

LONDON



TUNNELS

The London Tunnels

8. Design and Access Statement

(9. Accessibility Statement included within)

30 November 2023

WilkinsonEyre

0.1 Project Team

Team Structure

The team is set up to promote a collaborative design environment involving relevant disciplines and expert consultants at the early stages of the project.

Disciplines and responsibilities:

1. Gardiner and Theobald - Project Manager
2. WilkinsonEyre - Architects and Lead Designer
3. Montagu Evans - Planning Consultant
4. WSP - Engineering Disciplines:
 - a. Tunnel Ventilation
 - b. Fire Strategy
 - c. Vertical Transportation
 - d. Tunnelling
 - e. (Mech. Elect. and Plumbing) MEP
 - f. Energy and Sustainability
 - g. Flood Risk
 - h. Acoustics
 - i. Transport Planning
 - j. Security
5. London Communications Agency - Public Consultant
6. Forsters LLP - Solicitors
7. DBOX - Marketing and Branding
8. AECOM - Quantity Surveying
9. Future City - Cultural Strategists
10. Volterra - Economic Consultants
11. GIA - RoL Consultants
12. David Bonnett Associates - Accessibility Consultants



0.2 Key Stakeholders



Local Planning Authorities

The Kingsway Tunnels sit below Holborn between Camden Borough and the City of London. Early stakeholder engagement meetings with the local planning authorities have been informative and productive. The planning authorities have actively engaged and recognised the project's potential to attract visitors and rise the cultural profile of the area, especially during weekends and out-of-office hours.

Neighbours and Local Community

In September and October 2023 a series of consultation events took place on a range of platforms including a physical exhibition of the proposals between the 7th -14th October.

The design team actively participated in the events and presented the scheme to a variety of members of the community and visitors from different demographics and backgrounds.

The event has provided valuable feedback and highlighted a wide level of interest and support.

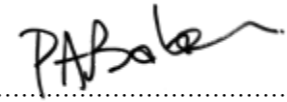
Following on from this, the team had the chance to meet a number of people with living memories of the tunnels in operation, who have provided invaluable information and support.

REPORT TITLE: Design and Access Statement
JOB NAME: 01820 Kingsway Tunnels
REASON FOR ISSUE: For Planning

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NAME: Paul Baker
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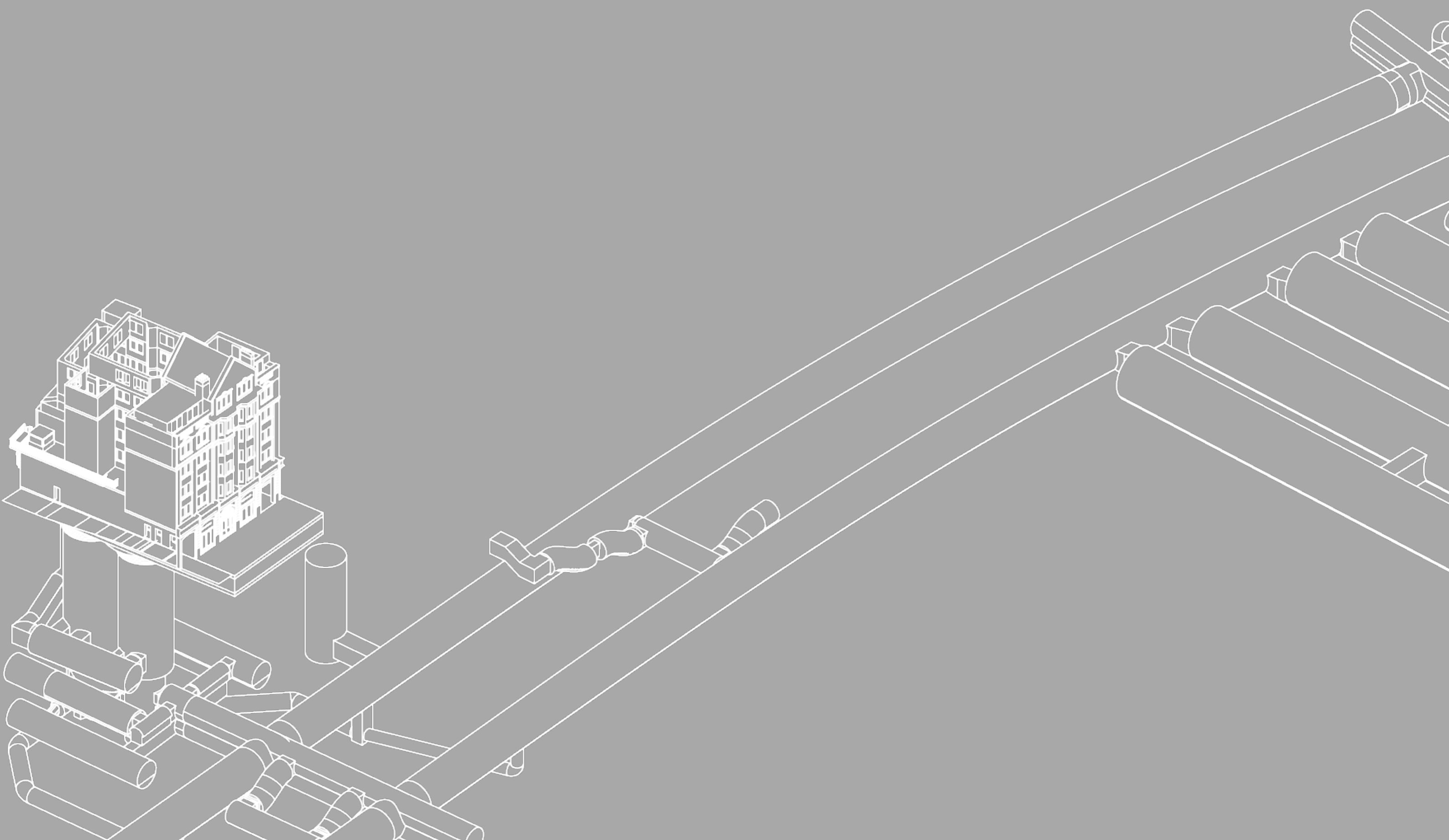


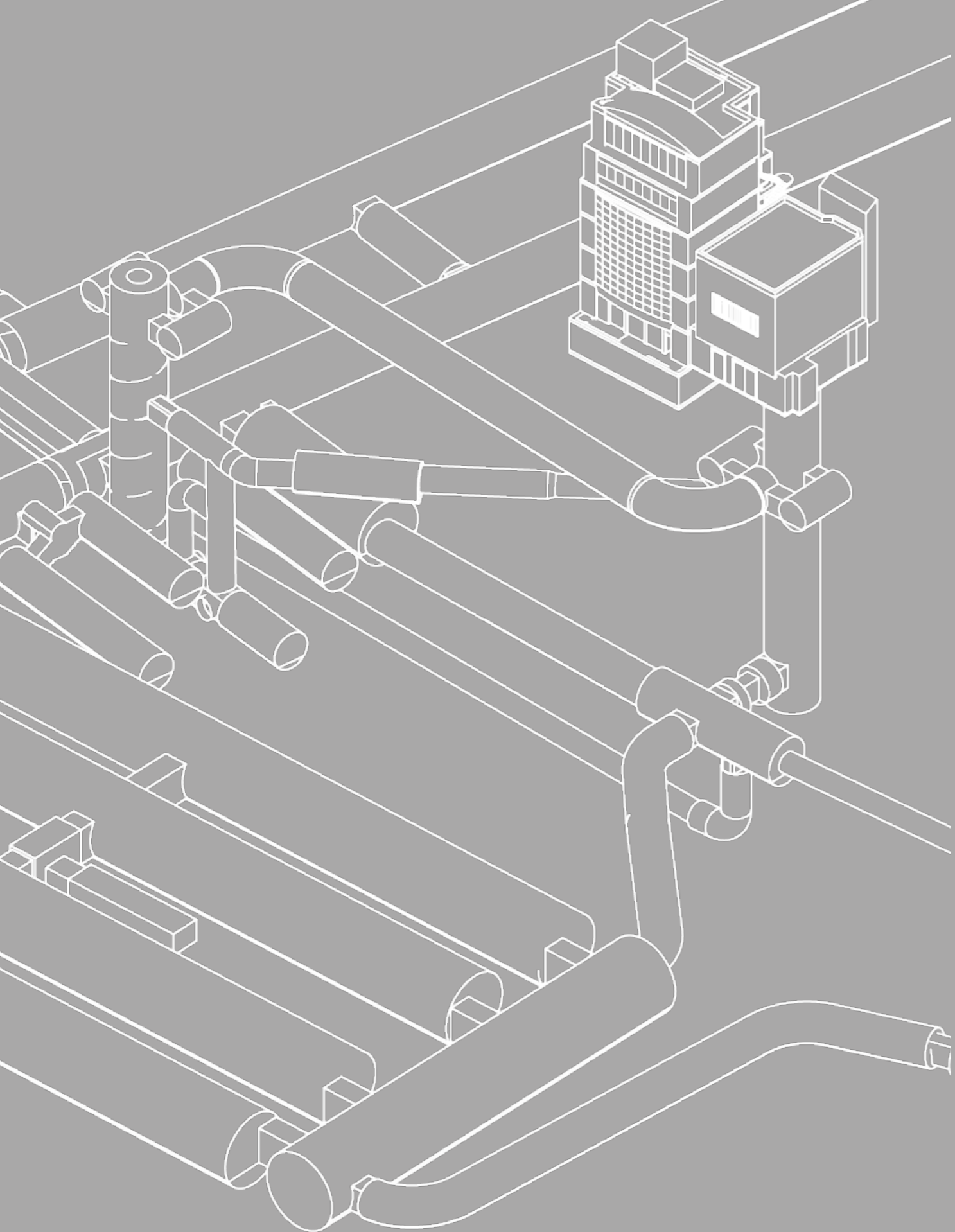
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1 Introduction

1.1 Executive Summary

This report has been prepared by WilkinsonEyre on behalf of The London Tunnels PLC to support the application for full planning permission to develop a visitor and cultural attraction in the Kingsway Tunnels, including:

“Change of use of existing deep level tunnels (Sui Generis) to visitor and cultural attraction, including bar (F1); demolition and reconstruction of existing building at 38-39 Furnival Street; redevelopment of 40-41 Furnival Street, for the principle visitor attraction pedestrian entrance at ground floor, with retail at first and second floor levels and ancillary offices at third and fourth levels and excavation of additional basement levels; creation of new, pedestrian entrance at 31-33 High Holborn, to provide secondary visitor attraction entrance (including principle bar entrance); provision of ancillary cycle parking, substation, servicing and plant, and other associated works.”

The application is a cross-boundary application covering the City of London and the London Borough of Camden and identical applications have been submitted to both Boroughs. The Statement summarises the nature of the Proposed Development in its urban and historical context, the dialogue with the stakeholders that has taken place to date, and how the Proposed Development responds to them.

What is in The London Tunnels?

The conversion of the “Kingsway Tunnels” into a cultural venue offers London a new cultural destination to complement other City of London and London Borough of Camden cultural landmarks, such as the Barbican, Museum of London, British Museum, and the Roundhouse..

The detailed exhibition content for the Tunnels will be developed over the years that The London Tunnels take to transform. Broadly it will be divided into two key components – a **permanent historical** section and **flexible digital** component.

Within the heritage component visitors will engage with key historical moments linked to the tunnels use in London war time, post war through to the cold war and the Cuban missile crisis. The relevant existing infrastructure will be restored and interpreted in a dynamic manner that will bring the rich history to life.

Within the flexible gallery spaces innovative digital led experiences will be developed, sometimes combined with physical installations. It is intended that The London Tunnels will attract modern innovative content via a convergence of digital art and immersive technology through a new inhouse initiative to be called ‘T-LAB’.

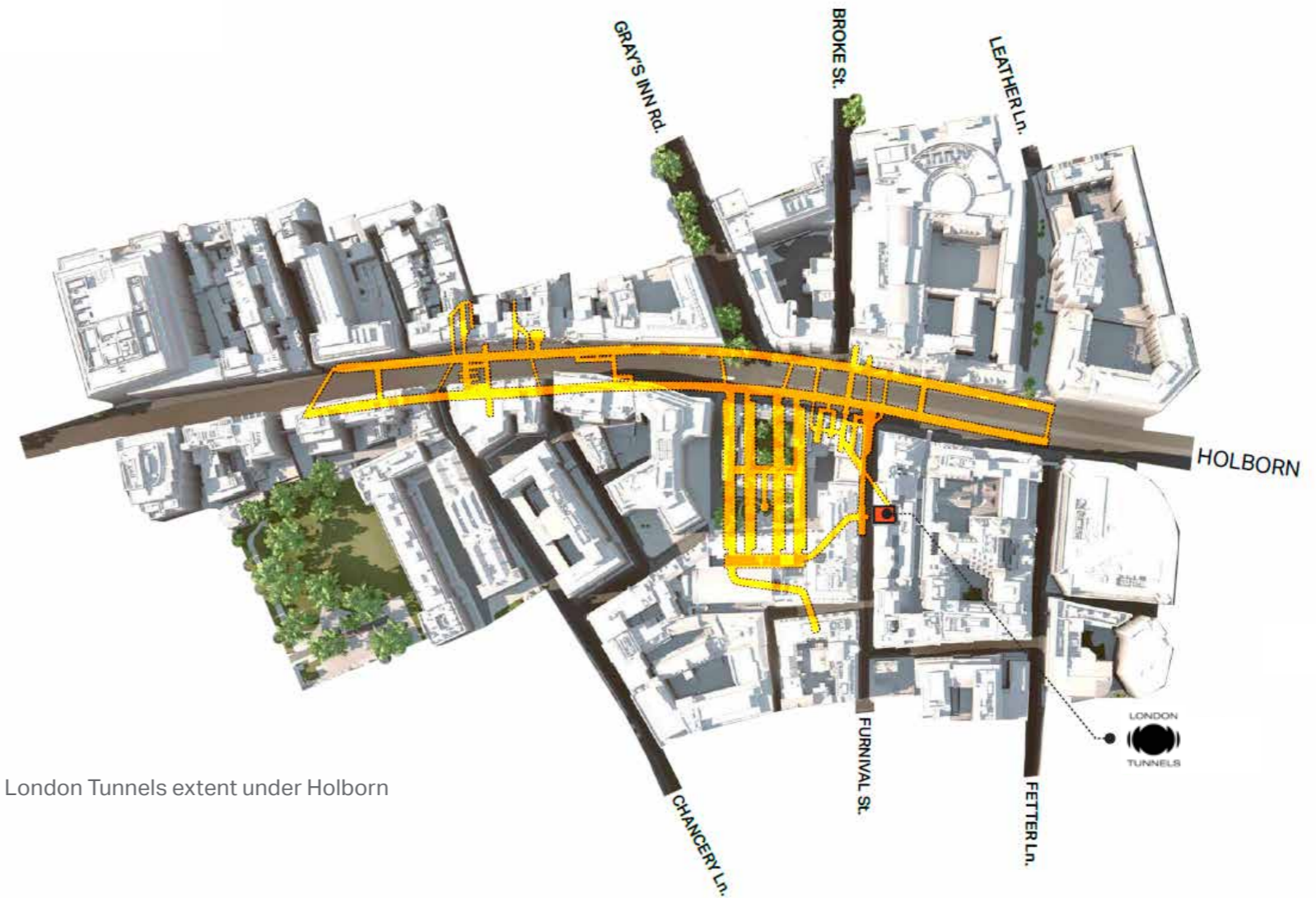


Figure 1. The London Tunnels extent under Holborn

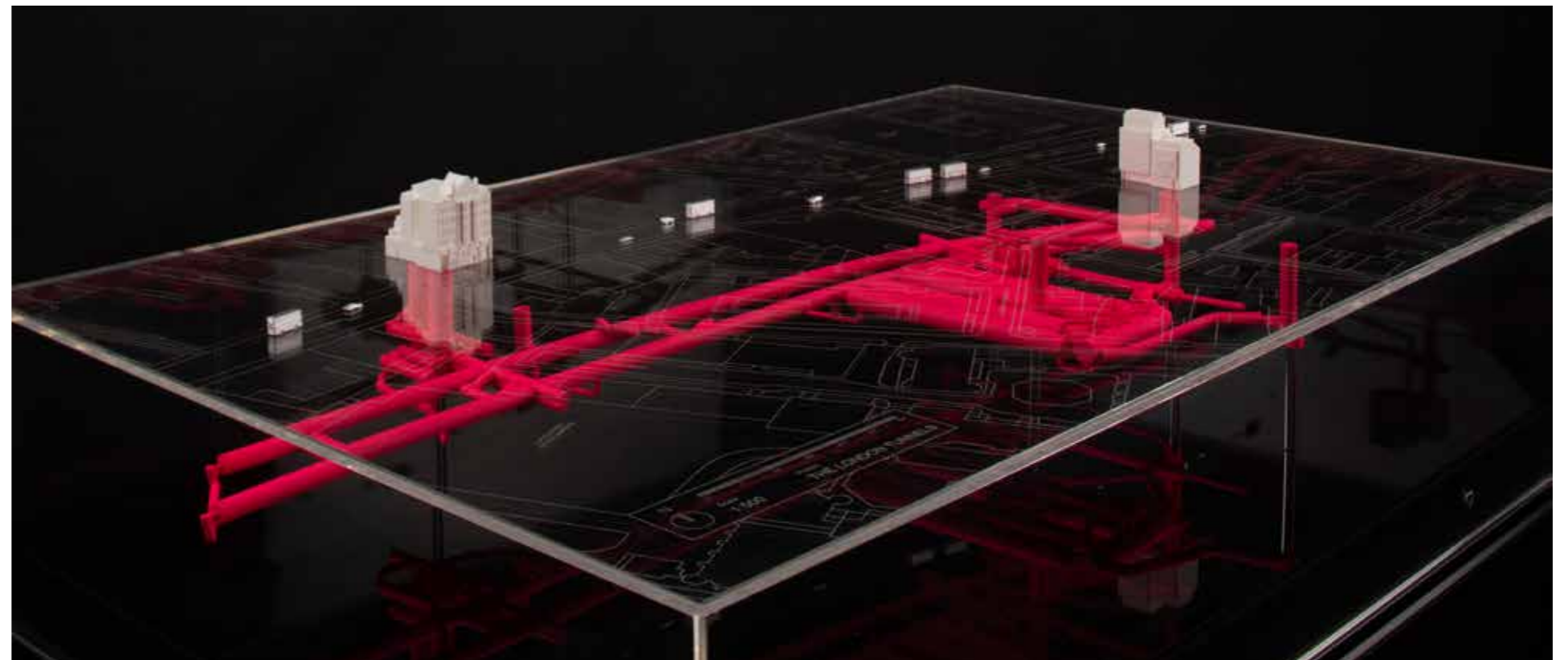


Figure 2. Model of The London Tunnels extent under Holborn

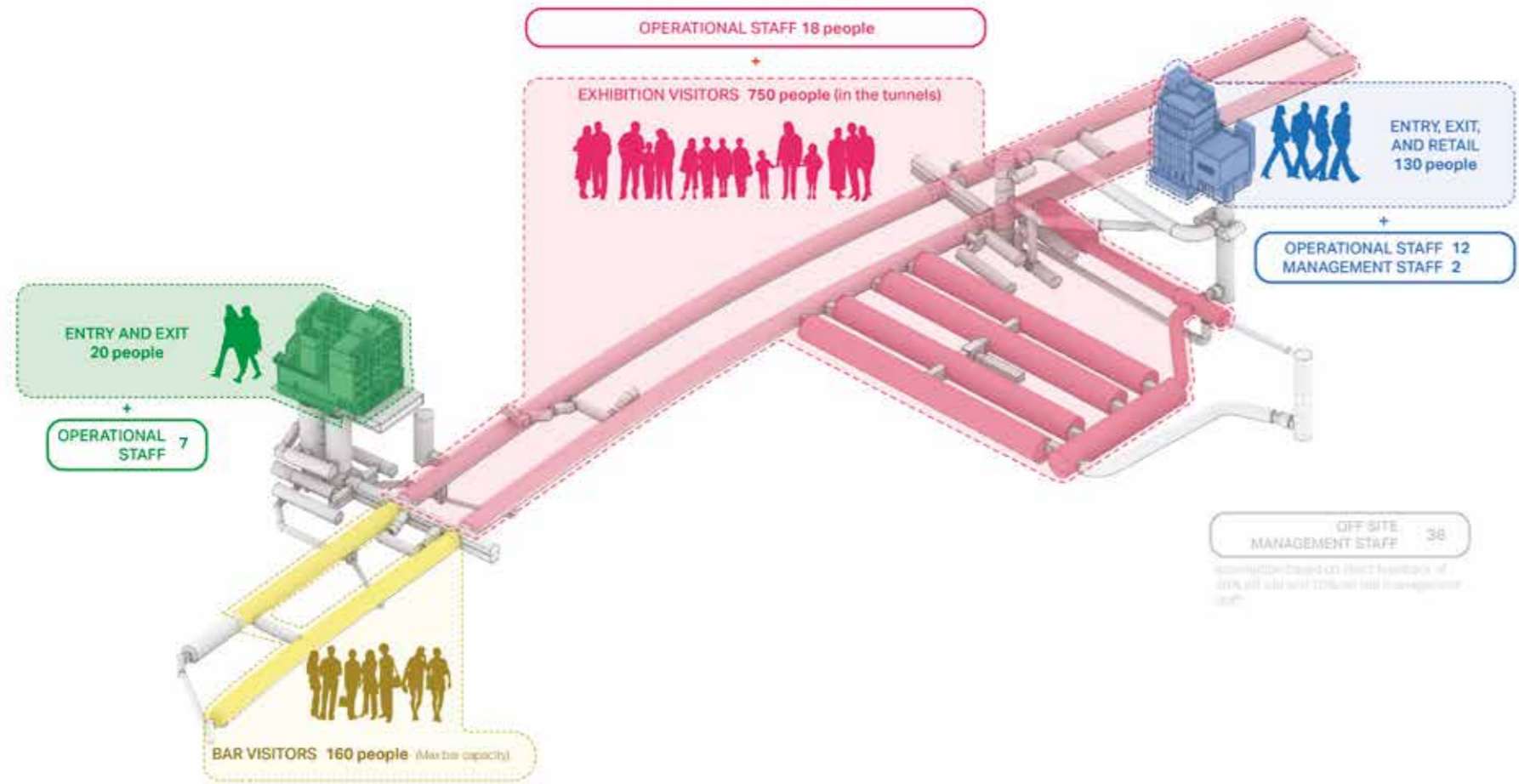


Figure 3. Simultaneous Maximum Occupancy

Occupancy and Visitor Numbers

The intention of the Proposed Development is to create a world class heritage attraction that will also offer a dynamic and diverse range of exhibitions and events.

- The London Tunnels aims to attract up to 2 million visitors per year
- The typical occupancy is expected to be 560 visitors/hour
- The peak occupancy has been designed for up to 750 visitors/hour - approximately 20 days p.a.
- The technical occupancy of the tunnels (defined by evacuation, fresh air supply and fire strategy) has been designed to far exceed the occupancy numbers above. More detail is set out in section 4.1.6
- The scheme includes the provision of a bar in the tunnels that will operate independently from the main attraction, with a capacity for 160 people.

Evacuation Strategy

The tunnels originally had 4 no. shafts connecting them to the street level which could be used for access, means of escape and goods access. Two of these shafts have now been blocked due to overground developments. In order to make the Tunnels fit for purpose, the remaining 2 accesses need upgrading as part of the Proposed Development.

- The 2 remaining shafts will be enlarged and adapted to provide access and evacuation from the tunnels, providing two distinct means of escape, one via 38-41 Furnival Street and one via Fulwood Place (31-33 High Holborn)
- Each shaft provides evacuation lifts and dedicated Fire Fighters lifts and evacuation stairs
- Shafts and associated lobbies will be pressurised.
- The Tunnels will be sub-divided into fire rated compartments, providing safe areas for a managed evacuation
- Sprinklers are provided to the tunnels and buildings with associated water tanks located at Furnival Street basement.

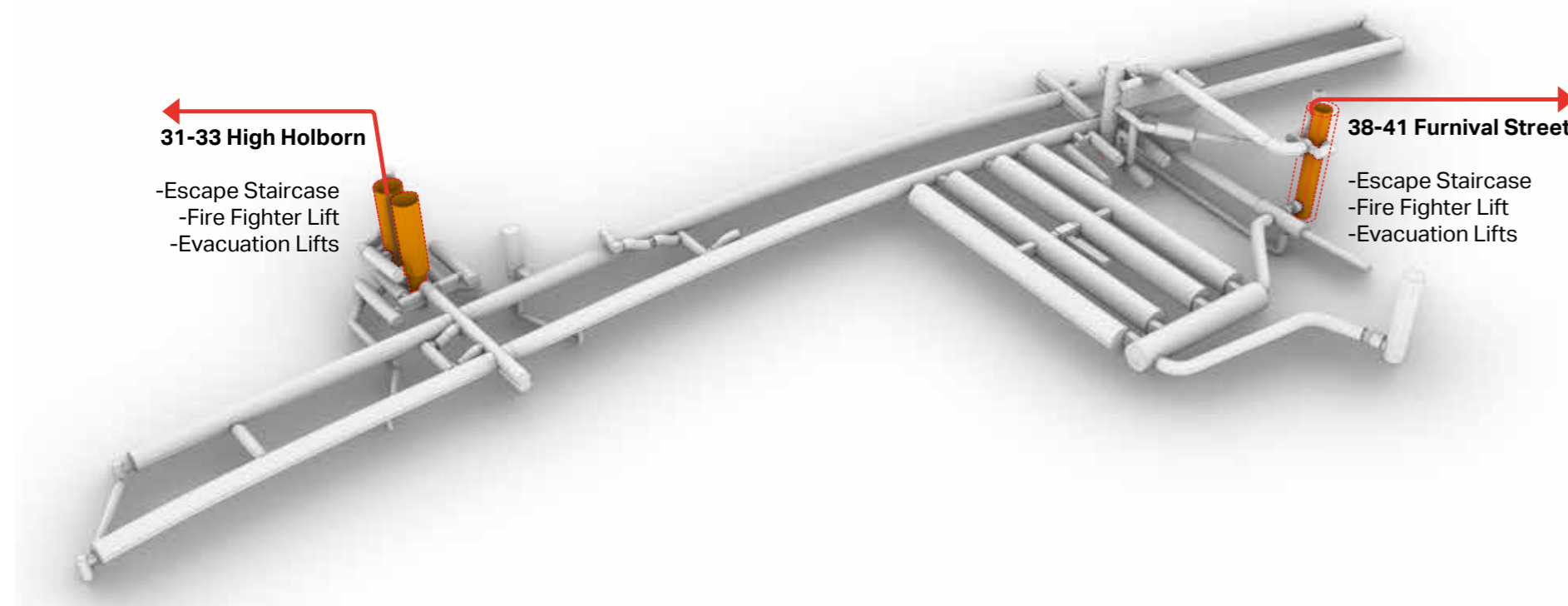


Figure 4. Means of Escape at 31-33 High Holborn and 38-41 Furnival Street

38-41 Furnival Street

- 38-39 Furnival Street and 40-41 Furnival street will be demolished and rebuilt, including 3 levels of basement. Both sites will be developed in conjunction as 38-41 Furnival Street.
- 38-41 Furnival Street will provide the main visitor access to the tunnels, and will host the majority of the equipment serving the tunnels.
- The new development will include all the public uses to provide access and exit to the tunnels, including security, ticket check, induction, lift lobby, and retail.
- The new building will provide the evacuation route from the tunnels.
- The shaft below 38-39 Furnival Street will be enlarged to include the evacuation stairs and lifts to the tunnels.
- There will be 2 sets of double decker lifts, which will also be used for fire-fighter access and evacuation.
- The new building includes staff facilities including staff bike parking.

