LiverpoolJohn LennonAirport

Faster. Easier. Friendlier.

Liverpool John Lennon Airspace Change

ACP-2015-09

Gateway documentation:

Stage 2 Develop and Assess

Step 2ai and Step 2aii- Options Development and Design Principle Evaluation Addendum

V1.1

Roles

Action	Role	Date
Produced	Airspace Change Specialist	August 2023
Reviewed Approved	Air Traffic Control Lead Designer	August 2023
Reviewed Approved	Head of Environment, LJLA	August 2023

Drafting and Publication History

Issue	Month/Year	Changes this issue
1.0	Aug 2023	Published to the CAA online portal
1.1	Oct 2023	Following CAA Gateway Feedback, the following has been updated: • Section 1.2.5 updated to clarify that although 8 interactions were identified through the LJLA, Manchester airport, NERL and ACOG workshops, only 3 interactions required updates to the LJLA submission. • New footnote page 10, justifying why the choice of radar data dates. • Figures 5 and 7 updated to show correct dates for data. • Section 4.1- Explanation provided to explain larger stakeholder list that the original Stage 2 submission. • Section 4- updated to list what DPs have been impacted when it has been stated that feedback will be considered in the DPE • Annex A- DPE methodology updated to explain why similar criteria are used to assess different DPs • Assessment matrix title updated to ANNEX A - LJLA Options assessment matrix. • Annex A- VEGUN S1 and VEGUN S2 DP 2 assessment typo corrected (CCO to CDO).

References

Ref No	Description	Hyperlinks
1.	FASIN-LJLA– progress through CAP1616	Link
2.	Stage 1: Statement of Need	Link
3.	Stage 1: Design Principles Report	Link
4.	Stage 2: Step 2ai- Options Development	Link
5.	Stage 2: Step 2aii- Design Principle Evaluation	Link
6.	Stage 2: Initial Options Appraisal including Safety Appraisal	Link
7.	CAP1616: CAA Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information	Link
8.	CAA Airspace Modernisation Strategy AMS (CAP1711)	Link
9.	Stage 2 Engagement Presentation	Link

Contents

1 Introduction

1.1 About this document

This document presents additional airspace design options to those already submitted in the Liverpool John Lennon Airport (LJLA) sponsored Airspace Change Proposal (ACP), ACP-2015-09. A full history of the LJLA ACP is included in section 1.2 below. This airspace change will make changes to the airport's arrival and departure routes alongside associated airspace structures within the Manchester Terminal Manoeuvring Area (MTMA).

The options included within this submission are in addition to the previously progressed list of options and successfully progressed through Stages 2 and 3 of the CAP1616 airspace change process and reflect the changes in the airspace arena since the LJLA ACP was paused at Stage 4a in November 2020.

This document should be read in conjunction with the following documents describing the additional options for consideration as well as the previous Stage 2 submission documents:

- Previously Approved Step 2ai- Options Development (Ref 4)
- Previously Approved Step 2aii- Design Principle Evaluation (Ref 5)
- Previously Approved Step 2b- Initial Options Appraisal including Safety Appraisal (Ref 7)
- Step 2b- Initial Options Appraisal including Safety Appraisal Addendum

The options described in this addendum, combined with the options previously submitted and progressed, make up the comprehensive list of options for this airspace change. Only the additional options are described in this addendum submission, as the previously progressed options remain valid.

The Airspace Change Master Plan forms part of the Government's Airspace Modernisation Strategy (AMS, see paragraph 1.3 below). LJLA is located in the MTMA cluster of airports. As part of the modernisation process and following feedback from other air traffic control units, additional airspace design options were identified; this document describes those design options. It will describe the additional engagement that has been undertaken as well as any describing how that feedback was or will be incorporated into the design options.

In addition, it provides a revised baseline and traffic forecast to ensure the documentation remains relevant to the current operation. The additional options are evaluated against the original agreed Design Principles in similar manner to the original design options.

The 2 Annex documents, this one and Step 2b- Initial Options Appraisal including Safety Appraisal Annex were submitted to the Civil Aviation Authority (CAA) in August 2023 for inclusion in the CAA Gateway Assessment meeting on Friday 28th September 2023.

All published documents for all stages of the process can be found in the CAA's public Airspace Change portal (Link to the page for this proposal).

1.2 History of the LJLA ACP

LJLA commenced an ACP in February 2018 to modernise the way the airspace is used around LJLA, migrating to satellite-based procedures and to systemise the operation of the airspace. This started with the submission of the Statement of Need (SoN) to the CAA.

1.2.1 Statement of Need (SoN)

The SoN is the first step to completing an airspace change within the UK. It sets out what the airspace issue or opportunity it is seeking to address. The SoN should include a description of the current situation, the issue or opportunity to be addressed and what has caused this issue or opportunity. The design concepts described within this documentation strive to address the SoN. The LJLA SoN is published on the CAA airspace change portal here.

The SoN was originally submitted prior to the Covid-19 pandemic, which had a worldwide impact on aviation including LJLA. Our aspiration in the SoN remains: use modern navigation technology to increase flight efficiency and deliver environmental benefits.

1.2.2 Design Principles (DPs)

The DPs and priorities were set following engagement with representative stakeholder groups and feedback received as part of CAP1616 Stage 1. The design principles and their relative priorities are published on the CAA airspace change portal here. shown below.

The CAA have requested the following additional DP with the same priority as safety be included in all Future Airspace Strategy Implementation (FASI) changes:

DP	Priority	Category	Description
16	=1	AMS	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it. (Note: The CAA have stated that this DP is required by all change sponsors. CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable - the need to maximise the utilisation of existing runway capacity)

Table 1: Additional Design Principle requested by the CAA. This DP and the original 15 DPs available here will be used to evaluate the proposed options against

For full details of Stage 1, please refer to the portal page here. Stage 1 was successfully completed November 2018.

1.2.3 Previously agreed Design Options

LJLA have previously proposed, evaluated and submitted design options which addressed the SoN. In addition to the baseline options, these previous options included:

- 15 Departure options
- 7 Transition options and
- 6 Approach options

Following Design Principle Evaluation (DPE) and an Initial Options Appraisal (IOA) these options were shortlisted with the following options remaining:

- 12 Departure options
- 7 Transition options and
- Approach options

For full details of the previous Stage 2 work please refer to the portal page here. Stage 2 was successfully completed June 2019.

1.2.4 Previous Consultation

LJLA undertook a 14 week and 1 day public consultation on the original shortlisted options between 19th January and 27th April 2020, which included two public drop-in sessions on the 12th February and

a11th March 2020. The main vehicle for the consultation was the CAA Portal which was available 24/7. Following the consultation, the categorisation and response document was submitted to the CAA October 2020. The consultation identified design challenges that would require additional design work with adjacent airspace change sponsors plans which were unable to be investigated due to staff availability during the Covid-19 pandemic. At this stage LJLA elected to pause their ACP to wait for neighbouring ACP designs to mature, to progress the design considerations identified during the consultation.

1.2.5 Return to Stage 2 and Design Methodology

During the time the LJLA ACP was paused, the neighbouring Airspace Change Sponsors within the MTMA (particularly Manchester Airport and NERL) have made further progress on their ACPs. The Airspace Change Organising Group (ACOG) was commissioned by the Department for Transport (DfT) and the CAA to coordinate the redesign of airspace in the UK and a National Airspace Master Plan has been developed which forms part of the Government's Airspace Modernisation Strategy.

To ensure the extant LJLA options originally proposed aligned with this Master Plan, ACOG facilitated a meeting between LJLA, Manchester Airport and NERL on the 9th June 2022 to review the Original LJLA Design options. This meeting identified 8 interactions which were not sufficiently covered within the original submission. A subsequent workshop on the 11th July 2022 reviewed these interactions and identified where additional options within the LJLA submission would be required to support this national program. Of these 8 identified interactions, only 3 were identified that required new options to be considered.[1] This has led to the development of the 2 new transitions and 8 SID options to address these interactions described herein in addition to the previously assessed options.

This information was used by Subject Matter Experts (SMEs) to propose lateral tracks that mitigated these interactions. The options are presented as swathes to ensure flexibility exists to develop the options during Stage 3. Following Stakeholder feedback the swathes were reviewed to ensure that the feedback was addressed or updated when needed.

These additional options are described within this addendum document. Therefore, to synchronise with the other MTMA Sponsors and the Airspace Change Master Plan, LJLA have taken the radical option to partially revisit Stage 2 of CAP1616. This partial re-visit of Stage 2 focussed on the changes resulting from the introduction of the Airspace Change Master Plan, and the maturing ACPs of other Sponsors that influence the further development of the LJLA ACP.

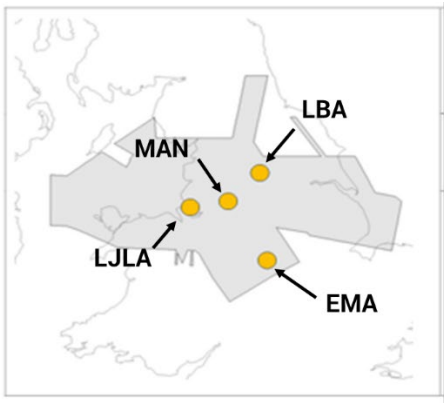
LJLA have agreed with the CAA and ACOG that the options previously considered remain valid and do not need to be revisited. However, to align with the National program of work, some specific options were identified which required inclusion with the LJLA submission to align with the other sponsors within the MTMA cluster.

1.3 The UK Airspace Modernisation Strategy (AMS) and the UK Airspace Change Master Plan

The AMS (CAP1711) sets out the 'ends, ways and means' of modernising airspace through a series of 'delivery elements' that will modernise the design, technology and operations of airspace. One of the delivery elements contained within the AMS is a redesign of terminal airspace (UK-ABN/2). This design element encompasses the previous program of work called Future Airspace Strategy Implementation (FASI) which includes the Manchester Terminal Manoeuvring Area (MTMA) redesign.

The UK Airspace Change Master Plan is a high-level coordinated implementation plan which has identified 3 Regional Clusters (Scottish TMA, MTMA, London TMA) of interdependent Airspace changes. The LJLA airspace change sits within the MTMA regional Cluster with implementation planned for 2027/28, see Figure 1.

[1] These 3 interactions, listed in Section 4 below, are consistent with those included within Section 5.11 of the Manchester Airport Design Options Report, ACP-2019-23.



Interdependent Masterplan ACPs
- **Liverpool (LJLA, This one)**
- Manchester (MAN)
- East Midlands (EMA)
- Leeds Bradford (LBA)
- NERL MTMA

Figure 1: The MTMA regional Cluster and associated airports.

The alignment of the proposed design options with the AMS will be determined through a qualitative evaluation by experienced SMEs. This will be based on balancing capacity provision, noise impacts and flight efficiency.

The options included within this submission are fully aligned with the guidance set out in the Master Plan.

1.4 Potential interactions with other FASIN ACPs and aerodromes within the vicinity of LJLA

The LJLA ACP has the potential to interact with the ACPs submitted by the other members of the MTMA regional Cluster. These ACPs are as follows:

- Manchester Airport - Manchester Airspace Modernisation - Departures and Arrivals (FASI) (ACP-2019-23)
- East Midlands Airport - East Midlands Airport Future Airspace (FASIN & S) (ACP-2019-44)
- Leeds Bradford Airport - Leeds Bradford Airport (FASI) (ACP-2021-066)
- NERL- Future Airspace Strategy Implementation - MTMA (ACP-2019-77)

In addition, the following aerodromes and their users have been identified as stakeholders for this change:

- Blackpool
- Warton
- Manchester Barton Aerodrome
- RAF Shawbury
- RAF Woodvale
- Ashcroft Aerodrome
- Sleap Airfield
- Tilstock Airfield

The sponsors contained within the MTMA Cluster as well as stakeholder aerodromes not pursuing an ACP have been engaged with throughout the CAP1616 process thus far (see Appendix B: Engagement Evidence). LJLA regularly engages with the MTMA cluster sponsors to ensure that the designs proposed are compatible with the airports known aspirations or extant procedures.

There is potential for interactions across these interdependent ACPs which may lead to compromises and or trade-offs. These will be considered further at Stage 3 of the CAP1616 process.

1.5 ACP Categorisation Level

Under CAP1616 the CAA categorises ACPs by assigning them a “Level”, which in-turn influences the process that is required to be followed. The Levels are primarily based on the altitude and area in which the changes occur and are defined in CAP1616 (Ed. 4) Table 2 (page 26).

This is a change to the low-level, (below 7,000 ft) routes in the vicinity of LJLA. As such, in accordance with the CAP1616 guidance, it is anticipated that this will be categorised as a Level 1 ACP.

2 Introduction to LJLA

LJLA is situated to the north of the river Mersey in Speke, approximately 7 NM to the Southeast of Liverpool City centre. There is a single strip with an asphalt surface that can be used for aircraft to land and take off in either direction, making two runways. The first where aircraft land and take off facing in a westerly direction, runway 27, and the second where they land or take off in an easterly direction, runway 09 (Figure 2).

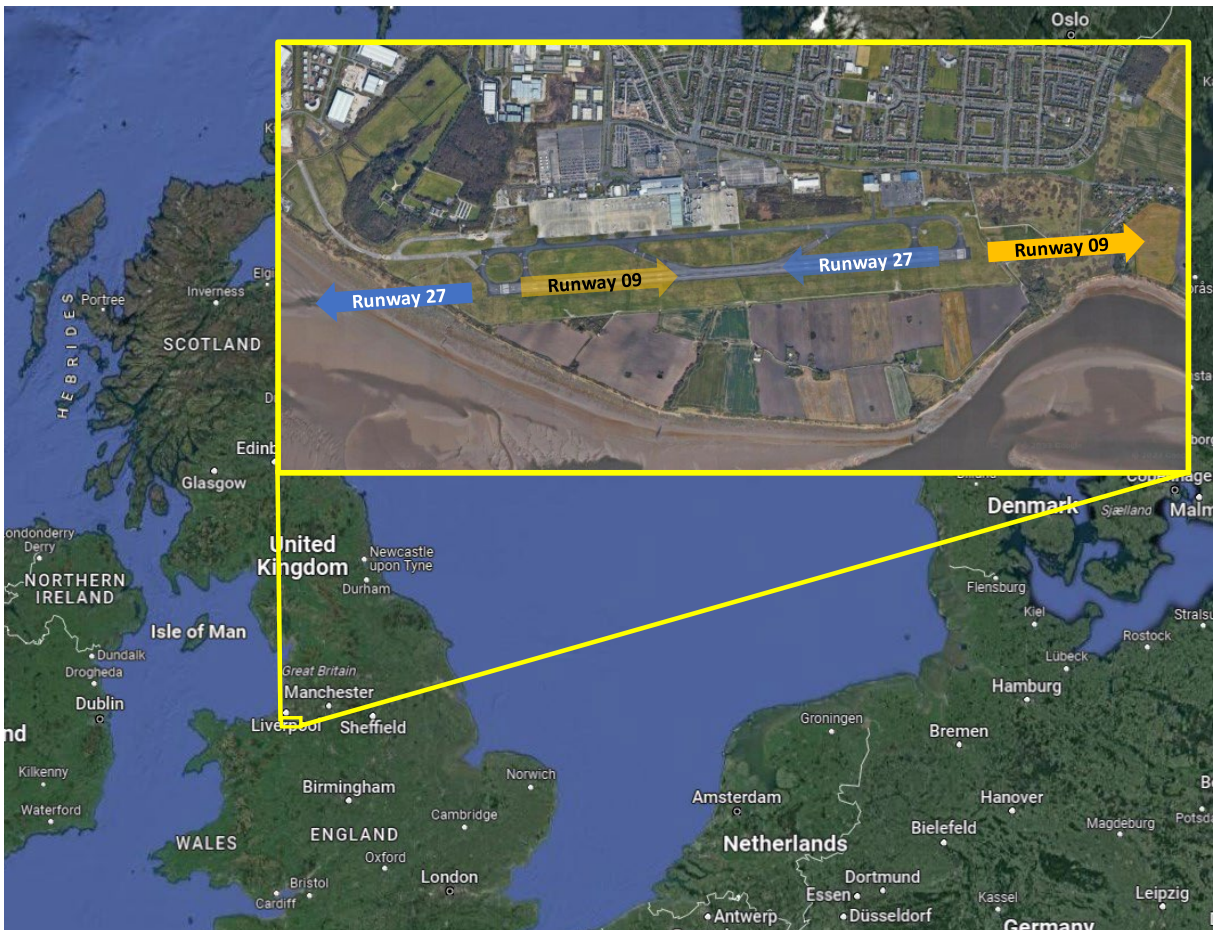


Figure 2: Google Earth map showing the location of LJLA and the runway orientation

The runway in use is determined by the prevailing wind conditions, aircraft usually take off and land into the wind. In the UK the wind predominantly comes from the west, therefore LJLA operates predominantly in a westerly operation or using runway 27. In 2022, 77.5% of aircraft departing LJLA did so from runway 27. It can be assumed that a comparable percentage of flights arrived using runway 27.

2.1 LJLA Current Operation

Airports are responsible for their own local route network, connecting the runway to the ATS route network. This is typically in airspace up to c. 7,000 ft. Above this level, NATS En-Route Ltd (NERL) is responsible for the airspace.

Government (DfT) environmental guidance published in the Air Navigation Guidance (2017) details altitude-based priorities for airspace changes. In summary:

- Below 4,000 ft minimising the impact of aviation noise should be prioritised, with preference given to options which are most consistent with existing arrangements.
- Between 4,000 ft - 7,000 ft minimising the impact of aviation noise should be prioritised unless this disproportionately increases CO_2 emissions.

- At and above 7,000ft the reduction of CO_2 emissions is prioritised, and the minimising of noise is no longer the priority

This DfT guidance and altitude-based priorities is an important part of all ACPs and helps the reader to understand the balances between the impact of aircraft noise and the consideration of greenhouse gas emissions such as CO_2.

2.1.1 Current Air Traffic Movements, Aircraft Types and Carriers: 2022

The baseline description of the LJLA operation provided in the original Stage 2 documentation remains valid. However, this description was provided prior to the Covid-19 pandemic and therefore LJLA considers it prudent to provide a revised traffic description.

LJLA serves a mixture of commercial and general aviation (GA) flights. In 2022, LJLA had 46529 movements [2], approximately half were arrivals and half were departures. This was comprised of 26,980 commercial flights and 19,549 GA flights. LJLA has a seasonal variation in their traffic. Traffic is higher in spring and summer, lower in winter and autumn, with traffic peaking within the summer period, in July and at its lowest in January. LJLA monthly departures for 2022 are shown in Figure 3.

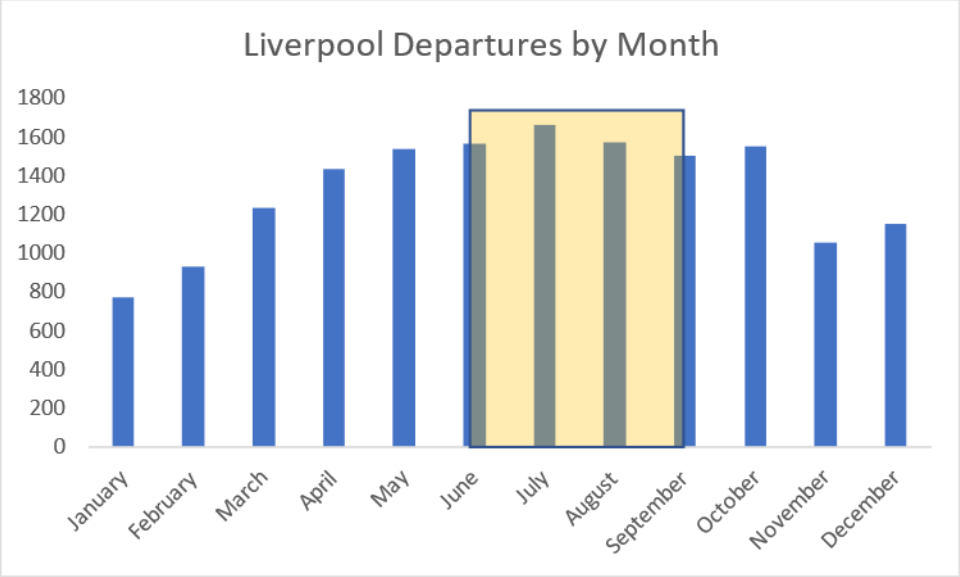


Figure 3: Central Flow Management Unit (CFMU) data [3] showing LJLA planned departures for 2022. The summer period is highlighted in a yellow box.

Arrivals

Instrument Flight Rule (IFR) aircraft arriving at LJLA from the ATS network are directed towards one of 2 holds serving the airport. The route aircraft plan to fly from the network to the holds are called Standard Arrival Routes or STARs. These STARs and the holding structures associated with them are being updated as part of the NERL ACP (NERL MTMA ACP). However, the current structures and STARs demonstrate the direction aircraft currently arriving at LJLA (Figure 4). Aircraft arriving at LJLA do not routinely enter the hold. This depends on the current airspace situation, and ATC usually expedite their landing by tactically vectoring [4] aircraft from the procedure before they enter the hold.

[2] A movement is counted when an aircraft either lands or takes off.
[3] Central Flow Management Unit (CFMU) data provides a record of all Instrument Flight Rule (IFR) flight planned flights.
[4] Issued with headings, levels and speeds by ATC to control where the aircraft is flying

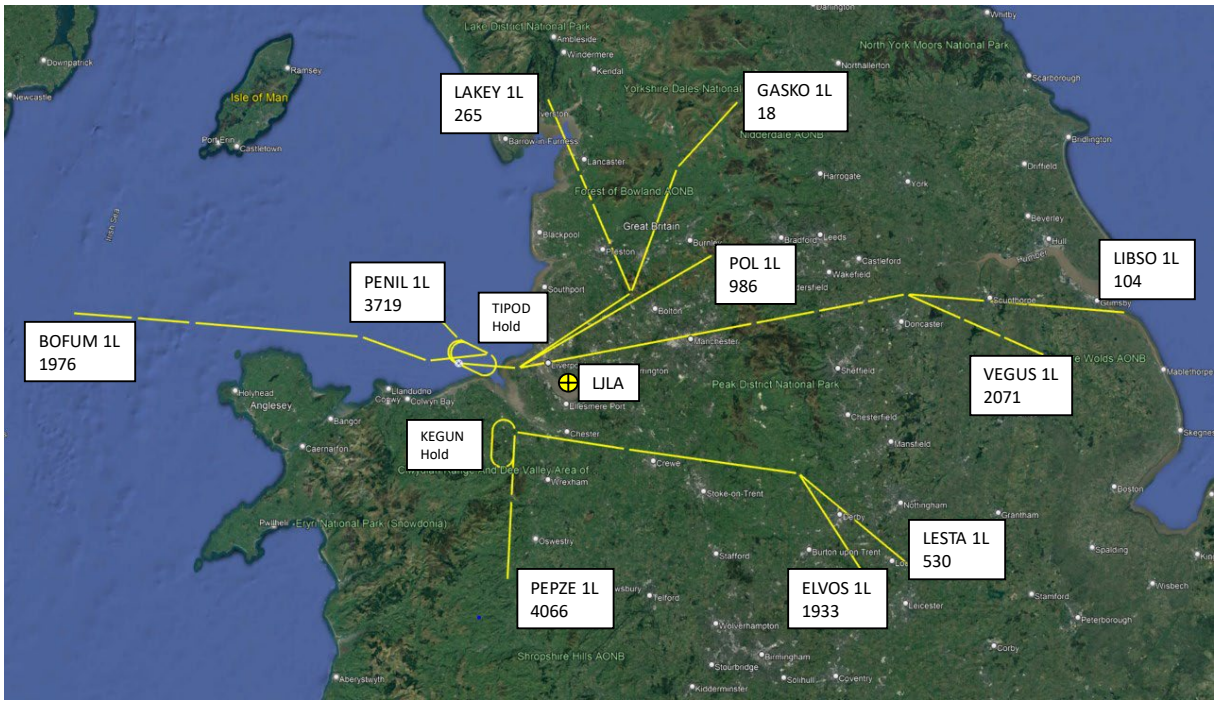


Figure 4: Google Earth map showing the STARs and Holds associated with LJLA. The STARs were revised in 2022 and early 2023. The current STARs are shown and traffic numbers flying the STAR from 2022 have been assigned to the current day STAR.

Radar Density plots from August 2022[5] (Figure 5), a busy summer period, demonstrates the majority of aircraft arriving at LJLA do so without holding and it is common to vector aircraft before reaching the hold.

There are no published procedures for aircraft to follow from either the KEGUN or TIPOD hold and aircraft rely on ATC vectoring for this period of flight. The radar plots demonstrate that the current operation results in a large dispersal of flights following a typical landing pattern. The general flows can be seen in Figure 5, however vectoring causes natural dispersion meaning that the specific track of each aircraft within that flow from the hold to final approach is not predictable. Traffic density increases as aircraft are closer to the runway as aircraft are able to have less variation in their location. Aircraft require a period of stable flight on final approach to ensure they are able to land safely.

[5] Although July was a busier month for LJLA (Figure 3) we were unable to source the July 2022 radar data due to limitations in how the raw data is stored. However, we consider the August data as fully representative of a busy summer month, both in numbers and traffic presentation. Regarding easterly vs westerly, CFMU data indicated there were only 6 days with predominantly easterly traffic in August 2022. The radar processing software we use is unable to process data from different months so we could not present a full week for easterlies.

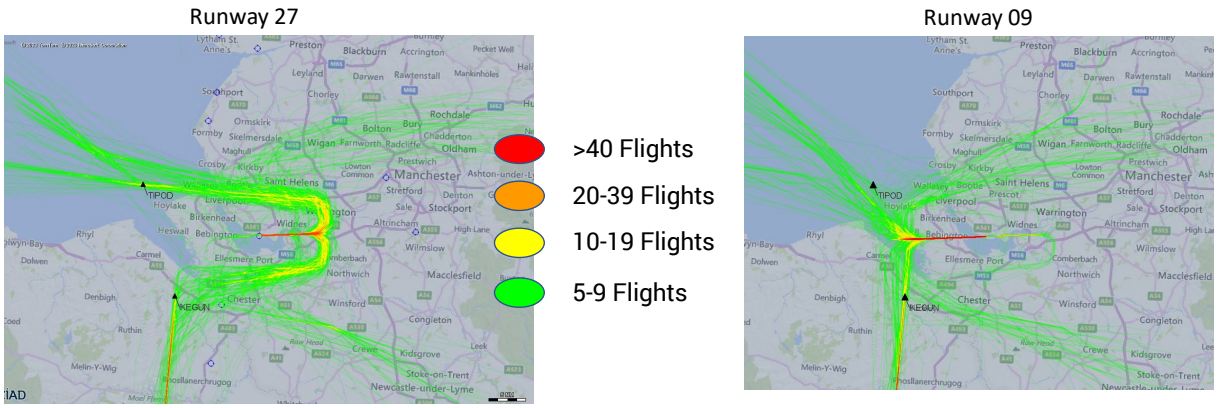


Figure 5: Radar Data for aircraft arriving at LJLA on Westerlies (Runway 27) and Easterlies (Runway 09)

Departures

IFR aircraft departing LJLA do so using a published procedure called a Standard Instrument Departure (SID). A SID is a published procedure which details how aircraft get from a runway to the Air Traffic Services (ATS) route network. These published SID routes are what will be discussed in this submission. Separate procedures for Visual Flight Rule (VFR) aircraft exist but these will not be updated as part of this submission.

IFR aircraft departing LJLA join the ATS network at one of 5 SID endpoints. These are locations or waypoints where the published SID procedures finish. As a SID is specific to a runway in use, LJLA currently has 10 SIDs published (Figure 6) providing this connectivity:

Figure 6: Google Earth map showing the SIDs departing LJLA. The SID's end letter determine which runway the SID relates to- a T for runway 27 or a V for runway 09.

The LJLA SIDs include a published end altitude of 4,000 ft. However, aircraft departing LJLA achieve this altitude early along the SID path and are routinely climbed early to continue their flight. Aircraft are required to carry fuel for the published procedures and therefore are carrying excess weight resulting in less efficient flight.

The LJLA SIDs are referred to as "conventional SIDs". This means that the track over the ground is defined using signals from ground-based radio beacons rather than modern satellite navigation-based procedures known as Performance Based Navigation (PBN). Generally, "conventional" flightpaths tend to be somewhat dispersed around the published track, with PBN tracks tending to be followed more closely.

Radar Density plots from August 2022 (Figure 7), a busy summer period, demonstrates most aircraft departing LJLA do so via the published SID routes albeit climbing above the published end altitude. The radar data also demonstrates that ATC tactically intervene to provide expeditious routings away from the published routes when able.

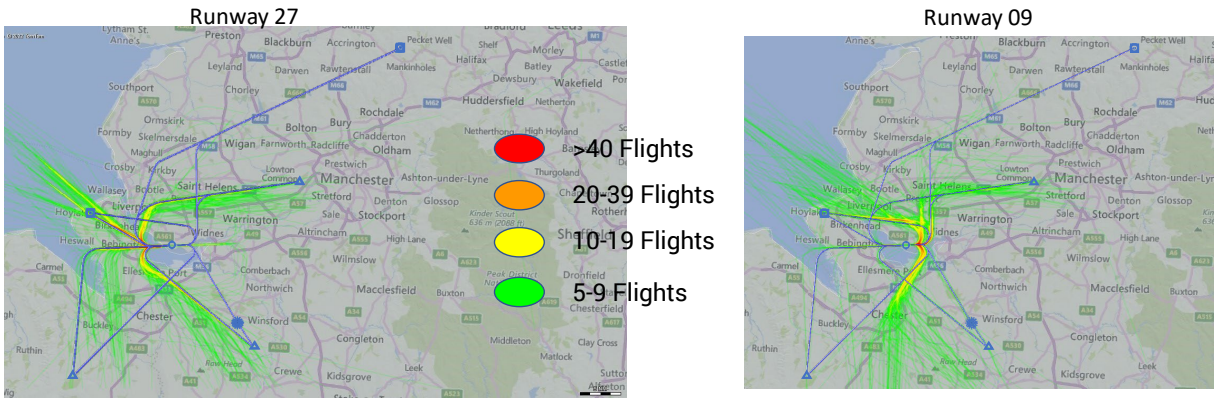


Figure 7: Radar Data for aircraft departing LJLA on Westerlies (Runway 27) and Easterlies (Runway 09)

LJLA is used by a selection of aircraft including jet, turbojet and piston engine aircraft. In 2022 the most common commercial aircraft types were narrow-bodied twin jet engine aircraft such as a Boeing 737 family and the Airbus A320 family see (Figure 8).

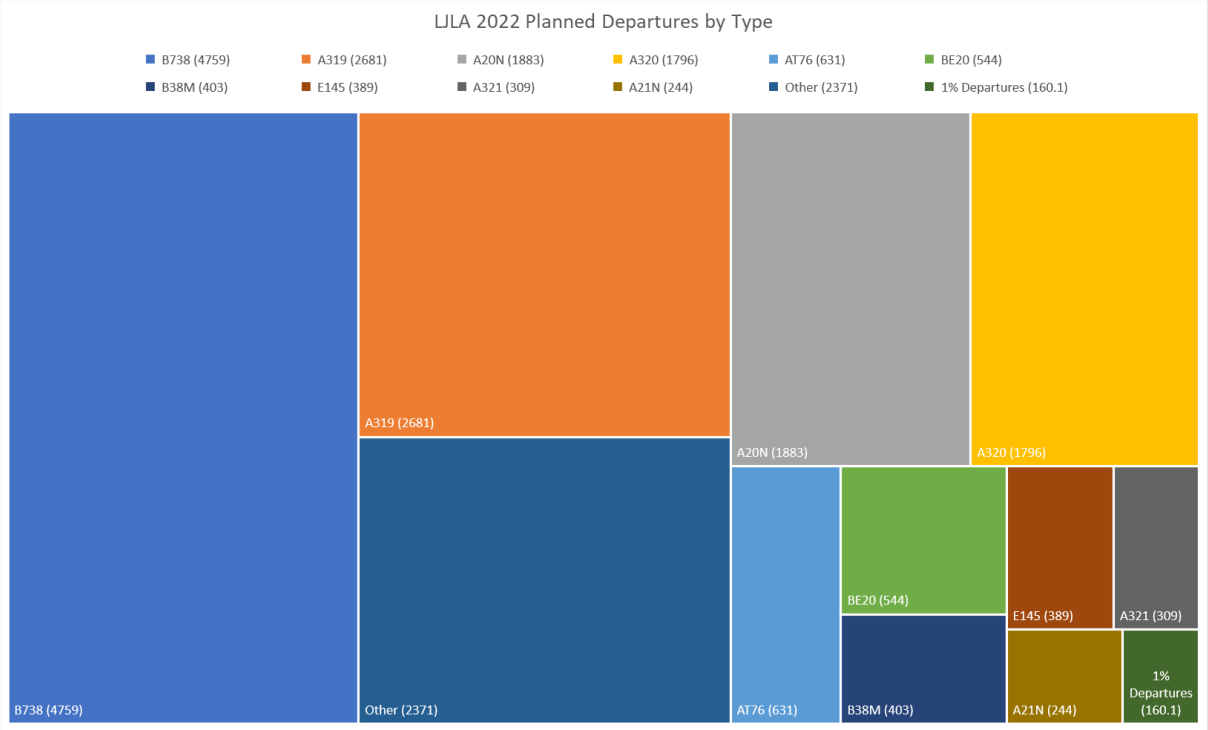


Figure 8: LJLA 2022 Planned Departures by Type, only aircraft accounting for >1% of departures are shown separately. Aircraft types with <1% departures are grouped together as "Other". A 1% departures square is included as a reference.

