

Our ref: Q10064
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Director of Planning & Development
London Borough of Newham
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For the attention of Liam McFadden

Dear Madam

**TOWN AND COUNTRY PLANNING ACT 1990 (AS AMENDED)
SECTION 73 APPLICATION to VARY VARIOUS CONDITIONS ATTACHED
TO PLANNING PERMISSION 13/01228/FUL (LPA REF. 22/03045/VAR): GLA
STAGE 1 REPORT**

I refer to the above S73 application and write to respond to matters raised in the Mayor of London's 'Stage 1 Report' (Ref GLA/2023/0094/S1/01) dated 20 March 2023.

Like most Stage 1 Reports, the GLA's response states that the proposals don't currently comply with policies and seeks further information and, in this case, reassurances on matters relating to transport, air quality and sustainable development. This letter and its enclosures respond, in turn, to the issues raised. Some information and further assessment, including a Whole Life Carbon Assessment are being prepared and will follow in due course.

Land Use Principles

This section of the Stage 1 Report notes that the current use of the aviation facility is accepted and acknowledges that Policy T8 of the London Plan supports proposals which make better use of existing airport capacity. Paragraph 19 states that GLA officers are of the view that there is insufficient information to determine whether the requirements of Part B of Policy T8 are being met and specifically the need for the development proposals to include mitigation measures that fully meet external and environmental costs.

The Environmental Statement (ES) accompanying the application describes the impacts of the proposals and proposed mitigation. As Newham Officers are aware, the Council's own consultants have critically reviewed that ES and subject to seeking further clarifications have found the assessment to be comprehensive. The Applicant will be responding to that review under a separate cover.





In terms of the mitigation measures responding to the requirements of Part B of Policy T8, this is clear from the description of them in the Benefits and Mitigation Statement which accompanied the Application which we have also summarised below in Figure 1.

<p>Noise</p> <ul style="list-style-type: none">• Commitment that only cleaner, quieter, new generation aircraft will be allowed to operate in any newly extended hours on a Saturday as well as the three additional flights in the first half hour of the day (0630-0659). This will require airlines to replace their older fleets with cleaner, quieter, new generation aircraft in order to benefit from any increased flexibility which, in turn, will result in the benefits of quieter aircraft being felt by local residents throughout the week.• Significantly enhanced sound insulation scheme to further reduce noise from the airport and share the benefits of growth while lowering the noise threshold for eligibility so that more residents affected by noise receive a higher specification of treatment in their homes.• Significantly improved Community Fund of £3.85million to target investment in amenity in areas close to the airport and overflowed by aircraft, to compensate for the reduction in the respite period particularly on Saturday afternoon and to enhance the quality of life benefits for the local community. <p>Carbon Emissions</p> <ul style="list-style-type: none">• Carbon and Climate Change Action Plan to deliver the airport's commitment to become a net zero airport by 2030 (Scope 1 and 2 emissions which it directly controls) and be one of the first airports in the UK to facilitate zero emissions flights (Scope 3). More specific measures include:<ul style="list-style-type: none">○ Zero emission airside vehicles - as airside vehicles reach the end of their natural life, they would be replaced, wherever possible, by zero carbon versions.○ Encourage uptake of Sustainable Aviation Fuels (SAFs) - working with partners to adapt the infrastructure and operating environment, the airport will facilitate the use of SAFs..○ Encourage use of zero emission aircraft - continuing to work with partners to deliver greater scalability in the medium term on the short and medium-haul flights of relatively smaller aircraft that London City Airport specialises in.• The revised Energy Strategy for the Eastern Energy Centre will utilise on-site heat pumps and photovoltaics or will connect to a District Heating Heat Pump option. The 2015 UES in support of the CADP1 application calculated NOx emissions from the Eastern Energy Centre to be 1,130 kg/annum based on CHP/gas boilers. This will now be reduced to zero. <p>Air Quality</p> <ul style="list-style-type: none">• Develop and implement a monitoring and reporting regime for UFPs, potentially linked to the airport's existing comprehensive Air Quality Management System. Whilst the ES has identified that no additional mitigation is required, this is a developing area of study and LCY consider that monitoring is appropriate. <p>Transport</p> <ul style="list-style-type: none">• Target to achieve 80% of passenger journeys by sustainable modes by 2030 as well as a new Travel Plan to 2031 to implement measures to achieve both passenger and staff targets• Establish a new Sustainable Transport Fund (STF) of at least £2 million per annum which can be used to contribute surface access projects which contribute to the airport achieving its mode share targets; reduce the impact of private car journeys; decrease carbon and pollution emissions; and encourage the use of sustainable modes of transport. <p>Employment</p> <ul style="list-style-type: none">• Up to £1.9m in additional funding towards more education and training initiatives in the London Borough of Newham in addition to the 1,340 jobs onsite at the airport and support for 780 indirect and induced jobs and 600 jobs from catalytic effects in East London.

Figure 1 Summary of mitigation package described in the Application



Transport

Enclosed as **Appendix 1** is a technical response to each of the comments on pages 5 to 8 of the Stage 1 Report. The airport's Transport Advisors, Steer, provided a technical note on 16 March 2023 in response to initial comments from TfL Officers, shortly before the Stage 1 Report was issued.

We understand that there was insufficient time for this note to be incorporated into the Stage 1 Report. At a meeting on 4 April 2023, further clarifications were provided and we understand that TfL Officers are in the process of preparing a freestanding consultation response which may supersede the commentary in the transport section of the Stage 1 Report. If necessary, we will respond separately to updated views from TfL in due course.

Aviation Demand Context

Appendix 2 comprises the response to paragraphs 39 to 46 of the Stage 1 Report. Prepared by the airport's advisors, York Aviation, it explains why the approach to forecasts and assessment scenarios are robust.

For instance, in response to the suggestion that airlines would make the switch to newer generation aircraft irrespective of the proposals (paragraph 44), the note explains that it is only because of the proposals that airlines can make better use of their assets by operating additionally on Saturday afternoons. Because this new period of operations is limited to newer generation aircraft it creates a much stronger incentive to invest in a new fleet of newer generation aircraft. Accordingly, the Development Case takes into account these incentives and how they will result in a materially faster transition to newer generation aircraft. Without the greater operational flexibility provided by the proposed amendments to the conditions, airlines would simply have no incentive to refleet any earlier than the 'natural cycle' of fleet replacement.

Sustainability and Environment

This section of the Stage 1 Report seeks clarifications on the approach taken in the Revised Energy and Low Carbon strategy. A full response on the technical clarifications sought along with the Whole Life Carbon Assessment (see below) will follow shortly.

We note that the Stage 1 Report hasn't acknowledged the significant improvement to the CADP1 energy strategy which will be delivered by the S73 proposals. The Revised Energy and Low Carbon Strategy in support of the S73 application demonstrates that the improvements to the previously approved CADP1 plans can meet and go beyond the Part L2 2021 Building Regulations and the London Plan 2021 requirements. In doing so, the improved Energy Strategy will achieve a 46% reduction in carbon emissions compared with the already consented (fallback) scheme and a 11% betterment of the 35% reduction requirement in the London Plan 2021. This can be achieved because the airport is committing to a number of significant enhancements to the previously approved CADP1 energy strategy, including improved efficiencies in the terminal design; a move away from gas fired



CHP to a development wide heat network supplied by air source heat pumps; safeguarding for heat exchangers to allow connection to district heating; and increased provision of photovoltaic panels.

As explained during pre-application discussions with GLA officers, the utility of a whole Life-cycle Carbon assessment would be limited given that the CADP1 Scheme has already been partially built, including the concrete deck over the KGV dock which provides an extension to the airfield, new aircraft stands and the foundations for the extended terminal buildings. There are, therefore, limited opportunities for such an assessment to influence choices for the remainder of the build. Notwithstanding this concern, Atkins are preparing a Whole Life-Cycle Carbon assessment which will follow under a separate cover.

Noise

In this section of the Stage 1 Report, GLA Officers state that the nature and effects of changes to opening hours must be understood. As well as averaged typical noise contours, the application includes a full range of noise assessment measures, including ones which take into account the additional periods where it is proposed to fly and this includes a specific assessment of weekend noise (explained at paragraph 8.3.74 of the ES). The noise impacts are explained in summary in the Benefits and Mitigation Statement relying on a variety of assessment methods as follows:

“The noise analysis of the proposals shows that the overall amount of noise (taken as the area of the 57 dB LAeq, 16h contour) is forecast to be lower in the future, being less than occurred in 2019 and over 20% less than the currently permitted limit. The benefit of this has been estimated by comparing the expected population in 2031 with the proposed amendments with the population that could arise if the contour area was at the currently permitted limit. This finds a reduction in people of over 30,000.

With the proposed amendments, the airport’s air noise contour or footprint is predicted to reduce. Condition 33 of the CADP1 Permission requires the area enclosed by the 57dB LAeq, 16hr contour not to exceed 9.1km² (with a requirement for this to be reviewed). With the proposed amendments this is expected to fall to 7.2km² by 2031 due to fleet modernisation and no increase in the permitted number of flights.

Due to the greater use of quieter new generation aircraft by 2031, weekend noise levels are expected to remain broadly similar to 2019 despite the extended operating hours. While people are forecast to experience an increase in weekend noise levels in 2031 all of the changes in weekend noise are forecast to be negligible.

Predictable periods when the airport is closed would reduce from 72 to 64/65 hours per week (a change of around 10%). In addition to the predictable periods of respite when the airport is closed, many of the people affected by aircraft noise are only overflowed by either westerly or easterly operations, not both. For those who are only overflowed by westerly operations, this occurs around 70% of the time on average, which equates to around 30 additional hours of respite per week. For those who are only overflowed by



easterly operations, this only occurs around 30% of the time on average, which equates to around an additional 70 hours of respite per week.”

Operating at weekends at London City Airport is not unprecedented. Between October 1987 and 1998 the airport was permitted to operate between 0630 to 2200 on Saturdays and 0900 to 2200 on Sundays (See Appendix 1 of the Planning Statement). Commitments to cleaner and quieter newer generation aircraft and other mitigation measures means modest changes to operating hours are entirely acceptable.

The ES confirms that the proposals would not exacerbate impacts on health and quality of life (see below also). In terms of the suggestion that any noise reduction technologies should not be banked to enable more flights, this is not the intention and, as explained in the quote above, the noise contours are predicted to be 7.2km² with the development in 2031 which is 1.9km² less than currently consented cap.

The Applicant notes that on 27 March 2023, the [Government](#) restated its key policy tests in respect of aircraft noise as follows:

“The government’s overall policy on aviation noise is to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organisation’s Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations, and recognise the additional health impacts of night flights.

The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise.”

By way of further explanation the Government states:

“We consider that “limit, and where possible reduce” remains appropriate wording. An overall reduction in total adverse effects is desirable, but in the context of sustainable growth an increase in total adverse effects may be offset by an increase in economic and consumer benefits. In circumstances where there is an increase in total adverse effects, “limit” would mean to mitigate and minimise adverse effects, in line with the Noise Policy Statement for England.”

These tests are more up to date than the London Plan and make no mention of not accounting for technological benefits. Consistent with these requirements in national policy, the Benefits and Mitigation Statement and the ES set out the significant economic benefits¹ and consumer benefits²

¹ including an additional 1,340 jobs on site and 4,470 additional jobs and £702M GVA for London by 2031

² allowing the airports route network to grow, with around 2.7 million passengers travelling to or from East London by 2031



while also confirming that there are limited social and health implications and a comprehensive mitigation package.

Air Quality

Appendix 3 comprises the detailed response from Air Quality Consultants to the comments on Air Quality. It confirms that the proposals comply with both the generality and detail of Policy S11 and T8 of the London Plan.

The note includes an assessment which isolates the airside emissions from landside traffic. Whilst considered unrealistic (as it fails to reflect reality/methodological norms), the scenario shows that the incremental change due to the proposed development is small at some receptors, and indistinguishable at most, with concentrations substantially below the objective / limit value. In summary, it shows:

- Some impact descriptors to the south of the airport change from negligible to slight adverse for annual mean NO₂ (at eleven receptors);
- At the human health receptors where the objectives apply, the annual mean nitrogen dioxide concentrations remain below 35 µg/m³ (and well below the objective);
- At the PCM receptors (with respect to the limit value), some locations remain above the limit value (as the values are unchanged from 2019) but the incremental changes are negligible and must be regarded as “de minimis”; and
- The predicted PM₁₀ and PM_{2.5} impacts remain virtually unchanged and all impacts remain negligible.

It is concluded that even with this unrealistic assumption, the conclusions of the air quality assessment remain unchanged and there are no significant air quality effects. Therefore the proposed development does not “*utilise air quality improvements resulting from unrelated Mayoral, local or national policies and actions*”.

Climate Emergency

Paragraphs 68 to 73 of the Stage 1 Report query the consistency of the proposals with climate change policies and scientific evidence regarding climate change. The application set out how the S73 Application is fundamental to help the airport deliver its Sustainability Roadmap with a focus on reducing the Scope 1 and 2 emissions which it can control. As explained in the Benefits and Mitigation Statements (Section 4), the airport also wishes to influence Scope 3 emissions which are associated with flying, albeit these are primarily the responsibility of the airlines. That document explains how the proposals are consistent with the Government’s Jet Zero Strategy which seeks to half emissions by 2050 with a residual to be offset or removed (creating net zero aviation). The technical analysis underpinning the Government’s Jet Zero Strategy shows how growth at London City Airport of up to



11 million passengers is compatible with the trajectory in that Strategy, i.e. more than the 9 million passengers proposed in the S73 application (see Planning Statement paragraph 6.57).

The Stage 1 Report seeks to directly challenge this national policy as follows: *“The Government’s ‘Jet Zero’ strategy does not adequately address how UK aviation would support achievement of net zero carbon, nor does it set out whether and how capacity growth could be accommodated”.....“GLA officers agree with the CCC’s 2021 progress report to Parliament which clearly stated that “some moderation of demand growth is likely to be required to meet the legislated emissions targets, as pre pandemic trends in demand growth exceed what we expect can be accommodated in a Net Zero world”.* Clearly, it is inappropriate for planning authorities to seek to challenge national policy. Policies such as the Jet Zero Strategy represent a significant material considerations which can not be set to one side because an authority disagrees with them. Furthermore, London Plan policies were adopted prior to the issue of Government Policy and if any inconsistency was considered to exist with local policies, national policy in the Jet Zero Strategy or other relevant policy should take precedent.

Summary

Careful consideration has been given to the comments in the Stage 1 Report. Where appropriate, responses have been included in this letter and its enclosures. Further information will follow in respect of the technical clarifications on the energy assessment and the Whole Life Carbon Assessment.

Yours sincerely

Sean Bashforth
Senior Director
Encl.

cc. Scott Schimanski – Greater London Authority
London City Airport



APPENDIX 1

Date 25 April 2023

Technical Response Note

From Steer

Project London City Airport- Section 73 Application to vary conditions

Project No. 23699202

LPA Ref 22/03045/VAR

GLA Ref 2023/0094

Response to Transport Comments in GLA Stage 1 Report

Introduction

1. This Technical Response Note has been produced by Steer on behalf of London City Airport (LCY). It provides an initial response to the surface access related comments raised in the Greater London Authority (GLA) Stage 1 Report (reference: GLA/2023/0094/S1/01) issued on 20 March 2023 in relation to the S73 Application (local authority reference: 22/03045/VAR).
2. The application seeks the following:
“Section 73 Application to vary conditions 2 (approved drawings and documents), 8 (aircraft maintenance), 10 (restrictions on development – Plan P4), 12 (aircraft stand location – Plan P4), 17 (aircraft take-off and land times), 23, 25, 26 (Daily limits), 35 (temporary facilities), 42 (terminal opening hours), 43 (passengers) and 50 (ground running) attached to planning permission 13/01228/FUL dated 26 July 2016 (as varied) to allow up to 9 million passengers per annum (currently limited to 6.5 million), arrivals and departures on Saturdays until 18.30 with up to 12 arrivals for a further hour during British Summer Time (currently allowed until 12.30), modifications to daily, weekend and other limits on flights and minor design changes, including to the forecourt and airfield layout.”
3. This document responds to the surface access comments raised in paragraphs 20 to 38 and 40 to 42 of the GLA Stage 1 Report. A summary is provided below of each GLA comment relating to transport and the corresponding Steer response.
4. Prior to the issue of the GLA Stage 1 Report, Transport for London (TfL) requested further transport-related clarifications and data to support the submitted TA and EA. This is detailed in Steer’s March 2023 Technical Response Note, which is attached at Appendix A.
5. A follow-up meeting was held with TfL on 4 April 2023 to check if there were any further questions arising from the March 2023 Technical Response Note and to discuss the surface transport sections of the GLA Stage 1 Report. The following topics were discussed, with further commentary given in the remainder of this Technical Response Note:
 - The scope of the proposed Sustainable Transport Fund, noting that spending priorities would be the subject of ongoing monitoring of transport conditions (via the Travel Plan process) following determination of the planning application;
 - How the proposals would impact upon Canning Town station;

- Ensuring that the proposed minor changes to the forecourt have the flexibility to accommodate TfL's proposals to extend Bus Route 129 via the Silvertown Tunnel to serve the airport;
 - A request for a suitable lease arrangement to ensure buses can access the forecourt facilities and that bus drivers have suitable toilet provision (within 150 metres walk of the bus stand);
 - Car parking, noting that no changes are planned to the previously agreed CADP1 proposals; and
 - The establishment of a new working group with the aim of improving LCY DLR station and seeking to enhance DLR operating hours.
6. We understand that TfL are due to provide London Borough of Newham (LBN) with an updated stand alone note that reflects their position following these discussions.

