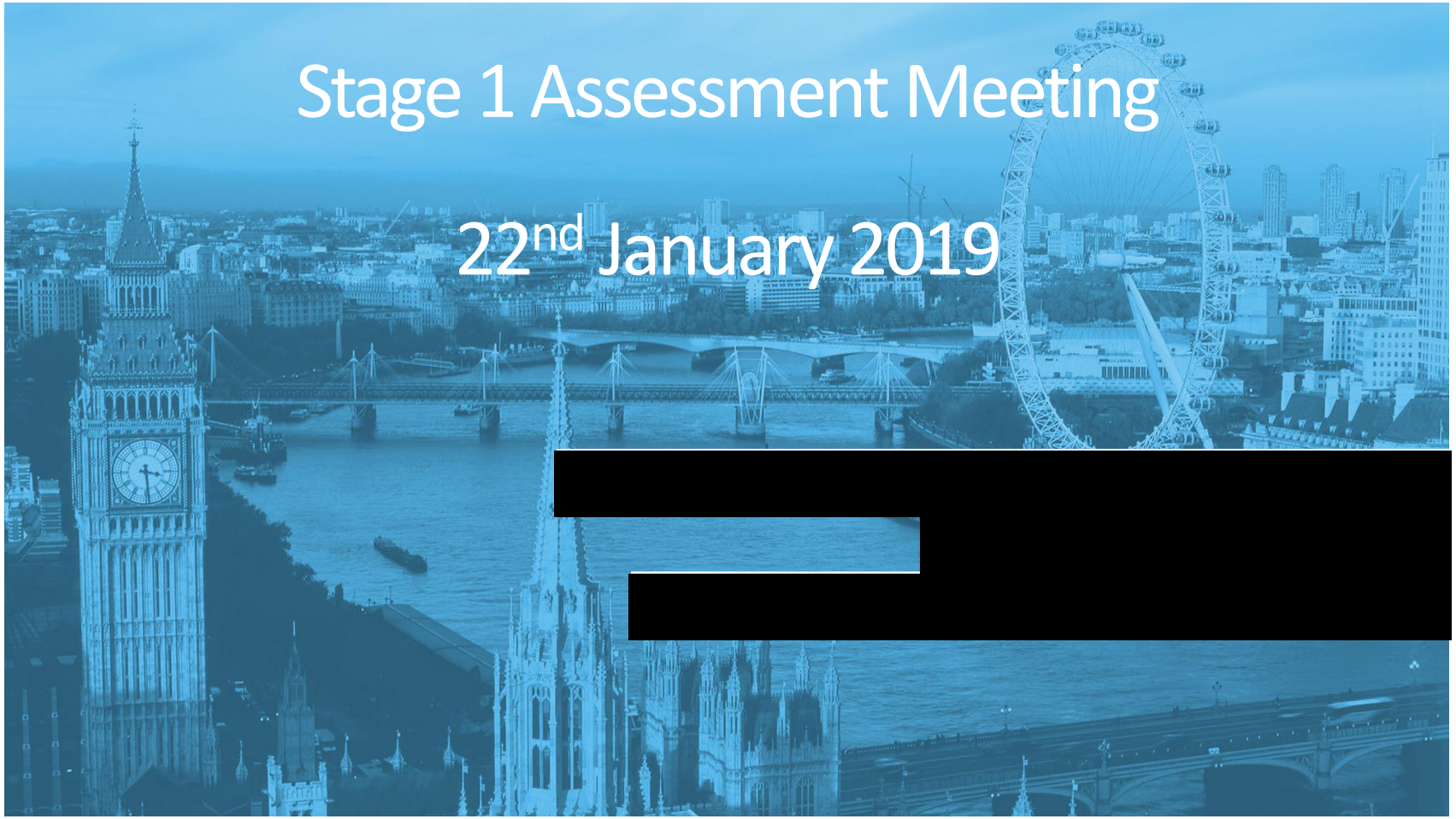
LONDON CITY AIRPORT

Future Airspace Strategy, Implementation South London City Airport, Airspace Change Proposal



Agenda

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Statement of Need (ref. 2417, 20-Dec-2018)

London City Airport Ltd. is planning to make changes to integrate the airport's arrival and departure routes and associated airspace structures with proposed higher level routes proposed by NATS.