In 2022, 7 commercial carriers operated more than 100 flights from LJLA with most flights operated by easyJet and Ryanair (Figure 9). In the future, additional carriers may provide a service from LJLA. For example, in May 2023, Jet2 announced that LJLA would be a new base for the company from March 2024 serving 20+ destinations.

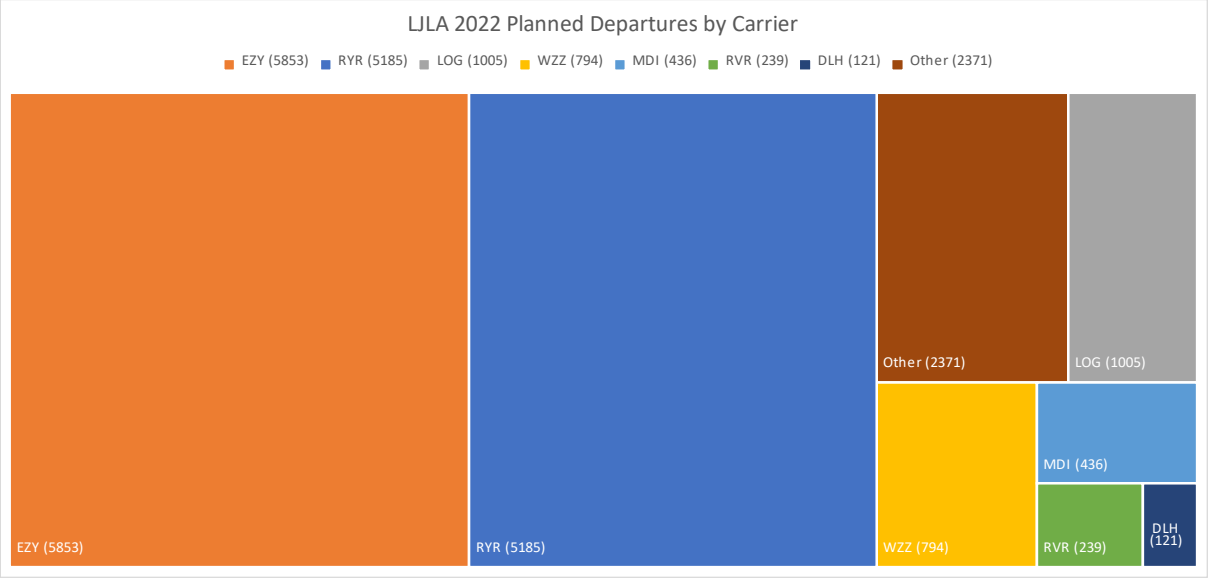


Figure 9: LJLA 2022 Planned Departures by Carrier, only carriers with >100 planned departures are shown separately.

Due to the impact of the Covid-19 pandemic on the aviation industry, a revised forecast is provided below based on the most recent and credible data, 2022- the baseline year. The next years presented are the 2027 forecast- the current planned year of implementation for this ACP, and the subsequent 10 10 years. LJLA expects commercial movements at the airport to grow at 3.3%. This is based on the International Air Transport Association (IATA) passenger forecast. It is not possible to forecast GA

movements, but they are not expected to significantly change. Any known new business, such as Jet2 is included in the traffic forecast shown in Table 2:

Year	Commercial Movements	General Aviation
2022	26,980	19,549
2027	39,568	20,000
2028	40,738	20,000
2029	42,082	20,000
2030	43,471	20,000
2031	44,906	20,000
2032	46,388	20,000
2033	47,918	20,000
2034	49,499	20,000
2035	51,133	20,000
2036	52,820	20,000
2037	54,563	20,000

Table 2: Forecast traffic for LJLA. Commercial aviation is expected to grow at ~3.3%. It is not possible to forecast GA movements and therefore it is assumed that GA movements will remain constant.

3 Airspace Constraints

This section describes the geographical and ATC constraints for the current (baseline do-nothing) option and provides additional rationale for the designs proposed.

3.1 Adjacent Air Navigation Service Providers (ANSPs) and Airspace Constraints

LJLA is situated within an airspace region known as the Manchester Terminal Manoeuvring Area (MTMA). The MTMA contains 3 commercial airports (listed in bold) and is within close proximity to 6 others (Figure 10):

- LJLA (Liverpool Airport)
- Manchester Airport
- Manchester Barton
- Woodvale
- Hawarden
- Blackpool
- Warton
- Leeds Bradford
- East Midlands Airport

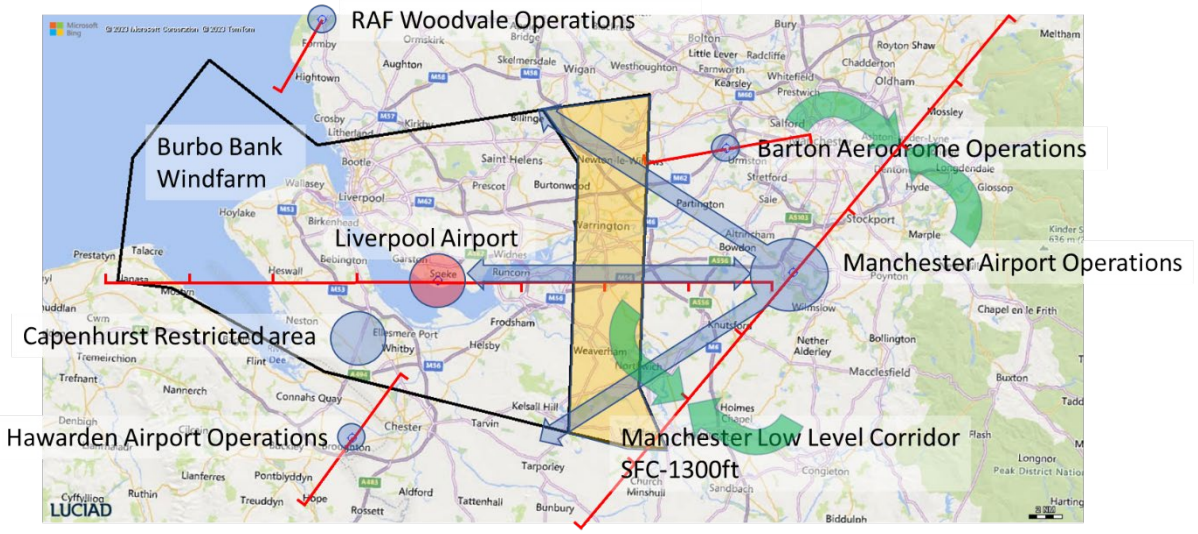


Figure 10: Bing maps showing the local constraints on the LJLA operation. Runway extended centre lines are shown in red as aircraft are required to join these for their approach into these airfields. The blue arrows emanating from Manchester Airport are indicative of the direction traffic departing Manchester would like to fly. The green arrows indicate typical arrival flows to Manchester Airport's final approach. The Yellow shape is the low level VFR corridor.

In addition to the neighbouring airfields, LJLA traffic also needs to consider:

- Capenhurst Restricted area- Aircraft are unable to fly within 2,200 ft of the surface
- Burbo Bank Windfarm- An off shore windfarm where aircraft are required to be transponder equipped
- Manchester Low Level Corridor- Class D radar corridor for use by GA up to 1,300 ft.
- MoD activities to the west.
- Minimising the impact of aviation on ground based stakeholders such as local communities.

3.2 Areas of Outstanding Natural Beauty (AONB's), Biodiversity and Tranquillity

LJLA is situated ~15 NM to the northeast of the Clwydian Range and Dee Valley AONB and ~27 NM west of the Peak District National Park (Figure 11).

From an airspace change point of view it is a requirement to consider the overflight of any AONBs and/or National Parks below 7,000 ft with regards to impacts on tranquillity. The options described within this submission do not overfly these or any other AONB or National Park below 7,000 ft.

Airspace changes are unlikely to have an impact on biodiversity because they do not normally involve changes to ground based infrastructure (habitat disturbance).

No such ground-based infrastructure changes are associated with this proposal, therefore this proposal is not predicted to impact biodiversity.

Figure 11: Bing maps showing the location of National Parks (Orange shapes) and AONBs (Yellow shapes) in the vicinity of LJLA airport.

Engagement from Natural England states that they "*supportive of proposals which will help to improve air quality and reduce noise levels*" however they are unable to comment on the specifics at this time. Natural England will continue to be kept informed about the LJLA ACP and LJLA welcomes their feedback.

4 Design Options

The options described within this addendum are in response to the specific 8 interactions which were identified through the LJLA, Manchester Airport, NERL, ACOG workshop in June 2022. The July workshop identified that only 3 of these interactions required updated options within the LJLA submission. These interactions which required additional design options to be proposed are below:

- Interaction 1- LJLA runway 27 arrivals vs Manchester runway 23L/R departures to SW.
- Interaction 6- LJLA runway 09 left turn out departures vs Manchester runway 05L/R arrivals
- Interaction 7- LJLA runway 09 right turn out departures vs Manchester runway 05L/R arrivals

In addition to these options LJLA has considered 2 new options to provide connectivity to the south to ensure connectivity with the network remains following the development of the network changes detailed within the NERL ACP.

The design options presented are created in isolation. However, flexibility in the design needs to exist so that these options can be combined with each other as well as with the other FASIN ACPs. To achieve this for the departure options, options are presented as swathes and the levels depicted in the options are indicative of what a Continuous Climb Operation (CCO) could be designed based on the current climb performance observed for the existing LJLA SIDs. The levels depicted on the transition options represents LJLA's aspirations to improve the arrival profile for aircraft whilst benefiting stakeholders resident in the vicinity of LJLA.

4.1 Engagement Activities

The stakeholder list included within this submission (Appendix B: Engagement Evidence80) includes all stakeholders that were contacted when LJLA first went through the ACP process. The original stage 2 submission stakeholder list was smaller than the list included in this submission because LJLA considered it prudent to continue the dialogue with stakeholders already identified in the previous stage 3 submission.

It should be noted that the "Friends of Liverpool Airport" group are not listed specifically but are included via the LJLA consultative committee.

Following the development of the options addressing the 3 interactions, LJLA invited stakeholders to attend one or more of 4 briefings on these options. These briefings included an overview of the CAP1616 Airspace Change Process, the FASI program, a review of LJLA's progress though the CAP1616 and overview of why LJLA has returned to Stage 2, a description of the current operation, a description of the new options and instructions on how the stakeholders could provide feedback. Feedback could be provided by email, an online form or via post.

Two engagement sessions were held virtually over MS Teams on:

- Non-Aviation Stakeholders: 20th April 2023 between 10:00-12:00
- Aviation Stakeholders: 4th May 2023 between 14:00-16:00.

Two sessions were face to face and held at the Cavern Suite at LJLA on:

- Mixed Stakeholders: 27th April 2023 between 14:00-16:00
- Mixed Stakeholders: 28th April 2023 between 10:00-12:00.

Following the conclusion of the final engagement session, the presentation slides (Ref 9) were shared with all stakeholders including those who did not attend an engagement session, and feedback requested by the 17:00 hrs on 1st June 2023. Stakeholders, their attendance and feedback is listed in Appendix B: Engagement Evidence.

Following the engagement period, the designs were updated as described in the following sections and stakeholders informed of this update on 23rd July 2023 via email.

4.1.1 Stakeholder requests to be removed from the Stakeholder List

During the engagement period the following stakeholders have requested to be removed from the stakeholder list.

- Worleston & District Parish Council
- Upton-by-Chester and District Parish Council

These stakeholders have been removed from the LJLA mailing lists for this ACP but LJLA will continue to welcome feedback from them throughout the process should they wish to provide it.

4.1.2 Stakeholder feedback not relevant to a specific design element

Stakeholder	Feedback	Impact
Manchester Airport	In developing our response to your engagement, we have taken account of your position within the CAP1616 process. Stage 2 requires sponsors to develop " … a comprehensive list of options that address the Statement of Need and that align with the design principles from Stage 1 ' It is critical therefore that the list of options you develop at Step 2A considers the full range of design options, without an assessment of merit to discount options at an early stage. The assessment of merit occurs later at Step 2B, through the application of the design principles evaluation (DPE) and the initial options appraisal (IOA).	As covered in the engagement sessions, the options presented within this submission are in addition to those previously progressed through Stage 2. These options have been previously assessed by the CAA and remain valid. Following our consultation, the need for additional options was identified through a workshop attended by LJLA, Manchester airport, NERL and ACOG to ensure LJLA were aligned with the other FASI sponsors as their options had matured and the Master Plan had been published. These workshops identified what additional options were required to address any potential conflictions Manchester airport and NERL felt were missing from the original submission and the options presented address the outputs of this workshop. The options have been presented as swathes with indicative levels to offer flexibility in the options to develop a holistic airspace design prior to formal consultation in Stage 3 of the CAP1616 process.
Manchester Airport	Our feedback has therefore focussed on whether the material presented in support of this current Step 2A engagement will assist in alleviating the identified interactions between our operations, and whether the additional options proposed in combination with those previously presented constitutes a comprehensive list of options, as required by CAP1616 requirements. In responding, our aim is to ensure that the LPL Stage 2 submission meets this test, so that both airports have a comprehensive foundation of options which maintain route availability and capacity for further development within Stage 3. The assessment of the merits of each of the options presented by LPL will take place within the DPE and IOA in Step 2B and within Stage 3 as systems of options are considered as part of a network. Therefore, in responding to the current engagement we have not attempted to express a preference for any option in favour of its alternatives.	We thank Manchester airport for their feedback and their concern around the provision for a comprehensive list of options. The presentation of LJLA's options as swathes ensure that the list is comprehensive and addresses the concerns raised in the workshop. Whilst LJLA's choice of how to present their options is not necessarily how Manchester airport choose to present theirs, the approach is consistent with the CAP1616 requirements and offers increased flexibility as the options are developed prior to the Stage 3 consultation.
Manchester Airport	Further, given the focus on interactions between MAN and LPL to date, the structure of this MAN response is focussed upon the ability of the range of options presented to resolve these interactions, rather than commenting on the individual options themselves.	LJLA welcomes this feedback. However, we note that some feedback presented stems from ongoing development and refinement work which correctly sits following the Stage 2 gateway, once the initial design options are shortlisted. It would not be appropriate to jump direct to a developed solution without correctly detailing the journey at the appropriate stage of the CAP1616 process. The options are presented as swathes to ensure these refined solutions are included; however, they are not presented as the final product as this refinement occurs following the Stage 2 gateway.
Manchester Airport	The ACOG meeting of 9th June identified interactions which would require options for resolution to be included within the comprehensive list of options for both MAN and LPL airports as part of the Stage 2 submissions. Seven Interactions were identified.	LJLA disagrees with this list of interactions. In the June workshop there were 8 interactions identified. The missing interaction related to the integration of the options with the network design. In the subsequent July workshop, it was identified that only 3 interactions required an update to the LJLA submission, the other interactions could be solved through vertical restrictions. The only interactions which were identified as requiring an update to the

Stakeholder	Feedback	Impact
	1. LPL 27 arrivals (Left hand circuit from south) vs. MAN 23 south-west departures 2. LPL 27 arrivals (Right hand circuit) vs. MAN 23 west departures 3. LPL 27 arrivals vs MAN 05 departures 4. LPL 27 arrivals (Left Hand Radar Circuit) vs. MAN 05 arrivals 5. LPL 27 arrivals (Right Hand Radar Circuit) vs. MAN 05 arrivals 6. LPL 09 departures left turn vs. MAN 05 arrivals. 7. LPL 09 departures right turn vs. MAN 05 arrival.	original submission were Interactions 1, 6, 7 and 8 and these have been addressed.
Wirral Borough Council	Whilst this Council appreciates the national context, as presented, is to replace dated equipment with a new technology, the Council has to be satisfied that the new equipment will work to the benefit of residents. Our key concern is that the way in which it is set up should not adversely affect areas of the borough where the narrower paths are most likely to operate.	Airports are required to introduce PBN procedures and this is included within the UK AMS (DP16). These procedures will have the effect of concentrating tracks over the ground but will also allow greater fidelity with these routes. These routes can be designed to reduce population overflight where possible, minimising the impact on local communities consistent with DPs 3, 4 and 12. Procedures have been designed qualitatively to minimise the overflight of population centres. A quantitative analysis will be provided at Stage 3 of the CAP1616 process.
Wirral Borough Council	This council considers that the proposals do not resolve the conflict that residents living under the flight paths when caught between design principles 11 and 13: 11 'Procedures should be developed to allow for alternative routes to offer respite' 13 Procedures should be designed to concentrate routes to minimise the numbers overflown The use of the term 'respite' acknowledges that residents will be adversely impacted.	Design principles are a method for evaluating options. As described in the presentation not all design principles are required to be met for an option to be progressed. LJLA disagrees that the use of the term respite acknowledges that residents will be adversely impacted. Respite is a term used in aviation that allows impacted residents to be less impacted by aviation noise. A complete noise analysis of the finalised design as well as the baseline will be provided at Stage 3 of the CAP1616 process.
Wirral Borough Council	Ultimately these changes increase noise levels for some Wirral residents. There is an underlying assumption that quieter aircraft and improved technology will compensate for this. The type of aircraft, their origins and destinations, remains a factor which cannot be fully accounted for currently.	The impact on local communities is considered within these designs. Current departure routes from LJLA have published end levels which could result in aircraft flying prolonged periods at low altitude overpopulated areas. The benefits of updating the departure routes include raising the end levels and shifting the routes to reduce the populations overflown. This should deliver benefits to local communities when compared to the baseline scenario.
Wirral Borough Council	The Council remains committed to the principles behind the policy which came into operation in 2002 which has the specific aim of limiting the impact of operations between 23.30 and 06.00. At this stage of the engagement it is as unclear how the potential concentration on arrivals during late evenings before the 23.30 period will affect the amenity of residents.	Within the Stage 3 submission of the ACP process LJLA are required to provide detailed analysis of the impact of the options on local communities. The arrival times of flights is a scheduling constraint and not an airspace constraint and therefore not within scope of this ACP.

Stakeholder	Feedback	Impact
Wirral Borough Council	The consultation puts forward the premise that there has to be a fixed point which sets the flight path under the new system and that the fixed points need to be used. There is no technical reason given, why the fixed points need to be in Wallasey or Chester and it would appear technically possible for the aircraft to turn in the Mersey and gain sufficient height (thus reducing impact) before linking up with wider airspace.	Within the existing airspace there are fixed points within the network which are used by the existing procedures. As part of the FASI program of work the network is being modified and these points may change. However, the proposed routes from the airfield are required to join in comparable locations to ensure a safe and efficient airspace design is achieved. As part of any airspace change the noise, fuel and CO_2 impacts of its options need to be considered. There is a balance to be struck between minimising noise impacts and minimising the fuel and CO2 impacts to achieve this whilst maintain a safe design. DFT guidance states that up to 4,000 ft noise is the priority, 4,000 ft to 7,000 ft noise is still the main consideration but CO2 becomes more important, above 7,000 ft CO2 is the priority. These options closely resemble the existing routes at low level but seek to minimise the noise impacts where able.
Wirral Borough Council	Wirral supports the principles that underpin efficient travel that saves fuel, reduces emissions of all types and ensures the safety of both those who travel and live within the likely boundaries of the flight paths. Effective integration with wider airspace is key to this, however generic national or regional principles should not overrule the needs and features of individual communities and locations, for example topological features, sensitive installations and sensitive communities and thus support the principle of localism.	LJLA shares these aspirations, and they are captured within our DPs.
Wirral Borough Council	Comment on previously Proposed Options-Departures. These Options have already been through Stage 2 –appear to cover more of the Wirral. Can the split/turning over the Mersey be retained?	The options described within this document set are in addition to those included in the previous submission
Wirral Borough Council	Whilst the FAQ document clearly tries to separate the growth and expansion of the airport from this consultation, it is difficult to ignore the baseline data set out in figures 11 and 12 in the 2020 consultation. These indicated that with no changes to flight paths, by 2031 noise levels would still increase and it can only be assumed that this is due to growth. While current air traffic levels are lower than in the pre-covid period, it is difficult to support changes to flight paths that despite assurances cannot, in reality, be separated from growth, which is an issue that would be opposed by elected members and residents alike where it negatively impacted the lives and welfare of Wirral people. In particular, this is because this and many other authorities have declared a climate emergency and efforts are needed to reduce CO_2 and not facilitate further emissions through growth. The basis of the presented modelling is built on this anticipated expansion and it is therefore not possible to compare or understand the impact of these route changes based on current traffic levels and truly appreciate the impact they may present. If modelling was provided for current levels across all of the options	The LJLA ACP for the new options is currently at Stage 2 of the ACP process which requires a qualitative assessment of the change. The options presented within this addendum may increase the efficiency of the airport through the introduction of PBN procedures. The focus of this ACP is to deliver environmental benefits, not increasing capacity. During Stage 3 LJLA are required and will present quantitative noise, fuel and CO_2 analysis comparing the new options against the baseline. At this stage it is not possible to provide this due to the designs not being fully resolved.

Stakeholder	Feedback	Impact
	this may prove more meaningful in comparing options to what is experienced now by residents. It is important to consider the models at the 2030 date line, but it does not provide a complete picture, certainly one accessible to the average individual without a background in this area.	
Wirral Borough Council	Additional Feedback was received from Wirral Borough Council relating to the Airports Master Plan which was not pertinent to this change.	No impact as not related to the options discussed within this submission.
British Gliding Association	We were surprised that the there was no Design Principle requiring the minimum use of Airspace, in line with that for the MTMA: 'The classification and volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users.' We hope that the detailed design will allow you to apply DP10 and reduce the volume of Controlled Airspace required.	Design Principles are proposed and developed during Stage 1 of the process and each ACP develops their own Design Principles. LJLA aspires to minimise the CAS volume required and this is reflected in DP7, "Procedures should be designed to fit within existing airspace constraints and boundaries", and DP10, "If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users". At this stage of the process the airspace requirements are not known however the swathes presented are all contained within existing CAS. At Stage 3 when the options are refined the CAS requirements will be reviewed.
The Light Aircraft Association	No detailed consideration of GA. The impact statements combining ga and commercial are mixing two issues	The designs described within this addendum are not anticipated to change how GA flights are managed by LJLA.
The Light Aircraft Association	The combination with Manchester ops and MTMA seems rudimentary. Minimisation of airspace required isn't apparent.	Minimisation of CAS is considered through DP7 and DP10. At this stage of the process the airspace requirements are not known however the swathes presented are all contained within existing CAS. At Stage 3 when the options are refined the CAS requirements will be reviewed.
Wirral Resident	The Statement of Need seems to contradict statements made elsewhere that airspace change is not about business expansion. It reflects the business interests of LJLA and not the needs of local residents or other businesses. The options may well address the former but not necessarily the latter. They do not address the climate emergency. This is increasingly viewed as a risk in business and finance and so would be self-defeating if long term business success is the goal.	The Statement of Need was submitted before the Covid-19 pandemic. Following Covid-19, priorities have changed, in this instance the airspace change focus is on delivering environmental benefits whilst allowing the continued operation of the airport, not capacity. The requirement to modernise the airspace still exists. Modernisation will deliver environmental benefits whilst supporting the local community.
Wirral Resident	I'd like to thank those involved in making any effort to protect residents from distress caused by noise pollution and any efforts in trying to reduce GHG emissions from aircraft and associated car and lorry journeys etc. I do appreciate the difficulty LJLA is in regarding balancing business needs with resident welfare and the environment. I urge LJLA to offer meaningful consultation to all residents. This whole process of airspace change would have benefitted from greater public engagement and transparency. Perhaps this could still be the case during this process?	One of the main focuses of the CAP1616 airspace change process is transparency. LJLA are currently revisiting Stage 2 of this 7-step process which involves engagement with stakeholders. The next Stage, Stage 3 is formal consultation. At this stage LJLA will present their options at consultation, including a detailed analysis of the impacts of these options on stakeholders.

Stakeholder	Feedback	Impact
Halton Borough Council	As per Halton BC's representations made at earlier stages, noise sensitive receptors with high sensitivity are considered to include residential premises, including private gardens. Reduced disturbance to households and those areas with higher population densities remains a key concern of the Council's.	LJLA remains cognisant of the noise impact of aviation and are seeking to minimise any populations overflown at low altitudes within this ACP. At this stage this is a qualitative assessment but once the options are resolved into defined routes a quantitative assessment will be made. This will be included within the Stage 3 submission materials
Halton Borough Council	It would appear that the new options introduced do result in the overflight of sensitive noise receptors as identified in design principle 3.	Design principles are used to assess an option, not limit the design. This will be considered in the DPE in DP3.
Halton Borough Council	The following new Departure Options appear to be those that have the minimum overflight of residential properties and sensitive noise receptors and are the most preferable of the new departure options presented: 09 Departure Right Turn to NE 09 Departure Right Turn to S 09 Departure Right Turn to NW 27 Departure Left Turn to S	LJLA thanks Halton Borough Council for their observation. No design changes required.
Wirral Resident	I appreciate that the proposals are to facilitate moving to a new technology, but we shouldn't be using that to build in redundancy and capacity for future flight growth.	This ACP is being completed as part of the FASI program of work, a key part of the UK Airspace Modernisation Strategy which seeks to minimise the environmental impact of aviation. The SoN was originally written and submitted prior to the Covid-19 pandemic when capacity was a driving force for airspace change. Following the pandemic then there has been a shift of focus from capacity to the environmental benefits achievable through airspace modernisation and LJLA's focus on this is reflected in the prioritisation of our DPs.
Wirral Resident	I am particularly concerned about the noise impact on Wirral residents. Design principles should mean that any proposed new flight paths be designed to avoid overflight of densely populated areas such as those found on the Wirral The design principle "Procedures should be developed to allow for alternative routes to offer respite" – 'respite' acknowledges that residents will be adversely impacted.	LJLA seeks to minimise the population over flown, which will be assessed qualitatively at this stage, in their designs, whilst maintaining a degree of flexibility so that a safe and efficient airspace design can be formed during the Stage 3 development work. LJLA disagrees that the use of the term respite acknowledges that residents will be adversely impacted. Respite is a term used in airspace design that allows impacted residents to less impacted by aviation noise. A complete noise analysis of the finalised design as well as the baseline will be provided at Stage 3 of the CAP1616 process.
Wirral Resident	I especially object to the flights flying over Wirral at under 7000ft.	LJLA seeks to minimise the population over flown, which will be assessed qualitatively at this stage, in their designs whilst maintaining a degree of flexibility so that a safe and efficient airspace design can be formed during the Stage 3 development work.
Wirral Resident	I note that under current operations - 23% flights departed runway 09 (Easterlies), I can't find a figure for % arrivals. Will the new flight paths increase the number that arrive/depart from the East? i.e., with the new airspace changes increase the number of flights across the Wirral?	The runway in use is a result of the prevailing wind, not stipulated by the airspace design. When a runway is on easterlies for departures it will be on easterlies for arrivals also. The options in this submission will have no impact on the runway in use at LJLA.

Stakeholder	Feedback	Impact
Northop Community Council	I am emailing on behalf of Northop Community Council who would like to make a representation, as part of the consultation, highlighting their concerns regarding the potential increased noise levels for residents of Northop and Sychdyn, as a result of the proposed changes to the speed of departing air traffic at the airport.	Northop and Sychdyn are not overflown by any LJLA departure below 7,000 ft included within this submission. Therefore, they unlikely to be impacted by noise because of departure options included in this addendum. At this stage of the process, it is not clear if there will be a proposed change to speed of departing aircraft. However, LJLA is cognisant of the impact of aviation on local communities and will seek to minimise this impact in the Stage 3 design work and will include a full noise analysis at Stage 3 of the ACP process in line with the requirements of CAP1616.

Table 3: Stakeholder feedback received related to the options, not specific to a particular design.

4.2 Option 0: Do Nothing (Baseline)

A 'Do-Nothing' option representing the current day operation (for both transitions and departures) must be included and is used as the baseline against which all other options are compared. The baseline option is to keep the operation as it is currently as described in Section 2.1 above.

4.2.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Ryanair	Levelling off at 4000'/3000' North/South abeam the field and then flying level at 2000' from the end of downwind is inefficient from a fuel burn (cost), environmental (noise and pollution) and safety (increased exposure to VFR, Birds, terrain, drones etc) point of view. Level flight at this altitude is almost unheard of in ANY other airport in our route network (>3300 flights /day)! We would strongly urge LJLA to work with MAN to accommodate a procedure which facilitates CDA to RW27 especially bearing in mind the climb performance of modern jet aircraft (out of MAN) against the design principals upon which the basis for this level flight requirement was originally established many years ago. Modern jets climbing from MAN could easily reach much higher levels by 10nm so as not to interact with LPL RW27 arrivals. We would urge LJLA to consider looking at how other airports in Europe manage the interaction of close proximity airports (eg Paris / Rome / Warsaw). Level flight before an approach would appear to go against many design principals of the ACP.	LJLA acknowledges Ryanair's comments regarding the inefficiencies included in the current operation. As part of the Stage 3 development work, LJLA will refine the options into defined solutions and LJLA and Manchester will investigate the interactions between the two operations and resolve these to deliver the optimal benefits to all sponsors and stakeholders.

Table 4: Stakeholder feedback received pertinent to the Arrival Structure concepts

For the full detailed analysis, see Appendix A: Design Principle Evaluation.

Option 0: Baseline, the "Do-Nothing" option is REJECTED since it would bring no benefit and did not meet the progression requirements set for the Design Principle Evaluation.

4.3 Transition Option 1: VEGUN S1

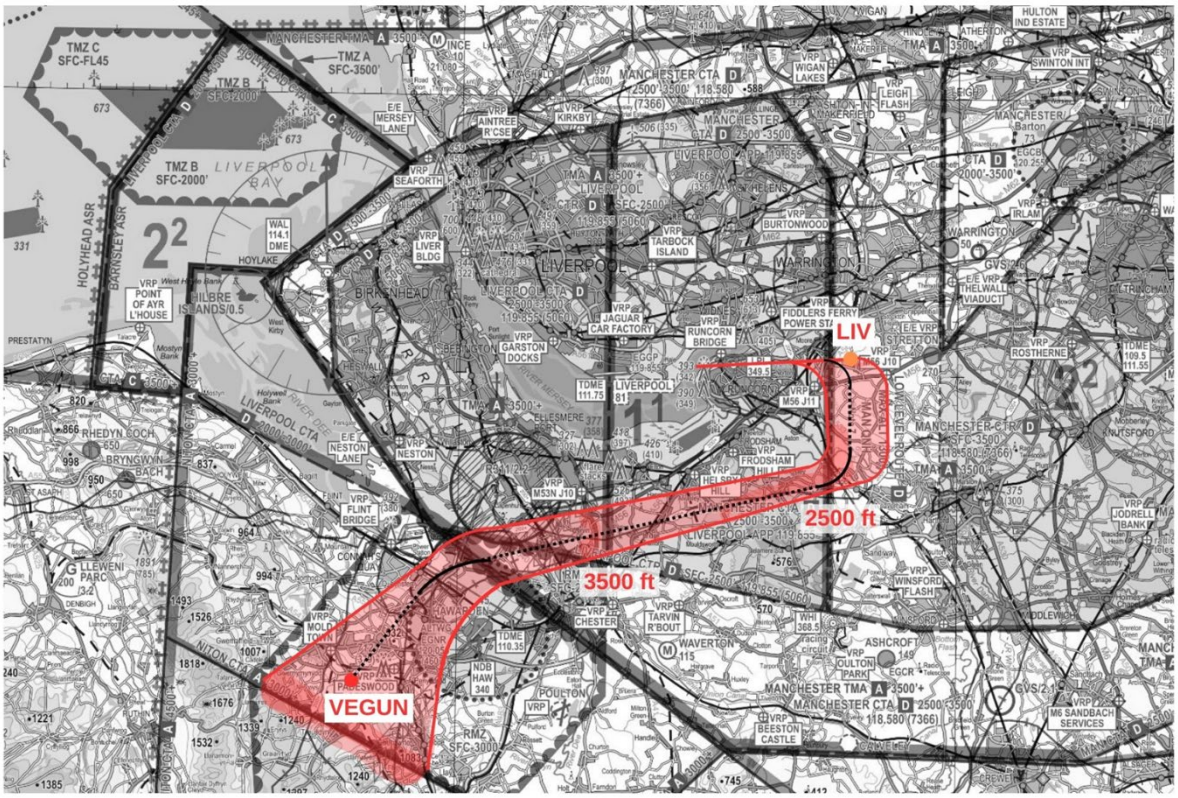


Figure 12: The potential location for the VEGUN S1 PBN transition. The black line shows the original design and the Red swathe illustrates the updated design limits following feedback.

