

CITY AIRPORT DEVELOPMENT PROGRAMME  
(CADP1) S73 APPLICATION

# ENVIRONMENTAL STATEMENT

VOLUME 1: MAIN ES  
DECEMBER 2022



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City Airport Development  
Programme (CADP1) S73  
Application

Volume 1: Environmental Statement  
Chapter 14: Cumulative Effects  
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## 14 Cumulative Effects

### 14.1 Introduction

14.1.1 This Chapter of the ES assesses the potential for cumulative environmental effects to arise from the proposed development, in combination with other major developments in the area.

14.1.2 Cumulative effects have been considered in two ways, defined as follows:

- Inter-Project effects - the combined effects generated from the proposed development with other existing and/or approved developments. The environmental effects of these separate developments may be insignificant when considered in isolation, but when aggregated together could give rise to a significant cumulative effect; and
- Intra-Project effects – the combined effects of different types of impact from the proposed development on particular receptors at or surrounding the application site, for example, the combined effects of noise, dust and emissions on a particular sensitive receptor as a consequence of increased traffic flows.

14.1.3 The zones of influence (ZOI) appropriate to the individual assessment topics have been identified within the technical chapters. For example, air quality impacts are likely to have a greater zone of influence compared to ground noise impacts; these differences have been taken into account when assessing the cumulative effects within this chapter.

14.1.4 A detailed consideration of aircraft noise ('air noise') effects on future committed developments in the area, under both the DC and DM scenarios, is provided in ES Chapter 8: Noise and Vibration and is not repeated here for the sake of brevity.

14.1.5 Consideration has also been given to the potential cumulative effects of other future permitted developments and improvements inside the airport boundary, as listed below. Such 'Cumulative Airport Developments' do not form part of the proposed development, nor are they required in order to accommodate the proposed uplift in passengers or other changes brought forward by the S73 application.

### 14.2 Inter-Project Cumulative Effects

#### Policy and Guidance

14.2.1 The European Council Directive 2014/52/EU requires assessment of *"the direct effects and any indirect, secondary, cumulative, transboundary short-term, medium-term and long-term permanent or temporary, positive and negative effects of the project."*

14.2.2 The selection criteria included in the Directive for projects to be assessed is restricted to: *"cumulation with other existing and/or approved projects"* and *"the existing and approved land use"*.

14.2.3 Schedule 3, paragraph 1 of the EIA Regulations 2017 requires that *"the characteristics of development must be considered having regard, in particular to...(b) the cumulation with other development"*.

14.2.4 A range of public sector and industry-led guidance is available on cumulative effects assessment (CEA) but at present there is no single, agreed industry standard method. Consequently, the approach taken to CEA varies between different projects and ES's. The Planning Inspectorate (PINS) has published Advice Note 17: Cumulative effects assessment, which is primarily focussed on Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008 (as amended). Whilst the S73 application does not constitute an NSIP, this guidance is nevertheless relevant and has been broadly followed in this instance.

#### Assessment Methodology

14.2.5 In accordance with the PINS guidance referred to above, the assessment of cumulative effects has following main stages:

- **Stage 1:** Establishing the long list '*other existing development and/or approved development*'
- **Stage 2:** Establishing the short list to ensure that the CEA is proportionate, accounting for Zone of Influence (ZOI) of the airport and other committed developments.
- **Stage 3:** Information gathering
- **Stage 4:** Assessment

14.2.6 Specifically, the assessment of cumulative effects has been undertaken by completion of the following tasks:

- a) Identification of other permitted developments or those for which there is a resolution to grant planning permission or applications which are the subject of an appeal (collectively referred to as 'committed developments') within the defined study area – this established the 'long-list' of cumulative developments (as listed in ES Volume 2, Appendix 14.1);
- b) Identification of sensitive receptors (e.g. schools or residential dwellings);
- c) Consideration of committed developments against a set of screening criteria to identify those that should be considered within the cumulative effects assessment – this established the 'short-list' of cumulative developments, as set out below;
- d) Review of available and relevant planning application documents for the 'short-list' of committed developments, to identify any which have potentially significant cumulative effects;
- e) Identification and assessment of cumulative effects from both construction and operation stages that may result from the proposed development in combination with these other committed developments; and
- f) Identification of appropriate mitigation and management of the identified effects, as required.

