Public Document Pack

Planning and Transportation Committee

Date: **TUESDAY, 7 JUNE 2022**

Time: **10.30 am**

Venue: **LIVERY HALL - GUILDHALL**

Members:

Deputy Shravan Joshi (Chairman)
Deputy Alastair Moss (Deputy Chair)
Deputy Randall Anderson
Brendan Barns
Alexander Barr
Emily Benn
Ian Bishop-Laggett
Deputy Keith Bottomley
Deputy Michael Cassidy
John Edwards
Anthony David Fitzpatrick
Deputy John Fletcher
Deputy Marianne Fredericks
Martha Grekos
Jaspreet Hodgson
Alderman Alastair King DL
Deputy Edward Lord
Natasha Maria Cabrera Lloyd-Owen
Alderman Ian Luder
Antony Manchester
Alderman Bronek Masojada
Andrew Mayer
Deputy Brian Mooney
Deborah Oliver
Deputy Graham Packham
Deputy Susan Pearson
Judith Pleasance
Deputy Henry Pollard
Ian Seaton
Alethea Silk
Luis Felipe Tilleria
Shailendra Kumar Kantilal Umradia
William Upton QC
Alderman Sir David Wootton

Enquiries: **Joseph Anstee**
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Accessing the virtual public meeting

Members of the public can observe this virtual public meeting at the below link:
https://youtu.be/eN1Z4V4yS_g

A recording of the public meeting will be available via the above link following the end of the public meeting for up to one municipal year. Please note: Online meeting recordings do not constitute the formal minutes of the meeting; minutes are written and are available on the City of London Corporation's website. Recordings may be edited, at the discretion of the proper officer, to remove any inappropriate material.

Lunch will be served in Guildhall Club at 1PM

John Barradell
Town Clerk and Chief Executive

AGENDA

NB: Certain matters for information have been marked * and will be taken without discussion, unless the Committee Clerk has been informed that a Member has questions or comments prior to the start of the meeting. These information items have been collated in a supplementary agenda pack and circulated separately.

Part 1 - Public Agenda

1. **APOLOGIES**

2. **MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**

3. **MINUTES**
   To agree the public minutes and non-public summary of the meeting held on 17 May 2022.

   For Decision
   (Pages 5 - 12)

4. **15-16 MINORIES, 62 ALDGATE HIGH STREET LONDON EC3N 1AL: SUBMISSION OF DETAILS TO PARTIALLY DISCHARGE CONDITION 37-A (EXTERNAL FACADE MATERIALITY), 37-B (TYPICAL FACADE DETAILS) AND 37-L (FLANK WALL TREATMENT) OF PLANNING PERMISSION 15/01067/FULL DATED 19.08.2016**
   Report of the Chief Planning Officer and Development Director

   For Decision
   (Pages 13 - 26)

5. **PLANNING ADVICE NOTE: WHOLE LIFECYCLE CARBON OPTIONEERING**
   Report of the Executive Director, Environment

   For Decision
   (Pages 27 - 78)

6. **1 BROADGATE SECTION 278 HIGHWAY WORKS**
   Report of the Executive Director, Environment

   For Decision
   (Pages 79 - 102)

7. **ALL CHANGE AT BANK: TRAFFIC AND TIMINGS REVIEW PLAN**
   Report of the Executive Director, Environment

   For Decision
   (Pages 103 - 128)

8. **TRANSPORT STRATEGY: 2021/22 PROGRESS UPDATE AND 2022/23 - 2024/25 DELIVERY PLAN***
Report of the Executive Director, Environment

For Information

9. **LEVELLING UP AND REGENERATION BILL***
Report of the Executive Director, Environment

For Information

10. **RISK MANAGEMENT UPDATE REPORT***
Report of the Executive Director, Environment

For Information

11. **PUBLIC LIFT REPORT***
Report of the City Surveyor

For Information

12. **VALID PLANNING APPLICATIONS RECEIVED BY ENVIRONMENT DEPARTMENT***
Report of the Chief Planning Officer and Development Director

For Information

13. **DELEGATED DECISIONS OF THE CHIEF PLANNING OFFICER AND DEVELOPMENT DIRECTOR***
Report of the Chief Planning Officer and Development Director

For Information

14. **OUTSTANDING ITEMS***
Report of the Town Clerk

For Information

15. **QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**

16. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT**

17. **EXCLUSION OF THE PUBLIC**
MOTION – That under Section 100(A) of the Local Government Act 1972, the public be excluded from the meeting for the following items on the grounds that they involve the likely disclosure of exempt information as defined in Part I of the Schedule 12A of the Local Government Act.

For Decision

Part 2 - Non-Public Agenda

18. **NON-PUBLIC MINUTES**
To agree the non-public minutes of the meeting held on 17 May 2022.

For Decision
(Pages 129 - 130)

19. **DEBT ARREARS - ENVIRONMENT DEPARTMENT (P&T COMMITTEE)***
Report of the Executive Director, Environment

For Information

20. **NON-PUBLIC QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**

21. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT AND WHICH THE COMMITTEE AGREES SHOULD BE CONSIDERED WHILST THE PUBLIC ARE EXCLUDED**

Any drawings and details of materials submitted for approval will be available for inspection by Members in the Livery Hall from Approximately 9:30 a.m.

PLANNING AND TRANSPORTATION COMMITTEE

Tuesday, 17 May 2022

Minutes of the meeting of the Planning and Transportation Committee held at the Guildhall EC2 at 11.00 am

Present

Members:

Deputy Shravan Joshi (Chairman)
Deputy Alastair Moss (Deputy Chair)
Deputy Randall Anderson
Brendan Barns
Ian Bishop-Laggett
Deputy Keith Bottomley
Deputy Michael Cassidy
John Edwards
Anthony David Fitzpatrick
Deputy John Fletcher
Deputy Marianne Fredericks
Martha Grekos
Jaspreet Hodgson
Alderman Alastair King DL
Deputy Edward Lord
Alderman Ian Luder
Antony Manchester
Alderman Bronek Masojada
Deputy Brian Mooney
Deborah Oliver
Deputy Graham Packham
Deputy Susan Pearson
Deputy Henry Pollard
Ian Seaton
Alethea Silk
Luis Felipe Tilleria
Shailendra Kumar Kantilal Umradia
William Upton QC

Officers:

Juliemma McLoughlin	-	Executive Director, Environment
Fleur Francis	-	Comptroller & City Solicitor's Dept.
Gwyn Richards	-	Chief Planning Officer and Development Director
David Horkan	-	Environment Department
Ian Hughes	-	Environment Department
Bruce McVean	-	Environment Department
Peter Shadbolt	-	Environment Department
Peter Wilson	-	Environment Department
Gemma Stokley	-	Town Clerk's Department
Shani Annand-Baron	-	Town Clerk's Department
Joseph Anstee	-	Town Clerk's Department

Introductions

The Town Clerk opened the meeting, confirming that a quorum of Members were present. The Town Clerk then highlighted that the meeting was being recorded as well as live streamed and would be made available on the City Corporation's YouTube page for a period of time after the meeting had concluded. It was confirmed that all personal data would be processed in accordance with the Data Protection Act 2018. The Town Clerk highlighted that, for further information on this, viewers could contact the City Corporation using the details provided on the public webpages.

The Chairman then welcome all those in attendance to the meeting, as well members of the public and external stakeholders observing the meeting via YouTube.

The Chairman then moved a vote of thanks to Gemma Stokley for her work supporting the Committee as Committee Clerk since September 2018, a period which had spanned the Covid-19 pandemic, as well as numerous major applications and complicated governance considerations. The Committee thanked and paid tribute to Gemma Stokley for her support and wished her well as she moved on to future challenges.

1. **APOLOGIES**

Apologies for absence were received from Alexander Barr, Emily Benn, Natasha Lloyd-Owen and Alderman Sir David Wootton.

2. **MEMBERS' DECLARATIONS UNDER THE CODE OF CONDUCT IN RESPECT OF ITEMS ON THE AGENDA**

There were no declarations.

3. **MINUTES**

RESOLVED – That the public minutes and non-public summary of the meeting held on 26 April 2022 be agreed as a correct record.

Matters Arising

In response to a question from a Member on the Bury House application, the Chief Planning Officer and Development Director advised that officers were still awaiting Stage 2 consideration from the GLA, and most recently followed up on this the day before the meeting.

A Member advised that they had a point of accuracy to raise on the non-public minutes, additionally proposing that the reference to consideration of greening proposals relevant to 21 Moorfields be moved into the public minutes for the benefit of the record, which was agreed.

4. **ESTABLISHMENT OF A SPECIAL SUB COMMITTEE**

The Committee considered a report of the Town Clerk recommending the establishment of a special sub-committee to determine an application in respect of London Wall Car Park. The Comptroller and City Solicitor introduced the report, providing some background and outlining the reasons for the proposal. The Comptroller and City Solicitor added that as the application was unlikely to be ready for the Committee meeting on 7 June, it was proposed that the recommendation be amended to approve the establishment of a sub committee to consider the application at a date to be determined.

A Member suggested that agenda planning be undertaken so that the Special Sub Committee meeting take place after a lighter Grand Committee meeting, as this would facilitate better consideration of the application. The Member then asked the Comptroller and City Solicitor for advice as to whether dispensations were required for those living in the proximity of London Wall. The Comptroller

and City Solicitor advised that they would advise the Member outside the meeting, as there was no universal rule on this matter.

The Chairman added his agreement that the Sub Committee meeting should follow a lighter Grand Committee meeting, or could be scheduled as a separate meeting, before drawing the Committee's attention to the recommendations.

RESOLVED – That the Planning & Transportation Committee agree to:

1. Establish a Special Sub Committee with the following Terms of Reference: to determine planning application reference: 21/00419/FULL;

2. That the Special Sub-committee sits at the rising of the Planning and Transportation on a date to be determined; and

3. That the Special Sub-committee be constituted of all Members of Planning and Transportation Committee.

5. **LOCAL IMPLEMENTATION PLAN FUNDED SCHEMES 2022/23**

The Committee considered a report of the Executive Director of Environment covering the provision of Transport for London (TfL) Local Implementation Plan (LIP) funding to the City of London Corporation for the year 2022/23. The Executive Director of Environment introduced the report, advising of the background to the LIP scheme and outlined the key points for this year for Members.

In response to questions from a Member, the Executive Director of Environment confirmed that approval was not sought for any shortfall arising from funds not being made available from TfL. The amount for approval was the total amount that could be made available with allocations for spending that funding set out, but if funds were not made available by TfL these would not be replaced and the allocations to initiatives would be reconsidered under delegation to officers. The Executive Director of Environment also advised that officers were happy to consider how bids for funding via other means and opportunities to align with other initiatives in order to maximise delivery.

A Member asked whether any provision had been made for the creation of a permanent solution to the Hostile Vehicle Mitigation (HVM) barriers at London Bridge, noting that it was likely some City of London Corporation funding would be required. The Executive Director of Environment responded that the barriers in question were still the subject of discussions involving the City of London Corporation via Bridge House Estates and led by TfL, being currently the responsibility of TfL to maintain, but owned by the Metropolitan Police. The Executive Director of Environment added that this was a complicated situation which sat outside of the LIP.

RESOLVED – That the Planning & Transportation Committee:

i) Approve the allocations up to the maximum set out in table 1 (£1,917k), for the year 2022/23;

ii) Delegate authority to the Executive Director Environment, in consultation with the Chairs and Deputy Chairs of the Planning & Transportation Committee and of the Streets & Walkways Sub Committee, to allocate any additional funds which are made available by TfL in 2022/23 financial year;

iii) Approve to spend any funds awarded for Principal Road Renewal for the year 2022/23; and

iv) Delegate authority to the Executive Director Environment to reallocate the TfL grant between the approved LIP schemes should that be necessary during 2022/23 up to a maximum of £150,000.

6. **TRAFFIC ORDER REVIEW - PROCESS AND NEXT STEPS**

The Committee received a report of the Executive Director of Environment providing details of the two main workstreams for the Traffic Order review instructed by the Court of Common Council.

A Member raised a point in respect of Destination City, commenting that the Court of Common Council had approved a wider plan for City Recovery which contained multiple facets applicable to the Committee, including Destination City. The Member commented that it could be problematic to focus on a subset of measures already agreed rather than the whole, as other issues also needed focus in order to fulfil what was agreed, including exercise facilities, which were requested by a significant number of survey respondents. The Member noted that the matter would come back to Committee and suggested that the Committee consider the plan as a whole.

The Executive Director of Environment responded that Destination City was specifically referred to in the original Motion to Court of Common Council, but confirmed that references to Future City could be added and that there was no intention to suggest that outcomes from the City Recovery taskforce would not be incorporated.

With regards to consultation, a Member queried why the City Streets survey referenced in paragraph 12 had been included as part of the engagement, adding their concerns that this could result in overengineering or consultation fatigue. Another Member stressed that experience of previous consultations be taken into account, and that officers should ensure that all relevant user groups were sufficiently consulted, and their responses considered. The Member proposed that a senior party be engaged in the consultation to provide assurance that the line and selection of questioning was appropriate and inclusive of user groups. The Chairman commented that he felt recent projects such as Beech Street had demonstrated that great efforts and diligence were taken in formulating consultation questions, with the assistance of external agencies, and that perceived biases were removed.

The Executive Director of Environment responded that it had been intended to run the City Streets survey again prior to the Traffic Order Review, as it helped understand how effectively the Transport Strategy was being delivered, and on

that basis it had been thought logical to align the survey so that those responses could inform the Traffic Order Review. The Executive Director of Environment assured Members that this would not cause any delay. On the wider consultation point, the Committee was advised that officers were increasingly using consultancies for assistance and to provide a greater degree of independence, but were happy to be led if Members felt an independent scrutineer would be beneficial.

A Member commented that they had some concern on the resources being used and felt that more consideration should be given to future-proofing as part of these exercises. The Member added that they felt more points could have been worked through as part of debate at Court of Common Council. The review would be based on current traffic flows, which may not account for the impact of initiatives such as Destination City further down the line or provide sufficient focus on what the City Corporation and stakeholders wanted the future City to look like. The Member urged officers to consider building in extra work to take forward which would ensure tangible benefits.

The Chairman thanked Members and officers for their comments, adding that the Committee had a clear mandate from the Court of Common Council which they were required to execute, and agreed that this was an ongoing piece of work which would have long-lasting execution.

RESOLVED – That the report be noted.

7. **CITY OF LONDON ACCESS GROUP (COLAG) BRIEFING NOTE***

The Committee received a report of the Planning and Development Director setting out the membership, constitution and remit of the City of London Access Group (CoLAG) and confirming that a review into the remit, structure and terms of reference of CoLAG was in progress.

RESOLVED – That the report be noted.

8. **PUBLIC LIFT REPORT***

The Committee received a public lift report of the City Surveyor for the period 12/04/22 – 01/05/22. A Member asked for an update on the completion of the redevelopment of Millennium Bridge House, which included a new lift with public access, to be provided outside of the meeting.

In response to a question from a Member regarding the escalators on Wood Street, the City Surveyor confirmed that the escalators in question were not owned or managed by the City Corporation, although there was a public lift managed by the City Corporation at the junction of Wood Street and London Wall. A Member acknowledged that the escalators were managed by the building, but added that they understood that the escalators were supplied as part of a planning condition, and therefore if they were not operational then this became an enforcement matter as the condition was not being met. The City Surveyor advised that they would look into this and respond in writing for circulation to the Committee.

RESOLVED – That the report be noted.

9. **VALID PLANNING APPLICATIONS RECEIVED BY DEPARTMENT OF THE BUILT ENVIRONMENT***

The Committee received a report of the Chief Planning Officer and Development Director detailing development applications received by the Department of the Built Environment since the report to the last meeting.

RESOLVED – That the report be noted.

10. **DELEGATED DECISIONS OF THE CHIEF PLANNING OFFICER AND DEVELOPMENT DIRECTOR***

The Committee received a report of the Chief Planning Officer and Development Director detailing development and advertisement applications determined by the Chief Planning Officer and Development Director or those so authorised under their delegated powers since the report to the last meeting.

RESOLVED – That the report be noted.

11. **OUTSTANDING ACTIONS***

The Committee received a report of the Town Clerk setting out its list of Outstanding Actions. The Committee noted that new guidance on Radiance was set to be provided by the Building Research Establishment (BRE) this month, and that officers would analyse changes before reporting to Committee on a way forward.

RESOLVED – That the list of outstanding actions be noted.

12. **QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**

Salisbury Square

A Member asked if there were any pertinent points arising from the process or outcome of the Judicial Review of the Salisbury Square development of which the Committee should be made aware.

The Chairman commented that the City Corporation had successfully defended their planning decision on the Salisbury Square development from a Judicial Review, and the Court of Appeal had subsequently rejected an application for an appeal. The Chairman added that this was an excellent outcome and gave thanks to the Planning and Legal teams for their work on this, the officer's report having been singled out for particular praise which was testament to the amount of work that had gone in.

Riverside Walk

A Member commented that the new hotel development on the Riverside in Queenhithe Ward had transformed the area and had been a very positive development, but areas around the development were still blocked, despite a lack of ongoing activity. The Member therefore asked for an update on this. The Executive Director of Environment responded that a site visit was scheduled for Thursday that week to review progress. Whilst officers appreciated the

frustrations at the delays, they were confident that the matter was close to resolution and would pick up any outstanding actions as a matter of urgency and confirm a timeframe for completion following the site visit.

Road Signage in Princes Street

A Member raised the road signage at Princes Street, advising that the signage for a vehicle entering Princes Street from the north, turning around and travelling back northwards appeared to be contradictory, which would inhibit access to Grocer's Hall. The Executive Director of Environment responded that this matter had been raised elsewhere and a full response was being prepared. Officers believed the signage to be accurate but were reviewing it to ensure it was sufficiently clear and appropriate. The Chairman of the Streets & Walkways Sub Committee added that this matter could be monitored by the Sub Committee going forward.

Crossrail

A Member asked whether there would be City Corporation involvement in the launch of Crossrail the following week, the organisation having been significantly involved in the project. The Chairman replied that he, the Lord Mayor and the Chairman of Policy & Resources had a programme surrounding the launch on Tuesday 24 May, including use of the service from Farringdon. The Chairman added that he hoped there would be lots of coverage, which would include a press release by the City Corporation setting out the organisation's involvement in the project, and that he looked forward to seeing usage statistics, which would be reported through the usual channels.

13. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT**

The Executive Director of Environment advised that a full briefing note on the Government's Levelling Up Bill would be submitted to the next meeting of the Committee.

14. **EXCLUSION OF THE PUBLIC**

RESOLVED – That under Section 100(A) of the Local Government Act 1972, the public be excluded from the meeting for the following items on the grounds that they involve the likely disclosure of exempt information as defined in Part I of the Schedule 12A of the Local Government Act.

Item	**Paragraph**
15	3
16-17	-

15. **NON-PUBLIC MINUTES**

The Committee considered the non-public minutes of the meeting held on 26 April 2022.

16. **NON-PUBLIC QUESTIONS ON MATTERS RELATING TO THE WORK OF THE COMMITTEE**

There was one question.

17. **ANY OTHER BUSINESS THAT THE CHAIRMAN CONSIDERS URGENT AND WHICH THE COMMITTEE AGREES SHOULD BE CONSIDERED WHILST THE PUBLIC ARE EXCLUDED**
There was one item of other business.

The meeting closed at 1.06 pm

Chairman

Contact Officer: Joseph Anstee
joseph.anstee@cityoflondon.gov.uk

Committee:	**Date:**
Planning and Transportation	7 June 2022
Subject: 15-16 Minories 62 Aldgate High Street London EC3N 1AL Submission of details to partially discharge Condition 37-A (External Facade Materiality), 37-B (Typical Facade Details) and 37-L (Flank Wall Treatment) of planning permission 15/01067/FULL dated 19.08.2016	**Public**
Ward: Portsoken	**For Decision**
Registered No: 22/00127/MDC	**Registered on:** 18 February 2022
Conservation Area:	**Listed Building:** No

Summary

Planning permission was granted on 30th June 2014 (13/01055/FULMAJ) for 'Demolition and redevelopment to provide a Class B1 office building with Class A1 retail (18,537sq.m). Extension and recladding of 16 Minories and change of use from offices (Class B1) to a hotel (Class C1), Class A3 restaurant and Class D1 (health)/ Class D2 (community) use (17,367sq.m.). Erection of new residential building (Class C3) providing 87 units (7829sq.m.). Re-landscaping of open space and public realm improvements.'

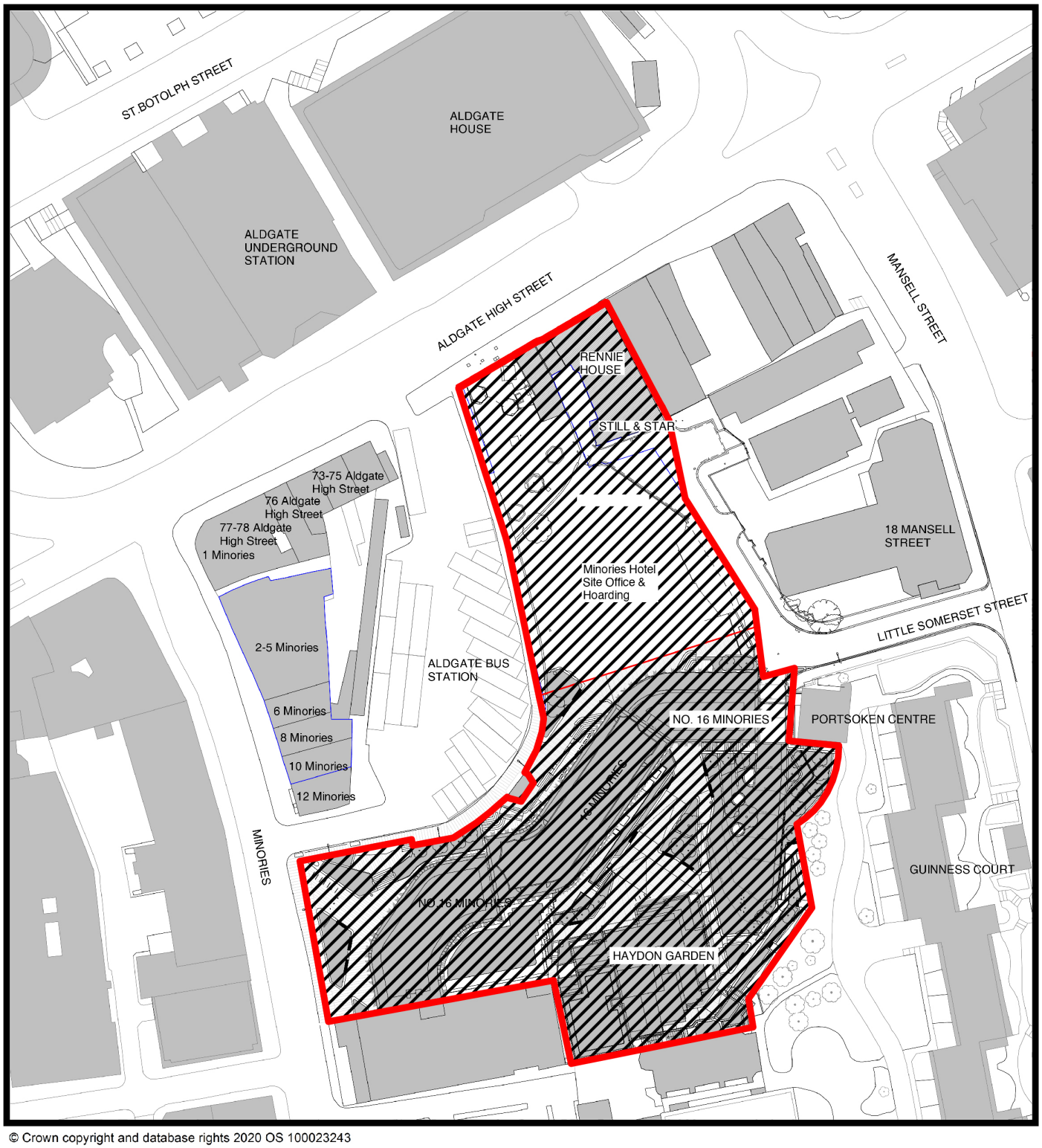
The committee requested that condition 37 (a) and (b) pertaining to samples of materials on external faces of the building and details of the proposed new facades for each of the buildings be reviewed and determined by the planning committee. This application is to discharge these elements in relation to the residential building only. This application also relates to condition 37 (l) pertaining to the treatment to the flank wall at 57-60 Aldgate High Street.

The facade details and proposed materials (aluminium and glass) demonstrate that the residential building would be of a high-quality design and external finish. It is therefore recommended that Condition 37 (a) and (b) are discharged in part. The proposed red render to the flank wall at 57-60 Aldgate High Street is considered to be appropriate in its context and condition 37 (l) can be discharged in full.

Recommendation

That the Committee resolves to discharge condition 37 (a) and (b) in part and condition 37 (l) in full, of planning permission reference 15/01067/FULL.

Site Location Plan



ADDRESS: 15-16 Minories, 62 Aldgate High Street and 1 Little Somerset Street, London EC3

CASE No. 22/00127/MDC

SITE LOCATION

LISTED BUILDINGS

CONSERVATION AREA BOUNDARY

CITY OF LONDON BOUNDARY

CITY OF LONDON

DEPARTMENT OF THE BUILT ENVIRONMENT

Main Report

Site Description

1. The application site relates to the residential element of a wider masterplan site comprising three buildings and associated open space, occupying land bounded by Aldgate High Street to the north, the Aldgate Bus Station and Minories to the west, Little Somerset Street and the Guinness Court Mansell Street Estate to the east and south, and buildings at 22-24 Minories and 9 St Clare Street, also to the south.

2. The residential element, to which this application relates is situated between the completed Hilton by Canopy Hotel running to the west along Minories and the Mansell Street Estate to the east. The residential building is currently constructed to shell and core.

Planning History

3. Planning Permission was originally granted on 30th June 2014 (13/01055/FULMAJ) for 'Demolition and redevelopment to provide a Class B1 office building with Class A1 retail (18,537sq.m). Extension and recladding of 16 Minories and change of use from offices (Class B1) to a hotel (Class C1), Class A3 restaurant and Class D1 (health)/ Class D2 (community) use (17,367sq.m.). Erection of new residential building (Class C3) providing 87 units (7829sq.m.). Re-landscaping of open space and public realm improvements.'

4. A subsequent S.73 minor material amendment application was approved on 19th August 2016, 15/01067/FULL (herein referred to as the 2016 consent) to incorporate changes solely to the residential building which now forms the implemented planning permission for the wider site. The amendments resulted in some changes to the external envelope, internal layout and rationalisation of the façade design.

5. In 2020, a non-material amendment application (20/00831/NMA) was approved to allow for alterations to the residential building including fenestration changes, the addition of a ground floor terrace, and use of a flat roof at level 15 as a residential terrace.

6. Works have been carried out to implement the 2016 scheme. The hotel has recently opened, and the residential element has been completed to shell and core. Work has not commenced on the office development.

Condition Discharge Application

7. This application seeks to partially discharge condition 37 (a) and (b) pertaining to the residential element of the scheme and fully discharge 37 (l). These elements state:

   'Before any works thereby affected are begun the following details shall be submitted to and approved in writing by the Local Planning Authority and all development pursuant to this permission shall be carried out in accordance with the approved details:
   (a) particulars and samples of the materials to be used on all external faces of the buildings including external ground and upper level surfaces;
   (b) details of the proposed new facades for each of the buildings including typical details of the fenestration;'
   (l) details of the treatment to the flank wall at 57-60 Aldgate High Street exposed by the development.

   Reason: To ensure that the Local Planning Authority may be satisfied with the detail of the proposed development and to ensure a satisfactory external appearance in accordance with the following policies of the Local Plan: DM3.2; DM10.1; DM10.5; DM12.2

8. These details have been brought before the committee at their request from the resolution to grant permission at the Planning & Transportation Committee on 10th June 2014. The minutes of the meeting state:

   "The Committee requested that the details of the elevations under conditions 38 (a) and (b) be put before the Committee for consideration as opposed to being dealt with under Delegated Authority."

9. For clarity, following the subsequent amendments to the scheme, condition 38 of the original permission has been re-numbered to condition 37.

Consented Design

10. When the masterplan was originally considered by the Planning Committee in June 2014, it was noted that the design of the 16-storey residential element comprised a staggered and layered series of interlocking blocks intended to generate a play of light and shadow. The recessed terraces and stepped façade would result in a high degree of depth and modelling, which would assist in reducing the sense of bulk. The design approach of predominantly glazed facades with integrated and movable steel chainmail curtains would give an ever-changing appearance to the building. The glazing and the

reflective qualities of the metallic mesh curtains would give the building a light appearance appropriate in its location adjoining the proposed landscaped area to its east.

11. It was considered that the design of the residential building would create a striking contrast with the adjoining 24-26 Minories hotel. The marked horizontal emphasis of the block and the depth of modelling would contrast appropriately with the sheer vertical emphasis of the tower element of the hotel scheme.

12. At the point of resolution by the committee in 2014, an informative was included stating the following:

> "You are advised that the detailed design along with the involvement of the project architect of the application scheme is considered to be an important element of the success of the building designs. As such, any proposed variation either in detailed design, the use of materials or a change in the project architect to oversee implementation is likely to dilute the convincing design quality of the buildings and is likely to be resisted by the City of London as local planning authority."

13. The subsequent 2016 consent resulted in some amendments to the design of the residential building, and it was concluded that the changes in the shape and proportions of the residential building would have a minimal visual impact and were considered acceptable in design terms and would not affect the original dynamic architectural design integrity. The scheme continues to be progressed by the original architect 'ACME' as required by the informative.

Details Under Consideration

(a) Particulars and samples of the materials to be used on all external faces of the buildings including external ground and upper level surfaces;

14. The building was originally conceived as being strongly metallic in appearance to contrast with the hotel and office buildings as part of the masterplan. Accordingly, the proposed façade system comprises a palette of light and dark grey metal elements framing glass window openings and balustrades.

15. The projecting sills and soffits would be executed in darker grey PPC aluminium panels. PPC stands for 'polyester powder coating', a powdered aluminium agent applied to cladding panels and 'cured' in a high temperature oven to form a durable and high-quality finish.

16. The main elevational feature, the perforated aluminium panel, was originally proposed to be executed in anodised aluminium, to

differentiate this element by giving it a more metallic sheen than the other elements of the building. As a result of further material investigation, the perforated panel is now proposed in a quasi-anodised PPC finish.

17. Anodising is produced through an electrolytic passivisation process, increasing the thickness of the natural oxide layer on the surface of the metal to enhance its metallic appearance. This layer is translucent and can result in slight variations in metallic finish across the elements to which it is applied. Quasi-anodising involves bonding a high-performance metallic pigment to a PPC base and 'cured' in the same way as PPC coatings. This results in a more uniform and consistent metallic finish which is considered more appropriate to the role these perforated panel features play in the façade.

18. There is a further difference in the weathering of the two systems. Being a hard surface, anodised aluminium does not weather. Quasi anodised aluminium would weather to the same rate as other PPC elements. As such, the specification of this material for the perforated panels would mean that the whole façade system would be of underlying PPC composition and accordingly would weather to a consistent rate. The panelling would require low maintenance and is a highly durable material.

19. It is therefore considered that the proposed quasi-anodised finish to the perforated panels would secure the same metallic effect as originally consented and would result, in the long term, in the facades weathering to a consistent degree.

20. The aluminium will have an average recycled content of 51%.

21. The proposed glass for the balconies and windows would be a low-iron specification. Standard 'clear' glass contains iron oxide which can result in slight colour tints. Low-iron glass minimises these impurities and would be more truly 'clear'.

22. The glass is being sourced from Guardian Glass Industries which all benefit from having ISO 14001. This accreditation requires manufacturers to meet set environmental and sustainability performance standards.