Transition Option 1: VEGUN S1 is the introduction of a PBN transition from an airfield hold to an Intermediate Approach fix (IAF) where aircraft can join the Instrument Landing System (ILS) to undertake their final approach. This option will not change the track of aircraft following the IAF.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of LJLA arrivals to runway 27 with Manchester departures to the southwest. This option provides a shorter base leg then previously considered to provide Manchester with space to define their departure route to the southwest.

The location of the hold will be included within the NERL network design however, this location is yet to be confirmed. The hold is expected to be within the vicinity of VEGUN and a wide swathe is included here to ensure this option remains compatible with the network design.

The swathe has been widened where aircraft are expected to join the IAF to join final approach following Manchester feedback. This is to provide flexibility in the design to resolve any remaining confliction however, aircraft require a period of level flight before starting their descent and this will limit where aircraft will be able to commence this final turn.

This option is analogous to the current operation where aircraft are first vectored north of Hawarden before turning downwind and remaining to the north of Chester. The introduction of a PBN transition should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The increased predictability of the tracks should facilitate an improved descent profile, allowing aircraft to stay higher for longer resulting in a reduced environmental and economic impact, by allowing any conflictions to be resolved procedurally rather than tactically. The levels shown in Figure 12 are

indicative levels demonstrating an improved descent profile consistent with the feedback from Ryanair.

4.3.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	The designs for LPL arrivals to Runway 27 from the south previously advanced to Stage 4 included a base leg turn at 2,500ft requiring MAN southwest departures to reach 3,500ft at approximately 5nm before the base leg track to ensure separation. However, the climb gradient required by MAN departures to achieve this separation would be in excess of the 6% gradient that all airlines operating from MAN could achieve.	The levels presented within the presentation are indicative and subject to change during the option development work that takes place between the Stage 2 and Stage 3 gateways. However, LJLA note that current SIDs from Manchester airport runway 23 include initial climb gradients >12%. Whilst LJLA would not expect this rate to be included in the entirety of the Manchester SID design, Manchester departures are already required to have a climb performance in excess of 6% and therefore LJLA do not consider this to be a fair restriction on the design. An increased climb gradient can benefit ground-based stakeholders and should not be discounted at this stage. This and similar interactions will be considered through route separation workshops between the FASI sponsors as part of the ongoing design work required for the stage 3 submission.
Manchester Airport	If CAP1385 rules are applied, the most recent workshops with ACOG have identified that there are no MAN departure options to the southwest that are fully procedurally separated from LPL left hand arrivals if the MAN traffic is climbing at 6%. This includes the MAN 'Do Minimum' option that replicates the current EKLAD and KUXEM SIDs in operation today.	At this stage LJLA are required to present options which are presented within the initial submissions and this annex. Between the Stage 2 and Stage 3 gateways, the Cumulative Assessment Framework (CAF) analysis takes place. This work will identify interactions, and the optimal solution to solve these interactions to minimise the cumulative impacts on stakeholders. The LJLA designs for the transition options were originally presented as lines, however, within this annex they are depicted as swathes following this feedback to maximise the flexibility within the designs to minimise the cumulative impact. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Manchester Airport	It is recognised that the redesigned VEGUN S1 and S2 have been created to limit this interaction with MAN traffic by moving traffic further to the north and reducing the length of the base leg segment. However, as designed, neither option fully eliminates the interaction with those MAN options that progressed from IOA to Stage 3A because the vertical design of both VEGUN S1 and S2 remains unchanged with a base leg turn at 2,500ft. The climb gradient required by MAN departures to achieve separation in this scenario would still be in excess of the 6% gradient that all airlines operating from MAN could achieve. As a result, MAN does not consider that VEGUN S 1 & VEGUN S2 adequately address the identified interaction. Options to resolve this are proposed below.	As above, airlines departing Manchester airport are already expected to have an initial climb at a rate greater than 6%. Preliminary radar data for departures shows that after 11 miles >96% (50/52) of EKLAD departures from runway 23 still following the SID for the period 1-7 Aug 2022 were exceeding a 7% climb gradient. The remaining 2 aircraft had a climb gradient in excess of 6%. The 2 aircraft not achieving greater than 7% were Virgin Airbus A330-300s, due to be decommissioned in 2026, prior the implementation of this design. In addition, consistent with the feedback from Ryanair, modern aircraft are able to climb at a rate greater than the 6% asserted by Manchester Airport. LJLA therefore does not consider it prudent to discount a potentially viable option at this stage where MAN departures currently demonstrably exceed the stated 6% climb profile. That profile could be raised to at least 7% with no engine thrust setting impacts and this could deliver environmental benefits to all stakeholders.

Stakeholder	Feedback	Impact
Manchester Airport	Create additional options for both VEGUN S1 and S2 transitions which require aircraft to be at 2,000ft before the base Leg turn. This would have the effect of reducing the altitude of LPL traffic earlier, such that MAN Runway 23SW departures would only be required to be 3,000ft at approximately 5nm before the base leg track instead of 3,500ft. We would expect this to reduce the required climb gradient for MAN traffic to one that is achievable by all aircraft operating at MAN but further separation analysis work would be required to confirm this. Create additional options that route transitions to the existing FAF (UVERI) at 2000ft. All new arrival transition options for Runway 27 at LPL have been created using a Final Approach Fix (FAF) at LIV2 with an altitude of 2,500ft. When using this FAF, the profile of LPL arrival transitions contribute to the interaction and separation issues identified at the ACOG led workshops with MAN departures to the SW. However, LPL has an existing PBN procedure (LNAV/VNAV) to Runway 27 which is detailed within the UK AIP (AD2 -EGGP 8-8) and which has a FAF at UVERI at 2,000ft. Utilising this existing UVERI FAF as part of the arrival design options would have the effect of moving the LPL base leg track further west. Because traffic would be at a lower altitude, it would increase separation from the proposed MAN departure tracks.	The levels presented in the engagement pack were indicative and open to refinement during the option development work between Stage 2 and Stage 3. Whilst it was stated in the presentation the transition tracks shown are open to refinement, LJLA accepts this was not clear in the presentation. These options have now been updated as swathes to reflect this. The levels depicted represent LJLA's aspirations to reduce the impact aviation has on local communities in line with DP4. This coupled with the presentation of the options as swathes provides clarity that the additional options proposed by Manchester airport are already in scope of the proposed options VEGUN S1 and S2. Manchester's suggestion to route to UVERI is not feasible. This has been discussed that the 7NM (LIV2) is considered the minimal distance required for operators to carry out a safe approach. UVERI, in the published procedure (8.8) is not used as a joining fix but a point for aircraft to start their descent. Prior to this, aircraft are required to be established on final approach to ensure the aircraft is stable and the flight crew are prepared to land. The swathes for the 27 transitions have been updated to consider revised joining points. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Manchester Airport	LPL Option VEGUN CC05 is operated as the sole inbound route for Runway 27 southerly arrivals.	VEGUN CC05 is included in the original submission and is outside the scope of this engagement. This option if used exclusively would be overly restrictive to the LJLA operation, unfairly penalise aircraft operating to LJLA and route all arrivals to 27 overhead Liverpool City Centre at low altitude.
Halton Borough Council	Both options appear to result in the overflight of residential properties and routes should be over unpopulated areas.	The departure transitions are formalisations of the current operation. The conversion of the swathes into defined routes will endeavour to minimise the population overflown whilst delivering a safe and efficient airspace design. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Borough Council	New Option Combined Vegun 1 & Vegun 2 Comment: Neutral position as does not overfly the Borough.	The combination of VEGUN S1 and S2 is not included as an option. The slide was included to highlight the difference between the two options. Should both options progress then both could be implemented.
NERL	We observe that the additional transitions S1 and S2 presented are not illustrated within associated swathe(s) of option variability, neither in terms of lateral or vertical variance. Presentation is of course at the behest of the ACP sponsor however we observe this difference of presentation style between departure options(swathes) and arrival transition options(lines) could potentially suggest a	As discussed in the presentation the tracks presented and the levels were indicative, and both are open to refinement during the Stage 3 options refinement work. The LJLA designs for the transition options were originally presented as lines, however, within this annex they are depicted as swathes following this feedback to maximise the

Stakeholder	Feedback	Impact
	degree of options appraisal finality in terms of transitions S1 & S2 in route and vertical profile.	flexibility within the designs to minimise the cumulative impact. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Object to Transition VEGUN S1 as it routed over the Flintshire urban towns of Buckley, Shotton, Aston and Garden City. Reason: Increase in noise nuisance.	The departure transitions are formalisations of the current operation. The conversion of the swathes into defined routes will endeavour to minimise the population overflown whilst delivering a safe and efficient airspace design. A noise analysis of the baseline and options will be presented at Stage 3. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Object to the Combined VEGUN S1 and S2 option. Please refer to the feedback in feedback item 1. above.	The combination of VEGUN S1 and S2 is not included as an option. The slide was included to highlight the difference between the two options. Should both options progress then both could be implemented.
Ryanair	These look positive. We are in favour of any consistently flown and predictable arrival routes as they reduce the risk of high energy approach and reduce exposure to VFR traffic. We would urge that these transitions are published AIP arrival routings such that they would be loadable from an aircraft FMC (including any altitude constraints.)	The options presented are for the routes to be developed into AIP-published procedures as opposed to ATC methods of operation.
Liverpool City Council	Transition VEGUN S1 seems to avoid flying over Chester City compared with Transition VEGUN S2 ?(although it's hard to discern the exact location of Chester on the map)	VEGUN S1 is north of Chester and S2 south. The conversion of the swathes into defined routes will endeavour to minimise the population overflown whilst delivering a safe and efficient airspace design. A noise analysis of the baseline and options will be presented at Stage 3. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Norley Parish Council	Norley Parish Council were delighted to be involved in the LJLA Stage 2 Engagement process The ACP Update Sheet was very useful as the VEGUN approaches materially affect Norley village Should you take the LJLA ACP further, Norley Parish Council would be pleased to be involved in the consultations	LJLA wishes to thank Norley Parish Council for their feedback. Norley Parish Council will be included in all future engagement and consultation relating to this ACP.

Table 5: Stakeholder feedback received pertinent to the Arrival Structure concept VEGUN S1

Benefits

- Introduces a PBN transition to Runway 27 from a southern hold
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflown at low altitudes
- Keeps aircraft higher for Longer
    - Reduces noise impact
    - Reduces Fuel burn
    - Reduces CO_2e emissions
- No impact on GA compared with today's operation
- Aligns with the AMS

Issues

- May require further refinement to resolve conflictions with Manchester traffic
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 13 design principles were "MET"
- 1 design principle was "PARTIAL"
- 1 design principle was "NOT" met
- 1 design principle not assessed as not relevant to an approach transition

Transition Option 1: VEGUN S1 is a promising candidate and has been PROGRESSED to the next stage.

4.4 Transition Option 2: VEGUN S2

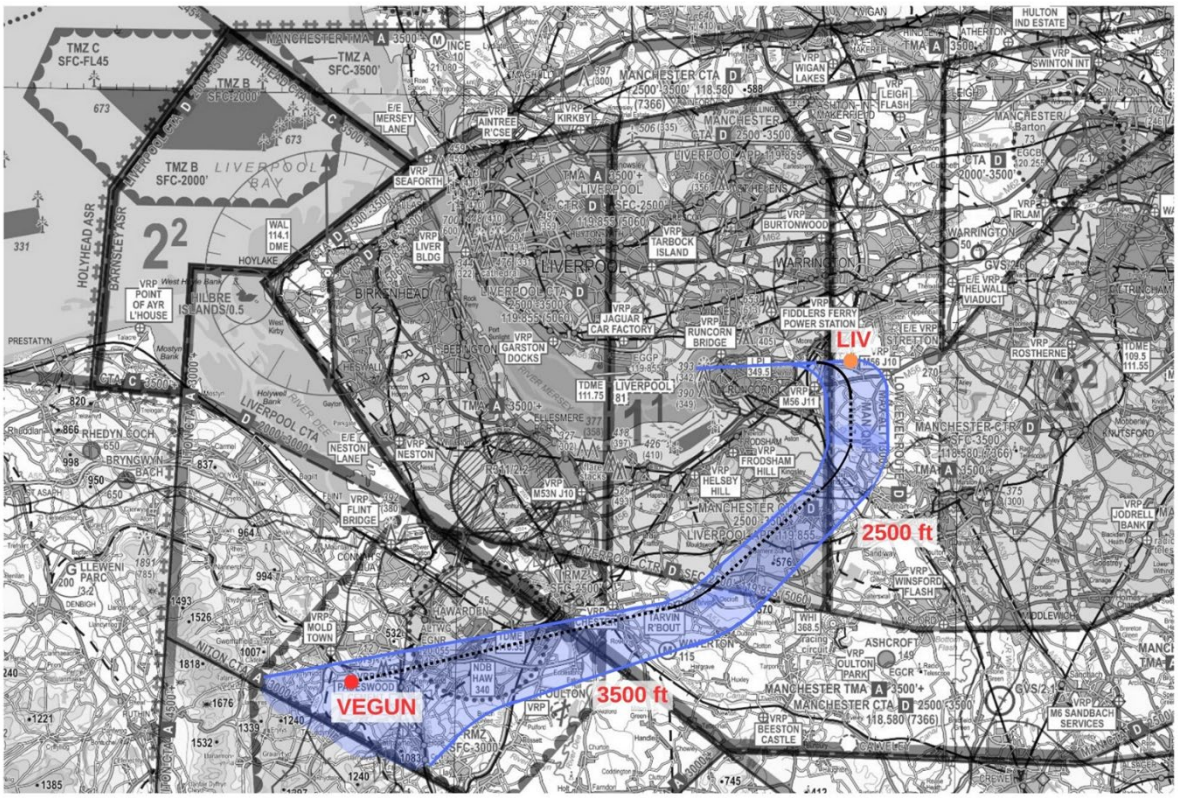


Figure 13: The potential location for the VEGUN S1 PBN transition. The black line shows the original design and the blue swathe illustrates the updated design limits following feedback.

Transition Option 2: VEGUN S2 is the introduction of a PBN transition from an airfield hold to an IAF where aircraft can join the ILS to undertake their final approach. This option will not change the track of aircraft following the IAF.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of LJLA arrivals to runway 27 with Manchester departures to the southwest. This option provides a shorter base leg then previously considered to provide Manchester with space to define their departure route to the southwest as well as a more direct routing from the expected hold location.

The location of the hold will be included within the NERL network design however, this location is yet to be confirmed. The hold is expected to be within the vicinity of VEGUN and a wide swathe is included here to ensure this option remains compatible with the network design.

The swathe has been widened where aircraft are expected to join the IAF to join final approach following Manchester feedback. This is to provide flexibility in the design to resolve any remaining confliction, however aircraft require a period of level flight before starting their descent and this will limit where aircraft will be able to commence this final turn.

This option provides a more direct route from the anticipated hold location to base leg by first remaining south of Hawarden before turning downwind to the south of Chester. The introduction of a PBN transition should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact. This option is anticipated to overfly a smaller population than VEGUN S1.

The increased predictability of the tracks should facilitate an improved descent profile, allowing aircraft to stay higher for longer resulting in a reduced environmental and economic impact, by allowing any conflictions to be resolved procedurally rather than tactically. The levels shown in Figure 13 are

indicative levels demonstrating an improved descent profile consistent with the feedback from Ryanair.

4.4.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	The designs for LPL arrivals to Runway 27 from the south previously advanced to Stage 4 included a base leg turn at 2,500ft requiring MAN southwest departures to reach 3,500ft at approximately 5nm before the base leg track to ensure separation. However, the climb gradient required by MAN departures to achieve this separation would be in excess of the 6% gradient that all airlines operating from MAN could achieve.	The levels presented within the presentation are indicative and subject to change during the option development work that takes place between the Stage 2 and Stage 3 gateways. However, LJLA note that current SIDs from Manchester airport runway 23 include initial climb gradients >12%. Whilst LJLA would not expect this rate to be included in the entirety of the Manchester SID design, Manchester departures are already required to have a climb performance in excess of 6% and therefore LJLA do not consider this to be a fair restriction on the design. An increased climb gradient can benefit ground-based stakeholders and should not be discounted at this stage.
Manchester Airport	If CAP1385 rules are applied, the most recent workshops with ACOG have identified that there are no MAN departure options to the southwest that are fully procedurally separated from LPL left hand arrivals if the MAN traffic is climbing at 6%. This includes the MAN 'Do Minimum' option that replicates the current EKLAD and KUXEM SIDs in operation today.	At this stage LJLA are required to present options which are presented within the initial submissions and this annex. Between the Stage 2 and Stage 3 gateways, the CAF analysis takes place. This work will identify interactions, and the optimal solution to solve these interactions to minimise the cumulative impacts on stakeholders. The LJLA designs for the transition options were originally presented as lines, however, within this annex they are depicted as swathes following this feedback to maximise the flexibility within the designs to minimise the cumulative impact. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Manchester Airport	It is recognised that the redesigned VEGUN S1 and S2 have been created to limit this interaction with MAN traffic by moving traffic further to the north and reducing the length of the base leg segment. However, as designed, neither option fully eliminates the interaction with those MAN options that progressed from IOA to Stage 3A because the vertical design of both VEGUN S1 and S2 remains unchanged with a base leg turn at 2,500ft. The climb gradient required by MAN departures to achieve separation in this scenario would still be in excess of the 6% gradient that all airlines operating from MAN could achieve. As a result, MAN does not consider that VEGUN S 1 & VEGUN S2 adequately address the identified interaction. Options to resolve this are proposed below.	As above, airlines departing Manchester airport are already expected to have an initial climb at a rate greater than 6%. Preliminary radar data for departures demonstrates that after 11 miles >96% (50/52) of EKLAD departures from runway 23 still following the SID for the period 1-7 Aug 2022 were exceeding a 7% climb gradient. The remaining 2 aircraft had a climb gradients in excess of 6%. These 2 aircraft were Virgin Airbus A330-300;s, due to be decommissioned in 2026, prior the implementation of this design. In addition, consistent with the feedback from Ryanair, Modern aircraft are able to climb at a rate greater than the 6% asserted by Manchester Airport. LJLA therefore does not consider it prudent to discount a potentially viable option at this stage where MAN departures currently demonstrably exceed the stated 6% climb profile. That profile could be raised to at least 7% with no engine thrust setting impacts and this could deliver environmental benefits to all stakeholders.
Manchester Airport	Create additional options for both VEGUN S1 and S2 transitions which require aircraft to be at 2,000ft before the base Leg turn. This would have the effect of reducing the altitude of LPL traffic earlier, such that MAN Runway 23SW departures would only be required to be 3,000ft at	The levels presented in the engagement pack were indicative and open to refinement during the option development work between Stage 2 and Stage 3. Whilst it was stated in the presentation the transition tracks shown were open to refinement, LJLA accepts this was not clear in the presentation.

Stakeholder	Feedback	Impact
	approximately 5nm before the base leg track instead of 3,500ft. We would expect this to reduce the required climb gradient for MAN traffic to one that is achievable by oil aircraft operating at MAN but further separation analysis work would be required to confirm this. Create additional options that route transitions to the existing FAF (UVERI) at 2000ft. All new arrival transition options for Runway 27 at LPL have been created using a Final Approach Fix (FAF) at LIV2 with an altitude of 2,500ft. When using this FAF, the profile of LPL arrival transitions contribute to the interaction and separation issues identified at the ACOG led workshops with MAN departures to the SW. However, LPL has on existing PBN procedure (LNAV/VNAV) to Runway 27 which is detailed within the UK AIP (AD2 -EGGP 8-8) and which has a FAF at UVERI at 2,000ft. Utilising this existing UVERI FAF as port of the arrival design options would have the effect of moving the LPL base leg track further west. Because traffic would be at a lower altitude, it would increase separation from the proposed MAN departure tracks.	These options have now been updated as swathes to reflect this. The levels depicted represent LJLA's aspirations to reduce the impact aviation has on local communities in line with DP4. This coupled with the presentation of the options as swathes provides clarity that the additional options proposed by Manchester airport are already in scope of the proposed options VEGUN S1 and S2. Manchester's suggestion to route to UVERI is not feasible. This has been discussed that a 7NM (LIV2) is considered the minimal distance required for operators to carry out a safe approach. UVERI, in the published procedure (8.8) is not used as a joining fix but a point to start their descent. Prior to this, aircraft are required to be established on final approach to ensure the aircraft is stable and the flight crew are prepared to land. The swathes for the 27 transitions have been updated to consider revised joining points. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Manchester Airport	LPL Option VEGUN CC05 is operated as the sole inbound route for Runway 27 southerly arrivals.	VEGUN CC05 is included in the original submission and is outside the scope of this engagement. This option if used exclusively would be overly restrictive to the LJLA operation, unfairly penalise aircraft operating to LJLA and route all arrivals to 27 overhead Liverpool City Centre at low altitude.
Halton Borough Council	Both options appear to result in the overflight of residential properties and routes should be over unpopulated areas.	The departure transitions are formalisations of the current operation. The conversion of the swathes into defined routes will endeavour to minimise the population overflown whilst delivering a safe and efficient airspace design. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Borough Council	New Option Combined Vegun 1 & Vegun 2 Comment: Neutral position as does not overfly the Borough.	The combination of VEGUN S1 and S2 is not included as an option. The slide was included to highlight the difference between the two options. Should both options progress then both could be implemented.
NERL	We observe that the additional transitions S1 and S2 presented are not illustrated within associated swathe(s) of option variability, neither in terms of lateral or vertical variance. Presentation is of course at the behest of the ACP sponsor however we observe this difference of presentation style between departure options(swathes) and arrival transition options(lines) could potentially suggest a degree of options appraisal finality in terms of transitions S1 & S2 in route and vertical profile.	As discussed in the presentation the tracks presented and the levels were indicative and both are open to refinement during the Stage 3 options refinement work. The LJLA designs for the transition options were originally presented as lines, however, within this annex they are depicted as swathes following this feedback to maximise the flexibility within the designs to minimise the cumulative impact. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.

Stakeholder	Feedback	Impact
Flintshire County Council	Transition VEGUN S2 is an improved option, however, the route should be amended so it passes to the south of Penyffordd, skirting round the southern extent of Hawarden Airfield's airspace zone, then continuing to the south of Eccleston, then south of Christleton, then north of Tarvin to rejoin with its final extent.	The swathe has been updated to reflect that the track was indicative. This swathe includes the route as suggested which will be evaluated during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Object to the Combined VEGUN S1 and S2 option. Please refer to the feedback in feedback item 1. above.	The combination of VEGUN S1 and S2 is not included as an option. The slide was included to highlight the difference between the two options. Should both options progress then both could be implemented.
Ryanair	These look positive. We are in favour of any consistently flown and predictable arrival routes as they reduce the risk of high energy approach and reduce exposure to VFR traffic. We would urge that these transitions are published AIP arrival routings such that they would be loadable from an aircraft FMC (including any altitude constraints.)	The options presented are for the routes to be developed into published procedures as opposed to ATC methods of operation.
Liverpool City Council	Transition VEGUN S1 seems to avoid flying over Chester City compared with Transition VEGUN S2 ?(although it's hard to discern the exact location of Chester on the map)	VEGUN S1 is north of Chester and S2 South. The conversion of the swathes into defined routes will endeavour to minimise the population overflown whilst delivering a safe and efficient airspace design. A noise analysis of the baseline and options will be presented at Stage 3. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Norley Parish Council	Norley Parish Council were delighted to be involved in the LJLA Stage 2 Engagement process The ACP Update Sheet was very useful as the VEGUN approaches materially affect Norley village Should you take the LJLA ACP further, Norley Parish Council would be pleased to be involved in the consultations	LJLA wishes to thank Norley Parish Council for their feedback. Norley Parish Council will be included in all future engagement and consultation relating to this ACP.

Table 6: Stakeholder feedback received pertinent to the Arrival Structure concept VEGUN S2

Benefits

- Introduces a PBN transition to Runway 27 from a southern hold
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflown at low altitudes
- Keeps aircraft higher for Longer
    - Reduces noise impact
    - Reduces Fuel burn
    - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Aligns with the AMS

Issues

- May require further refinement to resolve conflictions with Manchester traffic
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 13 design principles were "MET"
- 1 design principle was "PARTIAL"
- 1 design principle was "NOT" met
- 1 design principle not assessed as not relevant to an approach transition

Transition Option 2: VEGUN S2 is a promising candidate and has been PROGRESSED to the next stage.

4.5 SID Option 1: 09 Departure Right Turn to Northeast

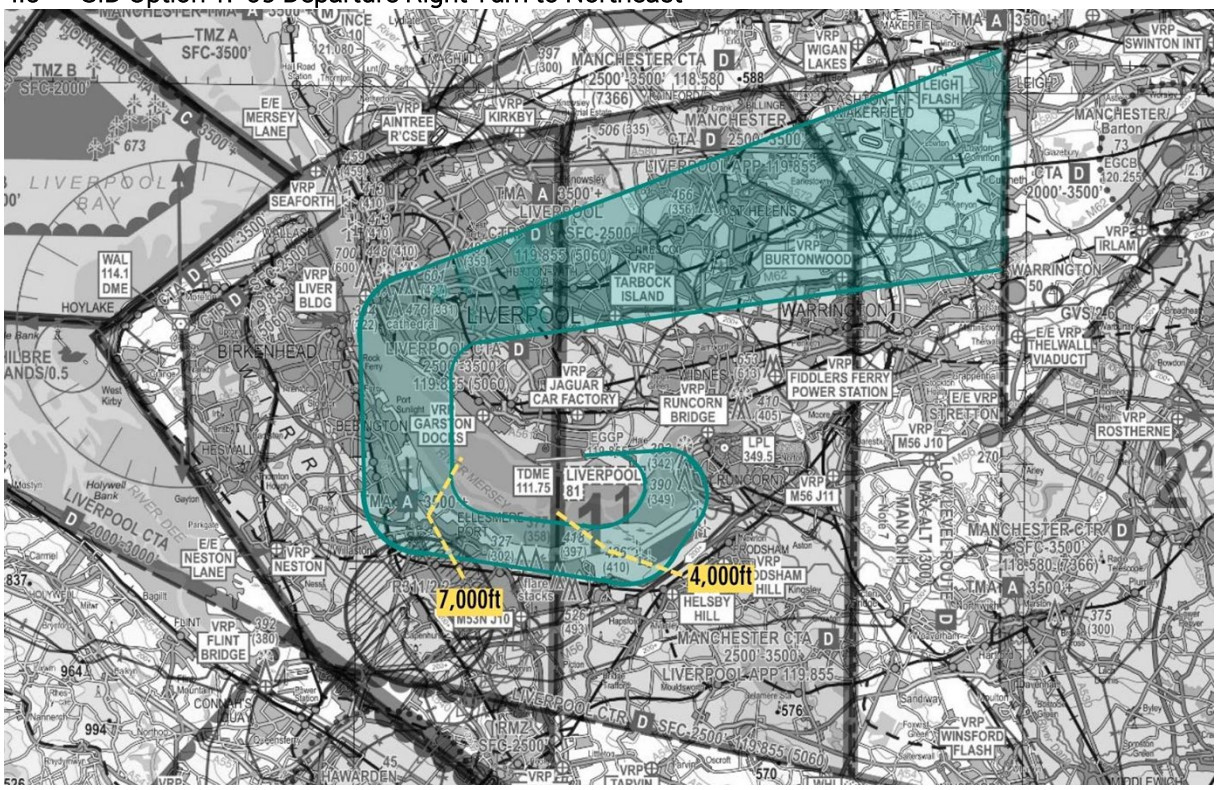


Figure 14: The potential location for a SID departing runway 09 with a right turn to join the ATS network in the North East.

SID Option 1: 09 Departure Right Turn to Northeast is the introduction of a new PBN SID providing connectivity to the ATS network in the northeast. Aircraft departing LJLA runway 09 to the northeast currently use the BARTN 1V SID, a left turn departure route climbing to 4,000 ft.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a right turn against Manchester departures from runway 05L/R. This option seeks to commence the initial turn earlier than previously proposed AGGER SIDs which will limit the interaction with Manchester departures.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial right turn, this option will keep flights overhead the River Mersey or the industrial areas on the southern bank of the River Mersey before turning northwards in the region of Ellesmere Port and then east overhead Liverpool.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb above 4,000 ft into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft would reach 7,000 ft just north of Ellesmere Port. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved, as well as reducing the total population overflown below 7,000 ft by reducing the overflight of populated areas.

Compared to the baseline and the SID Option 2: 09 Departure Left Turn to Northeast described below, this option increases the distance flown to join the network. However, this additional track mileage is offset due to the reduced population overflown and improved climb profiles.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The altitudes shown in Figure 14 are indicative, based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised altitudes and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.5.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. As previously stated for the left turn a defined line for the route is needed to confirm this, and to commence the CAF1 process. Again, it would be preferable for these to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. At this stage, MAN therefore support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with altitude constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	I object to each of the departure options, apart from depart right to NW and depart left to W, both of which I strongly object to.	We note your objection, however no design decisions can be made from this feedback.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Ryanair	Right turns from 09 for NE departures & left turns from 09 to the SE are environmentally and economically inefficient as they significantly increases track miles flown and therefore, fuel burn, emissions and flight time which affect commercial schedules, costs and company 'green' targets.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 2 and 9). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.

Stakeholder	Feedback	Impact
	the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.
Wirral County Council	Object as overflies densely populated area in East Wirral. This also seeks flight paths over areas devoted to chemical storage and COMAH sites. Design principle 3 refers to the need to avoid 'high risk industrial sites'.	LJLA notes your objection and population overflight will be considered within the DPE (DP3, 4 and 13). These designs seek to minimise the impact of overflight by enabling improved CCO and increasing the SID end levels. This will be refined during the Stage 3 development work. The options as presented are in swathes which will enable LJLA to develop a solution which is compatible with the other FASI sponsors whilst benefiting local residents. The Design principles do not prohibit the overflight of high risk industrial sites but ensures LJLA assess this overflight and endeavours to avoid it where able. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 7: Stakeholder feedback received pertinent to the 09 Departure Right Turn to Northeast SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the northeast
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflown at low altitudes
- Climbs aircraft higher than existing procedures
    - Reduces noise impact
    - Offsets increased fuel burn from additional track mileage
    - Offsets increased CO_2e emissions from additional track mileage
- No impact on GA compared to today's operation
- No known issues with other traffic
- Partially Aligns with the AMS

Issues

- Additional track mileage due to "wrap around"
    - Increases Fuel burn
    - Increases CO_2e emissions
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 10 design principles were "MET"
- 4 design principles were "PARTIAL"
- 1 design principles was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Right Turn to Northeast SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.6 SID Option 2: 09 Departure Left Turn to Northeast

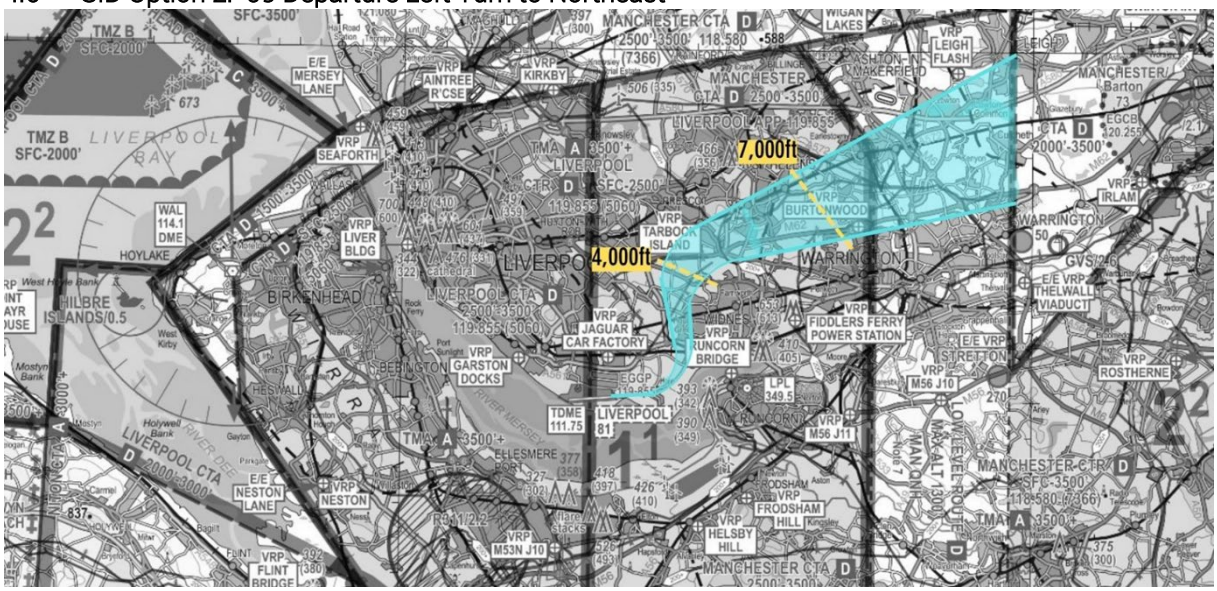


Figure 15: The potential location for a SID departing runway 09 with a left turn to join the ATS network in the Northeast.