31-33 High Holborn

- Will provide access to the bar and for school groups visiting the tunnels.
- Provides an additional evacuation route from the tunnels, including fire-fighter access.
- The scheme includes refurbishment and structural alterations of the retained area at ground floor and basement.
- Shafts located in this building and lobbies associated are pressurised.
- Plant equipment related to pressurisation requires adaptation of the façade over the alleyway for air supply and exhaust.



Figure 5. Artistic impression of ground floor street front at 38-39 Furnival Street and 40-41 Furnival Street



Figure 6. 31-33 High Holborn frontage proposal

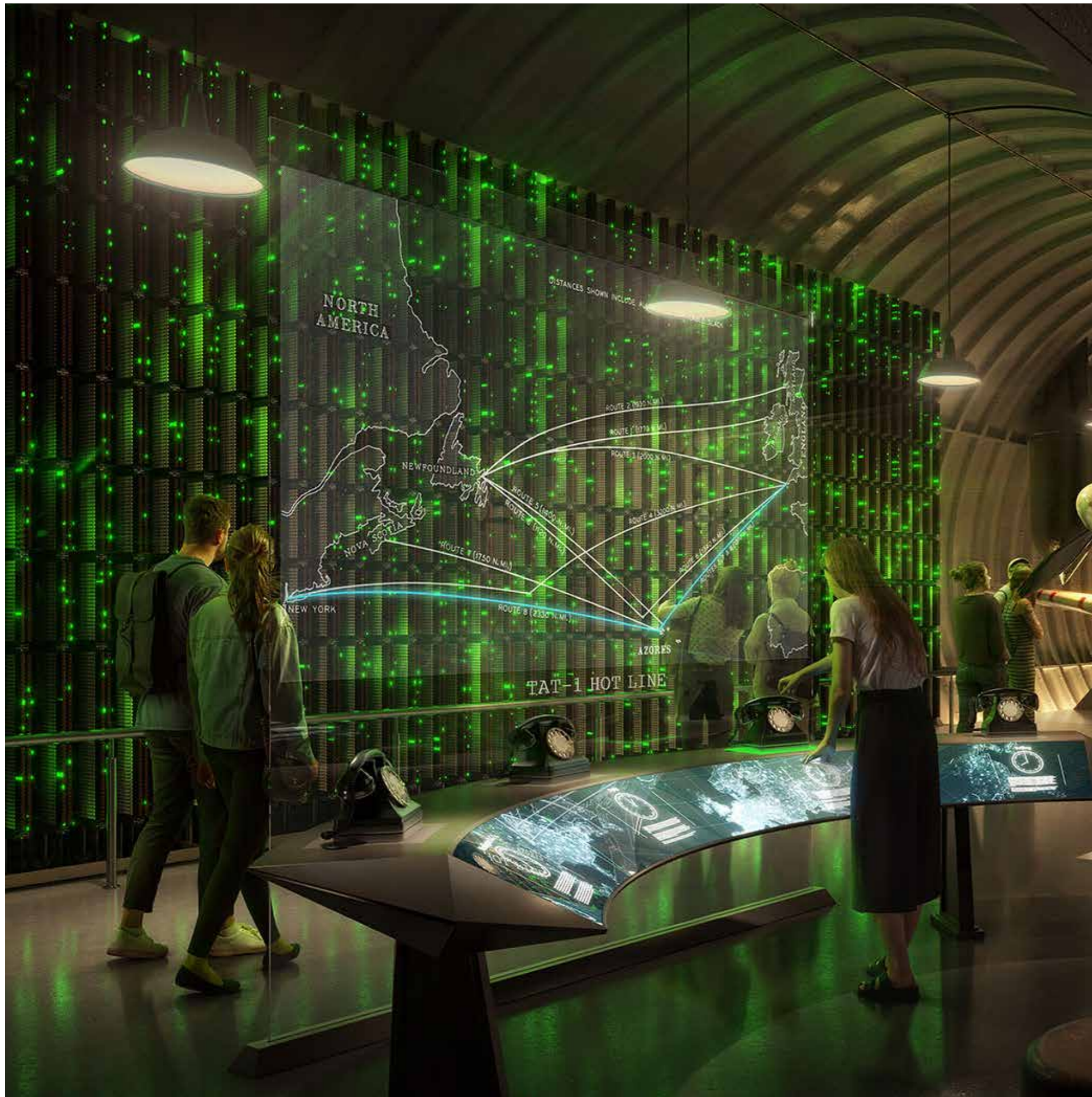


Figure 7. Zone 2 - The Tunnels (Indicative artistic image)

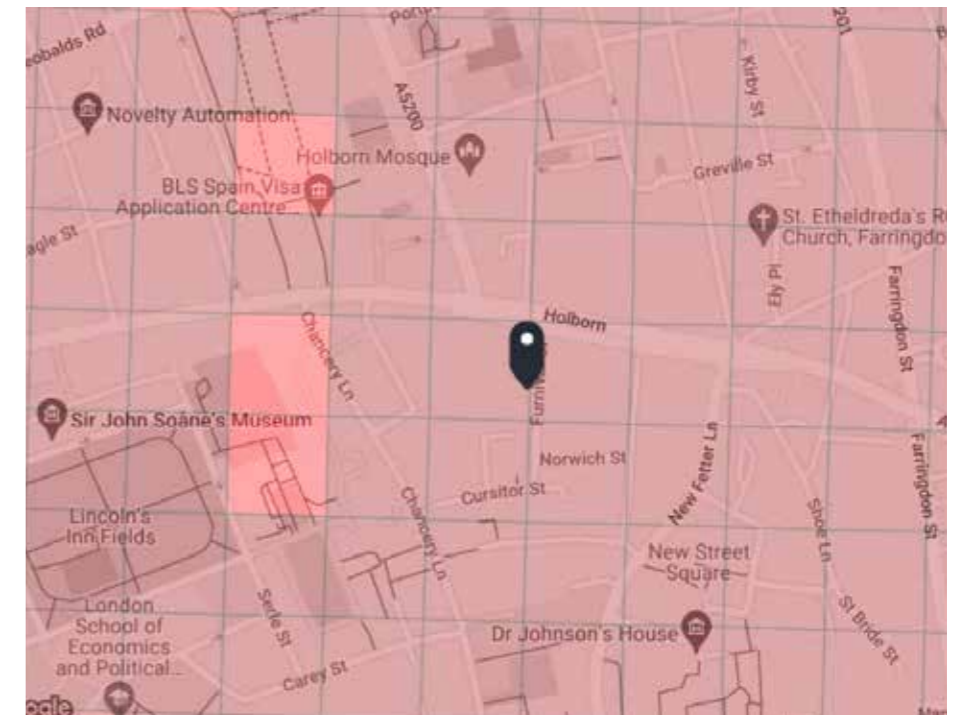
The Tunnels:

- Will be refurbished to be opened to the public as a world-class visitor attraction.
- The Tunnels will provide two exhibition zones - a permanent Heritage Trail and suite of temporary Exhibition Spaces and a bar on the site of the 1960's heritage Bar and Recreation Rooms.
- Expected peak occupancy of 750 people in heritage exhibitions and temporary gallery areas and 160 guests in The Bar.
- Back of House areas will include: gender specific toilets, a Changing Place facility, DDA toilets, a Calm Space, First Aid room, Staff & Security rooms, Storage rooms, Comms. Rooms and Technical plant zones.
- The Tunnels will be used for a limited number of events outside normal exhibition hours with entrance and exit either from Funnival Street or High Holborn.
- The Tunnels will require full strip out and repair, including asbestos removal and/or encapsulation.

Transport

- The proposed development is repurpose approximately 8,000sqm of the currently vacant Kingsway Tunnels into a central London tourist attraction, offering two exhibitions, the deepest bar in the UK and a supplementary retail facilities.
- The Transport Assessment has considered the potential impact of the proposed development on the local footways and public transport whilst providing an access strategy for all modes of transport.
- The development is proposed to be accessed from the primary access point at No.39 and No.40 Furnival Street which will be repurposed to accommodate visitors within the curtilage of the site, without causing any pedestrian queues on to the highway. The secondary access point at Fulwood Place will act as an access for the bar, for school children and as an emergency exit.
- In line with local and regional policy, it is proposed that the development will be is car free with the exception of the retention of the single blue-badge car parking space son Furnival Street. In accordance with London Plan standards, secure and covered cycle parking for staff been provided within Furnival Street with short stay visitor parking provided in the nearby public open realm.
- The development is expected to generate taxi and coach trips, with the maximum expected to be 2 coaches in the peak hours and 38 taxis trips. No dedicated facility has been proposed for coaches and taxis. Taxi's will be expected to pick up and drop off on Furnival Street and coaches will pick up and drop on Holborn, no coach parking will be permitted. This strategy will be communicated to coach drivers upon group bookings.
- Due to the above ground land constraints, all servicing will occur on carriageway, with Furnival Street proposed as the key servicing location away from the A40 (Holborn). No dedicated bay has been provided, as servicing vehicles can wait on the single yellow lines currently present on Furnival Street. Delivery and servicing vehicle movements will be managed by the Delivery and Servicing Plan.

- A trip generation, mode share and distribution exercise has been completed to predict how many visitors the site will generated during the 'busy' design day, what mode of transport visitors will use and where they will come from / go to. The trip generation shows that the development may create up to 1,500 two-way total person trips/hour in the busy design day scenario. On this basis a PCL analysis and Chancery Lane station Legion model was produced.
- The PCL sensitivity results which include testing the local footways with an additional 100% of development trips, indicate no significant impact on the level of footway crowding in both the 2023 and 2041 scenarios. The results from the Chancery Lane station modelling results, which has been tested with 1,350 people/hour which is double the predicted trips generated by the development,demonstrates an increase in pedestrian movements, while the station walkways and stairwells and the ticket hall as a whole remain within a Level of Service of C in the 2022 and in the 2041scenarios.
- A robust assessment has been conducted utilising the most recent 2022 Numbat data, along with a sensitivity test of uplifting the development trips by 100%. The 2041 scenario has also been developed to evaluate the effects of the development in 2041. The findings indicate that the station can operate at acceptable service levels, with no significant delays identified during the PM peak period both with and without development in 2041.
- It is demonstrated that in the peak capacity scenario, which is only likely to occur on the 20 busiest days of the years (weekends and bank holidays) the development will not generate a severe impact on the local transport network.



PTAL output for Base Year
6b

EC4A 1AB
 Furnival St, London EC4A 1AB, UK
 Easting: 531195, Northing: 181523

Grid Cell: 85857

Report generated: 04/08/2023



Public Consultation

- The team hosted a private preview for Ward Councillors and one for local residents.
- 4no. public events.
- Feedback was collected via: a consultation website, email and telephone number advertised on all consultation material, through digital and printed surveys, and directly through the public events.
- 108 members of the public visited the consultation, with over 90.000 reaching the consultation website.
- The consultation received over 200 responses, with the vast majority providing positive remarks about the proposal.
- Most respondents responded with interest in the proposed heritage exhibition and in the science and technology components.



Figure 8. Images from the Public Consultation

1.2 Application for Planning Permission

Description of Development

Change of use of existing deep level tunnels (Sui Generis) to visitor and cultural attraction, including bar (F1); demolition and reconstruction of existing building at 38-39 Fournival Street; redevelopment of 40-41 Fournival Street, for the principle visitor attraction pedestrian entrance at ground floor, with retail at first and second floor levels and ancillary offices at third and fourth levels and excavation of additional basement levels; creation of new, pedestrian entrance at 31-33 High Holborn, to provide secondary visitor attraction entrance (including principle bar entrance); provision of ancillary cycle parking, substation, servicing and plant, and other associated works

1.3 The Role, Purpose & Structure of the DAS

Purpose

This Design and Access Statement document accompanies and supports the planning application for the Proposed Development. It illustrates the process that has led to the development and explains the design.

The purpose of the DAS is to ensure the Proposed Development is based on a thoughtful design process and an inclusive approach to access. It explains the guiding principles which underpin the various design decisions and how they can lead to an improvement in the quality, sustainability, and inclusiveness of the development. Ultimately, it highlights the merits of the design and how it adds value to the City of London and the London Borough of Camden.

Structure

This document is divided into two main sections:

Design Statement

Explains the merits of the design and how it relates to the existing setting; how the proposed Scheme ensures the Proposed Development is safe, and is mindful of the historic context.

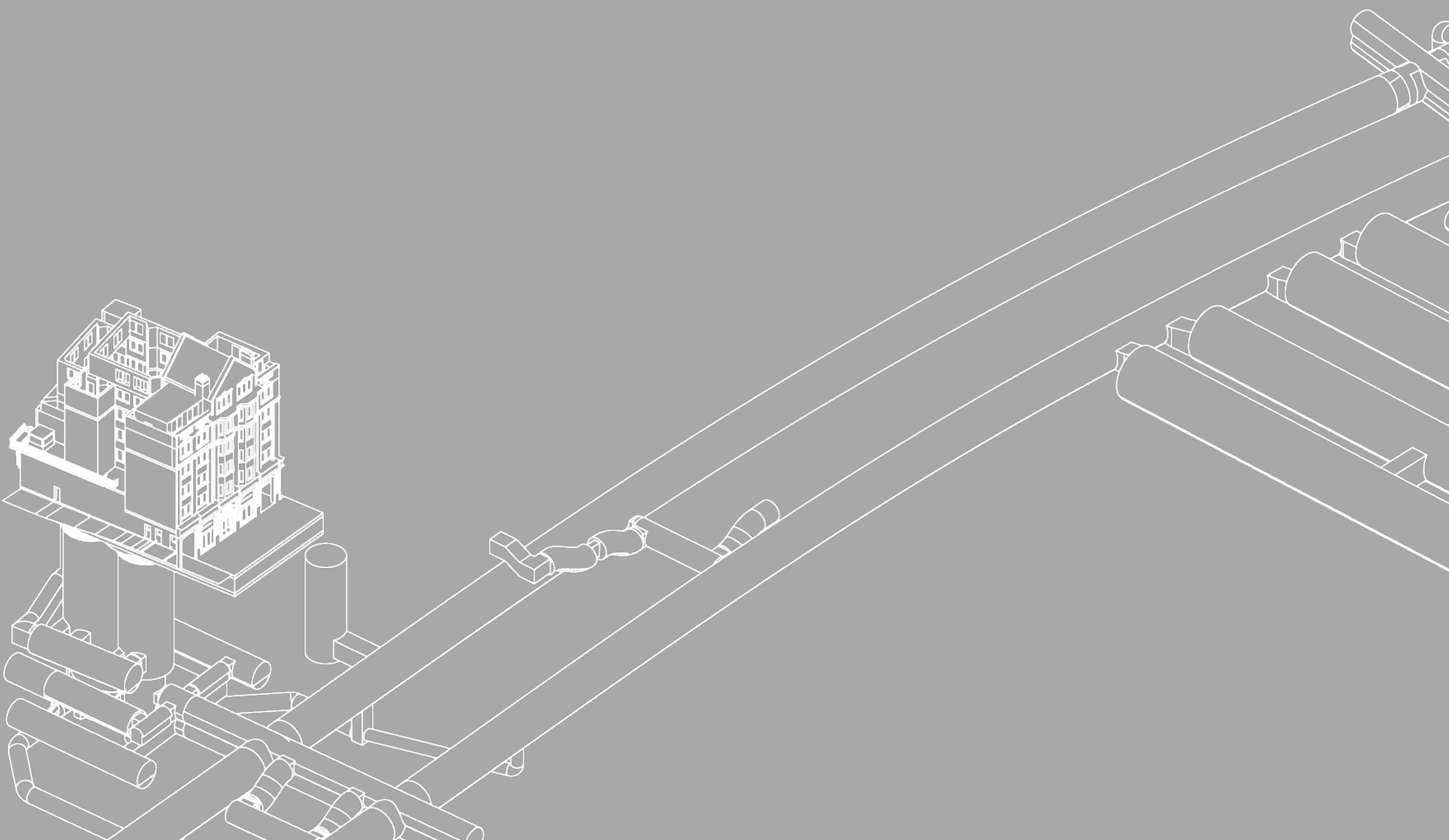
States the vision of the Scheme and its relevance to the City of London and London Borough of Camden.

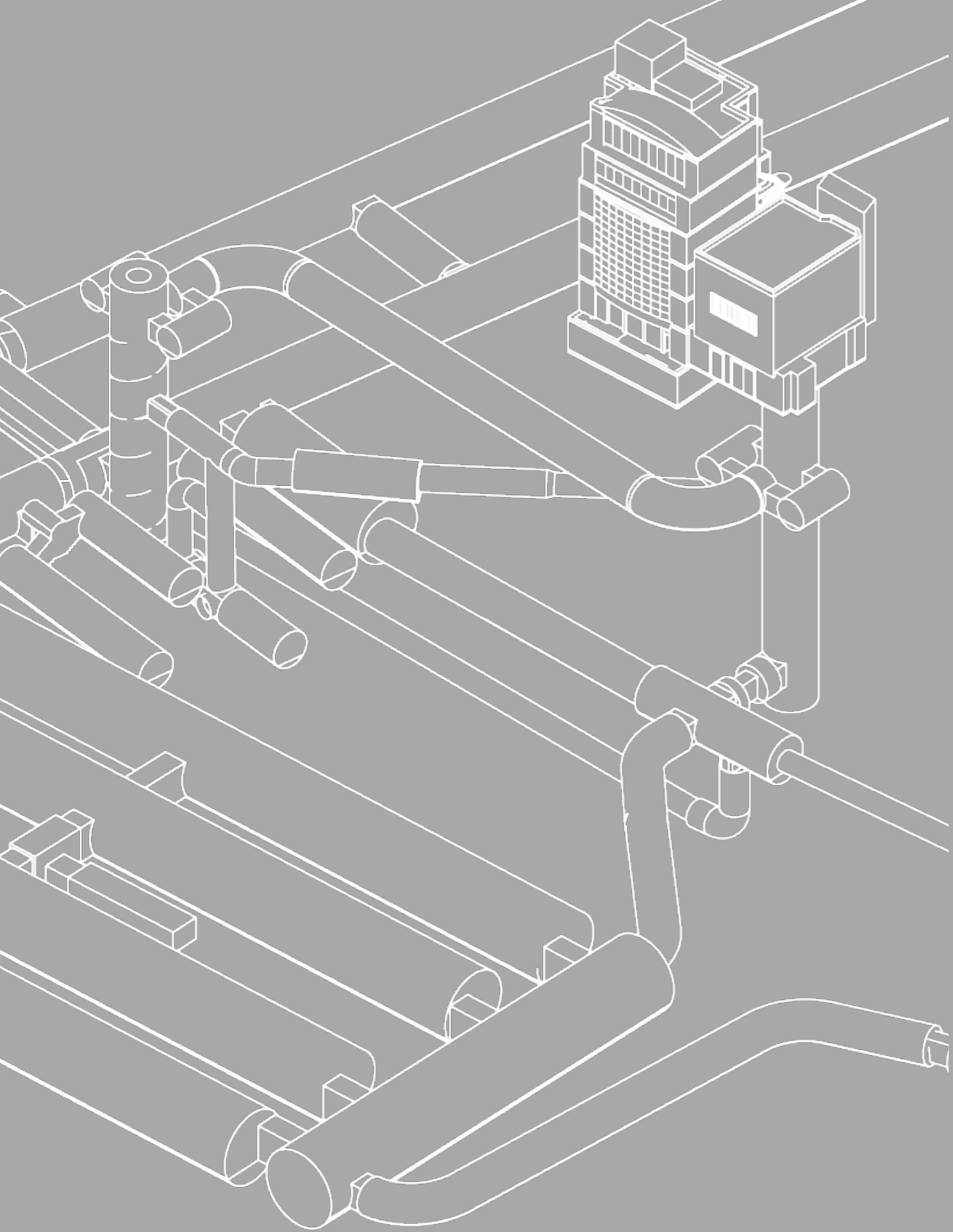
The Scheme includes 3 areas of development: sites at 38-39 & 40-1 Furnival Street, 31-33 High Holborn and the tunnels.

Each section describes the existing condition of the assets, their context, technical requirements, and the proposed design.

Access Statement

Explains how the Scheme ensures all users have equal and convenient access to the buildings, tunnels and the public transport network.





2 Site & Context

2.1 Existing Site Overview

The Kingsway Tunnels are located approximately 32 metres below ground in the Holborn district of Central London.

With an area of circa 8,000sq.m, the Tunnels include two 5.1m diameter tunnels known historically as 'North' and 'South' 'Street' that run parallel to and below the Central Line that runs beneath High Holborn. Perpendicular to this, and below the Took's Court building are four larger 7.2m diameter tunnels known as 'Avenues', with an additional perpendicular service avenue of the same diameter connecting to all four. Additional tunnels run through the scheme connecting the Streets and Avenues to the entrance shafts at 38-39 Furnival Street (CoL) and 31-33 High Holborn (Camden).

The extent of the Tunnels was constructed principally in two phases from the early 1940's and completed in the early 1950's.

The original public access point to the Deep Shelter was from the Chancery Lane tube station platforms and historical entrance located at 31-33 High Holborn . When the station entrance was re-located to its current location at the junction of High Holborn and Gray's Inn Road its connection to the tunnels was blocked off.

The two remaining shaft access points to the Tunnels (at Fulwood Place and Furnival Street) have limited capacity, making the current tunnels access strategy unfit for public use.

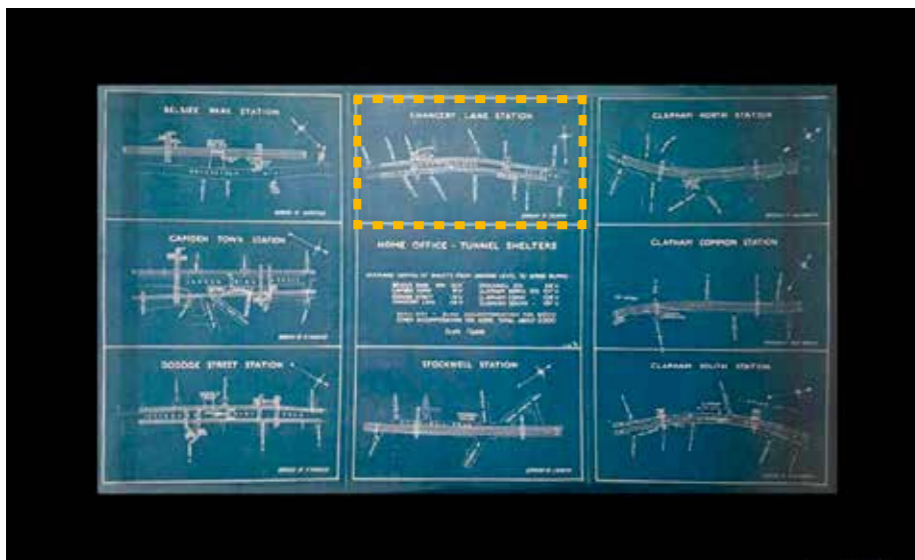


Figure 9. Blue print of the Home Office Deep Tunnel Shelters in London.