23. In regard to fire safety, all of the external façade will comply with Regulation 7(2) of the Building Regulations which will achieve either Class A1 or A2-s1 and the proposed materials would be assessed in more detail by relevant officers during construction.

24. Officers have reviewed samples of all materials on site and have confirmed that they would be of a satisfactory external appearance.

Material Specification:

	Material	Colour	Product Code
Metal Curtain (Fixed Perforated and corrugated screen)	Aluminium	Light Grey	Argento 620 Grylac 68/90346 (ME/MA)
Rainscreen (Behind Metal Curtain)	Aluminium	Dark Grey 2	RAL 7043
Rainscreen (Slab Edge Cover)	Aluminium	Light Grey	Argento 620 Drylac 68/90346 (ME/MA)
Balustrade	Glass/Aluminium	N/A	Ultraclear ESG-HST 1212 4_SentryGlas – LOW IRON
Juliet Balcony	Glass/Aluminium	N/A	UltraClear ESG-HST 1212 4_SentryGLas – LOW IRON
Projecting Sill	Aluminium	Grey Dark 1	xal-Classic 37 4201E75305L3F
Flank Wall (To Motel One)	Render	Red	33200 (K 3,0 Roughness)
Window/Sliding Door Profiles	Glass/Aluminium	Light Grey	Argento 620 Drylac 68/90346 (ME/MA)

(b) details of the proposed new facades for each of the buildings including typical details of the fenestration'

25. The principal façade detail is the perforated panel. Originally, this detail was consented as a metallic chainmail curtain which could be moved across the elevation. Under the 2016 consent, this was altered to a corrugated and perforated metallic panel fixed over a solid façade element introduced to improve the building's thermal performance. The details of these panels have been submitted as part of this condition. They would consist of 16 panel types, each with a bespoke pattern of perforation using 'teardrop' holes. The extensive and subtle variety in the patterns would add nuance and enrichment to the elevations. As consented the corrugation was bespoke to each panel, but following extensive testing this bespoke corrugation was indistinguishable from regular corrugation, the perforated pattern being the most noticeable quality, so the perforated panels would follow a regular corrugation design.

26. Other façade details include simple metal and glazed elements. Under this condition the solid-void ratio of the building would be adjusted to fractionally increase the glazed areas and also to better align the perforated 'curtain' panels with the window openings. Typical façade details have been supplied and these are considered acceptable.

(l) details of the treatment to the flank wall at 57-60 Aldgate High Street exposed by the development;

27. The flank wall would consist of a vibrant red insulated render. It would have high thermal efficiency and fireproofing performance and would add a playful dash of colour on a part of the building visible only from limited viewpoints to the north and south-west of the development. This is considered acceptable and 37 (l) should be discharged in full.

Conclusions

28. Officers are satisfied that the proposed materials and detailed facades (in regard to the residential development) and details for the flank wall, are appropriate and would ensure the delivery of a high-quality development, which accords with the design principles of the original application. The proposal is being progressed by the original architects in accordance with the informative placed on the original planning permission and it is therefore recommended that condition 37 (a) and (b) be discharged in part, and 37 (l) is discharged in full.

Relevant Local Plan Policies

Refer to original consent (ref: 15/01067/FULL)

SCHEDULE

APPLICATION: **22/00127/MDC**

15-16 Minories 62 Aldgate High Street London

Submission of details to partially discharge Condition 37-A (External Facade Materiality), 37-B (Typical Facade Details) and 37-L (Flank Wall Treatment) of planning permission 15/01067/FULL dated 19.08.2016

INFORMATIVES

1 The Plans and Particulars accompanying this application are: HDNGR-ACM-RP-A-10-001-P05-Planning Condition 37.

2 This approval relates only to the details listed above and must not be construed as approval of any other details shown on the approved drawings.

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Committee(s)	**Dated:**
Planning and Transportation Committee	07 June 2022
Subject: Planning Advice Note: Whole Lifecycle Carbon Optioneering	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	**1, 5, 7, 10, 11, 12**
Does this proposal require extra revenue and/or capital spending?	**N**
If so, how much?	**£0**
What is the source of Funding?	**n/a**
Has this Funding Source been agreed with the Chamberlain's Department?	**n/a**
Report of: Juliemma McLoughlin, Executive Director, Environment	**For Decision**
Report author: Kerstin Kane, Environment Department	

Summary

This report presents a first draft of a guidance note advising developers on carrying out whole life-cycle carbon options appraisals, including their scope and methodology, to assist pre-application procedures for major applications in ensuring that development proposals are pursued that minimise operational and embodied carbon emissions. The production of further guidance aligns with the City of London Climate Action Strategy to ensure that development in the Square Mile is on track to net-zero by 2040.

Recommendation(s)

Members are asked to:

- Approve the draft Planning Advice Note "Whole Lifecycle Carbon Optioneering" for public consultation.

Main Report

Background

1. The City Corporation's Climate Action Strategy seeks to achieve net zero carbon across all activity in the City of London by 2040. Buildings are the largest contributor to Sqaure Mile direct emissions, and it is therefore critical that new development meets net zero carbon targets if the wider ambition of a

net zero City is to be achieved. One of the key actions for the Square Mile in the Climate Action Strategy is the production of supplementary planning guidance which addresses carbon reduction, energy efficiency performance of new development, climate resilience and wider sustainability objectives around greening and biodiversity. The production of a Planning Advice Note will be a first step in the production of this wider guidance. The Planning Advice Note will provide further clarity for the development industry and build consensus in support of a City specific path to net zero whole life-cycle carbon emissions for development in the City of London.

2. The City Corporation appointed Hilson Moran to provide expert advice on the development of the Planning Advice Note.

Draft Planning Advice Note

3. The draft Planning Advice Note sets out the expectation that developers should assess the whole life-cycle carbon emission impacts of potential development options at an early stage before their designs are finalised. Using these guidelines, appointing experienced consultants, having a dialogue with officers of the City of London Corporation and commissioning early stage studies to assess these impacts will help maximise the reduction of carbon emissions resulting from development.

4. This Planning Advice Note sets out the variety of ways by which carbon is estimated in the current planning process and analyses city-specifc types of development that should be advised to carry out such an options appraisal.

5. The Planning Advice Note provides a method to enable consistent reporting of whole life-cycle carbon emissions for a range of typical development options for different degrees of major interventions in the commercial built environment. The methodology establishes the minimum data required for the options appraisal and the level of transparency to be disclosed to the City Corporation. The proposed methodology is based on the GLA's adopted guidance on Whole Life-Cycle Carbon Assessments (2022) and can be adapted to future updates of the GLA's guidance. The comparative appraisal would be compatible with any emerging standards.

6. A "dashboard" for easily absorbable, visual and quantified information about whole life-cycle carbon emissions of development is proposed to enable an informed discussion of options between applicants and the City Corporation and result in consistent reporting to inform Member decisions.

7. The Planning Advice Note aims to contribute to evidence gathering about achieving net-zero carbon development, both in the City of London and generally to feed into evolving standards and performance targets for net zero carbon development (such as the UK Net Zero Carbon Buildings Standard currently in development by leading industry organisations).

Public Consultation

8. Subject to approval by the Planning and Transportation Committee, the Planning Advice Note attached at Appendix 1 will be published for public consultation for a period of 6 weeks and in accordance with the adopted Statement of Community Involvement. Any comments arising from the consultation will be brought back to this Committee in the autumn, along with any recommended changes, for the formal approval of the Committee and adoption of the Planning Advice Note.

9. While not having the same weight as policies in the statutory development plan, the Planning Advice Note will nevertheless be a material consideration in the determination of planning applications.

10. The Planing Advice Note will be incorporated into the formal Sustainability Supplementary Planning Document, a draft of which will be brought back to this Committee later in the year.

Corporate & Strategic Implications

11. **Strategic implications-**This Guidance Note will support the delivery of the following outcomes in the Corporate Plan:
    - Outcome 1: People are safe and feel safe
    - Outcome 5: Businesses are trusted and socially and environmentally responsible
    - Outcome 7: We are a global hub for innovation in financial and professional services, commerce and culture
    - Outcome 10: We inspire enterprise, excellence, creativity and collaboration
    - Outcome 11: We have clean air, land and water and a thriving and sustainable natural environment
      Outcome 12: Our spaces are secure, resilient and well-maintained.

12. **Financial implications-** There are no financial implications arising from this report.

13. **Resource implication-** Delivery of the Planning Advice Note will be through existing Environment Department staff resources.

14. **Equalities implications-** This report provides technical guidance for developers on how information should be presented through the planning application process and will be subject to further assessment and consultation which may result in changes to the advice presented. It is therefore proposed that an equalities screening assessment be undertaken following consultation and prior to consideration of the final Advice Note by this Committee.

15. **Climate implications-** Delivery of the Planning Advice Note will contribute towards meeting the objectives of the Climate Action Strategy.

16. **Legal implications -**There are no legal implications arising from this report.

17. **Risk implications -** There are no additional new risks arising from this report.

18. **Security implications -** There are no security implications arising from this report.

Conclusion

19. This report presents the draft Whole Lifecycle Carbon Optioneering Planning Advice Note and seeks the Committee's approval to consult on this draft. Following consultation, the Planning Advice Note will be brought back to the Planning and Transportation Committee for approval, following which the Planning Advice Note will be published and will become a material consideration in the determination of planning applications.

Appendices

- Appendix 1- Whole Lifecycle Carbon Optioneering Planning Advice Note

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Planning Advice Note

Whole Lifecycle Carbon Optioneering

ISSUE STATUS: **FINAL**

HM REFERENCE: **32412-01**

Author M Schembri

Checker V Ugarow

Approver A Moore

Issue	Date	By	Details
00	29.03. 2022	MS/ AM	Draft issued for comments
01	10.04.2022	MS/ AM	Second draft for comments
02	29.04.2022	MS/ AM	Internal draft update
03	03.05.2022	MS/ AM	Final draft for comments
04	10.05.2022	MS/ AM	Updated interim Draft for member comment—Certain sections due for completion.
05	19.05.2022	MS/ AM	Final following CoL comments of 4.5.22
06	25.05.21	MS/ AM	Final issue

Contents

Executive Summary

The City of London Corporation (CoL) has committed to Net Zero Carbon (NZC) for both embodied and operational carbon emissions by 2040. The Climate Action Strategy sets up a fully-funded action plan to deliver and achieve annual targets against a decarbonisation pathway.

Hilson Moran was appointed to develop a Planning Advice Note on Whole Lifecycle Carbon emission options. The purpose of this study is to advise on:

- The merits of a Whole Lifecycle Carbon (WLC) emission options appraisal as part of the pre-application process to ensure that development proposals maximise the reduction of carbon emissions;
- The scope and methodology of comparative Whole Lifecycle carbon emission options for development proposals;
- To ensure a like for like comparison and consistency of projects submitted for planning.

The majority of planning applications, 76%, fall under the City's definition of Major development. The remaining applications are varied full implications covering change of use and extensions. This means that major development will be responsible for a large proportion of new emissions in the City of London.

As a result The City of London Corporation expects that all major development undertake a Whole Lifecycle Carbon Assessment (WLCA). Full applications should aim to follow this guidance wherever possible. This is also support by GLA WLC guidance for major applications to undertake Whole Lifecycle Carbon Assessments (WLCA).

Recent planning applications have reported development optioneering and (WLCA in different ways. The diversity of approaches between pre-application material and planning application is making it very difficult for CoL to establish the level of consistency and what to look out for in results/data being proposed alongside the Climate Action Strategy targets.

This Planning Advice Note establishes the variety of ways by which carbon is estimated in the current planning process, and how they can vary between them. A methodology is proposed that requires options for different degrees of major interventions in the commercial built environment to be considered and presented.

The methodology establishes the minimum data required at the pre-planning and planning stages, and the level of transparency to be disclosed to CoL. The proposal aligns with the GLA's new guidance on Whole Lifecycle Carbon Assessment reporting (March 2022).

A dashboard has been created to equip CoL with easy, visual and quantified information that is clear and benchmarkable, enabling an informed discussion between them and the Applicant party.

Future updates of the methodology may be required as the market matures, and industry standards and assessment tools become more robust and reliable.

The Climate Emergency

'Human activities which result in the release of greenhouse gases, including carbon dioxide (CO_2), are estimated to have caused 1°C of global heating above pre-industrial levels. As a result, there have already been sea level rises, increased likelihoods of extreme weather events and melting of sea ice and permafrost. This has direct and devastating impacts on society, including land loss; increased severity and occurrence of wildfires; drought; and difficulties producing food.

Alongside this, there have been unprecedented declines in global biodiversity, with the average abundance of native species in most major land-based habitats falling by at least 20%, mostly since 1900. The quality of habitats which support this biodiversity has also declined, with a 30% reduction in global terrestrial habitat integrity caused by habitat loss, fragmentation and deterioration.' (CIEEM, 2019)

Global emission need to decrease by 43% by the end of this decade to stay under the 1.5 degree C, the current recommended threshold to avoid unprecedented heatwaves, terrifying storms, and widespread water shortages. (IPCC 2022)

The built environment contributes 25% of UK greenhouse gas emissions (CO_2e) that it has direct control over. If influenced emissions, surface transport (vehicle emissions) are included it contributes around 42% of the UK's total greenhouse gas emissions, CO_2e. (UKGBC ,2021)

The property and construction industry has a moral duty to act and reduce the environmental impacts of this sector as well as mitigate the effects of Climate Change.

Climate Action Strategy 2020-2027

The City of London is major global commerce centre with huge influence and opportunity to lead the Net Zero Carbon and Climate Change mitigation and adaptation agenda.

The City of London Corporation has adopted a radical Climate Action Strategy which breaks new ground and sets out how the organisation will achieve net zero, build climate resilience and champion sustainable growth, both in the UK and globally, over the next two decades. By adopting the strategy, the City Corporation has committed to:

- ***Achieve net zero carbon emissions from their own operations by 2027***
- ***Achieve net zero carbon emissions across their investments and supply chain by 2040***
- ***Support the achievement of net zero for the Square Mile by 2040***
- ***Invest £68m over the next six years to support these goals of which £15m is dedicated to preparing the Square Mile for extreme weather events***

The City of London Corporation (CoL) has set out a fully funded action plan for 2020 -2027 and set annual targets. Data on progress will be shared via a programme dashboard, expected to go live for the public mid-2022. At the end of each year CoL will publish a report of progress against targets for that year. Stakeholders will be invited to participate in a survey to help us understand how well they are reaching and engaging with them.

Climate Action Strategy 2020-2027

Headlines

THROUGH THIS STRATEGY THE CITY CORPORATION COMMITS TO ACHIEVING:

- Net zero by 2027 in the City Corporation's operations
- Net zero by 2040 across the City Corporation's full value chain
- Net zero by 2040 in the Square Mile
- Climate resilience in our buildings, public spaces and infrastructure

ACROSS THE SQUARE MILE WE WILL:

- Work with all stakeholder groups to accelerate the transition to net zero
- Support SMEs to reach net zero
- Invest in making the Square Mile more resilient to extreme weather and flooding

AT THE CITY CORPORATION WE WILL DO THIS THROUGH MAJOR INVESTMENT IN:

- Improving energy efficiency at our investment and corporate properties
- Aligning our investment portfolio with the Paris Agreement
- Enhancing carbon removal in our open spaces
- Protecting our shared natural resources
- Driving net zero through our supply chain
- Integrating climate considerations into all our decisions

Vision, aims & goals

Our Vision

The City of London is **Responsible, Sustainable** and **Competitive**

Our aims

To **support** the **achievement** of **net zero**

To **build climate resilience**

To champion **sustainable growth**

Our goals

For the City of London Corporation

City of London Corporation **scope 1 and 2 emissions are net zero by 2027** and **scope 3 emissions are net zero by 2040.**

The City of London Corporation and its assets **are resilient to climate change.**

The City of London Corporation supports UK and overseas organisations to **become climate responsible.**

For the Square Mile's fabric and function

The Square Mile's scope 1, 2 and 3 emissions (BASIC+ definition) **are net zero by 2040.**

The Square Mile's buildings, public spaces and infrastructure **are resilient to climate change.**

For society

People in the Square Mile and beyond **benefit from a clean, green and safe environment** and **job creation.**

Actions

Actions to support the achievement of net zero

THE CITY OF LONDON CORPORATION

Transform the energy efficiency of our operational buildings through the adoption of best available technologies

Maximise the use of renewable energy sources across our operational buildings

Introduce new land management practices across our open spaces aiming to maximise their ability to remove carbon, and optimise their biodiversity and resilience value

Align our financial investment portfolio with the goals of the Paris Agreement on climate change

Embed circular economy principles into our capital projects and reduce carbon intensity by using life cycle carbon and cost assessment techniques and design specifications

Accelerate the move to net zero carbon and energy efficient tenanted buildings, working closely with tenants to achieve shared goals

Strengthen our requirements and supplier engagement to drive performance and innovation in delivering sustainable products and solutions

Upskill our workforce on net zero

THE SQUARE MILE

Work with other organisations to develop a Climate Action Fund to invest in effective zero carbon technologies and accelerate decarbonisation

Develop a Square Mile renewable energy strategy

Use our planning role to influence others to embed carbon analysis and circular economy principles in capital projects

Advocate the importance of green spaces and urban greening as natural carbon sinks, and their contribution to biodiversity and overall wellbeing

Support organisations in the Square Mile to build circular, low-carbon and resilient supply chains

Provide tailored support to SMEs on their decarbonisation journeys

Increase engagement and communications about sustainability with residents, businesses, visitors and other stakeholders

Actions to build climate resilience

THE CITY OF LONDON CORPORATION

Build on our existing work to develop an early warning system, and clear resilience strategies for pests and diseases across our ports and markets, driving down the climate related food security risks

Embed resilience measures into our upgrade plans for our owned and operated buildings

Upskill our workforce on climate resilience

Embed a climate resilience lens into all our decision-making

THE SQUARE MILE

Make the Square Mile public realm more climate change ready through adding in more green spaces, urban greening, flood resistant road surfaces, adaptable planting regimes and heat resistant materials

Reduce the risk of flooding through developing sustainable rain and surface water management policies, resulting in a connected system of water recycling, sustainable urban draining and rainwater management measures

Strengthen our planning guidance on climate resilience measures for new developments

Work with our partners to create a more climate resilient and diversified energy network across the Square Mile

Develop a strong, data-led approach to deepen our understanding of climate related risks and mitigations across the Square Mile

Ensure that we continue to protect the residents, critical assets, infrastructure and heritage of the Square Mile

Actions to champion sustainable growth

THE CITY OF LONDON CORPORATION

Mobilise capital into sustainable finance

Secure the UK's place as a leader for investment in sustainable finance products

Help faster development and adoption of sustainable finance products and services

Share best practice on standards, tools, platforms and expertise to facilitate green and sustainable investment and growth

Encourage global movement towards disclosure and production of credible transition plans as the norm

Foster an ambition to achieve net zero emissions by 2050 or sooner for UK-based financial and professional services firms

Join other investors working through development and implementation of net zero transition action plans

Support financial institutions committing to net zero in the 2040s at the latest, covering all emissions, including scope 3 and where data allows reliable measurement

Support charities and SMEs to consider, prepare for and lead the response to climate change

Promote responsible procurement and investment practices.

Enhance the UK/London's capacity to finance sustainable investment opportunities globally, including emerging markets

Work with the financial services sector and UK Government to promote and scale sustainable finance products and services that countries and corporates need to help them transition to net zero

Influence and support the delivery of technical solutions to increase comparability of data and ease of reporting

Share learning and best practice about the challenges and opportunities of our net zero journey

Address existing inequalities and ensure no one is left behind

Prepare people for skills needed in a net zero economy

Facilitate collaborative action on air pollution in London

Reduce pollution and increase the resilience of the Square Mile

Reduce air pollution through implementing our ambitious air quality and transport strategies

Embrace circular economy principles across our strategies and work

Work with our creative and educational sector partners to deliver sustainable initiatives

Enhance greening and biodiversity across our public realm and open spaces

1. Carbon in Planning Policy

This section outlines the ways by which carbon emissions quantification and reduction are required to be reported for planning applications in the City of London in the recent past.

In short, planning applications are required to report both:

- **Embodied carbon emissions, i.e. carbon emissions resulting from materials, construction and the maintenance of a building lifecycle, and**
- **Operational carbon emissions, from energy consumption throughout the lifecycle of the building.**

However, the scope of reporting in applications is determined by several factors relating the type of application, the size of the building and the scope of the intervention proposed.

There are a number of policy and guidance documents that determine reporting requirements:

1. **Building Regulations**: At a national level, *'Approved Document L2A: Conservation of fuel and power in new buildings other than dwellings'* ('Part L2A') regulates some elements of design and specification of buildings that affect energy consumption, including insulation, solar control, the efficiency of building services and renewable energy generation. Part L sets minimum requirements and targets for carbon emissions and defines the carbon intensity of fuel and power. An update being implemented from June 2022, which tightens target requirements and introduces a minimum Primary Energy metric to place more emphasis on reducing energy demand with less reliance on renewable energy generation. 'Unregulated emissions' refer to the elements of energy use that sit outside Part L and includes carbon emissions from plug-in equipment and cooking.

   Embodied carbon emissions are not regulated at a national level. A bill was proposed in Parliament in February 2022 to change this based on a proposed *Part Z*, developed by industry experts.

Figure 1: The proposed amendment of the Building Regulations, Part Z, to regulate embodied carbon, was launched in March 2022.

2. **City of London policy:** City of London's Local Plan (2015) aligns with the London Plan (see point 3) at the time of its adoption. The London Plan has subsequently been updated (2021). The adopted Local Plan focusses on reducing operational 'regulated' carbon emissions resulting from energy used in operation, low and zero carbon technologies for on-site and local energy generation (including existing and planned District Energy Networks), local and national carbon offsetting mechanisms. Carbon offsets are required for a 30-year period of operation but there is no specific mention of unregulated carbon and embodied carbon (WLCA) in this policy document. However policy CS 15 does state that development should 'avoid demolition through reuse of existing building or their main structures...'

   The Local Plan is being reviewed and a replacement Plan, City Plan 2040, is in preparation. This draft Plan refers to the London Plan's carbon emissions requirements towards achieving whole lifecycle net zero carbon emissions. Further updating of the draft Plan will be undertaken during 2022 to ensure that it aligns with the London Plan, recent Mayoral guidance and best practice in the City development market and puts policies in place to deliver the City Corporation's Climate Action Strategy targets.

Figure 2: The draft City Plan 2036 is currently being revised to align with policy and market changes

1. Carbon in Planning Policy

3. **Greater London Authority (GLA) policy:** The Mayor of London's *London Plan 2021* requires proposals referable to the mayor to be net zero carbon.

The policy requires calculation of whole lifecycle carbon emissions through a nationally recognised whole lifecycle carbon assessment, and to demonstrate actions taken to reduce lifecycle carbon emissions.

Reporting requirements and the scope of the assessment are defined in the London Plan Guidance '*Whole Lifecycle Carbon Assessments (WLCA)*' (adopted 25th March 2022). WLCA reporting is required at pre-application, application and as built stages of schemes that are referable to the Mayor, but is also encouraged for all major developments. All studies account for a 60-year lifecycle.

The Guidance document is recognised as industry-leading. It has a detailed list of information to be included for materials across a number of Lifecycle Assessment (LCA) modules (table 1) as well as including estimations for demolition emissions and emissions from refrigerants.

The Mayor of London's London Plan 2021 also sets out a clear energy hierarchy for net zero *operational* carbon emissions. It defines the process required for reducing these emissions, clarifying local priorities for heating and cooling strategies, setting minimum target savings and local carbon offsetting mechanisms. The carbon savings targets are based on regulated operational carbon and a 30-year lifecycle. Reporting unregulated carbon is encouraged through the design process and building infrastructure provision. Other policy requirements are in place for on-site energy generation and energy storage.

The Mayor of London's draft '*Energy Assessment Guidance (April 2020)*' clearly outlines reporting requirements for planning applications to demonstrate that the proposed climate change mitigation measures comply with London Plan energy policies, including the energy hierarchy.

The '*Be Seen Energy Monitoring Guidance*', (September 2021) explains the process that needs to be followed and reporting requirements to demonstrate compliance with the London Plan policy addressing the monitoring, verifying and reporting of energy performance after a building's practical completion ('Be Seen' level of the Energy Hierarchy).

Figure 3: The new London Plan Guidance 'Whole Lifecycle Carbon Assessments' March 2022, sets out a framework of priorities and carbon information required

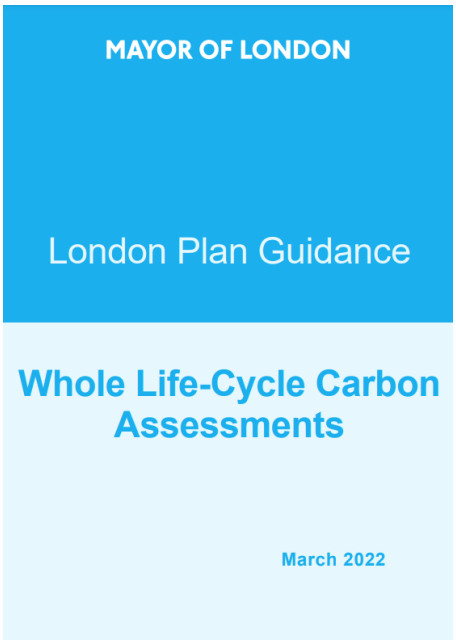


Figure 4: Regulated target operational carbon emissions are reduced further by local planning policy minimum requirements

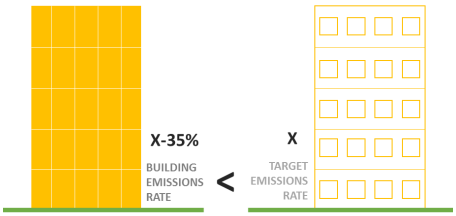
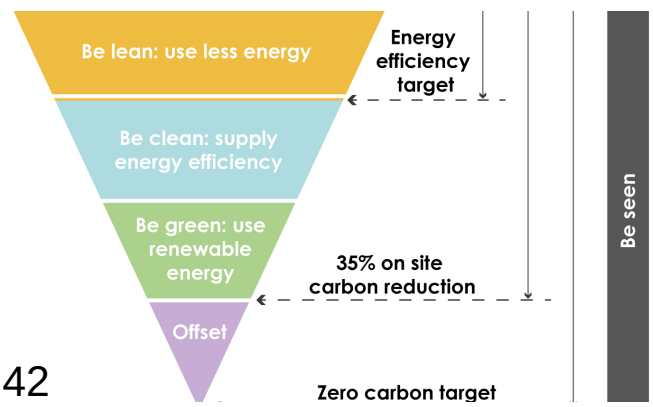


Figure 5: The Energy Hierarchy defines policy priorities and interim targets to Net Zero Carbon in operation



The following table outlines the typical *current* carbon reporting *scopes* driven by national and local policy requirements in the City of London.

As stated earlier ('City of London policy'), the current planning policy for major developments in City of London do not require a WLCA. However, it does require the achievement of a minimum BREEAM 'Excellent' certification rating, with a provision to ideally achieve 'Outstanding'. BREEAM does include criteria relating to Lifecycle Assessment, Environmental Product Declarations and Circular Economy. These aspects of design and procurement are therefore typically addressed in proposals targeting a minimum 'Excellent' rating.

The BREEAM scope for Lifecycle Assessment extends between Stages A and C, but the scope of *building elements* to be included is optional and limited compared to the GLA approach (see table 4, Page 18). BREEAM does not currently require an as built review of embodied carbon performance.

The total lifecycle carbon of major, non-referable planning applications with reduced scopes, e.g. limited to addressing BREEAM requirements for *fewer building elements*, are *not comparable* to GLA benchmarks. Note that Modules B6, B7 and D (EN 15978: 2011 Sustainability of construction works. Assessment of environmental performance of building) are excluded from the GLA WLCA benchmarks.

	Scope (Stages based on EN 15978)	Sub-groups	National – Building Regulations	GLA referable developments in CoL	Major developments in CoL*	Minor developments in CoL
	Product and Construction Process (Practical Completion) Stage					
Whole life cycle carbon	**A1-A3 Construction product supply, transport and manufacturing**			✓	✓	
	A4-A5 Transport to site and Construction			✓	✓	
	Use Stage					
	B1-B5 Operational emissions relating to maintenance, repair, replacement and refurbishment			✓	✓	
	B6 Operational energy use	Regulated	✓ 1 year	✓ 30 years for carbon offsetting 60 years for reporting	✓ 30 years for carbon offsetting 60 years for reporting	Depends on scope of works
		Unregulated		✓	✓	
	B7 Operational Water Use			✓	✓	
	End of Life Cycle Stage					
	C1-C4 End of life stage including deconstruction, demolition, transport, waste processing and disposal			✓	✓	
	Beyond the Project Lifecycle					
	D Stages beyond the life cycle, including re-use, recovery, recycling			✓		

Table 1: Scope of whole lifecycle carbon reporting in the City of London. Major developments' scope of works are currently dictated by BREEAM requirements

2. Related reporting requirements

There are a few other carbon-related planning reports that should be taken into consideration. They include Greenhouse Gas impact assessments, the Circular Economy Statement, operational energy and water assessments. Where relevant, these should be referenced or summarised in WLCA reporting, in particular to highlight discrepancies and overlaps in design considerations and decisions.

GHG reporting in Environmental Impact Assessments

A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, essentially, they trap heat causing the greenhouse effect. Very large developments, such as infrastructure projects and high-rise buildings, usually require a GHG chapter within the Environmental Impact Assessment scoping for a planning application.

In February 2022 the Institute of Environmental Management and Assessments (IEMA) published an update to their guide 'Assessing Greenhouse Gas Emissions and Evaluating their Significance' (2nd ed.) to align with government and industry agendas. The methodology for writing this environmental impact assessment chapter includes a full lifecycle scope, aligning with parts of the GLA WLCA method above. The approach covers similar themes but may not be as detailed as a full WLCA due to the timing of the assessment.

The differences in the approach include:

a. A range of gases is broader than carbon (Carbon Dioxide CO_2) and includes methane (CH_4), nitrous oxide (N_2O), and ozone (O_3);

b. The scope of emitters is broader, including for example emissions from operational transport and leaking F-gases (refrigerants). Note, GLA requires separate calculation of refrigerant emissions in the reporting WLCA template;

c. The proposal is compared to a current baseline;

d. Exclusions, metrics, data quality, degree of uncertainty and mitigation measures need to be clearly defined; and

e. They could be carried out a lot earlier than a detailed application WLCA (to GLA standards), for example for an Outline Planning Application, and therefore the data tends to be based on industry averages / benchmarks.

The process and content of a GHG assessment is structured by the IEMA guidance and should not preclude the need for a WLCA. In many cases, the information in relation to carbon in a GHG assessment may differ from that of a WLCA due to timing and the accuracy of information available at the time of assessment.

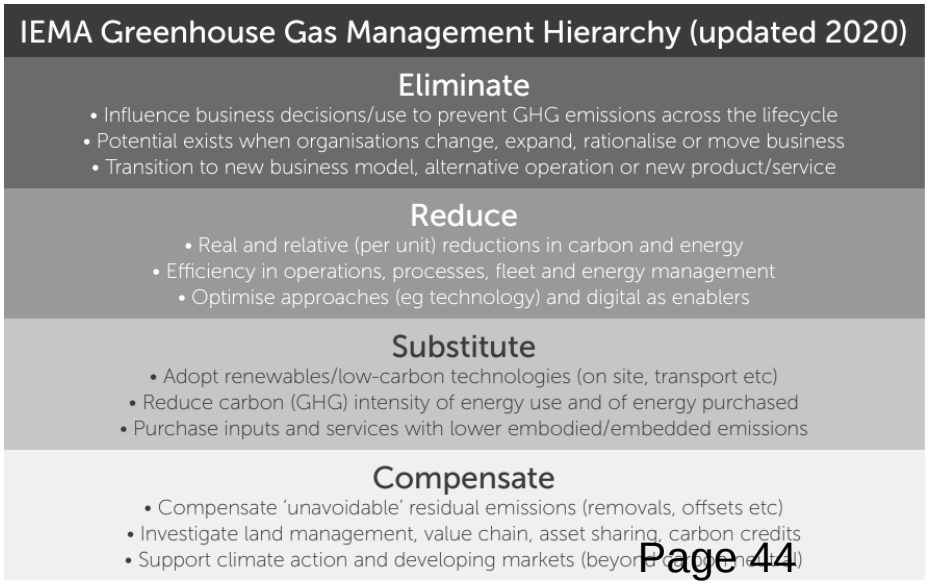


Table 1: GHG Management Hierarchy, 2020 (Source: EIMA, Assessing Greenhouse Gas Emissions and Evaluating their Significance' (2nd ed.)