SID Option 2: 09 Departure Left Turn to Northeast is the introduction of a new PBN SID providing connectivity to the ATS network in the northeast. Aircraft departing LJLA runway 09 to the northeast currently use the BARTN 1V SID, a left turn departure route climbing to 4,000 ft.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a left turn against Manchester departures from runway 05.

This option seeks to commence the initial turn earlier than the extant BARTN 1V SID which will limit the interaction with Manchester departures. A left turn departure was not included in the original submission due to an assumed level requirement of FL110 at AGGER and there not being sufficient track mileage to achieve this level. As the TMA options by other sponsors are developing, this FL110 requirement is no longer valid and therefore a left turn option can be considered.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

This option follows a track comparable to the extant BARTN 1V SID however this option includes an earlier left turn to limit the overflight of Widnes. This option then turns eastward north of Widnes to follow the path of the M62. This swathe passes south of the population centres of Whiston, Rainhill and Sutton and north of Widnes and Warrington.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb above 4,000 ft into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft should reach 7,000 ft just northwest of Warrington. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved, as well as reducing the total population overflown below 7,000 ft.

This option is comparable in distance to the baseline and shorter than the SID Option 1: 09 Departure Right Turn to Northeast described above.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 15 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.6.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. In order to confirm this, a defined line for the route is needed, and it would be preferable for these routes to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. These defined lines will also be required for cumulative impact work to commence with the ACOG led Cumulative Analysis Framework (CAF 1) process. Therefore, at this stage MAN support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with level constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	I am neutral about depart left to NE, depart right to S.	We note your neutral position, however no design decisions can be made from this feedback.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.
Wirral Resident	Neutral	We note your neutral position, however no design decisions can be made from this feedback.

Stakeholder	Feedback	Impact
Wirral Borough Council	Neutral position as does not overfly the Borough	We note your neutral position, however no design decisions can be made from this feedback.

Table 8: Stakeholder feedback received pertinent to the 09 Departure Left Turn to Northeast SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the northeast
  - Reduces controller and cockpit workload
  - Enhances Safety
  - Reduces population overflight
- Climbs aircraft higher than existing procedures
  - Reduces noise impact
  - Reduces Fuel burn
  - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Most direct route to northeast avoiding areas of high population density
- Aligns with the AMS

Issues

- May require further refinement to resolve conflictions with Manchester traffic
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 13 design principles were "MET"
- 1 design principle was "PARTIAL"
- 1 design principle was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Left Turn to Northeast SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.7 SID Option 3: 09 Departure Right Turn to South

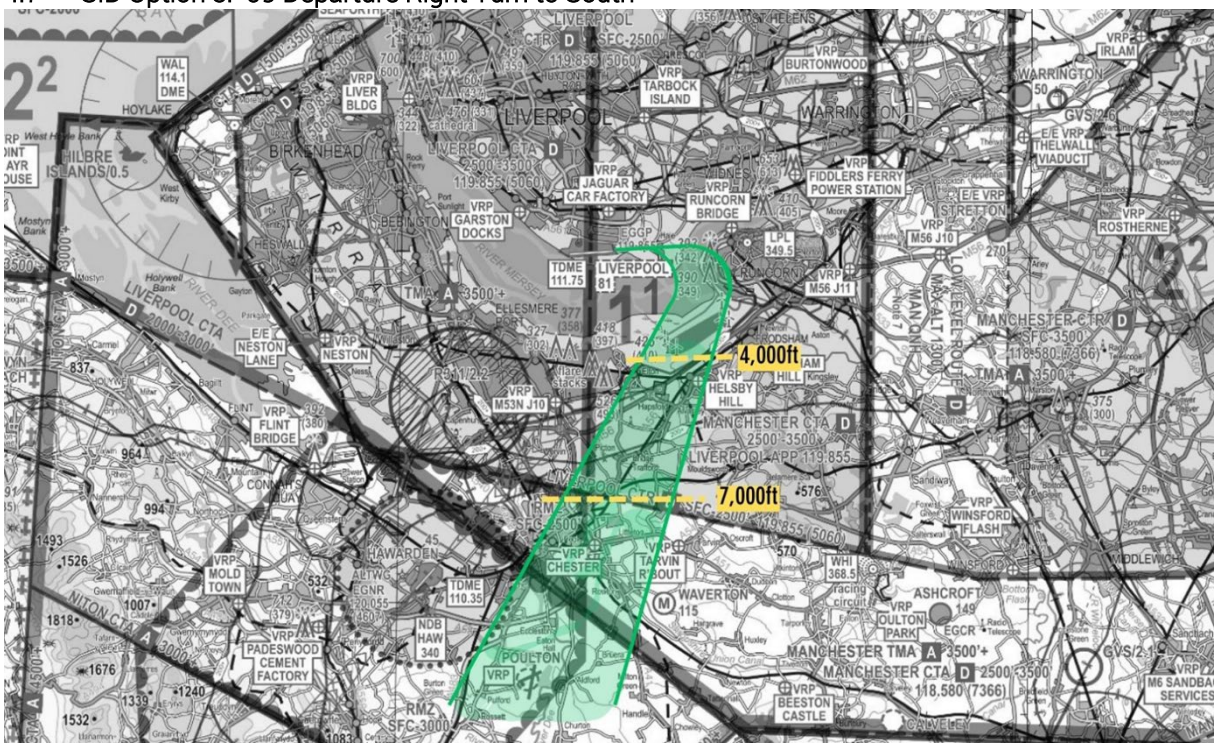


Figure 16: The potential location for a SID departing runway 09 with a right turn to join the ATS network in the South.

SID Option 3: 09 Departure Right Turn to South is the introduction of a new PBN SID providing connectivity to the ATS network in the south. Aircraft departing LJLA runway 09 to the south currently use either the REXAM 2V or NANTI 2V SIDs. Both these SIDs are right turn departure routes that climb to 4,000 ft. As the network options have developed it has become apparent that LJLA required an option to provide network connectivity in the vicinity of Poulton, approximately halfway between the two extant southerly SID end points.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a right turn against Manchester departures from runway 05L/R. This option seeks to commence the initial turn earlier than previously proposed REXAM 2V or NANTI 2V SIDs which will limit the interaction with Manchester departures.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial right turn to the south overhead the River Mersey, this option will cross the southern bank of the river Mersey to overfly the Frodsham Windfarm before passing between the Frodsham and Ellesmere Port population centres.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb above 4,000 ft to into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft just north of Chester. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved, as well as reducing the total population overflown below 7,000 ft.

This option represents the most direct route to the planned ATS network and is comparable to the tracks flown by aircraft today. Compared to the SID Option 4: 09 Departure Left Turn to South described below, this option decreases the distance flown to join the network and reduces the overflight of an area of high population density, in this case the city of Liverpool, below 7,000 ft

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 16 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.7.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. As previously stated for the left turn a defined line for the route is needed to confirm this, and to commence the CAF I process. Again, it would be preferable for these to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. At this stage, MAN therefore support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with level constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	I am neutral about depart left to NE, depart right to S.	We note your neutral position, however no design decisions can be made from this feedback.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.

Stakeholder	Feedback	Impact
	Framework technical collaborative assessment with relevant ACP stakeholders.	
Wirral Resident	Neutral	We note your neutral position, however no design decisions can be made from this feedback.
Wirral Borough Council	Neutral position as does not overfly the Borough	We note your neutral position, however no design decisions can be made from this feedback.

Table 9: Stakeholder feedback received pertinent to the 09 Departure Right Turn to South SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the south
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflight
- Climbs aircraft higher than existing procedures
    - Reduces noise impact
    - Reduces Fuel burn
    - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Most direct route to south avoiding areas of high population density
- Aligns with the AMS

Issues

- May require further refinement to resolve conflictions with Manchester traffic
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 13 design principles were "MET"
- 1 design principle was "PARTIAL"
- 1 design principle was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Right Turn to South SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.8 SID Option 4: 09 Departure Left Turn to South

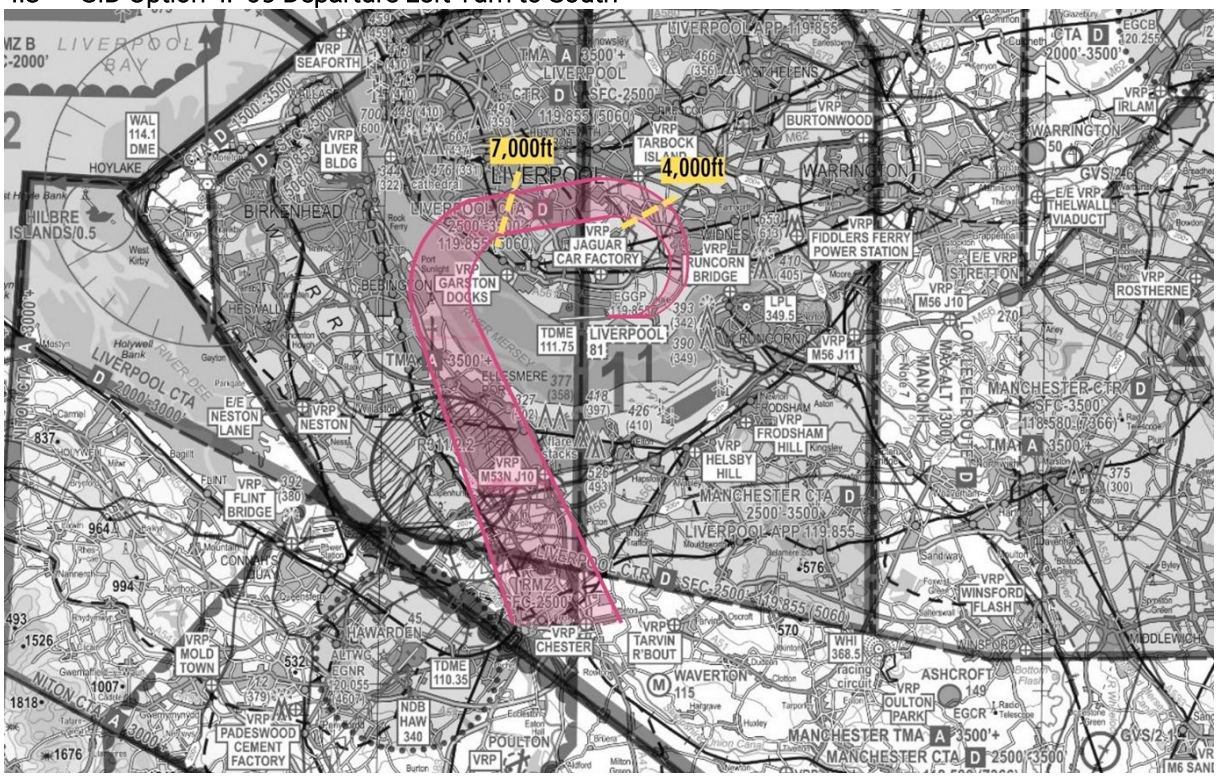


Figure 17: The potential location for a SID departing runway 09 with a left turn to join the ATS network in the South.

SID Option 4: 09 Departure Left Turn to South is the introduction of a new PBN SID providing connectivity to the ATS network in the south. Aircraft departing LJLA runway 09 to the south currently use either the REXAM 2V or NANTI 2V SIDs. Both these SIDs are right turn departure routes that climb to 4,000 ft. As the network options have developed it has become apparent that LJLA required an option to provide network connectivity in the vicinity of Poulton, approximately halfway between the two extant southerly SID end points.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a left turn against Manchester departures from runway 05L/R. This option offers an alternative route to the south by first "wrapping around" the airfield to the north before continuing south. This option seeks to limit the interaction with Manchester departing traffic by commencing the initial left turn earlier than the extant procedures departing LJLA.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial left turn, this option will continue the left turn to fly west overhead Liverpool on a track comparable to the extant WAL 2V departure route. This is likely to result in a slight reduction in altitude of the overflying stakeholders up to 4,000 ft but limits the overflight of Runcorn. This will limit the total population overflown. Aircraft are expected to reach 4,000 ft prior to overflying Liverpool. This will result in an increase in the frequency of overflight for the population of the Liverpool City centre.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb above 4,000 ft into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft overhead Liverpool City centre, north of Garston Docks. This continued climb should limit the impact

of aircraft overflight, due to the increased altitudes achieved, although this option does not avoid areas of high population density.

Compared to the baseline and the SID Option 3: 09 Departure Right Turn to South described above, this option increases the distance flown to join the network as well as increasing the population overflown.

Should this option be progressed, an appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 17 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.8.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. In order to confirm this, a defined line for the route is needed, and it would be preferable for these routes to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. These defined lines will also be required for cumulative impact work to commence with the ACOG led Cumulative Analysis Framework (CAF 1) process. Therefore, at this stage MAN support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with level constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Ryanair	Right turns from 09 for NE departures & left turns from 09 to the SE are environmentally and economically inefficient as they significantly increases track miles flown and therefore, fuel burn, emissions and flight time which affect commercial schedules, costs and company 'green' targets.	LJLA acknowledges with this assessment, and it will be reflected in the DPE (DP 2 and 9). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.

Stakeholder	Feedback	Impact
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.
Wirral Borough Council	Object as overflies densely populated area in East Wirral. This option appears to use more power to enable the aircraft to climb to over 7000ft but will affect areas being developed for housing as part of our Local Plan under consideration. Design principle 3 specifically refers to the need to avoid overflight of 'country park's ' and 'high risk industrial sites'.	LJLA notes your objection and population overflight will be considered within the DPE (DP 3, 4 and 13). These designs seek to minimise the impact of overflight by enabling improved CCO and increasing the SID end levels. This will be refined during the Stage 3 development work. The options as presented are in swathes which will enable LJLA to develop a solution which is compatible with the other FASI sponsors whilst benefiting local residents. The Design principles do not prohibit the overflight of high risk industrial sites but insures LJLA assess this overflight and endeavours to avoid it where able. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 10: Stakeholder feedback received pertinent to the 09 Departure left Turn to South SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the south
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflight
- Climbs aircraft higher than existing procedures
    - Reduces noise impact
    - Offsets increased fuel burn from additional track mileage
    - Offsets increased CO_2e emissions from additional track mileage
- No impact on GA compared to today's operation
- No known issues with other traffic
- Aligns with the AMS

Issues

- Increases population overflight frequency
    - Increases noise impact
- Additional track mileage due to "wrap around"
    - Increases Fuel burn
    - Increases CO_2e emissions
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 8 design principles were "MET"
- 6 design principle were "PARTIAL"
- 1 design principle was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Left Turn to South SID Option was REJECTED for further consideration as it did not meet the progression requirements set for the Design Principle Evaluation.

4.9 SID Option 5: 09 Departure Right Turn to Northwest

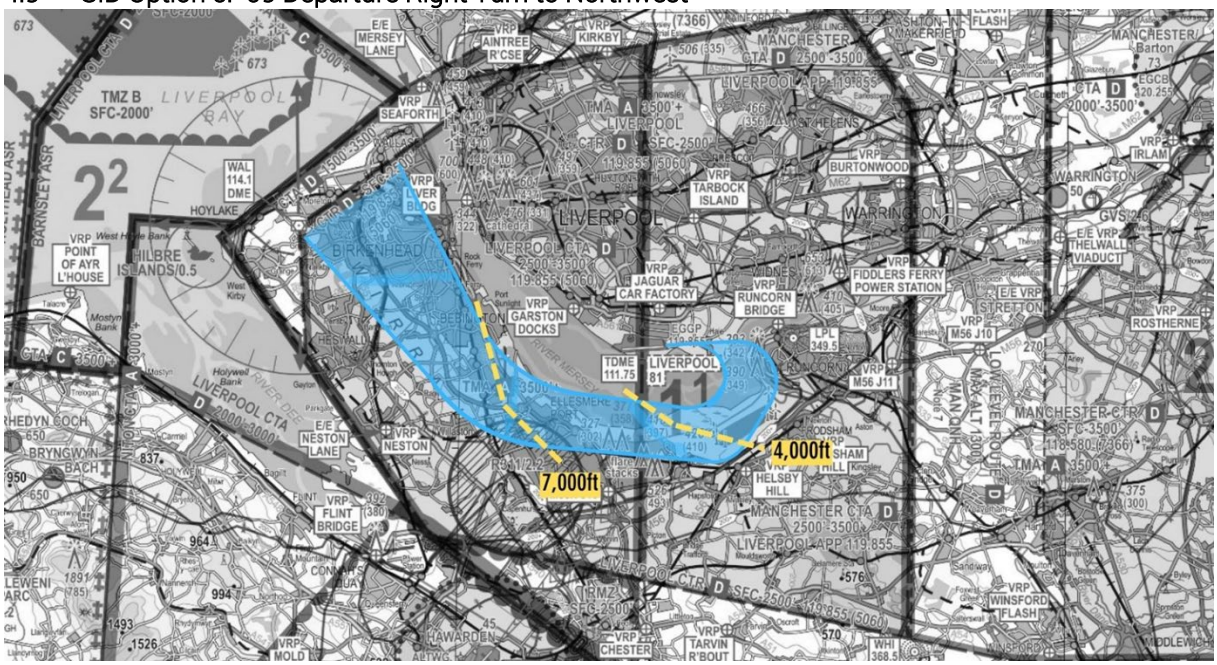


Figure 18: The potential location for a SID departing runway 09 with a right turn to join the ATS network in the Northwest.

SID Option 5: 09 Departure Right Turn to Northwest is the introduction of a new PBN SID providing connectivity to the ATS network in the northeast. Aircraft departing LJLA runway 09 to the northwest currently use the WAL 2V SID, a left turn departure route climbing to 4,000 ft.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a right turn against Manchester departures from runway 05L/R. This option seeks to commence the initial turn earlier than previously proposed CAVEN SIDs which will limit the interaction with Manchester departures.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial right turn, this option will keep flights overhead the River Mersey or the industrial areas on the southern bank of the River Mersey before turning to the northwest in the region of Ellesmere Port and then overflying Bebington.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft just north of Ellesmere Port. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved, as well as reducing the total population overflown below 7,000 ft.

Compared to the baseline and the SID Option 6: 09 Departure Left Turn to West described below, this option offers a comparable distance to join the network. However, this option reduces the population overflown below 7,000 ft by keeping the aircraft overhead the River Mersey or industrial areas on the south bank. In addition to the reduced population overflown this option should enable improved climb profiles over the do nothing option.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 18 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.9.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. As previously stated for the left turn a defined line for the route is needed to confirm this, and to commence the CAF I process. Again, it would be preferable for these to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. At this stage, MAN therefore support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with level constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Ryanair	Right turns from 09 to NW are fine.	LJLA acknowledges this assessment, and it will be reflected in the DPE (DP 2 and 9). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.

Stakeholder	Feedback	Impact
Wirral Resident	Strongly Object	We note your objection, however no design decisions can be made from this feedback.
Wirral Borough Council	Object as overflies densely populated area in East Wirral	LJLA notes your objection and population overflight will be considered within the DPE (DP 3, 4 and 13). These designs seek to minimise the impact of overflight by enabling improved CCO and increasing the SID end levels. This will be refined during the Stage 3 development work. The options as presented are in swathes which will enable LJLA to develop a solution which is compatible with the other FASI sponsors whilst benefiting local residents. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 11: Stakeholder feedback received pertinent to the 09 Departure Right Turn to Northwest SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the northwest
  - Reduces controller and cockpit workload
  - Enhances Safety
  - Reduces population overflight
- Climbs aircraft higher than existing procedures
  - Reduces noise impact
  - Reduces Fuel burn
  - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Comparable distance to the extant WAL 2V
- Initial track is overhead the River Mersey or industrial areas, limiting the overflight of areas of high population density below 7,000 ft
- Aligns with the AMS

Issues

- Not the most direct route
- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 11 design principles were "MET"
- 3 design principles were "PARTIAL"
- 1 design principles was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Right Turn to Northwest SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.10 SID Option 6: 09 Departure Left Turn to West

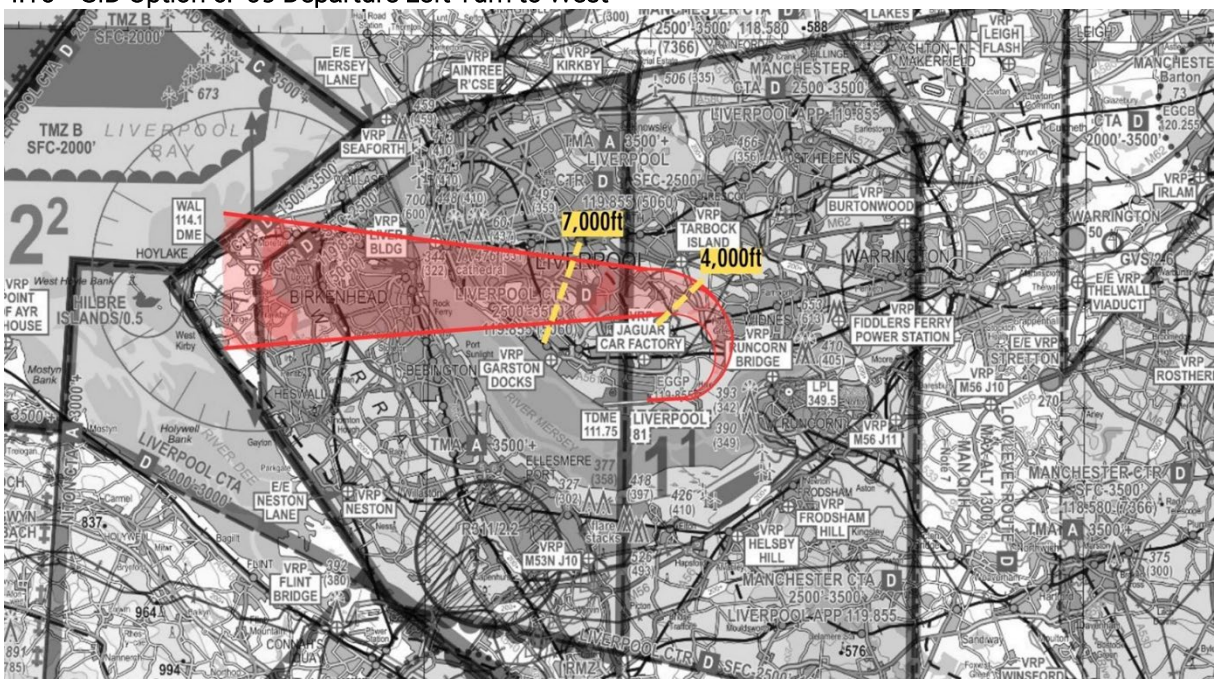


Figure 19: The potential location for a SID departing runway 09 with a left turn to join the ATS network in the West.

SID Option 6: 09 Departure Left Turn to West is the introduction of a new PBN SID providing connectivity to the ATS network to the west. Aircraft departing LJLA runway 09 to the west currently use the WAL 2V SID, a left turn departure route climbing to 4,000 ft.

In the ACOG/Manchester/LJLA workshop it was identified that an option was required to limit the interaction of aircraft departing LJLA from runway 09 with a left turn against Manchester departures from runway 05L/R.

This option seeks to commence the initial turn earlier than the extant WAL 2V SID or the previously proposed CAVEN SID which will limit the interaction with Manchester departures.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial left turn, marginally earlier than the existing WAL 2V procedure this option will continue the left turn to fly west overhead Liverpool. This is likely to result in a slight reduction in altitude of the overflying stakeholders up to 4,000 ft but limits the overflight of Runcorn. This will limit the total population overflown. Aircraft are expected to reach 4,000 ft prior to overflying Liverpool.

Currently the departure routes from LJLA terminate at 4,000 ft and the WAL 2V is planned to overfly Liverpool at 4,000 ft. This option is expected to continue the climb above 4,000 ft to into the ATS route network towards the end of the swathe. This will enable aircraft to continue their climb overhead Liverpool reducing the impact on those overflown. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft overhead Liverpool City centre, north of Garston Docks. This continued climb should limit the impact of aircraft overflight, due to the increased altitudes achieved, although this option does not avoid areas of high population density.

This option is comparable in distance to the baseline and the SID Option 5: 09 Departure Right Turn to Northwest described above.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 15 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.10.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. In order to confirm this, a defined line for the route is needed, and it would be preferable for these routes to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. These defined lines will also be required for cumulative impact work to commence with the ACOG led Cumulative Analysis Framework (CAF 1) process. Therefore, at this stage MAN support all three of these swathes as the basis for creating further defined options.	LJLA acknowledges a defined route is needed for the CAF2b work however the designs at this stage are swathes to ensure the flexibility exists to produce an operationally viable design. These options if progressed will be developed into defined tracks with level constraints where needed during the Stage 3 development work. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment and will reflect it in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.
Wirral Resident	Strongly Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Stakeholder	Feedback	Impact
Wirral Borough Council	Object as overflies densely populated areas in the Borough	LJLA notes your objection and population overflight will be considered within the DPE (DP 3, 4 and 13). These designs seek to minimise the impact of overflight by enabling improved CCO and increasing the SID end levels. This will be refined during the Stage 3 development work. The options as presented are in swathes which will enable LJLA to develop a solution which is compatible with the other FASI sponsors whilst benefiting local residents. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 12: Stakeholder feedback received pertinent to the 09 Departure Left Turn to West SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the west
  - Reduces controller and cockpit workload
  - Enhances Safety
  - Reduces population overflight
- Climbs aircraft higher than existing procedures
  - Reduces noise impact
  - Reduces Fuel burn
  - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Comparable distance to the extant WAL 2V
- No new populations overflown
- Aligns with the AMS

Issues

- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 10 design principles were "MET"
- 4 design principles were "PARTIAL"
- 1 design principles was "NOT" met
- 1 design principle not assessed as not relevant to a SID

09 Departure Left Turn to West SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.11 SID Option 7: 27 Departure Left Turn to South

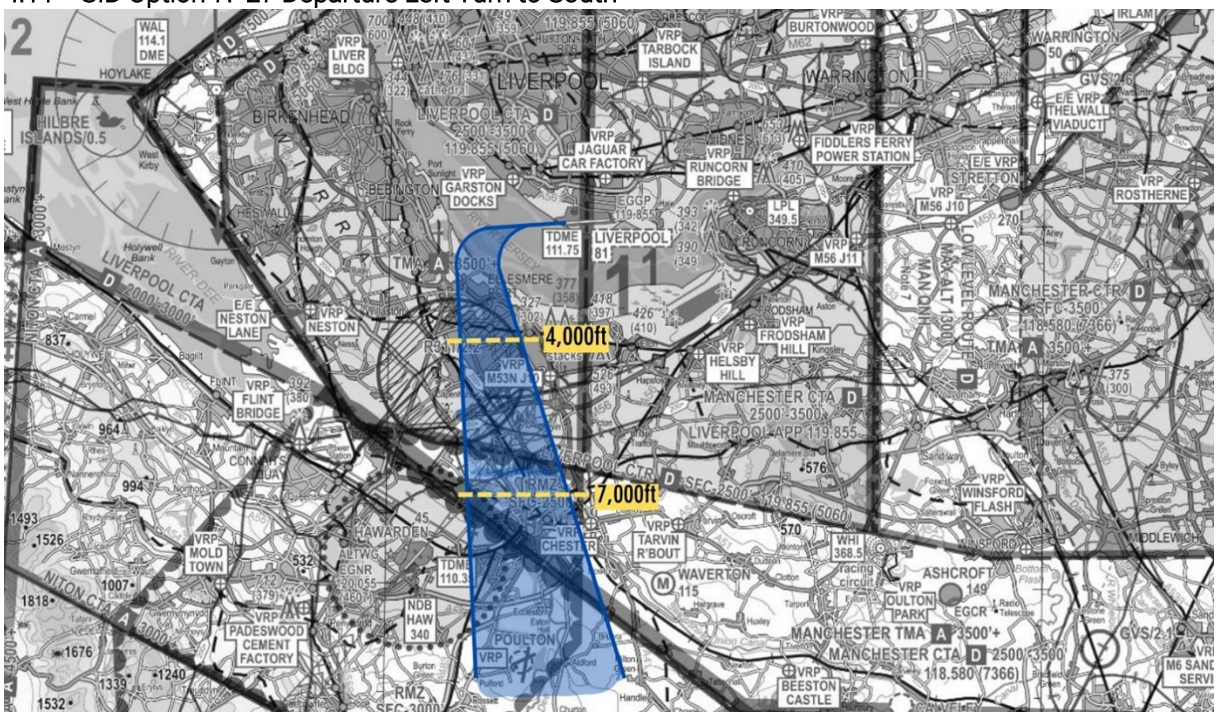


Figure 20: The potential location for a SID departing runway 27 with a left turn to join the ATS network in the South.

SID Option 7: 27 Departure Left Turn to South is the introduction of a new PBN SID providing connectivity to the ATS network in the south. Aircraft departing LJLA runway 27 to the south currently use the REXAM 2T or NANTI 2T SIDs. Both the extant procedures are left turn departure routes climbing to 4,000 ft. As the network options have developed it has become apparent that LJLA required an option to provide network connectivity in the vicinity of Poulton, approximately halfway between the two extant southerly SID end points.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial left turn, overhead the River Mersey in the region of Ellesmere Port this option will continue south. This option overflies the Capenhurst restricted area although this can be avoided if the final design keeps to the eastern edge of the swathe. Aircraft are approaching 4,000 ft by this point and will be above the vertical limits of the Capenhurst restricted area (EG R311, 2,200 ft). Up to the expected 4,000 ft point this option is expected to overfly a similar population as the extant NANTI 2T SID.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft north of Chester. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved. This option is expected to overfly a comparable population to the extant NANTI 2T SID although after 4,000 ft this s likely to be newly overflown communities.

This option represents the most direct route to the modernised ATS network.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 20 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.11.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	There were two additional options within the engagement materials that MAN have not commented upon in this response: • 27 Departure Left Turn to S • 27 Departure Right Turn to NE Both options have been created with swathes that would not impact the design of MAN design options below 7,000ft, and as a result we have no further comments on these options at this stage.	LJLA thanks Manchester for their Feedback. No update required to Design.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.
Wirral Borough Council	Object, though limited overflight of Wirral Area, this is at a lower altitude	LJLA notes your objection. At this stage the levels presented are indicative. These designs seek to minimise the impact of overflight by enabling improved CCO and increasing the SID end levels. This will have the effect of enabling aircraft to climb to a higher altitude sooner and should limit the impact of noise. The altitude levels will be refined during the Stage 3 development work. The options

Stakeholder	Feedback	Impact
		as presented are in swathes which will enable LJLA to develop a solution which is compatible with the other FASI sponsors whilst benefiting local residents. However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 13: Stakeholder feedback received pertinent to the 27 Departure Left Turn to South SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the south
  - Reduces controller and cockpit workload
  - Enhances Safety
  - Reduces population overflight
- Climbs aircraft higher than existing procedures
  - Reduces noise impact
  - Reduces Fuel burn
  - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Comparable distance to the extant NANTI 2T up to 4,000 ft
- No new populations overflown when compared to actual flights
- Aligns with the AMS

Issues

- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 10 design principles were "MET"
- 4 design principles were "PARTIAL"
- 1 design principles was "NOT" met
- 1 design principle not assessed as not relevant to a SID

27 Departure Left Turn to South SID Option is a promising candidate and has been PROGRESSED to the next stage.

4.12 SID Option 8: 27 Departure Right Turn to Northeast

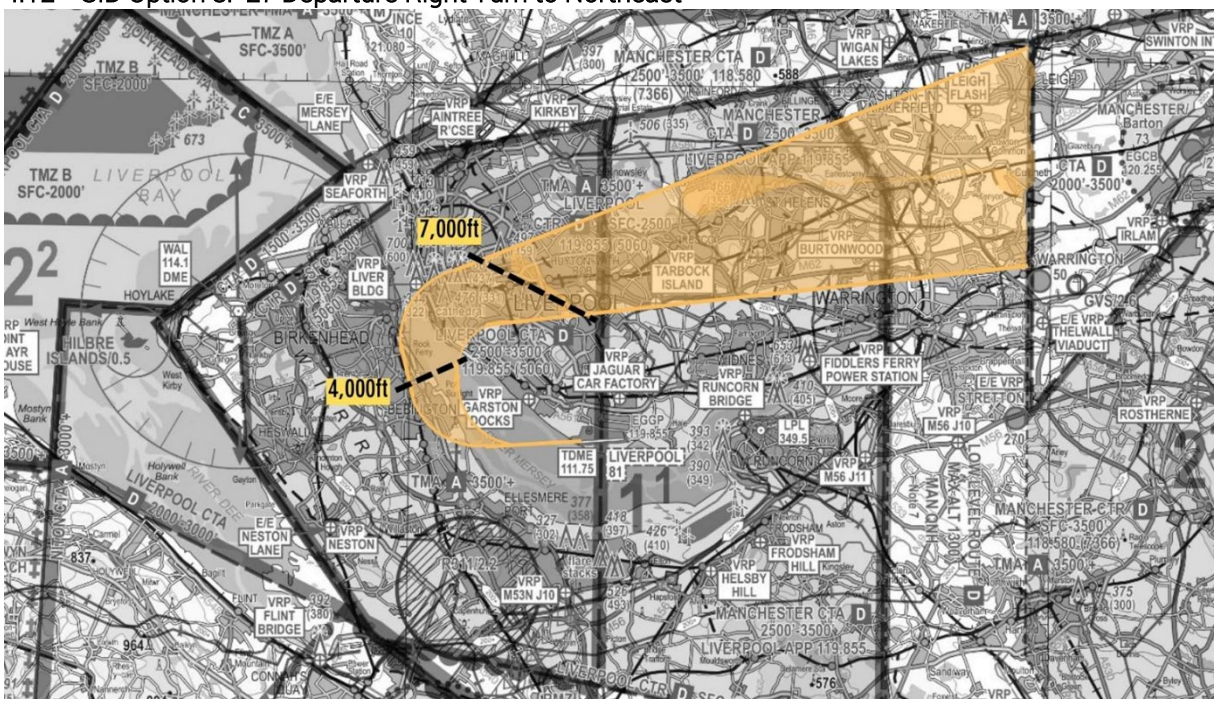


Figure 21: The potential location for a SID departing runway 27 with a right turn to join the ATS network in the Northeast.