These changes could affect traffic at altitudes from 0 to 7000ft.

Current Situation

- London City Airport currently has a system of PBN and conventional SIDs, STARs and arrival transitions which were introduced in 2016. These serve the current fleet mix, which includes PBN capable aircraft/crews and those which are not PBN capable.

- Passenger delays are expected to increase sharply over the next ten years if the airspace structure and route network are not upgraded to introduce additional capacity.

- The Future Airspace Strategy Implementation South (FASI South) programme has been established by NATS and 15 key airports operating in southern England, including London City Airport, to coordinate a series of linked ACPs that will modernise the overall airspace structure and route network.

Statement of Need (ref. 2417, 20-Dec-2018)

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Opportunity/ Associated Factors

- The existing airspace above Southern England, is approaching the limits of its capacity and contains design features which have adverse operational, financial and environmental consequences and inhibit improvements. (2017 DfT/CAA Strategic Rationale (Upgrading UK Airspace – Moving Britain Ahead)
- There will a significant increase in air traffic movements at all Southern England's airports out to and beyond 2030.
- Complete redesign of the enroute and terminal airspace, coupled with extensive redesign of airport airspace and procedures is required to meet future demand
- Further modernisation of the airspace will free up capacity, manage traffic efficiently, and enable innovations that could reduce the environmental impacts of aviation.
- The DfT have asked all affected airports, including London City, to commit to undertake related airspace change, through this programme, in support of the Strategy's objectives.
- NATS are developing the London Airspace Modernisation Programme (LAMP) to modernise the airspace structure and route network above 7000ft.
- The FASI-S airports are each developing complimentary ACPs to modernise the arrival and departure routes that support their operations and connect the airports below 7000ft, with the higher LAMP enroute network.
- DfT have asked all airports affected, including London City, to lead their own airspace changes below FL70.
- Each airport will determine the location of entry and exit "letterboxes" at FL70 to link to the NATS/NERL flightpaths above FL70.

Statement of Need (ref. 2417, 20-Dec-2018)

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Opportunity/ Associated Factors (cont)

- London City's airspace change will support the creation of additional airspace capacity, enable the efficient accommodation of additional traffic, and facilitate environmental performance improvements.
- The NATS-led London Airspace Management Project (LAMP) will enable London City to progress the efficient integration of its PBN departure and arrival procedures into the proposed enroute network.
- The implementation of this strategically important redesign is unlikely to occur before 2024 and should be seen as a once-in-a-generation opportunity. As such, the airspace redesign should be compatible with the potential growth plans of all affected airports, thus ensuring that the airspace capacity will not be a constraint on the growth of commercial aviation. This will minimise the number of changes faced by communities and ensure that the redesigned airspace can meet the UK's future connectivity requirements.

Issue to be addressed

- This airspace change proposes to implement changes which will be required to modify departure and arrival routes to/from London City Airport below FL70 (~7000ft) in order to connect to the LAMP enroute network. The changes to the London City departure and arrival routes will integrate efficiently with the LAMP airspace design and make best use of the resulting enhanced network capabilities.

Justification

- The proposed changes are required as part of the FASIS/LAMP programme.
- The DfT have asked all affected airports, including London City to commit to undertake airspace change, through this programme, in support of the Strategy's objectives.
- London City's airspace change will support the creation of additional airspace capacity, enable the efficient accommodation of additional traffic, and facilitate environmental performance improvements.

Other Considerations

- Due to forecast passenger and airline traffic growth, current airspace capacity is likely to be inadequate by 2020.
- The VOR rationalisation programme requires that reliance on ground based navigation aids is removed.
- The changes will integrate with wider network changes being proposed by NATS, and together these will enable further efficiencies.