Site Location and Context

GLA Comment Paragraph 20:

7. The Docklands Light Railway (DLR) station provides direct access to the airport's (only) passenger terminal. In addition, there is a bus facility and currently two routes come into the airport from the west and back out the same way. This facility includes a three-vehicle bus stop and a bus stand, and forms part of a wider forecourt that includes private hire and taxi drop off and pick-up. The taxi facility is linked to a taxi feeder park (interim 200, end state 336) to the east, which includes electric vehicle charging and driver facilities.

Steer Response to Paragraph 20:

8. Steer can confirm that the GLA comments in paragraph 20 are correct. It is reconfirmed that the consented CADP1 forecourt provides two bus stops and one bus stand for use by TfL buses and that the current proposals can potentially improve on this provision. This is discussed in more detail in the comments regarding Paragraph 24.

GLA Comment Paragraph 21:

9. There is pedestrian access from Drew Road to the south via a ramp and pedestrian, cyclist and vehicle access from the east (Woolwich Manor Way) and west (Connaught Bridge) although currently the former is open only to authorised operational vehicles, staff and taxis. The nearest river bus pier is Royal Wharf which is wheelchair accessible and has a weekday mornings and evenings service. However, this pier is well outside walking distance and there is no direct bus connection between the pier and the airport.

Steer Response to Paragraph 21:

10. It is noted that the existing CADP1 consent proposes to open up general vehicle access to Woolwich Manor Way via the eastern end of Hartmann Road and this has been secured through the CADP1 Section 106 Agreement and that the current proposals do not affect this proposal. The Active Travel Zone (ATZ) Assessment included in Chapter 6 of the Transport Assessment has included the Royal Wharf pier and has been assessed for its walk and cycle infrastructure to/from the airport.

GLA Comment Paragraph 22:

11. The airport's Public Transport Accessibility Level (PTAL) is 3, on a scale of 0 to 6b, where 0 is the least accessible and 6b the most. This applies to area around the passenger terminal and adjacent (London City Airport) DLR station. Outside these areas the PTAL is 2 although would be increased to 3 around King George V DLR station if an access was opened up to the station from the airport land.

Steer Response to Paragraph 22:

12. The current PTAL rating is correct.

13. The airport supports the principle of opening up King George V DLR station, particularly for the benefit of its staff. There is nothing in the current application to prevent or limit direct access to King George V station and such access could be provided subject to suitable agreement between LCY and TfL.

GLA Comment Paragraph 23:

14. Whilst outside PTAL distance, some passengers and staff use the bus connection to and from Custom House to pick up Elizabeth Line services. At just over 2 kilometres away it's also within cycling distance, but less walkable especially for those with luggage despite the segregated dock side route.

Steer Response to Paragraph 23:

15. The comment is noted and it is agreed that the majority of passengers with larger luggage will be likely to use the bus connections as opposed to walking / cycling due to the distance.

GLA Comment Paragraph 24:

16. Work is underway to construct the Silvertown Tunnel, which will enable new cross-river bus services. This could include a link to the airport, if this can be accommodated at the airport forecourt and subject to demand.

Steer Response to Paragraph 24:

17. In its response to TfL's Silvertown Bus Network Proposals consultation, LCY welcomed any future cross-river bus services that could serve the airport. Specifically, Route 129 was identified as a particular route that could link the airport to areas south of the river. This would enhance staff and passenger options for public transport usage that will help to LCY achieve its surface access target of 80% of passengers accessing the airport by sustainable means. LCY welcomes this and any future bus routes that can serve this airport and encourages further dialogue with TfL around how the future forecourt can support bus operations.
18. In terms of the future forecourt layout, it is confirmed that the proposed forecourt will be able to accommodate the proposed extension of Route 129 via the Silvertown Tunnel to serve the airport. The layout submitted with the S73 application shows two dedicated bus stops and two flexible bus stands. These stands could be used to extend capacity for future bus routes, which can be discussed in separate dialogue with TfL. Further detail is provided on Pascall + Watson Drawing A400 PAW A 14 L00 DR GA 200-004 E S2 submitted with the application.

GLA Comment Paragraph 25:

19. Transport for London (TfL) is introducing 54 new trains to replace the oldest trains in the DLR fleet and increase the number and thereby capacity. London City Airport has funded two of these rail cars as agreed under the CADP permission.

Steer Response to Paragraph 25:

20. General enhancements to the capacity of the DLR are welcomed. It is also noted that LCY has already funded two additional rail cars as part of CADP1, at a cost of £2,533,921.57. The record of this payment is referenced in Table 5.1 of the [London City Airport Annual Performance Report 2021](#)¹.

1

<https://downloads.ctfassets.net/ggj4kbqgcch2/6KWb2HgVtu66bqmfwjQsG3/46dddb4c6abb3d7d05c184686e0e02ae/4901-AnnualReportBrochure-Digital.pdf>

Strategic Transport Policy

GLA Comment Paragraph 26:

21. The London Plan has adopted specific and ambitious mode share targets (policy T1) since the CADP application was originally approved. It is welcome that these have been adopted by London City Airport to shape the airport's Masterplan and Transport Assessment. However, there is a need to develop specific measures to achieve these targets for staff and passenger surface travel to the airport. More details are required on these and the underlying data analysis.

Steer Response to Paragraph 26:

22. The proposed amendments include targets to improve and accelerate sustainable travel to and from the airport for both passengers and staff, such that, by 2030 80% of all passengers will access the airport by public and sustainable transport and no more than 35% of staff will commute to work by car on their own. These targets are in line with the airport's 2022 Sustainability Roadmap, which sets out the airport's aspirations to become London's first net zero airport by 2030, and the Mayor of London's Transport Strategy (MTS) 2018 for 80% of journeys in London to be by foot, cycle and public transport by 2041, with a target set within LBN of 83% by 2041.
23. LBN recently approved an updated Travel Plan in accordance with condition 71 of the CADP1 permission (application 22/02830/AOD). The updated Travel Plan sets out detailed measures to achieve 75% of passenger trips by public and sustainable transport by 2025 and for 48% or fewer staff driving on their own in a car to work by 2025. The measures include:
- Promoting the new direct bus connection between LCY and Custom House and working with TfL to improve its attractiveness for passengers and staff
 - Improved wayfinding at LCY DLR station, Custom House station and bus stops
 - Improving passenger information
 - Improving the cycle route towards Connaught Bridge (part-funding already secured as part of CADP1)
 - Improving cycle parking provision at LCY
 - Financial incentives to encourage staff to make use of sustainable modes
 - Review of charges for passenger parking and pick-up/drop-off.
24. The TA submitted to support the proposed amendments confirms that to achieve the targets for improved passenger and staff travel by sustainable modes, further investment is likely to be required and the airport is proposing a new Sustainable Transport Fund (STF) to be established. The fund could be subsidised by a levy on car users, e.g. from a proportion of car parking revenue or forecourt charges, and the intention would be that the fund be used to contribute to surface access initiatives which contribute to the airport achieving its mode share targets. The proposal is that the STF would operate for a minimum of 7 years and would be managed by the airport in consultation with the Airport Transport Forum (ATF), which includes local authorities, transport providers and neighbouring land owners. A flexible approach is important to ensure that initiatives can respond to how modal share targets are being achieved and can adapt to working with transport providers and others (whose priorities and investment decisions might be expected to change). A target for the fund is at least £2 million per annum that is considered suitable to fund a range of projects such as subsidising earlier DLR services, provide better connectivity between the airport and Elizabeth Line Station at Custom House and other initiatives to encourage staff and passengers to use public transport.
25. Appendix E of the TA provides a 2025-2031 Framework Travel Plan which sets out LCY's proposals to implement further sustainable transport measures beyond 2025 such that, by 2031 80% of all passengers and 55% of staff will travel to the airport by public and sustainable transport. The Framework Travel Plan also includes a suite of

potential mode share improvement measures that cover general measures as well as passenger and staff specific measures. The proposed STF will be used to fund such sustainable transport measures to achieve the airport's sustainable travel mode targets.

GLA Comment Paragraph 27:

26. Policy T2 of the London Plan promotes the Healthy Streets approach, which is embedded in TfL Transport Assessment Guidance. The original permission includes measures to promote walking and cycling to the airport for staff and passengers. The submitted Active Travel Zone assessment and the wider cycle network (in accordance with Policy T5 of the London Plan), the applicant should identify barriers that currently deter active travel to the airport and identify measures that can be secured to improve cycling and walking links. The CADP permission included Travel Plan measures, funding for offsite walking and cycling improvements, cycling parking, forecourt enhancements, and works to link Hartmann Road to Woolwich Manor Way. It would be beneficial to undertake further discussions with TfL on whether these measures are still in accordance with policy aspirations on Healthy Streets. It is welcome that further mitigation is proposed, however additional information is needed with regards to what is meant by a flexible approach to this aspect.

Steer Response to Paragraph 27:

27. The S106 agreement accompanying the CADP1 permission includes an index-linked contribution of £100,000 towards walking and cycling improvements in the vicinity of the airport, £111,796.25 has already been paid to LBN (including indexation – see Table 5.1 of the 2021 Annual Performance Report). LCY would welcome further discussions with LBN and TfL on the best application of these monies.
28. The ongoing Travel Plan process, secured under condition 71 of the CADP1 permission, is also being used to identify further measures which would assist pedestrian and cycle access. The STF could further contribute towards enhancements for pedestrians and cyclists, potentially including The Framework Travel Plan found at Appendix E of the TA details potential mode share measures that could be implemented through the STF. Measures of greatest benefit to pedestrians/cyclists could potentially include:
- Enhanced footway(s) on Hartmann Road;
 - Enhanced connections towards Silvertown; and
 - Enhanced cycle connections to the Connaught and Sir Steve Redgrave Bridges
29. Importantly, the STF process through working with the ATF would allow funding to be directed toward the most beneficial measures in consultation with key stakeholders, hence providing the flexibility needed to ensure the best possible outcome.

GLA Comment Paragraph 28:

30. Policy T4 of the London Plan sets the approach to assessing and mitigating transport impacts. TfL set out where further information on the accumulative impact of the approved development and the increase in surface travel demand associated with the Section73 proposals is required. It was indicated at preapplication stage that mitigation secured with the original permission should be updated to reflect current guidance, ambitious mode share targets as well as changes in the development impact arising from the proposals. It is accepted that the Transport Assessment indicates an approach aligned with this advice, however, further detailed discussion is required. The objective of the proposals is to make better use of off-peak capacity at the airport. It needs to be demonstrated that there would be a similar impact on the rail and bus network especially if the demand is before the morning peak, after the evening peak or at weekends when service levels are less. The applicant is advised that TfL officers would need to understand these changes in demand, when they would occur, including any peak changes and their technical basis. The information provided from the strategic models suggests limited

impact on TfL link capacity, more detail station and junction flows need to be provided, as well as analysis, to fully understand the impact of the proposals.

Steer Response to Paragraph 28:

31. Clarification information in the form of a Technical Response Note was submitted to TfL on 16 March 2023 and is included at Appendix A of this note. Even without the ongoing upgrades to the DLR network and capacity, the March 2023 Technical Response Note confirms that the proposed amendments will have a negligible impact upon the public transport networks and at LCY, Custom House and Canning Town stations compared to the 'without development' situation.
32. The changes in the expected profile of passenger demand at the airport, for both arriving and departing passengers is shown in Figures 5.9 and 5.10 of the Need Case. In particular, these show the changes in profile compared to that already assessed and approved for the CADP1 Application. These highlight that, compared to the profile of demand originally considered for CADP1, the main area of growth falls outside of the peak periods. This reflects the trends in the utilisation of the airport already seen in the 2019 daily demand profile explained and paragraphs 7.2-7.6 of the Need Case, reflecting the changing balance of airlines using the airport and a greater focus on meeting leisure as well as business passenger needs. The expected demand profile on Saturdays is shown in Figure 5.11 of the Need Case. The spreading of the traffic over the day and, over the week, is a function of the change in the profile of traffic using the airport and the way the airlines meet that demand, coupled with the projected opening on Saturday afternoons, which accounts directly for a part of the increase in overall passenger numbers.
33. The extent of predicted change can be best understood by reference to the net change in surface access demand, as set out in Figure 7.3 of the TA.
34. We have examined the busiest network periods for both highway and public transport capacity in the TA. Notwithstanding the desire to address the early morning DLR services as has been discussed with TfL (an existing issue that is not exacerbated by the proposals), it can be seen from the detailed analysis set out in TA that there is not a predicted significant increase in passenger numbers travelling to and from the airport when public transport surface access is capacity is notably less than that assessed in detail within the TA, i.e. for the transport network peak periods.
35. The likely impact of additional Saturday flights on transport infrastructure is less than weekday and relatively modest in scale. It is predicted that it will be between 05:00 and 19:00, as shown in figure 7.5 of the TA.

GLA Comment Paragraph 29:

36. Policy T6 of the London Plan guides the approach to car parking, which should be to support the mode shift target as set out in Policy T1 of the London Plan. Whilst the application does not alter the car parking on site above the approved CADP levels, the CADP permission, under the previous London Plan, enabled an increase in parking of almost 30%. Officers note that this additional parking has yet to be built and deem that it would be appropriate to dispense with this element of the development to support sustainable mode shift and other policy objectives. Car-free is the starting point of London Plan Policy T6.

Steer Response to Paragraph 29:

37. The comments under paragraph 29 refer to the unbuilt car park as 'additional parking'. To clarify, the S73 application is seeking minor-material amendments to several conditions attached to the existing CADP1 consent which has an approved quantum of parking. This is a fall-back position which is a material consideration and should be given significant weight. The airport is not seeking any changes to the previously approved CADP1 plans with respect to the location or number of parking spaces.

38. This is despite the proposed increase of 2.5 million passengers annually (mppa) above the CADP1 permission, to 9mppa. If approved the proposed amendments would allow 2.5mppa more than CADP1, without any increase in parking. As a result, the number of parking spaces per surface access trip will decrease by 28% and continue to drive the delivery of the airport's sustainable travel targets.
39. Further, paragraph 29 makes the point that: *Car-free is the starting point of London Plan Policy T6*. This is true of development proposals in areas that are (or planned to be) well-connected by public transport but this needs to be seen in the context of the maximum parking standards specified by Policy T6. First, the sub-policies under Policy T6 offers a range of parking standards depending on land use and location including in certain cases, PTAL rating; car-free development is not deemed to be a requirement in every case. Second, LCY does not sit within any of the land uses listed under Policy T6 since it is primarily transport infrastructure with ancillary uses to support operations and provide services to passengers. Paragraph 10.6.5 of the London Plan states that where no maximum parking standard is provided, the level of parking should be determined on a case-by-case basis taking account of Policy T6, current and future PTAL and wider measures of public transport, walking and cycling connectivity.
40. Given the function of LCY, it is not considered appropriate for LCY to be car-free. While LCY makes every effort to encourage sustainable modes of transport for all passengers and staff, there are obvious practical implications for not having appropriate levels of car parking at the airport. There will always be some passengers that rely on private vehicles for drop off or collection, and there will be some passengers will be seeking to access the airport prior the start of services on the DLR and Elizabeth Line. Others with a particular need to use a car, which if undertaken by private taxi may result in two single trips for arrival and departure rather than single trips if utilising long stay car parking.
41. With all this in mind, LCY has very limited parking and the highest sustainable transport usage for passengers of any airport in the UK. Going forward, its Sustainability Roadmap seeks to improve on this with a target of 80% of passengers accessing the airport by sustainable means by 2030. The measures in our draft Travel Plan will also help to achieve this, while retaining the level of already consented parking within the CADP1 consent.

GLA Comment Paragraph 30:

42. Policy T8 (F) of the London Plan states that development proposals for aviation facilities should make better use of existing airport capacity, underpinned by upgraded passenger and freight facilities and improved surface access links, in particular rail. Improvements for active travel and to necessary rail and bus infrastructure and services are therefore justified.

Steer Response to Paragraph 30:

43. The application seeks to make best use of existing transport infrastructure whilst also increasing the proportion of passenger and staff trips made by sustainable modes.

Transport Assessment

GLA Comment Paragraph 31:

44. Policy T3 of the London Plan requires that development proposals should identify new sites or routes that are or will be required for local public transport and active travel connections, where appropriate. This should be set out in a transport assessment (TA) or transport statement. The way in which developments connect to local public transport and active travel networks plays a critical role in widening transport choice across London and therefore it may be necessary for proposals to facilitate the delivery of local connections through, for example, provision of land for walking and cycling routes or bus stops and supporting infrastructure.

