss of signal from the DME (Distance Measuring Equipment) used by aircraft on approach to Runway 27. However, the Cyrrus report concluded that with minor adjustments and controls, the developments proposed need not cause any degradation of Category 1 approaches or any other impact upon the safety of the airport's or aircraft operations.
- (10) Following this, Cyrrus also considered the possibility of moving the DME to an equivalent position south of the runway. Whilst the safeguarding area required at this location would technically be slightly infringed by the existing KLM hangar (and the proposed new Hangar 9) under a 'worst case scenario, further modeling of the DME signal suggests that there would be no operational impact on aircraft using the airport. Although Cyrrus did not specifically conclude that moving of the DME is not strictly necessary, the detail of their report indicates that this is the case.
- (11) Further studies would be required to assess any possible safeguarding infringements for the navaids due to any additional buildings at the airport, particularly if the central area is used for a new terminal at some future date.
- (12) We believe that Norwich Airport's draft masterplan as it currently stands incorporates the main components expected in a UK regional airport masterplan – although this still needs to be supplemented by a Surface Access Strategy. Further detail on certain aspects could, however, be provided eg on future infrastructure requirements (eg terminal expansion and stand requirements) rather than just land use planning to 2045, although we acknowledge that any development of the airport is subject to cost constraints. Other UK airport masterplans also stress other initiatives such as the use of new technologies and environmentally-friendly airport operations. We also believe that some reference to the longer term safeguarding and land use requirements at the airport need to be shown in the masterplan itself as this

underpins how the airport could expand up to 2045 as well as how it might develop beyond this date..

## Appendix A

Norwich Airport –Current layout  
(Per Draft Masterplan)



Appendix B  
Norwich City Council  
Policy DM27 – Norwich Airport





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# Development management policies

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## DM27 development at Norwich Airport

### **Policy DM27 Norwich Airport**

Within the airport boundary falling within Norwich city, as defined on the Policies map, development will be permitted where it is for:

- a) airport operational purposes;
- b) uses ancillary to the function of the airport; and
- c) facilities providing improved transport links.

and where proposals would not conflict with the overall sustainable development criteria set out in policy DM1 of this plan or the requirements of policy DM28 in relation to sustainable travel.

Where necessary, development must include mitigation measures to reduce impact on neighbouring uses.

Development for alternative uses will not generally be supported in advance of the endorsement of an agreed masterplan for the airport, including a Travel Plan and Sustainable Access Strategy, or it is otherwise demonstrated by objective evidence that land is not required for operational Airport use.

### **Supplementary text**

27.1 The NPPF states that when planning for ports, airports and airfields that are not subject to a separate national policy statement, plans should take account of their growth and role in serving business, leisure, training and emergency service needs. Plans also should take account of the principles set out in the relevant national policy statements and the Government framework for UK aviation.

27.2 Norwich International Airport is of major importance as a strategic transport hub, a key business driver for the local and regional economy and an employer in its own right. Located at the northern edge of the city on the A140 abutting Hellesdon, Catton and Horsham St Faith, its operational boundaries extend further north into Broadland district.

27.3 Norwich was one of the 30 national 'Major airports' identified for potential growth in the 2003 aviation white paper The future of air transport. Further development of the airport and other regional airports in the south-east was supported in principle to cater for local demand, subject to relevant environmental considerations. Local and strategic planning policy for the airport is thus founded on the expectation of potentially significant, albeit responsibly managed, expansion.

27.4 The JCS sets out the strategic planning context for Norwich International Airport, identifying it as a principal provider of international connections from the area. It supports improvements at the airport to expand business and leisure opportunities and provide for expansion of services to a wide range of international and domestic destinations.

27.5 The government's Aviation policy framework was published in March 2013. It seeks to take account of the positive and negative impacts of aviation, achieves a sustainable balance between them and integrates aviation policy with wider government objectives, including delivering sustainable economic growth, combating climate change and protecting the local environment.

27.6 Alongside its advice on planning for airports and its strong emphasis on facilitating economic growth, the NPPF stresses the need for planning to support reductions in greenhouse gas emissions. Developments that generate significant movement should be located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. Local planning authorities should ensure that opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure, and show that safe and suitable access to the site can be achieved for all people.

27.7 As a result of the strategic priorities set out in the JCS, the airport policy focuses on the need to enable the airport to continue to function effectively, to accommodate a new transport interchange and to grow. This includes meeting the needs for growth in passenger numbers, freight, offshore operations, executive travel, general aviation and maintenance, repair and overhaul (MRO) activities.

27.8 The city council acknowledges the critical importance of airport expansion in supporting wider economic growth in and improving transport links to and from the Norwich area as set out in the JCS. However it is essential that such growth should be planned and managed sustainably. It is clear that detailed considerations of development potential, layout, design, zoning and the disposition of uses and their interrelationship need to be addressed in a comprehensive masterplan alongside a travel plan and an airport

surface access strategy (a statutory requirement) which makes appropriate and necessary provision for sustainable travel.