GLA Pre-application optioneering

The London Plan Guidance 'Whole Lifecycle Carbon Assessments' (March 2022) explains how to calculate WLC emissions and the information to be submitted to comply with the policy, including the scope required. It also includes information on design principles and WLC benchmarks (by lifecycle stage) to aid planning applicants in designing buildings that have low operational carbon and low embodied carbon.

A WLC assessment template needs to be completed in four parts, namely, at pre-application, planning submission (outline and details) and post construction (prior to occupation).

The GLA encourages WLC assessments on major applications that are not referable to the Mayor. The City of London is supportive of this approach. In addition to the above, CoL will condition a more detailed update of the WLCA following the detailed design phase (RIBA Stage 4) when more design and procurement information is available to the Applicant team.

The GLA's pre-application section includes a hierarchy of WLC reduction principles (see Appendix 3 for full list). Principle 1 relates to *options* for 'significant retention and reuse of structures' as shown in table 2 below, requiring examples to demonstrate that:

- Options for retaining existing buildings and structures have been fully explored before proposing substantial demolition, including incorporating the fabric of existing buildings into the new development (aligned with London Plan Guidance for Circular Economy Statements , March 2022);
- Carbon emissions associated with pre-construction demolition are reported separately;
- An estimate of the percentage of the new build development which will be made up of existing façades, structures and other key components is reported
- An optional requirement to report on the effects of future grid decarbonisation on the development's *embodied* carbon emissions.
- The WLC principles are informing the proposed development of the site.

If substantial demolition is proposed, applicants will need to demonstrate that the benefits of demolition would clearly outweigh the benefits of retaining the existing building or parts of the structure.

Further considerations and options in relation to the retention of building elements and material are required by the Circular Economy principles (see following page).

Note, the GLA (and optionally BREEAM) requires the reporting of refrigerant Global Warming Potential emissions in $kgCO_2e/m^2GIA$. This is often excluded from WLCA. Measures can be installed to prevent and manage refrigerant leakage to atmosphere. We recommend that CoL condition a requirement for leak detection and containment to form part of the commissioning process.

WLC reduction principle: 1. Reuse and retrofit of existing buildings

Key benefit: Significant retention and reuse of structures is carbon efficient and reduces construction costs

Provide examples of how reduction principle has been used, or give reasons why is cannot be used.

Confirmation that options for retaining existing buildings and structures have been fully explored before considering substantial demolition	[Outline the options that have been considered - plus an explanation of opportunities and limitations, and why demolition outweighs the benefits of retaining existing buildings/structures where applicable]
Carbon emissions associated with pre-construction demolition ($kgCO_2e$)	[If estimates are not possible, please apply standard assumption of $50kgCO_2e/m^2$ of the existing building/s]
Estimate of the percentage of the new build development which will be made up of existing elements	[e.g. X% existing facades; Y% existing foundations; Z% superstructures etc.]

Table 2: Retention of existing building and structures from the GLA WLCA assessment template, March 2022

2. Related reporting requirements

Circular Economy Statement

The Mayor of London's *London Plan 2021* requires proposals referable to the Mayor to calculate a development's impacts and solutions to meet circular economy principles. It sets out the aim of retaining material at their highest value for as long as possible, to increase reuse and recycling, leaving minimal residual waste.

The reporting requirements and scope of the assessment are described in a London Plan Guidance 'Circular Economy Statements' (adopted 25th March 2022), which structures a reporting framework and principles to be considered by all referable applications. This needs to be considered alongside the WLCA.

The guidance includes requirements for a decision pathway to be outlined and for *pre-redevelopment and* pre-demolition audits, which need to be communicated at the earliest stages possible. The aim is for projects to incorporate these into a their brief at procurement stage.

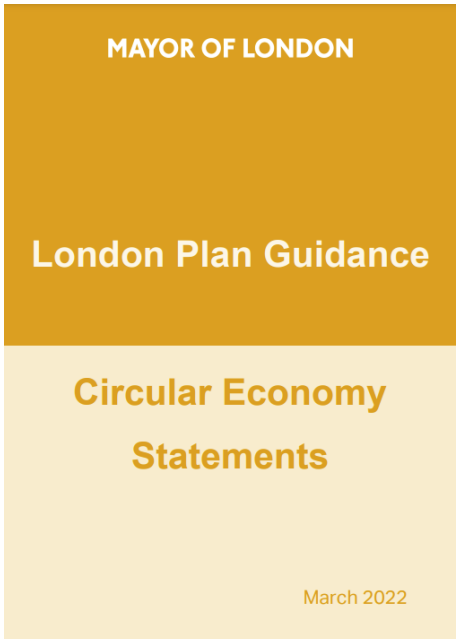
The guidance sets out six principles which are seen as critical to the design process:

1. **Building in layers**, ensuring that different parts of the building are accessible and can be maintained and replaced where necessary
2. **Designing out waste**, ensuring that waste reduction is planned in from project inception to completion, including consideration of standardised components, modular build, and reuse of secondary products and materials
3. **Designing for longevity**
4. **Designing for adaptability or flexibility**
5. **Designing for disassembly**
6. **Using systems, elements or materials that can be reused and recycled**.

The principles apply the waste hierarchy to reduce or avoid waste wherever possible and to try and ensure that materials are applied and used at their highest value.

The concept for building in layers, attributes design life to different aspects of the building in terms of skin, shell, structure/frame, building services, space plane interior, stuff and contents.

Figure 6: The new London Plan Guidance 'Circular Economy Statements' sets out the principles to be adopted to demonstrate the adoption of circularity in design and construction



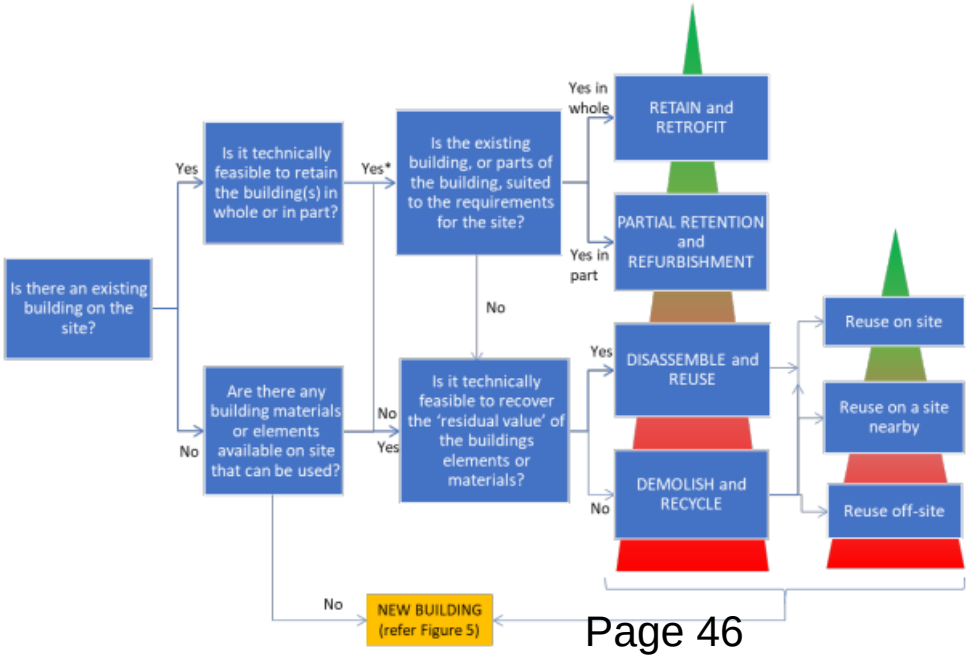


Figure 7: Decision tree for design approaches to existing structures/buildings -GLA Circular Economy Guidance March 2022

The WLCA includes B6 Operational Energy and B7 Operational Water. CoL planning policy currently requires energy and water consumption reporting elsewhere. This section clarifies the requirements and overlaps between reporting requirements. GLA benchmarks exclude stages B6 and B7.

Operational Energy modelling

NABERS UK 'Design for Performance' (DfP) and CIBSE TM54 'Evaluating operational energy use at the design stage' (2022) are increasingly being used by applicants to more accurately estimate and reduce operational energy during design, and to inform metering, commissioning and management requirements to maintain low energy consumption throughout a building's lifecycle.

BREEAM New Construction's (optional) operational energy modelling requirements are similar. NABERS UK is the most onerous approach of the three because of independent design reviews required during design, post completion and post occupancy seasonal monitoring, and tuning, metering infrastructure criteria to facilitate annual rating and annual energy rating updates. Note that the UK Government is proposing to introduce a new obligatory energy rating disclosure, that aligns with NABERS UK, starting with all offices greater than 1,000m^2, from 2022/23, indicatively. In addition, CIBSE TM54 has recently aligned with NABERS UK DfP, and BREEAM is set to do the same at the next update (estimated 2023) .

The GLA requires referable schemes to evaluate operational energy as part of the 'be seen' stage of the Energy Hierarchy. The associated guidance sets out parameters for evaluating performance at the planning, as built and in use stages of a development.

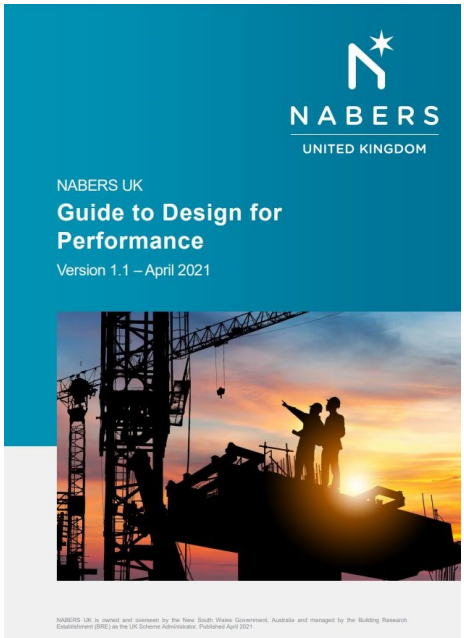
The planning stage requires an estimation of the regulated and unregulated energy. The recommendation is for the use of analysis guided by CIBSE TM54 'Evaluating operational energy use at the design stage', and NABERS UK DfP is encouraged for office buildings greater than 5,000m^2.

CIBSE TM54 and NABERS UK give a far more accurate and complete estimate of operational carbon emissions than Building Regulations Part L. This approach also aligns with the reporting requirements of Stage B6 ' Operational Energy Use' under the GLA's WLCA Guidance (March 2022).

The GLA also requires in use monitoring of actual energy use for the first 3 years of a buildings operation.

Figure 8: The new revised CIBSE Technical Manual for evaluating operational use at the design stage provides and framework for more accurate prediction of regulated and unregulated energy consumption

Figure 9: The NABERS UK Design for Performance guidance manual



Operational water use

Operational water consumption in commercial planning applications is currently reported in 2 ways:

1. Part of the WLCA (module B7), in line with the RICS method, which requires all *carbon emissions* related to water supply and wastewater treatment to be reported, using BSRIA benchmarks initially, then estimated values once known. Carbon conversion factors for water use and treatment as published by the local water supplier should be used.
2. Part of the BREEAM Assessment, which aims to reduce and benchmark the *consumption of potable water* for sanitary use (credit Wat 01) in new and refurbished buildings through the use of water efficient components and water recycling systems. City of London's current policy refers to requiring all BREEAM water credits to be achieved.

The latter consumption evaluation is therefore limited to potable water only, while the former looks at all water consumption and treatment and associated carbon emissions. BREEAM does review non potable water but in a qualitative way (credit Wat 04).

The UK Government is proposing to introduce a new obligatory water rating disclosure (in a similar way to energy, above) and to regulate all water consumption for different land uses. Currently only potable water in residential uses is regulated.

3. Whole Lifecycle Carbon Assessments

There are currently a variety of different approaches and scopes relating to Whole Life Carbon and what should be included within the review. Tables 3 and 4 include a comparison between industry drivers such as the UK Green Building Council (UKGBC), GLA, London Energy Transformation Initiative (LETI) and BREEAM scopes in terms of *EN 15978:2011 Sustainability of construction works*. Assessment of environmental performance of buildings is broken down into modules / stages and building element groups to be included.

Modules A1-A3 include the product manufacture, modules A4-A5 cover transport to site and installation processes. Combined these is known as **embodied carbon at Practical Completion (PC)**. Modules B1-B5 covers operational emissions relating to use maintenance repair, replacement and refurbishment, C1-C4 covers demolition, transport to a disposal facility, waste process and disposal. Module D covers emissions beyond the system boundary, accounting for consideration of what happens to material at the end of the building lifecycle. In

	Scope (Modules based on EN 15978)	UKGBC Full Assessment	UKGBC Minimum Reporting	GLA WLC Guide	RIBA 2030 CC Ver.2	LETI EC Primer	BREEAM NC 2018 and RFO 2014
	Product and Construction Process (Practical Completion) Stage						
Whole life cycle carbon	**A1-A3 Raw material extraction & supply, transport to manufacturing plant and manufacturing**	✓	✓	✓	✓	✓	✓
	A4-A5 Transport to project site and Construction &installation processes	✓	✓	✓	✓	✓	✓
	Use Stage						
	B1-B5 Operational emissions relating to use, maintenance, repair, replacement and refurbishment	YES	B4 only 2.5 External Wall 2.6 Windows & Doors	✓	✓		✓
	B6 Operational energy use	Optional if included operational energy (1.2)	Optional if included operational energy (1.2)	✓ (SAP / TM54)	In terms of kWh/m²/yr only		✓ (not RFO)
	B7 Operational water Use	✓		✓			✓
	End of Life Stage						
	C1-C4 End of life stage including deconstruction/demolition, transport, waste processing and disposal	✓		✓	✓		✓
	Beyond the Project Lifecycle						
	D Benefits and loads beyond the system boundary, including re-use, recovery, recycling potential	Optional / Future development		✓			

Table 3: Comparison of lifecycle stages

a WLCA, operational energy use, B6 and operational water use, B7, are also included.

All the different industry drivers listed above vary in scope as shown below. It is worth noting the source documents may change and the landscape is evolving and continually improving at pace. The GLA methodology is currently the most comprehensive of all the industry methods.

For the GLA method, a minimum of 95 per cent of the capital cost allocated to each building element category should be included for at each stage of the WLCA. This should be approved by the project Quantity Surveyor. In addition, for building services the GLA guide includes a list from which the applicant is required to indicate in-scope items.

Building part / Element group	UKGBC Full Assessment	UKGBC Minimum Reporting	GLA WLC Guide	RIBA 2030 CC Ver.2	LETI EC Primer	BREEAM NC 2018 and RFO 2014***
Demolition prior to construction			YES Reported separately. Benchmarks do not include these building elements.			
Facilitating works	✓					
Substructure	✓	✓	✓	✓	✓	NC credit option RFO if in scope
Superstructure (Frame, upper floors, roof, stairs, ramps)	✓	✓	✓	✓	✓	NC mandatory RFO if in scope (excludes ramps)
Superstructure (External walls, windows, doors)	✓	✓	✓	✓	✓	NC mandatory RFO if in scope
Superstructure (Internal walls, partitions, doors)	✓		✓	✓	✓	NC mandatory education only RFO if in scope
Finishes	✓		✓	✓	✓	RFO if in scope
Fittings, furnishings & equipment (FF&E)	✓		✓	✓		RFO if in scope to CN7 limited furniture / shop fitting
Building services/ MEP	✓		✓	✓	✓	NC credit option RFO if in scope
Prefabricated Buildings and Building Units	✓		✓	✓	✓	
Work to Existing Building	✓		✓	✓		
External Works	✓		✓			NC credit option RFO if in scope: hard landscaping and boundary protection only

Table 4: Comparison of scopes vs building part element /group (full version including notes in Appendix 2)

4. Carbon optioneering

It has become clear to the industry that the construction of new buildings using current construction techniques and materials result in high carbon emissions over the buildings lifecycle. For this reason the assessment and benchmarking of embodied carbon to Practical Completion (Modules A1-3 & A4-A5) can be used as an effective way to evaluate and then mitigating emissions from materials as an initial starting point.

It is also acknowledged that the majority of the existing building stock has high operational emissions, primarily due to inferior energy efficiency standards and older technology at the time of their construction, compared to current ones (insulation, air tightness, solar control glass, etc.).

Another major contributor to existing operational emissions is the common use of natural gas combustion equipment for space heating and hot water. In recent years, the carbon intensity of natural gas has remained relatively stable and was once the lower carbon fuel of choice. However, investments in renewable power generation have seen the carbon emissions of electricity decrease rapidly to almost half that of gas and it is continuing to decrease rapidly over time.

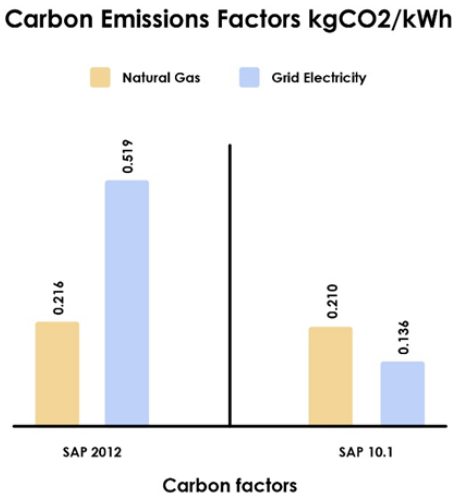


Figure 10: Investments in renewable energy have are resulting in rapid decarbonisation of grid electricity compared to natural gas

Therefore, a feasible carbon balance needs to be explored in any intervention of the built environment. This planning advice note recommends a hierarchy of decision making that prioritises carbon and the City's Climate Action Strategy, ensuring that all primary and secondary considerations form part of the design process so informed decisions can be made. Considerations and constraints frequently encountered in the decision process are considered in this section.

The graph below demonstrates, in general terms, the relationship between carbon emitted at Practical Completion of a building intervention and operational carbon saved. The decarbonisation of the electrical grid and minor maintenance and replacement interventions during the lifecycle are also included.

The data in figure 11 is indicative and improved embodied and operational carbon figures, and combinations, are possible. For example, a minor refurbishment can achieve better operational savings and breakeven earlier than the examples shown below. This may also depend on the specific project undertaking review.

Due to the number of variables and considerations, it would be beneficial to standardise some of the assumptions used to estimate carbon breakeven for consistency between developments at pre-applications and planning submissions.

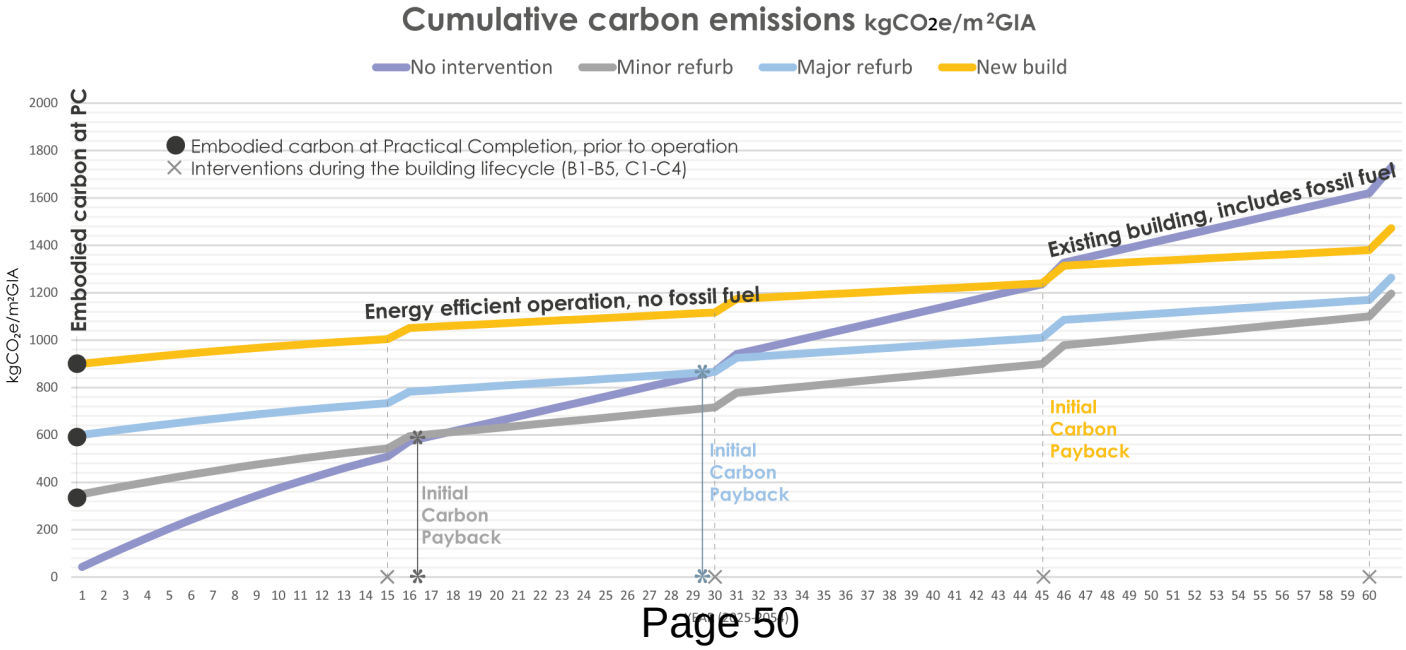


Figure 11. Examples of initial embodied carbon payback during building operational lifecycle for different options, indicative only

5. Optioneering considerations

Quality of existing building: **The quality of material in an existing building will be a critical determinant of the extent of elements that can be retained in an intervention aimed at improving an asset and bringing it up to current performance and functional market standards.**

For example a structure that was poorly constructed or maintained may require too many lifecycle interventions to maintain structural integrity for retention to be feasible. Very often, existing assets need to be extended to validate the CAPEX of an intervention, therefore a structure and sub-structure need to do more then what they were initially designed to do.

Adding piles and foundations to an existing building could mean a level of complexity that increases cost and programme to a degree that the proposition becomes unviable. It is likely that the quality and design of structures and sub-structures in the City is generally of a high quality, with few exceptions such as post war (1950s-1970s) concrete. In some cases, intrusive structural investigations are not immediately possible due to access and leasing constraints, or as-built information is not available to inform a design team about the structural capacity and quality of a building.

Poorly maintained windows can be restored to improve air permeability, but conductivity, light transmittance and solar control are difficult to achieve without additional material or complete replacement.

Façade interfaces: As well as quality, **decisions around façade retention need to take into consideration new interfaces with the internal environment**, for example, for on-floor ventilation systems and mixed-mode ventilation opportunities. The two examples are increasingly being adopted by commercial buildings to improve energy efficiency, spatial adaptability (as part of a health and wellbeing design strategy) and free up roof area for amenity uses.

Health and wellbeing: Design considerations around health and wellbeing have become more prevalent in workspace over the past few years, and increasingly so in a post-pandemic era. More consideration is being given to quantities of fresh air to dilute indoor pollutants, for example through the application of enhanced on-floor ventilation systems. **Aligning a ventilation strategy to existing façade retention can be challenging. Increased fresh air rates are also leading to increases in operational carbon.**

Other design considerations for healthier internal environments include **internal levels of daylight and thermal comfort, which may shift a decision to replacing existing glass in a refurbishment**; and the **presence of toxic materials**, such as asbestos, which could result in the removal of existing building elements.

Floor to ceiling heights: **Existing floor to ceiling heights could constrain the functional adaptation of an existing structure and building services solutions**. For example, low floor to ceiling heights may not lend themselves well to laboratory uses and optimised clear heights by transferring heating, cooling and ventilation plant to an underfloor system is often limited by existing lift lobby levels.

Land use and building type: It is important to note that **different land uses and building types have an effect on the structural requirements of a building due to loading expectations and flexibility requirements.** A few examples include uses that require wider clear spans, such as retail, which could make the structural solution and carbon impact more intense; higher loading requirements and

vibration control for uses such as science labs and gymnasiums; and lateral loading on tall buildings.

The way a building is operated and managed also has a direct effect on operational carbon emissions from energy consumption, for example longer hours of operation by food and beverage establishments.

Power infrastructure: For the reason described in point 1 above, substituting gas-fired heating systems with energy efficient electric alternatives is a very effective way of reducing operational carbon emissions. However, in some cases, **securing enough power to serve a development's decarbonisation initiatives can be challenging due to utilities infrastructure constraints**. This is another reason for which reducing energy demand should be prioritised. A mitigating action could be that a building's systems and controls are set to prioritise electricity and thermal storage before gas.

Buildings that apply electric heating may still have other *intermittent* uses of fossil fuel, such as life safety generators and façade maintenance equipment. These **systems require on-site storage of fuel**, which is frequently diesel. Alternatives that can be explored for generators are secondary utility high voltage supply fed from a primary network substation that is independent from that of the primary supply, or uninterruptible power supply equipment incorporating an appropriately sized battery installation. An alternative fuel that is considered due to low environmental impact relative to diesel is Hydrotreated Vegetable Oil, a synthetic diesel, manufactured from waste products comprising of a mix of vegetable oils and animal/fish fats.

Building complexity: **Design complexity and the number of elemental sub-components increases carbon intensity**. Therefore, simplification of structure, facades, systems, etc. has carbon benefits and is encouraged.

Procurement: **The options and availability of low carbon building products are relatively limited on the market at this point in time.** In some cases, lower carbon options are available from longer distances, increasing the emissions associated with transport (Stage A4), although these can be comparatively minor compared to the product manufacture. However, this is changing rapidly as manufacturing processes are adapting and supply chains recognise the high value of low carbon in sections of the market, for real estate in London in particular.

Invariably, a limited quantity of higher value products is less attractive during a time of economic inflation. Applicants of major developments could be asked to state what measures they have in place to increase the probability of lowering embodied and operational carbon in procurement processes.

Assumptions: In addition to fewer options of low carbon products, information **about the quantity of carbon in products is also limited.** A requirement for EPD certificates, or similar third party verified information, should be a requirement in procurement. For products with no certified embodied carbon data, assumptions and metrics should be clear and reliable market-average databases should be used, derived from a verifiable tool or software, such as One Click LCA and eTool.

In addition **supply chains can be constrained by very long lead time**, impacting construction programmes and leading to product changes with potentially higher carbon impact.

Due to market fluctuations and limitations, it is recommended that, at application stage, the WLCA is based on market averages of a committed specification, based on a Quantity Surveyor's bill of quantities. Product-specific Environmental Product Declaration (EPD) certificates should not be used in early design stages (unless the manufacturer is definitely known, sector level data e.g. EPDs that use data covering several manufacturers could be used) because they may be giving a false impression of future procurement opportunities. This is an area the industry needs to improve upon over the next few years.

Commerciality: **A critical factor in decision making around the level of intervention in a building is the commerciality of the asset**. In commercial buildings, the net lettable area and lease value are imperative metrics. The market in City of London is shifting demand for Net Zero Caron, fossil fuel free, health and wellbeing conscious and smarter workspace. As market demands change, a number of asset holders are racing to update their lettable spaces at the end of the next lease term. This is to ensure that buildings don't become stranded assets, and equity and operating value are maintained.

The standard for what is required in a building update needs to be competitive in the market it is trying to attract, and the cost of the intervention needs to be justified by a likely return on investment. In most cases this balance can only be achieved by improving quality and quantity. Quality can be improved by refurbishments, but necessary replacement and increasing floor area are carbon intensive.

Densification: As London tries to move towards a polycentric city to release infrastructural pressures and improve quality of life, its existing 'mega-centres' remain very relevant. Urban densification is accepted as a necessary part of limiting land take while serving population growth. Densification tends to occur in fast growing population centres with a combination of demographic change, economic pressure and large transport infrastructure projects. The City of London is very well served by transport infrastructure and planning policies are in place to limit pressures on utility infrastructure and the existing community.

Densification, e.g. extensions and taller building, tend to increase the carbon intensity of structural elements relative to benchmarks derived from mid-height buildings.

Striking the right balance between the environmental (and social) costs and benefits of increasing NIA on brownfield sites is a critical factor that policy makers have to deal with, in particular in a Climate Emergency. Resilience and sustainability should be central priorities for increasing existing building heights.

6. Other policy opportunities

This section addresses circumstances where other planning policy requirements may result in lower or higher carbon emissions. All factors need careful consideration on a project by project basis, and policy requirements need to be fine-tuned depending on priorities discussed at pre-application stage.

A. **Circular Economy**: The Mayor of London has introduced a requirement for referable proposed developments to develop a circular economy strategy and produce a Statement as part of an application. The approach is defined in 'Circular Economy Statement Guidance' (adopted 25th March 2022). The principles encourage building reuse, recovery of material for reuse and recycling, material efficiency, waste management and infrastructure to support material reuse (such as storage and collection systems).

The circular approach often aligns with the principles of low carbon interventions. For example, it encourages refurbishment and efficient use of materials and requires consideration of the end-of-life stage by a proposed new building (building as a material banks/ materials passport approach). This area is still evolving and can significantly reduce carbon.

There are, however, some circumstances where actions that align with circular principles can increase carbon emissions. For example, on occasion, it has been found that recovering / repurposing a material for re-use on site frequently requires the material to be reformulated into a new high value use (or upcycled), a process that requires transport to and from the site and energy to repurpose the materials. Recovering material can also lengthen construction programmes prolonging stage A5 of the lifecycle and local environmental impact.

Therefore, it is important to compare the carbon emissions of the product stages of recycled elements to their newly made equivalents with the lowest carbon opportunity established.

Figure 12: Circular Economy compared to Linear Economy (Source: Circular Flanders)

B. **Renewables**: Planning policy, building regulations and the BREEAM assessments have for years required the inclusion of low carbon and zero carbon technology in the energy hierarchy of proposed developments. The most viable option in the City is frequently a maximum area of roof-mounted photovoltaics (PV). Policy prioritises operational energy and carbon reduction in advance of renewable energy generation, but no consideration is given to reducing the embodied carbon of PV. An array in London can achieve carbon breakeven within a decade, but as the electrical grid decarbonises, there is an argument the array will displace less carbon and could never recover the embodied carbon emitted. For this reason, it is recommended that circularity principles are applied to their specification (e.g. reusable mounting and take-back schemes) and energy storage is incorporated to increase the proportion of renewable energy uptake at time of use.

It is important to note PV can bring other benefits like localised power, and we tend not to factor in the impact or wider power networks embodied carbon (i.e. the impact of the power plant construction upgrades, cabling etc.)

Another local policy requirement is connecting to existing District Energy Networks (DEN) or preparing for a future connection to a planned DEN. This is emphasised by both the London Plan's and draft City Plan's heat infrastructure priorities. The City of London includes the extensive Citigen network, which is planned to extend south in the near future and eastwards at a later date. However, due to the drive to remove fossil fuel combustion from buildings, for reasons relating to both carbon reduction and air quality targets, electrically heated buildings tend to have much lower carbon emissions then existing heat networks. This is because the Energy Centres that serve the DENs still run on gas systems, and while they are intended to decarbonise over time, there is very little information about their programme. In addition, the carbon intensity of planned networks is unknown at this stage. Therefore, the policy can be interpreted to contradict the Climate Action Plan and can impact lifecycle aspirations, such as high NABERS UK energy ratings.