SID Option 8: 27 Departure Right Turn to Northeast is the introduction of a new PBN SID providing connectivity to the ATS network in the northeast. Aircraft departing LJLA runway 27 to the northeast currently use the BARTN 1T or POL 4T SIDs, both the extant procedures are right turn departure routes climbing to 4,000 ft. As the network options have developed it has become apparent that LJLA required an option to provide network connectivity in the vicinity of Golborne from runway 27.

The swathe is narrowest at the airfield as there is no flexibility in the departure point, the SID must start from the runway end, and widens as aircraft progress along the route. This is to provide flexibility in the option so that a safe design can be made which limits the economic and environmental impacts.

Following an initial right turn, this option will keep flights overhead the river Mersey or the industrial areas on the southern riverbank of the River Mersey before turning northwards in the region of Ellesmere Port and then East overhead Liverpool. This is comparable to the extant BARTN 1V SID and represents the shortest distance to join the ATS network in the northeast for aircraft departing runway 27.

Currently the departure routes from LJLA terminate at 4,000 ft. This option is expected to continue the climb into the ATS route network towards the end of the swathe. The exact location is dependent on the NERL network design and will be determined prior to the Stage 3 gateway.

Assuming a continuous climb profile, based on the present-day performance, aircraft will reach 7,000 ft overhead Liverpool City Centre. This is expected to reduce the impact of aircraft overflight, due to the increased altitudes achieved, as well as reducing the total population overflown below 7,000 ft by avoiding the overflight of populated areas.

An appropriate standard of PBN will be used to provide a high degree of track adherence leading to increased predictability, facilitating procedural integration of this option with the other routes and should lead to an improved climb profile.

The introduction of a PBN Departure route should lead to predictable, concentrated tracks limiting the population overflown. However, the narrower area would be directly overflown more frequently with reduced dispersal and increased noise impacts in the narrower area. Those outside the area would likely observe a reduced noise impact.

The levels shown in Figure 21 are indicative levels based on the performance of aircraft currently departing LJLA and assume a CCO. The finalised levels and tracks will be determined though ongoing engagement work in between Stages 2 and 3 of the CAP1616 process to ensure the LJLA options contribute to a safe and efficient FASIN MTMA airspace design.

4.12.1 Stakeholder feedback relevant to design element

Stakeholder	Feedback	Impact
Manchester Airport	There were two additional options within the engagement materials that MAN have not commented upon in this response: • 27 Departure Left Turn to S • 27 Departure Right Turn to NE Both options have been created with swathes that would not impact the design of MAN design options below 7,000ft, and as a result we have no further comments on these options at this stage.	LJLA thanks Manchester for their Feedback. No update required to Design.
British Gliding Association	As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	LJLA wishes to thank the BGA for their feedback. No update required to Design.
Liverpool City Council	With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	LJLA agrees with this assessment, and it will be reflected in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Flintshire County Council	Departure options have minimal impact within the Airspace above Flintshire County Council	LJLA wishes to thank the Flintshire County Council for their feedback. No update required to Design.
NERL	NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LJL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a Stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	LJLA wishes to thank the NERL for their feedback. No update required to Design at this stage.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.
Wirral Borough Council	Object as overflies densely populated areas in East Wirral at less than 4000ft.	LJLA notes your objection and this will be considered in the DPE (DP 3, 4 and 13). However, the conceptual nature of the design options means that specific design decisions as a result of this feedback cannot be made until more detailed options are developed in Stage 3.
Wirral Resident	Object	LJLA notes your objection, however no design decisions can be made from this feedback.

Table 14: Stakeholder feedback received pertinent to the 27 Departure Right Turn to Northeast SID Option

Benefits

- Introduces a PBN departure route to the ATS network in the south
    - Reduces controller and cockpit workload
    - Enhances Safety
    - Reduces population overflight
- Climbs aircraft higher than existing procedures
    - Reduces noise impact
    - Reduces Fuel burn
    - Reduces CO_2e emissions
- No impact on GA compared to today's operation
- Comparable track to the extant BARTN 1T
- No new populations overflown when compared to actual flights
- Aligns with the AMS

Issues

- In isolation does not offer respite

The Design Principle Evaluation, see Appendix A: Design Principle Evaluation, concluded that:

- 13 design principles were "MET"
- 1 design principles were "PARTIAL"
- 1 design principles was "NOT" met
- 1 design principle not assessed as not relevant to a SID

27 Departure Right Turn to Northeast SID Option is a promising candidate and has been PROGRESSED to the next stage.

5 Additional Feedback Requiring Response

5.1 SoN Feedback

Stakeholders which responded through the Forms questionnaire were asked if they "*consider the new options proposed address the Statement of Need?*" Only stakeholders that responded through the online form answered this question. 13/15 respondents answered yes. The remaining 2 respondents provided a rationale and LJLA have responded below in Table 13:

Stakeholder	Feedback	LJLA response
Wirral Resident	The Statement of Need seems to contradict statements made elsewhere that airspace change is not about business expansion. It reflects the business interests of LJLA and not the needs of local residents or other businesses. The options may well address the former but not necessarily the latter. They do not address the climate emergency. This is increasingly viewed as a risk in business and finance and so would be self-defeating if long term business success is the goal.	The Statement of Need has been submitted and approved by the CAA. As stated in the engagement sessions the Statement of Need was written pre-Covid-19 pandemic. Whilst the traffic situation has changed, the requirements and LJLA aspirations to deliver this change to capitalise on available modern navigation capabilities to facilitate increased efficiencies and environmental benefits remains. Hence the Statement of Need remains valid.
Local Resident	I'm concerned Statement of Need is flawed in not going beyond business interests of LJLA itself and eg representing wider community.	No feedback has been provided relating to how *the new options proposed address the Statement of Need*, therefore no update is needed to the design following this feedback.

Table 15: Stakeholder feedback relating to how the options address the statement of need.

No updates to the options were required following this feedback.

5.2 DP Feedback

Stakeholders were asked if they agreed with the statement "*new options proposed are consistent with the Design Principles?*" Only stakeholders that responded through the online form answered this question. 11/15 respondents answered yes. The remaining 4 respondents provided a rationale and LJLA have responded below in Table 16:

Stakeholder	Feedback	LJLA response
LAA	No detailed consideration of GA. The impact statements combining GA and commercial are mixing two issues	As stated in the engagement sessions, the Design Principles have been submitted and approved by the CAA. The options presented here in relate to the IFR arrival transitions and departure routes. There is no proposal to alter the GA traffic and no option is expected to adversely impact the GA. GA impact is considered in the 2B Initial Options appraisal.
Wirral Resident	They do to a degree but there's no other way to comment other than to say they do not to open up the comment box! The declaration of environment emergencies in local authorities and the LCRCA is not adequately addressed by the limited reference to environmental concerns. Your plans to expand and increase capacity will lead to increased GHG emissions. Reference to "respite" in your design principles admits that you know your activities cause distress to residents.	As stated in the engagement sessions, the Design Principles have been submitted and approved by the CAA. GHG emissions are assessed qualitatively at this stage and compared to the do-nothing baseline. As stated in the engagement session whilst capacity was a driving factor when this ACP was originally submitted, following the Covid-19 pandemic the focus has shifted to environmental benefits.
Wirral Resident	Not enough emphasis on environment, though some welcome attempts to improve noise impact on Wirral residents in some options.	As stated in the engagement sessions, the Design Principles have been submitted and approved by the CAA. At Stage 2 of the ACP process, the environmental impacts are assessed qualitatively. At the subsequent Stage 3 a quantitative analysis of the environmental impacts will be provided.

Wirral Borough Council	Whilst this Council appreciates the national context, as presented, is to replace dated equipment with a new technology, the Council has to be satisfied that the new equipment will work to the benefit of residents. Our key concern is that the way in which it is set up should not adversely affect areas of the borough where the narrower paths are most likely to operate. This council considers that the proposals do not resolve the conflict that residents living under the flight paths when caught between design principles 11 and 13: 11 'Procedures should be developed to allow for alternative routes to offer respite' 13 Procedures should be designed to concentrate routes to minimise the numbers overflown The use of the term 'respite' acknowledges that residents will be adversely impacted.	As stated in the engagement sessions, the Design Principles have been submitted and approved by the CAA. At Stage 2 of the ACP process, the environmental impacts are assessed qualitatively. At the subsequent Stage 3 a quantitative analysis of the environmental impacts will be provided. Design Principles design principles encompass the safety, environmental and operational criteria and the strategic policy objectives that LJLA seeks to achieve in developing the airspace change proposal. Ideally all design principles would be met but trade-offs are often required. Design principles may contradict each other. Each design in this document has been evaluated to understand how they perform. The use of respite does not automatically imply that residents will be adversely impacted but does acknowledge any impact they have could be lessened. Whilst options in isolation do not offer respite, two routes to the same point may do so. However, respite via two routes is not a given, it depends how far apart they are.

Table 16: Stakeholder feedback relating to how the options address the statement of need.

No update to the options were required following this feedback.

5.3 Generic Feedback

The following feedback not relating to the presented options was received:

Stakeholder	Feedback	Impact
Manchester Airport	Interaction 2 LPL 27 arrivals (Right Hand Radar Circuit) vs. MAN 23 west departures LPL inbound transitions to Runway 27 routeing downwind right hand include a base leg turn at 2,500ft to the LIV2 FAF. This would require MAN west departures to reach 3,500ft 5nm before the base leg track to ensure separation. The climb gradient required by MAN departures to achieve this separation would be in excess of the 6% climb gradient that all airlines operating from MAN could achieve. If CAP 1385 rules are applied, the most recent workshops with ACOG hove identified there are no MAN departure options to the west that are fully procedurally separated from LPL right hand arrivals if the MAN traffic is climbing at 6%. No additional downwind right options to resolve this interaction were presented in the engagement. As a result, MAN does not consider that LPL's proposed options adequately address the identified interaction. Options to resolve this are proposed below.	This interaction was identified as not requiring additional options. Therefore, none have been considered. In addition, consistent with the feedback from Ryanair, modern aircraft are able to climb at a rate greater than the 6% asserted by Manchester Airport. LJLA therefore does not consider it prudent to discount a potentially viable option at this stage when an increased climb profile could deliver environmental benefits to all stakeholders. No update required to Design.
	Interaction 5 LPL 27 arrivals (Right hand radar pattern) vs MAN OS arrivals Current procedures between MAN and LPL provide separation assurance for the configuration of LPL on westerly operations and MAN on easterly operations.	This interaction was identified as not requiring additional options. Therefore, none have been considered. LJLA aspires to create an airspace design which will work for all users as well as benefiting ground based stakeholders. This will be achieved through

	Nonetheless, to create a systemised operation in line with the AMS, MAN does not consider that LPL's proposed options fully address the identified interaction because of the use of the LIV2 FAF at 2,500ft. The creation of options that either reduce this altitude, or route to the UVERI 2,000ft FAF as identified in the comments for interactions 1 and 2 would be expected to resolve this conflict.	exploring these options in closer detail during the collaborative design work between Stage 2 and Stage 3. LJLA therefore does not consider it prudent to discount a potentially viable option at this stage when an increased climb profile could deliver environmental benefits to all stakeholders No update required to Design.
Manchester Airport	The original LPL consultation contained the 09 CAVEN and CORKA (option) SIDs which had a first turn with potential to create an interaction with MAN 05 arrivals. However, the three swathes now presented at engagement seek to provide options for LPL 09 departures to turn left earlier than the previously proposed SIDs. Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. In order to confirm this, a defined line for the route is needed, and it would be preferable for these routes to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. These defined lines will also be required for cumulative impact work to commence with the ACOG led Cumulative Analysis Framework (CAF 1) process. Therefore, at this stage MAN support all three of these swathes as the basis for creating further defined options.	LJLA agrees with this initial assessment although this will need to be confirmed during later design work.
Manchester Airport	The original LPL consultation contained the 09 AGGER, CORKA and CAVEN (option) SIDs which had a first turn that may create an interaction with MAN 05 arrivals. The three swathes presented at engagement provide options for LPL 09 departures to turn right earlier than the original CAVEN SID. Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. As previously stated for the left turn a defined line for the route is needed to confirm this, and to commence the CAF I process. Again, it would be preferable for these to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. At this stage, MAN therefore support all three of these swathes as the basis for creating further defined options.	LJLA agrees with this initial assessment although this will need to be confirmed during later design work.
Manchester Airport	Whilst some interactions remain, we are encouraged that many of these swathes and options have focussed on creating resolutions to the interactions between our operations. Where we have put forward suggestions and additional options, these have been made with the aim of creating a comprehensive list of options for the LPL Step 2A submission, to provide the best chance of selecting a workable and efficient network of routes within the MTMA and to meet the aims of the AMS in terms of safety,	LAJA thanks Manchester Airport for their feedback. This has been considered and where inside the scope of the work identified in the workshops the designs have been updated to include the Manchester suggestions.

	simplification, integration and environmental performance.	

Table 17: Stakeholder feedback received pertinent to the Arrival Structure concepts

6 Conclusion and Next Steps

Following the development of these additional options LJLA shared the designs with their stakeholders through a series of four engagement sessions. Stakeholders were invited to comment on how they felt the options addressed the Statement of Need, the agreed design principles and to provide any feedback on the options they considered necessary.

This feedback has been considered and, where an update to the proposed designs was needed, this has been made. Some feedback was more relevant for the design work following the Stage 2 gateway and this will be used to inform the designs for consultation.

Following this engagement, the options were evaluated against the design principles. This evaluation has led to one SID (Option 4) being discounted at this stage. Two transitions and seven SIDs remained. The shortlisted options are listed below in Table 18:

Option number	Option Description
Transition VEGUN S1	PBN transition from southern hold routing north of Chester
Transition VEGUN S2	PBN transition from southern hold routing south of Chester
SID Option 1	09 Departure. Early right turn to limit the interaction with Manchester Traffic and avoid overflying Runcorn. SID wraps around the airfield to join ATS route network to the Northeast.
SID Option 2	09 Departure. Early left turn to limit the interaction with Manchester Traffic and to route West and North of Widnes before following the M62 to join ATS route network to the Northeast.
SID Option 3	09 Departure. Early right turn to limit the interaction with Manchester Traffic and to avoid overflying Runcorn. SID join ATS route network to the South.
SID Option 5	09 Departure. Early right turn reduce interaction with Manchester Traffic and avoid overflying Runcorn. SID wraps around the airfield to join ATS route network to the Northwest.
SID Option 6	09 Departure. Early left turn to limit the interaction with Manchester Traffic, routing West of Widnes before continuing left to join the ATS network in the Northwest.
SID Option 7	27 Departure. Left turn to the South to align with route network options proposed by NERL
SID Option 8	27 Departure. Right turn to the Northeast (comparable to current BARTN SID) to align with route network options proposed by NERL

Table 18: Shortlisted options following DPE

These shortlisted options have been carried forward to Stage 2B.

The overall timeline for this ACP is consistent with Iteration 2 of the Master Plan for the regional cluster within which this ACP sits.

7 Appendix A: Design Principle Evaluation

DPE methodology

The previous DPE (Ref 5) for the LJLA ACP was reviewed and the MET, PARTIALLY MET, NOT MET criteria extracted and used to define the DPE assessment criteria for these additional options. The assessment descriptions used for the previous submission applied similar criteria to assess different design principles. To remain consistent with the previous assessment, these descriptions have guided the evaluation of the new options. An additional DP relating to the AMS alignment, DP16, was included and each option evaluated subjectively against how the Design Options perform against the vision and parameters / strategic objectives of the AMS. The presentation of the DPE for the addendum options within this submission has been updated to simplify the presentation and ensure consistency between the evaluation of options.

The strategic objectives of the AMS listed on page 15 of CAP1711 (Ref 8) are:

- Maintaining and, where possible, improving the UK's high levels of aviation safety
- Integration of diverse users – including needs of defence and security
- Simplification – reducing complexity and improving efficiency
- Environmental sustainability – an overarching principle applied through all modernisation activities, in accordance with the Government's environmental objectives

How the AMS DP was assessed:

- Safety is already covered in DP1, with the assessment criteria described in the relevant tables.
- Integration of diverse users, including defence, is covered in DP10 via the consideration of impacts of CAS volumes (and access) on other airspace users.
- Simplification and complexity are both covered by DP12 (reduced ATC workload) and DP14 (predictability of tracks).
- Environmental sustainability is covered [6] by DP2 (air pollution), DP4 (noise), and DP13 (minimising population overflown).

As this is an addendum that supplements the previously approved document set and to remain consistent with the original submission, the baseline assessments have not been reassessed and the retained assessment is presented in a new format below (Ref 5). However, by definition, the baselines are not modernised options, therefore they both rate as Not Met.

Where the Stakeholder Engagement Feedback tables state that feedback was used to inform the evaluation of one or more DPs (the impacted DPs are listed alongside the feedback), our SMEs take that feedback, add it to their wider knowledge and experience, and apply their combined judgment to the DPE for each option. The conceptual nature of the design options means that design decisions on each subject may not be possible at this stage. However, all feedback is considered by the SMEs in the round, and will also be carried forward into later stages as the concepts develop into more detailed options.

[6] DP3 (noise sensitive areas) are considered adequately covered by DP4 (noise), and DP11 (respite routes) cannot be considered in isolation.

ANNEX A - LJLA Options assessment matrix

DP	Priority	Quick Ref	Description	Red	Amber	Green
1	=1 (1a)	**Safety**	Procedures must be designed to meet acceptable levels of flight safety.	Unacceptable level of safety risk	Diminished - Issue(s) identified could result in an elevated level of safety risk when compared to today's operation	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
2	3	**Environmental**	Procedures must be designed to minimise aircraft emissions to reduce air pollution.	Altitude restriction requires aircraft to plan a level off and not most direct route	Altitude restriction requires aircraft to plan a level off or not most direct route	Most direct route and Continuous Climb or Descent
				Procedure requires aircraft to be flown in sub optimal configuration	Design allows procedure flown at optimal configuration but it is not the most direct routing or vice versa	Design allows procedure flown at optimal configuration and it is the most direct routing
3	4	**Environmental**	Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.	New sensitive areas overflown or existing overflown sensitive areas overflown at a lower altitude	No change in sensitive areas overflown	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
4	=5 (5a)	**Environmental**	Procedures must be designed to minimise the impact of noise below 7,000ft.	Procedure includes level off below 4,000 ft	Procedure includes level off below 7,000 ft	Procedure does not include a level off below 7,000 ft
				Procedure requires aircraft to be flown in sub optimal configuration	N/a	Design allows procedure flown at optimal configuration and it is the most direct routing
				New sensitive areas overflown or existing overflown sensitive areas overflown at a lower altitude	No change in sensitive areas overflown	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
				Higher population densities overflown in preference to lower population densities	Lower population densities overflown in preference to higher population densities	Population centres avoided where able
5	=5(5b)	**Operational**	Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.	Procedure is not technically flyable and does not maintain existing operational performance or capacity	Procedure is technically flyable but does not maintain existing operational performance or capacity	Procedure is technically flyable and does maintain or improve existing operational performance or
6	7	**Operational**	Procedures should be designed to enable more continuous climbs.	Procedure includes level period at or below 4,000 ft	Procedure includes level period below 7,000 ft	Procedure incorporates a continuous climb profile to above 7,000ft
7	=8 (8a)	**Technical**	Procedures should be designed to fit within existing airspace constraints and boundaries.	Procedure is not contained within CAS	Potential for aircraft flying the procedure to leave CAS	Procedure is contained within CAS
8	=8 (8b)	**Operational**	Procedures should be designed to enable more continuous descents.	Procedure includes level period at or below 4,000 ft	Procedure includes level period below 7,000 ft	Procedure incorporates a continuous descent profile
9	10	**Operational**	Procedures should be designed that minimise the number of track miles flown.	Route unnecessarily turns away from destination	Route turns away from destination to allow for vertical constraints	Most direct route achievable
10	11	**Technical**	If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.	Major reduction in accessibility of airspace for airspace users	Minor reduction in accessibility of airspace for airspace users	No Change or improved accessibility of airspace for airspace users
11	12	**Environmental**	Procedures should be developed to allow for alternative routes to offer respite.	Single route available	Respite route will increase population overflown	Respite route available
				Alternate procedures are not developed for individual approach procedures.		No population overflown
12	=13 (13a)	**Operational**	Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.	Design does not promote a reduction in ATC vectoring	Option is not deconflicted against other low level procedures	Option is deconflicted against other low level procedures
13	=13 (13b)	**Environmental**	Procedures should be designed to concentrate routes to minimise the numbers overflown.	Procedures rely on pilot interpretation of ground based beacon information from a great distance and does not represent the actual tracks flown.	Procedures rely on pilot interpretation of local ground based beacon information and does not represent the actual tracks flown.	PBN procedures will lead to more accurate track keeping
14	15	**Technical**	Procedures should be designed to ensure predictability of tracks for consistency of operations.	No published procedure	Non-PBN procedures provide limited predictable track keeping	PBN procedures will lead to more predictable track keeping
15	16	**Operational**	Procedures should be designed to include alternative routes to avoid other aviation operators.	Procedure does impact other avaiation stakeholders	Aircraft are likely to be in conflict with other aviation stakeholders	No impact on other aviation stakeholders
16	=1 (1b)	**AMS**	Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it. (Note: The CAA have stated that this DP is required by all change sponsors.) CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable - the need to maximise the utilisation of existing runway capacity	Not aligned with the AMS If any of DP1,2,4,10,12, 13 or 14 are Not Met	Partially aligned with the AMS If any of DP1,2,4,10,12, 13 or 14 are Partial and none are Not Met	Aligned with the AMS If all of DP1,2,4,10,12,13 and 14 are Met

ANNEX A

Design Options Conclusion and Shortlist

The design principle evaluation of each design option presented on the following pages and are summarised in the table below.

Design Principle / Option Name:	Was this DP assessed as part of AMS DPE for DP16?	Transition Option 0: Baseline (do nothing)	Transition Option 1: VEGUN S1	Transition Option 2: VEGUN S2	SID Option 0: Baseline (do nothing)	SID Option 1: 09 Departure Right Turn to NE	SID Option 2: 09 Departure Left Turn to NE	SID Option 3: 09 Departure Right Turn to S	SID Option 4: 09 Departure Left Turn to S	SID Option 5: 09 Departure Right Turn to NW	SID Option 6: 09 Departure Left Turn to W	SID Option 7: 27 Departure Left Turn to S	SID Option 8: 27 Departure Left Turn to NE
Accept / Reject		Reject	Accept & Progress	Accept & Progress	Reject	Accept and Progrees	Accept and Progrees	Accept and Progrees	Reject	Accept and Progrees	Accept and Progrees	Accept and Progrees	Accept and Progrees
Design Principle 1: Safety =1 (1a) Procedures must be designed to meet acceptable levels of flight safety.	AMS	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 2: Environmental 3 Procedures must be designed to minimise aircraft emissions to reduce air pollution.	AMS	PARTIAL	MET	MET	NOT	PARTIAL	MET	MET	PARTIAL	PARTIAL	MET	MET	MET
Design Principle 3: Environmental 4 Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.		NOT	MET	MET	NOT	MET	MET	MET	PARTIAL	MET	PARTIAL	PARTIAL	MET
Design Principle 4: Environmental =5 (5a) Procedures must be designed to minimise the impact of noise below 7,000ft.	AMS	NOT	MET	MET	NOT	MET	MET	MET	PARTIAL	MET	PARTIAL	PARTIAL	MET
Design Principle 5: Operational =5(5b) Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.		MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 6: Operational 7 Procedures should be designed to enable more continuous climbs.		N/A	N/A	N/A	NOT	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 7: Technical =8 (8a) Procedures should be designed to fit within existing airspace constraints and boundaries.		PARTIAL	MET	MET	PARTIAL	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 8: Operational =8 (8b) Procedures should be designed to enable more continuous descents.		NOT	MET	MET	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Design Principle 9: Operational 10 Procedures should be designed that minimise the number of track miles flown.		PARTIAL	MET	MET	PARTIAL	PARTIAL	MET	MET	PARTIAL	PARTIAL	MET	MET	MET
Design Principle 10: Technical 11 If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.	AMS	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 11: Environmental 12 Procedures should be developed to allow for alternative routes to offer respite.		NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
Design Principle 12: Operational =13 (13a) Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.	AMS	NOT	MET	MET	PARTIAL	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 13: Environmental =13 (13b) Procedures should be designed to concentrate routes to minimise the numbers overflown.	AMS	NOT	MET	MET	NOT	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 14: Technical 15 Procedures should be designed to ensure predictability of tracks for consistency of operations.	AMS	NOT	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET	MET
Design Principle 15: Operational 16 Procedures should be designed to include alternative routes to avoid other aviation operators.		MET	PARTIAL	PARTIAL	MET	PARTIAL	PARTIAL	PARTIAL	PARTIAL	PARTIAL	PARTIAL	PARTIAL	PARTIAL
Design Principle 16: AMS =1 (1b) Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it. (Note: The CAA have stated that this DP is required by all change sponsors.) CAP1711 describes what airspace modernisation must deliver including: - the need to increase aviation capacity; - growth to be sustainable - the need to maximise the utilisation of existing runway capacity	AMS	NOT	MET	MET	NOT	PARTIAL	MET	MET	PARTIAL	PARTIAL	PARTIAL	PARTIAL	MET

The following options will not be progressed:
Options having any priority 1-5 Design Principles which are 'NOT' met (red),
Options having 4 or more priority 1-5 Design Principles 'PARTIAL' (orange),
Options having 2 or more Design Principles which are 'NOT' met (red).

Next Steps

Transition Options 1 and 2 and SID Options 1, 2, 3, 5, 6, 7 and 8 will be formally appraised under the Stage 2, Step 2B Options Appraisal (Phase 1 Initial), including Safety Assessment.

Transition Option 0: Baseline (do nothing)		Reject	Assessment matrix ref
Transitions are currently managed tactically by ATC. Aircraft are vectored to the IAF for the desired approach procedure. There are no defined routes for Transition; the DPE contained in this table applies to all tactical routes as the same results applied to each.			
Design Principle 1: Safety **Procedures must be designed to meet acceptable levels of flight safety.** *No change. Tactical vectoring by ATC is currently safe.*	=1 (1a)	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
Design Principle 2: Environmental **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *The current transitions from STAR procedure to approach procedure is tactically managed by ATC. Track lengths and altitude profiles will depend on the local traffic picture at the time and may not be optimum.*	3	PARTIAL	Other
Design principle 3: Environmental **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Tactical routing does not take into account sensitive locations in the local area.*	4	NOT	Other
Design principle 4: Environmental **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Tactical routing does not take into account noise-sensitive or residential areas.*	=5 (5a)	NOT	Other
Design principle 5: Operational **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *No Change. Current conventional procedures are technically flyable and maintain existing operational performance, and capacity.*	=5(5b)	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational **Procedures should be designed to enable more continuous climbs.** *Not evaluated for Transitions.*	7	N/A	Other
Design principle 7: Technical **Procedures should be designed to fit within existing airspace constraints and boundaries.** *Routing and altitude profile will be tactically managed by ATC and will depend on the local air picture at the time. There is no guarantee that the procedures will be contained within CAS.*	=8 (8a)	PARTIAL	Potential for aircraft flying the procedure to leave CAS
Design principle 8: Operational **Procedures should be designed to enable more continuous descents.** *Descent clearances will be as directed by ATC.*	=8 (8b)	NOT	Procedure includes level period at or below 4,000 ft
Design principle 9: Operational **Procedures should be designed that minimise the number of track miles flown.** *Whilst ATC will endeavour to use the most direct routing, actual routes will depend on the traffic situation at the time.*	10	PARTIAL	Other
Design principle 10: Technical **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *No change required to existing arrangements for Controlled Airspace.*	11	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental **Procedures should be developed to allow for alternative routes to offer respite.** *There are no extant transition procedures. Routing is tactically managed by ATC.*	12	NOT	Other
Design principle 12: Operational **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *There are no extant transition procedures. Routing is tactically managed by ATC.*	=13 (13a)	NOT	Other
Design principle 13: Environmental **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Routing is tactically managed by ATC and will be dictated by the local air picture at the time.*	=13 (13b)	NOT	Other
Design principle 14: Technical **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Routing is tactically managed by ATC and will be dictated by the local air picture at the time.*	15	NOT	No published procedure
Design principle 15: Operational **Procedures should be designed to include alternative routes to avoid other aviation operators.** *No change to existing arrangements.*	16	MET	Other
Design principle 16: AMS **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *Modernisation would not occur*	=1 (1b)	NOT	Not aligned with the AMS

Conclusion:

Baseline, the "Do-Nothing" option is REJECTED since it would bring no benefit and did not meet the progression requirements set for the Design Principle Evaluation.

Transition Option 1: VEGUN S1	Accept & Progress	Assessment matrix ref
Transition from the southern hold in the vicinity of VEGUN routing North of Chester to join a shorter compared to previously published options (4 mile) base leg prior to turning onto final at LIV (~8 NM from touchdown).		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to meet acceptable levels of safety. The introduction of a transition from the southern hold will lead to predictable tracks, enhancing safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *Procedure introduces a predictable track and will include published levels facilitating improved CDOs and accurate flight planning. This should lead to a reduction in emissions.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *The procedure has been designed to avoid overflying large population centres, in particular Chester. However, this option routing to the North of Chester does route in the vicinity of Chester Zoo. However, the altitude of the aircraft is expected to be higher than the current day operation.*	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *The procedure has been designed to produce predictable tracks which avoid overflying large population centres, in particular Chester. This limits the area affected by aviation noise. In addition, the altitude of the aircraft is expected to be higher than the current day operation leading to a reduction in noise impact for those overflown.*	MET	Lower population densities overflown in preference to higher population densities
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *Not evaluated for Transitions.*	N/A	Other
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *Procedure is contained within existing CAS boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *The procedure has been designed to limit the interaction with neighbouring traffic enabling aircraft to fly improved CDO's.*	MET	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This route represents the minimal distance achievable between the hold and base leg whilst avoiding unnecessary population overflight.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The use of a PBN based route will lead to more predictable tracks being flown and therefore potentially less airspace required. However, the airspace requirements can not be determined until the complete design is understood.*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This is a stand alone option for the transition. The procedure has been designed to comply with FASI (North) requirements.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *All aircraft arrivals have previously required tactical routing from ATC from STAR to IAP. Although the procedure has been designed to integrate with the en-route structure, the size and complexity of the airspace around LJLA any identified conflictions between this transition and other LJLA procedures will be resolved procedually in the design phase between Stage 2 and Stage 3.*	MET	Option is deconflicted against other low level procedures
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent. The procedures have been designed to avoid the overflight of large population areas.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *Any identified conflictions between this transition and other procedures will be resolved procedually in the design phase between Stage 2 and Stage 3 when able.*	PARTIAL	Aircraft are likely to be in conflict with other aviation stakeholders
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The addition of PBN Transitions will modernise the airspace in line with the AMS*	MET	Aligned with the AMS

Conclusion:

This transition option contributes to the delivery of the strategic objectives of the AMS. The introduction of a PBN transition will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN transitions concentrate the tracks of flights over the ground reducing the total population overflown. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design. Allowing aircraft to stay higher for longer should reduce the impact of overflight as well as reducing fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. However, this option will require further development to deconflict against Manchester traffic.