Objectives

- Maintain and improve on the current high levels of safety within the London City Airport operation.
- Improve resilience in the management and systemisation of London City arrivals and departures.
- Reduce controller and pilot workload through systemisation.
- Integrate efficiently with the LAMP network.

Impacts

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ATS Units

- London City Airport: systemisation will improve efficiency and increase capacity.
- London Terminal Control: systemisation will result in better traffic presentation to/from TC, and improvement in overall network capacity.

Civil Air Traffic

- Reduction in delays.
- Aim to improve climb & descent profiles.
- Aim to reduce cockpit workload.
- Aim to reduce fuel burn.

MoD / Operational Air Traffic

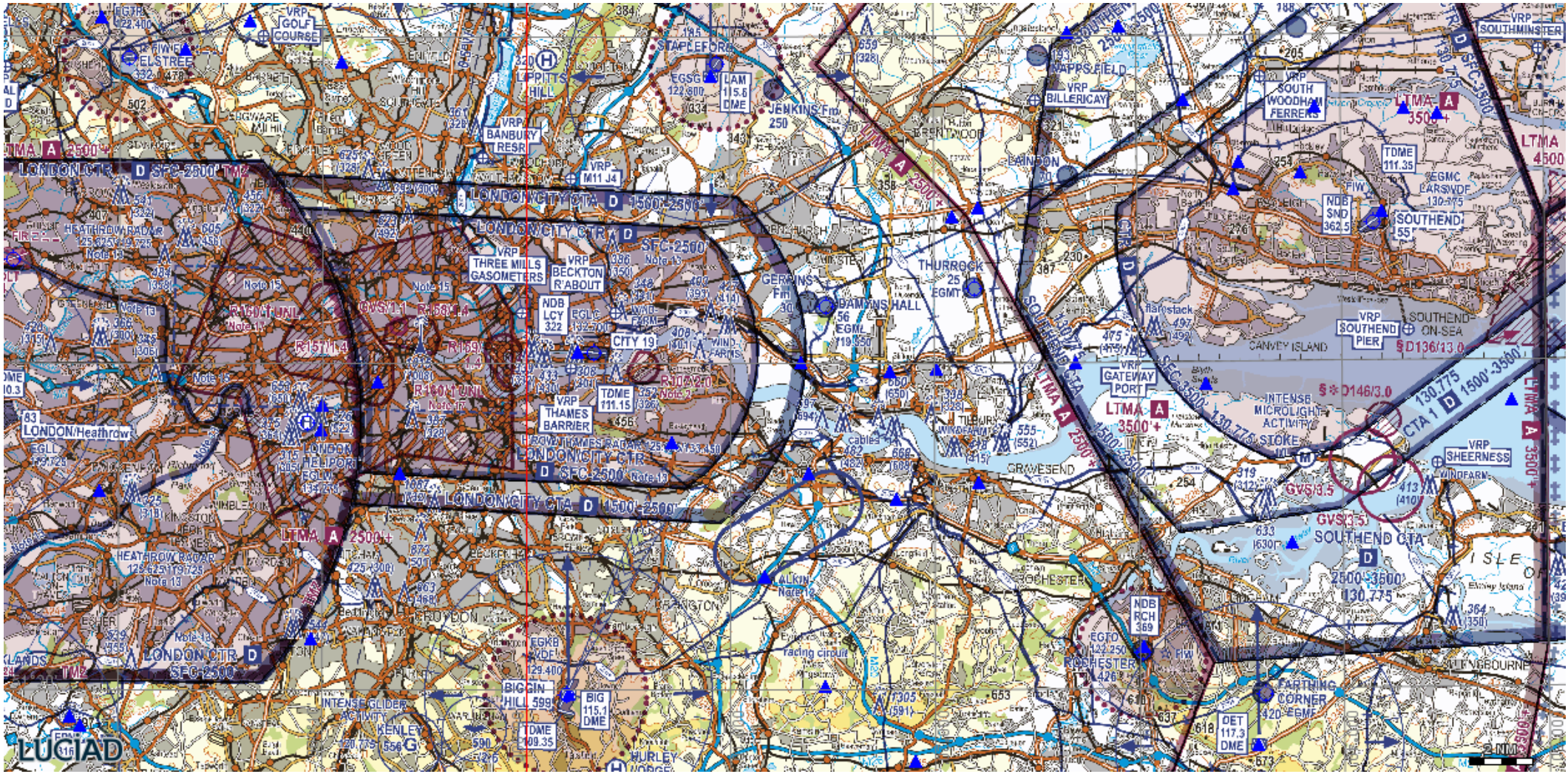
- Minimal anticipated impact.