14.2.7 The same significance criteria have been adopted for the cumulative assessment as for the overall assessment as defined in Chapter 3: EIA Methodology, and the individual technical chapters.

## Assumptions and Limitations

14.2.8 Where possible, a quantitative assessment of the individual environmental effects from the proposed development with other developments has been undertaken and the outcome discussed in the preceding technical chapters of this ES. However, in view of the inherent uncertainty with the timing and quantification of effects associated with other developments, as well as the potential variability in the timing, phasing and duration of the remaining CADP1 works (as set out in Chapter 6), it can be difficult to accurately determine the likely occurrence and magnitude of cumulative effects in any one year. Therefore, when a quantitative assessment has not been possible, a qualitative assessment of the reasonably likely cumulative effects has been undertaken using professional judgement and based upon realistic worst-case assumptions.

14.2.9 The methodology adopted for the Transport Assessment (TA) takes account of all planned and committed developments in the vicinity of the airport by using the TfL London Highway Assignment Model (LoHAM). As such, by applying airport traffic data to this model this generates a robust worst-case prediction of future cumulative traffic flows, which in turn has been fed into other technical assessments including air quality and noise.

14.2.10 The cumulative effects assessment has assumed that each of the cumulative developments identified has, or will be, sufficiently conditioned to mitigate any potential adverse effects arising from both their construction and operation as part of their respective planning permissions; for example, by the adoption of Construction Environmental Management Plans (CEMPs) and by minimising parking ratios, as is the case with the proposed development.

## Cumulative Schemes

### Selection Criteria

14.2.11 Various criteria have been adopted for establishing the scope of the cumulative assessments and the schemes to be considered. The selection process was first informed by the air noise contours prepared by the

airport's noise consultants (BAP) in order to identify which schemes would fall within the noise contours, as this was considered the widest ZOI of the airport and proposed development.

14.2.12 An initial 'long list' of cumulative schemes was provided to LBN in the EIA Scoping Report. All of these schemes have been accounted for in determining the potential future populations contained within the modelled air noise contours, in both the DM and DC scenarios. However, for other topics, this list was further rationalised by the application of supplementary screening criteria (see below) such that that only those developments with the potential to give rise to cumulative ('in-combination') effects on air quality, ground noise, socio-economics, climate change etc. have been considered.

14.2.13 In their response to the technical consultation on EIA thresholds, the Department for Levelling Up, Housing and Communities (DLUHC) stated that urban development projects below the stated EIA screening thresholds "*will not be likely to have significant effects either alone or in combination with other projects because of their nature, location or impact*". Nevertheless, consideration has been given to schemes not subject to EIA, where it is considered there is potential for cumulative construction or operational effects to arise.

14.2.14 The following selection criteria have been applied to scope developments 'in' or 'out' of the cumulative assessment. These criteria were set out in the EIA Scoping Report submitted to LBN:

- Developments that are within 1km of the boundary of the Airport runway;
- Comprise more than 10,000 sqm of development and/ or 100 or more residential units and/ or are of a particularly sensitive nature (e.g. new schools or hospitals);
- Expected to be built-out at the same time as CADP1 and with a defined phasing and construction programme;
- Developments which are considered likely to result in significant environmental effects, including certain types of development which may not be subject to EIA; and
- Developments that have planning permission or a 'resolution to grant' planning permission; and
- Scheduled maintenance and infrastructure replacement projects ('on-airport' developments) which are separate from the proposed development.

14.2.15 It is noted that many of the developments included in the 'long list' (presented in ES Volume 2, Appendix 14.1) are either already complete or are likely to be built out and fully operational/ occupied before 2025; i.e. the earliest year in which CADP1 construction works are expected to re-commence. These schemes therefore form part of either the existing or projected future baseline for the EIA, against which the environmental effects of the proposed development have been assessed.

14.2.16 A scoping exercise was undertaken to refine the list of cumulative schemes in accordance with the criteria set out above and the status of each scheme. This is included in Appendix 14.1 and provides justification for why each scheme is scoped in / out to the assessment of inter-cumulative effects.