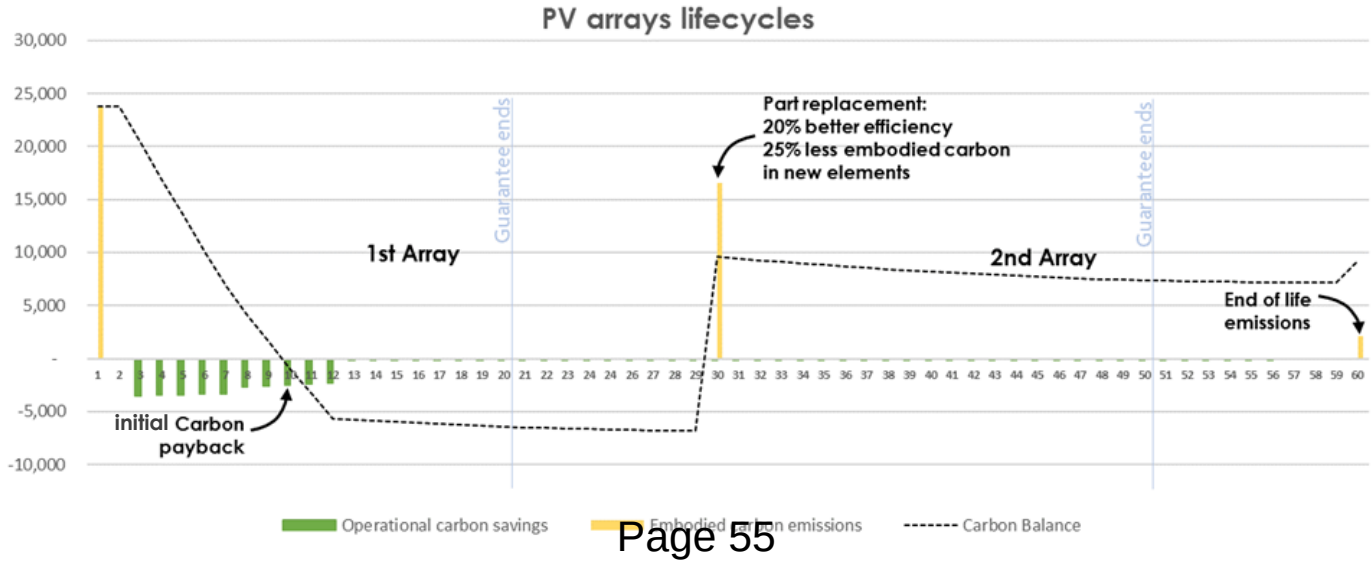


Figure 13: Lifecycle carbon of a roof-mounted array in the City of London, to be installed in 2025 (Source: Hilson Moran)

6. Other policy opportunities

Public realm and urban greening: The City of London includes a network of gardens, small open spaces and squares that are maintained by the Corporation. Nevertheless, the area of green and open space per capita is relatively small, and the discrepancy will increase as the population and densification rises.

Planning policy encourages urban greening and biodiversity net gain, for which the City has adapted the London Plan's Urban Greening Factor (UGF) calculation which is required for proposed developments to demonstrate higher value green infrastructure. However, urban greening does not often translate into open space, because private roof gardens and green walls are often used to satisfy the UGF target.

In order to increase the amount of open and green space in the City, brownfield and lower quality space may need to be upgraded. This may result in decisions to demolish lower quality infrastructure. In addition, the UGF can be difficult to achieve on existing structures due to loading limits, plant requirements etc, however all solutions to overcome this should be explored and communicated.

In addition, major developments are required to carry out ecological surveys of the site, and propose ecological protection, enhancement and maintenance measures.

7. Planning application trends

An evaluation of recent planning applications and types has been undertaken based on the City of London Development Schedule *'Development Schedules March 2021 _Updated Jan'* Issued to Hilson Moran by CoL

This undertaken establish trends and to provide the evidence base to support this guidance document.

The majority of applications, 76% (of which 40% where GLA referable), fall under the City's definition of Major development (>1,000m^2) and/or require an Environment Impact Assessment. This demonstrates that the greatest proportion of projects are likely to have the largest Carbon impact and therefore should be required to mitigate it.

Project type	Year(s)	Number of applica-tions	FULMAJ	FULEIA	FULL	GLA referable
Office	2014-March 2021	37	15	11	11	**4**
Office	March 2021-2022	9	4	5		**8**
Total		46	19	16	11	**12**
Percentage		100%	76%		24%	**41%**
Hotel / Student accommodation	2012-2021	9	5	0	4	**2**
Percentage		100%	56%		44%	**22%**
Other (law court, police + commercial)	2021	1		1		**1**
Percentage			100%			**100%**

Table 5: *Number and types of commercial development applications in City of London*

7. Planning application trends

The remaining applications are varied full implications covering change of use and extensions (24%). These are broken down as follows:

Project type	Full	Change of Use - Partial Building	Extension only	New Buildings with Change	Refurbishment with Change of Use	Refurbishment without Change of Use
Office	11	1	4	2	2	2
Percentage by type	100	9	36	18	18	18

Table 6: Number of full planning applications, excluding major application, by type

The following is a breakdown of office applications by size. The majority have an area above 10,000m^2 (76%). This also confirms the trend for larger scale applications with potentially bigger impacts.

Project type	Total	1,000-5,000 sqm	5,001-10,000 sqm	10,001-15,000 sqm	15,000 sqm +
Office	46	9	2	5	30
Percentage	100	20	4	11	65

Table 7: Size of office development applications in the City of London

Three planning applications that were submitted in the past 5 years were analysed and compared to provide a better understanding of typical WLCA approaches adopted, carbon scopes covered, local constraints and opportunities. Key observations are included in table 11.

More recent applications that are referable have followed the GLA approach for WLCA. The non-referable, major application project has also reported the WLC carbon estimations. It has loosely used the GLA approach, but has applied estimates in the assessment. This also highlights the need for consistent policy so comparable determinations and reviews verses benchmarks can be made.

Two of the applications reviewed building options, however both used very different assumptions and methods. It is clear that a transparent and consistent approach to optioneering is required.

Where a building is undergoing a minor refurbishment (or refit), it is unlikely to require a planning application and therefore would not be required to report on carbon emissions. However, developers should be aware of buildings services and tenant fit-out carbon impacts wherever possible.

*TM54 not provided, source of operational energy use unclear

** Project is using early NABERS DfP model for operational energy use rather than the CIBSE TM54 approach

*** Multiple buildings indicated but only 1 WLCA sheet submitted for main development

				Circular Economy	Whole Lifecycle Carbon Assessment			Operational Energy	
Project	Size (GIA m²)	Land use class/es	Referable/ major	Options	Lifecycle scope	Building elements scope	Value kgCO₂e/ m²GIA	Scope	Value kgCO₂e /m²GIA
14-21 Holborn Viaduct	35,948	Class E	FULMaj Referable	Demolish and rebuild Mitigate impacts	GLA (draft guidance) A1-A5, B1-B5, C1-C4, D	GLA (draft guidance) WLC spreadsheet submitted	670 (Stage 2)	Estimated	925** (stage 2)
115 – 123 Houndsditch	66,867	Class E (Sui Generis)	FULMaj Not Referable	Demolish and rebuild Mitigate impacts	GLA (draft guidance) A1-A5, B1-B5, C1-C4,	State followed GLA (draft guidance)	768 (+25% factor used) (Excludes module D)	Estimated	844* (Stage 2)
120 Fleet Street**	61,135	Class E	FULEIA Referable	Demolish and rebuild Mitigate impacts	GLA (draft guidance) A1-A5, B1-B5, C1-C4, D	GLA (draft guidance) WLC spreadsheet submitted	753	Estimated	1,321

Table 8: WLC sample from recent projects submitted for planning to the City of London

Conclusion

On the basis of the above it is reasonable and recommended to follow the GLA approach for a WLCA to provide a consistent approach across the CoL.

Advantages:

- Leads to consistent and more transparent results;
- Will create a uniform and well-understood approach across the industry;
- Will build consistency around the metrics used over time;
- Can be compared to GLA benchmarks for benchmarking;
- Future-proofs policy updates across London;
- Greater awareness of impacts could lead to better design decisions and to greater carbon savings in the City of London.

Disadvantages:

- Will require additional time / detail from the design team for evaluation and assessment.

The review of data above concludes that there is a need for emissions to be accounted for and for options to be considered in the City of London for **all major applications**. Full major applications are to consider development options and carbon impacts, applying the methodology presented later in this document.

Within this is a requirement to review building options accounting for carbon in a more consistent way, to ensure the correct choices are made. There will always be some carbon emissions. However, there is a duty to try and limit them wherever possible and for Officers to be able to make informed decisions in line with the City's Climate Action Strategy.

8 Methodology

Due to the significant impact on carbon emissions Climate Change by major interventions and new construction, proposed developments need to demonstrate reduction and mitigating of carbon emissions using a consistent approach. Option reviews and their considerations should be transparent with opportunities and constraints clearly identified.

CoL requires all major developments to consider and assess both operational and embodied carbon emissions over a whole lifecycle. Non-major developments should align with the GLA guidance and pre-application reporting requirements wherever possible.

It is envisaged that this methodology will be updated from time to time to industry learning and changes.

Pre-Applications

Pre-application discussions with the City of London should include the following:

1. Major and referable developments should demonstrate that a minor or major refurbishment have been considered in the procurement and design process.
2. Options should be well-considered, realistic and feasible.
3. Applicants are to complete options information in table A in the WLCA dashboard (section 9), including:
    - Gross internal area (GIA)
    - Increase in net internal area (NIA)
    - Embodied carbon to Practical Completion (Modules A1-A5)
    - Lifecycle embodied carbon (A1-A5, B1-B5, C1-C4)
    - Percentage of material retained (By volume, relative to existing building).
    - Operational carbon from energy consumption (Module B6)
    - Regulated operational carbon savings relative to current Part L Target Emissions Rate
    - EPC rating
    - Fuel source for operational energy (gas, electricity, other to be defined)
    - Whole Lifecycle Carbon (A1-A5, B1-B6, C1-C4) in $kgCO_2e/m^2GIA$ and tCO_2e
    - Opportunities and constraints, specifically in relation to carbon emissions and other policy areas.
3. Where substantial refurbishment or demolition is not being considered, an options appraisal is not required, but a WLCA is required.
4. The comparison of options should include like-for-like reporting, without bias to favour one option against the others. For example, the opportunity for energy and carbon improvement should be equivalent across all options, except where constraints can be clearly demonstrated. For example, the equivalent level of aspiration to reduce elemental embodied carbon should be applied equally across all options.
5. A WLC options plot / comparison graph should be produced to compare the options relative to the existing building. Consistent data should be used to produce the graph, including:

- Actual annual energy consumption of the existing building (whole building annual energy meter reading)
- An equal rate of electrical grid decarbonisation over time applied to *operational* energy (derived from the latest BEIS *Energy and Emissions Projection* (EEP)).
- An equivalent approach to the level of assumptions and certainty applied to embodied carbon estimates.
- Equivalent scope for the WLCA (lifecycle stage and building element scopes)
- Embodied carbon impact of further interventions to be included, say every 15 years of operation over the lifecycle, using lifecycle modules B1-B5, C1-C4.

Module B7 'Water Consumption' can be excluded at this stage because it does not vary significantly between options. Any variances, in particular where an opportunity or constraint occurs for one option and not another, should be clearly presented.

Non-major developments should align with the GLA guidance and pre-application reporting requirements wherever possible.

It should also be noted that the WLCA emissions fluctuate and are likely to be different in later design and construction stages. Generally this is due to more detail being known in developed design and cost plans. Emissions at Practical Completion may also change due to procurement variations and the market. As more data becomes available it will inform future projects to refine early estimations.

Preferred option

At application stage, all major and referable developments should clarify the following:

1. The preferred option, based on the optioneering exercise presented at the pre-application stage and reasons to support the decision.
2. Calculate the WLCA in alignment with GLA guidance at the time of the assessment, and complete the GLA reporting spreadsheet i.e. including all modules and building elements.
3. Clarify the scope of the WLCA (lifecycle stage and building element scopes), by completion of Tables B (section 9).
4. Clarify all assumptions, exclusions and level of certainty of the data used in the assessments.
5. Plot lifecycle stages A1-A5, B-C (excluding B6 and B7) against the GLA WLCA benchmarks (see Figure B):
    - By stage for the proposed land use
    - By building element for Stage A1-A5 (embodied carbon to Practical Completion)

5. Report the total $kgCO_{2e}/m^2$ GIA.

The WLCA should be based on the cost plan in line with GLA guidance. The GLA WLCA reporting template should be completed and submitted to CoL.

Non-major developments should align with the GLA guidance and planning application reporting requirements wherever possible.

City of London will condition an update of the WLCA pre-commencement on site and at Practical Completion based on as-built information.

9. Dashboard

Minor Major GLA Referable

Dashboard 1: Pre-application options appraisal

Completion of Dashboard 1 is required to improve reporting consistency, transparency and standardisation across application. Applicants are to complete it for pre-application discussions about proposed major and referable development proposals. Non-major applications are encouraged to complete as much of the information as feasible. Applicants who are only considering retrofit, refurbishment and/or + extension, only need to provide the WLCA preferred option (compared to GLA benchmarks).

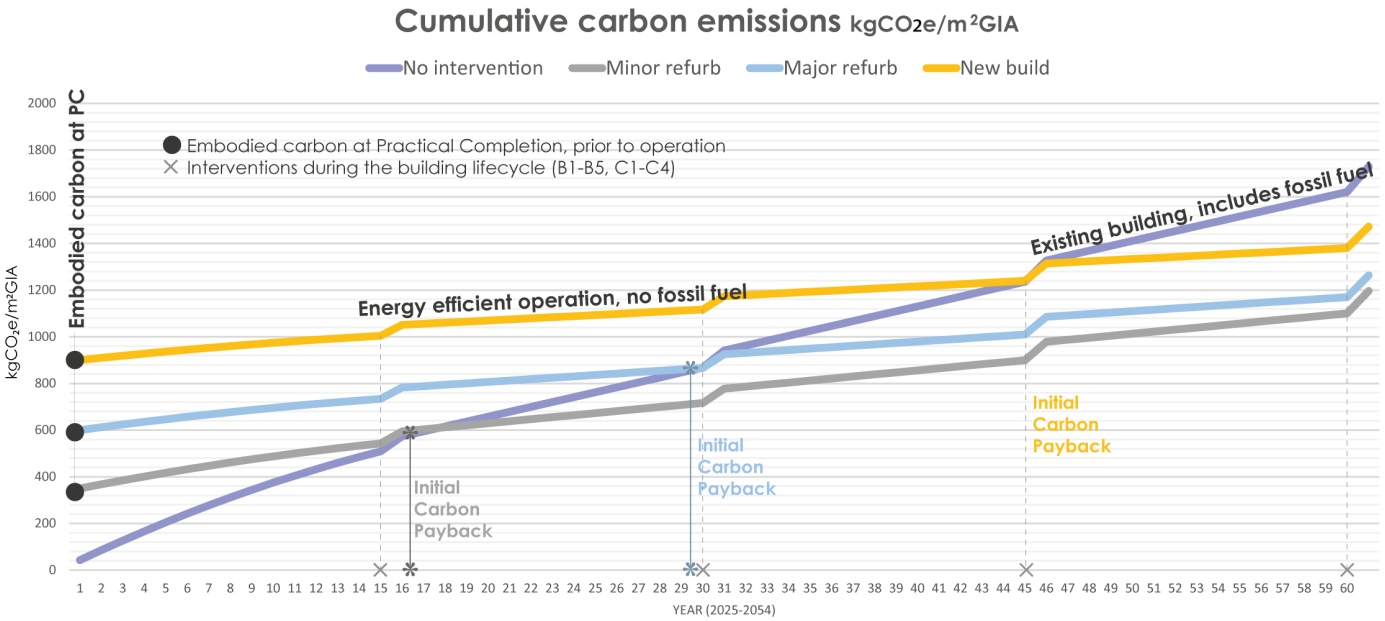


FIGURE A: Example of completed template optioneering graph over a 60yr life cycle, including whole lifecycle carbon (embodied and operational) (Source: Hilson Moran)

For the Cumulative Carbon Emissions graph above use:

- Actual annual energy consumption of the existing building (whole building annual energy meter reading)
- An equal rate of electrical grid decarbonisation over time applied to *operational* energy (derived from the latest BEIS *Energy and Emissions Projection* (EEP)).
- An equivalent approach to the level of assumptions and certainty applied to embodied carbon estimates.
- Equivalent scope for the WLCA (lifecycle stage and building element scopes)
- Embodied carbon impact of further interventions to be included, say every 15 years of operation over the lifecycle, using lifecycle modules B1-B5, C1-C4.

Dashboard 1 continued

Applicable	Minor refurbishment	Major refurbishment	Major refurbishment with extension	New build, reclaim and recycle
☐ ☐	Image	Image	Image	Image
Gross Internal area (GIA)	_____ m^2	_____ m^2	_____ m^2	_____ m^2
Increase in NIA	_____ m^2	_____ m^2	_____ m^2	_____ m^2
Embodied Carbon (A1-A5)	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA
% material retained rel. to existing	_____ %	_____ %	_____ %	_____ %
Embodied Carbon (A1-A5, B1-B5, C1-C4)	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA
Operational Energy (B6)	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA
Regulated carbon savings	_____ %	_____ %	_____ %	_____ %
EPC rating	___	___	___	___
Fuel source	☐ Gas ☐ Electricity ☐Other	☐ Gas ☐ Electricity ☐Other	☐ Gas ☐ Electricity ☐Other	☐ Gas ☐ Electricity ☐Other
Total WLCA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA	_____ $kgCO_2e/m^2$ GIA
Total WLCA	_____ tCO_2e	_____ tCO_2e	_____ tCO_2e	_____ tCO_2e
Opportunities	• A • B • C	• A • B • C	• A • B • C	• A • B • C
Constraints	• A • B • C	• A • B • C	• A • B • C	• A • B • C
Notes and assumptions	•	•	•	•

TABLE A: Optioneering outcomes to be presented to City of London at the Pre-Application Stage. Where substantial refurbishment or demolition is not being considered, an options appraisal is not required, but a WLCA is required

Dashboard 2: Application WLCA Preferred option

Lifecycle stage scope

	Scope (Modules based on EN 15978)	Proposed development
	Product and construction process stage	
Whole life cycle carbon	**A1-A3**	✓
	A4-A5	✓
	Use stage	
	B1-B5	✓
	B6	✓ SAP ☐ TM54 ☐ NABERS UK ☐
	B7	✓
	End of life stage	
	C1-C4	✓
	Beyond project lifecycle	
	D	✓

Building elements scope

Building part / Element group	Proposed development
Demolition prior to construction	✓
Facilitating works	
Substructure	✓
Superstructure (Frame, upper floors, roof, stairs, ramps)	✓
Superstructure (External walls, windows, doors)	✓
Superstructure (Internal walls, partitions, doors)	✓
Finishes	✓
Fittings, furnishings & equipment (FF&E)	✓
Building services/ MEP	✓
Prefabricated Buildings and Building Units	✓
Work to Existing Building	✓
External Works	✓

TABLES B: Example of completed scoping template table

	Comments
Justification	• ... • ... • ...
Exclusions	• ... • ... • ...
Assumptions	• ... • ... • ...
Certainty	• ... • ... • ...

TABLES C: Information in relation to the preferred option providing justification for preference, and clarity on assumptions, exclusions and level of certainty of the data used in the assessment

Completion of Dashboard 2 is required to provide reporting consistency, improved transparency and standardisation across application. Applicants are to complete it and include it in the Executive Summary of the WLCA report that forms part of the Planning Application. The GLA WLCA reporting template should also be used for submitting the final results.

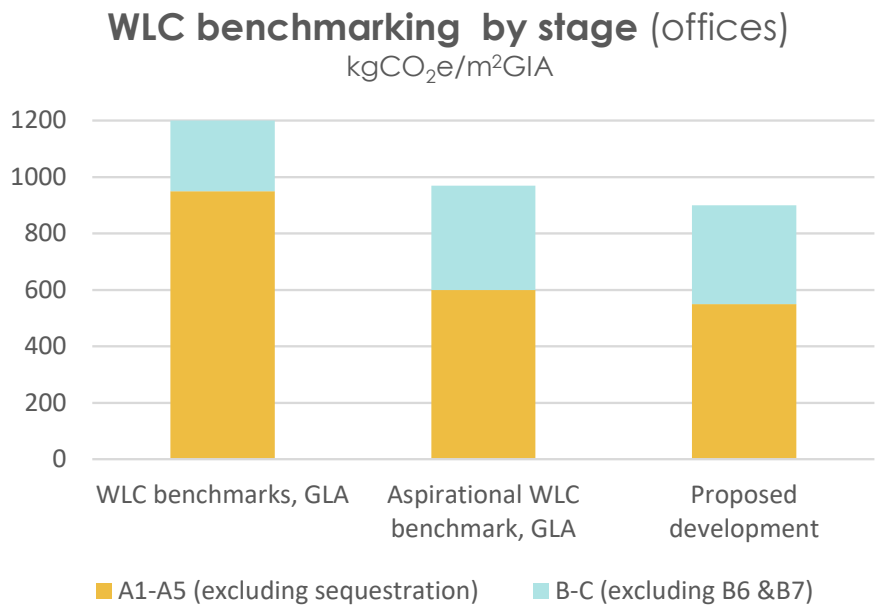
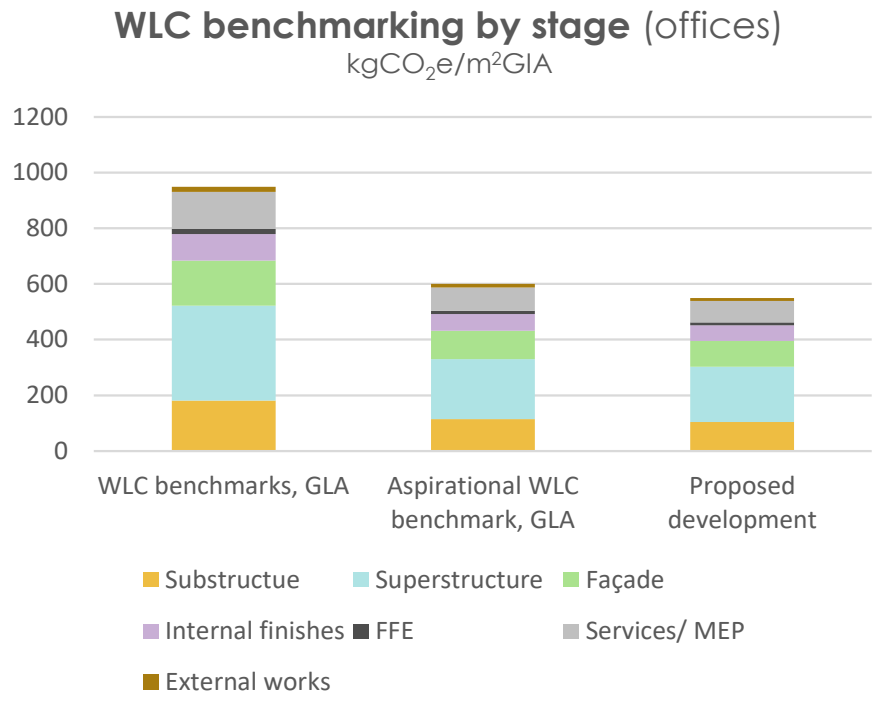


FIGURE B: Example of completed template table comparing the WLCA (Modules A1-A5, B1-B5, C1-C4) to published GLA standard and aspirational benchmarks

Applicant to identify reasons where benchmarks are exceeded for lifecycle stages and building elements, using evidence of explored improvements where possible.

Additional opportunities for improvements should also be identified in the application report.



FIGURES C: Example of completed template table comparing the Embodied Carbon (Modules A1-A5) to published GLA standard and aspirational benchmarks for elemental [illegible]

Whole Lifecycle Carbon ____kgCO$_2$/ m^2 GIA

(modules A1-A5, B1-B7, C1-C4, D)

APPENDICES

APPENDIX 1 Related reporting requirements

Non-policy related reporting for Net Zero Carbon

Over the past three years, the UK property industry has done more to advance the environmental agenda than ever before. Developers, consultants and professional bodies have come together to declare a Climate and Biodiversity Emergency and have taken concrete action. Together we have developed much needed clarity and guidance on how to truly achieve Zero Carbon by 2030.

Property lenders, investors, asset managers and occupiers are all driving this shift by demanding a very high standard of environmental, social and governance policy as a prerequisite to any transaction. This trend is increasing rapidly across all workplace environments, both for new and existing assets.

A number of businesses have declared that they have become Net Zero Carbon in operation across portfolio assets and activity within their control. These declarations in the London market tend to align with the World Green Building Council or UK Green Building Council Definition Framework and consists of accounting for and reducing carbon emissions, investing in renewable energy, offsetting residual carbon through accepted credit frameworks and publicly disclosing their pathway.

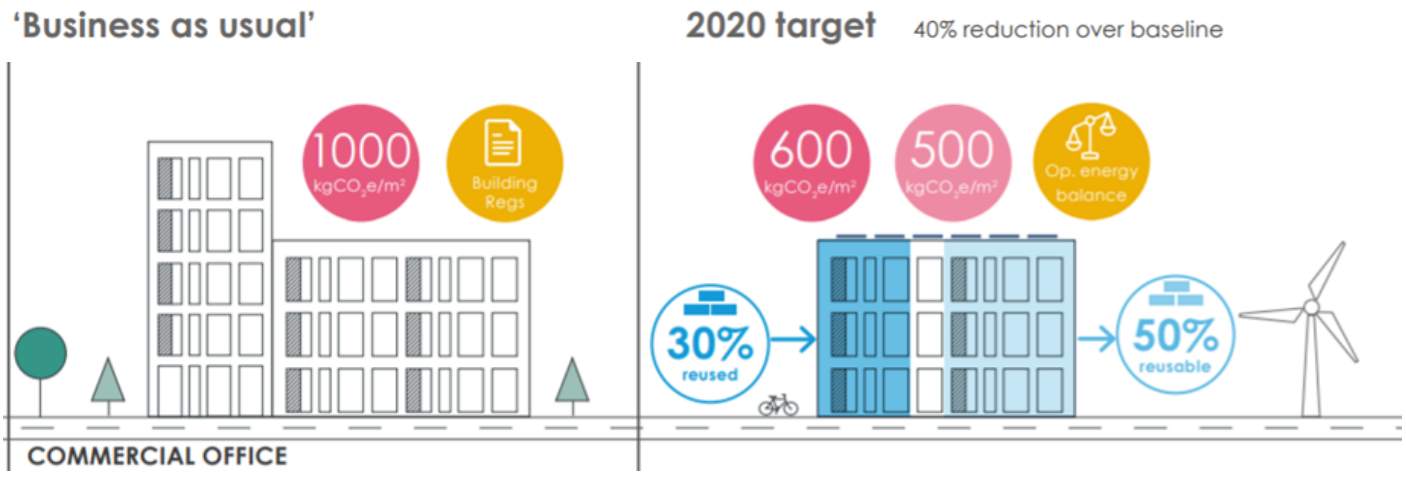
Other approaches adopted by applicants that vary in scope to planning policy requirements include:

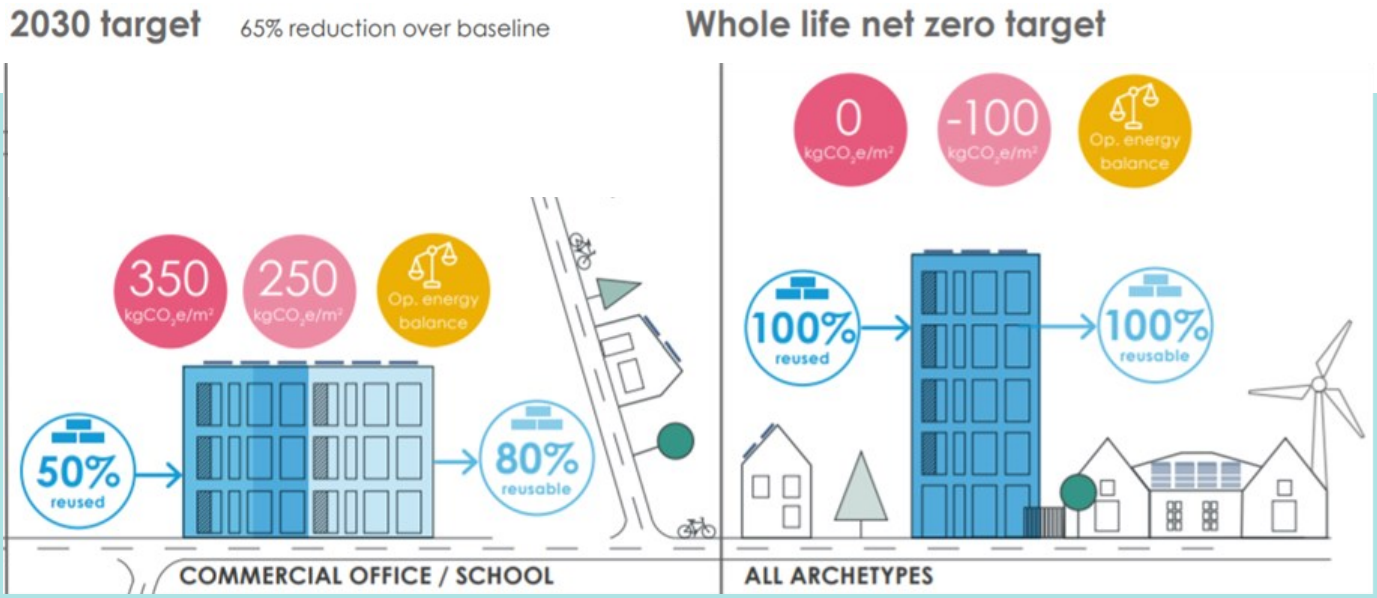
- The London Energy Transformation Initiative (LETI) targets and scope
- The UKGBC Net Zero Carbon Definition framework and benchmarks

Related reporting requirements

London Energy Transformation Initiative (LETI)

LETI has recently published a number of design guidance documents that set out a trajectory of embodied carbon and operational energy targets required to address the Climate Emergency. The WLCA scope associated with their targets is limited to stages A1-A5 to Practical Completion.





UKGBC Net Zero Carbon Buildings, Framework Definition

The UKGBC set out guidance in consultation with the industry to define Net Zero Carbon. At time of writing this planning guidance, a building can claim to be Net Zero Carbon in construction or in operation or in both. UKGBC has published benchmarks for operational energy with a trajectory to Net Zero Carbon, but none for embodied carbon at this time.

		Interim Targets			Paris Proof Target
Scope	**Metric**	**2020 - 2025**	**2025 - 2030**	**2030 - 2035**	**2035 - 2050**
Whole building energy	kWhe/m² (NLA) / year	160	115	90	70
	kWhe/m² (GIA) / year	130	90	70	55
	DEC rating	D90	C65	B50	B40
Base building energy	kWhe/m² (NLA) / year	90	70	55	35
	kWhe/m² (GIA) / year	70	55	45	30
	NABERS UK star rating	4.5	5	5.5	6
Tenant energy	kWhe/m² (NLA) / year	70	45	35	35

NLA = net lettable area GIA = gross internal area

The framework requires third party verification of Whole Lifecycle Assessments and operational energy assessment, includes a minimum carbon reporting template and information needs to be publicly disclosed. Notably, key differences between the UKGBC Net Zero Carbon definition and the London Plan definition are shown in the following table.