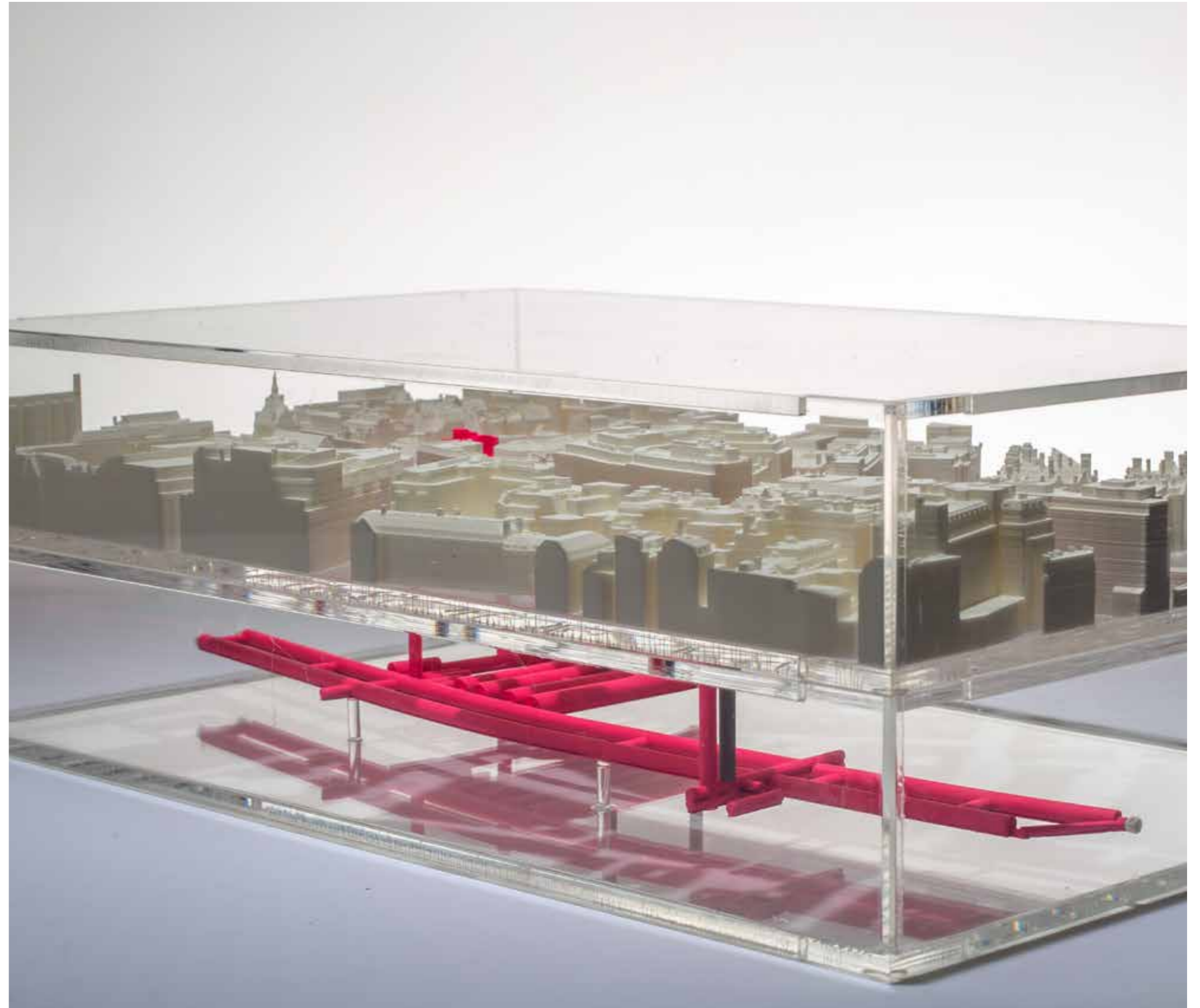


Figure 10. Model showing the extent of the Tunnels located under Holborn.

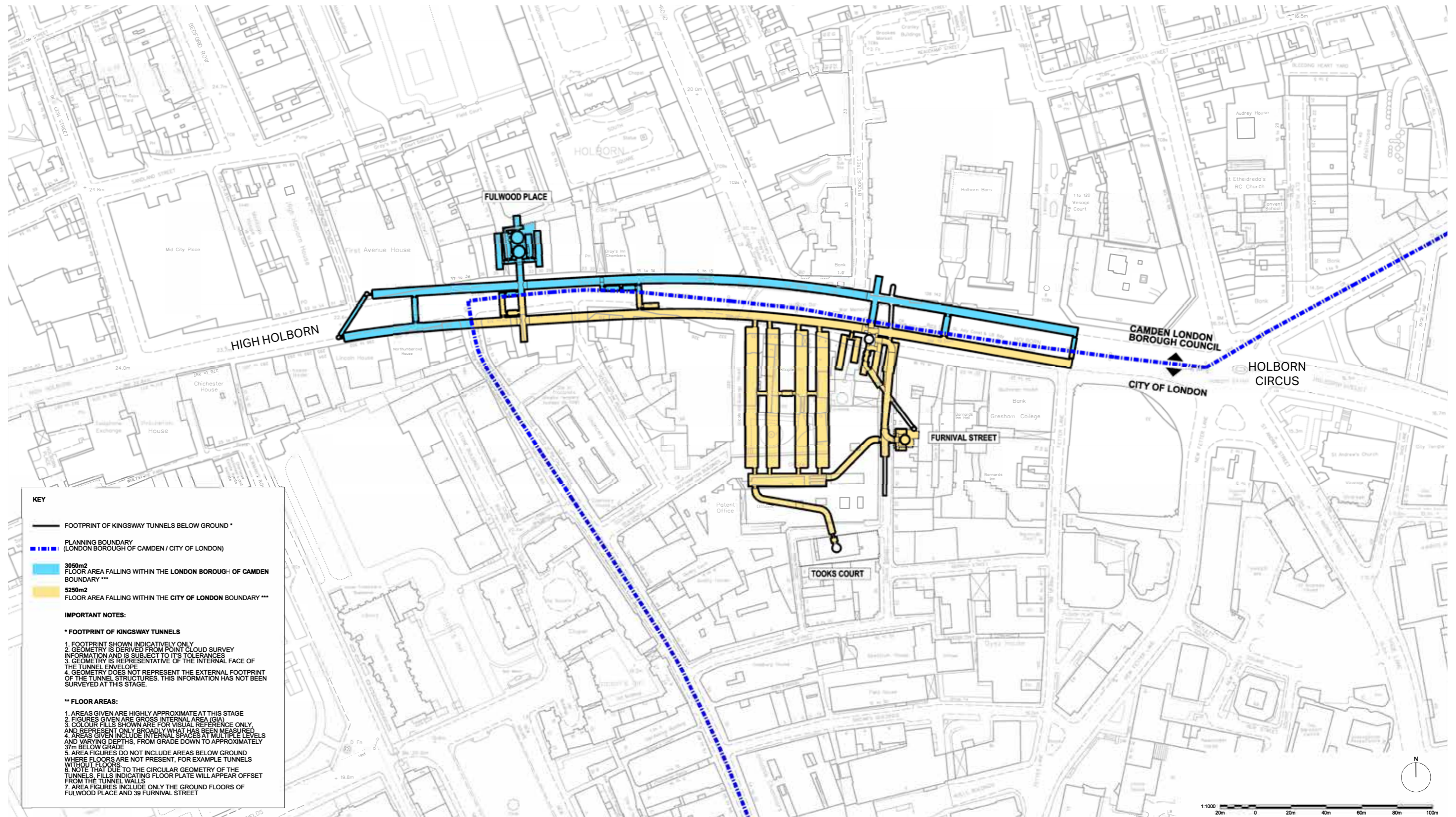


Figure 11. Site plan showing extent and boundary line between London Borough of Camden and City of London (not to scale)

2.2 Title Plans & Red Line Boundaries

38-39 Furnival Street

The asset at 38-39 Furnival street is one of the original entrances to the Kingsway Tunnels. It was originally designed as a goods access and ventilation shaft. It was rebuilt in the 1950's after sustaining damage from a V1 Rocket explosion across the street.

38-39 Furnival Street falls within the Chancery Lane Conservation Area. The building is unlisted but is recognised as a non-designated heritage by the City of London.

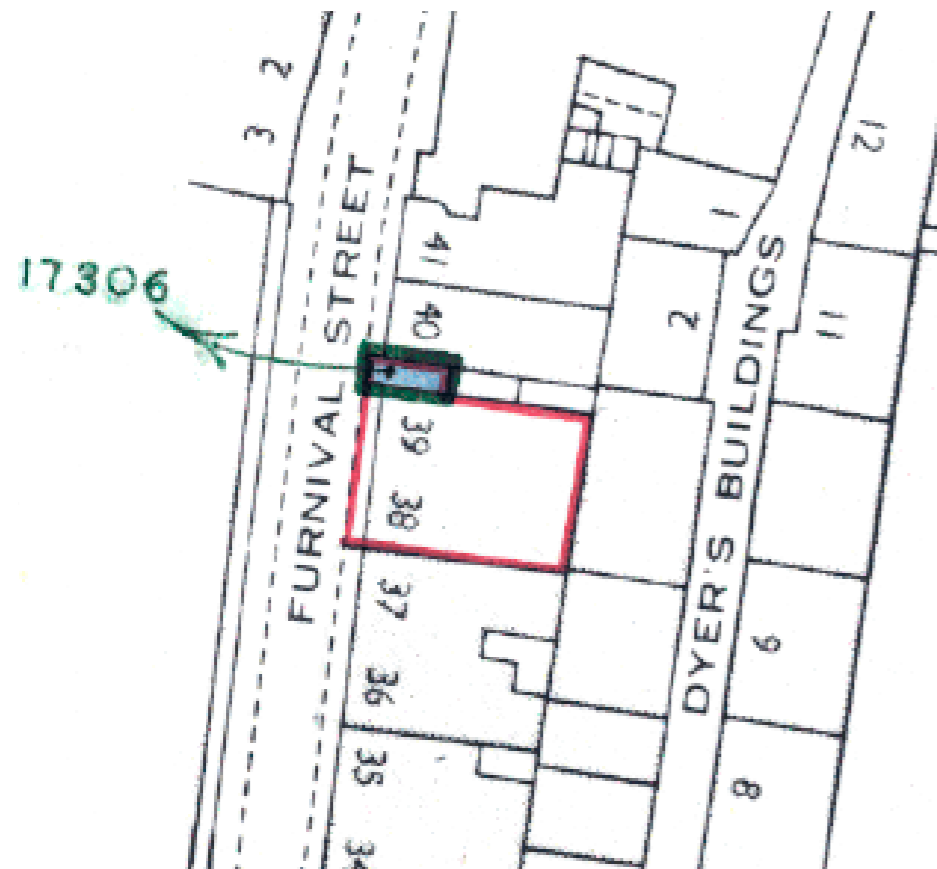


Figure 12. 38-39 Furnival Street Title Plan.

40-41 Furnival Street

The building at 40-41 Furnival street is a commercial building in office use.

It is of recent construction, with major refurbishment undertaken in the early 2000s.

This building has been acquired by the Applicant in order to ensure appropriate public access to the Tunnels can be provided.

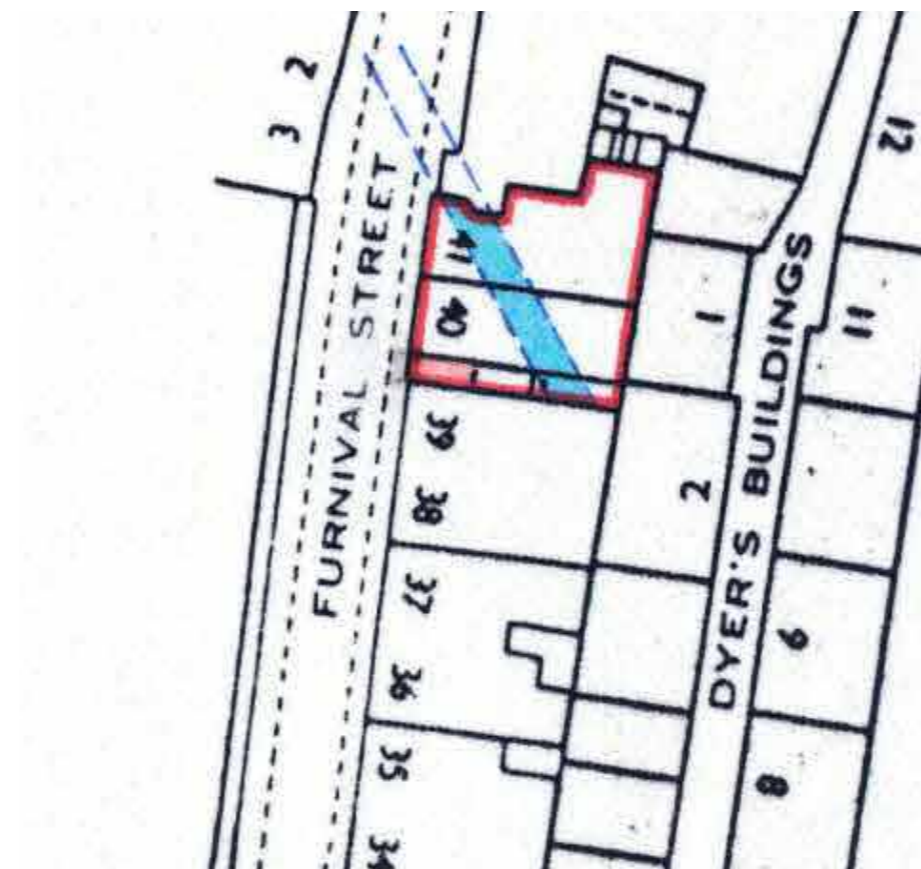


Figure 13. 40-41 Furnival Street Title Plan

31-33 High Holborn

The asset at 31-33 High Holborn is comprised of Basement, Ground Floor, and 5 levels of residential and commercial uses above.

This building included the original entrance to Chancery Lane station.

The ground floor and basement are divided in a number of leases, with TfL retaining an area in use for TfL operations. Commercial units with access from High Holborn are leased. The proposed intervention focuses on the areas retained by the freehold at ground and basement levels.

The asset is located in Bloomsbury Conservation Area is not listed.

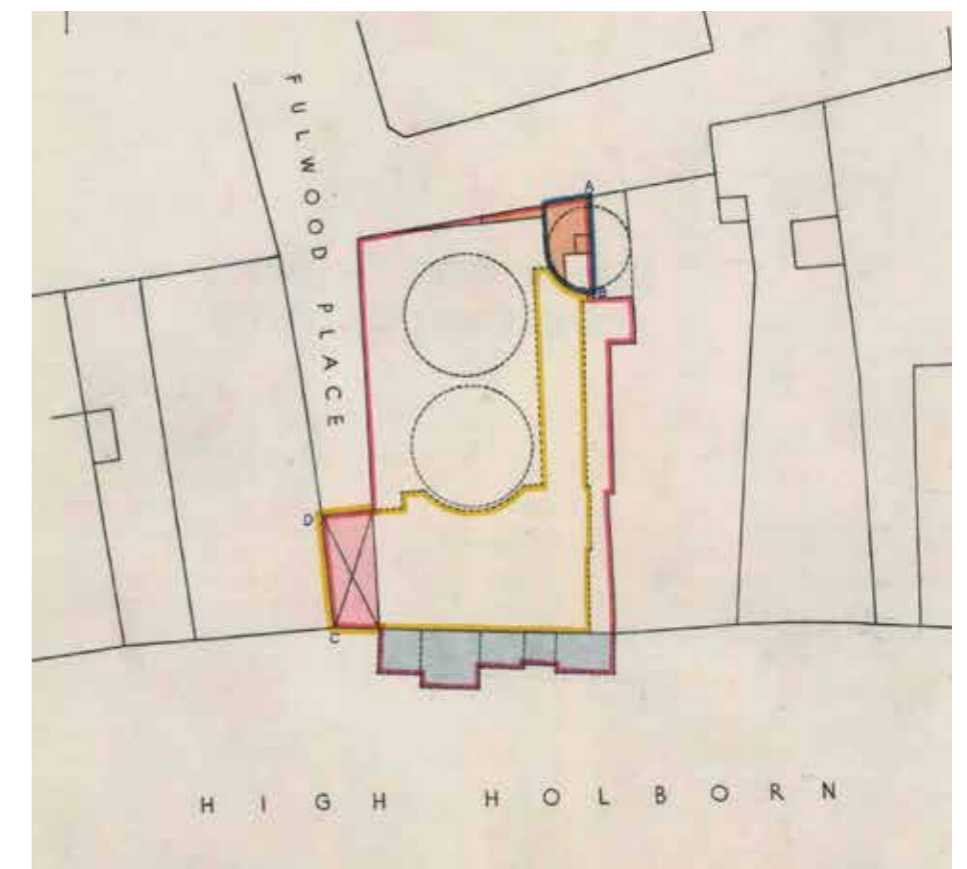


Figure 14. Fulwood Place, 31-33 High Holborn Title Plan

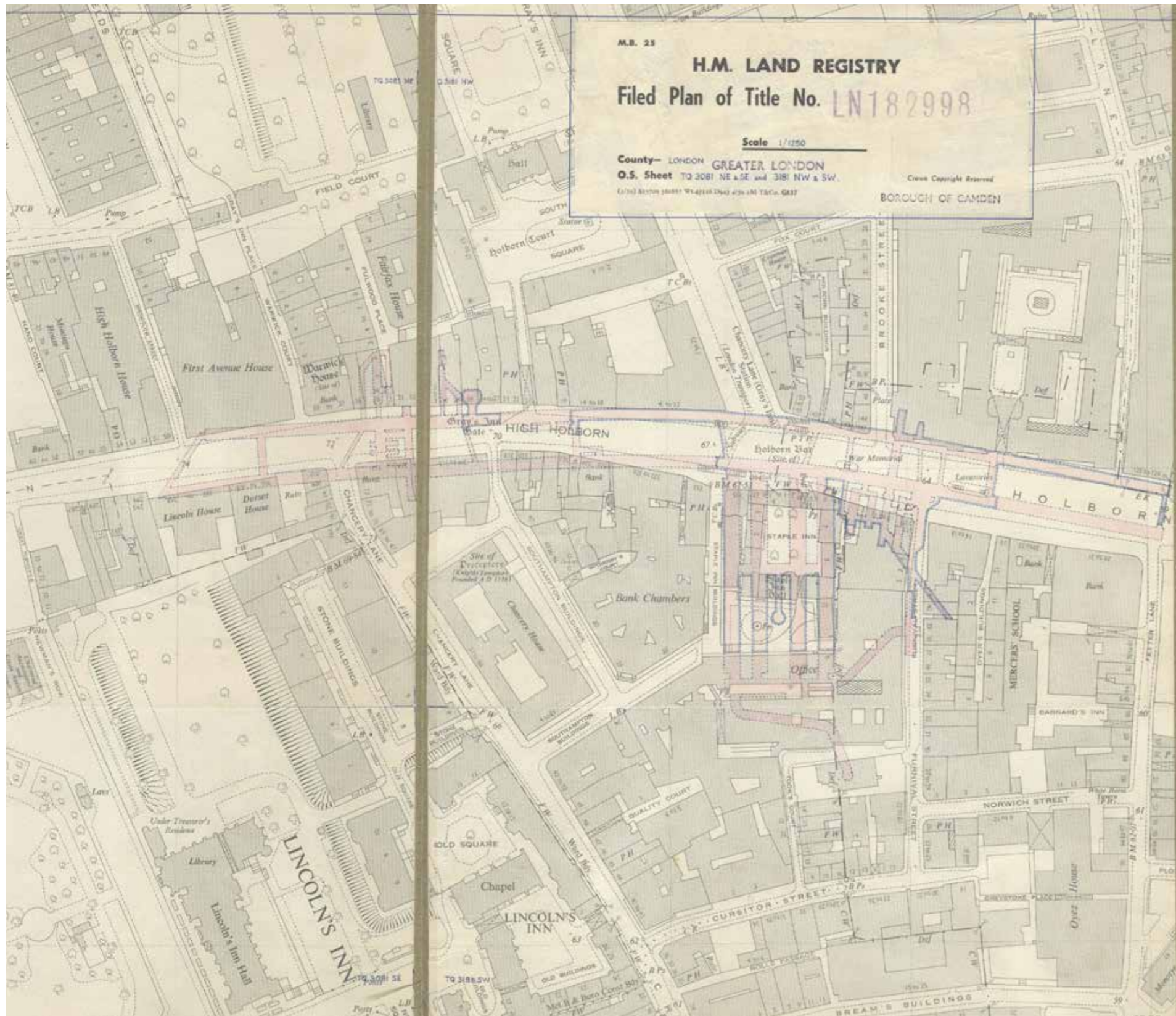


Figure 15. The Kingsway Tunnels Title Plan

Kingsway Exchange Tunnels

The Kingsway Tunnels extend under the London Borough of Camden and City of London.

These are connected to the surface through shafts located at 38-39 Furnival Street and 31-33 High Holborn.

The Tunnels originally included a number of additional entrances, such as Took's Court and Staples Inn.

These have been blocked or limited within recent developments, which makes them currently unusable.

The Tunnels were built in 2 stages: The 'North' and 'South' Streets and associated shafts were built in the 1940s. The Avenues to the south were built subsequently in the 1950's by the Post Office.

There is an additional network of ventilation tunnels and construction shafts interconnecting the main areas.

2.3 Historical Context Overview

1942 - 1945 Air Raid Shelter/Citadel Accommodation

The Kingsway Tunnel originated as the Chancery Lane deep-level shelter; one of the eight deep-level air raid shelters constructed by the British Government during the Second World War to provide protection to Londoners during the Blitz. The Chancery Lane deep-level shelter connected to Chancery Lane station, which was the only Central Line station to benefit from a deep level shelter. Surface access was by staircase shafts emerging within the former Chancery Lane tube station at 31-33 High Holborn (the main entrance), which had been built in 1900 for the original section of the Central London Railway. At 38-39 Furnival Street bomb-damaged premises were demolished to make way for a goods lift shaft. By the time the shelter was completed in 1942, the threat of aerial bombing had largely subsided. The Chancery Lane deep level shelter was never used as a civilian shelter and in 1944 was converted to a 'Citadel' accommodation. From 1944 until the end of the war, the Tunnels functioned as a reserve government headquarters.



Figure 16. One of the telephone exchange rooms in the Kingsway Tunnels



Figure 17. One of the first Trans-Atlantic calls

1945-1951 PRO Repository

At the end of the war, the tunnels were used by the Public Record Office for storing documents. During this period, the connection to Chancery Lane station were blocked. Documents were finally relocated in 1951.

1951-1990 Post Office & BT - Communication Exchange

After the Post Office took possession of the tunnels, works began to expand the tunnels with the addition of 4 large diameter tunnels, called the avenues. An additional shaft was constructed at Took's Court, and a goods lift was installed in the shaft at 38-39 Furnival Street. In 1956, it became the London terminal of the first Transatlantic telephone cable, TAT 1. The Kingsway Exchange tunnels gained notoriety for serving as a "hot line" that connected USA to USSR during the cold war.

1990 Decommission

The functions at Kingsway tunnels came to an end in 1990, since then, the sole use of the tunnels has been for storage.

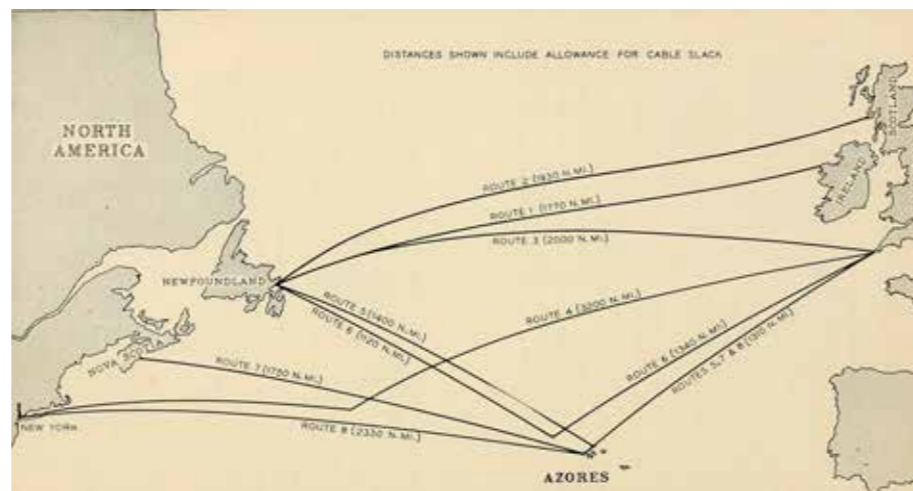


Figure 18. Map showing Trans-Atlantic cable connections

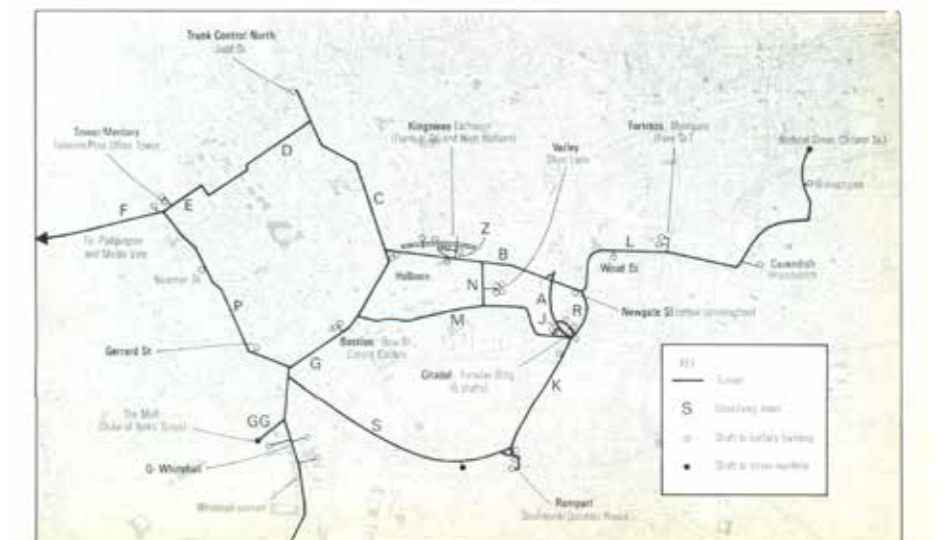


Figure 19. The Post Office network of deep level cable tunnels under London. Source: Duncan Campbell.org



Figure 20. British Telecom archive images showing the interior of Kingsway Tunnels

2.4 Responding to the Heritage Context & the Existing Built Character

The Kingsway Tunnels have a unique heritage context and character which the Proposal seeks to celebrate and reveal to a wider public. The Site can be split into three distinct components: the tunnel system itself; No. 39 and 40 Furnival Street (City of London); and No. 31-33 High Holborn (LB Camden). 39 Furnival Street, 31-33 High Holborn and the associated tunnel system are all considered to be non-designated heritage assets but will require a considerable amount of interpretation for their histories to be understood and appreciated.