Steer Response to Paragraph 31:

45. The ATZ Assessment included in Chapter 6 of the Transport Assessment has considered the routes agreed with LBN and TfL. It is noted that LCY has already provided £111,796.25 of funding to LBN for walking and cycling enhancements as part of the CADP1 S106 obligations and further details are sought regarding which measures will be funded as a result. It is also noted that the STF proposed as part of the application has the potential to fund further walking and cycling enhancements and improvements to bus stops.

GLA Comment Paragraph 32:

46. As required by Policy T3, the applicant has submitted a TA. The TA is based on data using TfL strategic models and Needs Case. The Needs Case is based on expert aviation advice, should the aviation assessment change due to consultee responses, officers would expect the TA to be updated to reflect the analysis. The TA methodology and approach are in line with pre-app advice, however, more detail on DLR station impact, local highway impact and how the airport will work with TfL and Newham to promote public transport and active travel use is required.

Steer Response to Paragraph 32:

47. The detailed analysis that has assessed the likely scale of impact for the various modes of travel to and from the airport, and the analysis that has demonstrated spare capacity to accommodate the increase in demand is based on specific predicted future passenger movements. However, it is clear from the capacity analysis that there is ample reserve capacity for all predicted modes of travel and that the results are not sensitive to the specific predicted passenger patterns. As has been explained in response to para. 29, there have been changes in the pattern of airline services at the airport resulting in less pronounced peaks of activity than were assumed when CADP1 was consented so demands on the surface access network do not, by and large exceed those previously assessed. It is considered that the detailed analysis provided in the TA provides assurance that the proposed increase in passenger numbers will not create significantly different demands to those anticipated with existing permitted passenger numbers and no problematic impact on surface access infrastructure.
48. Please refer to the 16 March 2023 TfL Technical Response Note appended to this Note which provides clarifying data that concluded, compared with the without development case, there would be negligible changes to DLR loadings.
49. Whilst accepting that there will be increased peak hour vehicle flows, these have been demonstrated to be relatively modest. As indicated above, there will be negligible impacts on the public transport networks and at LCY, Custom House and Canning Town stations compared to the without development situation.
50. LCY operates a well-established and effective Airport Transport Forum (ATF). The aims of the ATF are to increase the use of public transport and sustainable travel modes among air passengers, staff and the local community, and to integrate LCY's surface access requirements into future Transport Plans serving London's Royal Docks and East London. The ATF has a membership drawn from all the relevant stakeholder groups such as the local highway authority, LBN, Transport for London (TfL), local community representatives and local businesses.

GLA Comment Paragraph 33:

51. The TA is based an increase in passenger numbers from a cap of 6.5 million to 9 million per annum, and associated increase in staff numbers from 2,420 staff to 3,650 staff. This equates to about 8,000 extra passenger movements each day (34,000 passenger movements each day, compared to 26,000 passenger movements with the permitted scheme). Much of the growth relates to spreading of demand across the day and the increase of movements during network peak periods is less pronounced. The key data is the increase in demand for TfL

services and change in vehicle numbers on the local road network both during the peaks and more generally. DLR demand increases by about 400 peak hour trips during AM and PM peaks, compared to CADP original growth assumptions. Based on aviation needs case, this indicates most demand is forecast to be outside the AM and PM peak. The CADP proposals increase car parking compared to the existing situation, though this application doesn't increase car parking further. The TA does indicate an increase in vehicle movements of 262 during AM peak hour, and 230 during PM peak hour. An approach that reduces vehicle movements compared to CADP would be welcome.

Steer Response to Paragraph 33:

52. As set out in the TA, the increase in passenger numbers associated with this application is focused outside of peak periods and the increase in demand on transport infrastructure during the network peak periods is less pronounced than the daily increase.
53. Further, for robustness, the TA has considered the worst-case difference on a busy summer day and therefore, on an average day, the difference would be lower.
54. Nevertheless, it is accepted that vehicle movements will increase as a direct result of the increase in passenger/staff numbers when compared to the CADP1 consent, although average vehicle occupancies are anticipated to increase over time – see comments on Paragraph 41 of the Stage 1 Report below. At the same time, there will be a much greater increase in the use of sustainable modes, which will in turn will enhance public transport revenues.
55. The ongoing Travel Plan process and the Sustainable Transport Fund are designed to reduce the impacts of vehicle travel associated with the airport by providing funding to encourage the use of sustainable transport modes.
56. The airport is not applying for any additional car parking associated with this S73 Application, despite the increase in passengers from 6.5 to 9 million per annum. This reflects the sustainable nature of the proposals. The quantum of car parking will be kept as consented and agreed as part of CADP1.

GLA Comment Paragraph 34:

57. The highway impact assessment is based on net change between the approved development and uplift in passenger numbers associated with Section73 application. This assumes the increase in car parking and associated vehicle trips agreed under 2016 permission is acceptable and accepted. For the London Plan mode shift, officers would not want an increase in car parking and instead would expect the airport to take a more restrained approach to car parking than consented seven years ago and to have more ambitious mode shift targets. Car parking which remains e.g., for Blue Badge holders should be managed and at the least have EVCP to meet the minimum standards in the London Plan. The applicant is requested to have further discussion with TfL on the need for specific improvement that support bus travel to and from the airport (including financial contributions, and how the replacement forecourt can help with this aspect). In this case branding may also be worthwhile considering.

Steer Response to Paragraph 34:

58. The airport is not applying for any additional car parking associated with this S73 Application. The quantum of car parking will be kept as consented and agreed as part of CADP1 – for further clarity, please see our response to Paragraph 29 of the GLA Stage 1 Report.
59. Please note that Condition 72 of CADP1 requires 3% of passenger and 5% staff parking spaces to be blue badge.

60. There appear to be no specific London Plan standards relating to the provision of Electric Vehicle Charging Points (EVCPs) at airports. Nevertheless, as part of the Travel Plan, LCY proposes to increase the number of EVCPs provided, as long as this does not inadvertently encourage car use at the expense of more sustainable modes.
61. The replacement forecourt enhances the capacity of the forecourt approved under CADP1 – see further comments below in response to paragraph 35 of the Stage 1 Report. The airport is willing to discuss further with LBN and TfL regarding bus service enhancements to/from the airport including specific branding.

GLA Comment Paragraph 35:

62. The applicant is requested to provide further information on how the taxi rank can accommodate additional demand and how the airport expects the rank to operate in the future. With the increasing number of electric taxis and private hire vehicles appropriate provision must be made for charging, including wireless facilities.

Steer Response to Paragraph 35:

63. Pascall + Watson Drawing A400 PAW A 14 L00 DR GA 200-004 E S2 submitted with the planning application shows the proposed forecourt plan with further commentary provided in the Design Development Report, also submitted with the planning application.
64. Table 1 compares the provision between the consented CADP1 forecourt and the proposed enhanced forecourt. In summary:
- There will be a substantial increase in provision for London taxis;
 - Overall provision for bus services will be enhanced; and
 - Provision for private drop-off/pick-up will reduce marginally.

Table 1: Forecourt – Proposed Changes to CADP1 Provision

Facility	CADP1 (bays)	S73 Proposed (bays)	Difference (bays)
Bus stops/stands – TfL buses plus potential shuttle bus	3	4	+1
Staff bus/coaches	2	2	-
London taxi drop-off	9	12	+3
London taxi pick-up	3	6	+3
London taxi queueing lane directly feeding pick-up	7	8	+1
Private pick-up/drop-off	48	46	-2
Emergency services vehicles	2	2	-
Valet parking	0	5	+5

65. Electric vehicles can already use the forecourt. Nevertheless, LCY is willing to review the provision of suitable infrastructure to enable the charging of electric taxis and private hire vehicles, including wireless facilities. It is proposed to use the Travel Plan monitoring process to identify when appropriate provision is likely to be required.

GLA Comment Paragraph 36:

66. Further detail assessment on station impact at the airport DLR station is requested along with more detail information on DLR impact at Canning Town, as officers would consider it necessary for the airport to specifically fund interchange improvements at Canning Town to enable better interchange for existing airport users, and to facilitate forecast growth. The level of contribution would be based on change in demand due to this

development. The TA identifies this station as a critical interchange for the airport, which officers agree. Yet without improvements officers are of the view that Canning Town will act as a constraint on passenger and staff travel which needs to be addressed. Better wayfinding and other interchange enhancement will be crucial, especially as the airport expects increased leisure demand from the airport. Officers would also need station flows for Custom House station as well to analyse the impact.

Steer Response to Paragraph 36:

67. Please refer to the 16 March 2023 TfL Technical Response Note appended to this Note which addresses this comment raised by the GLA. Tables 5 and 6 of the Technical Response Note show that the S73 application will increase passenger flows through Canning Town station (including passengers not changing trains) by less than 300 in each of the 3-hour peak periods, which is not considered significant. Table 3 of the Technical Response Note shows that changes in flows at Custom House station will be much less than 1%, which is not considered significant.
68. Nevertheless, part of the Sustainable Transport Fund could be put towards enhancing wayfinding at Canning Town and Custom House stations.

GLA Comment Paragraph 37:

69. The delivery of the Replacement Forecourt, and interim arrangements and details of the longer-term arrangements from a bus and taxi perspective need to be discussed. Where TfL operates buses on private land or land that is not highway, a legal agreement(s) is required (lease is TfL's preference) in place to document the parties' responsibilities. This needs to be secured to ensure the development is in accord with Policy T3 of the London Plan. Officers need to be reassured that the CADP replacement forecourt can also work for the higher and changing demand associated with the airport latest plans, also as the interim arrangements will be in for a longer time frame enhancements to these interim arrangements should be considered.

Steer Response to Paragraph 37:

70. It is confirmed that the replacement forecourt will enhance provision for TfL buses above that agreed under CADP1. Under the CADP1 Section 106 Agreement provision was made for a bus and taxi access scheme to be approved by TfL which is to include the operational and design details of the replacement forecourt. The following conditions relevant to CADP1 have already been approved:
 - Taxi Management Plan (condition 78) approved 2019 (19/02559/AOD)
 - Bus Facilities Plan (condition 80) approved 2018 (18/00741/AOD)
71. As noted in Table 1 above, the replacement forecourt will result in a substantial increase in provision for London taxis.
72. Construction phasing plans are already secured under Condition 4 of the CADP1 permission. This condition will need to be discharged in light of an updated construction programme following the grant of consent for this S73 application. At this point we will be happy to engage with TfL/GLA on the specific interim arrangements for the forecourt while the construction is underway.

GLA Comment Paragraph 38:

73. On active travel including cycling, more positive measures are required, especially for staff, and we need to see more detail analysis to underpin this approach, which is alluded to in the TA, though not spelt out in any detail. Officers would like to discuss this further.

Steer Response to Paragraph 38:

74. LCY are committed to promoting active travel for access to the airport. Appendix E of the Transport Assessment (notably Table 3) sets out a range of measures to encourage use of sustainable travel beyond 2025, for both passengers and staff. These are summarised in our response to GLA Paragraph 26 (above) and build upon the more detailed measures in the shorter-term Travel Plan.
75. Future average vehicle occupancies have been adjusted to take account of the anticipated change in the proportion of business and leisure trips, as detailed in the York Aviation Limited response to GLA Paragraph 38. 2019 average vehicle occupancies have derived from Table 8.9 of the 2019 CAA data (Group Size of Terminating Air Travellers at London City Airport), as detailed at Table 2.

Table 2: Group Size of Terminating Air Travellers at London City Airport – 2019

Group Size	UK Business	UK Leisure	Foreign Business	Foreign Leisure	All Passengers
Travelling alone	95.7%	61.7%	90.1%	45.2%	74.2%
Travelling with one other	3.7%	29.1%	8.4%	38.2%	19.3%
Travelling with two others	0.4%	6.2%	1.0%	7.5%	3.7%
Travelling with three others	0.1%	2.6%	0.4%	8.1%	2.5%
Travelling with four others	0.0%	0.1%	0.0%	0.7%	0.2%
Travelling with five or more	0.1%	0.1%	0.2%	0.4%	0.2%
Average Group Size	1.05	1.50	1.13	1.82	1.36
Total Passengers	1,429,000	1,679,000	865,000	1,010,000	4,983,000
Proportion of Passengers	29%	34%	17%	20%	100%

76. The corresponding group sizes for the 2031 scenarios, taking into account the change in the proportion of business and leisure travellers are provided in Table 3.

Table 3: Future Group Sizes

Scenario	Group Size (passengers)	% increase in group size above 2019
2019	1.361	-
2031 Do Minimum	1.408	3.5%
2031 Development Case	1.431	5.1%

GLA Comment Paragraph 41:

77. But it is not clear what, if any, allowance has been made for the changing passenger mix on the use of surface access modes. Moreover, the Transport Assessment only appears to include a Business/Leisure split for 2019, with no future forecasts offered. Leisure passengers are more likely to be travelling with luggage and/or children, and so are likely to have a higher propensity to take less sustainable modes (car, taxi, Private Hire Vehicle). The applicant's assessment needs to take full account of this and it must set out how it will counter this to ensure sustainable mode share targets can be met.

Steer Response to Paragraph 41:

78. The change in future business/leisure splits is given in Table 2 above.

79. The changing future passenger mix has been taken into account in the surface transport analyses. As noted in Table 3, there is expected to be a small increase in average vehicle occupancies as a result.
80. Despite the increase in the proportion of leisure passengers, the overall transport strategy seeks to significantly reduce the proportion of passengers and staff arriving by private vehicle.

GLA Comment Paragraph 42:

81. For those leisure passengers who do use public transport, a sufficient luggage factor needs to be incorporated into the modelling, to ensure it is better reflective of the available capacity on the DLR and other public transport services being used to access the airport.

Steer Response to Paragraph 42:

82. Please refer to paragraphs 13 and 14 of the 16 March 2023 TfL Technical Response Note, appended to this Note. At paragraph 13, TfL have already suggested that the impact may be marginal. In any case, it is noted that there is spare capacity on the public transport routes serving LCY, assisted by the already funded and planned DLR capacity improvements and the proposed new bus route 129 to/from the Silvertown Tunnel.

Appendix A: TFL Technical Response Note – March 2023

To Transport for London (TfL)

Technical Response Note

From Steer

Date 16 March 2023

Project London City Airport- Section 73 Application to vary conditions

Project No. 23699202

LPA Ref 22/03045/VAR

1. This Technical Response Note has been produced by Steer for London City Airport (LCY) (the “Applicant”) in response to a request for clarifying information, to compliment the submitted Transport Assessment, by Melvyn Dresner (TfL Highways Officer) in relation to the S73 Application, which is as follows:

“Section 73 Application to vary conditions 2 (approved drawings and documents), 8 (aircraft maintenance), 10 (restrictions on development – Plan P4), 12 (aircraft stand location – Plan P4), 17 (aircraft take-off and land times), 23, 25, 26 (Daily limits), 35 (temporary facilities), 42 (terminal opening hours), 43 (passengers) and 50 (ground running) attached to planning permission 13/01228/FUL dated 26 July 2016 (as varied) to allow up to 9 million passengers per annum (currently limited to 6.5 million), arrivals and departures on Saturdays until 18.30 with up to 12 arrivals for a further hour during British Summer Time (currently allowed until 12.30), modifications to daily, weekend and other limits on flights and minor design changes, including to the forecourt and airfield layout.”

2. A summary is provided below of the TfL request raised and the corresponding Steer response.

1 Railplan Link Flows

TfL Request:

3. For Railplan it would be useful if the link flow numbers could put in tables, particularly for DLR.

Response

4. Railplan link flows corresponding to the Railplan plots provided within the TA are provided in **Table 1** below. The flows quoted cover the entire 3-hour model period (0700 to 1000 hours or 1600 to 1900 hours, as appropriate).