14.2.17 During the EIA scoping discussions held with LBN and their consultants, the list of cumulative schemes to be assessed was not questioned. LBN's subsequent Scoping Opinion, issued on 24<sup>th</sup> November 2022, neither confirmed nor refuted the list of cumulative schemes, or the proposed screening criteria described above. It has therefore been assumed that LBN agree with the scope and approach adopted.

### Off-Site Cumulative Schemes

14.2.18 The schemes which were short-listed for more detailed consideration in the cumulative effects assessment are set out below and illustrated in Figure 14.1. Further detail on these schemes is provided in Appendix 14.1.

1. 22/00883/SCOPE & 14/01605/OUT – Silvertown Quays (IDs 1 and 59)
2. 14/00618/OUT - ABP Royal Albert Docks Scheme (ID 2)
3. 18/00623/FUL & 21/02571/VAR – Gallions Phase 3B (ID 31)
4. 22/00418/FUL - Etap Accor Hotel (ID 32)

5. 20/00051/FUL – Albert Island Redevelopment (ID 53)
6. 20/01046/FUL & 21/02778/VAR – Unit 3 Thames Road (ID 54)
7. 21/02450/OUT – Thames Road Industrial Estate (ID 55)
8. 21/00965/FUL - ExCeL Redevelopment Phase 3 (ID 58)

### On-Site Cumulative Schemes

14.2.19 In addition to non-airport/ off-site developments, this chapter gives due consideration to potential future permitted developments at the airport itself, which do not form part of the CADP1 development. These are listed below and an assessment of the potential cumulative impacts associated with these schemes is discussed in the subsequent section.

- CADP2 Hotel;
- Installation of the Engineered Materials Arrestor System (EMAS);
- Retention of Temporary Permitted Facilities for up to ten years (subject to a separate planning application, as described in Chapter 6);
- Replacement of the current Vehicle Control Point (VCP) Building;
- Apron floodlight improvements;
- Runway resurfacing works;
- Plating and treatment of steelwork in the dry dock; and
- Expansion joint replacement.

### Assessment of Inter-Cumulative Effects

14.2.20 The assessment of inter-cumulative effects for each environmental topic is contained within the preceding relevant technical chapters of this ES (Chapters 7-12) and is not repeated here.

14.2.21 As described earlier in this chapter, in all cases, the cumulative developments have been included in the traffic model which predicts trip generation and the growth in vehicular traffic on the surrounding road network over an extended timeline up to 2031. The resulting data from this model, for both the DM and DC scenarios, has been used in the modelling and prediction of other environmental effects including surface access noise, air quality and carbon emissions.

14.2.22 For other assessments (e.g. air noise, ground noise, air quality, and health and wellbeing) the location and existence of new residential populations and other sensitive receptors by 2027 and 2031, which will be introduced by these committed developments, has been mapped and accounted for in the impact assessments.

14.2.23 A summary of the residual cumulative effects identified is however provided below in Table 14.1.

**Table 14-1: Summary of Inter-Cumulative Effects**

Topic	Summary of Inter-Cumulative Effects
Socio Economics	<p>The cumulative developments would generate employment opportunities and contribute to the local economy and jobs market during both the construction and operational phases.</p> <p>Cumulative construction effects are anticipated to be Negligible Beneficial and <b>Not Significant</b> in respect of construction employment.</p> <p>Cumulative operational effects are anticipated to be Beneficial and <b>Significant</b> in respect of the local jobs market.</p>
Noise	<p>All future committed residential developments and their estimated populations which will be contained within the projected air noise contours, are taken into account in the noise assessment presented in Chapter 8. All cumulative noise effects are Negligible to Minor Adverse (at worst) and therefore <b>Not Significant</b>.</p>
Air Quality	<p>There would be a potential for overlap of construction works associated with the proposed development and cumulative schemes which could give rise to significant effects in relation to dust emissions. All cumulative schemes are anticipated to employ dust mitigation techniques and construction traffic</p>