38-39 and 40-41 Furnival Street

38-39 and 40-41 Furnival Street form part of the Chancery Lane Conservation Area in the City of London, which is characterised by large institutional, municipal, and commercial buildings, dating from the 17th to the 21st centuries, arranged on a tight network of streets bounded by the main thoroughfare of High Holborn and Chancery Lane. 39 Furnival Street contributes positively to the character and appearance of this conservation area, on account of its 1950s origins as a functional element of the Kingsway telephone trunk exchange, which formed part of a national communication system during the post-war period, as well as its modest street-presence and 'strikingly industrial aesthetic'. 40 Furnival Street is considered to be a neutral contributor on account of its limited historic and architectural interest as a late-20th century commercial office building.

31-33 High Holborn

31-33 High Holborn forms part of the Bloomsbury Conservation Area in the London Borough of Camden. The built form of the conservation area, which covers a large and complex area of approximately 160 hectares, is a product of London's early expansion northwards from the 1660s, through the Georgian and Regency periods, to around 1840. This period is of major historical importance in the context of London's development and is manifested in the consistency of the street pattern, spatial character, and predominant building forms within the conservation area. 31-33 High Holborn is identified as a "Positive Building" in Sub Area 9 of the Bloomsbury Conservation Area, which comprises a section of High Holborn, Lincoln Inn to the south of High Holborn and Gray's Inn to the north. High Holborn is a historically important commercial thoroughfare characterised by four to nine storey buildings, built between the 19th to 21st centuries and exhibiting a range of architectural styles. No.31-33 represents a period of commercial development in the Edwardian era and its positive contribution to the conservation area derives principally from

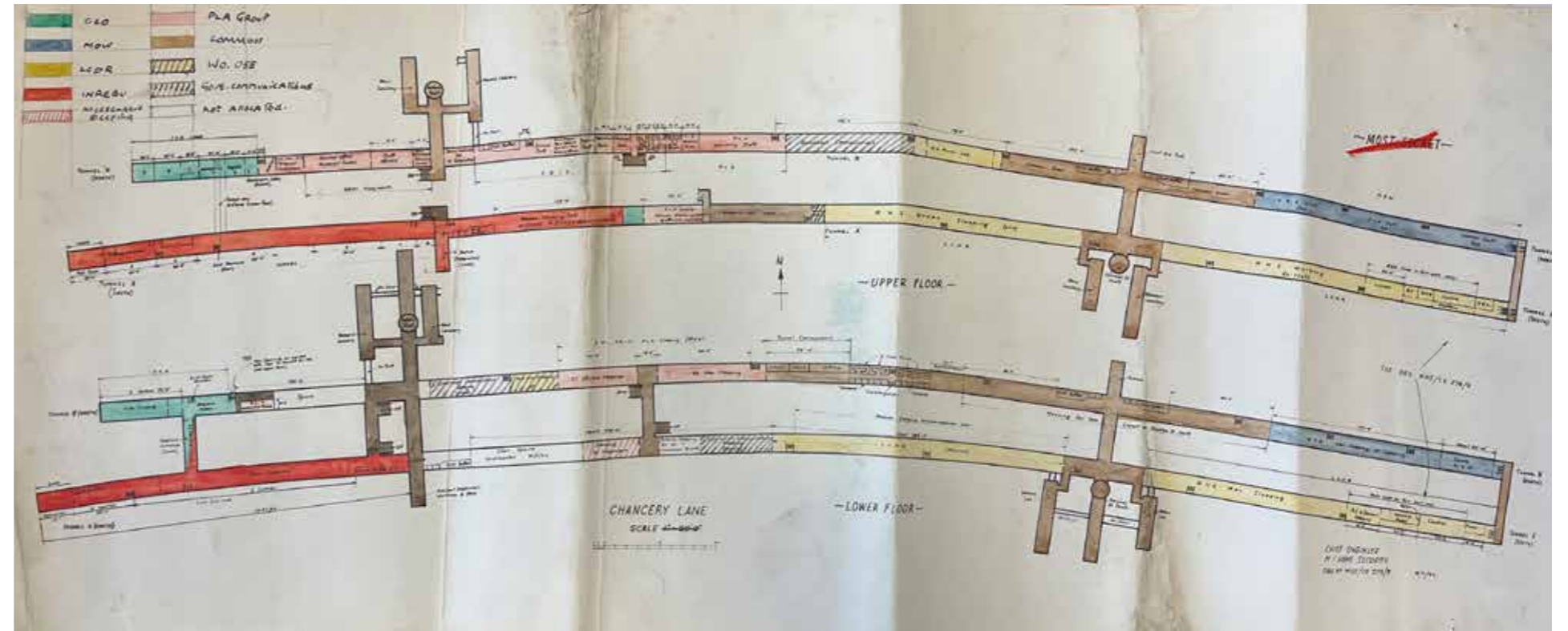


Figure 21. Plan of 'Chancery Lane Deep Tunnels' showing allocation of various government departments 1944



Figure 22. Recreation Rooms - South Street West



Figure 23. Recreation Rooms Bar - South Street West



Figure 24. Canteen in the North Street West - 1950s



Figure 25. Telephone Exchange Main Frame -1950s



Figure 26. BT Archive - Operations room - 1950s

its principal façade treatment and scale, as well as its original function as a station entrance. Its historical use as an entrance to the Chancery Lane underground station and deep-level shelter is of some local historic interest but this is not readily apparent from the street. Otherwise, the present ground floor of the building comprises low-quality, modern shop frontage which make no contribution to the character and appearance of the Conservation Area and represent an opportunity for enhancement.

The Tunnels

At present, the existence of the Tunnels is relatively unknown to the public and they make no perceptible contribution to the character and appearance of either of the conservation areas identified above. The historic interest of the tunnel system is principally derived from its origins during the Second World War as a civilian shelter and subsequent use by different government and military departments as 'Citadel accommodation'. Apart from the superstructure of the Tunnels, little interior fabric remains from the World War II period and therefore there is no longer a tangible link to this historic interest. The conversion of the Tunnels in the early 1950s, which included the construction of four more tunnels on a north-south axis, formed part of the wider expansion of Britain's domestic telecommunications network and is of secondary historic interest. However, remnants of the post-war phase of use remain in the Tunnels, largely comprising plant and machinery associated with the function and running of the Kingsway Exchange tunnels. The machinery installed here is understood to be standard for telephone exchanges of this kind. The surviving canteen and bar interiors are of some historic and architectural interest in their application of mid-century style and the use of decorative design elements and murals, presumably intended to raise the spirits of those working underground at the telephone exchange. However, this area forms just a small part of a much larger, now unused tunnel system.

2.5 Site Analysis

The Site is located within the Holborn area of central London, with entrances to the underground tunnels via buildings in Furnival Street (CoL) and Fulwood place (Camden).

Ideally located within London's city centre, they are the 'missing link' between central attractions such as Covent Garden and the British Museum and the City of London's Culture Mile which stretches from the New Museum of London, the Barbican to St. Paul's Cathedral.

Being within walking distance of many of the most famous museums and tourist attractions of London increases the Tunnels potential to become a new and unique 'landmark' for tourist and locals alike.

It is intended that the Tunnels will host a wide range of heritage and cultural programmes that will attract a wide range of visitors over the cultural calendar of London.

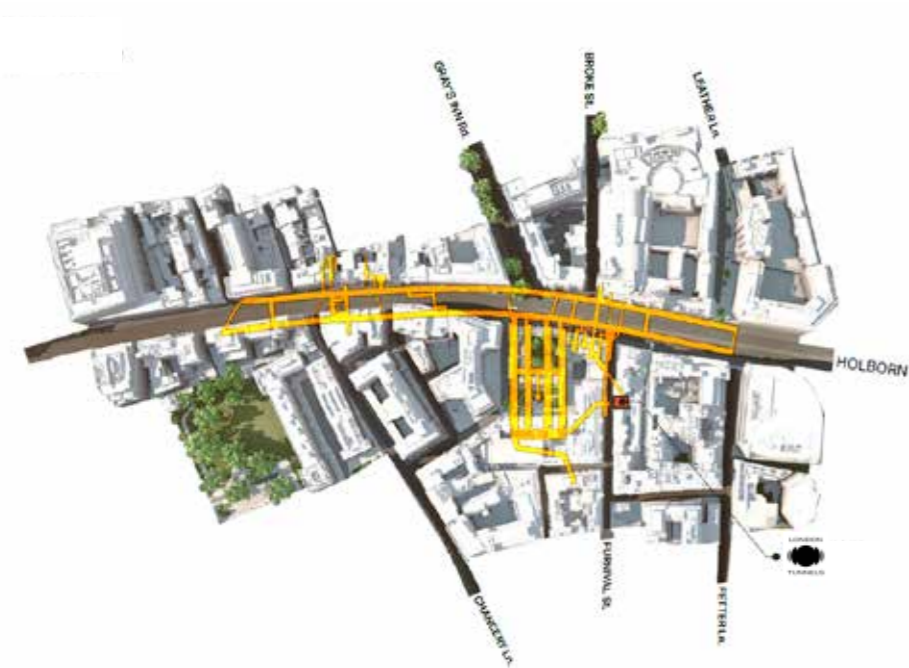
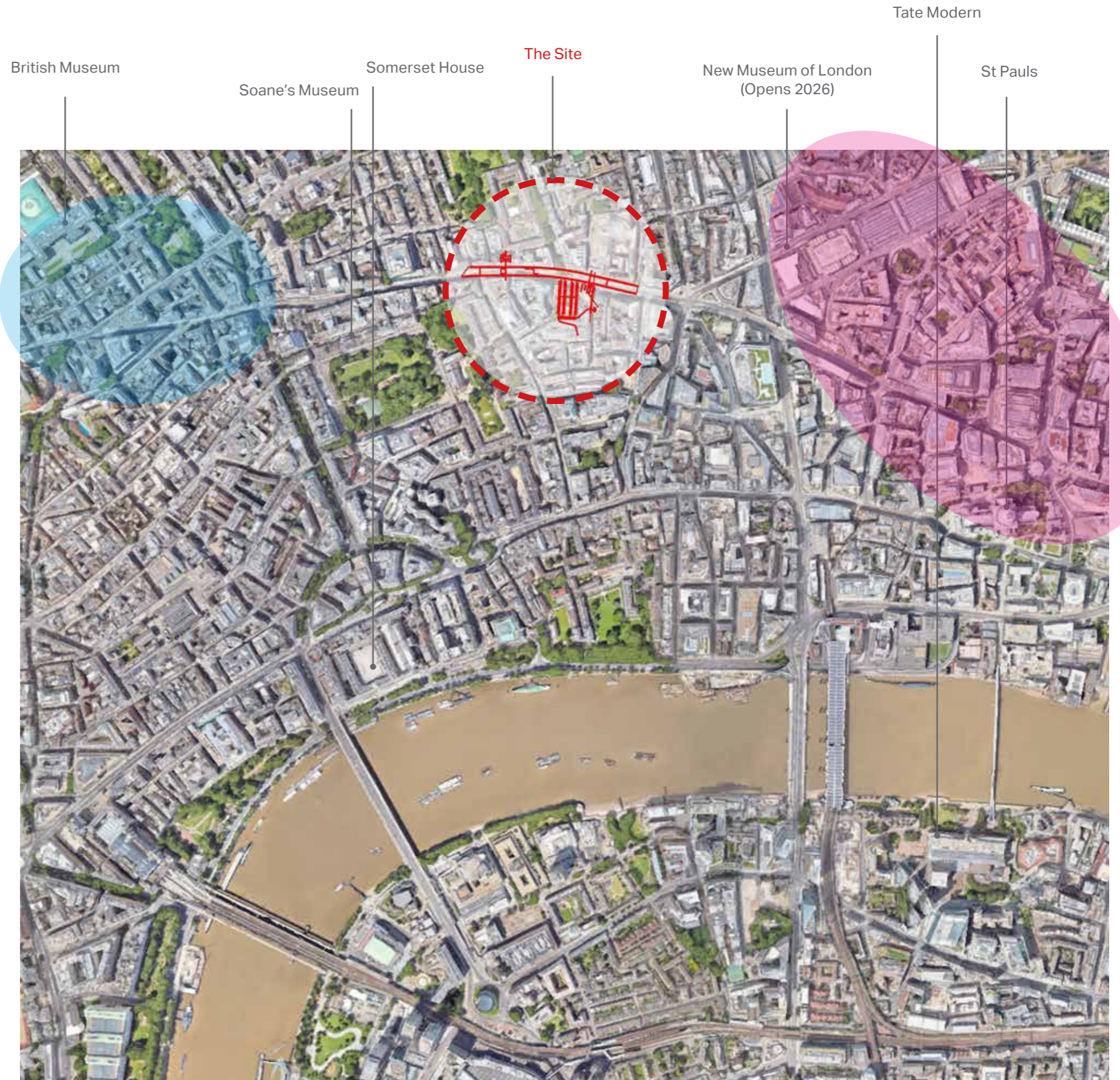


Figure 28. Diagram highlighting The London Tunnels under Holborn

Figure 27. Satellite image showing the location of the tunnels in London

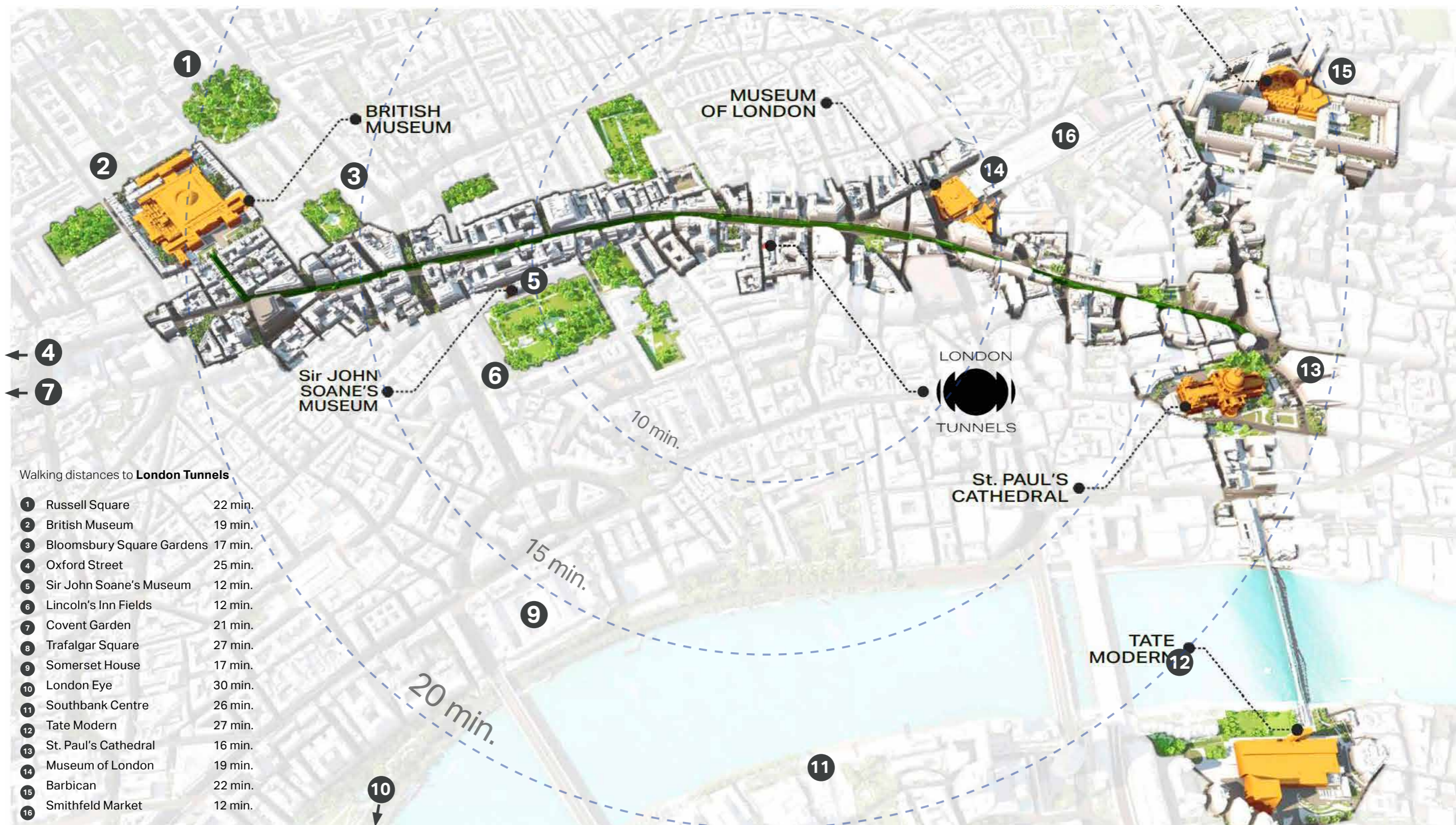


Figure 29. Plan highlighting the nearby tourist attractions and their proximities to the London Tunnels

Public Transportation and Connectivity

The two proposed entrances to the tunnels are well connected and easily reached by public transport. The closest underground station is Chancery Lane (Central Line), with Holborn (Central & Piccadilly Lines), Farringdon (Thameslink/Elizabeth, Circle & Metropolitan Lines) and Barbican Stations less than one kilometre away. There is also easy access from multiple bus stops located on High Holborn and there are 'Santander Cycle' stands nearby.

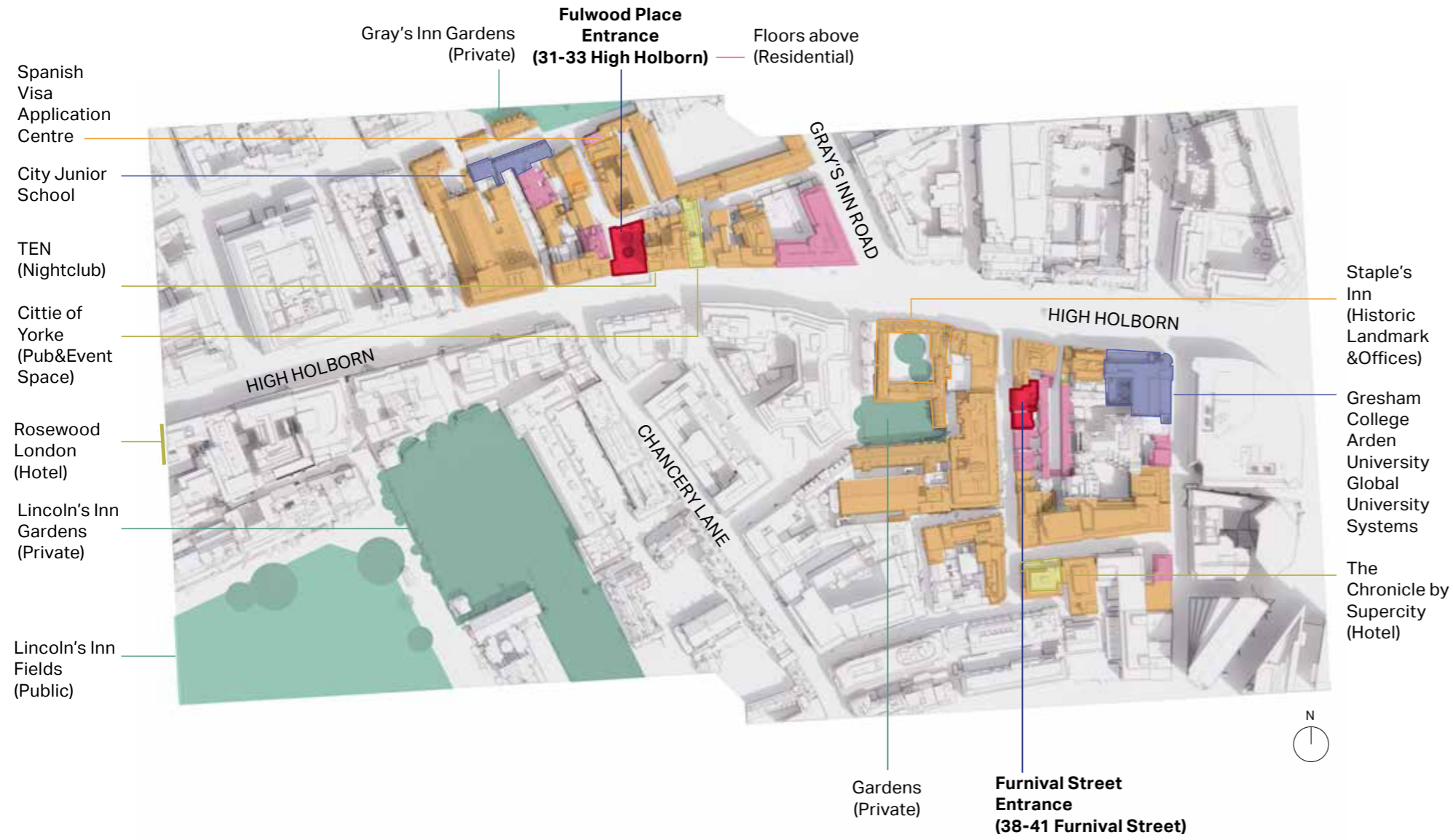
Cursitor, Took's Court and Norwich Streets are pedestrian zones, making Furnival Street the main access road for vehicular traffic from High Holborn. Although traffic cannot be cut off, the scheme proposes a local widening of the pavement in front of 38-41 Furnival Street, as well as raising the street level into a shared surface, but retaining a 100mm high kerb following advice from the accessibility consultants. This is to be proposed and reviewed by local Highways authority.

Direct coach access to both entrances is highly constrained because of narrow access streets. It is proposed to use the existing coach drop off 500m down High Holborn, subject to approval by TfL.

Please refer to WSP's Transport Statement submitted as part of the application for more detail.



Figure 30. Public transportation and connectivity.



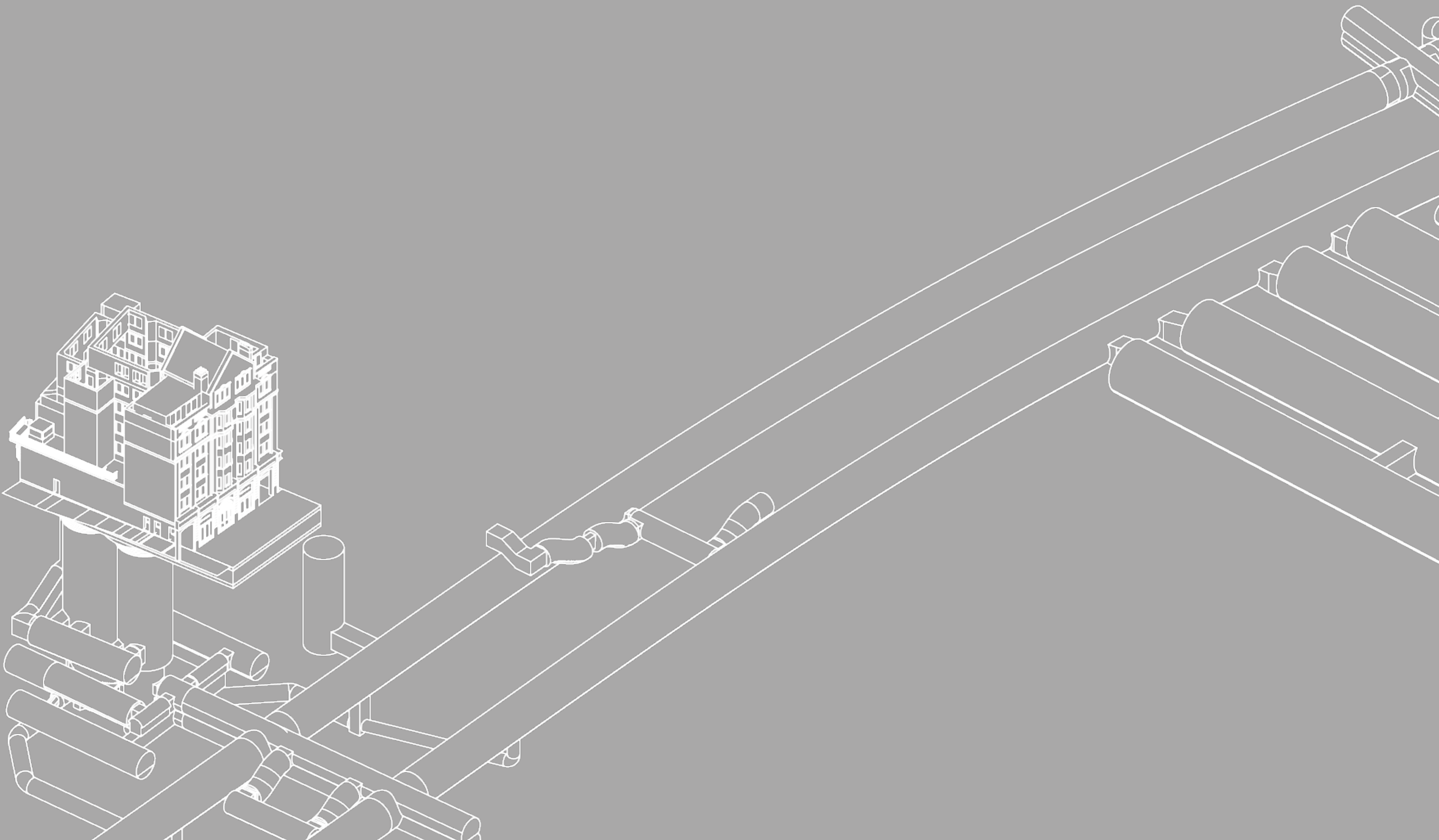
Building Use Around the Site

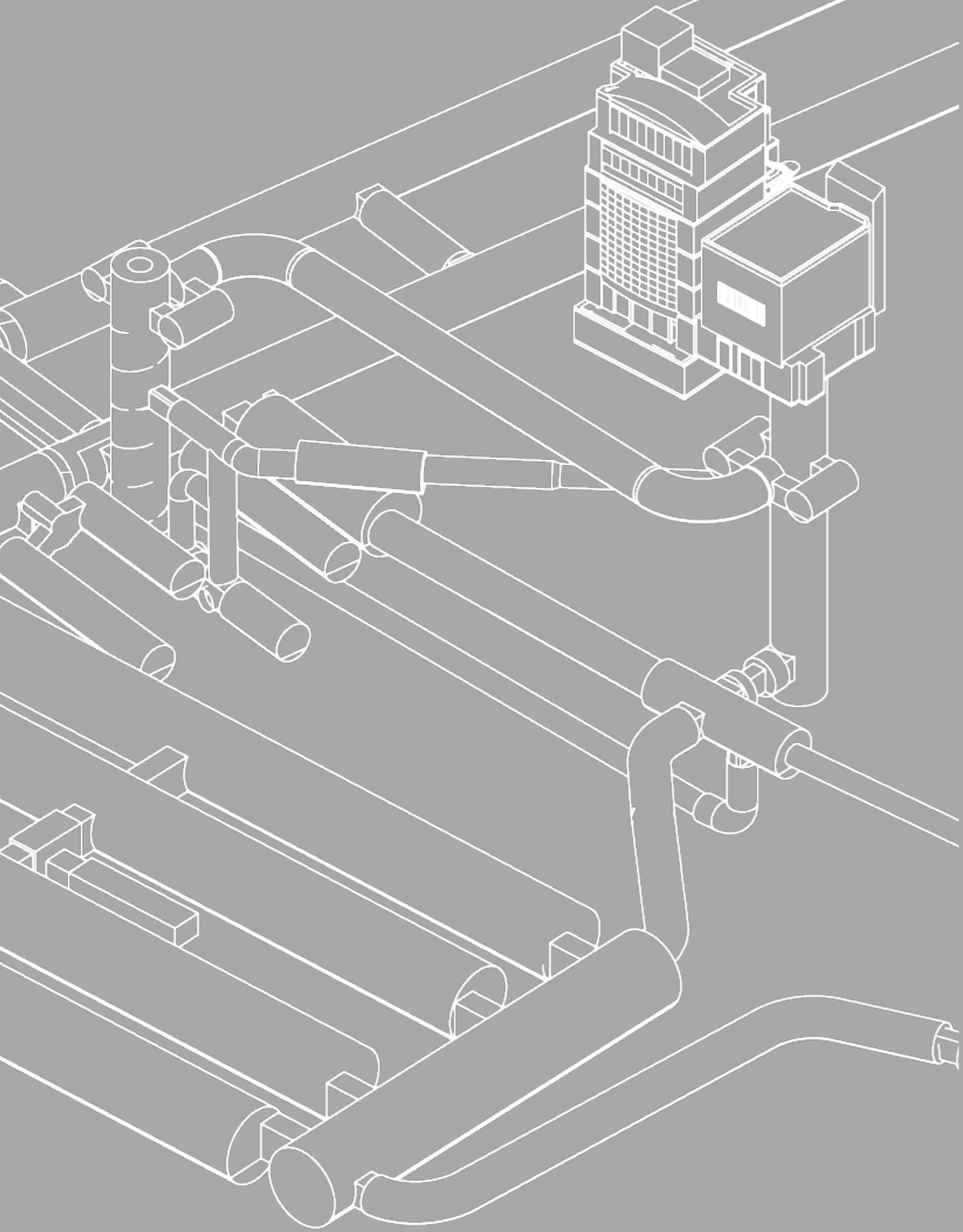
Both of the proposed entrances, 31-33 High Holborn and 38-41 Furnival Street, are situated in areas predominantly occupied by offices. This offers the City of London an opportunity to implement a cultural use scheme that can draw people during off-peak hours and weekends when offices are typically closed.