Table 1: Railplan Link Flows

Line OD Station	2031AM_1202	2031AM_1203	2031PM_3201	2031PM_3202	2041AM_1301	2041AM_1302	2041PM_3301	2041PM_3302
DLR-Canning Town-East India	8,993	9,108	4,720	4,850	10,186	10,296	5,085	5,200
DLR-Canning Town-Royal Victoria	3,610	3,614	4,715	4,644	3,629	3,639	5,132	5,136
DLR-Canning Town-Star Lane	9,388	9,511	12,142	12,269	10,316	10,447	13,143	13,249
DLR-Canning Town-West Silvertown	9,562	9,826	10,112	10,398	10,309	10,522	10,987	11,256
DLR-Custom House-Prince Regent	7,235	7,272	7,322	7,340	7,345	7,390	8,843	8,866
DLR-Custom House-Royal Victoria	6,571	6,589	8,477	8,506	7,836	7,850	8,941	8,970
DLR-East India-Canning Town	3,977	4,101	9,678	9,795	4,346	4,468	10,881	10,985
DLR-King George V-London City Airport	6,473	6,452	5,013	5,014	7,268	7,217	5,512	5,515
DLR-London City Airport-King George V	5,058	5,055	6,478	6,469	5,313	5,276	7,078	7,067
DLR-London City Airport-Pontoon Dock	8,500	8,961	6,747	7,128	9,291	9,703	7,195	7,551
DLR-Pontoon Dock-London City Airport	7,038	7,436	9,062	9,502	7,272	7,613	9,669	10,086
DLR-Pontoon Dock-West Silvertown	10,591	11,051	8,640	9,019	12,021	12,424	9,783	10,135
DLR-Prince Regent-Custom House	6,272	6,279	7,295	7,307	7,896	7,893	7,481	7,483
DLR-Royal Victoria-Canning Town	4,779	4,790	4,439	4,450	5,476	5,486	4,620	4,632
DLR-Royal Victoria-Custom House	6,650	6,685	6,509	6,527	6,845	6,929	7,645	7,676
DLR-Star Lane-Canning Town	12,835	13,028	10,472	10,609	13,965	14,079	11,430	11,576
DLR-West Silvertown-Canning Town	8,365	8,605	8,716	8,968	9,306	9,547	9,571	9,810
DLR-West Silvertown-Pontoon Dock	9,257	9,655	11,543	11,980	10,259	10,598	12,804	13,217
EL-Canary Wharf-Custom House	8,472	8,521	29,485	29,530	8,590	8,640	31,280	31,334

Line OD Station	2031AM_1202	2031AM_1203	2031PM_3201	2031PM_3202	2041AM_1301	2041AM_1302	2041PM_3301	2041PM_3302
EL-Custom House-Canary Wharf	31,990	32,047	11,443	11,468	34,172	34,224	11,705	11,741
EL-Custom House-Woolwich	6,182	6,193	24,030	24,046	6,481	6,538	25,129	25,156
EL-Woolwich-Custom House	27,673	27,685	9,153	9,163	29,252	29,292	9,486	9,498
JB-Canning Town-North Greenwich	14,817	14,899	38,860	38,974	15,751	15,834	40,909	41,025
JB-Canning Town-West Ham	28,304	28,250	14,903	14,910	30,341	30,345	15,857	15,907
JB-North Greenwich-Canning Town	39,942	40,051	19,896	19,970	42,805	42,878	21,232	21,288
JB-West Ham-Canning Town	8,777	8,797	27,102	27,129	9,739	9,751	28,726	28,780

2 Station Exit Flows

TfL Request

5. Can you provide data that shows the change in flows in and out of specific DLR stations, mainly the DLR at the Airport station, but also Custom House (Elizabeth Line and DLR) and Canning Town would be useful.

Response

6. A summary of the very modest changes in flows in and out of the three stations (less than 1% change in all cases) is provided below. Canning Town Station movements are provide in **Table 2**, Custom House Station movements in **Table 3** and London City Airport Station movements in **Table 4**.
7. Full Station movements with/without development is provided at Appendix A.

Table 2: Change in Flows In and Out of Canning Town Station – AM 2031 AM Proposed vs 2031 AM DM (Change in Share of Total Station Movements, Proportional Change %)

Station Movement	Station Entrance	Underground Jubilee NB	Underground Jubilee SB	DLR Stratford NB	DLR Stratford SB	DLR Tower Gateway/Bank NB	DLR Tower Gateway/Bank SB	Total
Station Entrance	-	0.0%	-0.2%	-0.0%	-0.0%	-0.1%	-0.0%	-0.3%
Underground Jubilee NB	-0.1%	-	-	-0.0%	0.2%	-0.0%	-0.1%	0.1%
Underground Jubilee SB	-0.0%	-	-	-	0.0%	-0.0%	-	-0.0%
DLR Stratford NB	-0.0%	-0.0%	0.3%	-	-	-0.0%	-	0.3%
DLR Stratford SB	-0.0%	-	-0.0%	-	-	-0.0%	-	-0.1%
DLR Tower Gateway/Bank NB	-0.0%	-0.0%	0.1%	-	-0.0%	-	-	0.1%
DLR Tower Gateway/Bank SB	-0.0%	-0.0%	-0.0%	-0.0%	0.0%	-	-	-0.0%
Total	-0.2%	0.0%	0.2%	-0.0%	0.2%	-0.2%	-0.1%	

Table 3: Change in Flows In and Out of Custom House Station – AM 2031 AM Proposed vs 2031 AM DM (Change in Share of Total Station Movements, Proportional Change %)

Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
Station Entrance	-	-0.0%	-0.0%	-0.0%	0.1%	0.0%
DLR Stratford&Bank EB	-0.0%	-	-	-0.0%	-0.0%	-0.1%
DLR Stratford&Bank WB	-0.0%	-	-	-0.0%	-0.0%	-0.0%
Elizabeth EB	0.1%	-0.0%	0.0%	-	-	0.1%
Elizabeth WB	-0.0%	-0.0%	0.0%	-	-	-0.0%
Total	0.1%	-0.1%	-0.0%	-0.0%	0.0%	

Table 4: Change in Flows In and Out of London City Airport Station – AM 2031 AM Proposed vs 2031 AM DM (Change in Share of Total Station Movements, Proportional Change %)

Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
Station Entrance	-	-0.1%	0.7%	0.6%
DLR Bank EB	-0.4%	-	-	-0.4%
DLR Bank WB	-0.2%	-	-	-0.2%
Total	-0.6%	-0.1%	0.7%	

3 Station Movements vs Line loading

TfL Comment

8. For DLR the demand increases from DM two-way demand of 1,430 (8-9) to 1,868, 31% increase. For PM, its 1,577 to 1,983, about 26% increase. Can I assume this is 100% at the Airport DLR station, if so have you assessed impact on the station itself?

Response

9. The increase at the Airport DLR station is directly proportional to the increase in passenger movements using the DLR. The line loading records the differences in total passenger demand on the services. As shown in **Tables 2 to 4**, there is a minimal change in demand for entry and exit at the nearest stations and therefore there will be a minimal negative residual impact on the operation of the outlined DLR Stations.

4 Canning Town Interchange

TfL Comment:

10. For Canning Town, its less about in and out, but more understanding the change in interchange numbers.

Response

11. AM and PM peak movement interchange figures for the comparison between the Proposed vs Do Minimum scenarios are provided below in **Tables 5 and 6**. Differences in three hour flows are presented for both time periods (0700 to 1000 hours or 1600 to 1900 hours, as appropriate).
12. A summary of the full Canning Town Station change in flows outputs is included in Appendix A.

Table 5: AM 20231 AM Proposed vs 2031 AM DM Canning Town Station (Change in Demand, Difference)

Station Movement	Station Entrance	Underground Jubilee NB	Underground Jubilee SB	DLR Stratford NB	DLR Stratford SB	DLR Tower Gateway/Bank NB	DLR Tower Gateway/Bank SB	Total
Station Entrance	-	24	-1	5	-1	-25	0	2
Underground Jubilee NB	-5	-	-	0	93	1	-2	88
Underground Jubilee SB	5	-	-	-	0	0	-	5
DLR Stratford NB	-1	-0	130	-	-	-1	-	128
DLR Stratford SB	-2	-	-0	-	-	-2	-	-4
DLR Tower Gateway/Bank NB	-1	1	40	-	0	-	-	41
DLR Tower Gateway/Bank SB	-1	0	-0	-0	2	-	-	1
Total	-5	25	169	5	95	-27	-2	260

Table 6: PM 20231 PM Proposed vs 2031 PM DM Canning Town Station (Change in Demand, Difference)

Station Movement	Station Entrance	Underground Jubilee NB	Underground Jubilee SB	DLR Stratford NB	DLR Stratford SB	DLR Tower Gateway/Bank NB	DLR Tower Gateway/Bank SB	Total
Station Entrance	-	74	5	-74	-0	0	-1	3
Underground Jubilee NB	-2	-	-	-0	237	7	-78	164
Underground Jubilee SB	18	-	-	-	-0	0	-	18
DLR Stratford NB	0	-0	61	-	-	1	-	62
DLR Stratford SB	-2	-	-0	-	-	-1	-	-3
DLR Tower Gateway/Bank NB	0	5	24	-	-0	-	-	29
DLR Tower Gateway/Bank SB	-25	-0	-3	-2	3	-	-	-27
Total	-11	79	87	-77	240	8	-79	247

5 Allowance for Baggage

TfL Comment:

13. This may be a marginal impact but in the CADP application, we assumed a factor to take account of baggage associated passengers, has that been considered in this case, or have you had separate advice on this aspect.

Response

14. This has not been accounted for in our analysis. As the modelling has demonstrated line loadings are well within future train capacities, we would hope that it can be agreed that this additional analysis is not necessary.

6 Local Road HAM Modelling Data

TfL Comment:

15. Less concerned about the wider HAM network, however, it would be helpful to see a table with change in link flows on Woolwich Manor Way junction and Connaught Bridge junction, ideal all traffic movements... also percentage change.

Response

16. **Table 7** and **Table 8** below shows the modelled traffic flows in the HAM model for the flows shown on Woolwich Manor Way and Connaught Bridge Junction. These tables include all traffic movements, in addition to percentage change.

Table 7: Woolwich Manor Way / Hartmann Road Junction (Average Hourly Traffic, Actual Flows in Vehicles. PCU Factor 2.3)

Road	Dir	2016		2031 Baseline (New Link)		2031 – Expansion (New Link)		2031-2016 % Growth (Baseline/2016)		2031 Expansion % Impact (Expansion / Baseline)	
		AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)
Woolwich Manor Way (south of r/bout)	NB	284	588	389	719	425	757	37%	22%	9%	5%
Woolwich Manor Way (south of r/bout)	SB	401	406	477	459	542	482	19%	13%	14%	5%
Hartmann Road (West of Albert Road)	WB			250	127	316	151			27%	19%
Hartmann Road (West of Albert Road)	EB			98	199	138	247			41%	24%
Albert Road (South of LCA Link road)	NB	283	588	298	527	297	519	5%	-10%	0%	-2%
Albert Road (South of LCA Link road)	SB	401	406	241	340	243	341	-40%	-16%	1%	0%

Table 8: Connaught Bridge / Albert Road Junction (Average Hourly Traffic, Actual Flows in Vehicles. PCU Factor 2.3)

Road	Dir	2016		2031 Baseline (New Link)		2031 – Expansion (New Link)		2031-2016 % Growth (Baseline/2016)		2031 Expansion % Impact (Expansion / Baseline)	
		AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)
Connaught Bridge (north)	NB	518	694	817	571	830	566	58%	-18%	2%	-1%
Connaught Bridge (north)	SB	719	456	1120	779	1141	779	56%	71%	2%	0%
Connaught Rd (west of r/bout) - access to Airport not modelled	WB	284	501	287	455	350	521	1%	-9%	22%	14%
Connaught Rd (west of r/bout) - access to Airport not modelled	EB	266	314	373	384	446	425	40%	22%	20%	11%
Connaught Bridge (north)	NB	518	694	817	571	830	566	58%	-18%	2%	-1%
Connaught Bridge (north)	SB	719	456	1120	779	1141	779	56%	71%	2%	0%

7 Daily Cycle Demand

TfL Comment

17. In the table you indicate around 70 cycles over three-hour peak. Do we know how many cycle trips over a typical day? Also, do have a split on which routes cyclists tend use? Either data or anecdotal or assumed by postcode data.

Response

18. The assumption of our modelling is that cycle mode share remains constant throughout the day. A typical busy summer day would involve a total of 18737 passenger movements (in and out). The future mode share targets for passengers are set out in Table 4.6 of the TA with a cycle mode share target of 1%. This equates to a total of 187 daily cycle movements by passengers (in and out).
19. Employee numbers are expected to rise such that on a typical day 1,428 employees could be expected to travel to and from the airport, i.e., a total of 2,856 trips. The future mode share targets for employee are set out in Table 4.12 of the TA with a cycle mode share target of 3%. This equates to a total of 86 daily cycle movements by staff (in and out).
20. We have not undertaken detailed analysis of employee or passenger cycle travel, but details of cycle networks and possible catchments are set out in Section 5 of the TA. Figure 5.4, provided in that section, is a reasonable estimation of the origin/destination of the vast majority of the predicted cycle trips.

Appendices

Appendix A – DLR Station Interchange Spreadsheet Values

London City Airport

Station Interchange Analysis

03 Canning Town

03_Canning_Town
03_Canning_Town

2031 AM Proposed vs 2031 AM DM

2

AM

2031 AM Proposed

AM 2031 AM Proposed

Station Movements

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	2,056	6,615	681	188	1,969	103	11,613
2 Underground Jubilee NB	3,663	-	-	362	2,277	269	2,284	8,855
3 Underground Jubilee SB	1,561	-	-	-	0	335	-	1,896
4 DLR Stratford NB	259	1	3,967	-	-	119	-	4,346
5 DLR Stratford SB	880	-	919	-	-	263	-	2,062
6 DLR Tower Gateway/Bank NB	167	557	2,120	-	1	-	-	2,845
7 DLR Tower Gateway/Bank SB	438	139	78	133	18	-	-	806
Total	6,969	2,753	13,699	1,177	2,485	2,955	2,387	32,424

AM 2031 AM Proposed vs. 2031 AM DM

Change in Demand

Difference [abs]

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	24	-1	5	-1	-25	0	2
2 Underground Jubilee NB	-5	-	-	0	93	1	-2	88
3 Underground Jubilee SB	5	-	-	-	0	0	-	5
4 DLR Stratford NB	-1	-0	130	-	-	-1	-	128
5 DLR Stratford SB	-2	-	-0	-	-2	-2	-	-4
6 DLR Tower Gateway/Bank NB	-1	1	40	-	0	-	-	41
7 DLR Tower Gateway/Bank SB	-1	0	-0	-0	2	-	-	1
Total	-5	25	169	5	95	-27	-2	260

4

PM

2031 PM Proposed

PM 2031 PM Proposed

Station Movements

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	2,055	3,340	506	305	392	41	6,639
2 Underground Jubilee NB	8,125	-	-	662	4,577	351	1,776	15,491
3 Underground Jubilee SB	3,104	-	-	-	0	258	-	3,363
4 DLR Stratford NB	346	1	2,709	-	-	17	-	3,073
5 DLR Stratford SB	964	-	362	-	-	185	-	1,511
6 DLR Tower Gateway/Bank NB	268	1,138	1,788	-	1	-	-	3,194
7 DLR Tower Gateway/Bank SB	2,027	454	225	381	96	-	-	3,183
Total	14,833	3,648	8,424	1,549	4,980	1,204	1,818	36,455

PM 2031 PM Proposed vs. 2031 PM DM

Change in Demand

Difference [abs]

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	74	5	-74	-0	0	-1	3
2 Underground Jubilee NB	-2	-	-	-0	237	7	-78	164
3 Underground Jubilee SB	18	-	-	-	-0	0	-	18
4 DLR Stratford NB	0	-0	61	-	-	1	-	62
5 DLR Stratford SB	-2	-	-0	-	-	-1	-	-3
6 DLR Tower Gateway/Bank NB	0	5	24	-	-0	-	-	29
7 DLR Tower Gateway/Bank SB	-25	-0	-3	-2	3	-	-	-27
Total	-11	79	87	-77	240	8	-79	247

03 Canning Town

1
AM
2031 AM DMAM 2031 AM DM
Station Movements

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	2,032	6,616	676	189	1,994	103	11,611
2 Underground Jubilee NB	3,668	-	-	362	2,184	268	2,286	8,767
3 Underground Jubilee SB	1,557	-	-	-	0	334	-	1,892
4 DLR Stratford NB	260	1	3,837	-	-	120	-	4,218
5 DLR Stratford SB	882	-	919	-	-	265	-	2,066
6 DLR Tower Gateway/Bank NB	167	556	2,080	-	1	-	-	2,804
7 DLR Tower Gateway/Bank SB	439	139	78	134	17	-	-	806
Total	6,974	2,728	13,530	1,172	2,390	2,982	2,389	32,164

AM 2031 AM Proposed vs. 2031 AM DM

Change in Demand
Difference [%]

Station Movement	1	2	3	4	5	6	7	Total
1 Station Entrance	-	1.2%	-0.0%	0.7%	-0.4%	-1.3%	0.1%	0.0%
2 Underground Jubilee NB	-0.1%	-	-	0.0%	4.3%	0.4%	-0.1%	1.0%
3 Underground Jubilee SB	0.3%	-	-	-	71.0%	0.0%	-	0.3%
4 DLR Stratford NB	-0.5%	-13.2%	3.4%	-	-	-0.9%	-	3.0%
5 DLR Stratford SB	-0.2%	-	-0.0%	-	-	-0.7%	-	-0.2%
6 DLR Tower Gateway/Bank NB	-0.4%	0.3%	1.9%	-	0.0%	-	-	1.5%
7 DLR Tower Gateway/Bank SB	-0.2%	0.0%	-0.2%	-0.1%	10.8%	-	-	0.1%
Total	-0.1%	0.9%	1.3%	0.4%	4.0%	-0.9%	-0.1%	0.8%