	<p>management plans similar to the proposed development and therefore cumulative air quality effects are assessed as being Negligible and <b>Not Significant</b>.</p> <p>Operational road traffic from the cumulative schemes has been included in the traffic model for both the DM and DC scenarios and is therefore inherent to the assessment of road traffic emissions. The cumulative effects would therefore be Negligible and <b>Not Significant</b>.</p>
Surface Access	<p>Cumulative construction and operational traffic could give rise to significant cumulative effects on the highway network.</p> <p>All cumulative schemes are anticipated to adopt construction logistics plans similar to the proposed development to manage construction traffic appropriately. The volumes of cumulative construction traffic are unlikely to be noticeable in the context of existing traffic flows on the local highway network. The cumulative effects of construction traffic would therefore be <b>Not Significant</b>.</p> <p>Operational road traffic from the cumulative schemes has been included in the traffic model for both the DM and DC scenarios and is therefore inherent to the surface access assessment. Cumulative effects are therefore the same as those set out in the main assessment of the proposed development which range from Neutral to Slight Adverse and <b>Not Significant</b> to Slight to Moderate Adverse and <b>Significant</b>.</p>
Climate Change	<p>All cumulative developments would likely lead to an increase in GHG emissions relative to the 2019 baseline.</p> <p>Cumulative GHG emissions associated with the proposed development in combination with the surrounding cumulative scheme would be <b>Not Significant</b>.</p>
Public Health & Wellbeing	<p>Operational road traffic from the cumulative schemes has been included in the traffic model for both the DM and DC scenarios and is therefore inherent to the traffic, noise and air quality assessments that inform the assessment of health and wellbeing. Cumulative effects associated with road transport are therefore the same as those set out in the main assessment of the proposed development.</p> <p>Cumulative beneficial effects associated with jobs and training are considered to be at least Moderate Beneficial and <b>Significant</b>.</p>

14.2.24 With regard to the potential cumulative effects associated with on-site airport developments, potential impacts and the likely significance of effects are set out in Table 14.2 below. Due to ongoing operational safety and maintenance requirements, the airport continually evolves in a dynamic environment with frequent construction works taking place. These works are undertaken in accordance with strict environmental management and aviation safety controls and are therefore often not noticeable beyond the airport boundary.

**Table 14-2: Potential Cumulative Effects from On-Site Developments**

On-site Development	Description of Scheme	Assessment of Potential Cumulative Effects
CADP2 (13/01373/OUT)	<p>An outline planning application for a hotel (up to 260 bedrooms) was submitted concurrently with the CADP1 planning application in 2013. The hotel would be located landside, to the west of the proposed car park deck. The potential environmental impacts of the Hotel development were assessed as part of the CADP planning application and the original ES submitted in 2013.</p> <p>It is now anticipated that construction of the hotel would commence in 2028 and potentially be operational by 2030.</p>	<p>The associated cumulative effects of building out the CADP2 hotel will be no greater than determined in the 2015 UES; being controlled by the approved CEMP and thereby <b>Not Significant</b>.</p>
EMAS (Permitted Development, not subject to EIA).	<p>An EMAS is an airfield safety enhancement feature at either end of the runway, comprising an arrester bed made of engineered energy absorbing material designed to control the quick deceleration of an aircraft and bring it to safe stop.</p> <p>Construction works to install the EMAS commenced in October 2022 and are scheduled to be completed in June 2023.</p>	<p>Installation of EMAS is anticipated to be complete in June 2023. As such, there would be no overlap of construction activities with the proposed development and therefore no cumulative construction impacts.</p> <p>Moreover, there would be no cumulative operational impacts.</p>