GA/S&RA

- Changes to some CAS bases possible.
- Willingness to evolve low level airspace design.
- Relieve infringement risk in relation to low level CAS and deliver simplification of boundaries.

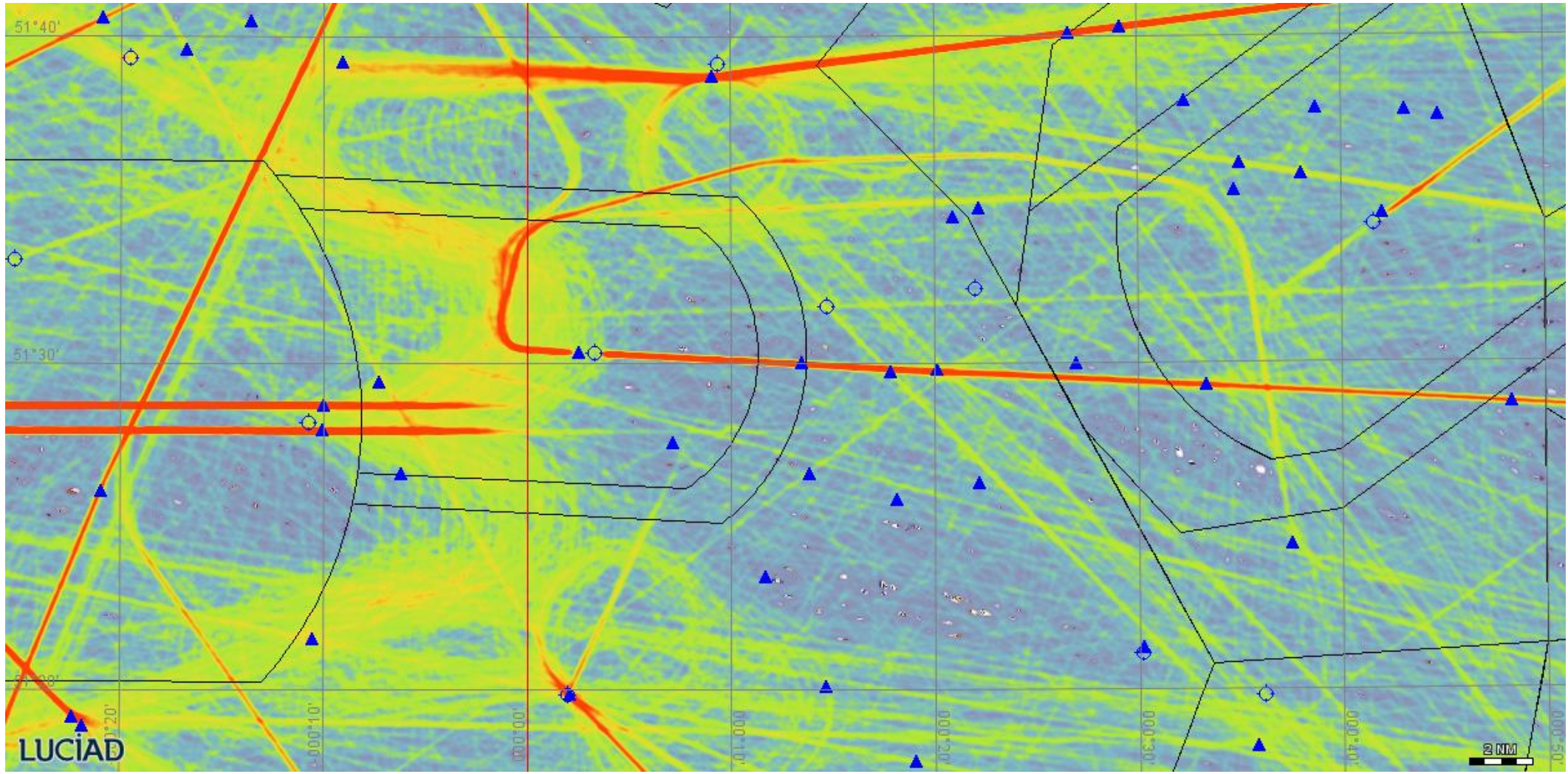
Baseline (Do Nothing)