3
PM
2031 PM DMPM 2031 PM DM
Station Movements

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	1,981	3,335	580	305	392	42	6,636
2 Underground Jubilee NB	8,127	-	-	663	4,339	344	1,854	15,327
3 Underground Jubilee SB	3,086	-	-	-	1	258	-	3,345
4 DLR Stratford NB	345	1	2,648	-	-	16	-	3,011
5 DLR Stratford SB	966	-	362	-	-	186	-	1,514
6 DLR Tower Gateway/Bank NB	267	1,132	1,764	-	2	-	-	3,165
7 DLR Tower Gateway/Bank SB	2,052	454	228	382	93	-	-	3,210
Total	14,844	3,568	8,338	1,625	4,740	1,196	1,897	36,208

PM 2031 PM Proposed vs. 2031 PM DM

Change in Demand
Difference [%]

Station Movement	1	2	3	4	5	6	7	Total
1 Station Entrance	-	3.7%	0.1%	-12.8%	-0.0%	0.0%	-2.3%	0.1%
2 Underground Jubilee NB	-0.0%	-	-	-0.1%	5.5%	2.0%	-4.2%	1.1%
3 Underground Jubilee SB	0.6%	-	-	-	-31.9%	0.0%	-	0.5%
4 DLR Stratford NB	0.0%	-3.8%	2.3%	-	-	6.8%	-	2.1%
5 DLR Stratford SB	-0.2%	-	-0.0%	-	-	-0.3%	-	-0.2%
6 DLR Tower Gateway/Bank NB	0.0%	0.5%	1.4%	-	-14.4%	-	-	0.9%
7 DLR Tower Gateway/Bank SB	-1.2%	-0.0%	-1.3%	-0.4%	3.2%	-	-	-0.8%
Total	-0.1%	2.2%	1.0%	-4.7%	5.1%	0.6%	-4.2%	0.7%

03 Canning Town

AM 2031 AM Proposed vs. 2031 AM DM

Change in Share of Total Station Movements

Proportional Change [%]

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	0.0%	-0.2%	-0.0%	-0.0%	-0.1%	-0.0%	-0.3%
2 Underground Jubilee NB	-0.1%	-	-	-0.0%	0.2%	-0.0%	-0.1%	0.1%
3 Underground Jubilee SB	-0.0%	-	-	-	0.0%	-0.0%	-	-0.0%
4 DLR Stratford NB	-0.0%	-0.0%	0.3%	-	-	-0.0%	-	0.3%
5 DLR Stratford SB	-0.0%	-	-0.0%	-	-	-0.0%	-	-0.1%
6 DLR Tower Gateway/Bank NB	-0.0%	-0.0%	0.1%	-	-0.0%	-	-	0.1%
7 DLR Tower Gateway/Bank SB	-0.0%	-0.0%	-0.0%	-0.0%	0.0%	-	-	-0.0%
Total	-0.2%	0.0%	0.2%	-0.0%	0.2%	-0.2%	-0.1%	

PM 2031 PM Proposed vs. 2031 PM DM

Change in Share of Total Station Movements

Proportional Change [%]

Station Movement	1 Station Entrance	2 Underground Jubilee NB	3 Underground Jubilee SB	4 DLR Stratford NB	5 DLR Stratford SB	6 R Tower Gateway/Bank	7 R Tower Gateway/Bank	Total
1 Station Entrance	-	0.2%	-0.0%	-0.2%	-0.0%	-0.0%	-0.0%	-0.1%
2 Underground Jubilee NB	-0.2%	-	-	-0.0%	0.6%	0.0%	-0.2%	0.2%
3 Underground Jubilee SB	-0.0%	-	-	-	-0.0%	-0.0%	-	-0.0%
4 DLR Stratford NB	-0.0%	-0.0%	0.1%	-	-	0.0%	-	0.1%
5 DLR Stratford SB	-0.0%	-	-0.0%	-	-	-0.0%	-	0.0%
6 DLR Tower Gateway/Bank NB	-0.0%	-0.0%	0.0%	-	-0.0%	-	-	0.0%
7 DLR Tower Gateway/Bank SB	-0.1%	-0.0%	-0.0%	-0.0%	0.0%	-	-	-0.1%
Total	-0.3%	0.2%	0.1%	-0.2%	0.6%	-0.0%	-0.3%	

London City Airport

Station Interchange Analysis

03 Custom House

_01_Custom_House
_02_Custom_House

2031 AM Proposed vs 2031 AM DM

2
AM
2031 AM Proposed

AM 2031 AM Proposed

Station Movements

Station Movement	1 Station Entrance	2 DLR Stratford&Bank EB	3 DLR Stratford&Bank WB	4 Elizabeth EB	5 Elizabeth WB	Total
1 Station Entrance	0	66	432	447	4147	5093
2 DLR Stratford&Bank EB	203	0	0	258	221	683
3 DLR Stratford&Bank WB	18	0	0	247	1260	1524
4 Elizabeth EB	2281	887	110	0	0	3278
5 Elizabeth WB	547	316	402	0	0	1265
Total	3049	1269	944	952	5627	11843

AM 2031 AM Proposed vs. 2031 AM DM

Change in Demand

Difference [abs]

Station Movement	1 Station Entrance	2 DLR Stratford&Bank EB	3 DLR Stratford&Bank WB	4 Elizabeth EB	5 Elizabeth WB	Total
1 Station Entrance	-	-0	0	3	44	47
2 DLR Stratford&Bank EB	-0	-	-	-1	1	-0
3 DLR Stratford&Bank WB	0	-	-	2	6	8
4 Elizabeth EB	37	2	1	-	-	40
5 Elizabeth WB	3	0	4	-	-	7
Total	40	2	5	4	51	102

4
PM
2031 PM Proposed

PM 2031 PM Proposed

Station Movements

Station Movement	1 Station Entrance	2 DLR Stratford&Bank EB	3 DLR Stratford&Bank WB	4 Elizabeth EB	5 Elizabeth WB	Total
1 Station Entrance	-	33	287	498	2,327	3,146
2 DLR Stratford&Bank EB	410	-	-	322	98	830
3 DLR Stratford&Bank WB	67	-	-	335	1,025	1,427
4 Elizabeth EB	4,871	1,325	444	-	-	6,640
5 Elizabeth WB	480	285	378	-	-	1,143
Total	5,829	1,643	1,108	1,156	3,450	13,185

PM 2031 PM Proposed vs. 2031 PM DM

Change in Demand

Difference [abs]

Station Movement	1 Station Entrance	2 DLR Stratford&Bank EB	3 DLR Stratford&Bank WB	4 Elizabeth EB	5 Elizabeth WB	Total
1 Station Entrance	-	0	-1	5	13	18
2 DLR Stratford&Bank EB	1	-	-	0	0	1
3 DLR Stratford&Bank WB	0	-	-	0	7	8
4 Elizabeth EB	29	2	4	-	-	34
5 Elizabeth WB	2	0	2	-	-	4
Total	31	2	5	6	21	65

03 Custom House

1
AM
2031 AM DM

AM 2031 AM DM

Station Movements

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	66	432	444	4,103	5,045
2 DLR Stratford&Bank EB	204	-	-	259	220	683
3 DLR Stratford&Bank WB	18	-	-	245	1,254	1,517
4 Elizabeth EB	2,244	885	108	-	-	3,238
5 Elizabeth WB	544	316	399	-	-	1,258
Total	3,010	1,268	939	948	5,576	11,741

AM 2031 AM Proposed vs. 2031 AM DM

Change in Demand

Difference [%]

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	-0.0%	0.0%	0.7%	1.1%	0.9%
2 DLR Stratford&Bank EB	-0.2%	-	-	-0.3%	0.4%	-0.0%
3 DLR Stratford&Bank WB	0.0%	-	-	0.7%	0.5%	0.5%
4 Elizabeth EB	1.6%	0.2%	1.2%	-	-	1.2%
5 Elizabeth WB	0.6%	0.0%	1.0%	-	-	0.6%
Total	1.3%	0.1%	0.6%	0.4%	0.9%	0.9%

3
PM
2031 PM DM

PM 2031 PM DM

Station Movements

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	33	287	493	2,314	3,128
2 DLR Stratford&Bank EB	409	-	-	322	98	829
3 DLR Stratford&Bank WB	67	-	-	335	1,017	1,419
4 Elizabeth EB	4,842	1,323	440	-	-	6,605
5 Elizabeth WB	479	285	376	-	-	1,139
Total	5,797	1,641	1,103	1,150	3,429	13,120

PM 2031 PM Proposed vs. 2031 PM DM

Change in Demand

Difference [%]

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	0.0%	-0.2%	1.0%	0.6%	0.6%
2 DLR Stratford&Bank EB	0.2%	-	-	0.1%	0.0%	0.1%
3 DLR Stratford&Bank WB	0.0%	-	-	0.1%	0.7%	0.5%
4 Elizabeth EB	0.6%	0.1%	0.9%	-	-	0.5%
5 Elizabeth WB	0.4%	0.0%	0.6%	-	-	0.4%
Total	0.5%	0.1%	0.5%	0.5%	0.6%	0.5%

03 Custom House

AM 2031 AM Proposed vs. 2031 AM DM**Change in Share of Total Station Movements****Proportional Change [%]**

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	-0.0%	-0.0%	-0.0%	0.1%	0.0%
2 DLR Stratford&Bank EB	-0.0%	-	-	-0.0%	-0.0%	-0.1%
3 DLR Stratford&Bank WB	-0.0%	-	-	-0.0%	-0.0%	-0.0%
4 Elizabeth EB	0.1%	-0.0%	0.0%	-	-	0.1%
5 Elizabeth WB	-0.0%	-0.0%	0.0%	-	-	-0.0%
Total	0.1%	-0.1%	-0.0%	-0.0%	0.0%	

PM 2031 PM Proposed vs. 2031 PM DM**Change in Share of Total Station Movements****Proportional Change [%]**

	1	2	3	4	5	
Station Movement	Station Entrance	DLR Stratford&Bank EB	DLR Stratford&Bank WB	Elizabeth EB	Elizabeth WB	Total
1 Station Entrance	-	-0.0%	-0.0%	0.0%	0.0%	0.0%
2 DLR Stratford&Bank EB	-0.0%	-	-	-0.0%	-0.0%	-0.0%
3 DLR Stratford&Bank WB	-0.0%	-	-	-0.0%	0.0%	0.0%
4 Elizabeth EB	0.0%	-0.0%	0.0%	-	-	0.0%
5 Elizabeth WB	-0.0%	-0.0%	0.0%	-	-	-0.0%
Total	0.0%	-0.0%	-0.0%	0.0%	0.0%	

London City Airport

Station Interchange Analysis

03 LCY

_01_LCY
_02_LCY

2031 AM Proposed vs 2031 AM DM

2
AM
2031 AM Proposed

AM 2031 AM Proposed

Station Movements

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	171	2,755	2,926
2 DLR Bank EB	2,554	-	-	2,554
3 DLR Bank WB	245	-	-	245
Total	2,798	171	2,755	5,724

AM 2031 AM Proposed vs. 2031 AM DM

Change in Demand

Difference [abs]

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	25	515	540
2 DLR Bank EB	427	-	-	427
3 DLR Bank WB	33	-	-	33
Total	460	25	515	1,000

4
PM
2031 PM Proposed

PM 2031 PM Proposed

Station Movements

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	304	2,271	2,575
2 DLR Bank EB	3,336	-	-	3,336
3 DLR Bank WB	158	-	-	158
Total	3,494	304	2,271	6,069

PM 2031 PM Proposed vs. 2031 PM DM

Change in Demand

Difference [abs]

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	45	403	448
2 DLR Bank EB	493	-	-	493
3 DLR Bank WB	23	-	-	23
Total	516	45	403	965

03 LCY

1
AM
2031 AM DM

AM 2031 AM DM**Station Movements**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	146	2,240	2,386
2 DLR Bank EB	2,127	-	-	2,127
3 DLR Bank WB	211	-	-	211
Total	2,338	146	2,240	4,724

AM 2031 AM Proposed vs. 2031 AM DM**Change in Demand****Difference [%]**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	16.8%	23.0%	22.6%
2 DLR Bank EB	20.1%	-	-	20.1%
3 DLR Bank WB	15.8%	-	-	15.8%
Total	19.7%	16.8%	23.0%	21.2%

3
PM
2031 PM DM

PM 2031 PM DM**Station Movements**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	258	1,869	2,127
2 DLR Bank EB	2,843	-	-	2,843
3 DLR Bank WB	135	-	-	135
Total	2,978	258	1,869	5,105

PM 2031 PM Proposed vs. 2031 PM DM**Change in Demand****Difference [%]**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	17.6%	21.5%	21.1%
2 DLR Bank EB	17.4%	-	-	17.4%
3 DLR Bank WB	17.1%	-	-	17.1%
Total	17.3%	17.6%	21.5%	18.9%

03 LCY

AM 2031 AM Proposed vs. 2031 AM DM**Change in Share of Total Station Movements****Proportional Change [%]**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	-0.1%	0.7%	0.6%
2 DLR Bank EB	-0.4%	-	-	-0.4%
3 DLR Bank WB	-0.2%	-	-	-0.2%
Total	-0.6%	-0.1%	0.7%	

PM 2031 PM Proposed vs. 2031 PM DM**Change in Share of Total Station Movements****Proportional Change [%]**

	1	2	3	
Station Movement	Station Entrance	DLR Bank EB	DLR Bank WB	Total
1 Station Entrance	-	-0.1%	0.8%	0.8%
2 DLR Bank EB	-0.7%	-	-	-0.7%
3 DLR Bank WB	-0.0%	-	-	-0.0%
Total	-0.8%	-0.1%	0.8%	



APPENDIX 2



London City Airport Response to GLA Stage 1 Report - Aviation Demand Context

This note has been prepared to address comments made by the GLA in relation to the S73 Application (local authority reference: 22/03045/VAR) made by London City Airport to vary certain conditions relating to the CADP1 planning permission granted in 2016.

The GLA makes a number of comments relating to the demand forecasts and the Need Case, principally under the sub-heading 'Aviation Demand Context' as part of the section relating to 'Transport'. This note addresses these points and related points within the GLA report and should be read alongside separate topic responses.

At the outset, it is noted that *GLA paragraph 14* fails to make reference to any aviation policies against which the application should be assessed alongside the NPPF and relevant development plan policies. These policies would include:

- Aviation Policy Framework 2013
- Airports National Policy Statement 2018
- Beyond the Horizon: making best use of existing runways 2018
- Flightpath to the Future 2022
- Jet Zero Strategy 2022

As set out in the Need Case, these documents provide important context to the assessment of need for the proposed amendments and the projections of demand.

Aviation Demand Context

GLA Paragraph 39:

"Since the original CADP was granted, a great deal of change has occurred in the sector – notably relating to the pandemic but also the introduction of net zero carbon targets into UK legislation. As a result, this Section 73 is being considered in a very different aviation landscape and this has a range of implications for the assessment of Section 73, for example revised demand trajectories for the sector as a whole and for London City Airport, including in the wider context of the London Airport system."

Response:

1. The GLA's comment is noted. It is recognised that there have been changes to the aviation landscape since the original CADP application. For this reason, the demand forecasts have been completely refreshed taking into account these changes. The underpinning assumptions and methodology are set out in full in Appendix D of the Need Case. In particular, the underpinning market growth forecasts have taken into account the full costs of carbon, the revised passenger modelling and demand elasticities produced by the Department for Transport in connection with the demand forecasts underpinning the Jet Zero Strategy, and updated economic projections by the Office of Budget Responsibility as at the middle of 2022.

2. As made clear in the Need Case at para. 5.7, the demand forecasts are consistent with the achievement of the Government's net zero carbon targets in line with the Jet Zero Strategy as the costs of carbon and/or its abatement are assumed to be fully internalised and passed through to users through higher air fares over time. It is important to note that the Government's forecasts underpinning the Jet Zero Strategy, with which the application forecasts are consistent in terms of underlying assumptions, demonstrate that growth can be delivered within the carbon reduction targets set out by the Committee on Climate Change in relation to the 6th Carbon Budget, as referenced by the GLA at paragraph 71, (see Jet Zero Strategy paragraph 3.58). Government is also clear that demand management is not required to meet the Jet Zero targets (Jet Zero Strategy paragraph 3.61) and this is a material consideration in considering the demand context for this application and the assessment of benefits.
3. As set out in Appendix D of the Need Case, account has been taken of the likely timing of delivery of additional airport capacity in the London system to assess London City's share of the underlying air travel market, in particular that Heathrow, Gatwick and Luton airports are expected to be full again by the mid-2020s as demand recovers from the pandemic. Substantial additional capacity, particularly at Heathrow with which London City principally competes in its core markets, is not expected to be delivered over the forecast timeframe to 2031.
4. In the context of the earlier remarks (*GLA paragraph 18*) regarding the assessment of alternatives, it is important to recognise that the demand forecasts reflect a preference by passengers to use London City Airport and that, in the absence of the proposed amendments to conditions, the requirement of passengers to use other airports would represent a sub-optimal outcome, increasing surface access journeys and costs as well as potentially increasing surface access related emissions. This would represent an economic disbenefit from alternative means of meeting this underlying demand as quantified in Section 6 of the Need Case.