Comparing Net Zero Carbon definitions

	UKGBC Net Zero Carbon	London Plan Net Zero Carbon
Whole Life Cycle carbon	Minimum reporting Stages A1-A5, B4 for superstructure ext. walls & windows / ext doors, B6 operational energy. Full Assessment Modules A-C.	Modules A-D (B6, B7 and D not included in benchmarks).
Regulated operational carbon emissions from energy use	Includes all energy use within declarant's control	Part L2A regulated carbon assessment used to determine Net Zero Carbon target TM54 required for 'be seen' (non-residential)
Unregulated operational carbon emissions from energy use		Unregulated energy to be estimated and infrastructure in place to monitor, verify and report all annual energy consumption. NABERS UK Design for Performance (see below) encouraged for commercial office buildings 5,000m^2 TM54 required for 'be seen' (non-residential)
Renewable energy generation	On-site and off-site renewables	Priority for on-site renewables, but offsite renewables are acceptable alternative to carbon offsets (conditional)
Carbon offsetting	Offset **all** residual carbon using an approved international or domestic carbon offset standard, applying standard market rates. UKGBC recommend also using higher rate from HMT Green Book at the time of offset to create a Transition Fund for further decarbonisation	Offset residual carbon relative to 100% **regulated** carbon savings **only**, determined by Part L2A target. Carbon offset is recommended as £95/ tonnes CO_2, paid in advance of and for a 30-year life cycle

APPENDIX 2 Detailed building element scope

Table 4 compares the UKGBC, GLA, LETI and BREEAM scopes for building elements in more detail than the table provided earlier in the main body of this guidance report.

** Building-related items are building-integrated technical systems and furniture, fittings and fixtures built into the fabric or included in the shell and core specification. Building-related MEP and FFE typically include the items classified under Shell and Core and Category A fit-outs.*

*** Non-building-related items are loose furniture, fittings and other technical equipment like desks, chairs, computers, refrigerators, etc. Such items are usually part of Category B fit-out. Therefore, for Shell and Core construction this is not part of the assessment scope.*

****BREEAM NC = BREEAM New Construction 2018; BREEAM RFO = BREEAM Refurbishment and Fit-out 2014*

Building part / Element group	Building Element	UKGBC Full Assessment	UKGBC Minimum Reporting	GLA WLC Guide	RIBA 2030 CC Ver.2	LETI EC Primer	BREEAM NC 2018 and RFO 2014***
Demolition prior to construction	0.1 Toxic /Hazardous /Contaminated Material Treatment			YES Reported separately. Benchmarks do not include these building			
	0.2 Major Demolition Works						
Facilitating works	0.3, 0.4, 0.5 Temporary/ Specialist ground/Enabling Works	✓					
	0.4 Specialist groundworks	✓					
Substructure	1 Substructure	✓	✓	✓	✓	✓	NC credit option, RFO if in scope
Superstructure	2.1 Frame 2.2 Upper Floors 2.3 Roof 2.4 Stairs and Ramps	✓	✓	✓	✓	✓	NC mandatory, RFO if in scope (excludes ramps)
Superstructure	2.5 External Walls 2.6 Windows and External Doors	✓	✓	✓	✓	✓	NC mandatory, RFO if in scope
Superstructure	2.7 Internal Walls and Partitions 2.8 Internal Doors	✓		✓	✓	✓	NC mandatory education only, RFO if in scope
Finishes	3.1 Wall finishes 3.2 Floor finishes 3.3 Ceiling finishes	✓		✓	✓	✓	RFO if in scope
Fittings, furnishings & equipment (FF&E)	4.1 Fittings, Furnishings & Equipment incl. Building-related* and non-building related**	✓		✓	✓		RFO if in scope to CN7 limited furniture / shop fitting
Building services/ MEP	5.1–5.14 Services incl. Building-related* and non-building related**	✓		✓	✓	✓	NC credit option, RFO if in scope
Prefabricated Buildings and Building Units	6.1 Prefabricated Buildings and Building Units	✓		✓	✓	✓	
Work to Existing Building	7.1 Minor Demolition and Alteration Works	✓		✓	✓		
External Works	8.1 Site preparation works 8.2 Roads, paths, paving & surfacing 8.3 Soft landscaping, planting and irrigation systems 8.4 Fencing, railings and walls 8.5 External fixtures 8.6 External drainage 8.7 External services 8.8 Minor building works and ancillary buildings	✓		✓			NC credit option RFO if in scope: hard landscaping and boundary protection only

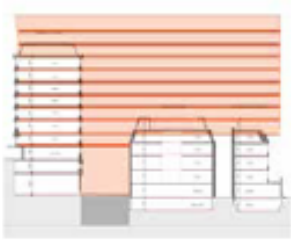
Table 4: Comparison of scopes vs building part element /group (in detail)

APPENDIX 3 GLA WLCA Pre-App proforma

WLC reduction principles		Key benefits
1	Reuse and retrofit of existing buildings	Significant retention and reuse of structures is carbon efficient and reduces construction costs.
2	Use repurposed or recycled materials	Reduces waste and carbon emissions.
3	Material selection	Appropriate material choices are key to carbon reduction. Ensuring that materials are selected with consideration of the planned life expectancy of the building reduces waste, the need for replacements and the in-use costs.
4	Minimise operational energy use	A 'fabric first' approach should be prioritised to minimise energy demand and reduce carbon and in-use costs.
5	Minimise the carbon emissions associated with operational water use	Choice of materials and durability of systems, which help to avoid leakage and subsequent building damage, contribute to reducing the carbon emissions of water use.
6	Disassembly and reuse	Designing for future disassembly ensures that products do not become future waste and that they maintain their environmental and economic value.
7	Building shape and form	Compact efficient shapes help minimise both operational and embodied carbon emissions from repair and replacement for a given floor area. This leads to a more efficient building overall resulting in lower construction and in use costs.
8	Regenerative design	Removing carbon emissions from the atmosphere through materials and systems absorbing it makes a direct contribution to carbon reduction.
9	Designing for durability and flexibility	Durability means that repair and replacement is reduced which in turn helps reduce life-time building costs. A building designed for flexibility can respond with minimum environmental impact to future changing requirements and a changing climate, thus avoiding obsolescence which also underwrites future building value.
10	Optimisation of the relationship between operational and embodied carbon	Optimising the relationship between operational and embodied carbon contributes directly to resource efficiency and overall cost reduction.
11	Building life expectancy	Defining building life expectancy gives guidance to project teams as to the most efficient choices for materials and products. This aids overall resource efficiency, including cost efficiency and helps future proof asset value.
12	Local sourcing	Sourcing local materials reduces transport distances and supply chain lengths and has associated local social and economic benefits.
13	Minimising waste	Waste represents unnecessary and avoidable carbon emissions. Buildings should be designed to minimise construction waste, and to ease repair and replacement with minimum waste, which helps reduce initial and in-use costs.
14	Efficient construction	Efficient construction methods (e.g. modular systems, precision manufacturing and modern methods of construction) can contribute to better build quality, reduce construction phase waste and reduce the need for repairs in the post completion and the defects period (snagging).
15	Lightweight construction	Lightweight construction uses less material which reduces the carbon emissions of the building as there is less material to source, fabricate and deliver to site.
16	Circular economy	The circular economy principle focusses on a more efficient use of materials which in turn leads to carbon and financial efficiencies.

Table 6: Principles from the GLA's new WLCA template for the pre-application stage

Appendix 4: Indicative example of completed Table A

Applicable	Minor refurbishment	Major refurbishment	Substantial refurbishment and extension	New build, Reclaim and recycle
		N/A		
Gross Internal area (GIA)	17,309 m^2	m^2	29,860 m^2	35,948 m^2
Increase in NIA	0 m^2	m^2	12,551 m^2	18,639m^2
Embodied Carbon (A1-A5)	68 $kgCO_2e/m^2$ GIA	$kgCO_2e/m^2$ GIA	571 $kgCO_2e/m^2$ GIA	670 $kgCO_2e/m^2$ GIA
Embodied Carbon (A1-A5, B1-B5, C1-C4)	176 $kgCO_2e/m^2$ GIA	$kgCO_2e/m^2$ GIA	734 $kgCO_2e/m^2$ GIA	874 $kgCO_2e/m^2$ GIA
% material retained rel. to existing	88%	-	20%	3 %
Operational Energy (B6)	1, 813 $kgCO_2e/m^2$ GIA	$kgCO_2e/m^2$ GIA	1,078 $kgCO_2e/m^2$ GIA	925 $kgCO_2e/m^2$ GIA
Regulated carbon savings	_____ %	_____ %	30%	42%
EPC rating	D		B	A
Fuel source	☒ Gas ☐ Electricity ☐Other	☐Gas ☐ Electricity ☐Other	☐ Gas ☒ Electricity ☐Other	☐ Gas ☒Electricity ☐Other
Total WLCA carbon	68,102 tCO_2e	tCO_2e	54,137 tCO_2e	64,757 tCO_2e

Applicable	Minor refurbishment	Major refurbishment	Substantial refurbishment and extension	New build, Reclaim and recycle
Opportunities	• Retention of existing 3 buildings • Extends building life • Embodied carbon lowest for immediate future	N/A	• Retains most of substructure and some structural elements with new build extension	• Better operational energy opportunities • Wider social benefits • More opportunities for roof space / greening (UGF) • Greater adaptability • Some foundations retained • Some stonework to be repurposed
Constraints	• Retention and intervention relies on gas due to roof space. • Poor floor area does not maximise space, risk of poorer EPC performance • Services upgrades restricted due to existing space constraints. Assumes like for like plant changes if upgrades	N/A	• Structurally challenging. Existing structure would need considerable new structure to support building which add to the complexity of the construction • Substantial temporary works required. • Quality of existing steel unknown. • Services challenging • Restricted Floor to floor heights and level changes add to complexity • Not maximising land use. • Less roof space for planting • Did not meet tenant space requirements.	• Embodied carbon is highest but there is a trade of for other wider benefits.
Notes	• Assumes no fabric interventions. • Pro rata carbon data estimates based on new build for building element categories, internal works 2.7 - 8. • Does not include future façade intervention which is likely to be required. Making embodied carbon worse over life—cycle	N/A	• Structure recalculation: for 1 Substructure, 2.1 Superstructure - frame, 2.2 Superstructure - upper floors. • 2.3 - 8 estimated pro rata	• Increase in GIA vs existing building(s) GIA • Based on new build cost plan so good data set for GLA reporting.

GLOSSARY

Glossary

Approved Document Part L conservation of fuel and power: Part L is a building regulation that covers both new and changes to existing dwellings and non dwellings**.** Part L sets minimum requirements and targets for energy performance and carbon emissions. It also defines the carbon intensity of fuel and power.

Beyond Lifecycle (Beyond – LC): Carbon emissions arising from any benefits or burdens of materials and components beyond the lifecycle (Module D).

BREEAM – Building Research Establishment Environmental Assessment Method: A leading and well established scheme for the evaluation, rating and certification of the sustainability of buildings developed by the BRE. It is the main sustainability certification standard in the UK but also is used internationally. The main schemes apply to new buildings and both non domestic refurbishment and fit-outs and domestic refurbishments.

Carbon dioxide equivalent (CO_2e): A metric expressing the impact of all greenhouse gases on a carbon dioxide basis. A measure used to compare the emissions from various greenhouse gases based upon their global warming potential in a common unit over a 100 year period. E.g. 1 kg of methane is converted into the amount of CO_2 needed to cause the same effect, in this case 23 kg. Therefore 1 Kg methane has a CO_2 equivalent of 23.

Climate Change: Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle. However since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas.

Embodied carbon at Practical Completion (EC-PC): Carbon emissions arising from the product stages (A1-A3) and construction process stages (A4-A5).

Embodied Carbon over Lifecycle (EC-LC): Carbon emissions arising from the product stages (A1-A3), construction process stages (A4-A5), use stages (B1-B5) and end-of-life stages (C1-C4).

Environmental aspect: An aspect of construction works, part of works, processes or services related to their lifecycle that can cause change to the environment.

Environmental impact: A change to the environment, whether adverse or beneficial, wholly or partially, resulting from environmental aspects.

Environmental Performance Declaration (EPD): A transparent, objective report that communicates what a product or material is made of and how it impacts the environment across its entire lifecycle. An EPD is usually valid for five years, and is generated according to a number of relevant standards.

Global Warming: Is the long-term heating of Earth's climate system observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere.

Global Warming Potential (GWP): The standard metric used to calculate CO_2-equivalent emissions of different greenhouse gases in carbon budgets and the Kyoto Protocol. GWP measures the total radiative forcing over a given period (usually 100 years) after a pulse emission, relative to that from the same mass of CO_2.

Gross Internal Area (GIA): The area of a *building* measured to the internal face of the perimeter walls at each floor level. In the UK this is determined according to Royal Institute of Chartered Surveyors (RICS) property measurement standards.

Greenhouse Effect: A process that occurs when gases in Earth's atmosphere trap the Sun's heat. This process makes Earth much warmer than it would be without an atmosphere

Grid decarbonisation: The gradual reduction of the carbon intensity of electricity production.

Greenhouse Gas (GHG): A gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect causes global warming. The primary greenhouse gases in the Earth's atmosphere are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (NO_2), ozone (O_3), chlorofluorocarbons (CFCs) and water vapour (H_2O).

IMPACT (Integrated Material Profile and Costing Tool): A specification and database for software developers to incorporate into their tools to enable consistent Lifecycle Assessment (LCA) and Lifecycle Costing (LCC). IMPACT compliant tools work by allowing the user to attribute environmental and cost information to drawn or scheduled items in the BIM. Put simply, IMPACT takes quantity information from the BIM and multiplies this by environmental impact and/or cost 'rates' to produce an overall impact and cost for the whole (or a selected part) of the design.

Lifecycle: consecutive and interlinked stages on the life of the object under consideration.

Lifecycle Assessment (LCA): is a process to evaluate the environmental burdens associated with a product, process or activity:

- By identifying and quantifying energy and materials used and wastes released to the environment;

- To access the impact of those energy and materials used and releases to the environment; and
- To identify and evaluate opportunities to affect environmental improvements.

The assessment includes the entire lifecycle (from cradle to grave) of the product, process or activity encompassing extracting and processing of raw materials, manufacturing, transportation and distribution; use and re-use; maintenances; recycling and final disposal.

NABERS UK 'Design for Performance' (DfP): A building rating scheme (currently for offices only) designed to help projects deliver against their design intent and overcome the well-evidenced performance gap between design and operation. It requires a developer or owner to design commission a new office to a defined rating. It is a more detailed way of undertaking an energy model with the aim of enabling better design decisions to help reduce carbon emissions once the building is operations.

NABERS Energy: NABERS Energy measures the efficiency of an office building and rates its performance (0-6 Stars). The energy rating works by comparing the energy consumption of a building against a set of benchmarks that have been developed using actual data. It is based on in use data

Operational energy (modelling): A detailed energy model that attempts to reflect real world energy consumption of a building during the design and construction stages of a development. This would include more detail than a standard model used for building regs, and would include unregulated energy

Operational energy (use): The total energy consumption of the building during its use and operation of the building based on measured building data.

Operational water use: Water consumption of the building as needed for the technically and functionally defined operation of the building.

Recycling: Recycling is the process of converting waste materials into new materials and objects. A recovery operation by which waste materials are reprocesses into products, materials or substances either for the original purpose or other purposes.

Refurbishment: Modification and improvements to an existing building in order to bring it up to an acceptable condition. The refurbishment of something is the act or process of cleaning it, decorating it, and providing it with new equipment or facilities.

Regulated Energy consumption: Is building energy consumption resulting from the specification of controlled, fixed building services and fittings, including space heating and cooling, hot water, ventilation, fans, pumps and lighting.

Retrofit: The act of providing something with a feature not fitted in the original construction or a replacement of a component. Often this refers to building systems upgrades, however if can refer to improving fabric and or glazing. This work generally improve amenities for the building's occupants and improves the overall building performance.

Unregulated energy: Energy consumption that is not 'controlled', it does not fall under Part L of the Building regulations. This would include consumption from elements such as IT equipment, lifts and other plugin equipment such as white goods, laboratory equipment, external lighting and audio visual equipment.

Whole life Carbon (WLC) or Whole Life Carbon over Lifecycle: The carbon emissions resulting from the materials, construction and the operation/use of a building over its entire life, including its demolition and disposal. A WLC assessment provides a picture of a building's carbon impact on the environment. It comprises of modules A1-A5, B1-B7, C1-C4 and D.

Application types:

FULL EIA: any application requiring EIA in support

FULMAJ: – Any application over 1,000m2 - Major applications may include schemes for redevelopment, substantial refurbishments, extensions or changes of use. Residential development of 10 or more dwellings or on a site of 0.5 hectares or more, and all other development of 1,000 square metres gross or more floorspace, or on a site of 1 hectare or more.

FULL: All other full applications

Committees:	**Dates:**	
Corporate Projects Board Operational Property and Projects Sub Committee Planning & Transportation Committee	11 May 2022 30 May 2022 7 June 2022	
Subject: 1 Broadgate Section 278 Highway Works (UPI 12235)	**Issue Report:** Gateway 2 Light	**Public**
Report of: Executive Director Environment **Report Author:** George Wright – City Transportation		**For Decision**

PUBLIC

1. Status update	**Project Description:** Section 278 highway works to facilitate the new development at 1 Broadgate, EC2M 3WA***.*** **RAG Status:** Green (Green at last report) **Risk Status:** Low (Low at last report) **Total Estimated Cost of Project (excluding risk):** £750,000-£900,000. **Change in Total Estimated Cost of Project (excluding risk):** No change. **Spend to Date:** £26,893 of an approved budget of £50,000. **Costed Risk Provision Utilised:** N/A **Funding source:** Section 278. **Slippage:** Project is now expected to conclude in March 2025, 12 months later than the last report to Members (Gateway 1/2 report in October 2020). This is to accommodate the revised construction timetable and any additional costs will be met as part of the s278 payment for the construction phase.
2. Requested decisions	**Next Gateway:** Gateway 5 - Authority to Start Work (Light) **Requested Decisions:** Members of the Planning and Transportation Committee: 1. Authorise officers to proceed with the statutory process and legal agreements required to progress the highway boundary adjustments (appendix 2) pursuant to Section 256 of the Highways Act 1980. 2. Delegate authority to consider any objection to the advertised Section 256 application, and whether to proceed, to the Executive Director Environment (in consultation with the City Solicitor). 3. Delegate any budget adjustments to the Chief Officer should further Section 278 funds be required from the developer prior to Gateway 5 approval. 4. Authorise officers to enter into a Section 278 agreement with British Land.

	Next steps: 1. Work with the developer to finalise the Section 278 scope of works. 2. Refine cost estimates for the Section 278 works. 3. Sign a Section 278 agreement with the developers of 1 Broadgate. 4. Progress the statutory process relating to the Section 256 highway boundary adjustments.
3. Budget	**Total Estimated Project Cost** The current estimated project cost sits within a range of £750,000-900,000 and will be fully funded by Section 278 funding from the developer British Land. All legal costs incurred by the City in relation to the Section 256 process will be met by British Land through a costs undertaking. **Costed Risk Provision requested for this Gateway:** No Cost Risk Provision is requested before Gateway 5.
4. Issue description	**Background and context** Officers have been working with British Land on the scope of the Section 278 works surrounding the new development at 1 Broadgate for several months. During this time, the City and British Land agreed that a land exchange may provide mutual benefits. The Section 278 works area focuses on parts of Eldon Street and Finsbury Avenue. Both streets comprise a mix of private land owned by British Land and public highway. The areas subject to the proposed land exchange are shown in Appendix 2. The area on Eldon Street shown in pink is private land owned by British Land and is approximately 190 square metres. The majority of Finsbury Avenue is also owned by British Land, with the exception of a “dog leg” section of footway and carriageway on the western side that is public highway (approximately 245 square metres). The area shown shaded in orange on the plan at Appendix 2 is public highway. It is recommended that this orange land is swapped with the area shaded pink (owned by British Land). The Section 278 negotiations have brought these land anomalies into focus and it is therefore proposed that a land exchange using section 256 of the Highways Act is progressed. Specifically, it is proposed that the private land on Eldon Street becomes public highway and the highway rights are extinguished on Finsbury Avenue and this becomes private land, although right of access for the public will still remain. **Mutual benefits** Eldon Street is a particularly busy pedestrian route to and from Liverpool Street station and pedestrian flows are projected to increase when the Elizabeth Line opens. The section of northern footway that is currently public highway is approximately 2.5 metres wide. The adoption of the 190 square metres of private land would provide (and safeguard) a wider

	footway that is public highway. The increase in footway width would increase as you travel eastwards towards Liverpool Street reaching a maximum footway width of approximately 6.3 metres at the junction of Blomfield Street (Appendix 3). The Finsbury Avenue section of public highway is awkward to maintain as it abuts the private land which is paved differently. As part of the new 1 Broadgate development British Land propose extensive landscaping on both the public and private parts of Finsbury Avenue, creating an area of high quality public realm that treats the entire space in an holistic way. The proposals comprise tree planting, soft landscaping, seating and granite paving (a non-standard City paving material). If the proposals are approved, the maintenance of the public highway on Finsbury Avenue could become even more challenging and may not be accepted by the Corporation as some of the proposals are contrary to the Public Realm Supplementary Planning Document. The proposed land swap would be beneficial to pedestrians using both spaces: a wider footway on Eldon Street; and an improved public realm on Finsbury Avenue. **Land ownership** A research report into the land ownership on Finsbury Avenue is contained in Appendix 4. In summary, the report concludes The City does not appear to have a freehold interest in the land in Finsbury Avenue that forms part of the exchange. The report notes that until local authority boundary changes in 1993, the whole of Finsbury Avenue lay in the London Borough of Hackney and before 1965 in the Metropolitan Borough of Shoreditch. The report states a large parcel of land in Finsbury Avenue is subject to a caution against first registration in favour of British Land. The land ownership principle applicable to highway is that once the highway status is removed, the ownership of the highway stratum generally reverts to the frontager (unless there is title information to the contrary). In the case of this section of Finsbury Avenue, British Land is the frontager. The City Surveyor and City Solicitor have reviewed the research report and conclude that if the City's only interest derives from the highway status of the stratum, there is effectively nothing for which any capital sum should be paid to the City. **Highway Boundary Adjustment pursuant to s256 Highways Act 1980** The boundary of 1 Broadgate at Eldon Street and Finsbury Avenue comprises a mix of private land owned by British Land and public highway. Adjusting the public-private boundary will enable extensive landscaping on both the public and private parts of Finsbury Avenue, creating an area of high quality public realm that treats the entire space in an holistic way. The legal mechanism being engaged to facilitate the boundary adjustment is under s256 Highways Act 1980 (Power to exchange land to adjust

	boundaries of highways). The process under s256 allows opportunity for any objections to be made to the proposal by way of appeal to the Magistrates Court up to two months from the date of notices are published. The effect of the s256 legal mechanism is to remove the public highway status and dedicate replacement highway. This legal mechanism allows for the highway boundaries to be adjusted and for a balancing payment to be made to the City if required. In this case the exchanged land is equal in value and no payment is required. There shall therefore be no payment by way of equality of exchange but the Owners are to pay the Council's costs of entering into the agreement and managing any objections. Public access to other public realm within the Broadgate estate is secured through s106 obligations which allows the public access over it on foot subject to certain permitted closures. Public access to the orange land would be secured through such a provision, entered into under s106 or another appropriate power (such as section 33 of the City of London (Various Powers) Act 1960) and, as with the other public realm obligations, would be subject to certain permitted closures. Provisions will be included in the s256 and the s278 agreement to secure public access to the orange land subject to permitted closures.
5. Options	There are two options that have been considered: 1. Proceed with finalising the Section 278 scope of works without the land exchange. 2. Progress a statutory process under Section 256 of the Highways Act and, if approved, agree a Section 278 scope of works based on the exchange of land in parts of Eldon Street and Finsbury Avenue. Officers are recommending progressing Option 2 as this derives the better outcome for people walking. The Section 278 Agreement needs to be finalised by July 2022, so it will contain the two options detailed above. If the Section 256 land swap is approved, option 2 will be progressed.

Appendices

Appendix 1	Cover sheet
Appendix 2	Plan showing proposed land exchange
Appendix 3	Eldon Street increased footway width
Appendix 4	Research report into land ownership in Finsbury Avenue

Contact

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Project Coversheet

[1] Ownership & Status

UPI: 12235
Core Project Name: I Broadgate Section 278

Programme Affiliation (if applicable):

Project Manager: George Wright

Definition of need: Highway works to enable to construction of the new development at 1 Broadgate

Key measures of success:

1) Improved pedestrian environment which allows for enhanced connectivity and accessibility throughout the wider area.
2) Improved public realm.
3) Meeting the needs of the developer.

Expected timeframe for the project delivery: July 2022 – Agree Section 278 scope. 2024 - Construction

Key Milestones: Agree scope of s278; progress Section 256 land exchange. Construction.

Are we on track for completing the project against the expected timeframe for project delivery? Yes

Has this project generated public or media impact and response which the City of London has needed to manage or is managing? No.

[2] Finance and Costed Risk

Headline Financial, Scope and Design Changes:

'Project Proposal' G2 report (as approved by SWC and PSC 10/20): • Total Estimated Cost: £750,000-£900,000 • Spend to date: £0 • Resources to reach next Gateway: £50,000 • Costed Risk Against the Project: n/a • Estimated Programme Dates: As above

Total anticipated on-going commitment post-delivery [£]: Routine highway maintenance is expected.
Programme Affiliation [£]: n/a

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Appendix 2

KEY

Title Boundary Line

Area of private land on Eldon Street adopted as public highway (190sqm)

Public highway rights on Finsbury Avenue extinguished and transferred to British Land (245sqm)

REV DATE DESCRIPTION

SKETCH

Retractable canopies above

Retractable canopies above

West Office Entrance

East Office Entrance

FFL +14.500 m

Bridge link to connect to 100 LS walkway

245sqm

FINSBURY AVENUE

BUS STOP

ELDON STREET

190sqm

BLUE BADGE PARKING

N

Page 85

NOTE

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- any scaling from this drawing other than by the local planning authority solely for the purposes of the planning application to which it relates

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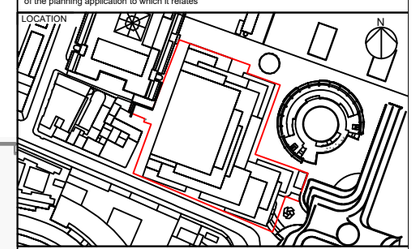

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job title
1 BROADGATE

drawing title / location
GROUND FLOOR - LAND SWAP

project number	drawn	checked	scale	suitability code
15156	JO	BL	1 : 250@A1 ;1 : 500@A3	

drawing no. 15156 (SK) 1687

revision

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COMPTROLLER & CITY SOLICITOR'S DEPARTMENT
RESEARCH SECTION

RESEARCH REPORT 788

Report Author: Dr Alexander Schulenburg, *Senior Historical Research Officer (ext. 1516)*
Report Date: October 2020

This report is for historical information only and is not to be treated as formal legal advice.

THE CITY OF LONDON CORPORATION'S **HIGHWAY OWNERSHIP INTERESTS IN**

LAND IN FINSBURY AVENUE, EC2

1. INTRODUCTION

The City of London Corporation *does not* appear to have a freehold interest in land in Finsbury Avenue, including land in the former Queen's Square, EC2.

The attached copy of plan 4-C-42601-1 identifies the land parcels mentioned in this report.

2. FINSBURY AVENUE & THE CITY BOUNDARY

2.1. THE HISTORICAL BOUNDARY

Until the late twentieth century Finsbury Avenue lay outside the City boundary, as shown on the 1916 Ordnance Survey, where it is shown by a dashed line running down the middle of South Place and Eldon Street (*illustration 1*; the area subject to this report has additionally been circled *red*).

2.1. 1993 BOUNDARIES ORDER

In consequence of the City and London Borough Boundaries Order 1993, Area D on the eastern side of Wilson Street between Sun Street and South Place/Eldon Street, was transferred from Hackney Borough Council to the City of London (for an extract from one of the relevant order maps, see *illustration 2*; the area subject to this report has additionally been circled *orange*)

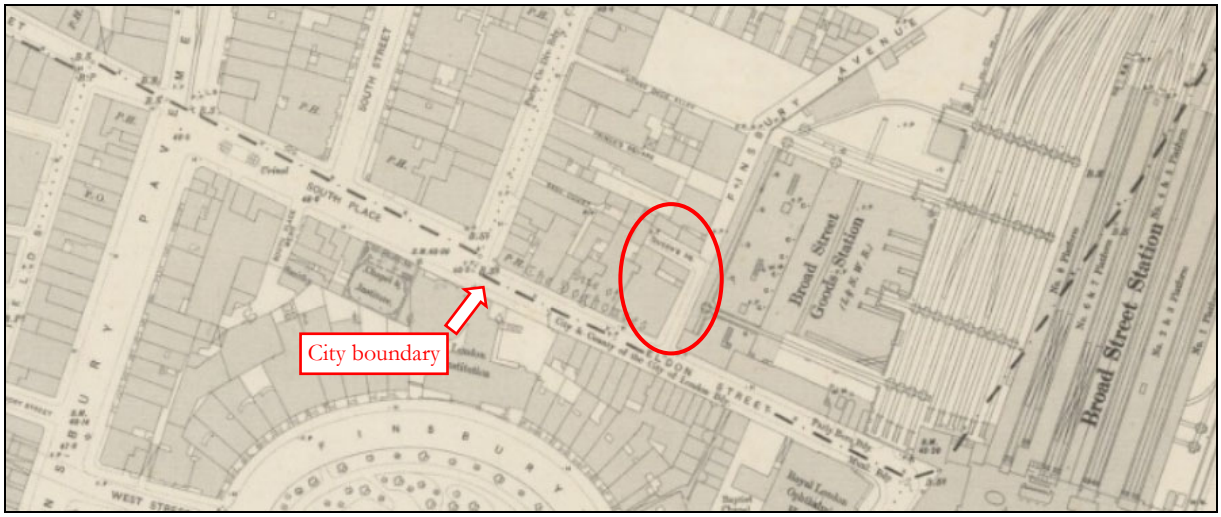


illustration 1

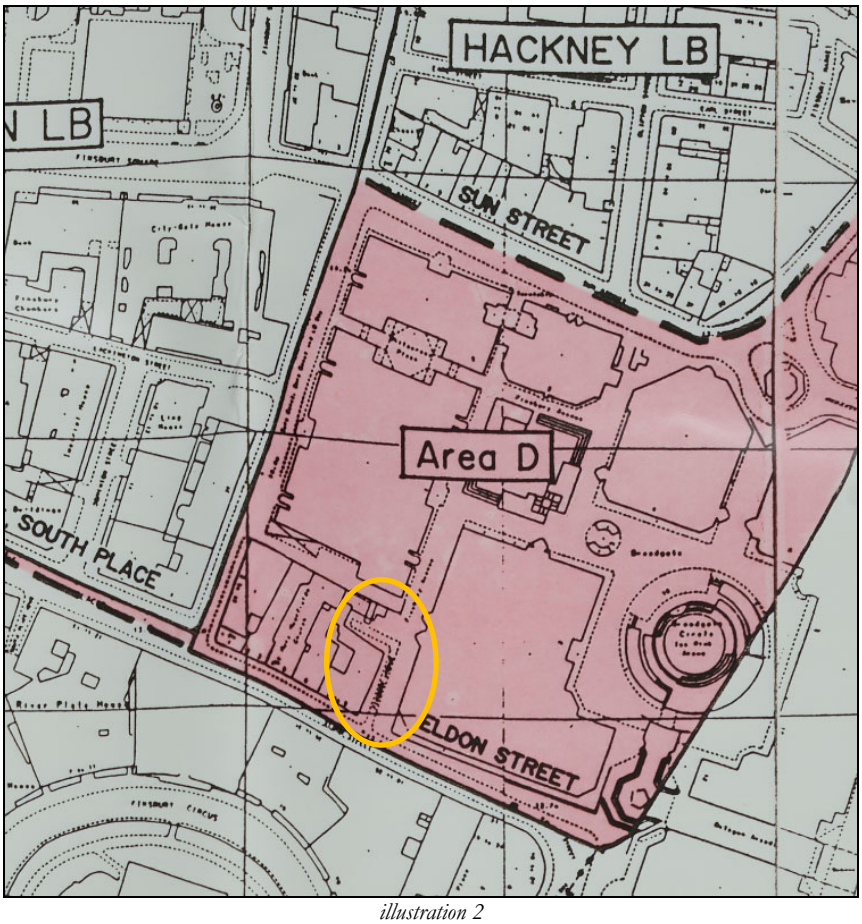


illustration 2

The City of London Corporation's CIS, CityMaps, intranet site shows current City boundary in red and the highway maintainable at the public expense in blue (*illustration 3*). The area subject to this report has been indicated additionally by a *red* arrow.