27.9 All of these are seen as critical by the city council and its partner planning authorities in order to put in place an appropriate strategic framework to manage airport expansion and inform the consideration of future major development proposals within the airport boundary. In advance of a masterplan, any significant development proposals at the airport would be required to maximise sustainable access and provide for integrated travel planning as recommended by the NPPF and required by policy DM28 of this plan.

27.10 The Airport company have confirmed their intention to begin work on a comprehensive masterplan in 2015. In advance of this, neither this local plan nor the equivalent one in Broadland (both with partial coverage of the airport) can pre-empt the process by imposing a masterplan or stipulating what must be in it, albeit that any masterplan prepared by the airport company would need to be endorsed by both Norwich city and Broadland district councils. In the interim, a development management policy for the airport must necessarily be fairly flexible and deal only in broad principles, sufficient to deal with any ad hoc planning applications pending the emergence of the masterplan, also having regard to the relevant policies of this plan and those of other local plans.

27.11 The airport is a major employer in its own right and is adjacent to a large industrial estate, jointly owned and managed by the city and county councils, which is a defined employment area under policy DM16. Many occupiers are in airport related business. The JCS identifies the need for a further 30 hectares of new business park land for airport related employment. Such a large area of land will not be available within the city council boundaries and accordingly major new employment development may need to be accommodated in adjoining districts or by redevelopment providing more efficient use of land in existing employment areas. To enhance facilities and increase its attractiveness for airport related businesses, beneficial regeneration, redevelopment and rationalisation of landholdings within the Airport Industrial Estate (alongside improved transport and access links between the estate and the airport itself) are priorities for the city council.

27.12 At present, strategic access to the airport is poor. The JCS proposes access enhancements through the Northern Distributor Road (NDR) and public transport improvements on the A140 corridor to the city centre. This would require a public transport interchange at the airport and may include the relocation and expansion of the present airport Park and Ride to a site to the north, adjacent to the NDR. Government funding for the first stage of the NDR from Postwick to the airport was confirmed in December 2011: this funding allocation is conditional upon progress being made on the sustainable transport elements of the Norwich area transport strategy, which include bus rapid transit and improvements for cycling and pedestrians within the Norwich urban area. As of Autumn 2014 the NDR is going through the formal development consent and examination process for nationally significant infrastructure projects and (subject to consent being issued) is expected to be completed in 2017.

27.13 Whilst most of the airport's anticipated needs can be met within the present airport boundaries, the Site allocations plan also proposes an area of land between the airport and the A140 (The Paddocks – site R30) as a potential extension. In addition, the present park and ride site has been included within the airport boundary as the JCS and NATS implementation plan make provision for the park and ride site to be moved. The revised policy designation within the airport boundary would not extend the current operational land of the airport. Development of these sites would not therefore have the benefit of permitted development rights covering the rest of the airport.

27.14 To provide for short-term development needs within the airport boundary, the policy restricts development firstly to operational uses, such as new hangars and extension to buildings; secondly to those non-operational uses which support the airport's function, such as training facilities and offices supporting airport uses and thirdly to transport improvements. More major developments, in particular the JCS's requirement for expand business and leisure opportunities, are unlikely to be appropriate for consideration as ad hoc planning applications and the council's expectation is that such major development proposals must be assessed in the context of a masterplan.

## References

- NPPF: CLG, 2012: Section 4: Promoting sustainable transport: accommodate the efficient delivery of goods and supplies; provide infrastructure to support sustainable economic growth, support reductions in greenhouse gas emissions and congestion; consider the growth and role of airports in serving business, leisure, training and emergency service needs, Travel planning for developments which generate significant amounts of movement.
- National Planning Practice Guidance, CLG 2014: Travel plans, transport assessments and statements in decision-taking.
- JCS policy 6: Access and transportation.
- JCS policy 9: Strategy for growth in the Norwich Policy Area.
- White Paper: The Future of Air Transport, Department for Transport, December 2003.
- Aviation Policy Framework, Department for Transport March 2013.

## Related items

Downloads

Services

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## Appendix C

### Study brief

## **Study objectives**

The aim of this commission is to critically assess the evidence provided to date, to ensure that the release of land on Site 4 for non-aviation purposes will not compromise the future growth of Norwich Airport, which could have wider implications for the economic growth potential of the greater Norwich area.

This review should include:

- Review of the quantum of land needing to be retained at Norwich Airport for aviation related development over the longer term (including assessment of whether 2090 is an appropriate timeframe), including that specifically required on Site 4;
- Review of safeguarding restrictions on the airport site and other operational needs, including the proposed relocation of the radar equipment (DME), to provide an understanding of how this could potentially affect location of aviation related development in the future for both land to the north and south of the runway;
- An understanding of the extent to which land to the south of the runway can meet some of the additional needs;
- A review of submitted options for configuration of future aviation related development on land to north and south of the runway; and
- Make recommendations for proposed changes to the airport masterplan, if needed, in relation to the future need for aviation related development.

The study will involve liaison with Norwich Airport in relation to safeguarding and other issues.



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