Map showing today's airspace and population centres in the area.



Baseline (Do Nothing)

Trajectory Density Plot



Desirable Outcomes

Through collaboration and cooperation with adjacent airports (via ACOG) and NATS:

- Maintain the current high levels of safety within the London City Airport operation,
- Enhance the efficiency of the arrival and departure routes.
- Minimise environmental impacts.
- Minimise impacts on aviation stakeholders.

Environmental: CO_2 Emissions

- The proposed changes will improve climb & descent profiles, enabling consistent continuous climb departures (CCDs) and continuous descent approaches (CDAs).
- CO_2 emissions analysis will be carried out using KERMIT (Kerosene Emissions Research Model In the TMA) or equivalent.
- A 3DI (3 Dimensional Inefficiency) analysis of the current and proposed airspace will also be performed to quantify the benefit of the proposed changes.

Environmental: Over-flight/Noise

New SIDs and Arrival Transitions

- It is anticipated that any proposed new SIDs, STARs, Transitions or changes to the ATS route network will change the pattern of over-flights experienced by those under the proposed flight paths.

Analyses required

- SEL footprint noise analysis will be performed
- Leq contour analysis will be performed
- Population analysis will be performed

Airline Engagement

Engagement with airlines so far has been through the London City Airport Pilot Forum on 18th October 2018 where they were given a brief overview of FASI-S.

All the major airlines at London City Airport attend the twice yearly Pilot Forum and we see this as one of the main ways to update the airlines on our progress and engage with them on the planned changes.

This will be in addition to soliciting feedback from key airline stakeholders through regular meetings as required.

Consultation Stakeholders

Airlines – The main airlines operating from London City Airport (many already aware of the activity as per slide 13).

NATMAC - 39 Organisations

MOD - via DAATM

Politicians - All MPs and Councils within the area

Local stakeholder representative groups and individuals (e.g. LCACC, HACAN-E)

Representatives of the tourism industry, the business community, airport passengers

Local and national media

Issues & How To Address Them

Adherence to timeline:

- London City Airport has prioritised this project and has allocated resource appropriately.

Consultation and engagement with local stakeholder groups:

- London City Airport plan to utilise their network of stakeholders, and community groups, and embark on an extensive programme of engagement.

Provisional Scaling and Process Discussion

- It is expected that traffic distribution below 7000ft will be changed. As such this ACP will be Level 1.
- This ACP is sponsored by London City Airport.
- However it is part of the Future Airspace Strategy Implementation - South (FASI-S) meaning that all portions of the application require will require coordination through the Airspace Change Organisation Group (ACOG) and with NATS London Airspace Modernisation Project (LAMP).

Draft Gateway Timescale

Assessment meeting	22-Jan-2019
Stage 1 – Define	28-Jun-2019 (TBC)
Stage 2 – Develop	20-Dec-2019 (TBC)
Stage 3 – Consult	30-Oct-2020 (TBC)
Stage 4 – Update and Submit	25-Jun-2021 (TBC)
Stage 5 – Decide	29-Apr-2022 (TBC)
Stage 6 – Implement	2024/25

Next Steps

- Development work continues, to refine the concepts and fully define the scope.
- Analytics work continues, in order to engage effectively with airlines and airports.
- London City Airport continues to engage airlines, airports, GA and MoD.
- London City Airport to commence community engagement plan.

Questions?