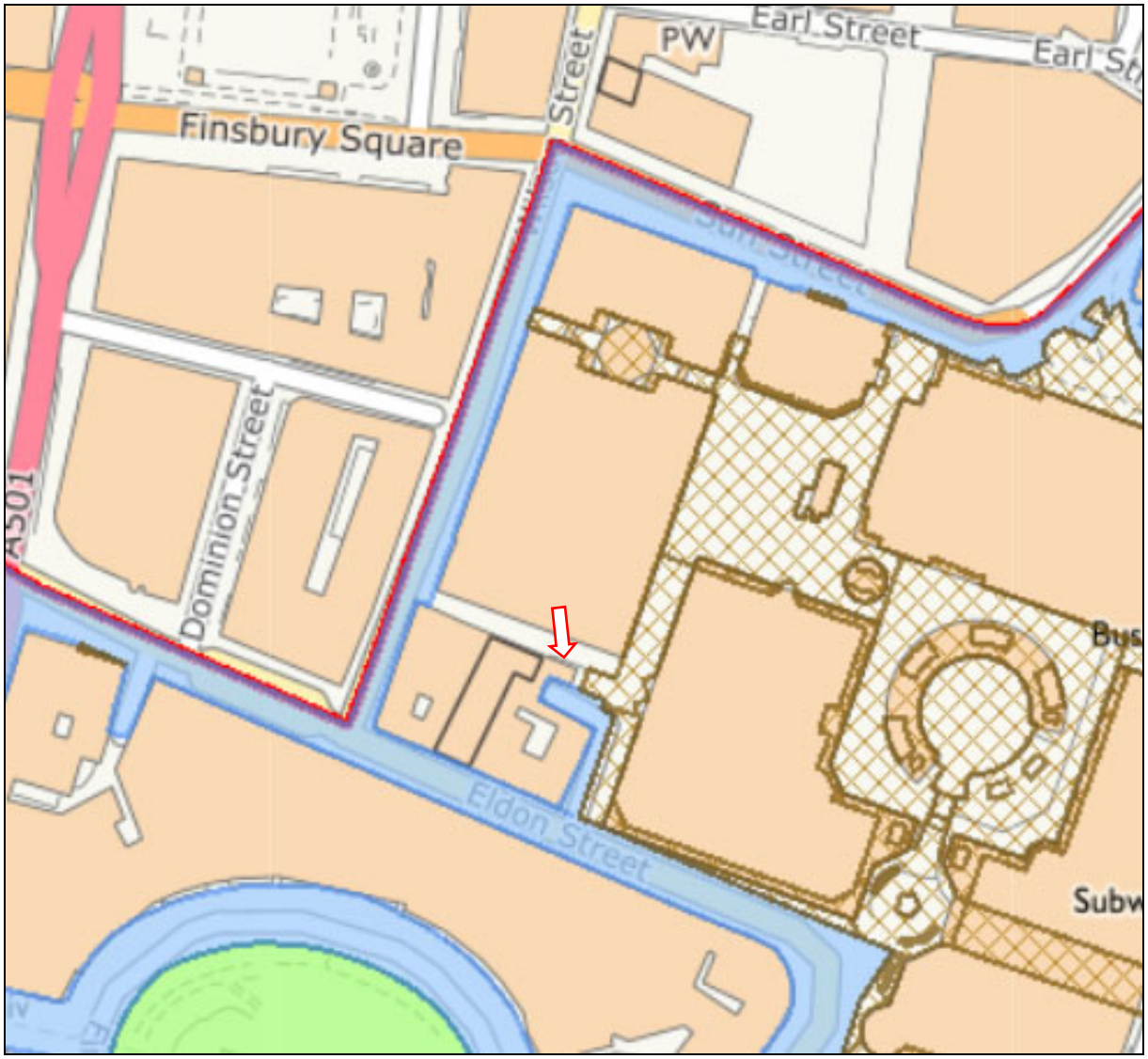


illustration 3

3. EARLY MAPPING TO 1799

The area of the present-day Finsbury Avenue is first shown on the so-called Copperplate map of c.1558 (*illustration 4*).

The area subject to this report is first shown in considerable detail on Ogilby and Morgan's 1676 map of the City. The court marked 'd.25', at least part of which appears to lie in the present-day Finsbury Avenue at its junction with Eldon Street, is identified by the key as 'Sun Dial Court' (*illustration 5*).

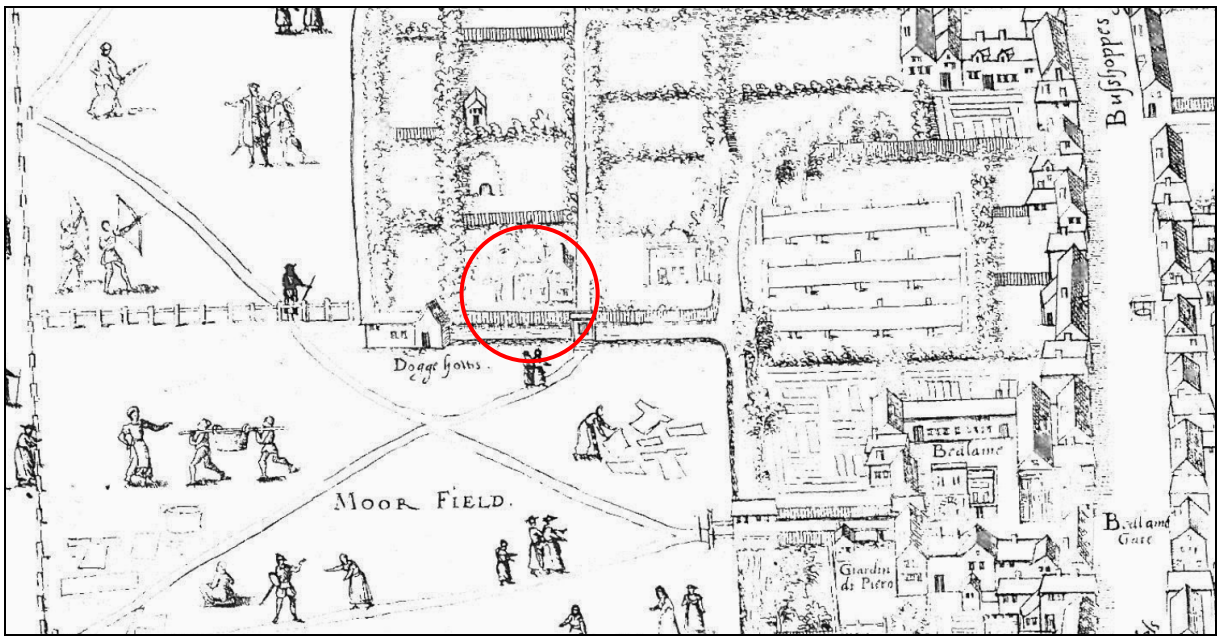


illustration 4

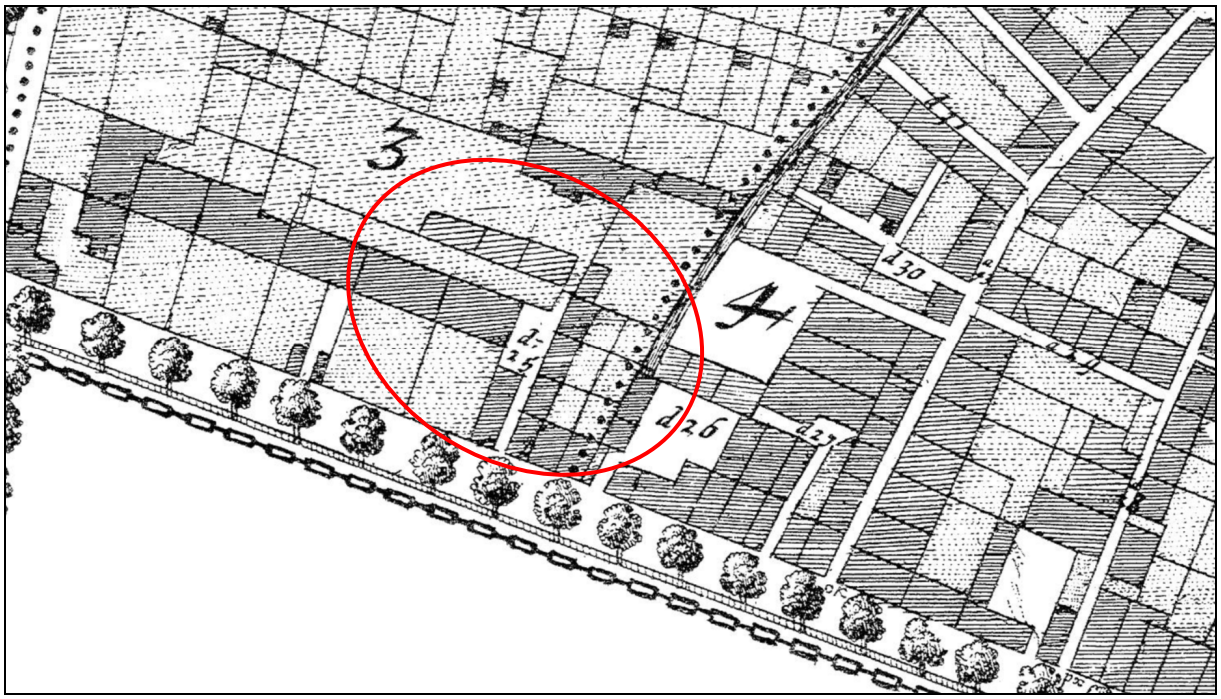


illustration 5

On John Roque's 1746 map of the City that court, which now extends further west, is shown as 'Maximus Court' (*illustration 6*), while on Richard Horwood's 1799 map it is shown as 'Queen Square' (*illustration 7*), the name by which (or the variant 'Queen's Square') it was known thereafter.

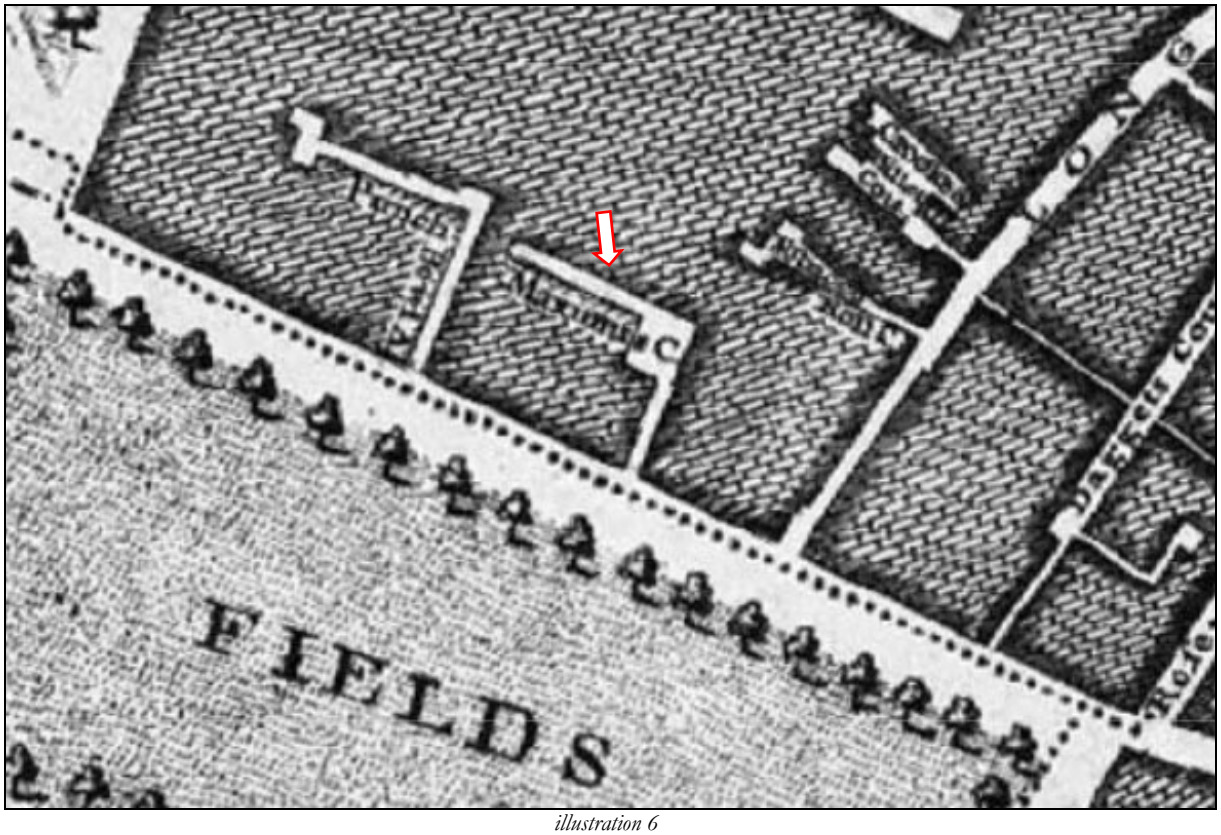


illustration 6

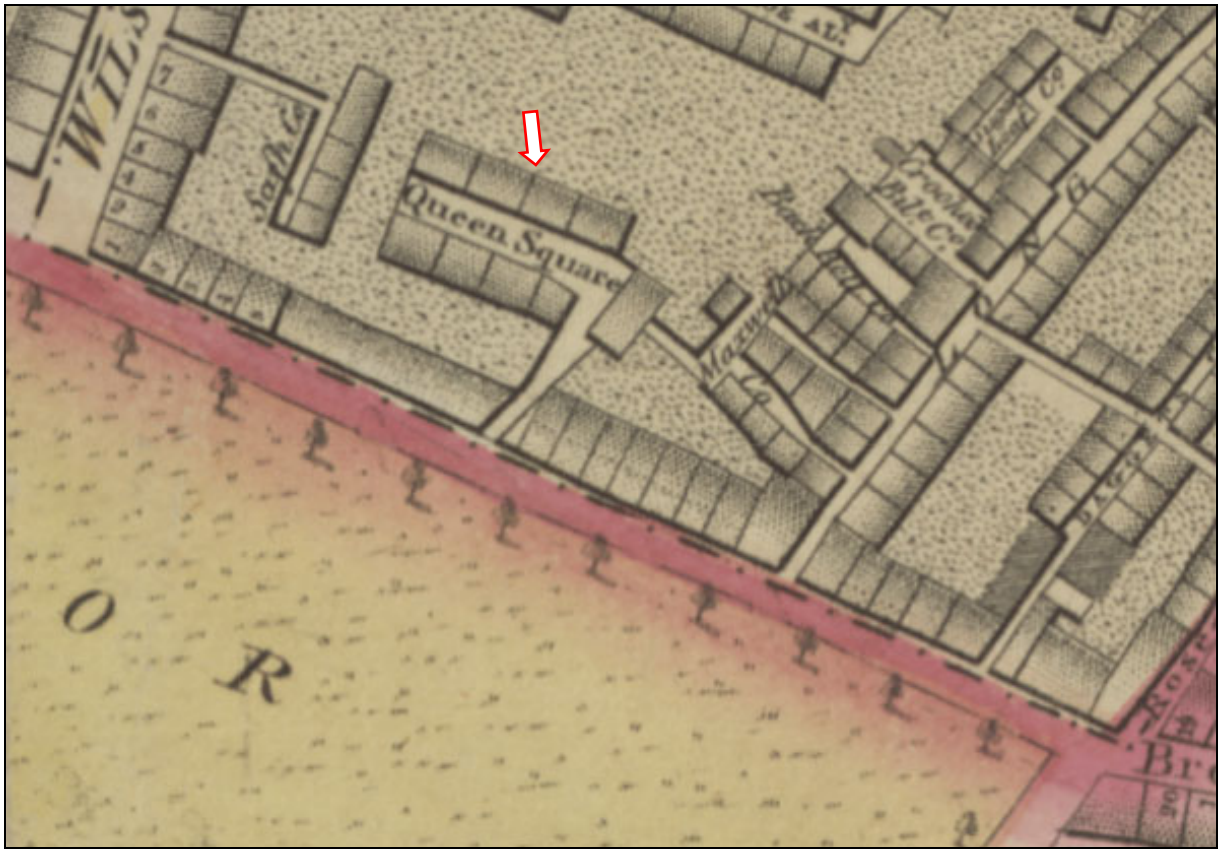


illustration 7

It has *not* been possible to establish the historical ownership of this area, despite an extensive search of the catalogue of the Metropolitan London Archives, Hackney Archives, and other online catalogues.

No antiquarian prints or drawings showing Queen's Square (or Sun Dial Court/Maximus Court) have been located, but a photograph dated 1919 show 5 Queen's Square, the "premises of W.H. Brooks, Chimney sweeper and carpet beater" (**Hackney Archives: P14075**; *illustration 8*).

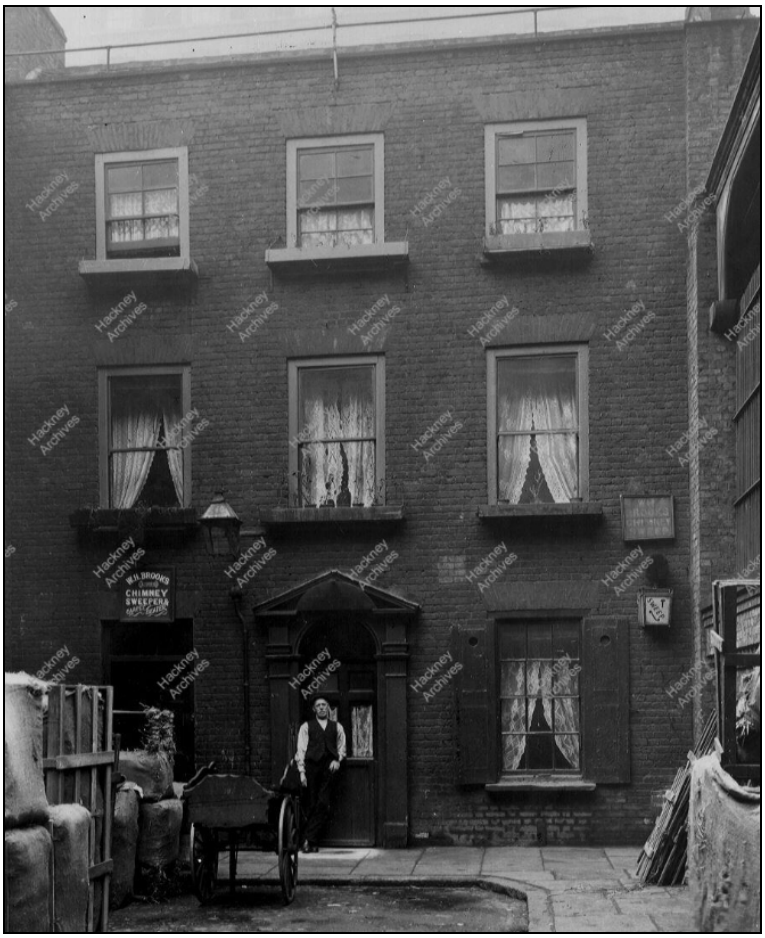


illustration 8

4. CONSTRUCTION OF FINSBURY AVENUE

Broad Street Good Station opened in 1865, having been constructed under section 6 of the North London Railway [City Branch] Act 1861 (for the deposited plans and books of reference, see **LMA: CLA/047/LC/04/103**; also **MR/U/P/0569**) *[this Act could not be consulted, due to pandemic access restrictions]*.

The North London Railway Act 1867 provided for widening of the City Branch, but does not appear to have had a bearing on Broad Street Station (for the deposited plans and books of reference, see **LMA: MBW/2622/10** & **MR/U/P/0843**) *[this Act could not be consulted, due to pandemic access restrictions]*. The case of *Richmond* v. *NLR* (1868) concerned the compulsory purchase of a public house in Shoreditch under the 1861 and 1867 Acts.

In 1872 the Metropolitan Board of Works (MBW), at the request of the Shoreditch Vestry, had opposed a Bill promoted by the London and North-Western Railway Company of the enlargement of the Broad Street Good Station. It was reported at the time that the MBW were "taking steps to obtain a proper return from the company of public property for widening Worship Street, and for making a new thoroughfare from Sun Street to Eldon Street" (*The Architect & Building News*, 25 May 1872).

According to Alan Jackson's *London's Termini* (1984), p.98, a fourth approach line to Broad Street Station was added in 1874, a further (eighth) platform in 1891.

What is not yet clear from any of the records consulted, is under what powers the new thoroughfare of Finsbury Avenue was constructed. Given that the construction of Broad Street Station stopped up Long Alley, the new street was clearly intended as a replacement for Long Alley, and the onus for its construction is hence likely to have been placed on the North London Railway Company.

The line of the new street can be seen by comparing the 1849 skeleton Ordancne Survey map (*illustration 9*) with the City's copy of the 1875 Ordnance Survey, which shows the line of earlier streets (*illustration 10*). For ease of interpretation, the line of Finsbury Avenue as shown on the 1879 Ordnance Survey has been indicated on the 1849 Ordnance Survey by dashed *red* lines.

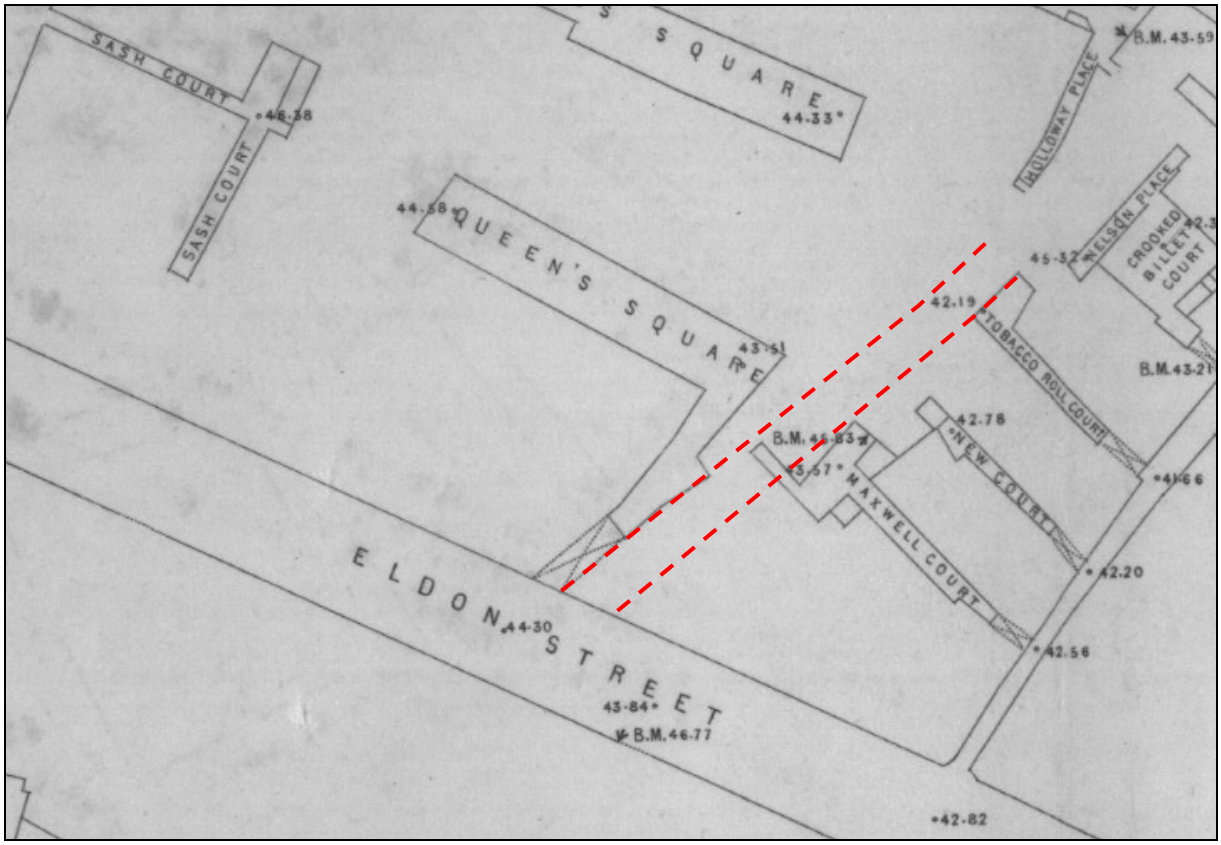


illustration 9

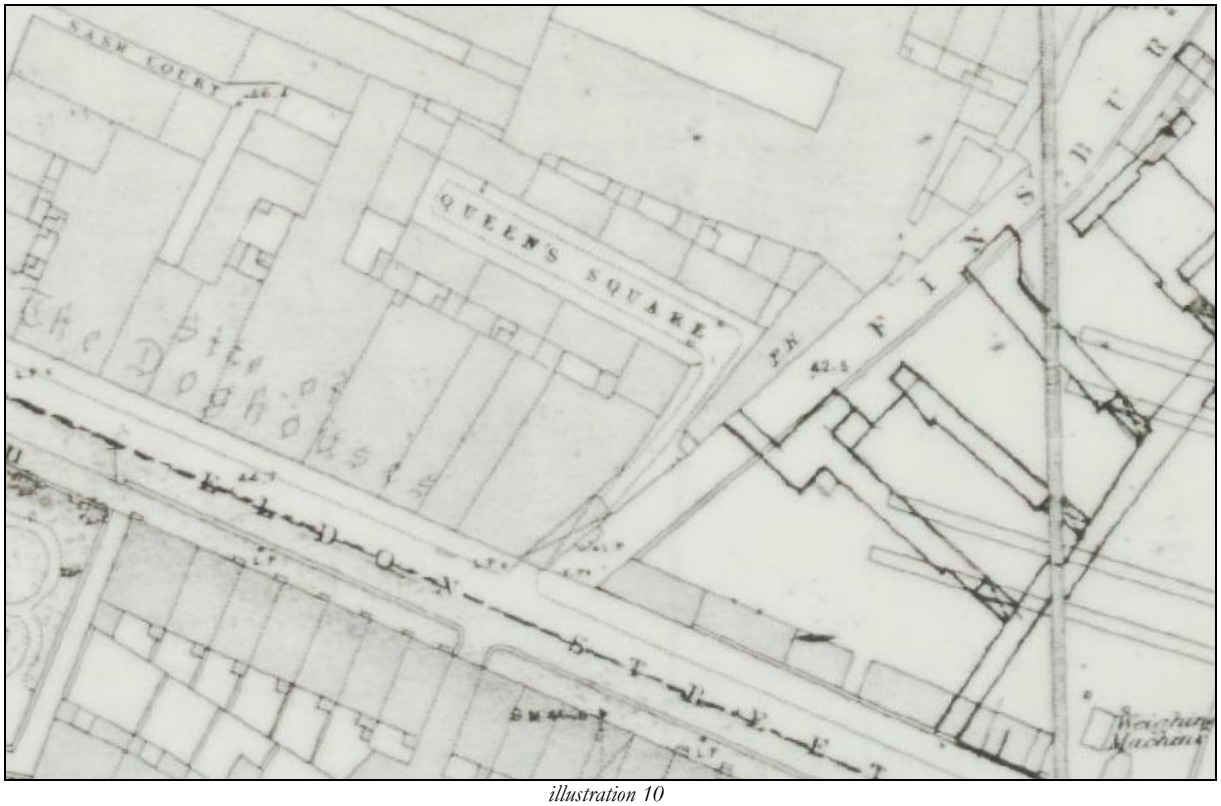


illustration 10

No records pertaining to that new street have been located, despite an extensive search of the catalogue of the Metropolitan London Archives, Hackney Archives, and other online catalogues.

While the history of the construction of Finsbury Avenue is important with a view to understanding later developments in this area, the ownership of land acquired for the construction of that street is of no consequence to the land subject to this report, as the relevant portion of the new street now lies under Broad Street Goods Station.

5. FINSBURY AVENUE REALIGNMENT & QUEEN'S SQUARE

5.1. FINSBURY AVENUE

Within less than twenty years of its construction, Finsbury Avenue was realigned by orienting it on a more northerly axis, which resulted Queen's Square street being intersected by the realigned Finsbury Avenue, as shown by a comparison of the 1875 Ordnance Survey (*illustration 11*) with the 1893-95 Ordnance Survey (*illustration 12*). For ease of interpretation, the line of the realigned Finsbury Avenue as shown on the 1893-95 Ordnance Survey has been indicated on the 1875 Ordnance Survey by dashed *red* lines.

Only the western half of Queen's Square survived and remains in existence today, while the remainder eastern half of the square, and its north-south stretch, were incorporated into the site of the expanded Broad Street Goods Station. A central portion of the former Queen's Square now lies in Finsbury Avenue proper.

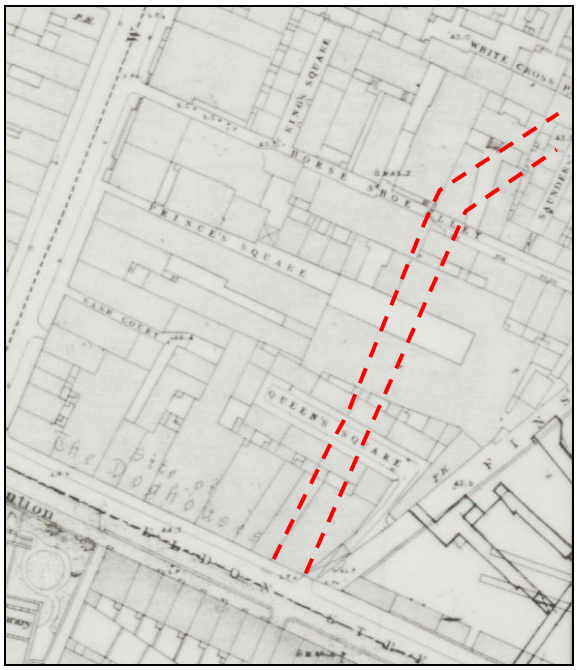


illustration 11

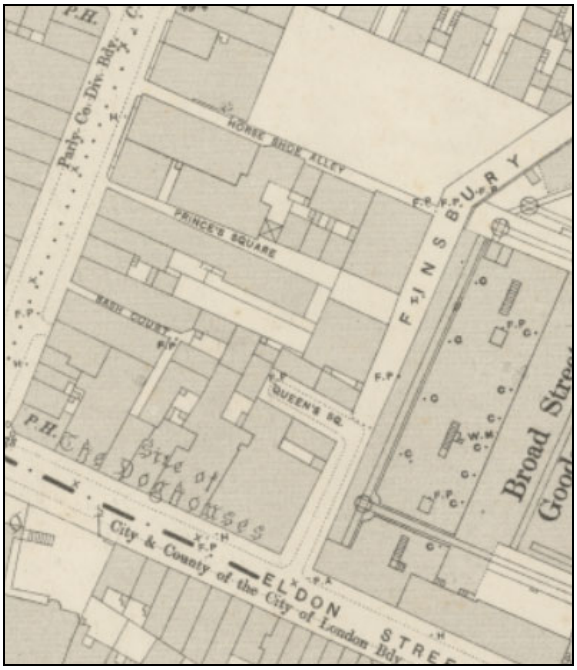


illustration 12

5.2. QUEEN'S SQUARE

Properties fronting onto the Queen's Square would have had to be acquired in order to effect the realignment of Finsbury Avenue, which would have included the title these properties had to land in the square itself (under the *ad medium filum* presumption).