In addition to its cultural focus, the Scheme suggests incorporating a bar as a secondary use at Fulwood Place. This bar will be situated underground, minimizing the risk of noise pollution for neighbouring properties. Access to the bar will be via the 31-33 High Holborn side entrance which is separate and distanced from the main residential entrance off High Holborn.

- London Tunnels Entrances
- Educational
- Offices
- Retail/Hospitality
- Residential
- Parks & Gardens

Figure 31. Building uses in the vicinity of the Site





3 Consultation

3.1 Public Consultation Summary

Promoting the Consultation

In September and October 2023 a series of consultation events took place on a range of platforms including a physical exhibition of the Proposed Development held between the 7th -14th October. The Proposal was positively received and the most frequent comment (47% overall) was direct support for the proposal.

Reaching Out to the Public

- 35,000 people reached on social media.
- 94,084 visitors to the consultation website worldwide.
- 5,178 newsletters distributed.
- 130 pieces of media coverage.
- 47 emails and calls received.
- 705 letters sent to neighbours inviting them to a special preview.
- 37 letters sent to local stake holders.
- 108 attendees across four public events.
- 222 survey responses.

In-Person Events

- 1 ward councillor preview attended by Cllr Fulbrook (Camden).
- 1 resident preview event attended by ten people.
- 4 public exhibition events with 108 total attendees held 200 metres from the site at St Albans Centre, Leigh Pl.



Figure 32. Summary Chart showing the reach of the consultation.

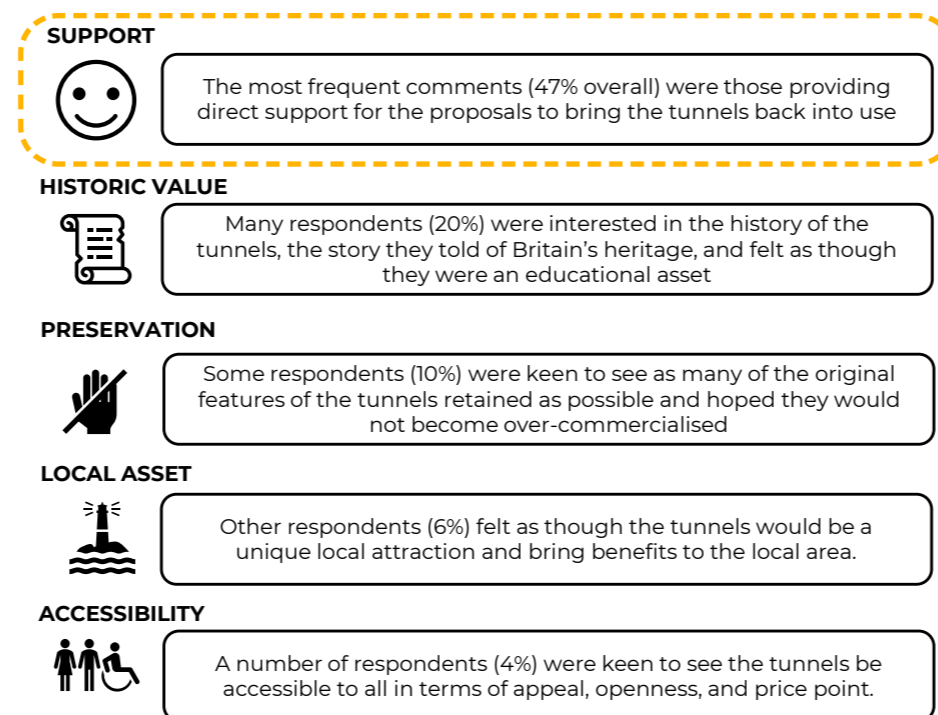


Figure 33. Summary of the type of feedback received by topic of interest.

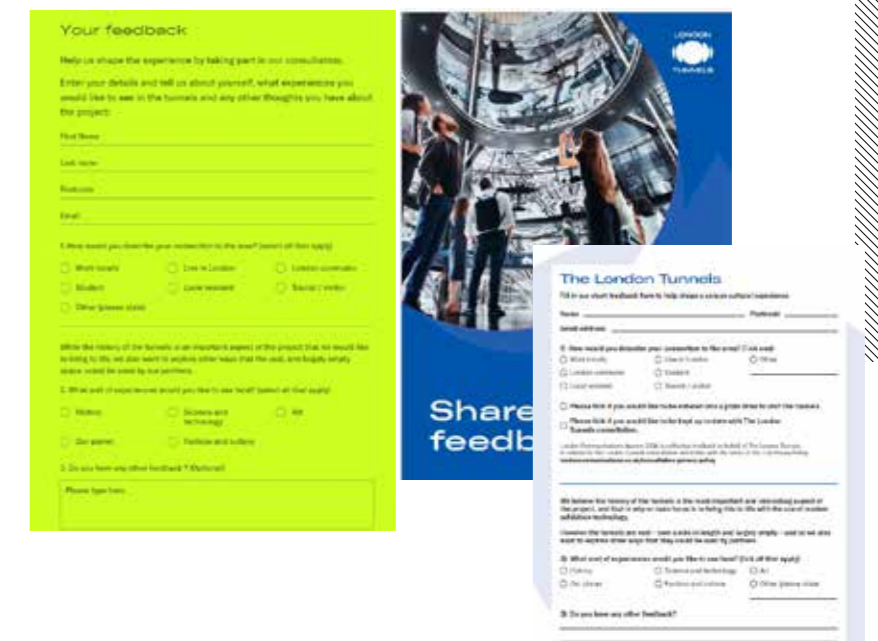


Figure 34. Example of the online and physical questionnaire given to the public.

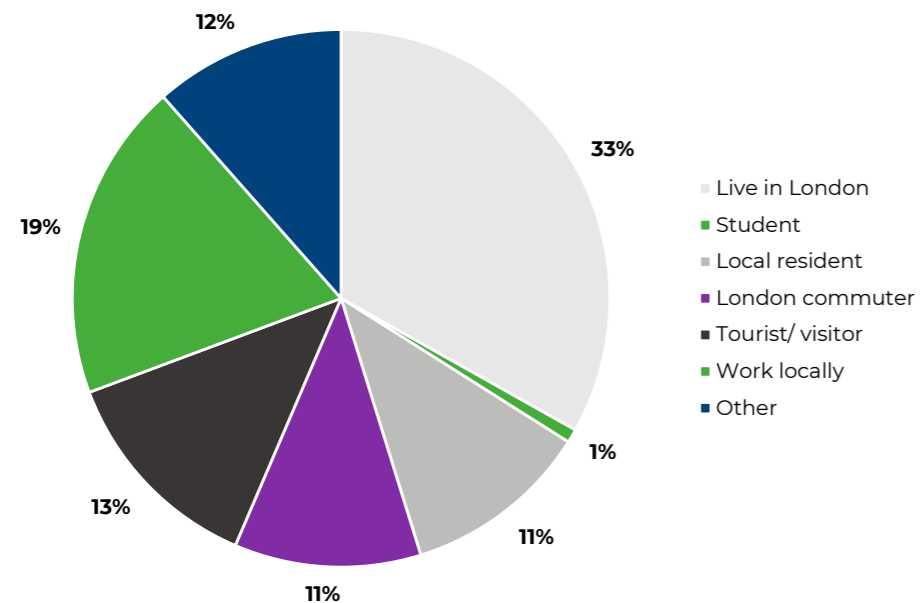


Figure 35. Breakdown of visitors to the physical exhibitions.

Figure 36. Images of the Public Consultation at St. Albans Centre. Oct. 7, 2023

Attendees to the Public Consultation

Out of the 108 attendees to the public consultation over 55% either live in London, are London commuters, or are local residents. A further 19% work locally. This is significant for the purpose of the public consultation as it part of the objective was to give a voice to local residents and workers with a direct interest in the area and the Tunnels.

Most notably, among the 12% of visitors grouped as 'other' were 7 ex-BT employees who worked in the tunnels around the 1980's and 1990's. This prompted an interesting initiative to establish an 'alumni' network to collect any knowledge and testimonies from a time when the tunnels were fully operational.

Collecting and Responding to Feedback

- A consultation website thelondontunnels.com with key information about the proposals and feedback form.
- Email and freephone advertised on all consultation materials.
- Digital and printed survey , available to fill out on the website and at events.
- Exhibition events , with previews for ward councillors and residents where people could speak to the team and share feedback.

3.2 Consultation Feedback

Question three (Q.3) on the survey prompted visitors to provide additional feedback on the Scheme. The responses are categorized below:

Support

- “Really look forward to the project outcome, would have loved to be involved in this project.”
- “This is a great opportunity to reuse an incredible piece of engineering. It would be an important tourist draw, too. I strongly support it.”
- “Amazing concept and vision to preserve a unique piece of history.”
- “Good luck sounds epic. Would love to visit this unique attraction.”
- “Cannot wait to experience it and like Battersea Power Station so nice to have existing structures reused & repurposed.”

Historic Value

- “I think the plan is fantastic and will be an extremely successful addition to London and the British people’s history and heritage.”
- “The place has so many stories to tell it’s a shame to dilute its use with too much that’s unrelated to that history. Using it as an events space could also be an option when not open to the public.”
- “I think the plan is fantastic and will be an extremely successful addition to London and the British people’s history and heritage.”
- “I have been fascinated by subterranean London, including these tunnels, for many years so would be delighted to see them opened up and people to be able to understand and experience the use they were created for.”

Preservation

- “Focus on being a unique historical and cultural centre, avoid becoming a retail centre.”
- “Please don’t over-Disneyfy the site to appeal to the lowest common

denominator. It’s a fascinating site and story in its own right. I strongly support what you are doing to allow access and provide an attraction which will benefit the whole area.”

- “In the process of “doing up” the tunnels, please don’t obliterate the state of the tunnels as you found them. That in itself is part of their story.”
- “Retain the authenticity without any sponsorship partners ruining the historical atmosphere.”

Local Asset

- “This would be a fantastic tourist attraction and would make a very interesting experience to local resident and tourists. It is very important to keep these historical places alive, so that we and future generations can learn from them.”
- “It’s a great opportunity to showcase our local charms, Holborn is underrated.”
- “Sounds so exciting. I am a local resident and it sounds like a perfect addition to area.”
- “I live a short walk from the tunnel site. As a resident I am always interested in proposals to enhance the area where I live.”

Accessibility

- “Too many attractions in London out of reach for many, so keep prices low to encourage access by and diversity in visitors.”
- “Has to be accessible to all in terms of appeal and openness, not just another high end set of bars and venues that are exclusive and gatekept.”
- “These tunnels have an important story to tell and should be opened to a wider audience , this project would be a catalyst to achieve this .”
- “It would be nice for this project not to exclude people who can’t afford to pay. Also, would be cool to be able to volunteer to help”

Fashion, Art and Culture

- “Would love to see how this project develops further. The disused tunnels are a great opportunity for the arts and culture sector.”
- “Musical events? I love classical music and both chamber, orchestral and vocals might be great down there!!!”
- “I would love to discuss the idea of exploring live orchestral performance in the tunnels.”

Future and Technology

- “Would be great to see it also being adapted to look at the future use of underground spaces given the development of technology (growing things, data centres) and life underground in response to climate change.”
- “It would be cool to see the future of tunnels with new science and tech, like renewable heat etc.”
- “Like to see these re-opened. They could play an interesting role in educating people about science and technology (telephone to iPhone) as well as planet issues around the need to safeguard our future.”

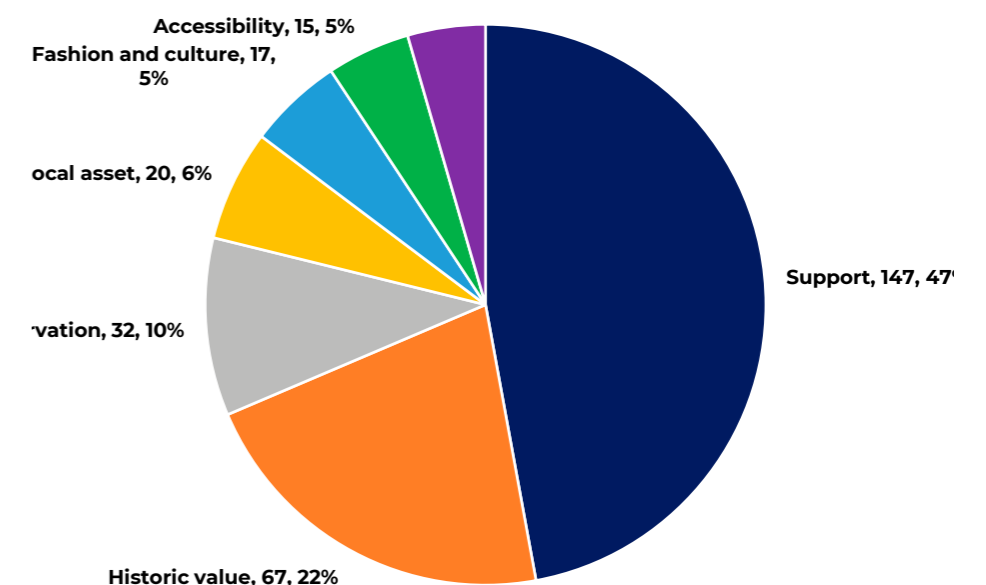


Figure 37. Summary of responses by Topic of Interest



Figure 38. Example of The London Tunnels brochure given to visitors to the exhibitions.

Other Feedback

Some of the local residents responding to the survey were interested in how construction would affect local traffic and potential noise impacts. Specific feedback from neighbours directly adjacent to the site has been noted, specially that of next to 38-39 and 40-41 Furnival Street.

Although much of the work will happen below ground, appropriate measures to mitigate construction impact on residents will be implemented in the next design and construction stages.

Conclusion

Overall, the Scheme has been well received, and residents have expressed positive interest in The London Tunnels. The Design Team has taken note of the Public's feedback and is committed to producing a cultural attraction which will celebrate the heritage and history of the tunnels, and will return a valuable asset back to London.

Other feedback

CONSTRUCTION MANAGEMENT



Respondents were interested in how construction would affect local traffic and potential noise impacts

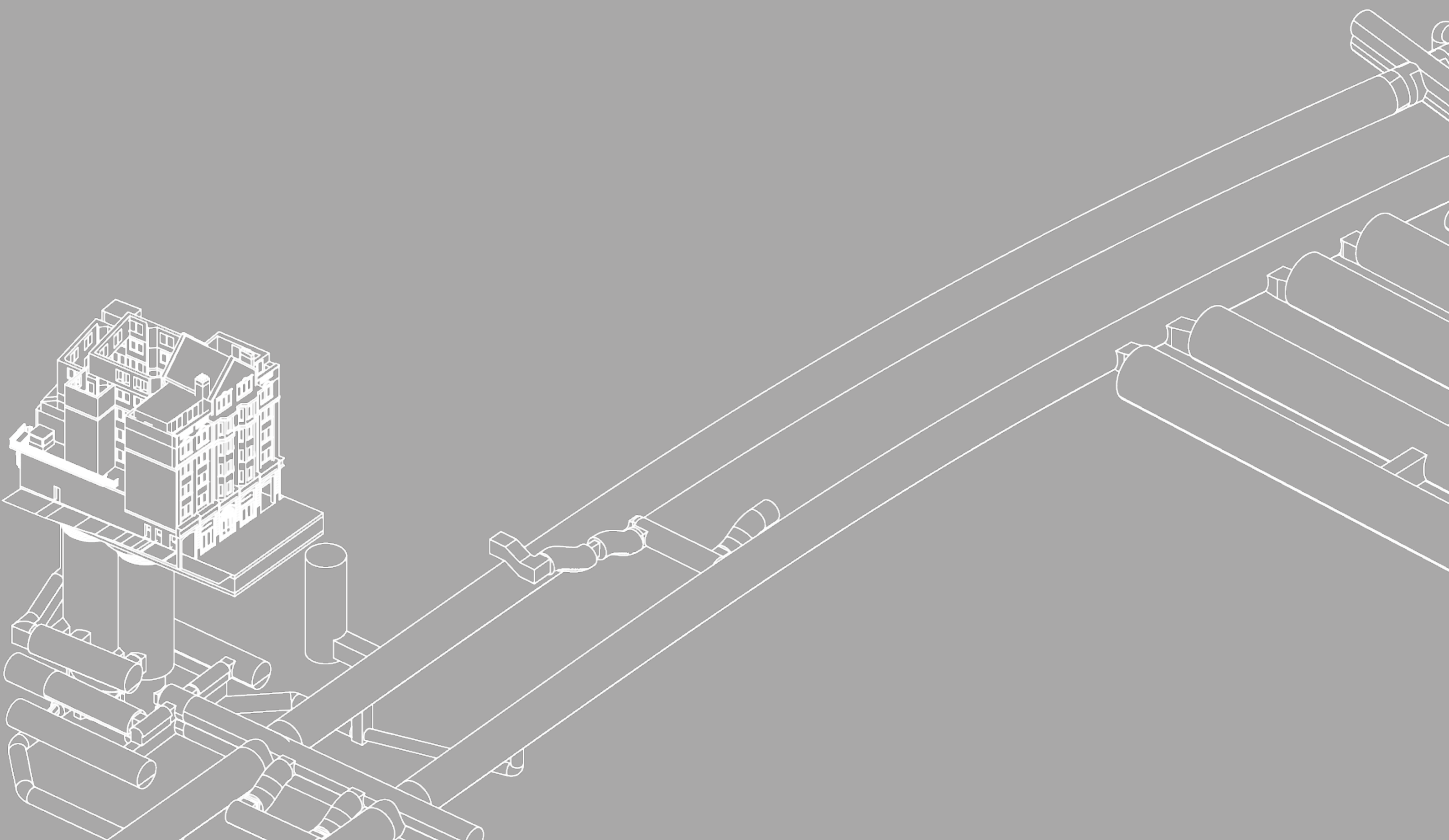
OPERATION MANAGEMENT

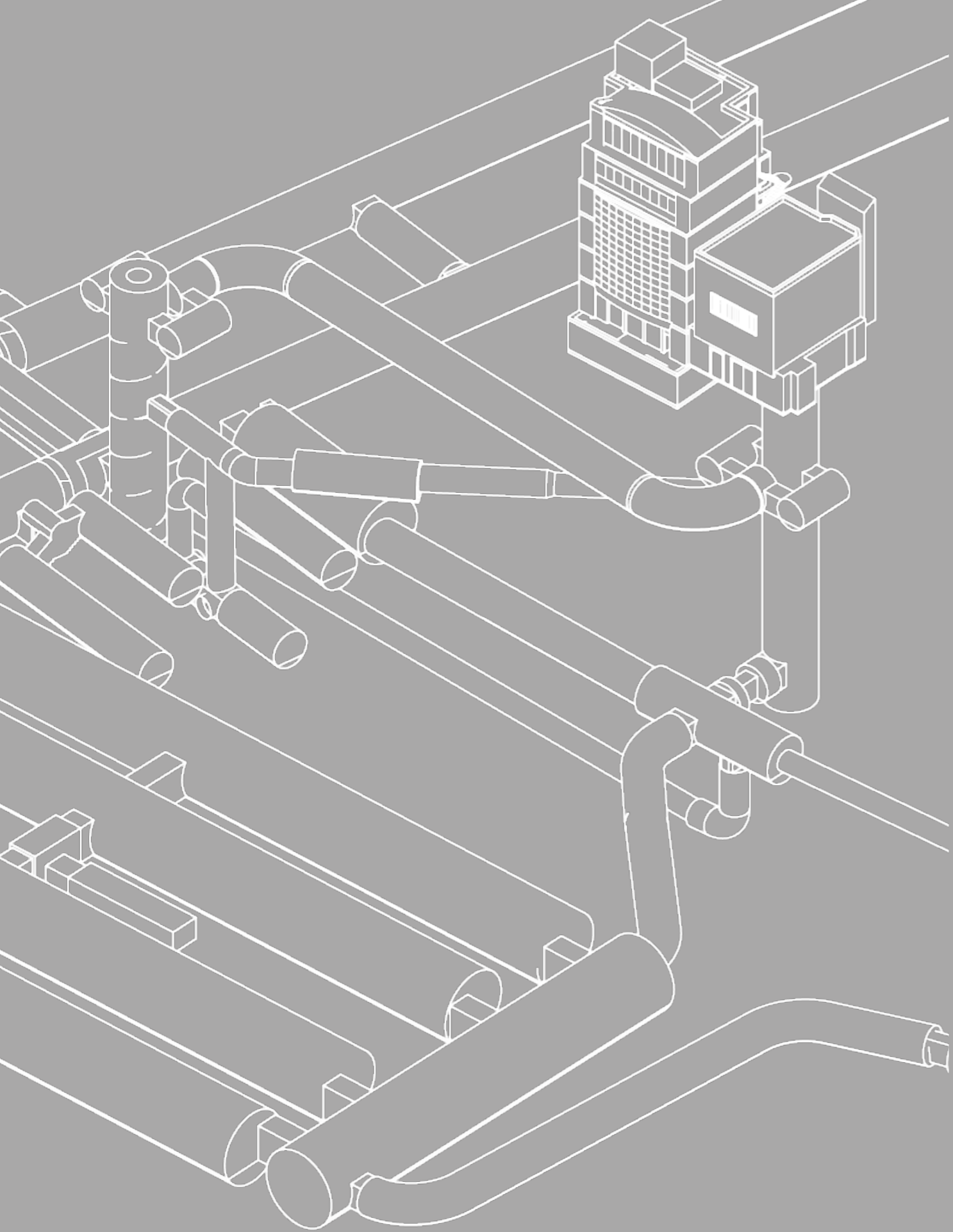


Respondents were curious about who would manage the venue and opportunities to hire out spaces