Transition Option 2: VEGUN S2	Accept & Progress	Assessment matrix ref
Transition from the southern hold in the vicinity of VEGUN routing South of Chester to join a shorter compared to previously published options (4 mile) base leg prior to turning onto final at LIV (~8 NM from touchdown).		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to meet acceptable levels of safety. The introduction of a transition from the southern hold will lead to predictable tracks, enhancing safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *Procedure introduces a predictable track and will include published levels facilitating improved CDOs and accurate flight planning. This should lead to a reduction in emissions.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *The procedure has been designed to avoid overflying large population centres, in particular Chester. In addition, the altitude of the aircraft is expected to be higher than the current day operation.*	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *The procedure has been designed to produce predictable tracks which avoid overflying large population centres, in particular Chester. This limits the area affected by aviation noise. In addition, the altitude of the aircraft is expected to be higher than the current day operation leading to a reduction in noise impact for those overflown.*	MET	Lower population densities overflown in preference to higher population densities
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *Not evaluated for Transitions.*	N/A	Other
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *Procedure is contained within existing CAS boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *The procedure has been designed to limit the interaction with neighbouring traffic enabling aircraft to fly improved CDO's.*	MET	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This route represents the minimal distance achievable beteen the hold and base leg whilst avoiding unnecessary population overflight.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The use of a PBN based route will lead to more predictable tracks being flown and therefore potentially less airspace required. However, the airspace requirements can not be determined until the complete design is understood.*	MET	No change or minor reduction in accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This is a stand alone option for this transition. The procedure has been designed to comply with FASI (North) requirements.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *All aircraft arrivals have previously required tactical routing from ATC from STAR to IAP. Although the procedure has been designed to integrate with the en-route structure, the size and complexity of the airspace around LJLA any identified conflictions between this transition and other LJLA procedures will be resolved procedually in the design phase between Stage 2 and Stage 3.*	MET	Option is deconflicted against other low level procedures
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent. The procedures have been designed to avoid the overflight of large population areas.*	MET	Procedures rely on pilot interpretation of ground based beacon information from a great distance and does not represent the actual tracks flown.
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *Any identified conflictions between this transition and other procedures will be resolved procedually in the design phase between Stage 2 and Stage 3 when able.*	PARTIAL	Aircraft are likely to be in conflict with other aviation stakeholders
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The addition of PBN Transitions will modernise the airspace in line with the AMS*	MET	Aligned with the AMS

Conclusion:

This transition option contributes to the delivery of the strategic objectives of the AMS. The introduction of a PBN transition will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN transitions concentrate the tracks of flights over the ground reducing the total population overflown. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design. Allowing aircraft to stay higher for longer should reduce the impact of overflight as well as reducing fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. However, this option will require further development to deconflict against Manchester traffic.

SID Option 0: Baseline (do nothing)		Reject	Assessment matrix ref
Retain the current conventional SIDs. The DPE for all SIDs are summarised in this table – the results were the same for each.			
Design Principle 1: Safety **Procedures must be designed to meet acceptable levels of flight safety.** *No change. Current conventional procedures are safe.*	=1 (1a)	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
Design Principle 2: Environmental **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *Maximum altitude for aircraft following SIDs is 4,000 ft until cleared by ATC*	3	NOT	Altitude restriction requires aircraft to plan a level off and not most direct route
Design principle 3: Environmental **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Conventional routing less predictive that PBN. Current procedures do not take into account sensitive areas.*	4	NOT	Other
Design principle 4: Environmental **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Maximum altitude for aircraft following SIDs is 4,000 ft until cleared by ATC.*	=5 (5a)	NOT	Procedure includes level off below 4,000 ft
Design principle 5: Operational **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *No Change. Current conventional procedures are technically flyable and maintain existing operational performance, and capacity.*	=5(5b)	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational **Procedures should be designed to enable more continuous climbs.** *Maximum altitude for aircraft following SIDs is 4,000 ft until cleared by ATC.*	7	NOT	Procedure includes level off at or below 4,000 ft
Design principle 7: Technical **Procedures should be designed to fit within existing airspace constraints and boundaries.** *Potential for aircraft to leave controlled airspace if clearance to climb not received by ATC.*	=8 (8a)	PARTIAL	Potential for aircraft flying the procedure to leave CAS
Design principle 8: Operational **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	=8 (8b)	N/A	Other
Design principle 9: Operational **Procedures should be designed that minimise the number of track miles flown.** *More direct routing achievable.*	10	PARTIAL	Other
Design principle 10: Technical **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *No change.*	11	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental **Procedures should be developed to allow for alternative routes to offer respite.** *Single SIDs available depending on routing.*	12	NOT	Single route available
Design principle 12: Operational **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *No change. ATC intervention required for altitude clearances to join the en-route structure and deconfliction between arriving and departing traffic.*	=13 (13a)	PARTIAL	Option is not deconflicted against other low level procedures
Design principle 13: Environmental **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Conventional procedures rely on the pilot interpreting ground-based beacon information and don't represent actual tracks flown.*	=13 (13b)	NOT	Procedures rely on pilot interpretation of ground based beacon information from a great distance and does not represent the actual tracks flown.
Design principle 14: Technical **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Single SIDs available depending on routing to destination.*	15	MET	Other
Design principle 15: Operational **Procedures should be designed to include alternative routes to avoid other aviation operators.** *No change to existing arrangements.*	16	MET	Other
Design principle 16: AMS **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *Modernisation would not occur*	=1 (1b)	NOT	Not aligned with the AMS

Conclusion:

Baseline, the "Do-Nothing" option is REJECTED since it would bring no benefit and did not meet the progression requirements set for the Design Principle Evaluation.

SID Option 1: 09 Departure Right Turn to NE		Accept and Progrees	Assessment matrix ref
09 Departure. Early right turn to limit the interaction with Manchester Traffic and avoid overflying Runcorn. SID wraps around the airfield to join ATS route network to the North East.			
Design Principle 1: Safety **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	=1 (1a)	MET	Enhanced - Improvement over today's level of safety. Maintained - safety risk could be maintained within acceptable levels of today's operation
Design Principle 2: Environmental **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *The early right turn and wrap around increases the track mileage for this option. However, this option is anticipated to improve departure climb profiles.*	3	PARTIAL	Altitude restriction requires aircraft to plan a level off or not most direct route
Design principle 3: Environmental **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early right turn before Runcorn follows the southern edge of the River Mersey. The proposed swathe avoids population areas by overflying the industrial area on the southern bank of the Mersey or by keeping overhead the river itself. Whilst this swathe does potentially overflies the Eastern edge of Bebington and central Liverpool, the expected climb profile, following a raised SID end point, indicates the aircraft are likely to be in excess of 7,000 ft by these areas.*	4	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedures have been designed to minimise the population overflown and a revised SID end level will enable improved climb profiles.*	=5 (5a)	MET	Population centres avoided where able
Design principle 5: Operational **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	=5(5b)	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable improved climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	7	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	=8 (8a)	MET	Procedure is contained within CAS
Design principle 8: Operational **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	=8 (8b)	N/A	Other
Design principle 9: Operational **Procedures should be designed that minimise the number of track miles flown.** *By turning right after take-off, this procedure is not the most direct routing to North East and therefore increases the number of track miles flown. However, the additional track mileage reduces the interaction with neighbouring flows and decreases the likelihood of a required level off.*	10	PARTIAL	Route turns away from destination to allow for vertical constraints
Design principle 10: Technical **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain the SID*	11	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route North East and does not contain a respite element when considered in isolation.*	12	NOT	Single route available
Design principle 12: Operational **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	=13 (13a)	MET	Other
Design principle 13: Environmental **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	=13 (13b)	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	15	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route North East and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	16	PARTIAL	Other
Design principle 16: AMS **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of a wrap around SID is partially aligned with the AMS. The additional track mileage will lead to increased fuel burn and CO2 emissions.*	=1 (1b)	PARTIAL	Partially aligned with the AMS

Conclusion:

The 09 Right turn departure to Northeast option partially contributes to the delivery of the strategic objectives of the AMS due to the introduction of a PBN "wrap around" departure route which adds track mileage to the departure route. This will lead to additional fuel burn and CO2e emissions. However, the introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. The introduction of PBN departure routes will concentrate the tracks of flights over the ground. However, overflight of population centres is reduced by the proposed route predominantly being located over the river or the industrial areas on the south bank of the River Mersey. This would reduce the total population overflown by this departure route. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure procedures terminate at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should help to offset the increase fuel burn and CO2e emissions resulting from the planned increase in track mileage. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 2: 09 Departure Left Turn to NE	Accept and Progrees	Assessment matrix ref
09 Departure. Early left turn to limit the interaction with Manchester Traffic and to route West and North of Widnes before following the M62 to join ATS route network to the North East.		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *The early left turn reduces the track miles flown for this option. However, this routing may have a potential conflict with the Manchester design and may require a planned level off.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early left turn skirts the eastern edge of Widnes, this is comparable to the current BARTN 1V and POL 5V before turning east following the M62. This avoids the most populated areas as well as sensitive areas currently overflown. However, the northern edge of the swathe overflies Rainhill, which includes 3 schools and a 6th form college, not currently overflown by the existing procedure. The proposed swathe is likely to reduce the total population overflown and is likely to improve the climb gradient, provide improved CCO, and termination at a higher*	MET	Other
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedures have been designed to minimise the population overflown and a revised SID end level will enable improved CCO to a greater height.*	MET	Population centres avoided where able
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. For this option the final design may require deconfliction against Manchester traffic through the incorporation of planned level off(s). However, increasing the SID end levels should enable additional climb.*	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	N/A	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This option represents the most direct connectivity to the North East taking into account population density and sensitive areas.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain the SID*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route North East and does not contain a respite element when considered in isolation.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Other
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route North East and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. However, remaining interactions with Manchester traffic along the SID route may need resolving. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the*	PARTIAL	Other
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of PBN SID is aligned with the AMS.*	MET	Aligned with the AMS

Conclusion:

The 09 Left turn departure to Northeast option contributes to the delivery of the strategic objectives of the AMS. The introduction of this PBN departure route will offer the most direct route to the ATS network in the northeast whilst avoiding areas of high population density. The introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. The introduction of PBN departure routes will concentrate the tracks of flights over the ground. However, overflight of population centres is reduced by the proposed route turning before Widnes and then turning east to follow the M62. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure procedures terminate at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. However, this option may require further development to deconflict against Manchester traffic. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 3: 09 Departure Right Turn to S	Accept and Progrees	Assessment matrix ref
09 Departure. Early right turn to limit the interaction with Manchester Traffic and to avoid overflying Runcorn. SID join ATS route network to the South.		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *This option offers a direct route to the South and is anticipated to improve CCO.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early right turn before Runcorn keeps aircraft overhead the the River Mersey. The proposed swathe avoids population areas by overflying the Frodsham Windfarm and passes between the villages of Helsby and Elton. This swathe closely aligns with the current flown tracks and is expected to offer an improved planned climb profile with aircraft likely to reach 7,000ft North of Boughton.*	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedures have been designed to minimise the population overflown and a revised SID end level will enable improved CCO to a greater height. A revised SID end level will enable improved CCO to a greater height.*	MET	Population centres avoided where able
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	N/A	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This option represents the most direct connectivity to the South taking into account population density and sensitive areas.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route South and does not contain a respite element when considered in isolation.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Other
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route South and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	PARTIAL	Other
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of PBN SID is aligned with the AMS.*	MET	Aligned with the AMS

Conclusion:

The 09 Right turn departure to South option contributes to the delivery of the strategic objectives of the AMS. This PBN departure route will offer the most direct route to join the ATS network in the south whilst reducing overflight of areas of high population density. The introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. However, overflight of population centres is reduced by the proposed route turning before Runcorn and passing between Frodsham and Ellesmere Port. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure procedures terminate at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 4: 09 Departure Left Turn to S	Reject	Assessment matrix ref
09 Departure. Early left turn to limit the interaction with Manchester Traffic, routing West of Widnes before continuing left to wrap around the field and joining the ATS network in the South.		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *The early left turn and wrap around increases the track milage for this option. However, this option is anticipated to improve departure climb profiles.*	PARTIAL	Altitude restriction requires aircraft to plan a level off or not most direct route
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early left turn skirts the eastern edge of Widnes before turning west to wrap arround the airfield, this is comparable to the current WAL 2V. After turning West this swathe overflieses Halewood, Woolton, Calderstones, Allerton and Liverpool city before being anticipated to reach 7,000ft and before a turn to the South. Whilst this option increases the frequency of aircraft departing overhead the Liverpool city region, this option is unlikely to overfly new areas below 7,000 ft.*	PARTIAL	No change in sensitive areas overflown
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedure allows improved climb profiles, however the routing overflies areas of higher population density. A revised SID end level will enable improved climb profiles to a greater height.*	PARTIAL	Other
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	N/A	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *By turning left after take-off, this procedure is not the most direct routing to the South and therefore increases the number of track miles flown. However, the additional track milage reduces the interaction with neighbouring flows and decreases the likelihood of a required level off.*	PARTIAL	Route turns away from destination to allow for vertical constraints
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain the SID*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route South and does not contain a respite element when considered in isolation.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Other
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route South and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	PARTIAL	Other
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of a wrap around SID is partially aligned with the AMS. The additional track mileage will lead to increased fuel burn and CO2 emissions.*	PARTIAL	Partially aligned with the AMS

Conclusion:

The 09 Left turn departure to South option partially contributes to the delivery of the strategic objectives of the AMS due to the introduction of a PBN "wrap around" departure route which adds additional track mileage to the departure route. This will lead to additional fuel burn and CO2e emissions. However, the introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. Currently aircraft departing LJLA to the south do so with a right turn from runway 09 avoiding the densely populated Liverpool City. However, this "wrap around" departure route first overflies Liverpool City centre increasing the frequency of overflight for this population overflown. It should be noted this track is like the extant WAL 2V SID but would increase the number of flights over Liverpool City Centre. The introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure procedures terminate at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should help to offset the increased fuel burn and CO2e emissions resulting from the increased track mileage of this option. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 5: 09 Departure Right Turn to NW		Accept and Progrees	Assessment matrix ref
09 Departure. Early right turn reduce interaction with Manchester Traffic and avoid overflying Runcorn. SID wraps around the airfield to join ATS route network to the North West.			
Design Principle 1: Safety **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	=1 (1a)	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *The early right turn and wrap around increases the track mileage for this option. However, this option is anticipated to improve CCO.*	3	PARTIAL	Altitude restriction requires aircraft to plan a level off and not most direct route
Design principle 3: Environmental **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early right turn before Runcorn follows the southern edge of the River Mersey. The proposed swathe avoids population areas by overflying the industrial area on the southern bank of the Mersey or by keeping overhead the river itself. Whilst this swathe does potentially overflies Eastham, Bromborough, Bebington and the Capenhurst restricted area, following enabled improved CCO, it is expected that aircraft are likely to be near or in excess of 7,000 ft by these areas.*	4	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedures have been designed to minimise the population overflown and a revised SID end level will enable improved CCO to a greater height.*	=5 (5a)	MET	Population centres avoided where able
Design principle 5: Operational **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	=5(5b)	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	7	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	=8 (8a)	MET	Procedure is contained within CAS
Design principle 8: Operational **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	=8 (8b)	N/A	Other
Design principle 9: Operational **Procedures should be designed that minimise the number of track miles flown.** *By turning right after take-off, this procedure is not the most direct routing to the North West. However, this routing is considered due to the reduction in population density and sensitive areas overflown at the expense of minimal additional track miles (~ 3 NM per flight).*	10	PARTIAL	Other
Design principle 10: Technical **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain*	11	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route North West and does not contain a respite element when considered in isolation.*	12	NOT	Single route available
Design principle 12: Operational **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	=13 (13a)	MET	Other
Design principle 13: Environmental **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	=13 (13b)	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	15	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route North West and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	16	PARTIAL	Other
Design principle 16: AMS **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of a wrap around SID is partially aligned with the AMS. The additional track mileage will lead to increased fuel burn and CO2 emissions.*	=1 (1b)	PARTIAL	Partially aligned with the AMS

Conclusion:

The 09 Right turn departure to Northwest option contributes to the delivery of the strategic objectives of the AMS. This PBN departure route will join the ATS network in the northwest whilst minimising the overflight of areas of high population density below 7,000 ft. The introduction of a new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. However, population centres are avoided by the proposed route remaining overhead the river Mersey or the industrial areas on the south bank before reaching 7,000 ft. This will reduce the total population overflown for this departure route. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure route to the northwest turns left following departure and overflies Liverpool City Centre, terminating at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option is marginally longer but intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

ANNEX A

SID Option 6: 09 Departure Left Turn to W	Accept and Progrees	Assessment matrix ref
09 Departure. Early left turn to limit the interaction with Manchester Traffic, routing West of Widnes before continuing left to join the ATS network in the North West.		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *This option offers a direct route to the North West and is anticipated to improve CCO.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the existing procedures, this departure swathe overflieses Hale Primary School at ~1.5 NM on the extended centerline. The early left turn skirts the eastern edge of Widnes before turning to the North West, this is comparable to the current WAL 2V. After turning West this swathe overflieses Halewood, Woolton, Calderstones, Allerton and Liverpool City Center. Whilst the population overflown is comparable to the WAL 2V, it is anticipated that aircraft will be able to plan to plan their departure profiles more in line with current operations. Whilst this option maintains the amount of aircraft departing overhead the Liverpool city region, this option is unlikely to overfly new areas below 7,000ft.*	PARTIAL	No change in sensitive areas overflown
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedure allows continuous climb, however the routing overflies areas of higher population density.*	PARTIAL	N/a
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	N/A	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This option represents the most direct connectivity to the North West.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route North West and does not contain a respite element when considered in isolation.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Other
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route North West and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	PARTIAL	Other
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *Increased frequency of population overflown*	PARTIAL	Partially aligned with the AMS If any of DP1,2,3,4,10,12 or 14 are Partial and none are Not Met

Conclusion:

The 09 Left turn departure to West option contributes to the delivery of the strategic objectives of the AMS. This PBN departure route will offer a departure route to join the ATS network in the northwest. This new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. However, as this option follows a track comparable to the extant WAL 2V SID, a departure route that overflies Liverpool City Centre, no new populations will be overflown. The impact of this overflight will be lessened by raising the SID end level. Currently the existing departure terminates at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 7: 27 Departure Left Turn to S		Accept and Progrees	Assessment matrix ref
27 Departure. Left turn to the South to align with route network options proposed by NERL			
Design Principle 1: Safety **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	=1 (1a)	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *This option offers a direct route to the South and is anticipated to improve CCO.*	3	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *Like the NANTI 2T, this swathe turns south just prior to the Eastham Country Park. Following this sourtherly turn this swathe continues overhead Ellesmere Port, South Wirral and overhead the Capenhurst restricted area towards Chester following a track analogous to where aircraft are currently routed by ATC. Currently SIDs terminate at 4,000 ft and this new option is anticipated to terminate highe enabling improved climb profiles and CCO. Whilst no new populations are likely to be overflown, this option would combine the extant REXAM and NANTI traffic increasing the total numbers of flights.*	4	PARTIAL	Other
Design principle 4: Environmental **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedure allows continuous climb, however the direct routing south overflies Ellesmere Port and South Wirral areas of higher population*	=5 (5a)	PARTIAL	Other
Design principle 5: Operational **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	=5(5b)	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	7	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	=8 (8a)	MET	Procedure is contained within CAS
Design principle 8: Operational **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	=8 (8b)	N/A	Other
Design principle 9: Operational **Procedures should be designed that minimise the number of track miles flown.** *This option represents the most direct connectivity to the South.*	10	MET	Other
Design principle 10: Technical **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain*	11	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route South and does not contain a respite element when considered in isolation.*	12	NOT	Single route available
Design principle 12: Operational **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	=13 (13a)	MET	Other
Design principle 13: Environmental **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	=13 (13b)	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	15	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route South and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	16	PARTIAL	Other
Design principle 16: AMS **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *Increased frequency of population overflown*	=1 (1b)	PARTIAL	Partially aligned with the AMS If any of DP1,2,3,4,10,12 or 14 are Partial and none are Not Met

Conclusion:

The 27 Left turn departure to South option contributes to the delivery of the strategic objectives of the AMS. This PBN departure route will offer a departure route to join the ATS network in the south. This new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. However, as this option follows a track comparable to the extant NANTI 2T up to 4,000 ft and is then comparable to the actual tracks flown, no new populations are expected to be overflown. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure terminates at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

SID Option 8: 27 Departure Left Turn to NE	Accept and Progrees	Assessment matrix ref
27 Departure. Right turn to the North East (comparable to current BARTN SID) to align with route network options proposed by NERL		
Design Principle 1: Safety =1 (1a) **Procedures must be designed to meet acceptable levels of flight safety.** *The procedure has been designed to maintain the current levels of flight safety.*	MET	Enhanced - improvement over today's level of safety. Maintained - safety risk could be maintained within
Design Principle 2: Environmental 3 **Procedures must be designed to minimise aircraft emissions to reduce air pollution.** *This option offers a direct route to the North East and is anticipated to improve CCO.*	MET	Most direct route and continuous Climb or Descent
Design principle 3: Environmental 4 **Procedures should be designed to avoid overflight of sensitive areas, e.g. hospitals, schools, country parks, high risk industrial sites.** *This option is analgous to the current BARTN 1V. The initial route overflies the industrial areas of Bebington and Tranmere before turning east overhead Liverpool. This option is expected to raise the SID end level enabling improved climb profiles resulting in the same population currently overflown being overflown at an higher altitude.*	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 4: Environmental =5 (5a) **Procedures must be designed to minimise the impact of noise below 7,000ft.** *Procedures have been designed to minimise the population overflown below 7,000ft and a revised SID end level will enable improved CCO to a greater height.*	MET	Reduction in sensitive areas overflown or existing areas are overflown at a higher altitude
Design principle 5: Operational =5(5b) **Procedures should be designed to be technically flyable and maintain existing operational performance, and capacity.** *The procedure is technically flyable and maintains existing operational performance, and capacity.*	MET	Procedure is technically flyable and does maintain or improve existing operational performance or capacity
Design principle 6: Operational 7 **Procedures should be designed to enable more continuous climbs.** *The swathes have been developed to minimise the interactions with neighbouring traffic. Increasing the SID end levels should further enable continous climb. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Procedure incorporates a continuous climb profile to the transition Altitude or higher
Design principle 7: Technical =8 (8a) **Procedures should be designed to fit within existing airspace constraints and boundaries.** *The procedure is contained within existing airspace boundaries.*	MET	Procedure is contained within CAS
Design principle 8: Operational =8 (8b) **Procedures should be designed to enable more continuous descents.** *Not evaluated for SIDs.*	N/A	Other
Design principle 9: Operational 10 **Procedures should be designed that minimise the number of track miles flown.** *This option represents the most direct connectivity to the Northeast.*	MET	Most direct route achievable
Design principle 10: Technical 11 **If the design of the new procedures requires a smaller volume of airspace, airspace design or classification should be altered for the benefit of other airspace users.** *The design is not yet mature enough to determine overall CAS volumes, however for this element no changes would be required to contain*	MET	No Change or improved accessibility of airspace for airspace users
Design principle 11: Environmental 12 **Procedures should be developed to allow for alternative routes to offer respite.** *This option is for a single route Nortth East and does not contain a respite element when considered in isolation.*	NOT	Single route available
Design principle 12: Operational =13 (13a) **Procedures should be designed to minimise the need for aircraft vectoring to reduce Air Traffic Controllers (ATCOs) workload.** *The SID will be designed to minimise the requirement for ATCO intervention. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	MET	Other
Design principle 13: Environmental =13 (13b) **Procedures should be designed to concentrate routes to minimise the numbers overflown.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more accurate track keeping
Design principle 14: Technical 15 **Procedures should be designed to ensure predictability of tracks for consistency of operations.** *Introduction of PBN procedures will lead to more accurate route keeping meaning tracks flown over the ground will be more consistent.*	MET	PBN procedures will lead to more predictable track keeping
Design principle 15: Operational 16 **Procedures should be designed to include alternative routes to avoid other aviation operators.** *This option is for a single route North East and does not contain an alternative option when considered in isolation. This route includes an early turn to limit the interaction with Manchester traffic. As the options are developed into finalised designs, trade offs may be required to seamlessly integrate with the neighbouring traffic flows.*	PARTIAL	Other
Design principle 16: AMS =1 (1b) **Must accord with the CAA's published Airspace Modernisation Strategy (CAP1711) and any current or future plans associated with it.** **(Note: The CAA have stated that this DP is required by all change sponsors.)** **CAP1711 describes what airspace modernisation must deliver including:** **- the need to increase aviation capacity;** **- growth to be sustainable** **- the need to maximise the utilisation of existing runway capacity** *The introduction of PBN SID is aligned with the AMS.*	MET	Aligned with the AMS

Conclusion:

The 27 Right turn departure to Northeast option provides contributes to the delivery of the strategic objectives of the AMS. This PBN departure route will offer the most direct departure route to join the ATS network in the northeast for aircraft departing LJLA runway 27. This new PBN procedure will enable improved flight planning leading to an improvement in safety through increased predictability of tracks and a reduction in workload. PBN departure routes will concentrate the tracks of flights over the ground. However, as this option follows a track comparable to the extant BARTN 1T and is comparable to the actual tracks flown, no new populations are expected to be overflown. The impact of this overflight will be lessened by increasing the SID end level. Currently the existing departure terminates at 4,000 ft, resulting in aircraft planning to stay lower for longer. This new option intends to raise the SID end point improving the flight profile and enabling CCO to the route network. In addition, this improved departure profile should reduce fuel burn and CO2e emissions. This option is contained within existing airspace and therefore should not adversely impact other airspace users. A single route, when considered in isolation cannot deliver respite. However, when a route is considered as part of a system design, that route then has the potential to deliver respite. Subject to the options progressing, potential respite options might be included in the finalised design.

8 Appendix B: Engagement Evidence

8.1 Engagement Log

	Stakeholders		Engagement Invite	Follow-up Engagement Invite	In Person Session 27 April	In Person Session 28 April	MS TEAMS Engagement 20 April	MS TEAMS Invite 4 May	Presentation Email
Aviation Stakeholders	Liverpool Airports	Consultative Committee	Sent 21-03-2023 (Section 8.2.2)	Sent 05-04-2023 (Section 8.2.5)	Yes	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Noise Monitoring Sub-Committee	Sent 21-03-2023 (Section 8.2.2)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
	ANSPs	NATS MAN	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		NERL Prestwick Centre	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	Yes	Yes	Yes	Yes	Sent 04-05-2023 (Section 8.2.10)
		Serco - Hawarden	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
	Airports	Manchester	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	Yes	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Leeds Bradford	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		East Midlands	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Blackpool	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Warton	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		City Airport	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		RAF Shawbury	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		RAF Woodvale	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Ashcroft Aerodrome	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Sleap Airfield	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
	Aircraft Operators	Air Ambulance	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Barton Aerodrome	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Blue Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		easyJet	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	Yes	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Enter Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Jota	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Helicentre	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Jet2	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Keen Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		LAGAUA	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lauda	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Logan Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lufthansa Airlines	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Mersey Flight	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		NPAS Police	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Play	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		RAF Shawbury	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		RAF Valley	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Raven Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ryanair	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Skyport	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stobart Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Titan Airways	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		TUI	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wideroe	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wizz Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		XLR	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
	General Aviation	Helicentre	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Keen Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mersey Flight	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Raven Air	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Air Navigation & Trading Company	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Air Training Club Aviation	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cheshire Microlight Centre	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Denbigh Gliding Club	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Flightpath Blackpool	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Heli 2000	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Peak District Helicopters	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		L A C Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mainair Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mainair Microlight Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		North Wales Gliding Club	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Shropshire Aero Club	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Skydive Tilstock	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Westair Flying School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		West Lancashire Microlight School	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

Aviation Stakeholders	NATMAC	Airlines UK	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Airspace4All	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Airport Operators Association (AOA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Airfield Operators Group (AOG)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aircraft Owners and Pilots Association (AOPA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Airspace Change Organising Group (ACOG)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Association of Remotely Piloted Aircraft Systems UK (ARPAS-UK)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aviation Environment Federation (AEF)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Airways (BA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		BAe Systems	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Airline Pilots Association (BALPA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Balloon and Airship Club	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Business and General Aviation Association (BBGA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Gliding Association (BGA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		British Helicopter Association (BHA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		British Hang Gliding and Paragliding Association (BHPA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Microlight Aircraft Association (BMAA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		BMAA	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Model Flying Association (BMFA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		British Skydiving	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Drone Major	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		General Aviation Alliance (GAA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Guild of Air Traffic Control Officers (GATCO)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Honourable Company of Air Pilots (HCAP)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Helicopter Club of Great Britain (HCGB)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Heavy Airlines	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Iprosurv	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Isle of Man CAA	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Light Aircraft Association (LAA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Low Fare Airlines	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Military Aviation Authority (MAA)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ministry of Defence - Defence Airspace and Air Traffic Management (MoD DAATM)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		NATS	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		NATS	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Navy Command HQ	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		PPL/IR (Europe)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		UK Airprox Board (UKAB)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		UK Flight Safety Committee (UKFSC)	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		United States Visiting Forces (USVF), HQ United States Country Rep-UK (HQ USCR-UK).	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
Local Environmental Stakeholders		Campaign to Protect Rural England	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Natural England	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Natural Resources Wales	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		National Parks UK	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		National Trust	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Friends of the Earth	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Environment Agency	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Forestry Commission	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool City Region Combined Authority	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

Governmental Stakeholders	Local Planning Authorities	Blackburn with Darwen Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Blackpool Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bolton Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Burnley Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Bury Council	Sent 21-03-2023 (Section 8.2.3)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Calderdale Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cheshire East Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cheshire West and Chester Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Chorley Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Conwy County Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Denbighshire County Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Derbyshire Dales District Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Flintshire County Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Fylde Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Halton Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	Yes	No	No	Sent 04-05-2023 (Section 8.2.10)
		High Peak Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hyndburn Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Knowsley Metropolitan Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	Yes	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool City Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	Yes	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Manchester City Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Newcastle under Lyme Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Oldham Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Preston City Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ribble Valley Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rochdale Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rossendale Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Salford City Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sefton Metropolitan Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Shropshire Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		South Ribble Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		St. Helens Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	Yes	Sent 04-05-2023 (Section 8.2.10)
		Stafford Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Staffordshire Moorlands District Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stockport Metropolitan Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stoke on Trent City Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tameside Metropolitan Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Trafford Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Warrington Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		West Lancashire Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Wigan Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wirral Metropolitan Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Wrexham County Borough Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wyre Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
	Parish Councils	Formby Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Acton Bridge Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Adlington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aintree Village Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aldersey	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aldford & Saighton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Alpraham Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Alvanley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Anderton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Anderton with Marbury Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Antrobus Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	Yes	No	No	Sent 04-05-2023 (Section 8.2.10)
		Appleton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Argoed Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ashton Hayes & Horton-cum-Peel Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aston by Budworth Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aston Parish Meeting	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Aughton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bache	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Backford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bagillt Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Barnton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Barrow Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Beeston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

Governmental Stakeholders	Parish Councils	Bickerstaffe Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Billinge Chapel End Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Birchwood Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Bispham Parish Meeting	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Blackrod Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bold Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bostock Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Broughton & Bretton Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Broxton & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Brynford Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Buckley Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bunbury Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Burscough Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Burtonwood & Westbrook Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Burwardsley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Caerwys Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Calveley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Capenhurst & Ledsham Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Charnock Richard Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cholmondeston & Wettenhall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Chowley	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Christleton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Church Minshull Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Churton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cilcain Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Clotton Hoofield Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Coddington & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Comberbach Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Connah's Quay Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Coppull Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Croft Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cronton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Croughton	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Crowton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cuddington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Cuerdley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Culcheth & Glazbury Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Dalton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Daresbury Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Darnhall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Davenham Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Delamere & Oakmere Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Dodleston & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Downholland Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Duddon & Burton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Dunham-on-the-Hill & Hapsford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Dutton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Eaton & Eccleston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Eccleston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Elton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Flint Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Frodsham Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Golborne David	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Grappenhall & Thelwall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Great Altcar Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Great Boughton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Great Budworth Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Great Sankey Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Guilden Sutton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Gweraffield and Pantymwyn Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Gwerymynydd Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Haigh Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hale Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Halebank Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Halewood Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Halkyn Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

Governmental Stakeholders	Parish Councils	Halsall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Handley & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hargrave & Huxley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hartford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hatton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Haughton Parish Meeting	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hawarden Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Helsby Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Heskin Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		High Legh Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Higher Kinnerton Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hightown Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hilldale Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Holywell Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Hope Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Horwich Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Huntington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ince Blundell Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ince Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Kelsall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Kingsley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Kingsmead Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Knowsley Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Lathom Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lathom South Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lea-by-Backford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ledsham	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Leeswood & Pontblyddyn Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Little Altcar Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Little Budworth Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Little Leigh Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Little Stanney & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Littleton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Llanarmon-Yn-Ial Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Llanasa Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Llanferres Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Llanfynydd Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Llay Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lydiate Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Lymm Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Maghull Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Manley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Marston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mawdesley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Melling Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mickle Trafford & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Minshull Vernon & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mold Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mollington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Moore Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Moston	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mostyn Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Mouldsworth Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Moulton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Nannerch Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Nercwys Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Neston Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Newburgh Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Norley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Northop Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Northop Hall Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Northwich Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Parbold Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Peckforton Parish Meeting	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Penketh Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Penyffordd Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

Governmental Stakeholders	Parish Councils	Poulton & Pulford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Poulton-with-Fearnhead Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Prescot Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Preston Brook Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Preststyn Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Puddington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Queensferry Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rainford Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rainhill Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rixton-with-Glazebrook Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rossett Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rowton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rudheath Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Rushton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Saltney Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sandymoor Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Saughall & Shotwick Park Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Scarisbrick Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sealand Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sefton & Lunt Villages Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Seneley Green Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Shevington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Shotton Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Simonswood Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Spurstow Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stanthorne & Wimboldsley Parish Meeting	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stoak	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stockton Heath Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stoke & Hurleston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Stretton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sutton Weaver Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tarporley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tarvin Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tattenhall & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Thornton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Thornton-le-Moors Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tiverton & Tilstone Fearnall Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Trelawnyd & Gwaenysgor Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Treuddyn Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Up Holland Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Upton-by-Chester & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Utkinton & Cotebrook Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Walton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wardle Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Waverton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Weaverham Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wervin	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Westhoughton Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wettenhall	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Whiston Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Whitegate & Marton Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Whitford Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Whitley Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Willington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wincham Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Windle Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Winsford Town Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Winwick Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Woolston Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Worleston & District Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Worthington	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wrightington Parish Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Ysceifiog Community Council	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)

Governmental Stakeholders	Members of Parliament	Altrincham and Sale West	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Alyn and Deeside County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Birkenhead Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bolton North East	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bolton South East	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bolton West	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Bootle Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Chorley County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		City of Chester	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Clwyd West	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Crewe and Nantwich	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Delyn County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	Yes	Sent 04-05-2023 (Section 8.2.10)
		Eddisbury County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	Yes	No	Sent 04-05-2023 (Section 8.2.10)
		Ellesmere Port and Neston County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Garston and Halewood Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Halton County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Knowsley Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Leigh County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool, Riverside Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool, Walton Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool, Wavertree Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Liverpool, West Derby Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Makerfield County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Sefton Central County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		South Ribble County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Southport Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		St. Helens North	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		St. Helens South and Whiston	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Tatton County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Vale of Clwyd County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wallasey Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Warrington North Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Warrington South Borough	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Weaver Vale County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wigan County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wirral South County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wirral West County	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Worsley and Eccles South	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wrexham	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
	Constituency Assembly Member	Alyn & Deeside	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Clwyd West	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Delyn	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Vale of Clwyd	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Wrexham	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
		Clwyd South	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)
	Regional Assembly Member	North Wales	Sent 21-03-2023 (Section 8.2.1)	Sent 05-04-2023 (Section 8.2.5)	No	No	No	No	Sent 04-05-2023 (Section 8.2.10)

8.2 Engagement Evidence

8.2.1 Invite to Stakeholder Engagement Session, Sent 21st March 2023

Hi,

I recently emailed you to give you advance notification that the Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) was about to restarted after being paused since November 2020 and that we will be partially re-visiting Stage 2 of the CAP1616 process.