On-site Development	Description of Scheme	Assessment of Potential Cumulative Effects
	A construction noise assessment was undertaken in advance of the works commencing due to the nature of the construction activities involved (which include the use of concrete breakers) and the timing of the works (being undertaken predominantly out of hours in accordance with airside safety and operational requirements). This determined that, with appropriate noise mitigation in place, no significant noise impacts would occur from these airside works.	
Retention of Temporary Facilities (Concurrent but separate planning application)	<p>Retention and erection of Permitted Development Facilities at the airport for a period of up to 10 years. Works to include the retention of the Temporary Goods-in Facility (GIF), Temporary Immigration Facility (TIF), Temporary Outbound Baggage Facility (TOBB), temporary decked car park, temporary car rental building, and the erection of a Temporary Gate Room (TGR) Facility and related works.</p> <p>The GIF, TIF, TOBB, temporary decked car park and temporary car rental buildings were all constructed between 2018 and 2020 under Permitted Development Rights and are currently in operation. These temporary facilities are required to facilitate the construction of the new terminal facilities, and will be required in both the DC and DM cases.</p> <p>Construction activities associated with the erection of the remaining TGR Facilities would be minor in nature and can readily be accommodated within the remaining CADP1 works and controlled by the approved CEMP.</p>	<p>Construction activities associated with the remaining temporary facilities would be minor in nature and managed in accordance with the approved CADP1 CEMP. No significant cumulative construction effects are considered likely.</p> <p>The temporary facilities would be removed as the new CADP1 terminal buildings are built out and, accordingly, no cumulative operational effects would occur.</p>
Replacement VCP building	<p>Demolition of existing VCP Building and construction of a new replacement building to accommodate necessary CT scanners and body scanners.</p> <p>Works would be undertaken in 2023. Works would be within daytime hours and would last approximately three months.</p>	<p>Works would be completed in 2023 and, accordingly, there would be no overlap in construction activities with the proposed development and therefore no cumulative construction impacts would occur.</p> <p>Moreover, there no cumulative operational impacts are envisaged.</p>
Plating and treatment of steelwork in the dry dock	<p>Installation of several access hatches in the pavement deck above the dry dock (underneath the TOBB and stands 3-6) to allow the cleaning, treating and plating in certain areas of the steelwork at dock water level.</p> <p>Due to their nature, the works will be carried out outside of operational hours (nights and weekends). Some noisy works, such as breaking out the concrete deck to create the access hatches, would be required. However, these works will take place in highly localised areas and can be effectively screened.</p> <p>Works are expected to take place in 2023 and be completed by 2024. However, the duration and phasing of works is subject to confirmation.</p>	<p>Works would be completed no later than the end of 2024 and accordingly there would be no overlap in construction activities with the proposed development and no cumulative construction impacts.</p> <p>Moreover, as these are simply repair and maintenance works, there would be no cumulative operational impacts in combination with the proposed development.</p>
Expansion joint replacement	<p>Replacement of the existing expansion joints at the Runway 27.</p> <p>Due to the nature of the works, works will be carried out during out of operational hours (nights and weekends). Noisy works (due to breaking) would be limited to Saturdays.</p>	<p>Works would be completed in 2023 and accordingly there would be no overlap in construction activities with the proposed development and no cumulative construction impacts.</p> <p>Moreover, as these are simply repair and maintenance works, there would be no</p>

On-site Development	Description of Scheme	Assessment of Potential Cumulative Effects
	Works are expected to take place in 2023 and last approximately one month.	cumulative operational impacts in combination with the proposed development.
Apron floodlighting improvements	<p>Installation of additional lights on existing masts to improve lux levels on the older stands and western apron. Works are required in accordance with CAA safety standards.</p> <p>Works are expected to take place in 2023 and would be within daytime hours, lasting approximately one month.</p>	<p>Works would be completed in 2023 and accordingly there would be no overlap in construction activities with the proposed development and no cumulative construction impacts.</p> <p>As this is a maintenance activity, there would be no cumulative operational impacts in combination with the proposed development.</p>
Runway re-surfacing works	<p>Planing and in-laying of the Touch Down Zones/Thresholds on the runway, as well as over-banding to repair worn surfaces of the runway.</p> <p>Due to the nature of the works, these will be carried out during out of operational hours (nights and weekends).</p> <p>Works are expected to take place in 2028 and last approximately three months.</p>	<p>The works are likely to involve noisy activities associated with the planing of the runway which may overlap with other CADP1 construction activity (in the core DC scenario). However, these works would be limited in duration and subject to a bespoke CEMP. As such, no significant cumulative effects are envisaged during the construction works.</p> <p>As this is a maintenance activity, there would be no cumulative operational impacts.</p>

## 14.3 Intra-Project Cumulative Effects

### Assessment Methodology

**14.3.1** As indicated earlier, there is no established EIA methodology for assessing and quantifying the combined effects of individual effects on sensitive receptors, including within the PINS guidance.