In consequence, land formerly part of the historical Queen's Square, but now laid into Finsbury Avenue, is today also likely to be vested in the adjoining owners under the *ad medium filum* presumption, unless that land had been *acquired* by the Metropolitan Board of Works and been *retained* by them (see below, section 6).

The plotting of the historical extent of Queen's Square is based on the 1875 Ordnance Survey, as the frontages shown on the 1849 Ordnance Survey are difficult to reconcile with later frontages, even if the discrepancies are minor.

5.3. LACK OF RECORDS

No records pertaining to the acquisition of the land required for the realignment of Finsbury Avenue have been located, despite an extensive search of the catalogue of the Metropolitan London Archives, Hackney Archives, and other online catalogues.

In particular, *no* deeds for property in 'Queen's Street', without which this scheme could not have been carried out, have been located in the deeds index of the MBW and its successors, the LCC, GLC and LRB. Given that absence, it is extremely unlikely that the MBW had acquired property for the purposes of this improvement.

5.4. POSSIBLE TRANSFER OF FREEHOLD INTERESTS TO THE CITY

In the unlikely event that the land required to construct Finsbury Avenue had been acquired by the Metropolitan Board of Works, *for which there is no evidence*, it *may* be the case that the City of London acquired the freehold interest of the MBW laid into Finsbury Avenue and to which title is still unregistered. This would most likely due to the boundary change under the City and London Borough Boundaries Order 1993 (see above, section 2.2), which involved provisions applied by the London Government Area Changes Regulations 1976. Legal advice would need to be sought on whether this is the case, and if so, under which powers that land would have come to be vested in the City.

6. 20TH CENTURY IMPROVEMENTS

Finsbury Avenue was widened on its east side in the 1980s, after Broad Street Goods Station had been demolished and the Broadgate Centre built. Property to the north of the former Queen's Square (indicated by an arrow) was also demolished, as is evident from a comparison of the 1944-69 Ordnance Survey (*illustration 13*) and the current Ordnance Survey, as shown on CityMaps (*illustration 14*).

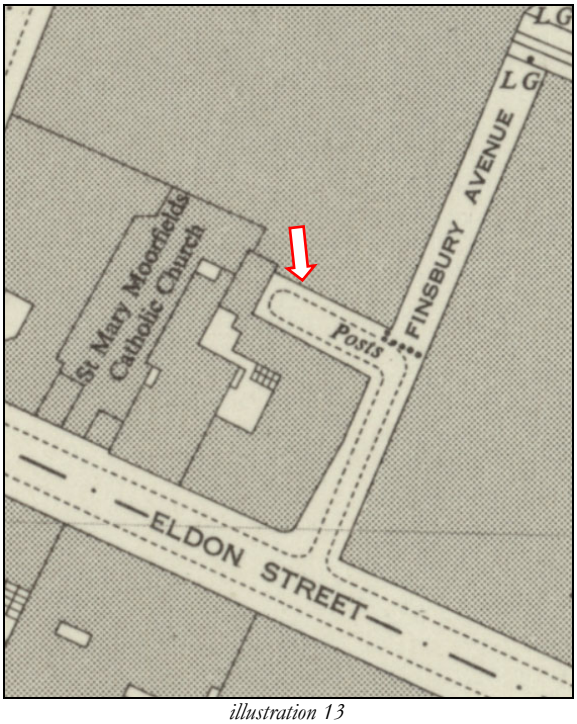


illustration 13

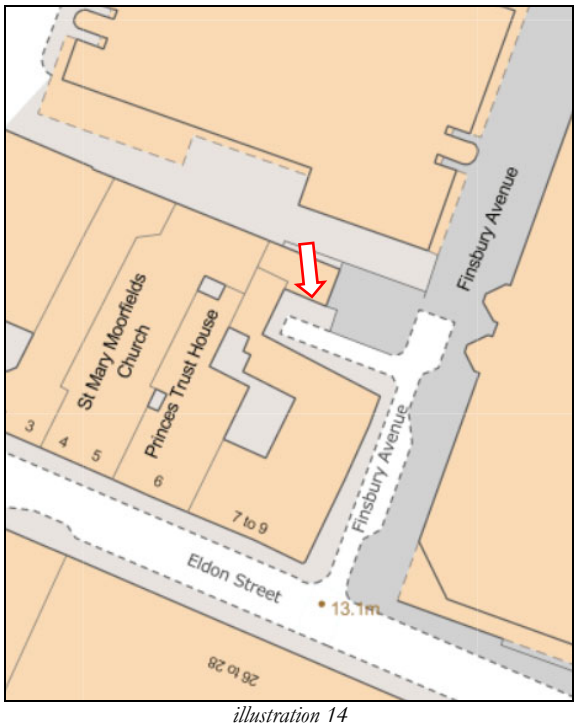


illustration 14

7. CAUTION TITLE NGL810848

A large parcel of land in Finsbury Avenue being part of the former Queen's Square is subject to a caution against the first registration of the freehold, which is registered under Land Registry title number NGL810848. This caution is in favour of "B.L.C.T. (17810) Limited and B.L.C.T. (17839) Limited"; the

land subject to the caution is described as "land at the back of 7 to 9 Eldon Street" (*illustration 15* shows an extract from the caution plan).

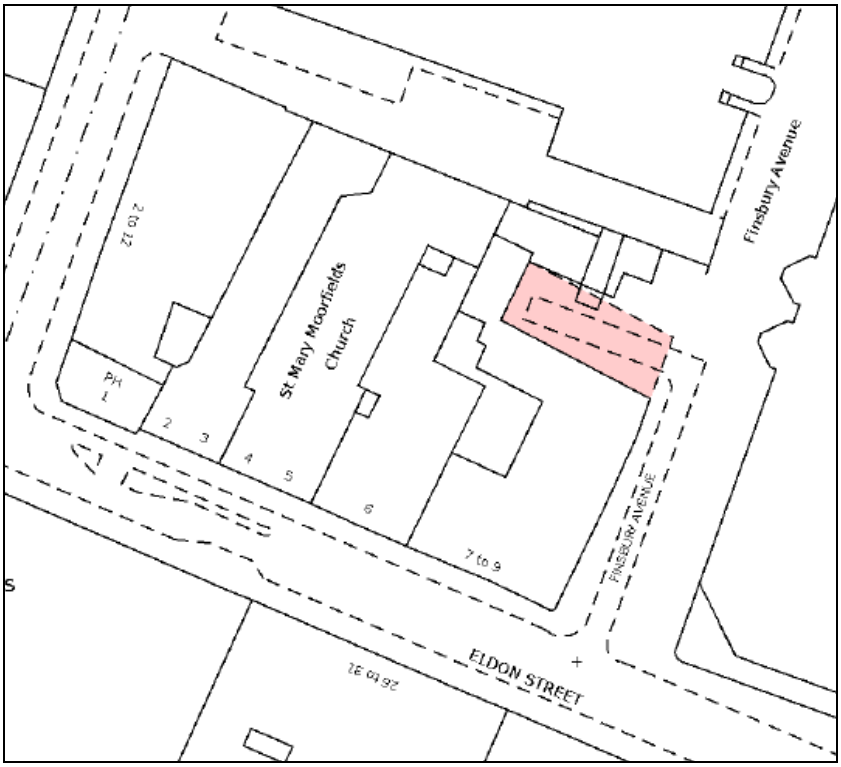


illustration 15

The statutory declaration accompanying the cautions sets out the cautioners' interests as follows:

"The first named cautioner B.L.C.T. (17810) Limited ("First Cautioner"), is registered proprietor of the freehold interest in the land known as 1A Finsbury Avenue, London EC2 which is registered at Land Registry with title absolute under title number NGL17003 and which is the land immediately abutting the northern boundary of the property described in panel 2 above as being affected by the caution ("Cautioned Property"). B.L.C.T. Limited ("Second Cautioner") is the registered proprietor of the freehold interest in the land known as Broadgate House 7-9 Eldon Street, London EC2 which is registered at Land Registry with title absolute under title number 247757 and which is the land immediately abutting the southern boundary of the Cautiioned Property.

It is believed that the Cautioned Property was once an adopted highway maintainable at the public expense in which case the First Cautioner and the Second Cautioner are entitled to be registered as registered proprietors of the freehold interests in the appropriate parts of the Cautioned Property.

Alternatively if the Cautioned Property has never been adopted highway the First Cautioner is entitled to be registered as registered properietor of the freehold interest in the Cautioned Property by adverse possession of the Cautioned Property by itself and its predecessors in title for at least 12 years.

The First Cautioner and the Second Cautioner are members of the same group of companies."

As the land in question has been and still is adopted highway (see above, section 2.2), the cautioners' alternative claim of title by adverse possession fails by their own reasoning, as it depends on the assumption that the land "has never been adopted highway".

Their principal claim, however, that the cautioners have title because the land in question *was once* adopted highway (in fact, it still is), appears to be a poorly worded *ad medium filum* claim, as it doesn't use that term. Given the research presented in this report, that claim appears to be valid provided none of the land in question was acquired by the MBW (see above, sections 5.2 and 6).

However, the plotting of the land subject to the caution appears to cover an excessive amount of land (if that caution is indeed based on an *ad medium filum* claim), as it affects the whole of the former roadway of Queen's Square, not merely to the centre line of the historical roadway (that is, to half the historical roadway abutting the cautioners' land, registered under title 247757).

Instead, an *ad medium filum* claim by the cautioners' should extend only to the land shown in *solid yellow* and as land parcel **AA** on the attached copy of plan 4-C-42601-1.

8. CONCLUSIONS

The forgoing discussion presents an overall complex picture of landownership in the area under investigation.

That complexity is made less complex when one plots the various land parcels at issue, as has been done on the attached copy of plan 4-C-42601-1, which must be read with the key below:

ref. on plan 4-C-42601-1	*likely freeholder*	*comment*
AA	proprietor of title 247757	*ad medium filum* claim to land formerly in Queen's Square, based on the paper title to the former 2 & 3 Queen's Square*, now part of 7-9 Eldon Street
BB	proprietor of title NGL17003	*ad medium filum* claim to land formerly in Queen's Square, based on the paper title to the former 7 & 8 Queen's Square
CC	proprietor of title EGL158030	*ad medium filum* claim to land formerly in Queen's Square, based on the paper title to the former 1 Queen's Square
DD	proprietor of title EGL158030	land formerly occupied by 1 Queen's Square, which must have been acquired to construct Finsbury Avenue
EE	proprietor of title EGL158030	land formerly occupied by 9 Eldon Street, which must have been acquired to construct Finsbury Avenue
FF	proprietor of title EGL158030	land formerly occupied by 10 Eldon Street, which must have been acquired to construct Finsbury Avenue

* This and all following house numbers in Queen's Square are based on conjecture.

For an extract from the title plan for EGL158030, see *illustration 16* (the land tinted brown is referred to in section 3 of the property register).

illustration 16

Illustration 17 shows the parcels, as per plan 4-C-42601-1, superimposed onto the 1875 Ordnance Survey.

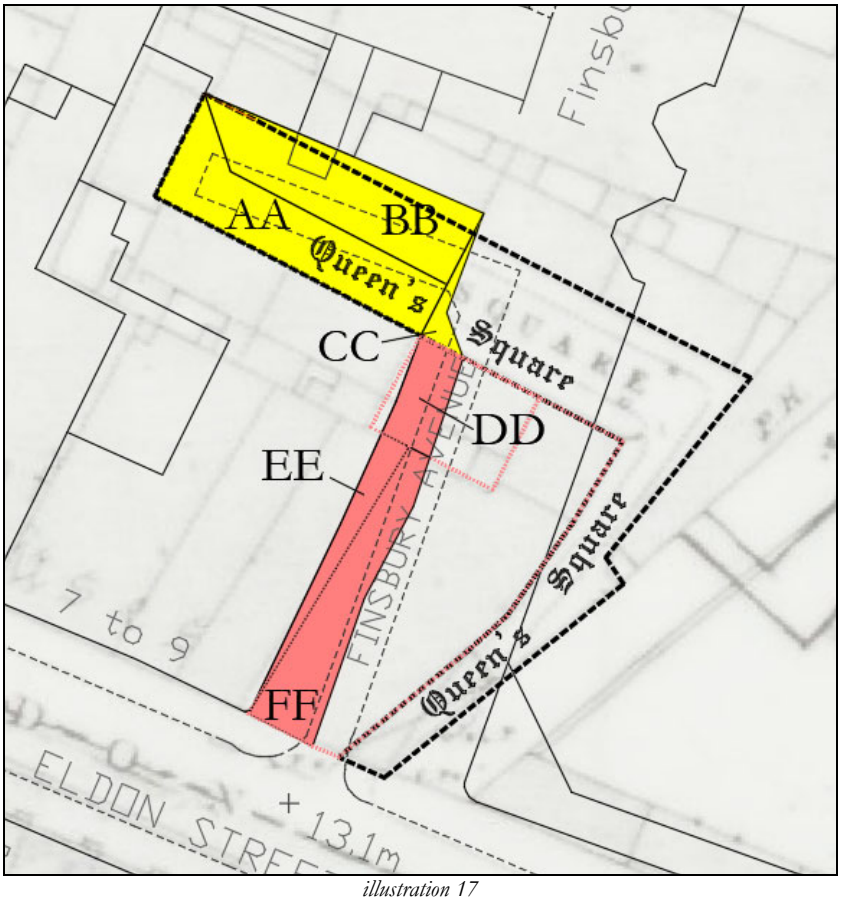
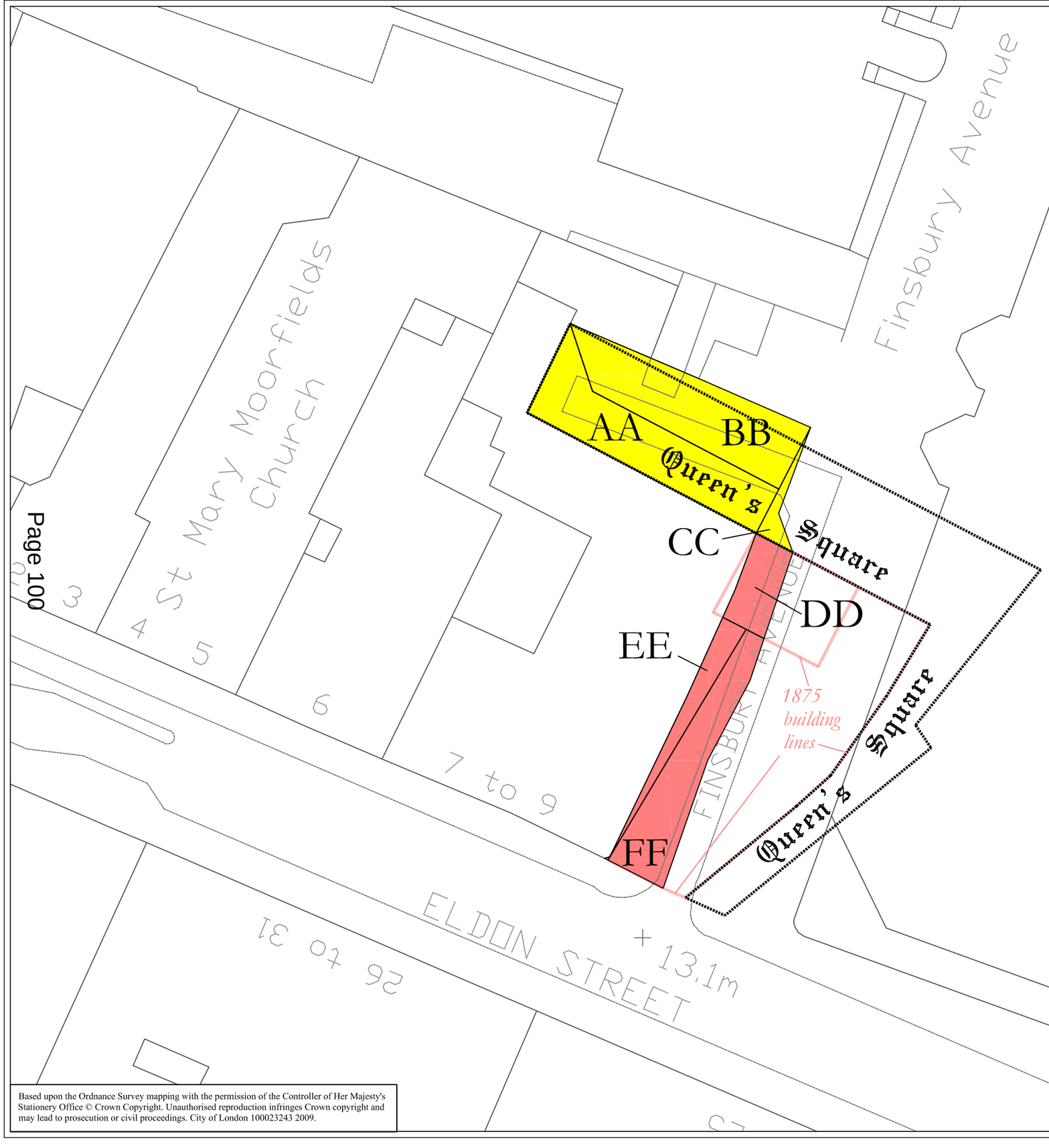


illustration 17



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Rev		Drawn	Date

CITY OF LONDON

P.G.Wilkinson, BSc MSc MRICS
City Surveyor

CITY SURVEYOR'S DEPARTMENT
Corporate Property Group

Address :

land in Finsbury Avenue, London

Title :

ownership
(RR 788)

Print scale : 1:300 @ A3	Drawn by : AHS
Date : Oct. 2020	Pro code
	UPRN
Drawing No : 4-C-42601-1	
Revision	

ELDON STREET – FOOTWAY CLEAR WIDTHS

Appendix 4

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Committee(s): Streets and Walkways Sub Committee [for decision] Planning and Transportation Committee [for decision]	**Dated:** 31/05/2022 07/06/2022
Subject: All Change at Bank: traffic and timings review plan	**Public**
Which outcomes in the City Corporation's Corporate Plan does this proposal aim to impact directly?	1, 9, 11, 12
Does this proposal require extra revenue and/or capital spending?	**N**
If so, how much?	
What is the source of Funding?	
Has this Funding Source been agreed with the Chamberlain's Department?	**Y**
Report of: Executive Director Environment	**For Decision**
Report author: Gillian Howard, Environment	

Summary

A motion was approved at the Court of Common Council in April 2022 which included the following requirement in relation to Bank junction:

"That the Planning & Transportation Committee be requested immediately to begin a review of the nature and timing of current motor traffic timing restrictions at Bank Junction, to include all options. This review will include full engagement with Transport for London and other relevant stakeholders, data collection, analysis and traffic modelling. The Planning & Transportation Committee should then present its recommendation to this Honourable Court as soon as practicable."

The methodology for the review, including assumptions and associated risks, is provided in Appendix 1. Members are asked to approve in principle this approach, acknowledging that it might have to vary depending upon the results of the work, engagement, and agreements with Transport for London on the technical specification of the traffic model (which has yet to take place). The outlined programme is indicative and may have to change.

Members are also asked to note that where a report is proposed to be submitted for committee consideration during the development of the review, it has been assumed that this remains with Streets and Walkways Sub Committee and/or Planning and Transportation. If this is not the case, and more committees wish to receive the reports, this may have implications on the indicative programme in the appendix.

Recommendation(s)

Members are asked to:

1. Agree, in principle, the methodology set out in Appendix 1 for undertaking the traffic and timing mix review as part of the All Change at Bank project.

2. Note the associated risks with the proposed plan (outlined in paragraphs 19-24).

Main Report

Background

1. Following the motion agreed at the Court of Common Council in April 2022, this report seeks Members agreement of the approach detailed in Appendix 1.
2. The document in Appendix 1 sets out the objective of the review, the assumptions, how the review will be undertaken and the options that are under consideration along with an indicative programme and key risks.
3. There is a second report on this agenda for this meeting which if approved is the final decision required before the substantial transformation of the All Change at Bank project can commence construction. The Gateway 5 report was approved in December 2021 subject to the outcome of the statutory traffic order consultation. It was noted in the September and December 2021 reports that the review of traffic mix and timings would be undertaken, and a time frame of within 12 months of completion of the construction of the project was referenced.
4. If the traffic order report is approved, this will set a new physical layout for the junction. It will reduce the number of arms available for motor vehicles, simplify the layout of the junction, improving its safety and provide significantly more space for people walking in the area. It will also allow for new spaces for people to be able to stop and rest providing opportunities for tree planting and greener spaces supporting the Climate Action Strategy.
5. The approved design for the All Change at Bank does not prevent changes to the traffic mix and timing of restrictions on the remaining open arms.

Current Position

6. If the principle of the scope and methodology outlined in Appendix 1 are agreed, then work on the review will commence and a full cost estimate to complete the review will be established.
7. The review is likely to be more complex to undertake from a technical perspective than originally envisaged at the Gateway 5 report in December 2021 when we were anticipating undertaking the review in the latter part of 2023 into 2024.
8. The complexity is in part due to the risk of the timing of the main data collection exercise during the experimental phases of the Bishopsgate and London Bridge schemes. With no firm decision on whether these schemes may be changed or removed this is likely to lead to more sensitivity tests being undertaken in the traffic modelling as a preferred option is established.
9. Also, stakeholder engagement is likely to be more complex given that the main benefits of the approved All Change at Bank design will not have been experienced by anyone when public consultation is likely to need to take place. This has the potential to affect people’s views as they may not have a full

understanding of the way the streets will operate once the construction work has concluded.

10. It is proposed that an external consultant is appointed to develop the methodology for engagement and consutlation and to undertake the consultation and analysis work.
11. Once work packages are developed and quotes received, we will be able to assess whether the funding estimated within the budget at Gateway 5 is going to be sufficient and, if required, submit an Issues report setting out the options for balancing the funding within the project budget.

Options

12. At this stage, a way forward is presented in Appendix 1. Members are asked to consider the Appendix and confirm whether
    a) That the key assumptions are acceptable
    b) The outlined scope of work meets Members expectations for this review,
    c) The proposed way forward to minimise the number of traffic modelling runs at the feasibility stage is acceptable.
        i) i.e. that we concentrate on assessing the option to have Cornhill, Poultry and Lombard/King William Street 'open' to another mix of traffic in both directions in the first instance.
        ii) If that is not feasible, to then start working through the appropriate movement options of either reducing the number of arms 'open' or banning movements to facilitate another vehicle type during the restricted hours.
    d) That if the above is agreed, to note the risk associated with this approach.

Proposals

13. To agree or amend the proposal in Appendix 1 of how to undertake the traffic mix and timing review.

Key Data

14. N/A at this stage

Corporate & Strategic Implications

Strategic implications

15. The review will take into account the Corpraote Plan, Transport Strategy, Climate Action Strategy and any other relevant Corporate strategies and plans.

Financial implications

16. At this stage there are no financial implications – but there is a risk that the review will be more expensive than first envisaged. If the proposed way forward is agreed a costing exercise will be undertaken and if required, an Issues report submitted to explain how to balance the funding within the project budget.

Resource implications

17. There will be external commissions to be managed by a project manager within the project team.

Legal implications

18. Any proposal that comes out of the review will need to demonstrate how it complies with Section 122 of the Road Traffic Regulation Act which requires the traffic authority, in exercising its traffic authority functions, to secure the expeditious, convenient and safe movement of vehicular and other traffic (including pedestrians), so far as practicable having regard to

    (a) the desirability of securing and maintaining reasonable access to premises.

    (b) the effect of amenities of any locality.

    (bb) national air quality strategy.

    (c) public service vehicles.

    (d) any other relevant matters.

Risk implications

19. Members should note the risk of undertaking the review whilst the experimental schemes by Transport for London on Bishopsgate and London Bridge, and the City's experimental schemes, are still in their monitoring phases. Undertaking the traffic counts to update the traffic model with these in place creates a risk of abortive work should it be later decided that these experimental schemes are not progressed into permanent schemes or change significantly from their current arrangements; particularly the Bishopsgate/London Bridge schemes.
20. The traffic modelling results will outline likely journey time impacts but rely on reasonable representative flow of traffic at each junction within the model. If those traffic flows on corridors change substantially during the process of us assessing the options for changing the traffic mix, then the impacts and/or benefits regarding journey times will not be representative.
21. This may impact our ability to be able to get a subsequent Traffic Management Approval (TMAN) for changing the traffic mix and or timing of the restrictions. It is possible that to progress a change of traffic mix and or timing that we could be asked to restart the traffic modelling process again if this were to happen.
22. With that risk in mind, the proposal in Appendix 1 assumes that Bishopsgate and London Bridge and the City's experimental schemes remain long term. This is what the traffic model once updated with new traffic flows will best represent.
23. In addition, there is a risk that at the stage of submission for the required Traffic Management approvals from TfL that they could refuse to approve the submission. Cornhill and Poultry are part of the Strategic Road Network as defined in the Traffic Management act 2004. This means that TfL are more than a consultee on these streets and able to veto proposals.
24. Early engagement should minimise this risk but there is a risk that a change in the traffic mix or timings of the restrictions at Bank may impact on their existing

experimental schemes, which may be made permanent, which could influence discussions.

Equalities implications

25. As the review progresses, equalities analysis and appropriate stakeholder engagement with impacted protected characteristics will be undertaken. These will be presented at the appropriate stages when Members are asked to take decisions.

Climate implications

26. No direct implications from undertaking the review. Any proposal for implementation will consider the implications of the Climate Action Strategy

Security implications

27. No direct implication from undertaking the review. If required consideration to security and safety will included when assessing the proposals.

Conclusion

28. Officers have been asked to bring forward the traffic mix and timing review of the restrictions at Bank junction to start immediately. The plan in Appendix 1 sets out in more detail how it is proposed to do this. It also sets out the assumptions that will be made and the risks associated with the approach outlined.
29. Members are asked to agree or amend the proposal in Appendix 1.

Appendices

- Appendix 1 – Draft plan for restrictions review.

Background Papers
Gateway 5: Authority to start work (December 2021)
https://democracy.cityoflondon.gov.uk/mgAi.aspx?ID=122207

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Environment

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Environment Department
Juliemma McLoughlin
Executive Director Environment

Bank Junction Improvements Project: All Change at Bank

Traffic mix and timing review plan.

May 2022

Contents

Introduction

1. Following the decision of the Court of Common Council on 22 April 2022 to approve the Motion:

"That the Planning & Transportation Committee be requested immediately to begin a review of the nature and timing of current motor traffic timing restrictions at Bank Junction, to include all options. This review will include full engagement with Transport for London and other relevant stakeholders, data collection, analysis and traffic modelling. The Planning & Transportation Committee should then present its recommendation to this Honourable Court as soon as practicable."

2. This document sets out the scope of this review namely:
    - how that review is intended to be undertaken
    - the options to be investigated
    - the process and indicative programme
    - the associated risks

Objective of the review

3. Work to improve the area around Bank Junction in the heart of the City has been ongoing for many years. It is a constrained site and has a history of serious and fatal collisions, leading to the Bank on Safety intervention in May 2017 when the junction was restricted to buses and cycles only, Monday to Friday 7am to 7pm.

4. Work to deliver wider improvements to the junction is progressing with the aim of delivering the four project objectives of the All Change at Bank project - further improving safety, pedestrian comfort, air quality and the sense of place.

5. This work has culminated in a proposal, which has Gateway 5 approval, to restrict part of Threadneedle Street and Queen Victoria Street on the approach to the junction to people cycling and walking only, and modify the operation of Princes Street to have a section of a single carriageway, two- way working, where it joins the junction (See Appendix A)

6. Subject to the outcome of the statutory traffic order process this work is programmed to start later in 2022.

7. The primary objective of the review is to assess whether for the arms of Poultry, Cornhill, and Lombard/King William Street there is:

    - a better balance of traffic mix than currently permitted in the current Monday to Friday 7am to 7pm restriction; and
    - whether those restriction times are the optimum operational hours

8. The review will be based on a mix of traffic modelling and other data collection to present to all Members to fully understand the benefits and disbenefits of any potential changes to allow additional traffic modes to use the junction during restricted hours and/or extensions to the timings of restrictions.

9. The review will consider how changes might contribute to better achieving the All Change at Bank project objectives and the balance of local access requirements.

10. Options could then proceed to public consultation subject to member approval.

What has previously been agreed

11. The broad objectives of the All Change at Bank Project are to:

    - Continue to reduce casualties
    - Reduce pedestrian crowding levels
    - Improve air quality
    - Improve the perception of place as a place to spend time in.

12. There has been an ongoing requirement to undertake the traffic and timing mix review as part of the All Change at Bank project. It was originally intended that this would be done at the same time as the development of the physical design changes which have now been approved at Gateway 5; However, due to the pandemic there was uncertainty of

    - traffic flows and composition,
    - long term changes to travel and work patterns
    - temporary traffic orders as part of the emergency response to COVID-19. Some have subsequently rolled into experimental orders, including the restrictions on Bishopsgate, Gracechurch Street and London Bridge, implemented by TfL.

13. These factors have a significant impact on the outcomes of the review, and officers therefore had recommended that this work was delayed until we had more certainty over these elements to avoid abortive work.

14. In February 2021, prior to public consultation on the proposed design, the work that had been completed to date on the traffic and timing mix review was included in a report to the Streets and Walkways Sub Committee. In terms of the scope of the review it was agreed:

    - that reducing the hours of operation was not recommended.
    - That reintroducing all traffic modes was not recommended.
    - To seek people's views in the public consultation on allowing additional traffic during restricted hours and extending the hours of operation.

15. The findings of the consultation including the questions around mix and timings are detailed in the issues report presented to the Streets and Walkways Sub Committee in September 2021. This report also approved the progress of the All Change at Bank project to Gateway 5, subject to the outcome of the statutory traffic order process. A timeframe for full review was debated and members agreed that the review would take place within 12 months of completion of the construction of the All Change at Bank project.

16. The subsequent motion at Court of Common Council in May 2022 requires this review to commence immediately.

17. The Bishopsgate Experimental Traffic Order (ETO) went live in mid- January 2022 and the London Bridge ETO in February 2022. These ETOs are in effect a continuation of the restrictions to vehicle movement along Bishopsgate/Gracechurch Street corridor which had originally been implemented as temporary traffic orders. On Bishopsgate this restricts traffic to buses and cycles only, other than for short sections of access Monday to Friday 7am to 7pm. The London Bridge ETO restricts movement to buses, taxis and cycles only. Officers will bring a draft response to the statutory consultation on the

Bishopsgate ETO to the July meeting of the Streets and Walkways Sub Committee.

Assumptions

18. The key assumptions for the review are:

1. The base restriction for alternatives to be compared against is buses and cycles only Monday to Friday 7am to 7pm, i.e., the current approved scheme with TfL and at Gateway 5.
2. The restrictions being reviewed would apply to Cornhill, Lombard/King William Street and Poultry which are currently proposed to remain buses and cycles only Monday to Friday 7am to 7pm. (See second plan of Appendix A (Dark Blue area))
3. Sensitivity testing on whether it would be possible to allow more than buses and cycles northbound on Princes Street at any time will be undertaken. If possible (from a traffic signal timing perspective and journey time implication) this route could also be considered in terms of a change in traffic mix, but not timing and the agreed changes mean it would need to remain an 'at any time' restriction.
4. We will revisit the potential to allow all traffic that was previously excluded to ensure that decision remains valid based on more recent data.
5. That the decision taken in February 2021 to not investigate reducing the hours of operation of the restrictions remains valid.
6. That the current experimental schemes on Bishopsgate and London Bridge remain in situ in the future.
7. That the City's experimental schemes as part of the pedestrian prioirty programme remain in situ in the future. This includes Old Broad St (one way) Threadneedle Street, King Street, King William Street and Cheapside (point closure)
8. That the approved scheme design will be delivered, and that only very minor modifications can be made if required.
9. That TfL have the resource at the appropriate times to undertake the traffic modelling audits and to write the scheme impact assessment at the required time outlined in the programme. TfL are currently suffering from a lack of resources so this is one of the biggest risks to indicative programme.