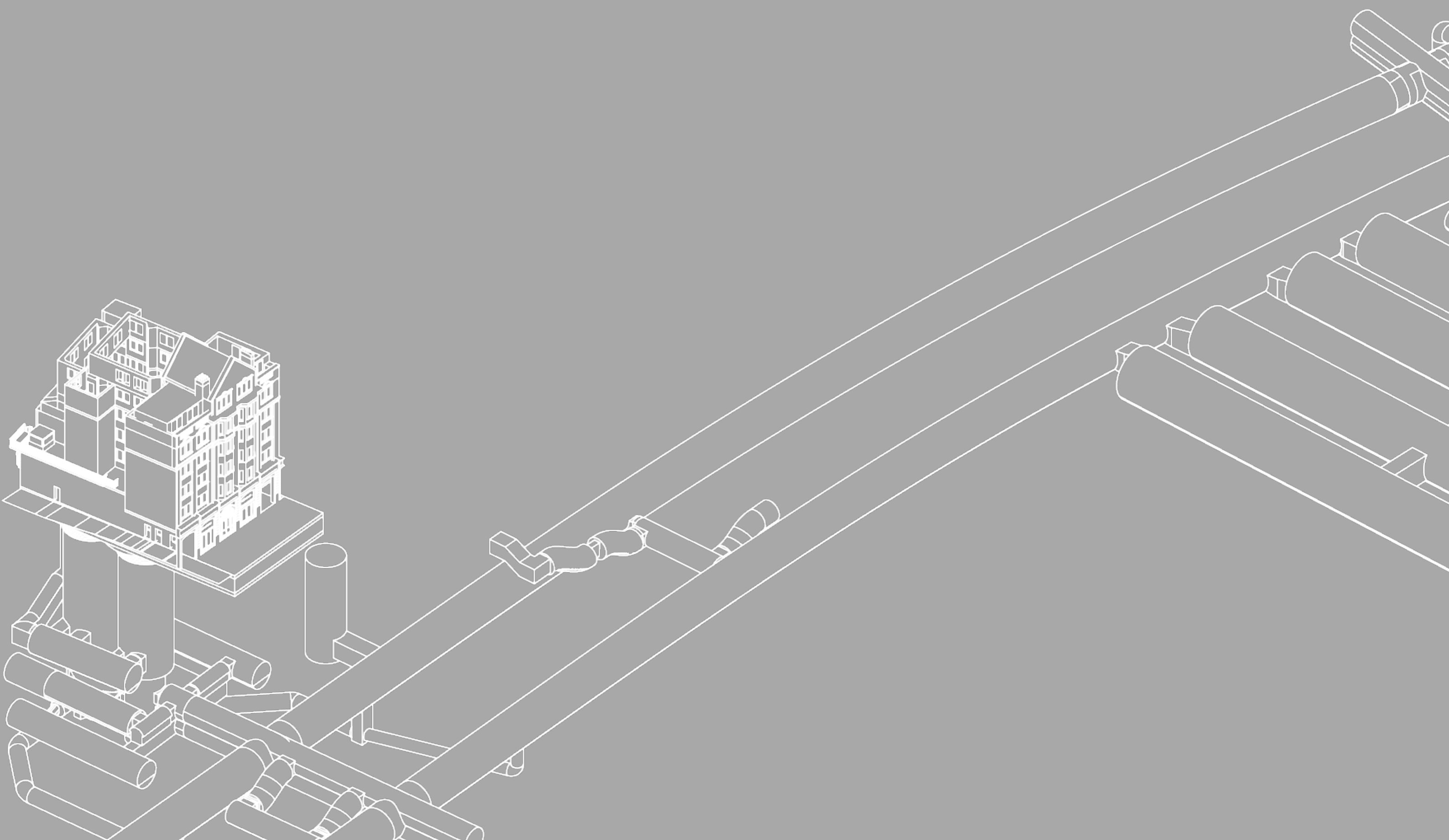


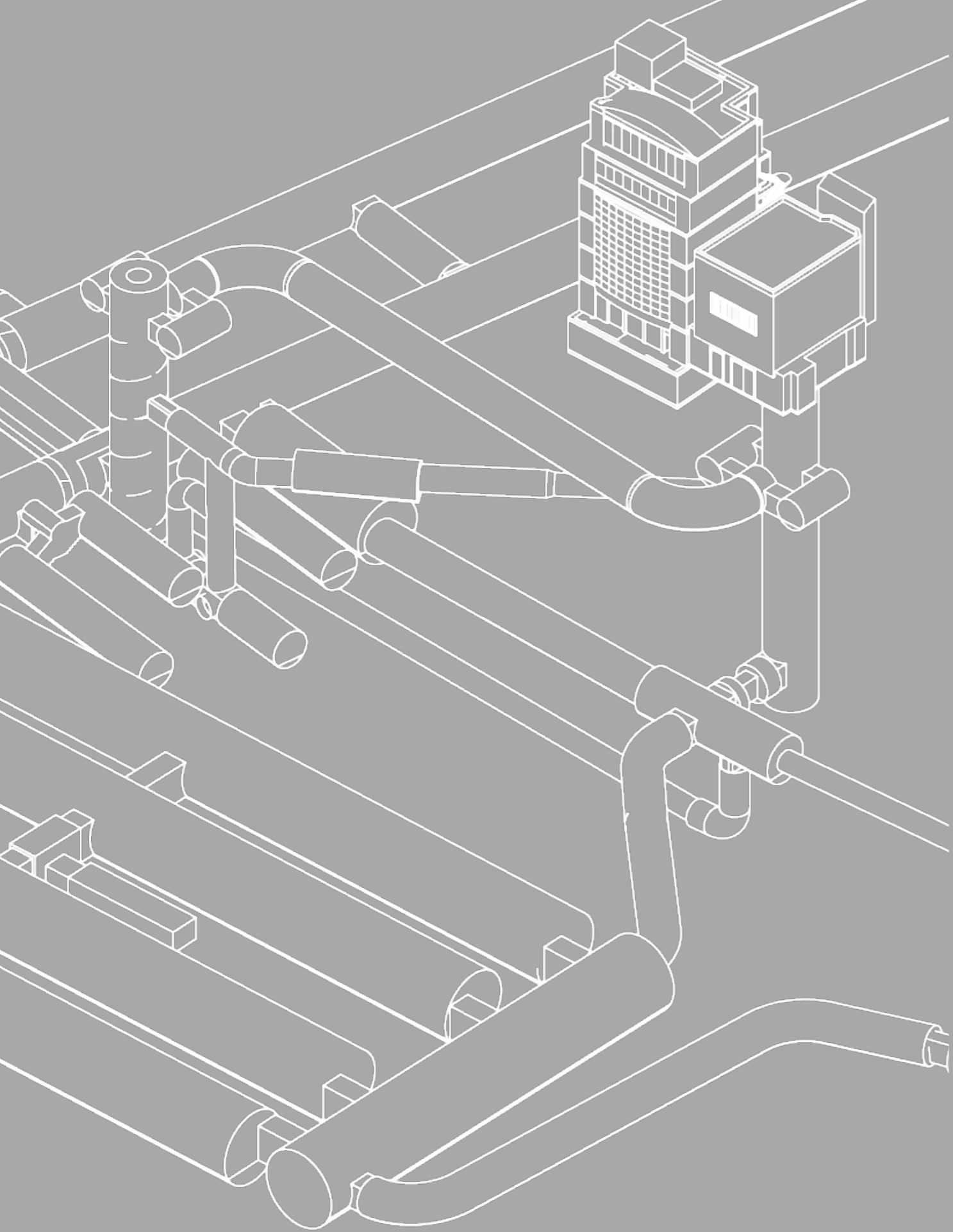
Figure 39. Other Feedback and image from the public consultation at St. Albans Centre





4 Design Statement





4.1 Site Wide Approach

4.1.1 Vision and Brief

Vision

The Vision is to open up to the public a unique historical asset, that has been largely unknown throughout the majority of its existence due to the covert nature of the activities taking place under the streets of Holborn, by providing the right level of investment to safeguard its future.

The location of the tunnels provides the opportunity to re-activate an area of London that has suffered from recent shifts in working patterns, bringing new visitors to the area that can allow local businesses to flourish, and helping The City of London to get closer to its vision of a vibrant, 7 days a week destination.

Project Brief

The project brief includes:

- Open the Tunnels to create a flexible exhibition space with the capacity of receiving up to 2 million visitors per year.
- Adapt the existing assets to current performance standards and provide safe access and evacuation.
- Design flexibility for 2 exhibitions running in parallel, A permanent exhibition will be focusing on history and heritage, while another area will host temporary and ever changing cultural experiences.
- Include a bar that can operate independently from the exhibition areas.
- Provide capacity to operate the tunnels for a variety of events in addition to the permanent and temporary exhibitions.
- Provide independent access to school groups.
- Locate all major equipment for the tunnels operations above ground for upgrading and replacement, ease of maintenance.

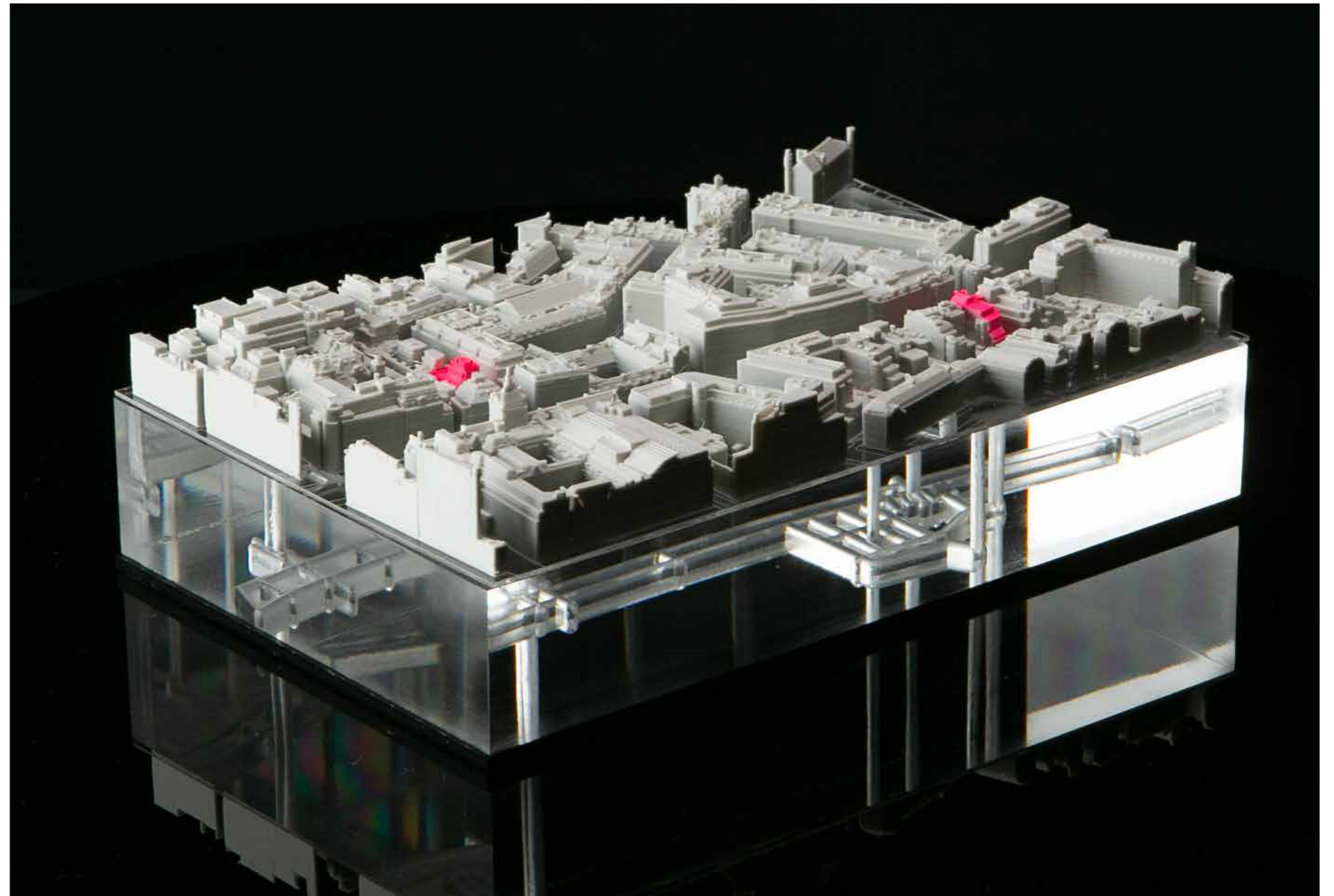


Figure 40. Model of the tunnels below Holborn highlighting the access buildings at 31-33 High Holborn and at 39-39 & 40-41 Funnival Street

4.1.2 Project Description

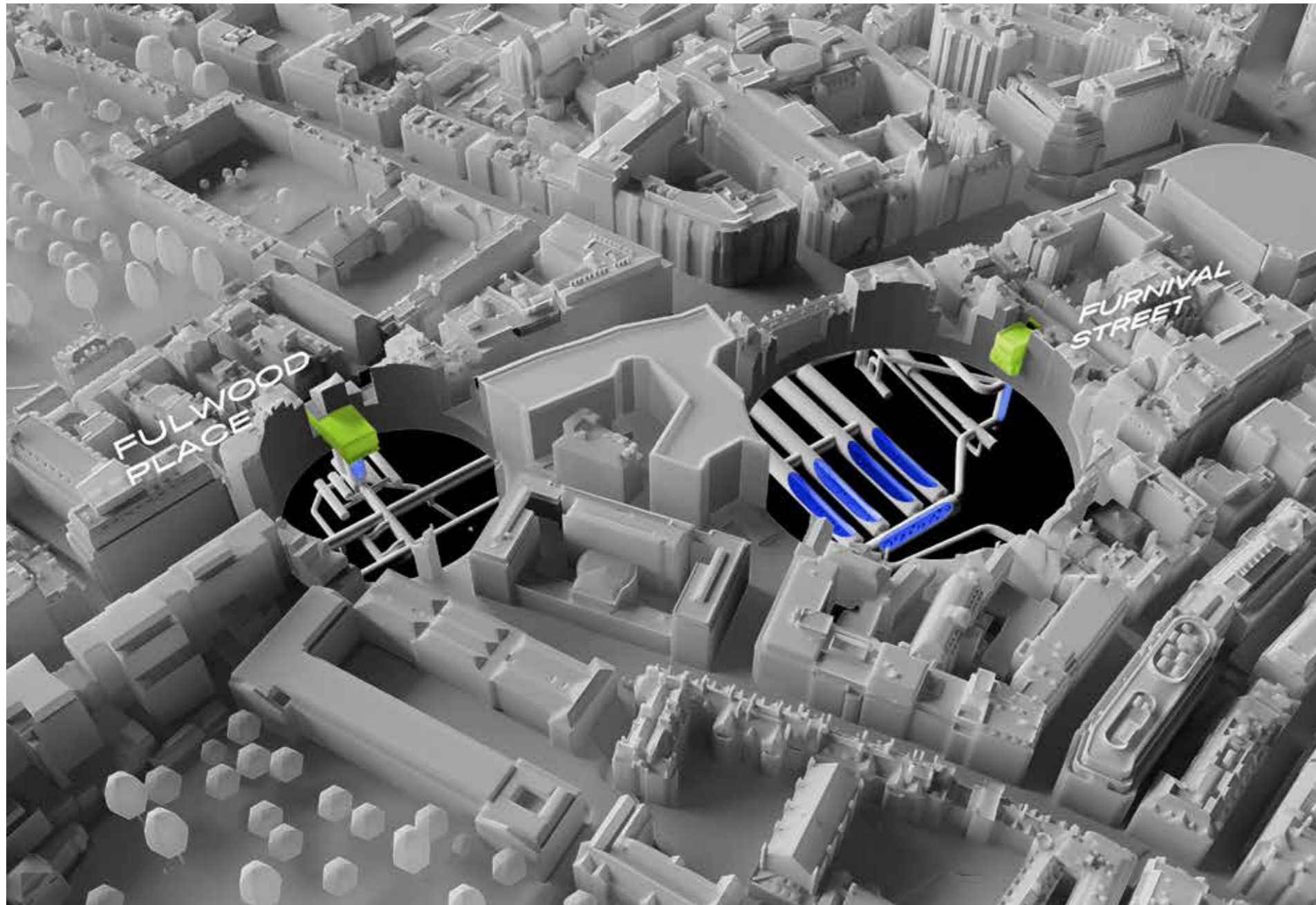


Figure 41. Illustration of the Tunnels location below Holborn

The Scheme proposes the re-activation of the Kingsway Exchange tunnels as a cultural and tourist attraction.

The tunnels will offer two main areas of exhibitions and a unique hospitality offer:

- Heritage Exhibition - will reveal and celebrate the history of the tunnels and their role in WWII and the Cold War and where relevant existing infrastructure will be put on display. This will be permanent and upgraded over time.
- Cultural Exhibition - where technology will be provided for contemporary artists to exhibit fully immersive digital artworks and installations. This will be a changing programme, offering a constant turnover of themes.
- Deepest bar in UK, celebrating what used to be the staff canteen when the tunnels were in operation.

The tunnels sit between Camden and City of London boroughs, with entrances from Fulwood Place at 31-33 High Holborn (Camden) and 38-39 Furnival Street (City of London).

The public use of the tunnels is made possible through major enhancements of both entrances, upgrading the existing shafts to current H&S standards.

The sites at Furnival Street will be the main visitor entrance. For this, 38-39 Furnival Street and 40-41 Furnival Street will be demolished and combined to provide the required spaces for users to safely and orderly access the tunnels, yet maintaining the independent character of both buildings.

Particular consideration has been given to 38-39 Furnival Street, where the current building will be carefully demolished and rebuilt, keeping the existing proportions of the front facade and re-using the key materials and components that define the current building. The extent of the material reuse will be subject to further surveys and analysis.

Fulwood Place, at 31-33 High Holborn, is designed to be a secondary entrance dedicated to school groups and visitors to the Bar.

Both entrances will provide evacuation routes and fire fighter access.

4.1.3 The Cultural Vision

The Cultural Ecosystem

The London Tunnels are positioned between the London Borough of Camden and the City of London Corporation, a conduit connecting prominent cultural landmarks and central attractions. Their conversion to a cultural venue offers London a new cultural destination to join other City of London and London Borough of Camden cultural landmarks, including the Barbican, Guildhall School of Music & Drama, Museum of London, British Museum, British Library, Camden Arts Centre, and the Roundhouse.

Cultural Vision - London's Underground Connector

This new cultural offer will help the City of London achieve its goal of a vibrant seven-days-a-week destination and help to increase footfall (for both boroughs) back to pre-pandemic levels. The London

Tunnels will act as a catalyst for building an ecosystem of culture-led businesses and public organisations across both boroughs, expanding beyond cultural anchor organisations to bring together historic locations and smaller galleries, theatres, and experiences, all within a walkable area.

The London Tunnels' main attraction is the experience of walking and exploring the tunnels originally built in the 1940s and 50s, designed to protect Londoners from the war and other threats and play a strategic role in early telecommunications. There is now a unique opportunity to restore the vast spaces, allowing visitors to move fluidly between digital and analogue worlds, to experience something truly unique, and to explore broader topics across the arts, nature, and sciences.

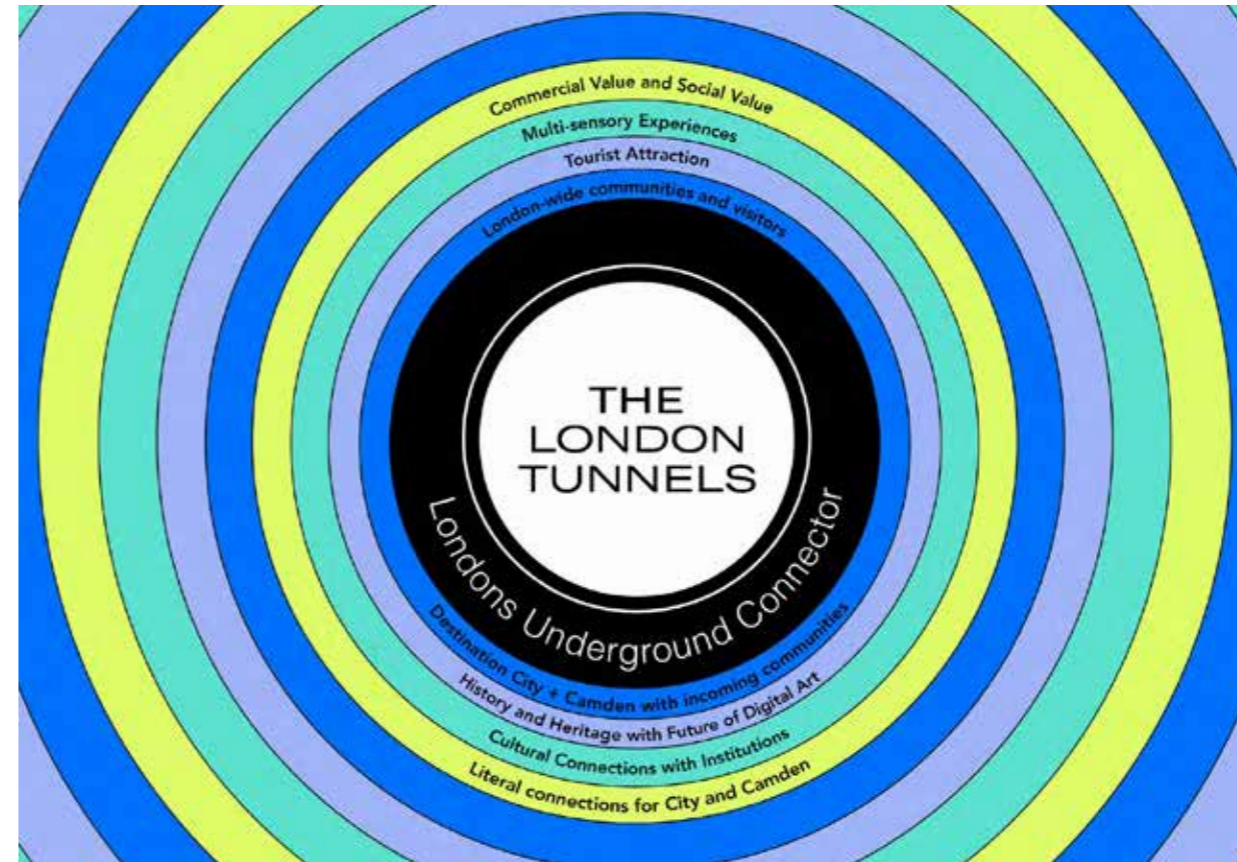


Figure 42. Concept Diagram of the cultural vision of The London Tunnels

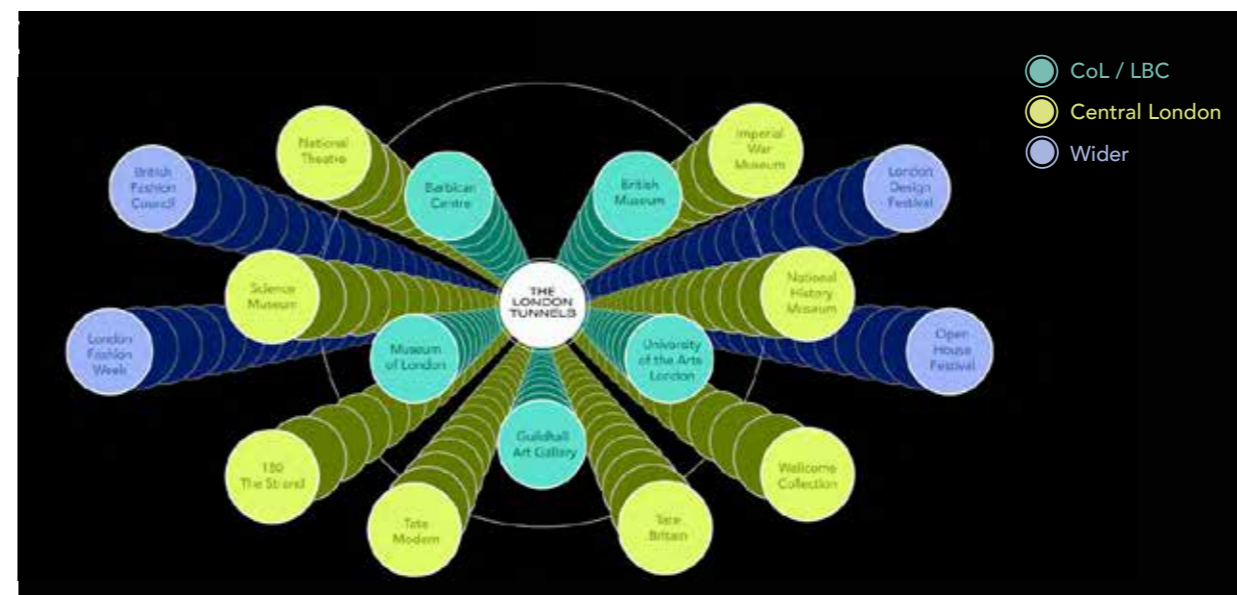


Figure 43. Cultural attractions in the City of London and The London Borough of Camden

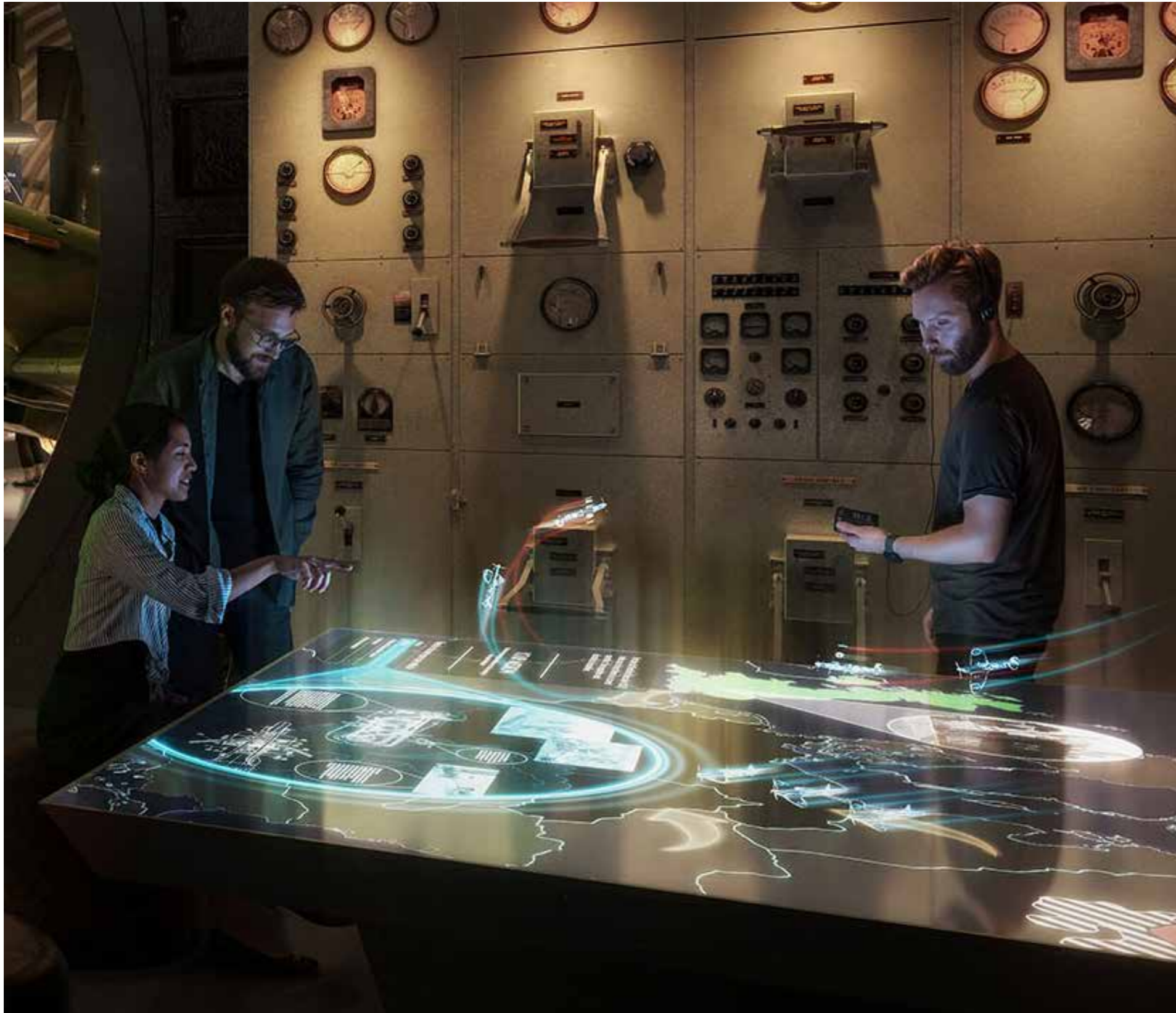


Figure 44. Indicative concept image of Heritage Exhibition in the Tunnels

Heritage Experience - A Vision of the Past

Visitors will experience key moments linked to the tunnels use in London war time and the Blitz and post war through to the cold war and the Cuban missile crisis. The London Tunnels story will be developed in partnership with experts on the period and leading names in event and museum installation, major exhibitions, and unique experiences. It will become the destination, for engaging stories about the life of the capital and its people post war and, in the process, bring more money to London's leisure economy through targeted activities, tours and packages to drive footfall and encourage spend. It will add another layer of history and heritage to London as a Roman city, to the presence of St Paul's and Tower Bridge, the livery halls, and history walks.