**14.3.2** The approach adopted to 'intra-project' cumulative effects utilises the identified residual (remaining) effects of the proposed development in each of the technical chapters (ES Chapters 7 – 12) to determine the potential for interactions between effects. Additionally, Chapter 12: Public Health & Wellbeing, includes an integrated assessment of such combined effects.

**14.3.3** A review of the residual effects presented in this ES was undertaken against the resource / receptor or receptor groups. Only residual beneficial or adverse effects classified as being 'minor', 'moderate' or 'major' significance have been considered. Negligible effects have been excluded from the cumulative effects assessment as, by definition, they are considered to be imperceptible to a receptor or resource.

**14.3.4** The approach comprised the following steps:

1. A review of the likely residual effects (and in particular the likely significant environmental effects) presented within the ES was undertaken;
2. Potentially affected sensitive receptors or receptor groups were identified;
3. The individual effects which may occur at a singular receptor or receptor group were listed in a matrix format;
4. The potential for individual effects to interact for a given receptor was identified; and
5. The scale of the combined intra-project cumulative effects was assessed.

**14.3.5** To ensure a proportionate approach, absent or 'negligible' effects have been disregarded. Where a range of effects has been predicted, the full range has been considered.

14.3.6 Where there is more than one effect likely to be experienced at a particular receptor or receptor group, the potential for 'effect interactions' and the scale of the combined effect have been considered based on professional judgement and experience. Such effects are more likely to arise when the receptor or receptor group is of higher sensitivity to change, such as vulnerable populations.

## Assessment Results

14.3.7 This section presents the results of the potential for interactions of individual effects on specific receptors during the demolition and construction works and once the extant CADP1 scheme is built out, and the proposed development is operational, respectively.

14.3.8 The Public Health and Wellbeing assessment (ES Chapter 12) inherently considers the combined impacts on human health receptors from all other technical disciplines assessed in this ES. To consider the combined effects on health and wellbeing with these other disciplines would therefore result in 'double counting' and the potential to overstate the potential for effects. Accordingly, the health and wellbeing effects are not considered further.

14.3.9 In addition, each technical chapter (Chapters 7-12) already provides a qualitative assessment of the interaction between climate change and the respective technical topic. The interactive effects of climate change with other environmental topics, and an assessment of how future climate change might influence the significance of effects identified on particular receptors, is therefore already accounted for in this ES.

14.3.10 The effects arising from GHG emissions are assessed on a global scale with no specific receptor or group of receptors identified as being susceptible to potential significant effects. Accordingly, GHG emissions would not give rise to interactive effects with other technical disciplines.

14.3.11 During construction there is the potential for air quality, traffic, noise and socio-economic effects to interact. However, combined air quality and socio-economic effects have been identified as being of Negligible significance and accordingly are not considered likely to give rise to any intra-cumulative effects in combination with other factors. As set out in Chapter 8, for construction noise at night there would be a Negligible to Minor Adverse effect. However, as the construction works will be contained within the airport boundary and traffic movements during these night-time hours will be limited, it is not considered that there is a risk of significant intra-cumulative effects with, for example dust and exhaust emissions, on any particular receptor. Moreover, the strict adherence to the CEMP will ensure that environmental impacts are avoided or reduced at source.

14.3.12 Following completion of the proposed development there is also the potential for air quality, traffic, noise and socio-economic effects to interact.

14.3.13 All air quality effects associated with the operational phase have been assessed as being of Negligible significance and accordingly are not considered likely to give rise to any significant intra-cumulative effects in combination with other topics.

14.3.14 Slight to Moderate adverse effects have been identified on the highway network in terms of traffic flows and severance on the roads immediately adjacent to the airport, however these are not considered to be significant due to existing capacity on the network which can accommodate the absolute volumes of traffic.

14.3.15 Negligible to minor adverse effects have been identified in terms of noise at night from aircraft in the air and on the ground, and also from aircraft on the ground at the weekend.

14.3.16 Operational socio-economic effects are assessed in relation to employment, GVA, the local jobs market and wider socio-economic benefits. These are assessed as being of Negligible to Major Beneficial significance.

## Conclusion

14.3.17 Accounting for the conclusions of the cumulative effects assessment, as presented above, it is not considered that any further mitigation measures, additional to those set out previously in this ES, are required.