How will the review be undertaken?

19. The review will be undertaken in three stages:

Stage 1

20. Identify options for timing and traffic mix to be taken through to further detailed work. The outcome of this stage will be reported to Members for approval and is effectively a Gateway 3 report. It is expected that no more than three options for traffic mix will be taken forward for more detailed review.

Stage 2

21. The options will then be assessed in more detail. The outcome of this work will aim to recommend an option(s) for Members to agree that could proceed to public consultation. Effectively a Gateway 4 report. Following approval of this report public consultation would be undertaken.

22. The public consutaltion responses will then be reported, alongside more detailed traffic modelling outputs and more details of the impacts of the proposals on the All Change at Bank project objectives and the aspirations of the Transport Strategy and Climate Action Strategy. Members of the Court can then decide whether to proceed with the formal application for Traffic Management Approval with TfL and the advertising the associated Statutory Traffic Orders. Effectively a Gateway 5 report

Stage 3

23. Subject to the outcome of those statutory procedures, it would then be possible to make the changes to the traffic mix/and or timings at the appropriate time. As reported previously there are likely to only be limited physical works required to implement any changes to traffic mix and timings. However, implementation dates would need to coincide with or follow on from the end of the All change at Bank construction period.

Traffic mix options to be considered

24. There are essentially four classes of vehicle that can easily be distinguished within approved DfT signage when showing a blue roundel (permitted route) or a red roundel (restricted route). These four classes are buses, cycles, taxis and powered two wheelers (motorcycles and mopeds). These are also easily distinguishable within the traffic composition surveys which support the traffic modelling work. The outputs of the traffic modelling work will support this review and any subsequent recommendation.

25. The baseline that these options will be tested against will be the current restrictions of buses and cycles only on the approved revised layout. This is because Bank Junction is a key route for buses and the most recent approvals have been obtained on the basis that buses should remain on Poultry, Cornhill, Princes Street and King William/Lombard Street. It is unlikely that we would receive any support to amend or remove buses from Transport for London, and this would go against the outcomes of our Transport Strategy.

26. It is therefore suggested that we start by considering the following scenarios:

    1. Buses and cycles +taxis

2. Buses and cycles + powered two wheelers
3. Buses and cycles + taxis + powered two wheelers
4. Buses and cycles + all traffic

27. These are the four modal scenarios that we are confident can be legally signed and enforced within existing DfT regulations.

28. The traffic modelling outputs for these scenarios will provide comparable journey time impacts/benefits for comparison against each other and compared to the base assumption (buses and cycle only).

Timing options to be investigated

29. As agreed, the timings of the restrictions will also be reviewed. The original Monday to Friday 7am to 7pm timings were installed because that was the time that 75% of the collisions at the junction were occurring. The restrictions to date have been successful in reducing the number of collisions and of people killed or injured. With the addition of significant physical change at the junction, this opens an opportunity to review whether the timings could be modified to help maximise the outcomes for the project. Previous work identified that there were some concerns in the casualty data regarding evening and weekend casualty trends. It was agreed at the February 2021 Streets and Walkways to continue to consider extending the hours of operation. Reducing the hours was discounted based on the increased risk to safety. It is assumed that this decision remains the starting point in this review.

30. For all scenarios except allowing all traffic there will still be a need for some form of timed restriction on the three streets being reviewed (Cornhill, Lombard Street and Poultry).

31. The recommendation on which (if any) extension in time could be considered will be based on a review of traffic volumes, pedestrian data and collision analysis. The previous work on timing options published in February 2021 is provided in Appendix D for information.

Workstreams:

Traffic modelling work – Journey time impacts

32. Traffic modelling testing will help to prioritise the alternative options for viability and potential impacts and benefits. However, the traffic modelling work is only available for the weekday peak am and pm hours. It will therefore not help to determine different timings of the restrictions

33. It is proposed to take the approved All Change at Bank traffic model, update traffic data with new classified traffic counts at the required junctions (circa 25 junctions) and add in the restrictions on the TfL network for Bishopsgate, Gracechurch Street and London Bridge into the model. In addition, to add the City's Pedestrian Priority Streets experimental schemes on Cheapside, Threadneedle Street, Old Broad Street, King William Street, and King Street.

This is because these will be in place when we undertake the traffic surveys. This is not prejudging the outcome of the experiments – but representing the traffic flow situation as it is now.

34. As set out in the assumptions above we will assume that these schemes will remain in place for purposes of feasibility testing.

35. Once the traffic model has been updated, we will be able to test the four traffic mix scenarios. It is proposed to just do this on the assumption that the most attractive option for route choice is to be able to travel on all of Cornhill, Poultry and King William Street (indicated in blue in Figure 1) in both directions. It is proposed that this is the starting point and other options investigated if required.

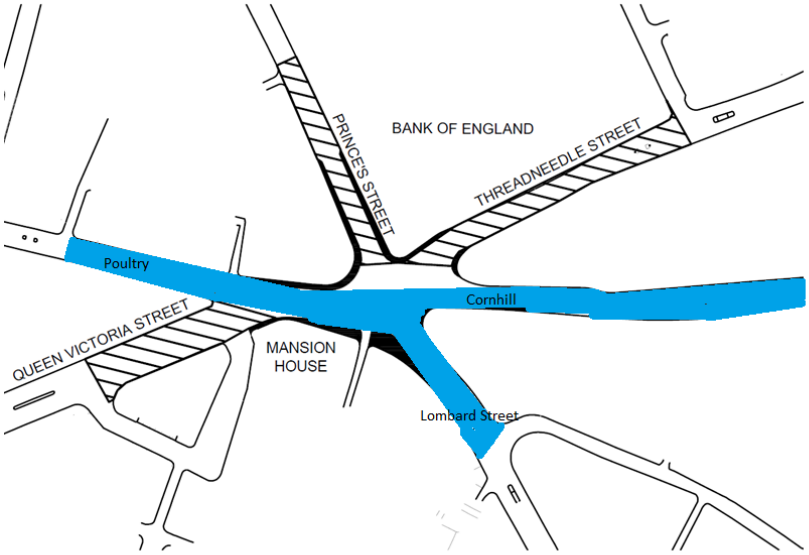


Figure 1 -blue solid colour indicating which arms are being reviewed for the traffic mix and timing review.

36. This information will give an indication of journey time impacts at Bank Junction to compare to the approved All change at Bank scheme. This will include the impact/benefit on average wait and crossing times for people crossing at traffic signals, as well as journey times for people cycling or travelling by bus.

37. This will form part of the first evidence review to exclude options that are considered not to have merit in being progressed to further evaluation. (Stage 1)

38. The second set of traffic modelling (Stage 2) will then focus on those scenarios that do have merit for further investigations. This work will look at the impact on the wider network and how this might be balanced through mitigation measures, such as signal time changes, possibly other banned turns etc. to make the schemes as 'efficient' as possible from a predominantly traffic journey time perspective. This will, include the key corridors of Bishopsgate, Cannon Street, St Martin Le Grand and London Wall.

39. It is at this stage that we might need to look at other alternative movements on the arms of Poultry, Cornhill and Lombard Street if the model outputs suggest that unrestricted access in both direction for the specific mix of traffic is unlikely to

be feasible in terms of journey time implications. There are 31 different combinations of movements along the main three arms that could be considered. These are outlined in Appendix C. However, to look at all these would be expensive and may provide little differentiation between some combination of movements.

40. If the routing of all three arms open in both directions does not appear to be viable for allowing a change in traffic mix, then we can assess the information and look to remove an arm, or a turning movement. For example, it could be that the demand for London Bridge generates a large queue at the approach to Monument junction. To relieve that impact, we could try banning the right turn from Poultry into King William Street to reduce the demand and see if that would work better in the traffic model. Alternatively, we could look at just the east/west route as an option and remove the King William Street link entirely. Which options to investigate will be informed by the traffic model outputs and the update and review of the other work streams.

41. This information will feed into the second evidence review taking into account the impacts on the rest of the project objectives (effectively a Gateway 4 report). It is anticipated that at this point Members would be asked to approve a recommendation for an option(s) to be consulted on as part of the public consultation exercise.

42. In parallel to the traffic scenario testing above, there would also be a technical process with TfL to audit the base and future base traffic models, ready for any final assessment of the impacts of a preferred scheme. This will provide us with a level of assurance that for whichever option is taken forward to public consultation TFL are comfortable that the technical work around the model is acceptable and the generated journey time impacts are within a reasonable tolerance.

43. If, following public consultation, member approval is granted to proceed with a preferred option (effectively Gateway 5), the final audits will be undertaken, and TfL will produce a scheme impact assessment report. This will respond to any proposed change to the traffic mix or timings of the junction which will be used as part of the internal TfL approval process for the schemes Traffic Management Approval (TMAN).

44. It should be noted that Cornhill and Poultry form part of the Strategic Road Network (SRN), created in 2004 as part of the Traffic Management Act. TfL have two main roles in this approval process – firstly in terms of auditing and approving the traffic models and outputs. They also need to approve any changes that impact the SRN routes through the TMAN process. For schemes proposing a change they undertake a Scheme Impact Assessment which determines the impact of the proposals across the range of transport modes. Depending on the scale of these impacts, the decision on whether to grant TMAN approval or not may be taken by the Road Space Performance Group.

45. A map of the streets that form the SRN can be found in Appendix B

46. It should be noted that without knowing the outcome of the first phase of traffic modelling and how many traffic mix options there might be going through to the second phase of traffic modelling, it is difficult at this stage to forecast the number of traffic model 'runs' that will be required. There will also be sensitivity tests that need to be undertaken to try and ensure any proposals taken forward for consultation or delivery are robust and withstand reasonable traffic flow changes in the future. The more 'runs' required the more expensive the cost of the traffic modelling and the longer the process is likely to take.

Sensitivity testing.

47. In addition, whilst not currently able to sign for Private hire vehicles (PHV) to be permitted it is suggested that a sensitivity test proportioning the composition of PHV is also undertaken should the position on signage change in the near future and the equalities analysis is indicating that this would be beneficial. This would be undertaken if there is a preferred option that includes Taxis.

48. Other sensitivity tests regarding the traffic modelling may also need to be undertaken to reassure that making any proposed change at Bank is likely to continue to work with other schemes that are in the pipeline to deliver the Transport and Climate Action Strategies.

Collision analysis

(Work to be undertaken externally)

49. A collisions analysis for the area will be updated to include the latest figures (including the latest provisional figures which have not yet been audit/validated as this process usually takes 18 months). This will look at the causation factors, vehicles involved and severity of injury. This will help to assess the risk and benefit implications of making any changes to the vehicle mix or the timings of the restrictions.

50. 'U turning' vehicles have been specifically raised by some Members as a concern of the current restrictions. This will be investigated as part of this work as to whether this is a perceived safety issue or has resulted in an increase in this type of collision.

51. The detail of this is largely going to contribute to the stage 2 assessment.

Air quality

52. We have an ongoing monitoring of NO_2 since 2016 and are able to track the global change of NO_2 at Bank and in the surrounding area. However, the diffusion tube method does not give granularity to assess the impact of individual changes or help to distinguish the impact on an hour-by-hour basis.

53. It is not proposed to undertake air quality modelling to support this review. However, working with the air quality team and/or consultants, an interpretation of the likely impacts and/or benefits of the options will be looked at and presented in the review for consideration

54. The detail of this is largely going to contribute to the stage 2 assessment

Place making

(Work to be undertaken externally)

55. It is proposed to issue a brief to a consultant to establish a baseline of existing streets and spaces using the Healthy Streets assessment tool. This analysis will then be redone for each of the shortlisted options. Healthy Streets assessments consider 10 criteria such as ease of crossing, noise, shade. This will help with the overall comparison pre and post scheme as well as subjective analysis of any timing or traffic mix change proposed as part of this review.

Signage – understanding

56. Consideration of any proposal must take into account what can be legally signed, how easy the signage is to understand and how large signage might have to be (which has its own constraints). This is a practical consideration for any proposed change. Officers understand that some members have ongoing concerns about the signage but what is currently on street is the most suitable compliant option.

57. A further review will be considered at the stage 2 assessment.

Equalities Analysis

(Work to be undertaken externally)

58. Review of the existing analysis highlighting any areas already covered that may support or oppose any change of timing or traffic mix on any particular arm.

59. This will contribute to the stage 1 assessment

60. Any proposals to be looked at in more detail during stage 2, a further analysis will be undertaken to assist design mitigation of any identified negative impacts and to inform public consultation.

61. A final Equality Analysis on any proposed option for change will be provided when presented to Members at Stage 3 (affectively gateway 5) and TfL for the TMAN application for final decisions.

Updated traffic and pedestrian count data

62. It is anticipated that new traffic data to verify flows and composition will be needed to undertake the traffic modelling exercise. The extent of this is to be determined with the consultants and TfL. However, it looks to be in the region of 25 junctions that require collecting.

63. It is also proposed to update pedestrian flows at Bank. This will help both with the planning of the proposed construction work and in understanding volume of people moving though the space currently that could be impacted by any proposed changes. It is a suitable time to undertake these now that the Bank Blockade has concluded.

64. Counts need to be undertaken outside of school holidays and bank holidays and require the consultant to have the capacity and enough equipment to undertake all of the counts at the same time. It is intended that this work will be undertaken alongside the data collection exercise for the wider Traffic Order review being undertaken by the Strategic Transport team.

Stakeholder engagement and public consultation

65. As the public consultation on the main All Change at Bank project in Summer 2021 showed, there are strong views held on the subject of access through Bank. Responses received showed no clear overall view, and the detailed analysis showed preferences for different options of mix and timing varied significantly depending on main mode of travel.

66. The public consultation exercise has the potential to be scrutinised . It is recommended that the public consultation planning, execution, and analysis is undertaken by a third party that can independently manage issues that may be contentious to ensure a representative response to the consultation

67. This is going to be an important piece of work for the review and is likely to cost more than had originally been envisaged, however the additional cost is believed to be beneficial to ensure that the methodology and findings of the work are considered by all to be impartial and representative.

68. Wider engagement outside of the formal consultation process will largely be undertaken by Officers, particular with regards to local building occupiers, Ward Members and wider Member communication. However, the commissioned consultant will be asked to advise on wider stakeholder management during the review as part of their commission. Stakeholder engagement will an ongoing process that runs throughout the programme.

Outline programme

<u>Stage 1: Initial feasibility June to October 2022</u>

(effectively leading to a G3)

- Commission various work streams
- Agree Traffic modelling expectations with TfL
- Undertake baseline review of data (including equalities) and collect new data where required
- Traffic model updated with new flows and composition for initial feasibility testing
- Independent review and matrix assessment

- Report back on progress to Streets and Walkways

Stage 2: Shortlisted options for further investigation – November 2022 -January 2023

(*Effectively leading to a G4)*

- Initiate base and future base model audit with TfL
- Options retested and mitigation investigated on TFL agreed base model
- Review impacts on wider network and update matrix review where more detail has been obtained (Including equalities)
- Report back to Streets and Walkways on options with recommendations of any options to be put to forward to public consultation Public consultation exercise February- April 2023
- To be externally run and analysed
- Report back on outcome of consultation and recommendations for taking (if any) a preferred option forward

Stage 3: Detailed design May 2023 -October 2023

(Effectively leading to a G5)

- Proposed scheme to TfL for Audit and scheme impact assessment
- Finalise Equalities Analysis, Road Safety Audit if required,
- Submission for TMAN approval
- Advertise statutory traffic management orders for consultation
- Report back on TfL approvals and any objections to the traffic orders and if appropriate seek approval to make the orders and implement the changes at the appropriate time.

69. The indicative time frames rely on external resource being available at TfL and that the proposed way forward in terms of traffic modelling as set out here is the approach that is agreed with TfL through the 'modelling expectations' document.
70. This programme is also based on the assumption that Committee approvals remain with either Streets and Walkways or Planning Committee. If additional committees, such as Policy and Resources or Court of Common Council are required to approve the various stages, then this will add some delay in to the indicative programme depending upon the timing of each committee etc. It is assumed that the reports would go to Operational Property and Projects Sub as required regarding the project management process of the review.

Risks

71. Undertaking this review at this time adds in additional risks to the accuracy of the modelling work given the key dependencies on TfL's Bishopsgate and London Bridge ETOs. At present taxi access is not included within TfL's proposal but it is possible that there will be changes made to the restrictions if made permanent. The restrictions could also be removed entirely. If a change is made to these restrictions, we may need to return and redo the traffic modelling to account for this.

72. As with all projects that are introducing traffic orders there is always a risk of Legal challenge. If this occurs, then there would be a significant delay to programme.

Appendix:

Appendix A – plans of approved design and restrictions

Appendix B – Strategic Road Network

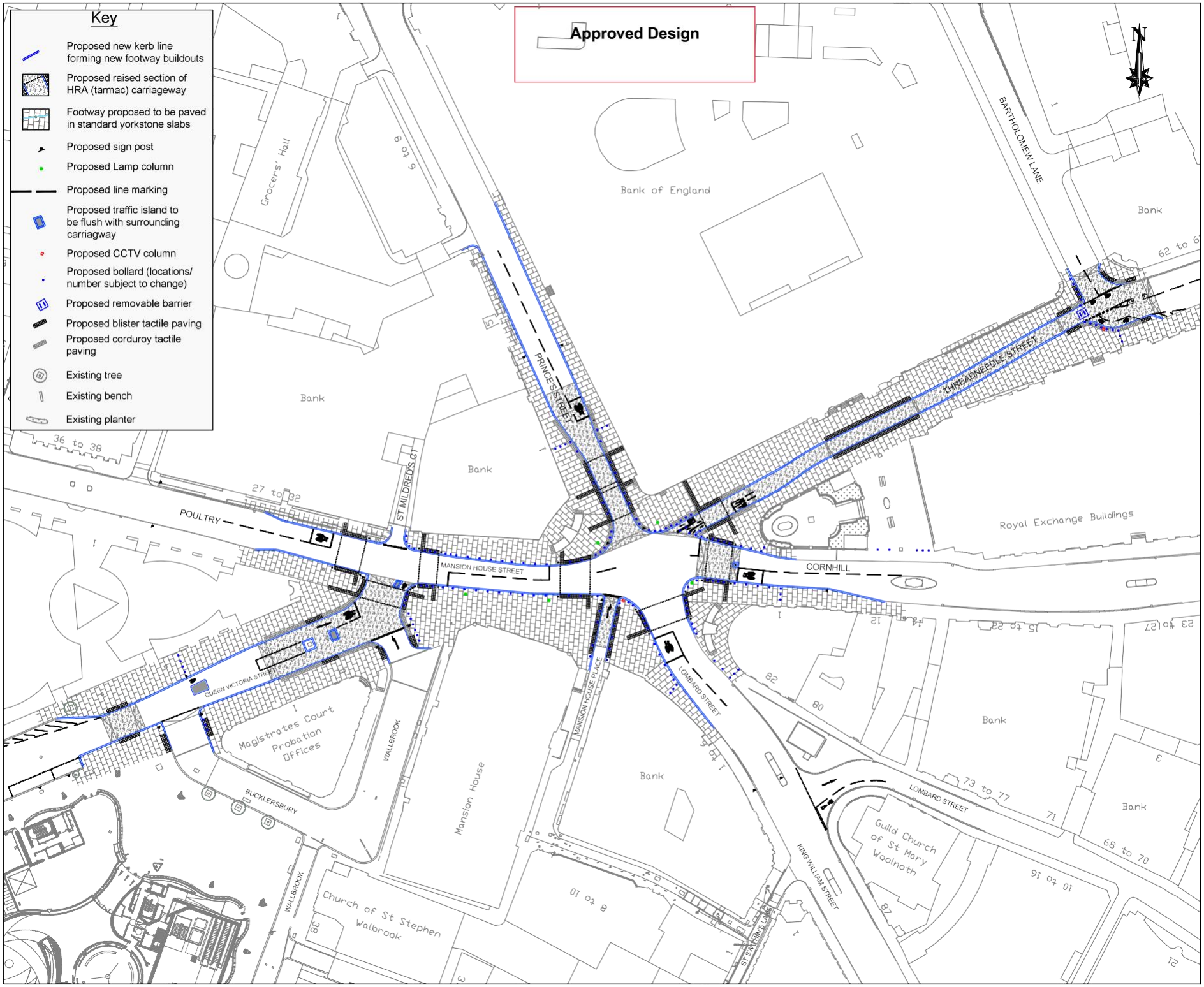
Appendix C – Route options matrix

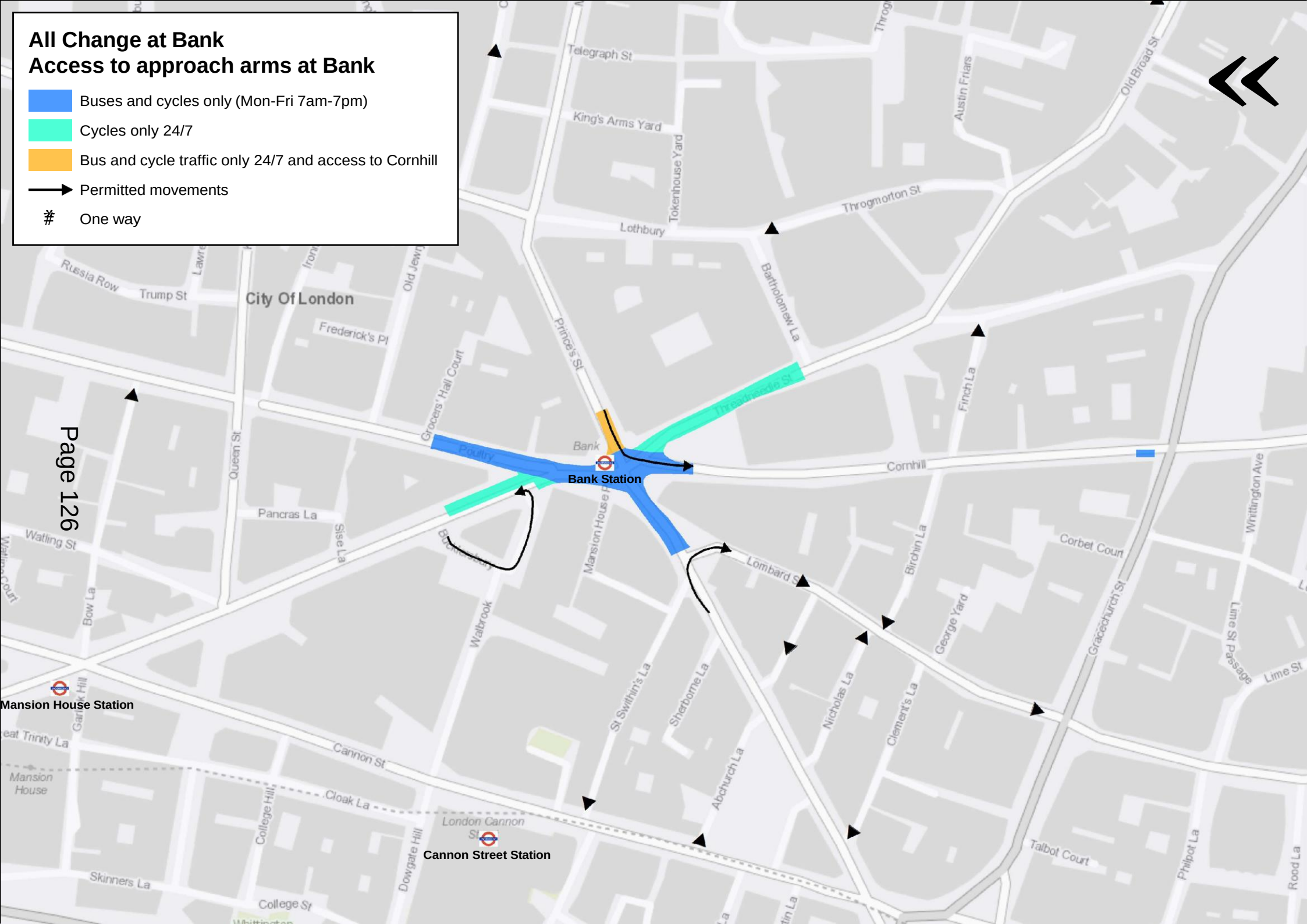
Appendix D – a link to previous work undertaken on timing review in February 2021.

Appendix A – plans of approved design and restrictions

First plan – The All Change at Bank agreed design.

Second Plan – illustration of the different restrictions.


Key
Proposed new kerb line forming new footway buildouts
Proposed raised section of HRA (tarmac) carriageway
Footway proposed to be paved in standard yorkstone slabs
Proposed sign post
Proposed Lamp column
Proposed line marking
Proposed traffic island to be flush with surrounding carriagway
Proposed CCTV column
Proposed bollard (locations/ number subject to change)
Proposed removable barrier
Proposed blister tactile paving
Proposed corduroy tactile paving
Existing tree
Existing bench
Existing planter
Approved Design
N
Bank of England
Grocers' Hall
BARTHOLOMEW LANE
PRINCES STREET
THREADNEEDLE STREET
Royal Exchange Buildings
CORNHILL
POULTRY
ST MILDRED'S CT
MANSION HOUSE STREET
LOMBARD STREET
MANSION HOUSE PLACE
QUEEN VICTORIA STREET
BUCKLERSBURY
WALLBROOK
Magistrates Court Probation Offices
Mansion House
Church of St Stephen Walbrook
Guild Church of St Mary Woolnoth
KING WILLIAM STREET
ST SWITHIN'S LANE
Bank
36 to 38
27 to 32
62 to 6
8 to 10
73 to 77
68 to 70


All Change at Bank
Access to approach arms at Bank
Buses and cycles only (Mon-Fri 7am-7pm)
Cycles only 24/7
Bus and cycle traffic only 24/7 and access to Cornhill
Permitted movements
One way
Bank Station
Mansion House Station
Cannon Street Station
City Of London
Bank
Cornhill
Lombard St
Poultry
Threadneedle St
Queen St
Princes St
Bartholomew La
Throgmorton St
Lothbury
Tokenhouse Yard
King's Arms Yard
Telegraph St
Austin Friars
Old Broad St
Finch La
Birchin La
George Yard
Gracechurch St
Corbet Court
Lime St
Lime St Passage
Wrttington Ave
Grocers' Hall Court
Frederick's Pl
Russia Row
Trump St
Pancras La
Sise La
Watling St
Bow La
Garlick Hill
Mansion House
Cannon St
Cloak La
College Hill
Dowgate Hill
Skinners La
College St
Walbrook
Mansion House Pl
St Swithin's La
Sherborne La
Abchurch La
Nicholas La
Clement's La
Talbot Court
Philpot La
Rood La
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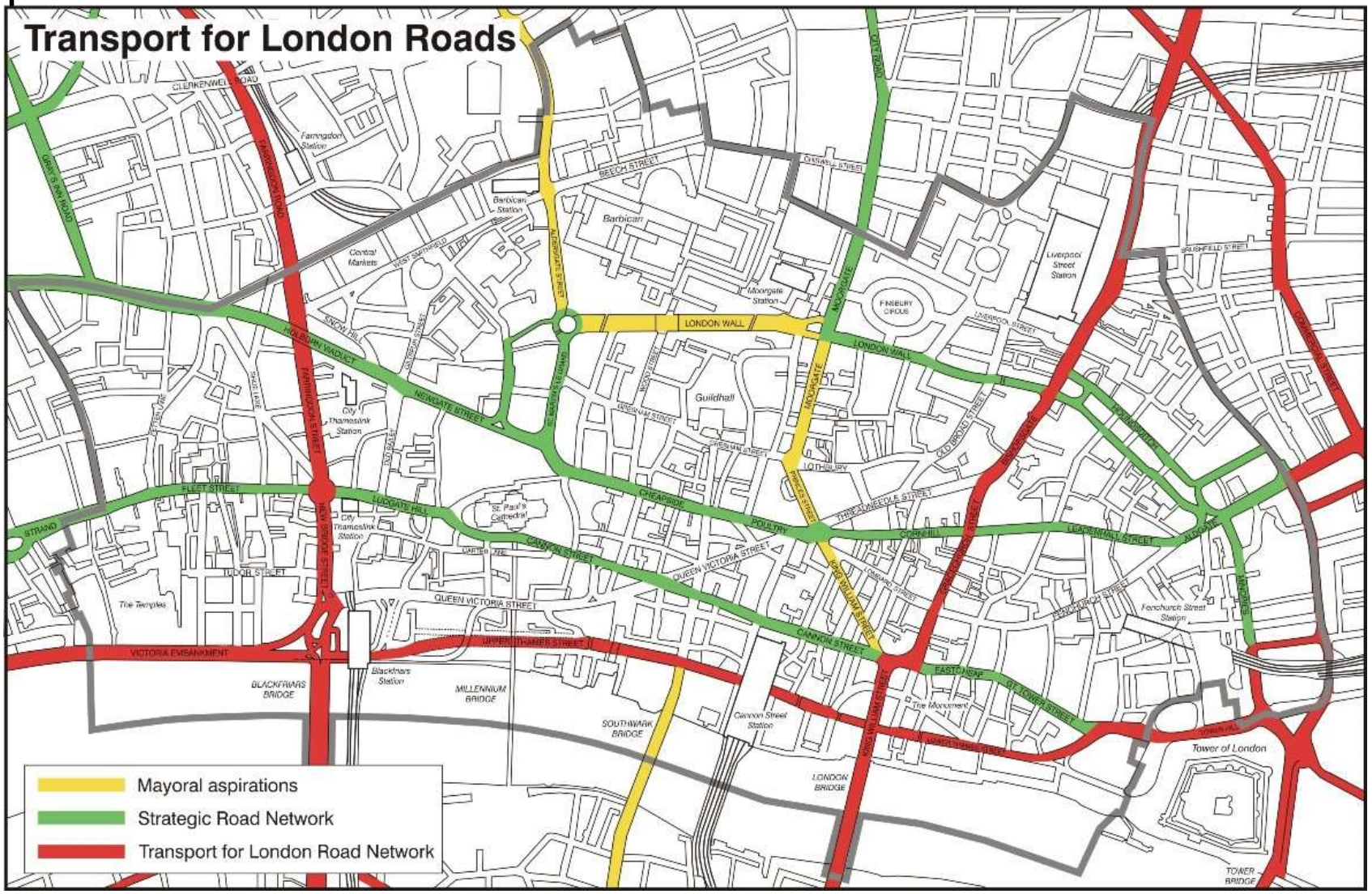
Appendix B


Transport for London Roads
Mayoral aspirations
Strategic Road Network
Transport for London Road Network

Appendix C

Possible movement options for vehicles on Cornhill, Poultry and Lombard/King William Street

Key	
the arm direction is open for vehicles	
the arm direction is restricted to vehicles	

Scenario		Cornhill		Poultry		Lombard/King William	
		Westbound	*Eastbound*	*Eastbound*	*Westbound*	*Northbound*	*Southbound*
		Entry	**Exit**	**Entry**	**Exit**	**Entry**	**Exit**
All arms open to enter junction	1						
	2						
	3						
	4						
	5						
	6						
	7						
No access to junction via King William Street	8						
	9						
	10						
	11						
	12						
No access to junction via Poultry	13						
	14						
	15						
	16						
	17						
No access to junction via Cornhill	18						
	19						
	20						
	21						
	22						
Access to junction by Poultry only	23						
	24						
	25						
Access to junction by Cornhill only	26						
	27						
	28						
Access to junction by King William Street only	29						
	30						
	31						

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