The London Tunnels will use a range of media to share stories of the war from the perspective of those who experienced it, from touchscreen controlled interactive tables, to films and large projections mixing digital and cutting-edge technology, to encourage their exploration. Viewers will be able to see and use restored equipment from the tunnels used over 8 decades, as well as stories and information made accessible through projection, digital screens, and audio to create a powerful narrative, assisted by actors and guides.

The history of the tunnels at the intersection of London's West End and the Square Mile, will draw in people who would not normally see a trip to the City of London as an attractive proposition making this one of the capital's most exciting and unusual destinations, playing a key part in helping to bolster London's cultural and heritage offer and attracting up to two million people each year.

Perhaps the most exciting response to the investment needed for The London Tunnels will be the range of skills needed to prepare, build, operate, programme and support the cultural venue, which in turn will provide a host of opportunities for the local community from jobs and skills to low-cost access. From front of house ticketing to set design and building, food and beverage, and a range of technical support services, the opportunity is for partnerships with local schools, further and higher education.

Cultural Experience - A Vision of The Future

Beyond the heritage offer The London Tunnels should be seen as an 'Underground Connector' joining up the communities of the City of London and Camden and providing a range of benefits and opportunities. The cultural section of the Tunnels is described as the 'Avenues' consisting of 4 large scale parallel and interconnected Tunnels. In the southern part of the Tunnels, accessed off Fournival Street. This will be the stage for a programme of exciting cultural activations, exhibitions, and events. A 'black box' space will be able to shift and adapt to the different cultural programmes. High-resolution large-scale curved digital screens and projection systems, interactive structures, scent-emitting technology, and hundreds of individual acoustic pinpoint speakers will provide an adaptable canvas for a wide range of cultural events and uses.

The Avenues will present the best of digital and tech-based art, as well as analogue experiences. This will happen through partnerships with artists, galleries and curators utilising the tunnels to create dramatic settings for screen, physical work, and installation. Large scale artworks will respond to the architecture and design of the Tunnels designed to encourage audiences to experience this unique underground setting.

The London Tunnels will partner with London Festivals and Cultural Institutions to provide a varied programme of art, fashion, architecture, film, history & heritage, music, and performance. From opening The London Tunnels to Open House Festival, and the London Design Festival, to fashion events as part of London Fashion Week, and film festivals for Raindance and Secret Cinema.

The London Tunnels will also provide opportunities for 'spill-out programming' space to the cluster of cultural organisations nearby such as the Barbican Centre, Tate Modern and Museum of London and performative pieces, such as Punchdrunk, could experiment with the physicality of the spaces, inviting audiences to participate in the performance, with the aid of technology and live acting.

Cultural Incubation - Supporting Next Generation Talent

The London Tunnels will attract innovative content via a convergence of digital art and technology. For this reason, we have developed the idea of creating the 'T_LAB', which will generate and provide content to be presented within the Tunnels, through strategic partnerships with Universities and Tech Institutions, as well as local and London-wide community groups and organisations based on real-world lessons from developing similar initiatives for the National Gallery, UKRI, the Outernet and from other emerging models in digital cultures.

T_LAB BENEFITS TO INCLUDE:

1. Creating an innovation lab where digital experiences are co-created by London's most exciting young artists and creatives, technologists, and researchers.
2. Building strategic partnerships between creative organisations, technology companies and educational institutions to underpin and support this studio.
3. Unlocking major socio-economic benefits by using the lab to develop the skills, capabilities, and confidence of local communities.
4. Developing a sustainable financial model for the lab from diversified public and private funding and an experimental new digital commercial model.

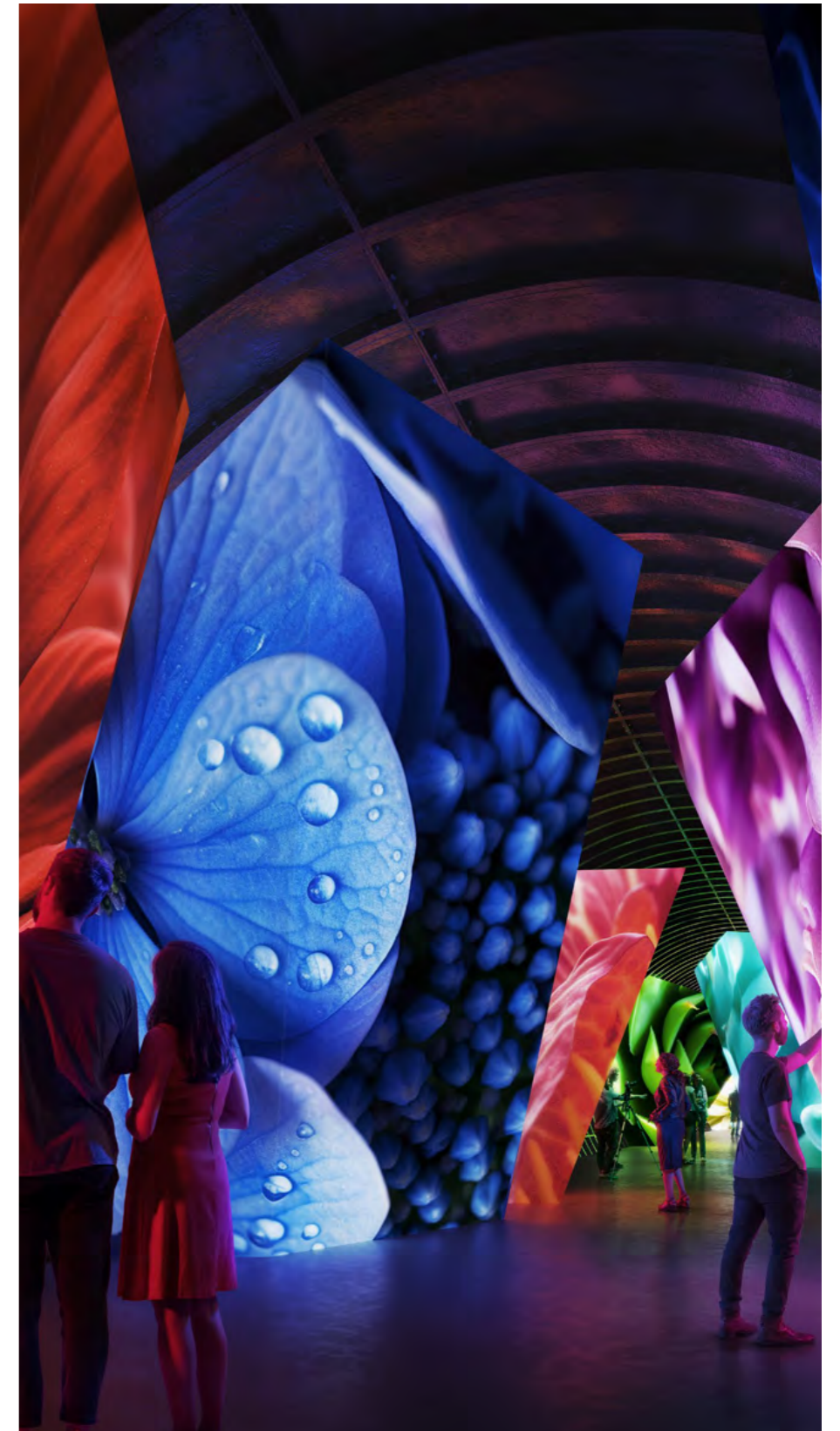


Figure 45. Indicative Concept Image of the Cultural Exhibition in the Tunnels.

Methodology

Futurecity worked as an integral part of The London Tunnels team, shaping the Cultural Vision and Principles and working closely with architects Wilkinson Eyre on the cultural spaces and the opportunities for artistic interventions in the underground tunnels and public realm.

Futurecity led on articulating the applicant's vision for a new cultural venue within The London Tunnels, which includes provision for different cultural activations and complementing it with ideas for programming and outreach, throughout the construction process, but also leaves a

significant cultural legacy that will contribute to the cultural ecosystem of the City of London.

Futurecity backed up the above vision with a research-driven approach. We conducted rigorous and thorough auditing of City of London and London Borough of Camden policies, as well as an extensive deep dive into the area's cultural provision and infrastructure. In combination with research on the historic nature of the site and its surroundings, the above led to focus the Cultural Plan in delivering against both boroughs' aspirations for creating a unique and unified cultural offer and for providing access and opportunity to its communities.

Working collaboratively with The London Tunnels PLC, Wilkinson Eyre, Montagu Evans, Gardiner & Theobald, London Communications Agency, Volterra and D-BOX, Futurecity informed the uses and design considerations for the cultural spaces relating to specific capacities and aligning opportunities to the needs of the surrounding community and cultural sector. The cultural stakeholder engagement undertaken by Futurecity to inform how the plan aligned the cultural opportunities of the site to the demand and interest of the sector. Initial interest for programming partnerships have been explored and some of the organisations have expressed interest in furthering the conversation in the next stages.



Figure 46. Concept Image to illustrate potential cultural experiences.

4.1.4 Making History Accessible

The Scheme seeks to preserve the tunnels and their memory of the events shaped the 20th century. To achieve this, the first step involves documenting the current state of the tunnels for future archival purposes. To fulfil this goal, a high-precision 3D scan 'point-cloud' survey has been commissioned.

The drawings and models presented in this document are based on these initial surveys, serving dual purposes by aiding the project's development and contributing to archival records. Beyond the site's distinctive spatial qualities, its historical importance, as detailed in the preceding chapter, underscores the need to continually enrich the archives by documenting the equipment throughout the design process. Therefore, it is recommended to conduct a survey of the equipment before initiating any dismantling activities.

The dual approach of digital and physical preservation enhances the historical significance of the project. This preservation effort contributes to the proposed historic exhibition, where visitors will have the opportunity to delve deeper into the history of the tunnels.

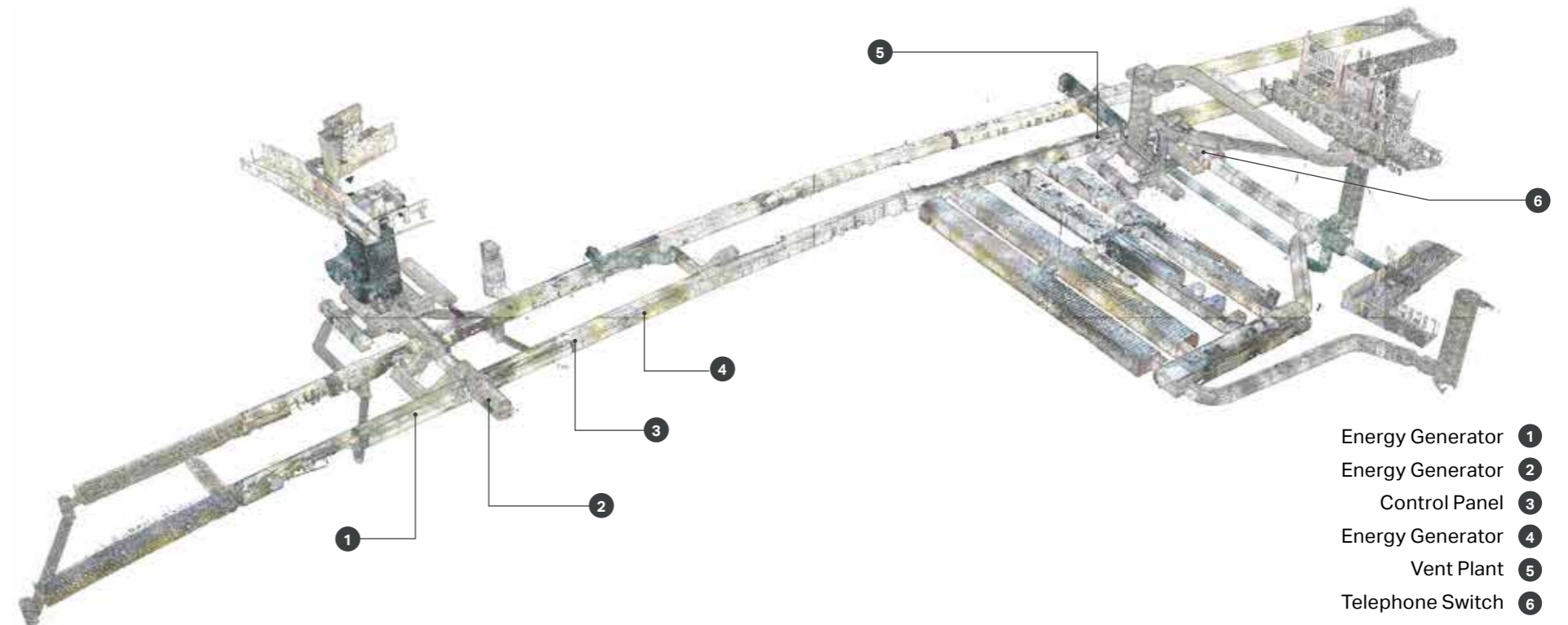
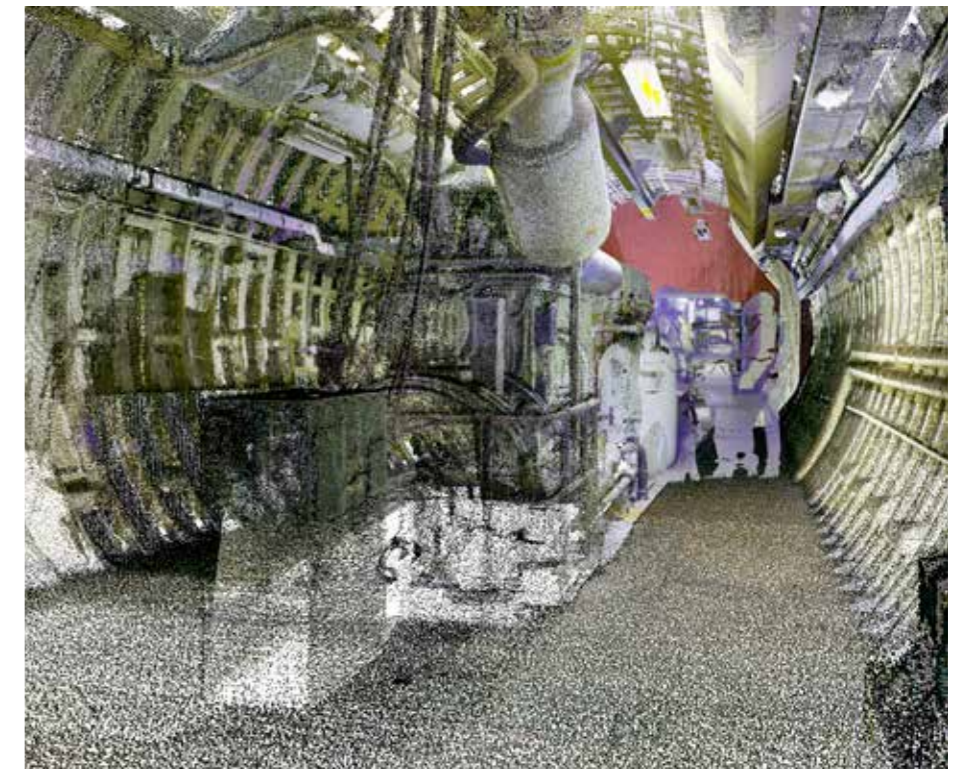


Figure 47. 'Point-cloud' survey diagram highlighting the existing plant that could potentially be retained and woven into the historical narrative of the Tunnels



Point cloud extract - North Street East



Point cloud extract - South Street East



1 Energy Generator



2 Energy Generator



3 Control Panel



4 Energy Generator



5 Ventilation Plant



6 Telephone Main Distribution Frame

31-33 High Holborn

The layout of Fulwood Place (31-33 High Holborn) has undergone various modifications from its original use as an entrance to the underground to its current configuration. After the station's relocation to Chancery Lane and in adherence to a new government directive to construct deep shelters, significant changes were made to the original internal layout. The details of the deep shelter scheme were classified, resulting in limited available information. It is currently assumed that the two shafts were protected by a bomb-proof 'pillbox' construction within the building, parts of which are shown in the images on this page.

Similar to the approach taken with the tunnels, the team commissioned a high-detail scan survey of the accessible areas, offering a detailed documentation of the current condition of the building.



Figure 49. 'Point cloud' cross section



Figure 48. 'Point cloud' cross section



Figure 50. 'Point cloud' street view from Furnival Place



40-41 Furnival Street

38-39 Furnival Street

Figure 51. 'Point cloud' elevation



Figure 52. 'Point cloud' street view

38-41 Furnival Street

The Furnival Street buildings comprise two assets, namely, 38-39 and 40-41 Furnival Street.

The structure at 38-39 Furnival Street was initially erected as a ventilation intake serving the tunnels, and reconstructed following an explosion during 'The Blitz'. Subsequently, the Post Office added the enclosure, which remains to this day. Limited information is available about the current state of the building, prompting the commissioning of a detailed digital survey to provide clarity on its present dimensions and alignments.

Conversely, the building at 40 Furnival Street is of a more contemporary construction, and its details have been appropriately documented and archived. The digital scan has been expanded to include this building, ensuring comprehensive information regarding massing and alignments.

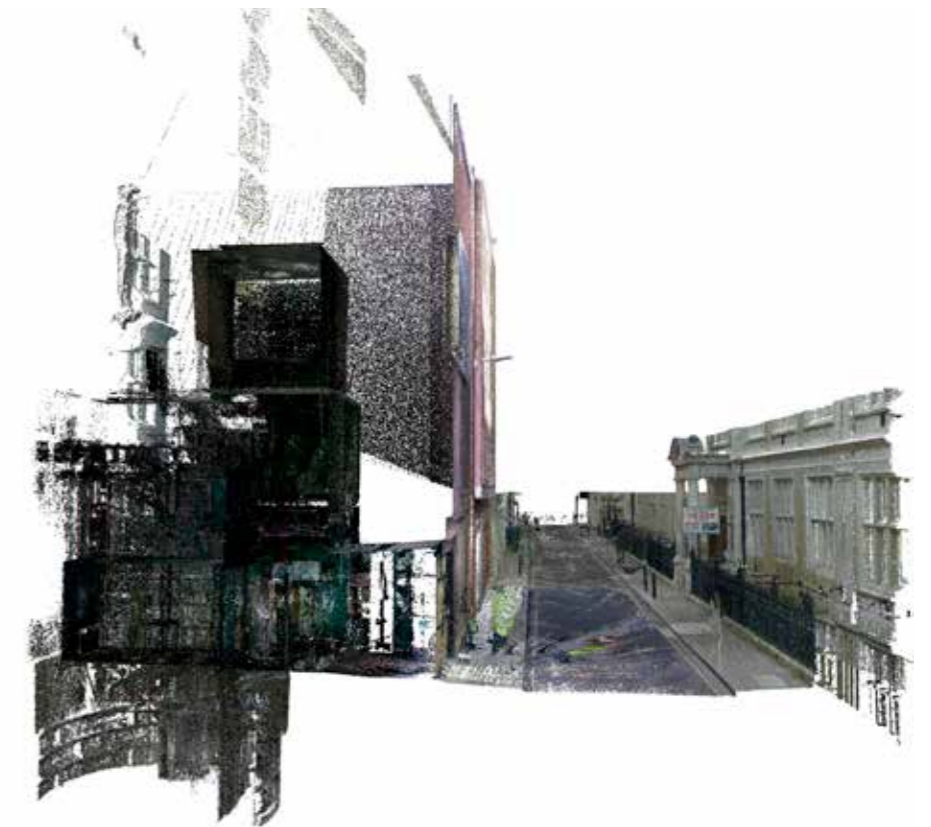


Figure 53. 'Point cloud' street view

4.1.5 The Scheme

Project Zones:

Kingsway Tunnels: These will be adapted and opened to the public, serving as a venue to showcase the asset's history and functioning as a cultural hub. The unique underground environment will be leveraged for various activities.

38-39 & 40-41 Furnival Street: These buildings will be combined to serve as the main entrance to the tunnels, facilitating fire-fighter access and evacuation routes. Additionally, the majority of equipment servicing the tunnels will be housed here, ensuring direct accessibility for maintenance and replacements. The building will accommodate various uses, including multiple retail levels, staff offices with dedicated amenities, It will also provide plant-room space to locate the majority of equipment serving the tunnels.

31-33 High Holborn: This area will function as a secondary entrance to the tunnels, providing access to a bar, with dedicated fire-fighter access, and an evacuation route from the tunnels.

Design Drivers

The proposed public use for the project sets the criteria for access and evacuation. The design of the Scheme has been influenced by the necessity to establish a strong and feasible fire strategy and evacuation plan. Currently, the existing entrances and connections to the surface do not meet the performance level required to render the Scheme viable.

Shafts Enhancement

Each access point must accommodate the following:

- Staircases for emergency evacuation.
- Evacuation lifts.
- Lifts for fire-fighter access.
- Lifts for visitor access.

The current dimensions and scope of the shafts do not offer sufficient space to integrate these functionalities. A strategy has been formulated to improve or enlarge the existing shafts to facilitate the inclusion of the mentioned features. This is elaborated upon in detail in section 4.