GLA Paragraph 40:

"A particular issue is the split between business and leisure traffic. The applicant had been targeting a shift towards a great proportion of leisure traffic already and the pandemic would appear to be accelerating this trend. The applicant is relying on this to demonstrate the changed profile of movements during the traffic day with a greater proportion of flights outside the morning and evening peaks and on weekends."

Response:

5. The changing composition of demand in terms of business and leisure passengers has been taken into account and used to inform the Transport Assessment. The 2019 actual and historic data was given in Figures 3.7 and 3.8 of the Need Case and reflect the increasing share of leisure passengers that was already evident before the pandemic. The forecast business/leisure mix of passengers was not included in the Need Case but is set out in Table 1 below. These expected changes in passenger mix reflect a continuation of the trends explained in Section 3 of the Need Case and the rationale for the proposed amendments to conditions as set out in Section 4. The implications of no changes to conditions are explained at paragraph 5.46 of the Need Case.

Table 1: The Projected Change in Business/Leisure Passenger Mix with and without the Proposed Amendments

	Foreign Business	Foreign Leisure	UK Business	UK Leisure	Total Business	Total Leisure
2019	17%	20%	28%	34%	46%	54%
2031 Do Minimum	15%	22%	24%	39%	39%	61%
2031 Development Case	14%	24%	21%	41%	35%	65%

GLA Paragraph 43:

“Particular concerns are raised by the treatment of the fleet mix. It has been assumed that the transition to newer generation aircraft – which are higher capacity, more economic to run, quieter and with fewer emissions – will happen more quickly with the development. Making this assumption in the future ‘Do something’ scenario – but not the future ‘Do minimum’ scenario (without development), has a substantial impact on the assessments of impacts.”

GLA Paragraph 44 to 46:

“Given the centrality of this assumption, it needs careful consideration. In particular, for an aircraft category which carries more passengers and does so more economically, it is reasonable to assume that airlines would make the switch in relatively short timeframes regardless of the development.”

“Indeed, the airport and airlines do not exist in a vacuum. The financial pressure on airlines of operating in a competitive market and the carbon measures likely to be introduced by Governments – as well as consumer pressure on this front – could all serve to push airlines to introduce the next generation aircraft on a more timely basis.”

“As such, to assume a substantial difference between the Do Something and Do Minimum scenarios presents a significant concern that a number of the assessments paint a misleading picture of the impacts – primarily noise, carbon and air quality.”

Response:

6. The full explanation as to why early refueling is integrally linked to the proposed adjustments to opening times and permitted early morning movements is provided in Section 4 of the Need Case.
7. Although, over the long run, airlines would be expected to refuel to modern fuel-efficient aircraft, there is a substantial cost to refueling given the high upfront cost of these new aircraft. The low utilisation of the fleet at LCY makes this more challenging and means that airlines, particularly British Airways City Flyer (BACF) based at the Airport, are more likely to sweat their assets for longer and refuel at a later date if the existing conditions remain in force. The likely fleet transition, based on the age of their existing aircraft and the normal timing of fleet replacement, with the current operating hours and conditions has been taken into account in the fleet assumptions for the without development ‘Do Minimum’ case.
8. As explained in the Need Case, early refueling is much more likely if the airlines can make better use of their assets by operating additionally on Saturday afternoons, reinforced by limitations on the use of the additional slots on Saturdays and early mornings to new generation aircraft creating a much stronger incentive to refueling. This incentive applies to non-based as well as based aircraft and incentivises airlines to deploy their most modern aircraft to London City. Given the proposed restrictions on the use of additional slots in

the early morning period and Saturday afternoons to quieter new generation aircraft types only, airlines including BACF will be unable to make use of the additional capacity with their existing fleet of aircraft. This creates a powerful incentive to refleet if airlines want to serve the underlying demand from passengers and growth would simply not be possible unless new aircraft are available earlier than would otherwise be the case based on normal fleet replacement cycles. The Development Case takes into account feedback from BACF (see its consultation response submitted to the London Borough of Newham) which indicates that earlier refleetings as well as fleet growth would be more likely with extended Saturday operating hours that also create opportunities to serve new markets..

9. The Development Case assumes that these incentives will result in a materially faster transition to new generation aircraft, not just on Saturdays but using the Airport overall, and the different rate of fleet transition is illustrated in Figures 5.2 and 5.3 of the Need Case. Without greater operational flexibility, provided by the proposed amendments to the conditions, airlines would simply have no incentive to refleet any earlier than the 'natural' cycle and the large scale introduction of newer generation aircraft types would necessarily be later in the Do Minimum Case. Refleeting is still expected over time in this case, in line with normal airline fleet retirement expectations (see Appendix D, paragraph 32 of the Need Case). These assumptions are robust and their reasonableness validated by BACF's consultation response

GLA Paragraphs 56 and 60

"Moreover, as set out above, the assessment needs to use comparable fleet mix assumptions in the 'Do Minimum' and 'Do Something' scenarios if it is to be credible."

"With regard to air quality impacts resulting from aircraft emissions, as set out above, the assessment needs to use comparable fleet mix assumptions in the Do Minimum and Do Something scenarios if it is to be credible."

Response:

10. The GLA suggests that, in relation to noise and emissions respectively, the environmental assessments should assume a comparable rate of fleet transition in the Do Minimum and Development Cases. This would not be valid as achieving a faster fleet transition is inherently linked to changing the conditions as explained above. The restrictions on the types of aircraft that can use the additional slots on Saturday afternoons and in the early morning mean that growth, to the extent forecast, simply could not arise without the changes to conditions. Similarly, without the change to the operating conditions, key airlines would not refleet ahead of their normal fleet replacement cycle as reflected in the Do Minimum Case. Although some airlines are already introducing new generation aircraft on their London City operations, these represent a small proportion of the overall fleet mix. Hence, the environmental benefits arise from the earlier transition of the majority of the fleet to more modern aircraft as well as creating the conditions for economically beneficial growth.
11. The implications of no change to the operating conditions/opening hours are set out at paragraphs 5.44-5.46 of the Need Case. Without the proposed amendments to the conditions, growth would follow the Do Minimum Growth path to 2031, with continued slow growth and transition of the fleet thereafter, meaning that the full 111,000 aircraft movements, making best use of the existing runway, would not be reached until the late 2030s with around 8.8 million passengers reflecting some older smaller aircraft types still operating through the 2030s.



APPENDIX 3

Response to GLA/2023/0094/S1/01

London Plan Compliance

London Plan Policy SI1: *To tackle poor air quality, protect health and meet legal obligations the following criteria should be addressed:*

B1) Development proposals should not:

a) lead to further deterioration of existing poor air quality

b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits

c) create unacceptable risk of high levels of exposure to poor air quality

C) Masterplans and development briefs for large-scale development proposals subject to an Environmental Impact Assessment should consider how local air quality can be improved across the area of the proposal as part of an air quality positive approach. To achieve this a statement should be submitted demonstrating:

1) how proposals have considered ways to maximise benefits to local air quality, and

2) what measures or design features will be put in place to reduce exposure to pollution, and how they will achieve this

GLA comment (para 66, bullet 1):

- The scheme increases emissions of NO₂, PM₁₀ and PM_{2.5} to the atmosphere in comparison to the without-scheme cases, as shown in Tables 9-12 to 9-16. This results in reducing the air quality benefits from schemes across the city, and particularly within the London Borough of Newham. In future years total emissions from the modelled road network are shown to decrease, but the emissions from the air-side activities increase, removing any benefit from improvement in road emissions. In addition, while the impact significance at the individual receptors is negligible, there is an increase in NO₂ concentration in almost every case. As such GLA officers are of the view that the scheme does not demonstrate compliance with Policy SI1 of the London Plan.

Applicant response: It is agreed that Tables 9-12 to 9-16 of the Environmental Statement indicate an increase in emissions when the DM and DC scenarios are compared, but it is important to note that the majority of these emissions are within the aircraft LTO cycle (up to 1000m) and will occur at altitude, from which there will be very little impact at ground level. It is misleading to consider emissions in this way, and the focus needs to be on ground-level concentrations at locations of relevant exposure. The increase in emissions from landside traffic between the DM and DC scenarios is very small. The emissions from airside activities will not remove **any** benefit from an improvement in road emissions; it will remove **some** benefit. **Any scheme** that increases traffic flows on the local road network, and/or has other on-site sources of emissions, will (by definition) remove **some** benefit when compared to a DM scenario.

It is noted that approval has been granted for a number of large schemes to the north of Royal Albert Dock and to the west of Connaught Bridge. Any increase in traffic movements associated with these schemes will also (by definition) cause an increase in annual mean NO₂ concentrations as compared to a Do-Minimum scenario.

It has been clearly demonstrated that the small increase in NO₂ concentrations (specifically cited by GLA):

- Does not lead to a further deterioration of existing poor air quality (as defined in para 9.1.4 of the London Plan);
- Does not create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits; and
- Does not create unacceptable risk of high levels of exposure to poor air quality.

The overall effect of the proposed development has been shown to be not significant based on industry best practice (the EPUK and IAQM guidance), and is compliant with Policy SI1 of the London Plan.

GLA comment (para 66, bullet 2):

- The applicant has supplied an Air Quality Positive Statement, but for the scale and profile of the development the statement is disappointing, and lacking ambition. Therefore, the GLA holds that the applicant has not demonstrated full compliance with London Plan Policy SI1.

Applicant response: Policy SI1 (C) states that developments subject to an EIA should prepare an Air Quality Positive statement. However, it is not clear from the Policy or the supporting guidance¹ how S73 applications (for a minor, material amendment) are to be considered, as the original CADP application pre-dated the requirement for Air Quality Positive.

As stated in Appendix 9.5 to the Environmental Statement, it was not possible to consider the “Better design and reducing exposure” theme as the proposed development includes no infrastructure works. At a pre-application meeting with GLA (10 June 2022) the issue of introducing a “NO_x charging scheme” was raised. It was explained that the whole rationale for the CADP scheme is to introduce “new generation aircraft”, which, by definition, will conform to stricter CAEP emissions standards, and a charging scheme would serve no purpose. In addition, it was also stated that an evaluation of a charging scheme had previously been carried out at the request of LB Newham; this concluded that due to the limited aircraft that can operate from LCY (due to the steep approach angle and short runway) it would not be feasible to introduce such a scheme.

In addition to the measures set out in Appendix 9.5, LCY has prepared an Air Quality Management Strategy (AQMS) that has been approved by LB Newham. The latest version of the AQMS includes 18 measures that are targeted at reducing emissions and improving local air quality. In addition, Appendix 2 of the AQMS includes a benchmarking study of measures in place at other UK airports (Gatwick, Manchester, Birmingham and Heathrow). From this benchmarking study, the only measure not included at LCY is the use of Preconditioned Air (PCA) systems; this is not possible as passenger airbridges are not utilised at LCY. Some of the measures that have been, or are being progressed within the AQMS are summarised below:

Measure	Progress
Fixed Electrical Ground Power (FEGP)	FEGP has been installed on all refurbished and new stands.
Mobile Ground Power Units (MGPUs)	All diesel MGPUs were phased out in 2021 and have been replaced with battery-MGPUs
Engine Out Taxiing (EOT)	Airlines are encouraged to switch off one engine during taxiing subject to safety

¹ London Plan Guidance: Air Quality Positive (February 2023)

	considerations. It is used for approximately 20% of the time pending safety and operational requirements
Electric taxiing systems	Electric pushback tugs will be required as and when new CADP stands become operational. Feasibility study issued to LBN on 20/12/2021
ULEZ compliance for airside vehicles	All airport-owned vehicles are ULEZ compliant. 84% of third-party vehicles are compliant. A feasibility study to achieve 100% compliance was submitted to LBN on 21/12/2021.
Hybrid and electric airside vehicles	LCY is reviewing the fleet with the aim to introduce hybrid and electric vehicles in line with net zero emissions by 2030

Policy T8 - Aviation

Policy T8: The environmental and health impacts of aviation must be fully acknowledged and aviation-related development proposals should include mitigation measures that fully meet their external and environmental costs, particularly in respect of noise, air quality and climate change. Any airport expansion scheme must be appropriately assessed and if required demonstrate that there is an overriding public interest or no suitable alternative solution with fewer environmental impacts

Para 10.8.5: Any airport expansion proposals should not worsen existing air quality or contribute to exceedance of air quality limits, nor should they seek to claim or utilise air quality improvements resulting from unrelated Mayoral, local or national policies and actions. Airport expansion should also incorporate air quality positive principles to minimise operational and construction impacts.

GLA comment: With regards to air quality, at this stage, it is not clear from the Air Quality Chapter and associated appendices which year for emissions has been used for each scenario. It is assumed from the text that the emissions for each year of the assessment have been used. For most assessments this would be acceptable, but Policy T8 of the London Plan is clear that airport expansion proposals should not utilise air quality improvements resulting from unrelated policies. GLA officers are of the view that an airport assessment should therefore not improve emissions from road transport in future years as this allows the increase in emissions from air-side activities to be traded against reductions in emissions from road vehicles resulting from national policies improving the fleet. The applicant should conduct a sensitivity test to consider the impacts from the airport if road traffic emissions do not improve as forecast. For example, to run the emissions factor toolkit for the base year of 2019, and assume background concentrations for that year.

Applicant response: From a technical point of view, “isolating” the airside emissions from landside (e.g. road traffic) emissions has no logic; NOx emissions from an aircraft are indistinguishable from those emitted by road traffic, both in terms of impacts on local concentrations and human health. There is also very clear evidence that nitrogen dioxide concentrations across the UK are declining².

The S73 application will have no significant effects on local air quality, and will not contribute to any exceedances of air quality limits. As described in the earlier response above, **any** development that increases emissions due to traffic or other on-site sources will increase local pollutant concentrations. The proposed development does not seek to “utilise” the “headroom” below the

² <https://www.aqconsultants.co.uk/news/may-2022/aqc-updates-its-analysis-of-nox-and-no2-trends>

objectives / limit values brought about by other national, regional or local policies, as illustrated in Figure 1 below. The analysis has been carried out for 2031 which represents the greatest changes to road traffic flows and aircraft movements. Figure 1 also shows concentrations in 2019 (green lines), showing that concentrations in 2031 will be well below the current levels.

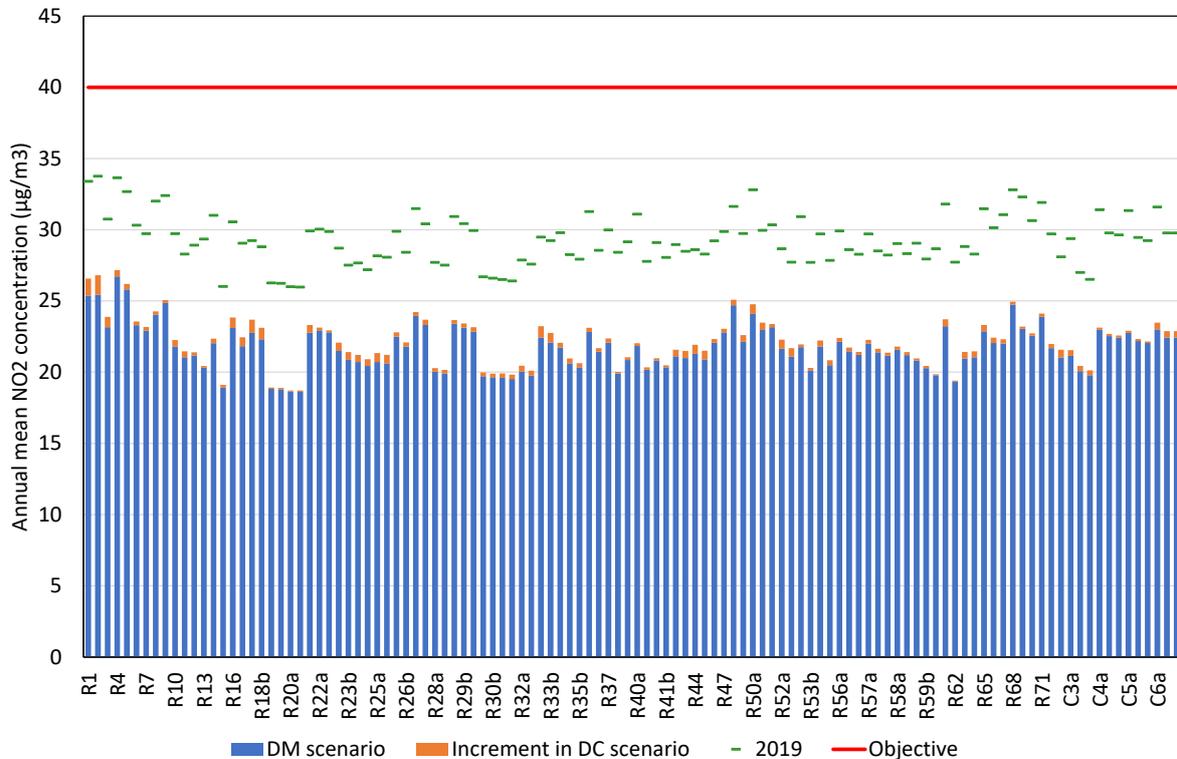


Figure 1: Predicted annual mean nitrogen dioxide concentrations in 2031 for the DM and DC scenarios at modelled receptors.