The partial re-visit of Stage 2 will focus on the change resulting from the introduction of the Airspace Change Masterplan, and the maturing ACPs of other Sponsors that will influence the further development of the LJLA ACP.

We would like to offer you the opportunity to attend a presentation hosted by LJLA where we will provide an update on the high-level design work completed so far and how additional design options have been developed to consider the Airspace Change Masterplan and maturing neighbouring ACPs. There will also be information on the next steps including our approach to submitting our additional Stage 2 submission to the CAA (planned for September 2023 Gateway).

We will be holding several presentations as follows:

There will be two virtual presentations, one for aviation stakeholders and one for non-aviation stakeholders, via MS Teams which you can access (from a laptop, computer, or mobile device), they will be held as follows:

- Non-Aviation Stakeholders – 20th April 2023 between 10:00-12:00, and
- Aviation Stakeholders – 4th May 2023 between 14:00-16:00

The two in-person presentations, will be held at Liverpool John Lennon Airport on:

- Thursday 27th April 2023 between 14:00-16:00, and
- Friday 28th April 2023 between 10:00-12:00.

All the sessions will have the same agenda; therefore, you only need to attend one session. If you cannot make any of the sessions, please get in touch and we will try and make an alternative arrangement.

If you can attend the presentation, please could you respond, advising which session you will be able to attend, and we will send further details. Please RSVP to: airspacechange@LiverpoolAirport.com and I will send you details of where to meet or send the MS Teams link.

If you are unable to attend, we will ensure that the presentation is uploaded to our website afterwards.

We hope you can make the presentation and we look forward to working alongside you on LJLA's ACP in support of UK airspace modernisation.

Yours faithfully,

[redacted]

[redacted]
Head of Environment
T [redacted]

8.2.1.1 *Response of Liverpool City Council, Received 21st March 2023*

Thanks Andrew – 20th April would be good for me. My colleague Stuart Clark can hopefully join too.

Kind regards

[redacted]

[redacted] I Director Planning and Building Control

Liverpool City Council I 4th Floor Cunard Building I Water Street I Liverpool I L3 1AH

E: [redacted]

8.2.1.2 *Response of Wirral Council, Received 28th March 2023*

Thank you – please can you book me on the non-Aviation Stakeholders event– 20th April 2023 between 10:00-12:00.

Thanks

[redacted]

[redacted] [redacted]

Lead Commissioner – Transport and Technology

Wirral Council

[redacted]

E-mail: [redacted]

Visit our website: www.wirral.gov.uk

8.2.1.3 *Response of the Environment Agency, Received 28th March 2023*

Good afternoon,

I can see your email was forward onto the local Customer & Engagement team under reference 230127/BC04.

I have forwarded on your email to provide an update on any progress made.

Contact details are:

[redacted]

Customers and Engagement
Environment Agency
Greater Manchester, Merseyside and Cheshire Area
Richard Fairclough House

Knutsford Road
Latchford
Warrington
WA4 1HT

Kind regards

[redacted]
Customer Service Advisor – National Customer Contact Centre
Environment Agency
Tel: [redacted]
www.gov.uk/environment-agency

8.2.1.4 Response of Liverpool City Council, Received 29th March 2023

Hi [redacted]

I can attend the 20th April session on line with Sam,

Yours

[redacted] | Team Leader South Team, Development Management
Liverpool City Council I Cunard Buildings I Pierhead |Water Street I Liverpool I L3 1DS
T: [redacted] I E: [redacted]

8.2.2 Invite to LACC and NMSC for Stakeholder Engagement Session, Sent 21st March 2023

Hi [redacted]

Please can I have your help and assistance?

I would appreciate it if you could ensure the text below is circulated to all the LACC & NMSC members as soon as practical, please copy me into confirm this has been done as I need a record of it being done and to whom it was sent. Therefore, please can I have an up to date list of the membership.

Thank you,

[redacted]

Just to confirm, the text below this line is the text I am asking you to send to the membership as an email, please, i.e. copy and paste into a separate email and distribute, thank you:

Hi,

I recently emailed you to give you advance notification that the Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) was about to restarted after being paused since November 2020 and that we will be partially re-visiting Stage 2 of the CAP1616 process.

The partial re-visit of Stage 2 will focus on the change resulting from the introduction of the Airspace Change Masterplan, and the maturing ACPs of other Sponsors that will influence the further development of the LJLA ACP.

We would like to offer you the opportunity to attend a presentation hosted by LJLA where we will provide an update on the high-level design work completed so far and how additional design options have been developed to consider the Airspace Change Masterplan and maturing neighbouring ACPs. There will also be information on the next steps including our approach to submitting our additional Stage 2 submission to the CAA (planned for September 2023 Gateway).

We will be holding several presentations as follows:

There will be two virtual presentations, one for aviation stakeholders and one for non-aviation stakeholders, via MS Teams which you can access (from a laptop, computer, or mobile device), they will be held as follows:

- Non-Aviation Stakeholders – 20th April 2023 between 10:00-12:00, and
- Aviation Stakeholders – 4th May 2023 between 14:00-16:00

The two in-person presentations, will be held at Liverpool John Lennon Airport on:

- Thursday 27th April 2023 between 14:00-16:00, and
- Friday 28th April 2023 between 10:00-12:00.

All the sessions will have the same agenda; therefore, you only need to attend one session. If you cannot make any of the sessions, please get in touch and we will try and make an alternative arrangement.

If you can attend the presentation, please could you respond, advising which session you will be able to attend, and we will send further details. Please RSVP to: airspacechange@LiverpoolAirport.com and I will send you details of where to meet or send the MS Teams link.

If you are unable to attend, we will ensure that the presentation is uploaded to our website afterwards.

We hope you can make the presentation and we look forward to working alongside you on LJLA's ACP in support of UK airspace modernisation.

Yours sincerely,

[redacted]
Head of Environment
T: [redacted]

8.2.2.1 Response of LACC and NMSC (Wirral Council), Received 22nd March 2023

Thanks Andrew. I've just done it. I'll send you the distribution lists directly.

[redacted]
Principal Committee Officer
Committee Services
Wirral Council
Wallasey Town Hall
E-mail [redacted]
Tel [redacted]
Visit our website: www.wirral.gov.uk
[redacted]

8.2.3 Invite to Bury Council for Stakeholder Engagement Session, Sent 21st March 2023

Dear [redacted],

In January, I emailed your predecessor to give you advance notification that the Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) was about to restarted after being paused since November 2020 and that we will be partially re-visiting Stage 2 of the CAP1616 process.

The partial re-visit of Stage 2 will focus on the change resulting from the introduction of the Airspace Change Masterplan, and the maturing ACPs of other Sponsors that will influence the further development of the LJLA ACP.

We would like to offer you the opportunity to attend a presentation hosted by LJLA where we will provide an update on the high-level design work completed so far and how additional design options have been developed to consider the Airspace Change Masterplan and maturing neighbouring ACPs. There will also be information on the next steps including our approach to submitting our additional Stage 2 submission to the CAA (planned for September 2023 Gateway).

We will be holding several presentations as follows:

There will be two virtual presentations, one for aviation stakeholders and one for non-aviation stakeholders, via MS Teams which you can access (from a laptop, computer, or mobile device), they will be held as follows:

- Non-Aviation Stakeholders – 20th April 2023 between 10:00-12:00, and
- Aviation Stakeholders – 4th May 2023 between 14:00-16:00

The two in-person presentations, will be held at Liverpool John Lennon Airport on:

- Thursday 27th April 2023 between 14:00-16:00, and
- Friday 28th April 2023 between 10:00-12:00.

All the sessions will have the same agenda; therefore, you only need to attend one session. If you cannot make any of the sessions, please get in touch and we will try and make an alternative arrangement.

If you can attend the presentation, please could you respond, advising which session you will be able to attend, and we will send further details. Please RSVP to: airspacechange@LiverpoolAirport.com and I will send you details of where to meet or send the MS Teams link.

If you are unable to attend, we will ensure that the presentation is uploaded to our website afterwards.

We hope you can make the presentation and we look forward to working alongside you on LJLA's ACP in support of UK airspace modernisation.

Yours sincerely,

[redacted]

[redacted]
Head of Environment
T: [redacted]

8.2.4 Invite to City of Chester MP for Stakeholder Engagement Session, Sent 21st March 2023

Dear [redacted],

I recently emailed you to give you advance notification that the Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) was about to restarted after being paused since November 2020 and that we will be partially re-visiting Stage 2 of the CAP1616 process.

The partial re-visit of Stage 2 will focus on the change resulting from the introduction of the Airspace Change Masterplan, and the maturing ACPs of other Sponsors that will influence the further development of the LJLA ACP.

We would like to offer you the opportunity to attend a presentation hosted by LJLA where we will provide an update on the high-level design work completed so far and how additional design options have been developed to consider the Airspace Change Masterplan and maturing neighbouring ACPs. There will also be information on the next steps including our approach to submitting our additional Stage 2 submission to the CAA (planned for September 2023 Gateway).

We will be holding several presentations as follows:

There will be two virtual presentations, one for aviation stakeholders and one for non-aviation stakeholders, via MS Teams which you can access (from a laptop, computer, or mobile device), they will be held as follows:

- Non-Aviation Stakeholders – 20th April 2023 between 10:00-12:00, and
- Aviation Stakeholders – 4th May 2023 between 14:00-16:00

The two in-person presentations, will be held at Liverpool John Lennon Airport on:

- Thursday 27th April 2023 between 14:00-16:00, and
- Friday 28th April 2023 between 10:00-12:00.

All the sessions will have the same agenda; therefore, you only need to attend one session. If you cannot make any of the sessions, please get in touch and we will try and make an alternative arrangement.

If you can attend the presentation, please could you respond, advising which session you will be able to attend, and we will send further details. Please RSVP to: airspacechange@LiverpoolAirport.com and I will send you details of where to meet or send the MS Teams link.

If you are unable to attend, we will ensure that the presentation is uploaded to our website afterwards.

We hope you can make the presentation and we look forward to working alongside you on LJLA's ACP in support of UK airspace modernisation.

Yours sincerely,

[redacted]

[redacted]
Head of Environment
T: [redacted]

8.2.5 Reminder Invite to Stakeholder Engagement Session, Sent 5th April 2023

Hi,

I emailed you in January to give you advance notification that the Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) was restarting after being paused since November 2020 and that we will be partially re-visiting Stage 2 of the CAP1616 process. At the end of March, I emailed inviting you to either one of the two virtual presentations, via MS Teams which you can access (from a laptop, computer, or mobile device) on:

- Non-Aviation Stakeholders – 20th April 2023 between 10:00-12:00, and
- Aviation Stakeholders – 4th May 2023 between 14:00-16:00

Alternatively, there will be two in-person presentations, which will be held at Liverpool John Lennon Airport on:

- Thursday 27th April 2023 between 14:00-16:00, and
- Friday 28th April 2023 between 10:00-12:00.

I would like to take this opportunity to thank all of those that have already rsvp. To confirm your preference as to virtual or actual face to face presentation/meeting, you should have received a MS Teams invite or confirmation of the location of the meeting room. If you have not already been in touch or you have not received the invite, please do not hesitate to email back with your preference.

If you can attend any of the presentation, please could you respond, advising which session you will be able to attend, and we will send further details. Please RSVP to: airspacechange@LiverpoolAirport.com and I will send you details of where to meet or send the MS Teams link and confirm the location of the presentations.

We hope you can make the presentation and we look forward to collaborating with you on LJLA's ACP in support of UK airspace modernisation.

Yours faithfully,

[redacted]
Head of Environment

8.2.5.1 Response of Liverpool City Council, Received 6th April 2023

Good morning [redacted]

Unfortunately, I cannot make any of the dates provided. If there are any presentation slides or similar that could be shared I would appreciate that.

Kind Regards

[redacted]

Operations Manager

Environmental Protection & Public Protection Enforcement

M: [redacted]

Postal Address:

Liverpool City Council

Cunard Building

Water Street

L3 1AH

8.2.6 TEAMS Invite to Stakeholder Engagement Session-20th April 2023, Sent 18th April 2023

Hi,

Thank you for seeking to participate and learn more about the LJLA Airspace Change Proposal (ACP).

This email contains the MS Teams link below to the LJLA ACP Engagement session on 20th April between 10:00 am and noon.

I look forward to seeing you on the call, if in the meantime you have any questions, please do not hesitate to ask via airspacechange@liverpoolairport.com. If you are unable to attend, we will ensure that the presentation is uploaded to our website after all the meetings have finished.

Take care and stay safe.

[redacted]

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 360 019 558 680
Passcode: dCfBPg

Download Teams | Join on the web

Learn More | Meeting options

[redacted]
Head of Environment

8.2.7 TEAMS Invite to Stakeholder Engagement Session-4th May 2023 , Sent 18th April 2023

Hi,

Thank you for seeking to participate and learn more about the LJLA Airspace Change Proposal (ACP).

This email contains the MS Teams link below to the LJLA ACP Engagement session on 4th May between 14:00 to 16:00 (2pm to 4pm).

I look forward to seeing you on the call, if in the meantime you have any questions, please do not hesitate to ask via airspacechange@liverpoolairport.com. If you are unable to attend, we will ensure that the presentation is uploaded to our website after all the meetings have finished.

Take care and stay safe.

[redacted]

Microsoft Teams meeting

Join on your computer, mobile app or room device

Click here to join the meeting

Meeting ID: 357 349 778 361
Passcode: wgxm9J

Download Teams | Join on the web

Learn More | Meeting options

[redacted]
Head of Environment
[redacted]

8.2.8 In Person Engagement Session Directions-27th April 2023 , Sent 26th April 2023

Hi,

This is just a quick reminder about the Liverpool John Lennon Airport Engagement Session tomorrow at 2pm in the Cavern Suite in the terminal building.

If you are arriving by car or motorbike, please park in the MSCP and I will arrange the exit (free) after the engagement session. The Cavern Suite is in the middle of the terminal on Level 2 (first floor) beyond the statue of John Lennon and the Airport Pass Office.

[redacted]

[redacted]
Head of Environment
T: [redacted]

8.2.9 In Person Engagement Session Directions -28th April 2023 , Sent 26th April 2023

Hi,

This is just a quick reminder about the Liverpool John Lennon Airport Engagement Session on Friday at 10am in the Cavern Suite in the terminal building.

If you are arriving by car or motorbike, please park in the MSCP and I will arrange the exit (free) after the engagement session. The Cavern Suite is in the middle of the terminal on Level 2 (first floor) beyond the statue of John Lennon and the Airport Pass Office.

Look forward to speaking to you on Friday, if you have an questions in the meantime, please do not hesitate to email me.

[redacted]

[redacted]
Head of Environment
T: [redacted]

8.2.10 Stakeholder Engagement presentation Email, Sent 4th May 2023

Hi,

Attached is a pdf copy of the presentation from the recent Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) Stage 2 Engagement Review Sessions.

Please note that the deadline date for responses is 5pm on the 1st June 2023, if you have any further questions please submit them to airspacechange@liverpoolairport.com and we will seek to answer them.

Thank you for participating in the LJLA ACP, and I look forward to receiving your comments.

[redacted]

[redacted]
Head of Environment

8.3 Requests to be removed from stakeholder list

8.3.1 Request from Upton-by-Chester and District Parish Council, Received May 4th 2023

Please remove this email address from your circulation list.

Thank you

8.3.1.1 Response to Upton-by-Chester and District Parish, Sent 12th May 2023

Hi,

Sorry to bother you, I just want to check/confirm have I got the email address wrong for the Upton Parish Council or does the Parish Council not want to be informed about the proposed airspace change process?

[redacted]

8.3.1.2 Response from Upton-by-Chester and District Parish, Received 13th May 2023

Hi,

I have never passed on any of your correspondence as it is not directly relevant to the business of the parish council – there is already an 'information overload' for councillors.

I am sure that if individual councillors have an interest in this, they will seek out the information they need.

[redacted]

[redacted]
Clerk / Proper Officer

Upton-by-Chester and District Parish Council

[redacted]

8.3.1.3 Response to Upton-by-Chester and District Parish, Sent 15th May 2023

Hi [redacted]

Thank you for your response and I note your request for Upton to be removed from our stakeholder list. The airport will of course respect your request, you should receive no further emails relating to this airspace change; my only concern is that the Councillors or future Clerk may claim that Upton has missed an opportunity to participate or comment on the LJLA ACP.

To explain we included Upton as a stakeholder as we considered that you would wish to represent the views of the parishioners of Upton-by-Chester, we respect your wishes in this matter. However, we will continue to welcome the feedback of Upton-by-Chester and District Parish Council in this matter, and you can remain appraised of our progress via the Civil Aviation Authority airspace change web-portal, available here:

https://airspacechange.caa.co.uk/PublicProposalArea?pID=28

In the future, should you wish to re-join the stakeholder list, please do not hesitate to contact us requesting to do so at airspacechange@LiverpoolAirport.com and we will re-add you to the list.

Thank you for your engagement and I am sorry if it was not wanted.

[redacted]

8.3.2 Request from Worleston & District Parish Council, Received May 23rd 2023

PLEASE DELETE THIS E MAIL ADDRESS FROM YOUR ADDRESSBOOK WITH IMMEDIATE EFFECT

8.3.2.1 Response to Worleston & District Parish Council, Sent 25th May 2023

Hi,

Thank you for your response and I note your request for Worleston to be removed from our Airspace Change Proposal (ACP) stakeholder list. The airport will of course respect your request to be removed from all future emails relating to this airspace change; my only concern is that the Councillors or future Clerk may claim that Worleston Parish Council has missed an opportunity to participate or comment on the LJLA ACP.

To explain we included Worleston Parish Council as a stakeholder as we considered that you would wish to represent the views of the parishioners of Worleston, we respect your wishes in this matter. However, we will continue to welcome the feedback of Worleston Parish Council on this matter, and you can remain appraised of our progress via the Civil Aviation Authority airspace change web-portal, available here:

https://airspacechange.caa.co.uk/PublicProposalArea?pID=28

In the future, should you wish to re-join the stakeholder list, please do not hesitate to contact us requesting to do so at airspacechange@LiverpoolAirport.com and we will re-add you to the list.

Thank you for your engagement and I am sorry if it was not wanted.

[redacted]

Appendix C: Design Option Feedback

8.4 MS Forms Feedback

Who do you represent?	Do you consider the new options proposed address the Statement of Need?	If you answered "No" to the previous question, please explain why you feel the new options do not address the Statement of Need.	Do you consider the new options proposed are consistent with the Design Principles?	If you answered "No" to the previous question please explain why you feel the new options are not consistent with the Design Principles.	Please provide any feedback on the new Departure Options presented	Please provide any feedback on the new Arrival-Transition Options presented	Please provide any additional Comments here.
Davenham Parish Council	Yes		Yes				
Billinge Parish council	Yes		Yes				
British Gliding Association	Yes		Yes		As they are wholly contained within existing Controlled Airspace, they have no impact on current gliding operations	As they are wholly contained within existing Controlled Airspace, they have no impact on	We were surprised that the there was no Design Principle requiring the minimum use of Airspace, in line with that for the MTMA: 'The classification and volume of controlled airspace required for the MTMA should be the minimum necessary to deliver an efficient airspace design, taking into account the needs of UK airspace users.' We hope that the detailed design will allow you to apply DP10 and reduce the volume of Controlled Airspace required.
Liverpool City Council - Environmental Health	Yes		Yes		With regards to some of the 09 Departure options, the turn to the right seems to take planes over the Mersey estuary more, compared with the equivalent left turns which take planes over densely populated areas of south Liverpool.	Transition VEGUN S1 seems to avoid flying over Chester City compared with Transition VEGUN S2 ?(although it's hard to discern the exact location of Chester on the map)	
MOD	Yes		Yes		No further comments at this time	No comments	No comments
Ryanair	Yes		Yes		Right turns from 09 to NW are fine. Right turns from 09 for NE departures & left turns from 09 to the SE are environmentally and economically inefficient as they significantly increases track miles flown and therefore, fuel burn, emissions and flight time which affect commercial schedules, costs and company 'green' targets.	These look positive. We are in favour of any consistently flown and predictable arrival routes as they reduce the risk of high energy approach and reduce exposure to VFR traffic. We would urge that these transitions are published AIP arrival routings such that they would be loadable from an aircraft FMC (including any altitude constraints.)	A main priority of Ryanair in LPL is to obtain constant descent arrivals onto RW27. Leveling off at 4000'/3000' North/South abeam the field and then flying level at 2000' from the end of downwind is inefficient from a fuel burn (cost), environmental (noise and pollution) and safety (increased exposure to VFR, Birds, terrain, drones etc) point of view. Level flight at this altitude is almost unheard of in ANY other airport in our route network (>3300 flights /day)! We would strongly urge LJLA to work with MAN to accommodate a procedure which facilitates CDA to RW27 especially bearing in mind the climb performance of modern jet aircraft (out of MAN) against the design principals upon which the basis for this level flight requirement wasoriginally established many years ago. Modern jets climbing from MAN could easily reach much higher levels by 10nm so as not to interact with LPL RW27 arrivals. We would urge LJLA to consider looking at how other airports in Europe manage the interaction of close proximity airports (eg Paris / Rome / Warsaw). Level flight before an approach would appear to go against many design principals of the ACP.
Flintshire County Council	Yes		Yes		Departure options have minimal impact within the Airspace above Flintshire County Council	1) Object to Transition VEGUN S1 as it routed over the Flintshire urban towns of Buckley, Shotton, Aston and Garden City. Reason: Increase in noise nuisance. 2) Transition VEGUN S2 is an improved option, however, the route should be amended so it passes to the south of Penyffordd, skirting round the southern extent of Hawarden Airfield's airspace zone, then continuing to the south of Eccelston, then south of Chrisleton, then north of Tarvin to rejoin with it's final extent. 3) Object to the Combined VEGUN S1 and S2 option. Please refer to the feedback in feedback item 1. above.	
Leeds Bradford Airport	Yes		Yes				
NATS NERL	Yes		Yes		NATS NERL (MTMA) has no 'local factors' knowledge that may or may not apply or influence LIL options to 7000ft and is unable to comment on such aspects however, the additional departure swathes presented in this engagement indicatively suggest NERL network compatibility both within the requirements of a stage 2 ACP and in terms of option(s) flexibility that remains to be fully determined within the indicative swathes utilising Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders.	NATS NERL MTMA ACP has no 'local factors' knowledge that may or may not apply or influence LIL options to 7000ft and is unable to comment on such aspects however, the additional Transitions presented in this engagement indicatively suggest network compatibility within the requirements of CAP1616 Stage 2 ACP. We observe that the additional transitions S1 and S2 presented are not illustrated within associated swathe(s) of option variability, neither in terms of lateral or vertical variance. Presentation is of course at the behest of the ACP sponsor however we observe this difference of presentation style between departure options(swathes) and arrival transition options(lines) could potentially suggest a degree of options appraisal finality in terms of transitions S1 & S2 in route and vertical profile.	We would seek clarification that transition options S1 and S2 are indicative in all respects. We comment that if arrival options were presented within 'swathes', consistency of presentation would be identifiable for all stakeholders and the degree of flexibility in options we believe needs to be maintained would be readily evident, as all options remain subject to Route Separation and Cumulative Assessment Framework technical collaborative assessment with relevant ACP stakeholders which may in this context, require S1 or s2 transitions track and vertical profiles to be redefined in deference to the profiled transitions presented in this engagement. NATS NERL is fully committed to working with Liverpool John Lennon Airport in an ongoing positive collaborative relationship. We would like to take this opportunity to thank all Liverpool airport representatives who have worked so constructively with us to date and we look forward to continuing this relationship with the airport, and all stakeholders, collaboratively delivering a once in a generation opportunity to modernise airspace.
The Light Aircraft Association	Yes		No	No detailed consideration of GA. The impact statements combining ga and commercial are mixing two issues	The combination with Manchester ops and MTMA seems rudimentary. Minimisation of airspace required isn't apparent.	Vectoring from the hold surely needs to be removed as a method of operations ?	
Norley Parish Council	Yes		Yes		No objection	No objection	None
Myself as Wirral resident	No	The Statement of Need seems to contradict statements made elsewhere that airspace change is not about business expansion. It reflects the business interests of LJLA and not the needs of local residents or other businesses. The options may well address the former but not necessarily the latter. They do not address the climate emergency. This is increasingly viewed as a risk in business and finance and so would be self-defeating if long term business success is the goal.	No	They do to a degree but there's no other way to comment other than to say they do not to open up the comment box! The declaration of environment emergencies in local authorities and the LCRCA is not adequately addressed by the limited reference to environmental concerns. Your plans to expand and increase capacity will lead to increased GHG emissions. Reference to "respite" in your design principles admits that you know your activities cause distress to residents.	I object to each of the departure options, apart from depart right to NW and depart left to W, both of which I strongly object to. I am neutral about depart left to NE, depart right to S.	Neutral response to these.	I'd like to thank those involved in making any effort to protect residents from distress caused by noise pollution and any efforts in trying to reduce GHG emissions from aircraft and associated car and lorry journeys etc. I do appreciate the difficulty LJLA is in regarding balancing business needs with resident welfare and the environment. I urge LJLA to offer meaningful consultation to all residents. This whole process of airspace change would have benefitted from greater public engagement and transparency. Perhaps this could still be the case during this process?
Me	No	I'm concerned Statement of Need is flawed in not going beyond business interests of LJLA itself and eg representing wider community.	No	Not enough emphasis on environment, though some welcome attempts to improve noise impact on Wirral residents in some options.	09 Dep right to NE - object Dep left to NE - neutral Dep right to S- neutral Dep left to S- object Dep right to NW - strongly object Dep left to W -strongly object 27 Dep left to S -object Dep right to NE- object	Neutral	

Wirral Borough Council	Yes	No	Whilst this Council appreciates the national context, as presented, is to replace dated equipment with a new technology, the Council has to be satisfied that the new equipment will work to the benefit of residents. Our key concern is that the way in which it is set up should not adversely affect areas of the borough where the narrower paths are most likely to operate. This council considers that the proposals do not resolve the conflict that residents living under the flight paths when caught between design principles 11 and 13: 11 'Procedures should be developed to allow for alternative routes to offer respite' 13 Procedures should be designed to concentrate routes to minimise the numbers overflown The use of the term 'respite' acknowledges that residents will be adversely impacted.	Departures •New Option-09 Departure Right Turn to NE. Comment: Object as overflies densely populated area in East Wirral. This also seeks flight paths over areas devoted to chemical storage and COMAH sites. Design principle 3 refers to the need to avoid 'high risk industrial sites'. •New Option-09 Departure Left Turn to NE. Comment: Neutral position as does not overfly the Borough •New Option-09 Departure Right Turn to S. Comment: Neutral position as does not overfly the Borough •New Option-09 Departure Left Turn to S. Comment: Object as overflies densely populated area in East Wirral. This option appears to use more power to enable the aircraft to climb to over 7000ft but will affect areas being developed for housing as part of our Local Plan under consideration. Design principle 3 specifically refers to the need to avoid overflight of 'country park's ' and 'high risk industrial sites'. •New Option-09 Departure Right Turn to NW. Comment: Object as overflies densely populated area in East Wirral •New Option-09 Departure Left Turn to W. Comment: Object as overflies densely populated areas in the Borough •New Option-27 Departure Left Turn to S. Comment: Object, though limited overflight of Wirral Area, this is at a lower altitude •New Option-27 Departure Right Turn to NE. Comment: Object as overflies densely populated areas in East Wirral at less than 4000ft.	Arrival Transitions •New Option Vegun 1. Comment: Neutral position as does not overfly the Borough •New Option Vegun 2 Comment: Neutral position as does not overfly the Borough •New Option Combined Vegun 1 & Vegun 2 Comment: Neutral position as does not overfly the Borough.	Please Note - Additional comments ran to 15 points and due to lack of space only the first 7 appear on this form. The remainder will be emailed across separately. I. Comment on question 3: the statement of need appears to refer to compliance with National strategy and the applicant Airport's needs and does not reflect the needs of local residents who have Manchester and other nearby airports and might feel they actually need quieter lives. II. Ultimately these changes increase noise levels for some Wirral residents. There is an underlying assumption that quieter aircraft and improved technology will compensate for this. The type of aircraft, their origins and destinations, remains a factor which cannot be fully accounted for currently. III. The Council remains committed to the principles behind the policy which came into operation in 2002 which has the specific aim of limiting the impact of operations between 23.30 and 06.00. At this stage of the engagement it is as unclear how the potential concentration on arrivals during late evenings before the 23.30 period will affect the amenity of residents. IV. The consultation puts forward the premise that there has to be a fixed point which sets the flight path under the new system and that the fixed points need to be used. There is no technical reason given, why the fixed points need to be in Wallasey or Chester and it would appear technically possible for the aircraft to turn in the Mersey and gain sufficient height (thus reducing impact) before linking up with wider airspace. V. Whilst the FAQ document clearly tries to separate the growth and expansion of the airport from this consultation, it is difficult to ignore the baseline data set out in figures 11 and 12 in the 2020 consultation. These indicated that with no changes to flight paths, by 2031 noise levels would still increase and it can only be assumed that this is due to growth. While current air traffic levels are lower than in the pre-covid period, it is difficult to support changes to flight paths that despite assurances cannot, in reality, be separated from growth, which is an issue that would be opposed by elected members and residents alike where it negatively impacted the lives and
Halton Borough Council	Yes	No	As per Halton BC's representations made at earlier stages, noise sensitive receptors with high sensitivity are considered to include residential premises, including private gardens. It would appear that the new options introduced do result in the overflight of sensitive noise receptors as identified in design principle 3. Reduced disturbance to households and those areas with higher population densities remains a key concern of the Council's.	The following new Departure Options appear to be those that have the minimum overflight of residential properties and sensitive noise receptors and are the most preferable of the new departure options presented: 09 Departure Right Turn to NE 09 Departure Right Turn to S 09 Departure Right Turn to NW 27 Departure Left Turn to S	Both options appear to result in the overflight of residential properties and routes should be over unpopulated areas.	

8.5 Email Feedback

8.5.1 Feedback Received from Northop Council, Received May 22nd 2023

Good Afternoon,

I am emailing on behalf of Northop Community Council who would like to make a representation, as part of the consultation, highlighting their concerns regarding the potential increased noise levels for residents of Northop and Sychdyn, as a result of the proposed changes to the speed of departing air traffic at the airport.

Kind Regards,

[redacted]

Clerk to Northop Community Council

8.5.2 Feedback Received from Natural England, Received May 25th 2023

Good morning,

Please find attached Natural England's consultation response to the LJLA ACP Stage 2 Engagement Review Sessions.

If you have any questions please get in touch.