The incremental change due to the proposed development is small at some receptors, and indistinguishable at most, and concentrations are substantially below the objective / limit value.

Figure 2 provides a more detailed analysis at some specific receptors where the incremental change due to the proposed development has been split into landside (i.e. surface access) and airside sources. The locations of these receptors are shown in Figure 3. **Important**³: the concentrations in Figure 2 are for nitrogen oxides (NO_x) and not NO₂, so values should **not** be compared against the objective for NO₂.

This shows that while there is a noticeable airport contribution at receptors R1 and R2⁴, which are close to the terminal area, in general the contribution from the airport is much less than the variation in the background contribution. It also shows that the change due to the proposed

³ It is not possible to provide a breakdown of the contributions to nitrogen dioxide (NO₂) due to the non-linear relationships used to model the chemical reaction between NO₂ and nitric oxide (NO); however, it is possible to provide this for total oxides of nitrogen (NO_x),

⁴ The predicted airport NO_x concentrations at these receptors are likely to be overstated. Receptors at Camel Road are shielded from the apron area by the DLR and terminal infrastructures which cannot be accounted for in the model.

development (i.e. comparing DM to DC) is a small fraction of the total NO_x concentration (in stark contrast to the change in emissions shown in Table 9-16 of the Environmental Statement).

Figure 2 also shows the comparable source apportionment for 2019. This shows that, at most receptors, the total concentration in the DC scenario is below the background contribution (excluding roads and airport contributions) in 2019. This demonstrates that the proposed development does not significantly offset wider improvements in air quality.

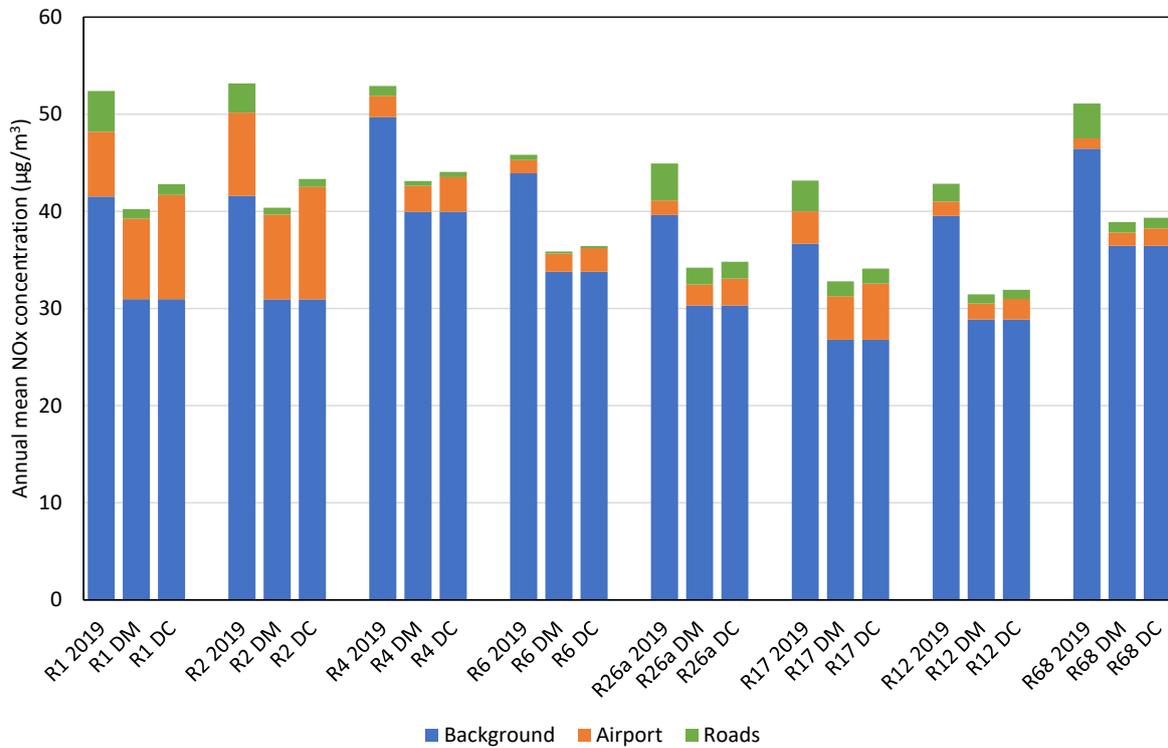


Figure 2: Source apportionment of NO_x concentrations selected receptors (not to be compared against the 40 µg/m³ objective for NO₂) for 2019, and 2031 (assuming 2019 background and vehicle emissions)



Figure 3: Locations of receptors shown in Figure 2.

Notwithstanding the above, at the specific request of GLA, an assessment has been carried out assuming that background levels and road traffic emission factors remain unchanged from 2019; the assessment has been carried out for 2031 activity levels. This is a completely unrealistic assumption as there is clear and unambiguous evidence that both emissions and concentrations are falling across London and there is no technical logic to do so. The detailed results are shown in the Appendix to this note. In summary, on the basis of this unrealistic assumption:

- Some impact descriptors to the south of the airport change from negligible to slight adverse for annual mean NO₂ (at eleven receptors);
- At the human health receptors where the objectives apply, the annual mean nitrogen dioxide concentrations remain below 35 µg/m³ (and well below the objective);
- At the PCM receptors (with respect to the limit value), some locations remain above the limit value (as the values are unchanged from 2019) but the incremental changes are negligible and must be regarded as “de minimis”;
- The predicted PM10 and PM2.5 impacts remain virtually unchanged and all impacts remain negligible.

It is concluded that even with this unrealistic assumption, the conclusions of the assessment remain unchanged and there are no significant air quality effects. Therefore, the proposed development does not “utilise air quality improvements resulting from unrelated Mayoral, local or national policies and actions”.

1 Appendix

Human Health Receptors

Table 1: Predicted Impacts on Annual Mean Nitrogen Dioxide Concentrations ($\mu\text{g}/\text{m}^3$), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R1	33.6	34.9	3.2%	Slight
R2	33.5	34.9	3.6%	Slight
R3	31.0	31.7	1.9%	Slight
R4	34.1	34.6	1.2%	Negligible
R5	33.2	33.7	1.0%	Negligible
R6	30.6	30.9	0.7%	Negligible
R7	30.2	30.4	0.6%	Negligible
R8	33.4	33.6	0.6%	Negligible
R9	33.3	33.5	0.5%	Negligible
R10	31.8	32.2	1.1%	Negligible
R11	29.3	29.7	1.0%	Negligible
R12	29.5	29.7	0.5%	Negligible
R13	30.8	31.0	0.5%	Negligible
R14	31.1	31.4	0.8%	Negligible
R15	26.4	26.6	0.5%	Negligible
R16	31.1	31.8	1.9%	Slight
R17	30.4	31.0	1.6%	Slight
R18a	30.2	31.1	2.3%	Slight
R18b	29.6	30.4	2.0%	Slight
R19a	26.4	26.5	0.3%	Negligible
R19b	26.4	26.5	0.2%	Negligible
R20a	26.1	26.2	0.2%	Negligible
R20b	26.1	26.2	0.2%	Negligible
R21	30.4	31.0	1.4%	Negligible
R22a	30.3	30.5	0.5%	Negligible
R22b	30.0	30.2	0.4%	Negligible
R23a	29.9	30.5	1.5%	Negligible
R23b	28.2	28.7	1.4%	Negligible
R24a	28.5	29.0	1.2%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R24b	27.8	28.2	1.2%	Negligible
R25a	28.8	29.4	1.5%	Negligible
R25b	28.6	29.2	1.5%	Negligible
R26a	31.1	31.4	0.8%	Negligible
R26b	28.9	29.2	0.7%	Negligible
R27a	32.2	32.5	0.7%	Negligible
R27b	30.8	31.2	0.9%	Negligible
R28a	28.0	28.3	0.6%	Negligible
R28b	27.8	28.1	0.7%	Negligible
R29a	31.6	31.9	0.7%	Negligible
R29b	31.0	31.3	0.8%	Negligible
R29cc	30.4	30.7	0.8%	Negligible
R30a	27.1	27.4	0.7%	Negligible
R30b	27.0	27.3	0.7%	Negligible
R31a	27.0	27.3	0.8%	Negligible
R31b	26.8	27.1	0.8%	Negligible
R32a	28.1	28.6	1.1%	Negligible
R32b	27.8	28.1	0.9%	Negligible
R33a	30.2	31.0	2.0%	Slight
R33b	29.8	30.5	1.7%	Slight
R34	30.7	31.0	0.8%	Negligible
R35a	28.8	29.1	0.8%	Negligible
R35b	28.4	28.7	0.7%	Negligible
R36a	33.0	33.4	0.8%	Negligible
R36b	28.9	29.2	0.6%	Negligible
R37	30.5	30.8	0.7%	Negligible
R38	29.5	29.7	0.4%	Negligible
R39	30.3	30.5	0.5%	Negligible
R40a	33.0	33.2	0.5%	Negligible
R40b	28.1	28.3	0.4%	Negligible
R41a	29.9	30.1	0.4%	Negligible
R41b	28.4	28.6	0.4%	Negligible
R42	29.9	30.3	1.1%	Negligible
R43	29.2	29.6	1.2%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R44	29.2	29.8	1.6%	Negligible
R45	28.9	29.5	1.5%	Negligible
R46	29.5	29.7	0.6%	Negligible
R47	30.2	30.4	0.6%	Negligible
R48	32.2	32.6	1.1%	Negligible
R49	30.1	30.6	1.2%	Negligible
R50a	32.9	33.6	1.9%	Slight
R50b	30.6	31.1	1.3%	Negligible
R51	31.1	31.3	0.6%	Negligible
R52a	29.8	30.4	1.6%	Slight
R52b	28.3	28.9	1.5%	Negligible
R53a	32.7	32.9	0.5%	Negligible
R53b	28.0	28.2	0.4%	Negligible
R54	31.8	32.2	1.1%	Negligible
R55	29.0	29.4	1.0%	Negligible
R56a	30.8	31.1	0.8%	Negligible
R56b	29.0	29.3	0.7%	Negligible
R56c	28.6	28.8	0.5%	Negligible
R57a	30.6	30.9	0.7%	Negligible
R57b	28.9	29.1	0.6%	Negligible
R57c	28.5	28.7	0.5%	Negligible
R58a	29.7	30.0	0.6%	Negligible
R58b	28.7	28.9	0.5%	Negligible
R59a	29.9	30.0	0.4%	Negligible
R59b	28.3	28.5	0.4%	Negligible
R60	29.3	29.4	0.3%	Negligible
R61	32.1	32.6	1.3%	Negligible
R62	28.0	28.1	0.2%	Negligible
R63	29.8	30.2	1.1%	Negligible
R64	29.3	29.7	1.0%	Negligible
R65	31.7	32.2	1.2%	Negligible
R66	30.4	30.8	1.0%	Negligible
R67	31.1	31.4	0.8%	Negligible
R68	32.9	33.1	0.5%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R69	32.5	32.6	0.4%	Negligible
R70	31.1	31.3	0.4%	Negligible
R71	33.3	33.6	0.6%	Negligible
C1	30.5	30.8	0.7%	Negligible
C2	29.0	29.6	1.3%	Negligible
C3a	30.8	31.2	1.1%	Negligible
C3b	27.6	27.9	1.0%	Negligible
C3c	26.9	27.2	0.9%	Negligible
C4a	31.3	31.5	0.4%	Negligible
C4b	30.0	30.1	0.4%	Negligible
C4c	29.8	29.9	0.3%	Negligible
C5a	31.4	31.6	0.4%	Negligible
C5b	29.7	29.8	0.4%	Negligible
C5c	29.4	29.5	0.3%	Negligible
C6a	31.8	32.3	1.2%	Negligible
C6b	30.3	30.7	1.1%	Negligible
C6c	29.7	30.1	0.9%	Negligible

Table 2: Predicted Impacts on Annual Mean PM₁₀ Concentrations (µg/m³), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM (µg/m ³)	2031 DC (µg/m ³)	Change (% of objective)	Impact
R1	18.4	18.4	0.2%	Negligible
R2	18.4	18.5	0.2%	Negligible
R3	18.2	18.3	0.1%	Negligible
R4	18.5	18.5	0.1%	Negligible
R5	18.4	18.5	0.1%	Negligible
R6	18.2	18.2	0.0%	Negligible
R7	18.1	18.2	0.0%	Negligible
R8	18.9	18.9	0.0%	Negligible
R9	18.7	18.8	0.0%	Negligible
R10	18.4	18.5	0.0%	Negligible
R11	18.0	18.1	0.0%	Negligible
R12	18.6	18.6	0.0%	Negligible
R13	18.6	18.6	0.1%	Negligible
R14	18.6	18.6	0.0%	Negligible
R15	17.3	17.3	0.0%	Negligible
R16	18.3	18.3	0.1%	Negligible
R17	18.3	18.3	0.0%	Negligible
R18a	18.1	18.1	0.0%	Negligible
R18b	18.0	18.0	0.0%	Negligible
R19a	17.5	17.5	0.0%	Negligible
R19b	17.5	17.5	0.0%	Negligible
R20a	17.2	17.3	0.0%	Negligible
R20b	17.2	17.2	0.0%	Negligible
R21	18.1	18.1	0.1%	Negligible
R22a	18.2	18.2	0.0%	Negligible
R22b	18.1	18.1	0.0%	Negligible
R23a	18.5	18.5	0.0%	Negligible
R23b	18.1	18.1	0.0%	Negligible
R24a	18.2	18.2	0.0%	Negligible
R24b	18.1	18.1	0.0%	Negligible
R25a	18.7	18.7	0.1%	Negligible
R25b	18.7	18.7	0.1%	Negligible
R26a	18.4	18.4	0.0%	Negligible
R26b	17.9	17.9	0.0%	Negligible
R27a	18.2	18.2	0.0%	Negligible
R27b	18.0	18.0	0.0%	Negligible
R28a	18.5	18.5	0.0%	Negligible
R28b	18.5	18.5	0.0%	Negligible
R29a	18.1	18.1	0.0%	Negligible
R29b	18.0	18.0	0.0%	Negligible
R29cc	17.9	17.9	0.0%	Negligible
R30a	18.3	18.3	0.0%	Negligible
R30b	18.3	18.3	0.0%	Negligible
R31a	18.1	18.1	0.0%	Negligible
R31b	18.1	18.1	0.0%	Negligible
R32a	19.9	19.9	0.1%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R32b	19.8	19.8	0.0%	Negligible
R33a	18.5	18.5	0.1%	Negligible
R33b	18.4	18.4	0.1%	Negligible
R34	18.8	18.8	0.0%	Negligible
R35a	19.1	19.1	0.0%	Negligible
R35b	19.1	19.1	0.0%	Negligible
R36a	18.5	18.5	0.1%	Negligible
R36b	17.7	17.7	0.0%	Negligible
R37	18.1	18.1	0.0%	Negligible
R38	18.3	18.3	0.0%	Negligible
R39	19.4	19.4	0.0%	Negligible
R40a	19.5	19.5	0.0%	Negligible
R40b	18.7	18.7	0.0%	Negligible
R41a	18.8	18.8	0.0%	Negligible
R41b	18.6	18.6	0.0%	Negligible
R42	18.9	18.9	0.0%	Negligible
R43	18.6	18.7	0.1%	Negligible
R44	18.6	18.6	0.1%	Negligible
R45	18.7	18.7	0.1%	Negligible
R46	18.2	18.2	0.0%	Negligible
R47	18.2	18.2	0.0%	Negligible
R48	18.4	18.4	0.1%	Negligible
R49	18.3	18.4	0.1%	Negligible
R50a	18.4	18.4	0.1%	Negligible
R50b	18.0	18.0	0.0%	Negligible
R51	18.3	18.3	0.0%	Negligible
R52a	18.2	18.2	0.0%	Negligible
R52b	18.0	18.0	0.0%	Negligible
R53a	19.4	19.4	0.0%	Negligible
R53b	18.6	18.6	0.0%	Negligible
R54	18.4	18.4	0.0%	Negligible
R55	18.0	18.0	0.1%	Negligible
R56a	18.0	18.0	0.0%	Negligible
R56b	17.7	17.7	0.0%	Negligible
R56c	17.7	17.7	0.0%	Negligible
R57a	18.0	18.0	0.0%	Negligible
R57b	17.7	17.7	0.0%	Negligible
R57c	17.6	17.7	0.0%	Negligible
R58a	17.8	17.8	0.0%	Negligible
R58b	17.6	17.6	0.0%	Negligible
R59a	18.8	18.9	0.0%	Negligible
R59b	18.6	18.6	0.0%	Negligible
R60	20.3	20.3	0.0%	Negligible
R61	18.4	18.4	0.1%	Negligible
R62	20.0	20.0	0.0%	Negligible
R63	18.9	18.9	0.0%	Negligible
R64	18.0	18.1	0.0%	Negligible
R65	18.4	18.4	0.1%	Negligible
R66	18.3	18.3	0.1%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R67	18.6	18.6	0.0%	Negligible
R68	18.5	18.5	0.0%	Negligible
R69	18.6	18.6	0.0%	Negligible
R70	18.4	18.4	0.0%	Negligible
R71	18.9	18.9	0.0%	Negligible
C1	18.8	18.8	0.0%	Negligible
C2	18.2	18.2	0.0%	Negligible
C3a	18.3	18.3	0.1%	Negligible
C3b	17.8	17.8	0.0%	Negligible
C3c	17.7	17.7	0.0%	Negligible
C4a	18.4	18.5	0.0%	Negligible
C4b	18.1	18.1	0.0%	Negligible
C4c	18.1	18.1	0.0%	Negligible
C5a	18.5	18.5	0.0%	Negligible
C5b	18.1	18.1	0.0%	Negligible
C5c	18.1	18.1	0.0%	Negligible
C6a	18.4	18.4	0.1%	Negligible
C6b	18.0	18.1	0.1%	Negligible
C6c	18.0	18.0	0.0%	Negligible

Table 3: Predicted Impacts on Annual Mean PM_{2.5} Concentrations (µg/m³), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM (µg/m ³)	2031 DC (µg/m ³)	Change (% of objective)	Impact
R1	12.3	12.4	0.3%	Negligible
R2	12.3	12.4	0.4%	Negligible
R3	12.2	12.2	0.2%	Negligible
R4	12.3	12.3	0.1%	Negligible
R5	12.3	12.3	0.1%	Negligible
R6	12.1	12.2	0.0%	Negligible
R7	12.1	12.1	0.0%	Negligible
R8	12.5	12.5	0.0%	Negligible
R9	12.5	12.5	0.0%	Negligible
R10	12.3	12.3	0.1%	Negligible
R11	12.0	12.0	0.0%	Negligible
R12	12.4	12.4	0.0%	Negligible
R13	12.3	12.3	0.1%	Negligible
R14	12.3	12.4	0.1%	Negligible
R15	11.6	11.6	0.0%	Negligible
R16	12.2	12.3	0.2%	Negligible
R17	12.2	12.2	0.1%	Negligible
R18a	12.1	12.1	0.1%	Negligible
R18b	12.0	12.0	0.1%	Negligible
R19a	11.7	11.7	0.0%	Negligible
R19b	11.7	11.7	0.0%	Negligible
R20a	11.6	11.6	0.0%	Negligible
R20b	11.6	11.6	0.0%	Negligible
R21	12.1	12.1	0.1%	Negligible
R22a	12.1	12.1	0.0%	Negligible
R22b	12.1	12.1	0.0%	Negligible
R23a	12.3	12.3	0.0%	Negligible
R23b	12.1	12.1	0.0%	Negligible
R24a	12.1	12.1	0.0%	Negligible
R24b	12.1	12.1	0.0%	Negligible
R25a	12.5	12.5	0.1%	Negligible
R25b	12.5	12.5	0.1%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R26a	12.2	12.2	0.0%	Negligible
R26b	12.0	12.0	0.0%	Negligible
R27a	12.2	12.2	0.0%	Negligible
R27b	12.0	12.0	0.0%	Negligible
R28a	12.2	12.2	0.0%	Negligible
R28b	12.2	12.2	0.0%	Negligible
R29a	12.1	12.1	0.0%	Negligible
R29b	12.0	12.0	0.0%	Negligible
R29cc	12.0	12.0	0.0%	Negligible
R30a	12.2	12.2	0.0%	Negligible
R30b	12.2	12.2	0.0%	Negligible
R31a	12.1	12.1	0.0%	Negligible
R31b	12.1	12.1	0.0%	Negligible
R32a	13.1	13.1	0.1%	Negligible
R32b	13.1	13.1	0.1%	Negligible
R33a	12.4	12.4	0.1%	Negligible
R33b	12.3	12.3	0.1%	Negligible
R34	12.5	12.5	0.1%	Negligible
R35a	12.6	12.6	0.0%	Negligible
R35b	12.6	12.6	0.0%	Negligible
R36a	12.3	12.3	0.1%	Negligible
R36b	11.9	11.9	0.0%	Negligible
R37	12.1	12.1	0.0%	Negligible
R38	12.1	12.1	0.1%	Negligible
R39	12.8	12.8	0.0%	Negligible
R40a	12.9	12.9	0.0%	Negligible
R40b	12.4	12.4	0.0%	Negligible
R41a	12.5	12.5	0.0%	Negligible
R41b	12.3	12.3	0.0%	Negligible
R42	12.6	12.6	0.1%	Negligible
R43	12.5	12.5	0.1%	Negligible
R44	12.4	12.5	0.1%	Negligible
R45	12.5	12.5	0.1%	Negligible
R46	12.1	12.1	0.0%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
R47	12.1	12.1	0.0%	Negligible
R48	12.2	12.2	0.1%	Negligible
R49	12.2	12.2	0.1%	Negligible
R50a	12.3	12.3	0.2%	Negligible
R50b	12.0	12.1	0.1%	Negligible
R51	12.2	12.2	0.0%	Negligible
R52a	12.1	12.2	0.0%	Negligible
R52b	12.0	12.0	0.0%	Negligible
R53a	12.8	12.8	0.0%	Negligible
R53b	12.3	12.4	0.0%	Negligible
R54	12.3	12.3	0.1%	Negligible
R55	12.0	12.0	0.1%	Negligible
R56a	12.1	12.1	0.0%	Negligible
R56b	11.9	11.9	0.0%	Negligible
R56c	11.8	11.8	0.0%	Negligible
R57a	12.0	12.0	0.0%	Negligible
R57b	11.9	11.9	0.0%	Negligible
R57c	11.8	11.8	0.0%	Negligible
R58a	11.9	12.0	0.0%	Negligible
R58b	11.8	11.8	0.0%	Negligible
R59a	12.5	12.5	0.0%	Negligible
R59b	12.3	12.3	0.0%	Negligible
R60	13.3	13.3	0.0%	Negligible
R61	12.3	12.3	0.1%	Negligible
R62	13.1	13.1	0.0%	Negligible
R63	12.6	12.6	0.1%	Negligible
R64	12.0	12.0	0.0%	Negligible
R65	12.3	12.3	0.1%	Negligible
R66	12.2	12.2	0.1%	Negligible
R67	12.4	12.4	0.1%	Negligible
R68	12.3	12.3	0.0%	Negligible
R69	12.4	12.4	0.0%	Negligible
R70	12.2	12.3	0.0%	Negligible
R71	12.5	12.5	0.0%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
C1	12.5	12.5	0.1%	Negligible
C2	12.2	12.2	0.0%	Negligible
C3a	12.2	12.2	0.1%	Negligible
C3b	11.9	11.9	0.0%	Negligible
C3c	11.8	11.8	0.0%	Negligible
C4a	12.3	12.3	0.0%	Negligible
C4b	12.1	12.1	0.0%	Negligible
C4c	12.1	12.1	0.0%	Negligible
C5a	12.3	12.3	0.0%	Negligible
C5b	12.1	12.1	0.0%	Negligible
C5c	12.1	12.1	0.0%	Negligible
C6a	12.3	12.3	0.1%	Negligible
C6b	12.1	12.1	0.1%	Negligible
C6c	12.0	12.0	0.1%	Negligible

Table 4: Predicted Impacts on Annual Mean PM_{2.5} Concentrations (µg/m³), 2031, Comparison Against GLA Target, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM (µg/m ³)	2031 DC (µg/m ³)	Change (% of GLA target)	Impact
R1	12.3	12.4	0.6%	Moderate
R2	12.3	12.4	0.8%	Moderate
R3	12.2	12.2	0.3%	Negligible
R4	12.3	12.3	0.3%	Negligible
R5	12.3	12.3	0.2%	Negligible
R6	12.1	12.2	0.1%	Negligible
R7	12.1	12.1	0.1%	Negligible
R8	12.5	12.5	0.1%	Negligible
R9	12.5	12.5	0.1%	Negligible
R10	12.3	12.3	0.1%	Negligible
R11	12.0	12.0	0.1%	Negligible
R12	12.4	12.4	0.1%	Negligible
R13	12.3	12.3	0.2%	Negligible
R14	12.3	12.4	0.1%	Negligible
R15	11.6	11.6	0.1%	Negligible
R16	12.2	12.3	0.4%	Negligible
R17	12.2	12.2	0.1%	Negligible
R18a	12.1	12.1	0.1%	Negligible
R18b	12.0	12.0	0.1%	Negligible
R19a	11.7	11.7	0.0%	Negligible
R19b	11.7	11.7	0.0%	Negligible
R20a	11.6	11.6	0.0%	Negligible
R20b	11.6	11.6	0.0%	Negligible
R21	12.1	12.1	0.2%	Negligible
R22a	12.1	12.1	0.1%	Negligible
R22b	12.1	12.1	0.0%	Negligible
R23a	12.3	12.3	0.1%	Negligible
R23b	12.1	12.1	0.1%	Negligible
R24a	12.1	12.1	0.1%	Negligible
R24b	12.1	12.1	0.1%	Negligible
R25a	12.5	12.5	0.2%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of GLA target)	Impact
R25b	12.5	12.5	0.2%	Negligible
R26a	12.2	12.2	0.1%	Negligible
R26b	12.0	12.0	0.0%	Negligible
R27a	12.2	12.2	-0.1%	Negligible
R27b	12.0	12.0	0.0%	Negligible
R28a	12.2	12.2	0.0%	Negligible
R28b	12.2	12.2	0.0%	Negligible
R29a	12.1	12.1	0.0%	Negligible
R29b	12.0	12.0	0.0%	Negligible
R29cc	12.0	12.0	0.0%	Negligible
R30a	12.2	12.2	0.0%	Negligible
R30b	12.2	12.2	0.0%	Negligible
R31a	12.1	12.1	0.0%	Negligible
R31b	12.1	12.1	0.0%	Negligible
R32a	13.1	13.1	0.2%	Negligible
R32b	13.1	13.1	0.1%	Negligible
R33a	12.4	12.4	0.2%	Negligible
R33b	12.3	12.3	0.2%	Negligible
R34	12.5	12.5	0.1%	Negligible
R35a	12.6	12.6	0.0%	Negligible
R35b	12.6	12.6	0.0%	Negligible
R36a	12.3	12.3	0.2%	Negligible
R36b	11.9	11.9	0.1%	Negligible
R37	12.1	12.1	0.1%	Negligible
R38	12.1	12.1	0.1%	Negligible
R39	12.8	12.8	0.0%	Negligible
R40a	12.9	12.9	0.1%	Negligible
R40b	12.4	12.4	0.0%	Negligible
R41a	12.5	12.5	0.0%	Negligible
R41b	12.3	12.3	0.0%	Negligible
R42	12.6	12.6	0.1%	Negligible
R43	12.5	12.5	0.1%	Negligible
R44	12.4	12.5	0.2%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of GLA target)	Impact
R45	12.5	12.5	0.2%	Negligible
R46	12.1	12.1	0.1%	Negligible
R47	12.1	12.1	0.1%	Negligible
R48	12.2	12.2	0.2%	Negligible
R49	12.2	12.2	0.2%	Negligible
R50a	12.3	12.3	0.4%	Negligible
R50b	12.0	12.1	0.1%	Negligible
R51	12.2	12.2	0.1%	Negligible
R52a	12.1	12.2	0.1%	Negligible
R52b	12.0	12.0	0.1%	Negligible
R53a	12.8	12.8	0.1%	Negligible
R53b	12.3	12.4	0.0%	Negligible
R54	12.3	12.3	0.1%	Negligible
R55	12.0	12.0	0.2%	Negligible
R56a	12.1	12.1	0.1%	Negligible
R56b	11.9	11.9	0.1%	Negligible
R56c	11.8	11.8	0.0%	Negligible
R57a	12.0	12.0	0.1%	Negligible
R57b	11.9	11.9	0.1%	Negligible
R57c	11.8	11.8	0.0%	Negligible
R58a	11.9	12.0	0.1%	Negligible
R58b	11.8	11.8	0.0%	Negligible
R59a	12.5	12.5	0.0%	Negligible
R59b	12.3	12.3	0.0%	Negligible
R60	13.3	13.3	0.1%	Negligible
R61	12.3	12.3	0.2%	Negligible
R62	13.1	13.1	0.0%	Negligible
R63	12.6	12.6	0.1%	Negligible
R64	12.0	12.0	0.1%	Negligible
R65	12.3	12.3	0.2%	Negligible
R66	12.2	12.2	0.2%	Negligible
R67	12.4	12.4	0.1%	Negligible
R68	12.3	12.3	0.1%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of GLA target)	Impact
R69	12.4	12.4	0.1%	Negligible
R70	12.2	12.3	0.1%	Negligible
R71	12.5	12.5	0.1%	Negligible
C1	12.5	12.5	0.1%	Negligible
C2	12.2	12.2	0.1%	Negligible
C3a	12.2	12.2	0.1%	Negligible
C3b	11.9	11.9	0.1%	Negligible
C3c	11.8	11.8	0.1%	Negligible
C4a	12.3	12.3	0.1%	Negligible
C4b	12.1	12.1	0.0%	Negligible
C4c	12.1	12.1	0.0%	Negligible
C5a	12.3	12.3	0.1%	Negligible
C5b	12.1	12.1	0.0%	Negligible
C5c	12.1	12.1	0.0%	Negligible
C6a	12.3	12.3	0.2%	Negligible
C6b	12.1	12.1	0.2%	Negligible
C6c	12.0	12.0	0.1%	Negligible

Limit Value Receptors

Table 5: Predicted Impacts on Annual Mean Nitrogen Dioxide Concentrations ($\mu\text{g}/\text{m}^3$), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
LV1	45.4	45.5	0.2%	Negligible
LV2	44.6	44.7	0.2%	Negligible
LV3	38.9	39.0	0.3%	Negligible
LV4	42.4	42.5	0.4%	Negligible
LV5	39.6	39.6	0.1%	Negligible
LV6	41.3	41.3	0.2%	Negligible
LV7	36.0	36.1	0.3%	Negligible
LV8	36.6	36.8	0.3%	Negligible
LV9	31.4	31.4	0.1%	Negligible
LV10	32.7	32.7	0.1%	Negligible
LV11	44.8	44.9	0.2%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
LV12	41.4	41.5	0.2%	Negligible
LV13	46.8	46.9	0.1%	Negligible
LV14	41.7	41.8	0.1%	Negligible
LV15	40.0	40.1	0.1%	Negligible
LV16	36.3	36.3	0.1%	Negligible

Table 6: Predicted Impacts on Annual Mean PM₁₀ Concentrations ($\mu\text{g}/\text{m}^3$), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
LV1	23.5	23.6	0.0%	Negligible
LV2	23.3	23.3	0.0%	Negligible
LV3	21.6	21.6	0.0%	Negligible
LV4	22.3	22.3	0.1%	Negligible
LV5	21.5	21.5	0.0%	Negligible
LV6	21.8	21.8	0.0%	Negligible
LV7	20.6	20.6	0.1%	Negligible
LV8	20.8	20.8	0.1%	Negligible
LV9	19.3	19.3	0.0%	Negligible
LV10	19.6	19.6	0.0%	Negligible
LV11	23.3	23.3	0.0%	Negligible
LV12	22.3	22.3	0.0%	Negligible
LV13	24.0	24.0	0.0%	Negligible
LV14	22.5	22.5	0.0%	Negligible
LV15	22.7	22.7	0.0%	Negligible
LV16	21.8	21.8	0.0%	Negligible

Table 7: Predicted Impacts on Annual Mean PM_{2.5} Concentrations ($\mu\text{g}/\text{m}^3$), 2031, With Counterfactual Assumption of 2019 Emission Factors and Background

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
LV1	15.0	15.0	0.0%	Negligible
LV2	14.8	14.8	0.0%	Negligible
LV3	13.9	13.9	0.0%	Negligible
LV4	14.3	14.3	0.1%	Negligible
LV5	13.8	13.8	0.0%	Negligible

Receptor ID	2031 DM ($\mu\text{g}/\text{m}^3$)	2031 DC ($\mu\text{g}/\text{m}^3$)	Change (% of objective)	Impact
LV6	14.0	14.0	0.0%	Negligible
LV7	13.3	13.4	0.0%	Negligible
LV8	13.5	13.5	0.1%	Negligible
LV9	12.6	12.6	0.0%	Negligible
LV10	12.7	12.7	0.0%	Negligible
LV11	14.8	14.8	0.0%	Negligible
LV12	14.2	14.2	0.0%	Negligible
LV13	15.4	15.4	0.0%	Negligible
LV14	14.5	14.5	0.0%	Negligible
LV15	14.7	14.7	0.0%	Negligible
LV16	14.1	14.1	0.0%	Negligible