Kind regards,

[redacted]

Sustainable Development Lead Adviser

Cheshire to Lancashire Area Team

My associated office is: Arndale House, 2nd Floor, Manchester, M4 3AQ

Date: 25 May 2023
Our ref: 432698
Your ref: N/A

[redacted]
Liverpool John Lennon Airport

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T [redacted]

Dear [redacted]

Liverpool John Lennon Airport (LJLA) Airspace Change Proposal (ACP) - Departure and Arrival Procedures Formal Stage 2 Engagement

Thank you for seeking our advice on the above proposal, received by Natural England on 04 May 2023.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Natural England welcomes this opportunity to comment on the airspace proposed changes at Liverpool John Lennon Airport (LJLA).

Internationally and nationally designated sites

The application site is within close proximity to Mersey Estuary Special Protection Area (SPA) and Mersey Estuary Ramsar, and therefore has the potential to affect the interest features of the sites. These European sites are afforded protection under the Conservation of Habitats and Species Regulations 2017, as amended (the 'Habitats Regulations'). The site is also listed as Mersey Estuary Site of Special Scientific Interest (SSSI).

Natural England understands the consultation is on the proposed changes to the flight paths and routes without increasing the volume of flights. We are supportive of proposals which will help to improve air quality and reduce noise levels and therefore meeting the Conservation Objectives for the Mersey Estuary SPA and Mersey Estuary Ramsar. We are unable to offer detailed advice regarding the impacts of the additional options presented at this stage.

We would welcome the opportunity to comment at later stages in the Airspace Change Proposal.

We are keen to support ongoing engagement with John Lennon Liverpool Airport so please contact Natural England to discuss opportunities for further engagement.

If you have any queries relating to the advice in this letter please contact me on [redacted]

Yours sincerely

[redacted]
Sustainable Development Lead Adviser
Cheshire, Greater Manchester, Merseyside & Lancashire Area Team

8.5.3 Feedback Received from Liverpool City Region Combined Authority, Received May 30th 2023

Hi [redacted]

We welcome this opportunity to respond as the Liverpool City Region Combined Authority to Liverpool Airport's airspace change process like we did previously in 2021.

We fully support the Statement of Need and the airspace change process for Liverpool Airport. In terms of the additional options identified, we feel that these options should focus on those routes that are most direct and with a continuous ascent or descent as this will deliver the most environmental benefits and efficient use of airspace supporting decarbonisation, net zero, alternative fuels and minimising disturbance from a quality of life and health & well being perspective for those on the ground under flightpaths. However, over concentration of flight paths in certain areas can have major adverse impacts for those on the ground so this needs to be given consideration and be adequately addressed. Those in Wirral can be particularly adversely affected by flights from Liverpool Airport with a concentration of flights over that area so please ensure engagement with Wirral Council and other local authorities so that any concerns and negative perceptions or impacts for their residents are adequately addressed.

Although the airspace change is based on the current aviation propulsion technologies and its capabilities, we feel that this once in a generation change to airspace needs to be future proofed to take into account future propulsion technologies for aviation and their potential capabilities which may be slightly different e.g. hydrogen and electric aircraft technologies, urban air mobility, drones etc.

The North West airspace is very busy and complex with many airports in the vicinity around Liverpool John Lennon Airport including Manchester Airport, Leeds Bradford Airport, East Midlands Airport, Barton Aerodrome, RAF Woodvale and Chester Hawarden Airport (Airbus) as well as military airspace nearby in North Wales linked to RAF Valley and their training flights and lastly high level national airspace managed by NATS. There are also major land based assets such as Urenco's Capenhurst Nuclear Plant, Essar's Stanlow Refinery, INEOS Runcorn and the growing cluster of offshore wind farms in Liverpool Bay, North Wales Coast and Irish Sea. So it is important that a holistic overview of all these different interests and interactions is taken into account as well as the UK Airspace Master Plan and future proofed for potential future scenarios, changing aircraft technologies, climate change and aviation growth. Potential adverse impacts for those on the ground should also be considered in terms of quality of life.

To tackle the climate emergency the Government needs a stronger regulatory push to aircraft manufacturers and airlines to encourage a shift to clean alternative fuels for aviation and boost research & development to encourage decarbonisation, net zero and alternative fuels. Airspace change must focus on greater efficiency of flight patterns and air corridors while being mindful of potential negative impacts on quality of life and health & wellbeing for those on the ground. But airports still need to focus on how passengers and staff access airports at ground level so airport surface access strategies that promote public transport, walking and cycling will still be essential. Airport environments and the customer journey will also need to be focussed upon to improve the customer experience at airports. We welcome Liverpool Airport's focus on renewable energy such as wind turbines and solar panels to tackle climate change and reduce the carbon impact of its terminal buildings and land assets.

So airspace change only impacts on a specific aspect of aviation and many other areas need attention through wider aviation policy. Aviation continues to grow in the UK and forms an essential means of global connectivity for business and tourism. But aviation can also have negative impacts if there is an over concentration of flight paths in particular areas with resulting concerns for those on the ground. However the climate emergency is a major challenge facing aviation and airspace change can play a role through more efficient air corridors and landing / taking off. Clean alternative fuels for aviation are essential as well as sustainable access to airports for passengers and staff by encouraging public transport, walking and cycling.

Our key concern is that airspace change must focus on delivering outcomes in regard to the most environmental benefits and efficient use of airspace supporting decarbonisation, net zero, alternative fuels and minimising disturbance from a quality of life and health & well being perspective for those on the ground under flightpaths.

As you may be aware we are currently working on a new Local Transport Plan for the Liverpool City Region and hope to be consulting upon the Preferred Strategy in Autumn / Winter 2023 with the aim to have a finalised Local Transport Plan approved and adopted in Spring 2024. So we would welcome Liverpool Airport's thoughts and inputs to this process as a key stakeholder and major international gateway. Net Zero by 2040 is a major ambition for the Liverpool City Region and clean vehicle technologies as well as substantial modal shift and reduction of car dependency will be essential for the future.

If we can be of any assistance to you as Liverpool City Region Combined Authority and LCR Freeport as you develop the airport and its aviation business into the future then please let us know. Thanks.

[redacted]

8.5.4 Feedback Received from Manchester Airport, Received May 31st 2023

Afternoon

Please find attached the Manchester Airports Group response to the Liverpool John Lennon Airport Stage 2 Engagement sessions (held last month/earlier this month and the pdf of the presentation circulated by e-mail at 17:07 hrs on 4th May 2023).

Best wishes

[redacted]

CSR & Future Airspace Director

MAG, Olympic House, Manchester, M90 1QX

E: [redacted]

T: [redacted]

W: www.manchesterairport.co.uk/futureairspace

Email: [redacted]

Web: www.manchesterairport.co.uk/futureairspace

Wednesday, 31 May 2023

Mr [redacted]
Head of Environment
Aviation House
Liverpool John Lennon Airport
Liverpool
L24 1YD

Dear [redacted]

LPL ACP (ACP-2015-09) Stage 2 Engagement Review Sessions May 2023

Thank you for inviting Manchester Airport (MAN) to the recent Liverpool John Lennon Airport (LPL) Stage 2 engagement sessions and for inviting our feedback on the design options presented. This letter has been developed following our attendance at the virtual engagement session held on 4 May 2023 and is the MAN formal response to this engagement under Step 2A of the Civil Aviation Authority's Airspace Change Process (CAP1616).

Airspace modernisation is an important issue for both the aviation industry and for the north-west region, and we welcome the opportunity to work together with you to develop a design that optimises operations in the MTMA for our mutual benefit.

In developing our response to your engagement, we have taken account of your position within the CAP1616 process. Stage 2 requires sponsors to develop *"…a comprehensive list of options that address the Statement of Need and that align with the design principles from Stage 1"*. It is critical therefore that the list of options you develop at Step 2A considers the full range of design options, without an assessment of merit to discount options at an early stage. The assessment of merit occurs later at Step 2B, through the application of the design principles evaluation (DPE) and the initial options appraisal (IOA).

Whilst focussed on the engagement material, our feedback also takes account of our ongoing bilateral meetings including those that identified areas of interaction between our operations. These meetings have been facilitated by the Airspace Change Organising Group (ACOG), most recently on 9th June 2022, 5th and 6th January 2023 at Liverpool, and 30th March 2023 at Prestwick Centre. In particular, we have used the output from the collaborative design review workshop held between MAN, LPL, NATS and ACOG on 9th June 2022, which assessed the interactions between the comprehensive list of options being developed by MAN at that time as part of our developing Step 2A work and those options identified for LPL within your original Stage 4 submission. This workshop identified seven design interactions which were agreed by

those present as requiring to be resolved and resulted in additional and modified route options being created for departures and arrivals in the MAN Stage 2 submission. It was recognised at the time that, because LPL were at Step 4A, it was not consistent with the CAP1616 process for any additional or modified routes to be created for LPL. However, the return of LPL to Step 2A now provides this opportunity.

Our feedback has therefore focussed on whether the material presented in support of this current Step 2A engagement will assist in alleviating the identified interactions between our operations, and whether the additional options proposed in combination with those previously presented constitutes a comprehensive list of options, as required by CAP1616 requirements. In responding, our aim is to ensure that the LPL Stage 2 submission meets this test, so that both airports have a comprehensive foundation of options which maintain route availability and capacity for further development within Stage 3. The assessment of the merits of each of the options presented by LPL will take place within the DPE and IOA in Step 2B and within Stage 3 as systems of options are considered as part of a network. Therefore, in responding to the current engagement we have not attempted to express a preference for any option in favour of its alternatives.

Further, given the focus on interactions between MAN and LPL to date, the structure of this MAN response is focussed upon the ability of the range of options presented to resolve these interactions, rather than commenting on the individual options themselves.

Comments on LPL options presentation

As highlighted above, an analysis of the proposed changes to MAN and LPL departure and arrival routes as part of the respective ACPs has previously highlighted interactions where systemised separation (based on the criteria within CAA CAP1385) may not be assured. The ACOG meeting of 9th June identified interactions which would require options for resolution to be included within the comprehensive list of options for both MAN and LPL airports as part of the Stage 2 submissions.

Seven Interactions were identified;

1. LPL 27 arrivals (Left hand circuit from south) vs. MAN 23 south-west departures
2. LPL 27 arrivals (Right hand circuit) vs. MAN 23 west departures
3. LPL 27 arrivals vs MAN 05 departures
4. LPL 27 arrivals (Left Hand Radar Circuit) vs. MAN 05 arrivals
5. LPL 27 arrivals (Right Hand Radar Circuit) vs. MAN 05 arrivals
6. LPL 09 departures left turn vs. MAN 05 arrivals.
7. LPL 09 departures right turn vs. MAN 05 arrival.

These interactions, and the options presented by LPL to address them, are dealt with in turn below.

1. LPL 27 arrivals (Left hand circuit) vs. MAN 23 south-west departures

Options presented in engagement	VEGUN S1 & VEGUN S2

The designs for LPL arrivals to Runway 27 from the south previously advanced to Stage 4 included a base leg turn at 2,500ft requiring MAN southwest departures to reach 3,500ft at approximately 5nm before the base leg track to ensure separation. However, the climb gradient required by MAN departures to achieve this separation would be in excess of the 6% gradient that all airlines operating from MAN could achieve.

If CAP1385 rules are applied, the most recent workshops with ACOG have identified that there are no MAN departure options to the southwest that are fully procedurally separated from LPL left hand arrivals if the MAN traffic is climbing at 6%. This includes the MAN 'Do Minimum' option that replicates the current EKLAD and KUXEM SIDs in operation today.

It is recognised that the redesigned VEGUN S1 and S2 have been created to limit this interaction with MAN traffic by moving traffic further to the north and reducing the length of the base leg segment. However, as designed, neither option fully eliminates the interaction with those MAN options that progressed from IOA to Stage 3A because the vertical design of both VEGUN S1 and S2 remains unchanged with a base leg turn at 2,500ft. The climb gradient required by MAN departures to achieve separation in this scenario would still be in excess of the 6% gradient that all airlines operating from MAN could achieve.

As a result, MAN does not consider that VEGUN S1 & VEGUN S2 adequately address the identified interaction. Options to resolve this are proposed below.

Options for resolution

1.1. Create additional options for both VEGUN S1 and S2 transitions which require aircraft to be at 2,000ft before the base Leg turn.

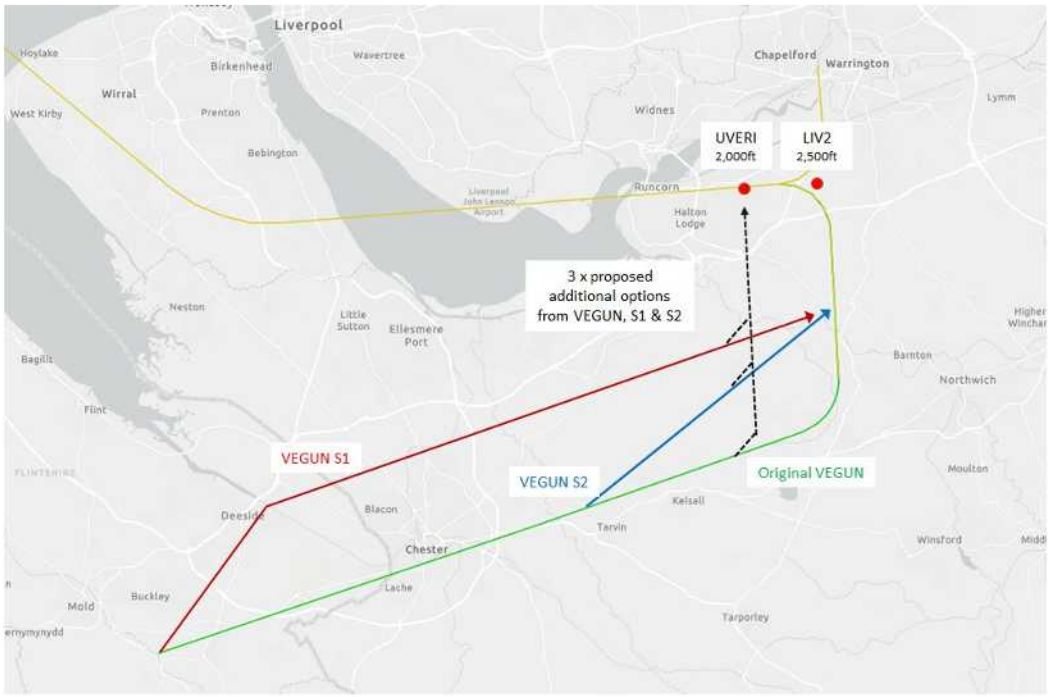
This would have the effect of reducing the altitude of LPL traffic earlier, such that MAN Runway 23SW departures would only be required to be 3,000ft at approximately 5nm before the base leg track instead of 3,500ft. We would expect this to reduce the required climb gradient for MAN traffic to one that is achievable by all aircraft operating at MAN but further separation analysis work would be required to confirm this.

1.2. Create additional options that route transitions to the existing FAF (UVERI) at 2000ft.

All new arrival transition options for Runway 27 at LPL have been created using a Final Approach Fix (FAF) at LIV2 with an altitude of 2,500ft. When using this FAF, the profile of LPL arrival transitions contribute to the interaction and separation issues identified at the ACOG led workshops with MAN departures to the SW.

However, LPL has an existing PBN procedure (LNAV/VNAV) to Runway 27 which is detailed within the UK AIP (AD2 -EGGP 8-8) and which has a FAF at UVERI at 2,000ft. Utilising this existing UVERI FAF as part of the arrival design options would have the effect of moving the LPL base leg track further west. Because traffic would be at a lower altitude, it would increase separation from the proposed MAN departure tracks.

To achieve this, 3 additional transitions should be created, using the initial part of the routes of the original VEGUN, VEGUN S1 and VEGUN S2 but turning north earlier to intercept a 2,000ft FAF at UVERI. These are shown schematically below.

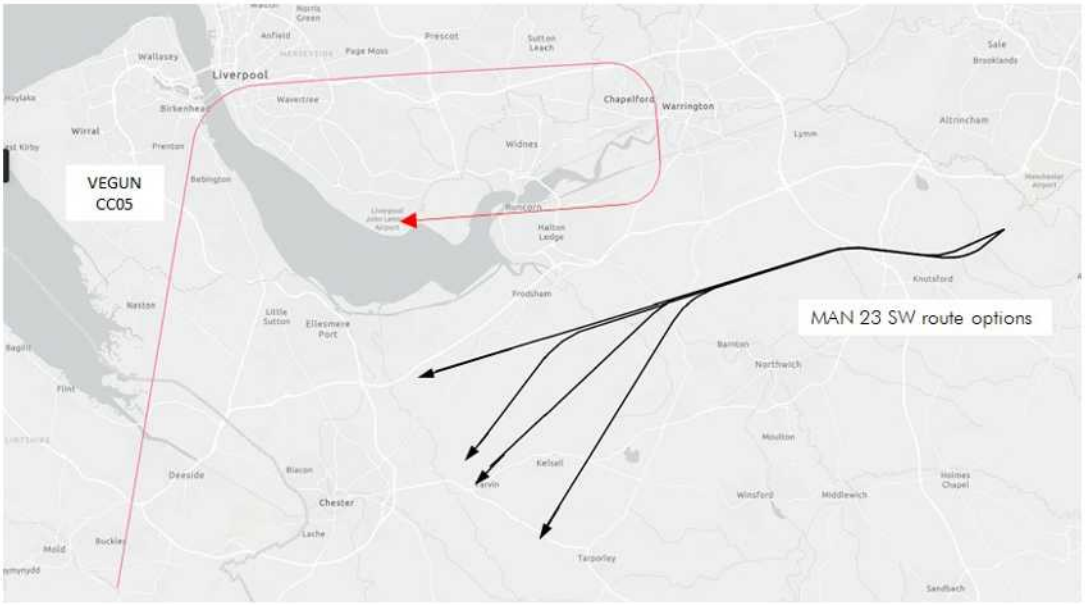


1.3. LPL Option VEGUN CC05 is operated as the sole inbound route for Runway 27 southerly arrivals.

When MAN is operating on Runway 05 and LPL on Runway 27, an option was created by LPL in the designs previously advanced to Stage 4, presented as VEGUN CC05. This routes all LPL traffic from the south via VEGUN but in a right hand traffic pattern to the north of LPL. This option was created to resolve the potentially unsafe conflict created by the use of a left hand pattern to the south when MAN is using Runway 05 for arrivals. Further, this option replicates current operations albeit this scenario is infrequent because of the prevailing wind and proximity of the two airports.

Using this right hand transition more intensively, as the sole inbound route for all 27 arrivals from the south (i.e. all LPL from the south would route to VEGUN and transition to a right hand downwind pattern) should be included as an option. This would still allow a CDA to Runway 27 and would fully deconflict from all MAN SW departures. Because this route was included in the original submission, this does not require any additional design and the use of LPL downwind left hand arrivals could still be accommodated on a tactical basis following co-ordination with MAN.

This is shown schematically below.



---

2. Interaction 2 LPL 27 arrivals (Right Hand Radar Circuit) vs. MAN 23 west departures

Options presented in engagement	None

LPL inbound transitions to Runway 27 routeing downwind right hand include a base leg turn at 2,500ft to the LIV2 FAF. This would require MAN west departures to reach 3,500ft 5nm before the base leg track to ensure separation. The climb gradient required by MAN departures to achieve this separation would be in excess of the 6% climb gradient that all airlines operating from MAN could achieve.

If CAP1385 rules are applied, the most recent workshops with ACOG have identified there are no MAN departure options to the west that are fully procedurally separated from LPL right hand arrivals if the MAN traffic is climbing at 6%.

No additional downwind right options to resolve this interaction were presented in the engagement. As a result, MAN does not consider that LPL's proposed options adequately address the identified interaction. Options to resolve this are proposed below.

Options for resolution

2.1. Create additional options for Runway 27 downwind RH transitions which require aircraft to be at 2,000ft before the base leg turn.

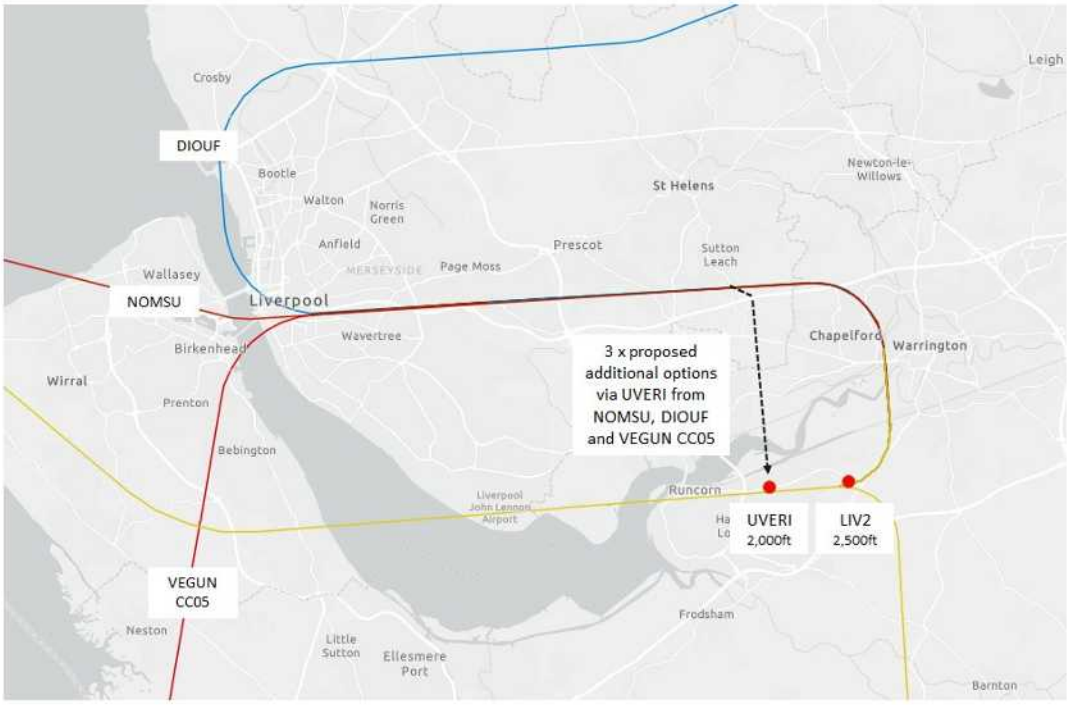
These options would have the effect of reducing the altitude of LPL traffic earlier, such that MAN Runway 23SW departures would only require to be 3,000ft 5nm before the base leg track. We would expect this to reduce the required climb gradient for MAN traffic to one that is achievable by a wider range of all aircraft operating at MAN but further separation analysis work would be required to confirm this.

2.2. Create additional options that route downwind right transitions to the existing FAF (UVERI) at 2,000ft.

As with Runway 27 arrivals from the south, all new arrival transitions for LPL have been created using a Final Approach Fix (FAF) at LIV2 with an altitude of 2,500ft. When on Runway 27, the profile of LPL arrival transitions to this new FAF contribute to the interaction and separation issues identified with MAN departures to the west.

Creating transitions that use the existing UVERI FAF as part of the route design options would have the effect of moving the LPL base leg track further west. Because this traffic would also be at a lower altitude, it would increase separation from proposed west Manchester departure tracks both laterally and vertically.

Therefore, additional options should be created using the initial part of the routes of the original transitions from the north (DIOUF), west (NOMSU) and south (VEGUN CC05) but turning south earlier to intercept a 2,000ft FAF at UVERI. This is shown schematically below.



---

3. Interaction 3 LPL 27 arrivals vs MAN 05 departures

At this stage, MAN does not foresee the need for further options to be created to address this interaction.

---

4. Interaction 4 LPL 27 arrivals (Left hand radar pattern) vs MAN 05 arrivals

This has already been identified within current operational procedures and the ACOG led workshops as an unsafe interaction whereby LPL would suspend left hand arrivals and utilise option VEGUN CC05 as an alternative.

At this stage, MAN does not foresee the need for further options to be created to address this interaction.

---

5. Interaction 5 LPL 27 arrivals (Right hand radar pattern) vs MAN 05 arrivals

Current procedures between MAN and LPL provide separation assurance for the configuration of LPL on westerly operations and MAN on easterly operations.

Nonetheless, to create a systemised operation in line with the AMS, MAN does not consider that LPL's proposed options fully address the identified interaction because of the use of the LIV2 FAF at 2,500ft. The creation of options that either reduce this altitude, or route to the UVERI 2,000ft FAF as identified in the comments for interactions 1 and 2 would be expected to resolve this conflict.

---

6. Interaction 6 LPL 09 departures left turn vs. MAN 05 arrivals.

Options presented in engagement	09 Departure left turn to NE. 09 Departure left turn to S. 09 Departure left turn to W.

The original LPL consultation contained the 09 CAVEN and CORKA (option) SIDs which had a first turn with potential to create an interaction with MAN 05 arrivals. However, the three swathes now presented at engagement seek to provide options for LPL 09 departures to turn left earlier than the previously proposed SIDs.

Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. In order to confirm this, a defined line for the route is needed, and it would be preferable for these routes to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions. These defined lines will also be required for cumulative impact work to commence with the ACOG led Cumulative Analysis Framework (CAF 1) process.

Therefore, at this stage MAN support all three of these swathes as the basis for creating further defined options.

---

7. Interaction 7 LPL 09 departures right turn vs. MAN 05 arrivals.

Options presented in engagement	09 Departure right Turn to NE. 09 Departure right Turn to S. 09 Departure right Turn to NW.

The original LPL consultation contained the 09 AGGER, CORKA and CAVEN (option) SIDs which had a first turn that may create an interaction with MAN 05 arrivals. The three swathes presented

at engagement provide options for LPL 09 departures to turn right earlier than the original CAVEN SID.

Whilst vertical separation will need to be confirmed as part of later analysis, all three swathes appear to be beneficial as options to resolve the interaction with MAN 05 arrivals. As previously stated for the left turn a defined line for the route is needed to confirm this, and to commence the CAF1 process. Again, it would be preferable for these to be to the western side of the depicted swathes as this would increase lateral distance from MAN arrival transitions.

At this stage, MAN therefore support all three of these swathes as the basis for creating further defined options.

Other options

There were two additional options within the engagement materials that MAN have not commented upon in this response:

- 27 Departure Left Turn to S
- 27 Departure Right Turn to NE

Both options have been created with swathes that would not impact the design of MAN deign options below 7,000ft, and as a result we have no further comments on these options at this stage.

Next steps

In closing, we thank you for the opportunity to comment on these options and continue to welcome the close engagement between our teams as part of the LPL revised Step 2A work, and the FASI programme in general.

Whilst some interactions remain, we are encouraged that many of these swathes and options have focussed on creating resolutions to the interactions between our operations. Where we have put forward suggestions and additional options, these have been made with the aim of creating a comprehensive list of options for the LPL Step 2A submission, to provide the best chance of selecting a workable and efficient network of routes within the MTMA and to meet the aims of the AMS in terms of safety, simplification, integration and environmental performance.

We remain ready to work in partnership with LPL to explore options to address the concepts suggested in this response and are confident that by working together, with support from the Airspace Change Organising Group (ACOG), the interactions can be resolved in a way that will meet the objectives of all stakeholders and comply with the CAP1616 process.

Yours sincerely

[redacted]

Group CSR and Future Airspace Director

8.5.5 Feedback Received from Bury Council, Received May 30th 2023

Morning

Apologies for the lateness, but could you please respond with the proposed details of the change and if this would impact on the airspace in and around the Borough of Bury.

Regards

[redacted]

Assistant Director (Strategy, Planning & Regulation)

Bury Council

3 Knowsley Place | Duke Street | Bury | BL9 0EJ

Tel: [redacted]

Email: [redacted]

Website: www.bury.gov.uk/planning

8.5.5.1 Response Sent to Bury Council, Sent June 15th 2023

Hi [redacted]

Just to confirm we are not consulting on the LJLA Airspace Change Proposal (ACP) we are engaging on additional options in Stage 2 of CAP1616. The formal public consultation is in Stage 2, if any of our correspondences to Bury says consultation please can you send me a copy of it so I can correct any confusion.

The additional options documentation which I think you refer is attached; this was included in the original correspondence with Bury but it was not addressed to you – do you want all future correspondence to come to you for Bury MBC concerning the LJLA ACP.

I can explain more about the context and process if that is required.

[redacted]

8.5.5.2 Response Sent to Bury Council, Sent June 28th 2023

Hi [redacted]

Thank you for your question, please accept our apologies for the delayed response.

Please see attached the engagement slide pack for your information and consideration. Under the ACP process the threshold to consider noise is 7,000ft. The option which we believe is closest to the Borough of Bury is the 09 departure to the North East, shown on slide 23. On this option we expect the Liverpool departures to reach 7,000ft by the M6 east of Warrington and therefore it is unlikely to cause a significant impact on noise to your borough.

Under the ACP process changes below 7,000ft is considered the threshold for noise impacts. According to our slide pack we expect aircraft to be above this point by the M6 east of Warrington and therefor unlikely to cause a

significant impact in noise overhead the Met borough of Bury. Slide 23 shows the change where the 7,000ft point is closest to Bury.

Please review and send any feedback that you may wish to give as soon as practical before 5pm on Tuesday 4th July 2023.

Kind regards

[redacted]

[redacted]
Head of Environment
T: [redacted]

8.5.6 Feedback Received from Wirral Resident, Received June 1st 2023

I am writing to object to the LJLA airspace changes.

I appreciate that the proposals are to facilitate moving to a new technology, but we shouldn't be using that to build in redundancy and capacity for future flight growth. It doesn't fit with the declarations of a climate emergency for starters. Liverpool Council have voted to stop the expansion of the airport telling it to review future plans, 'taking the climate crisis into consideration'. Please confirm that changed flight patterns also take the climate crisis into consideration.

Making changes to allow for future growth also doesn't take into account the other environmental impacts such as noise and biodiversity issues of flight expansion.
Environmental benefits need to be more than aspiration. They must be mandatory. And any airspace changes must have a demonstrated environmental benefit now, not based on potential future technical improvements to aircraft.

I am particularly concerned about the noise impact on Wirral residents. Design principles should mean that any proposed new flight paths be designed to avoid overflight of densely populated areas such as those found on the Wirral

The design principle "Procedures should be developed to allow for alternative routes to offer respite" – 'respite' acknowledges that residents will be adversely impacted.

I object to any increase in flights and noise for Wirral resMy detailed objections from the latest consultation:

- New Option-09 Departure Right Turn to NE. – object
- New Option-09 Departure Left Turn to NE – no comment
- New Option-09 Departure Right Turn to S – no comment
- New Option-09 Departure Left Turn to S – object
- New Option-09 Departure Right Turn to NW – object
- New Option-09 Departure Left Turn to W – object
- New Option-27 Departure Left Turn to S – object
- New Option-27 Departure Right Turn to NE – object

I especially object to the flights flying over Wirral at under 7000ft.

I note that under current operations - 23% flights departed runway 09 (Easterlies), I can't find a figure for % arrivals. Will the new flight paths increase the number that arrive/depart from the East? i.e., with the new airspace changes increase the number of flights across the Wirral?

As final points

- This latest consultation in particular is overly technical and incredibly short notice with little publicity.
- I am writing directly since the page https://www.liverpoolairport.com/airspacechange brings up a 404 error and I am struggling to find the consultation form linked from your website.

Many thanks

[redacted]

[redacted]

8.5.7 Feedback Received from Norley Parish Council, Received July 25th 2023

[redacted]

Norley Parish Council were delighted to be involved in the LJLA Stage 2 Engagement process

The ACP Update Sheet was very useful as the VEGUN approaches materially affect Norley village

Should you take the LJLA ACP further, Norley Parish Council would be pleased to be involved in the consultations

[redacted]
On behalf of NPC

9 Appendix D: Glossary

ACOG	Airspace Change Organising Group
ACP	Airspace Change Proposal
AIP	Aeronautical Information Publication
AMS	Airspace Modernisation Strategy
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding Natural Beauty
ATC	Air Traffic Control
ATS	Air Traffic Services
CAA	Civil Aviation Authority
CAP1385	CAA Publication: Performance-based Navigation (PBN): Enhanced Route Spacing Guidance
CAP1616	CAA Publication: Airspace change: Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information
CAP1711	CAA publication: Airspace Modernisation Strategy 2023–2040
CCO	Continuous Climb Operation
CDO	Continuous Descent Operation
CFMU	Central Flow Management Unit
CO_2	Carbon Dioxide
CO_2e	Carbon dioxide equivalent
DfT	Department for Transport
DP	Design Principle
DPE	Design Principle Evaluation
EMA	East Midlands Airport
FAF	Final Approach Fix
FASI	Future Airspace Strategy Implementation
ft	Feet
GA	General Aviation
IAF	Intermediate Approach Fix
IATA	International Air Transport Association
IFR	Instrument Flight Rules
IOA	Initial Options Appraisal
LBA	Leeds Bradford Airport
LJLA	Liverpool John Lennon Airport
LPL	Liverpool Airport (LJLA)
MAN	Manchester Airport

MTMA	Manchester Terminal Manoeuvring Area
NERL	NATS En-Route Ltd
NM	Nautical Mile
PBN	Performance Based Navigation
RNAV	Area Navigation
SID	Standard Instrument Departure
SME	Subject Matter Expert
SoN	Statement of Need
STAR	Standard Arrival Route
VFR	Visual Flight Rules