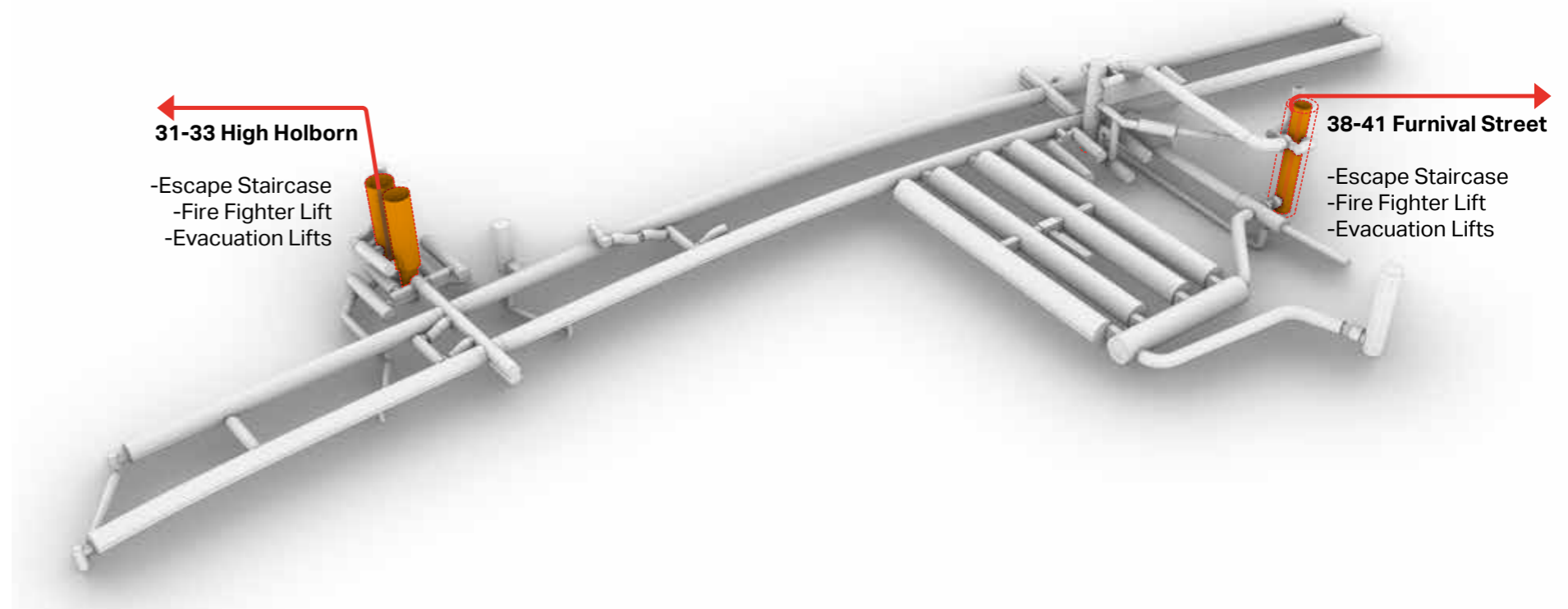


Figure 54. Means of Escape at Fulwood Place and Furnival Street

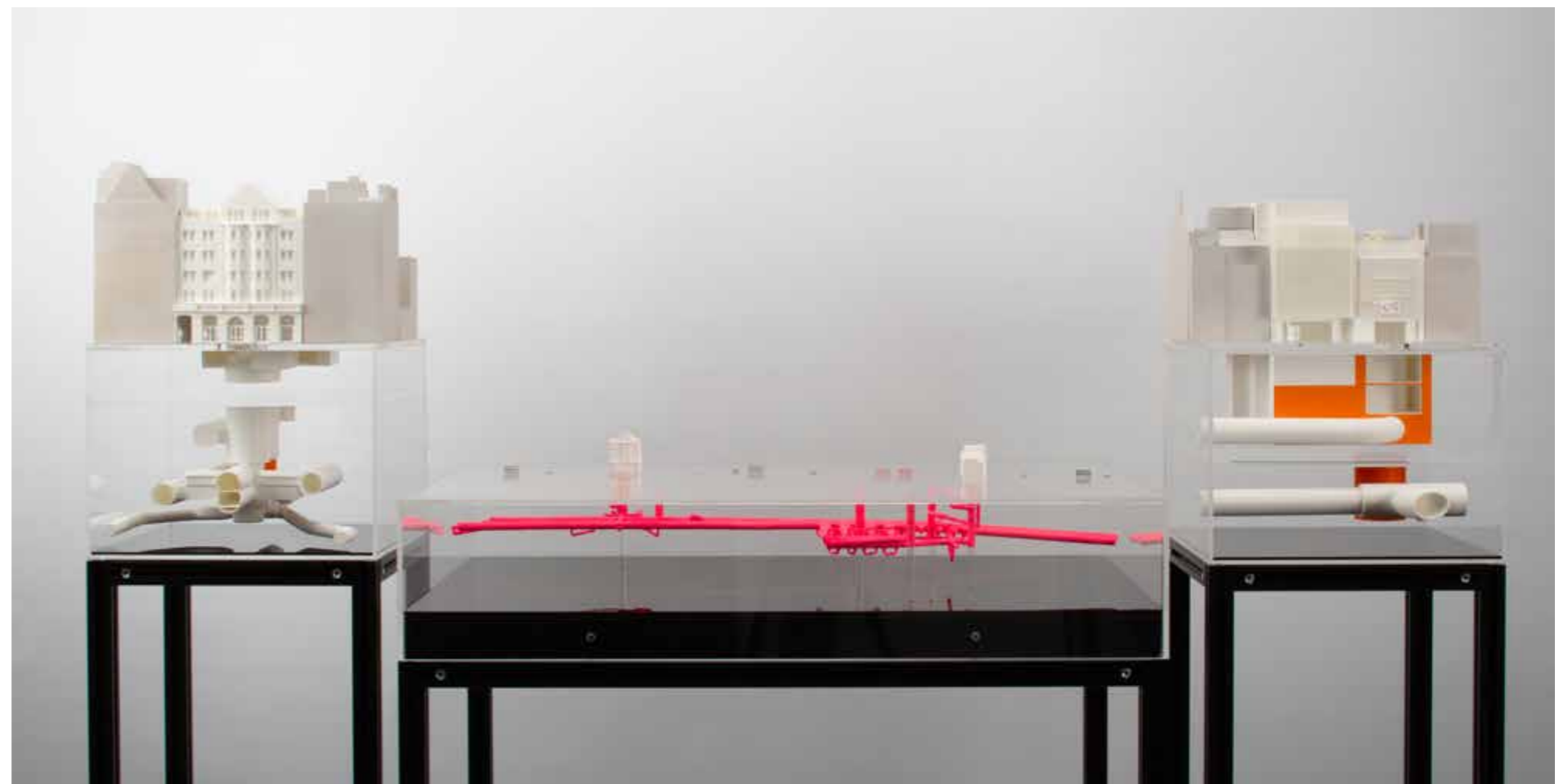


Figure 55. Physical models of the areas of the scheme: Fulwood Place, The Tunnels, and Furnival Street



Figure 56. Zone 1 - Furnival Street - Indicative artistic image



Figure 57. Fulwood Place (31-33 High Holborn) Indicative artistic image

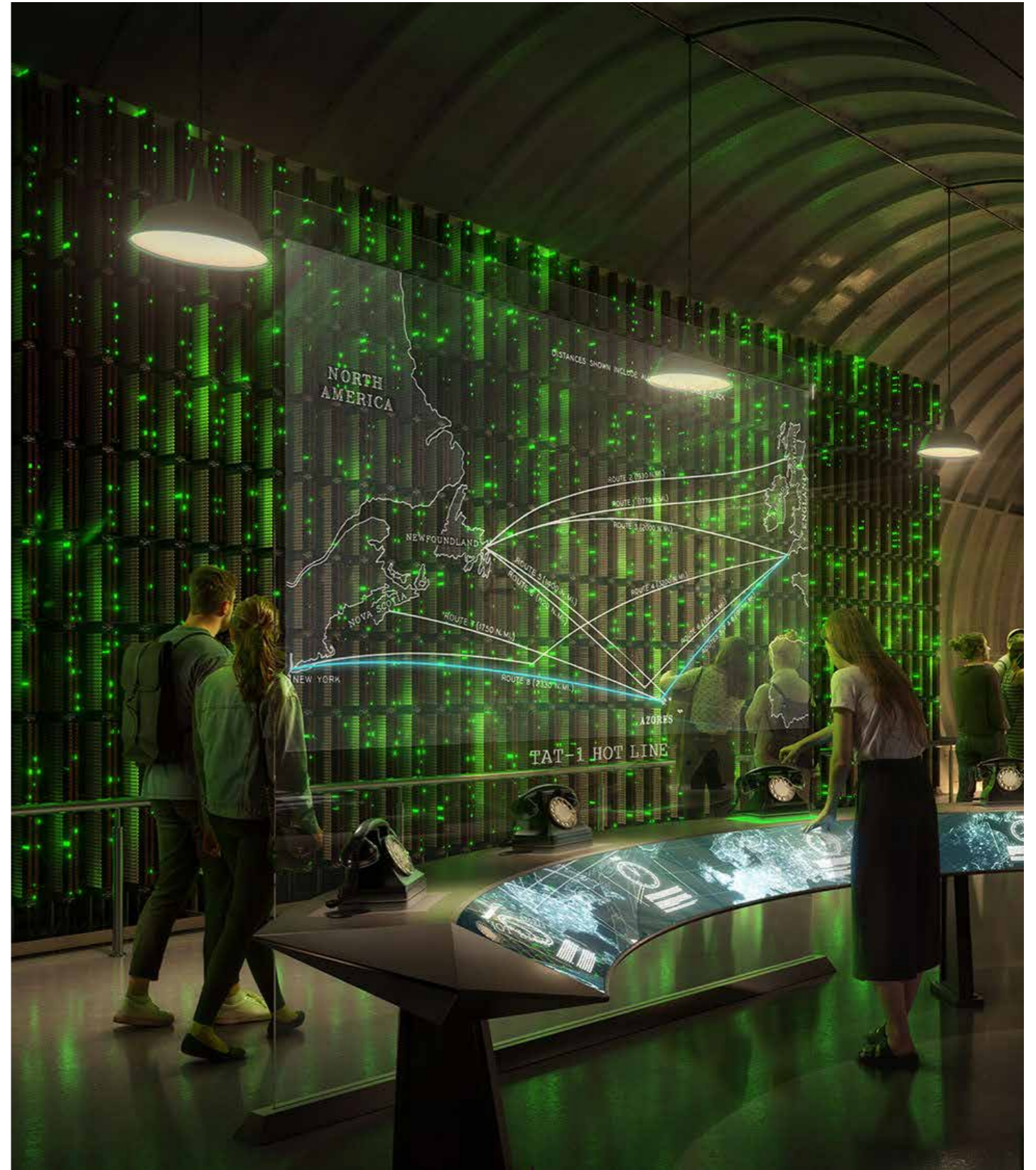


Figure 58. The London Tunnels - Indicative artistic image

4.1.6 Exhibition Occupancy

Design Day

Visitor numbers are estimated using a 'Design Day' metric, which typically represents the average occupancy of the peak 20 to 30 days of the year. This enables the design team to develop robust strategies and facilities for peak periods.

The design day is determined by the Peak Hourly visitors in the tunnels, which, in turn, is influenced by the available exhibition area. The diagram to the right illustrates how the design day defines annual visitors, taking into account London's tourism seasonality. The busiest month, constituting 11% of visitors, is spread over 4.43 weeks, with the busiest day estimated to account for 15%.

The capacity of the tunnels is defined by the available exhibition area of **4,900 m²** with a maximum target density of 6.53 m²/pp (square metres per person). Architectural decisions for the Scheme are grounded on the 'design day occupancy', while the engineering design for ventilation, fire safety, and thermal comfort is based on a higher peak capacity to ensure the tunnels' safety.

Management strategies can be further implemented to spread the peak periods through pricing and promotions and communicating peak periods to inform choice to the visitors.

Key Figures

- Target Annual Visitors: up to 2,000,000 visitors / annum.
- Average Visitors occupancy in tunnels (over 360 days): 560 visitors/ hour.
- Maximum Visitors occupancy in tunnels (at peak times) :750 people/ hour.
- Bar typical maximum occupancy: 160 people.

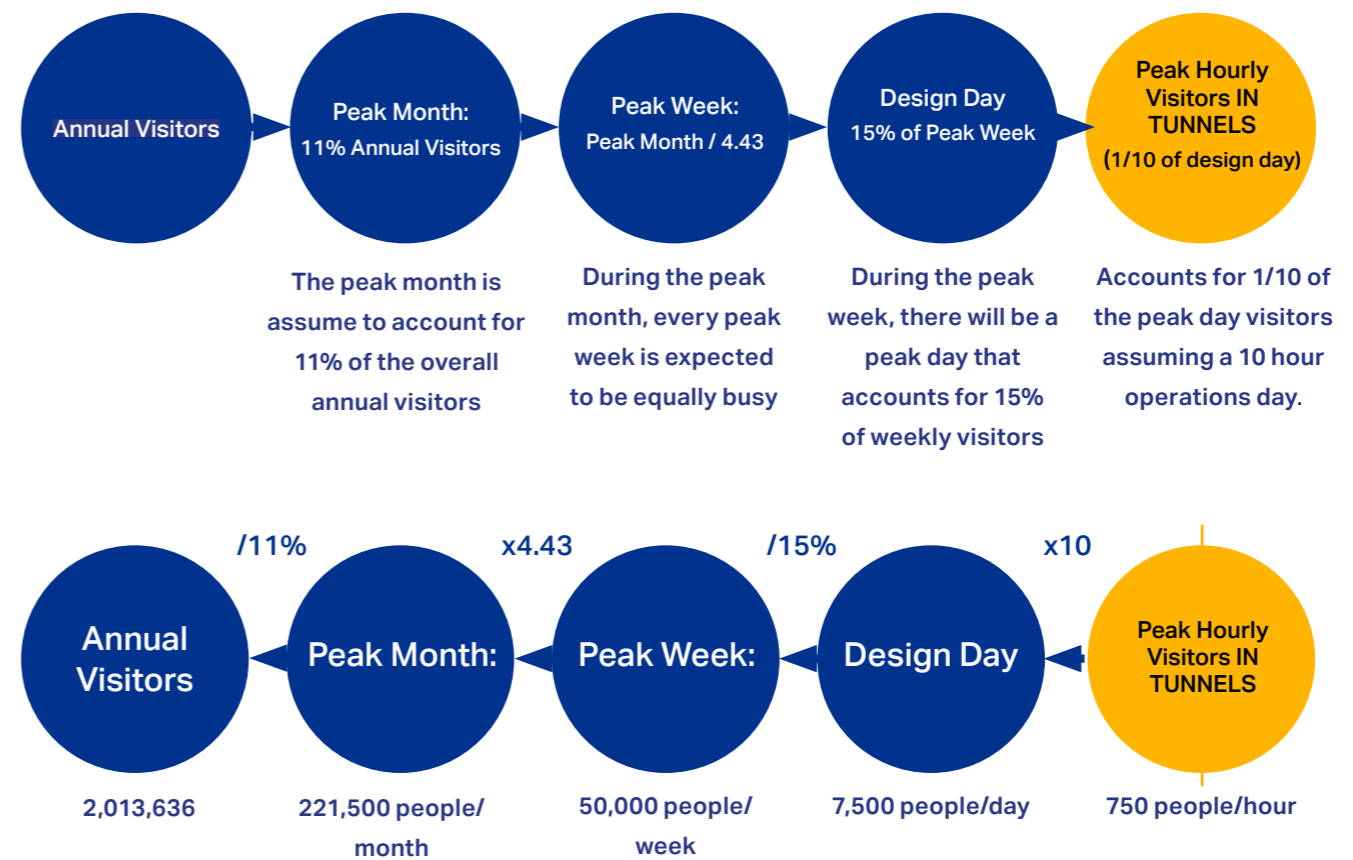


Figure 59. Illustrated design day formula

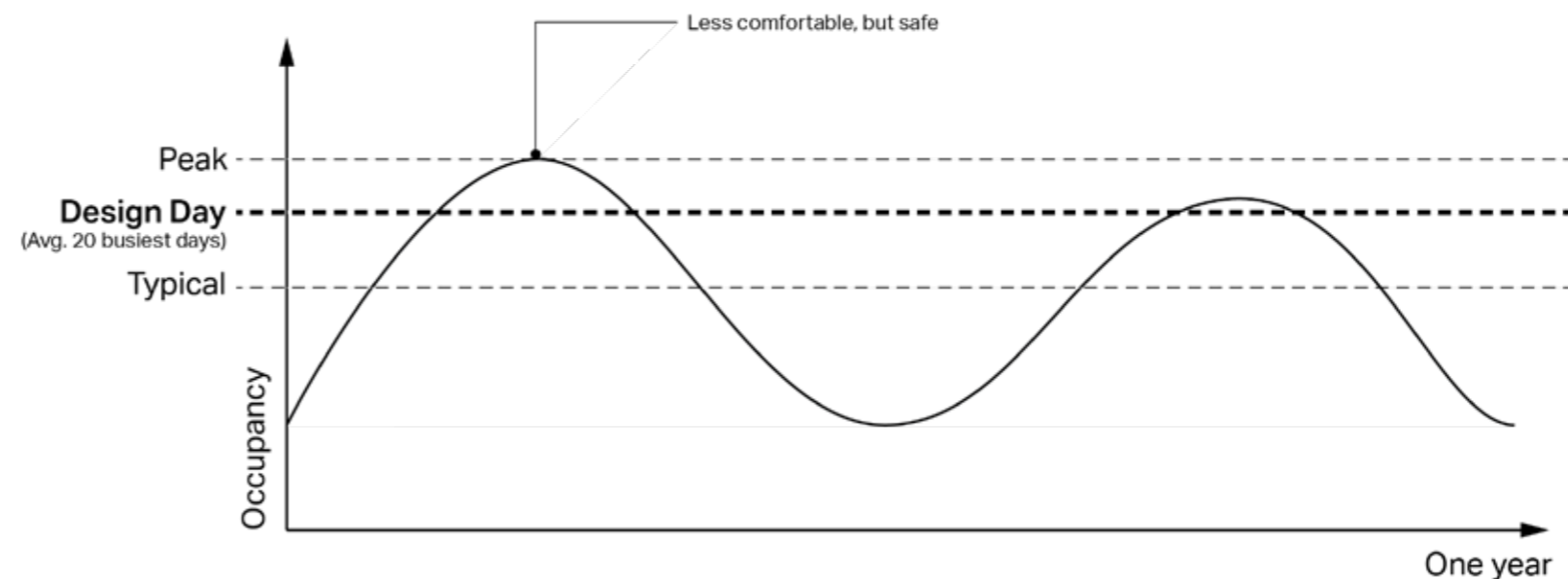


Figure 60. Peak, Design Day and Average Occupancy

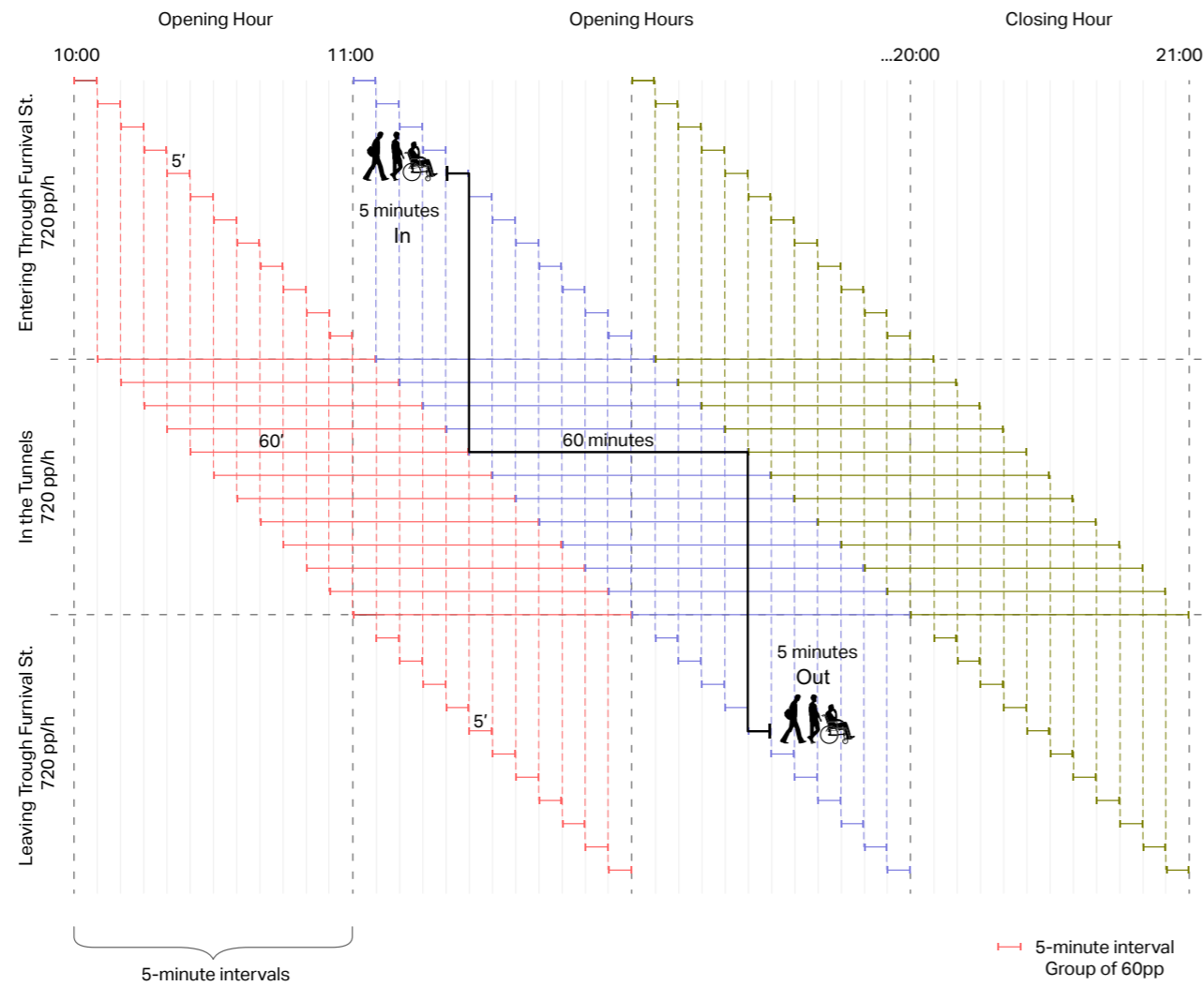


Figure 61. Furnival Street and Tunnels visitor throughput

A YEAR IN THE LIFE...

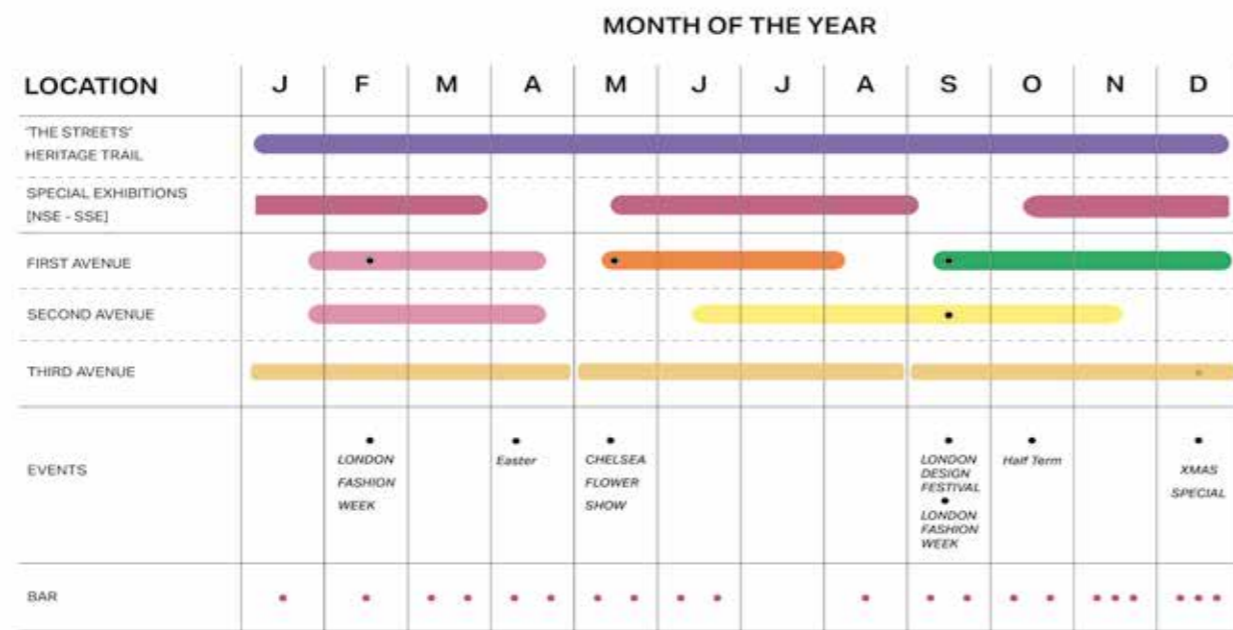


Figure 62. Indicative annual activity calendar in the The Tunnels

Visitor Throughput

The visitor throughput in the tunnels is based on groups of 60 people entering through Furnival Street every 5 minutes at peak periods. For a more detailed overview of lift capacity and pedestrian flow modelling, please refer to WSP's Transport Statement and Framework Travel Plan.

Upon arrival, visitors will undergo bag checks and security screening on the ground floor before boarding one of the double-deck lifts. To streamline processing times, strategies such as QR scanners will be implemented. Visitors will be alerted in advance to what they are allowed and not allowed to bring into the Tunnels to aid the security process.

The anticipated duration of the visit to either of the proposed exhibitions is estimated typically at 60 minutes with additional time to visit the retail elements.

Visitor access will be managed through an online booking system to ensure a smooth and gradual flow of visitors entering and exiting the site and to make the visitor experience as seamless and enjoyable as possible.

It is anticipated that the flow of visitors around the site will be encouraged through the strategic mix of timed tickets, pulsed flow and looped content and zones for freeflow exploration.

Year in The Life of The Tunnels

The exhibition zones are divided into 2 key components:

- The Streets will host the permanent heritage trail with the potential to have associated medium-term special exhibitions to encourage repeat visits. These have been shown to coincide with school holidays and peak tourist periods.
- The Avenues will host a range of exhibitions and events. The diagram shows an indicative calendar where Third Avenue hosts a year long installation, Second and Third Avenues are used concurrently for an exhibition for 3 months and then used for separate exhibitions later in the year.
- In addition it is anticipated that the Avenues will be able to host larger scale events that tie in with the wider cultural calendar of London such as London Fashion Week, London Design Week, Half-Term events.

Benchmark Exhibition Densities

The current assumptions guiding exhibition densities are informed by benchmarks and data on similar attractions,

The targeted maximum density is set at 6.5 m²/visitor.

The accompanying diagrams on the right illustrate different densities related to the average occupancy and the peak occupancy in the avenues.

The top image depicts the average occupancy of 560 people in the tunnels, equating to a density of 8.8 m²/visitor.

The bottom image showcases how the peak occupancy of 760 impacts on density, with a result of 6.53 m²/visitor.

For alternative events, densities can be reduced further, without exceeding the maximum capacity by reducing access to certain areas of the tunnels.

Simultaneous Occupancy

The diagram on the opposite page illustrates the maximum simultaneous occupancy within the tunnels and access buildings including visitors and staff.

Note: Museum density reference research:

"The role of space design in prediction of occupancy in multi-functional spaces of public buildings" Elham Delzende, Song Wu, and Rima Alaaeddine, University of Huddersfield, Huddersfield, UK

Average visitor density illustrated in an Avenue:
8.8 m²/per person



Design Day density illustrated in an Avenue
6.5 m²/per person



Figure 63. Indicative density diagrams in a typical avenue (top and bottom)

Simultaneous Maximum Occupancy

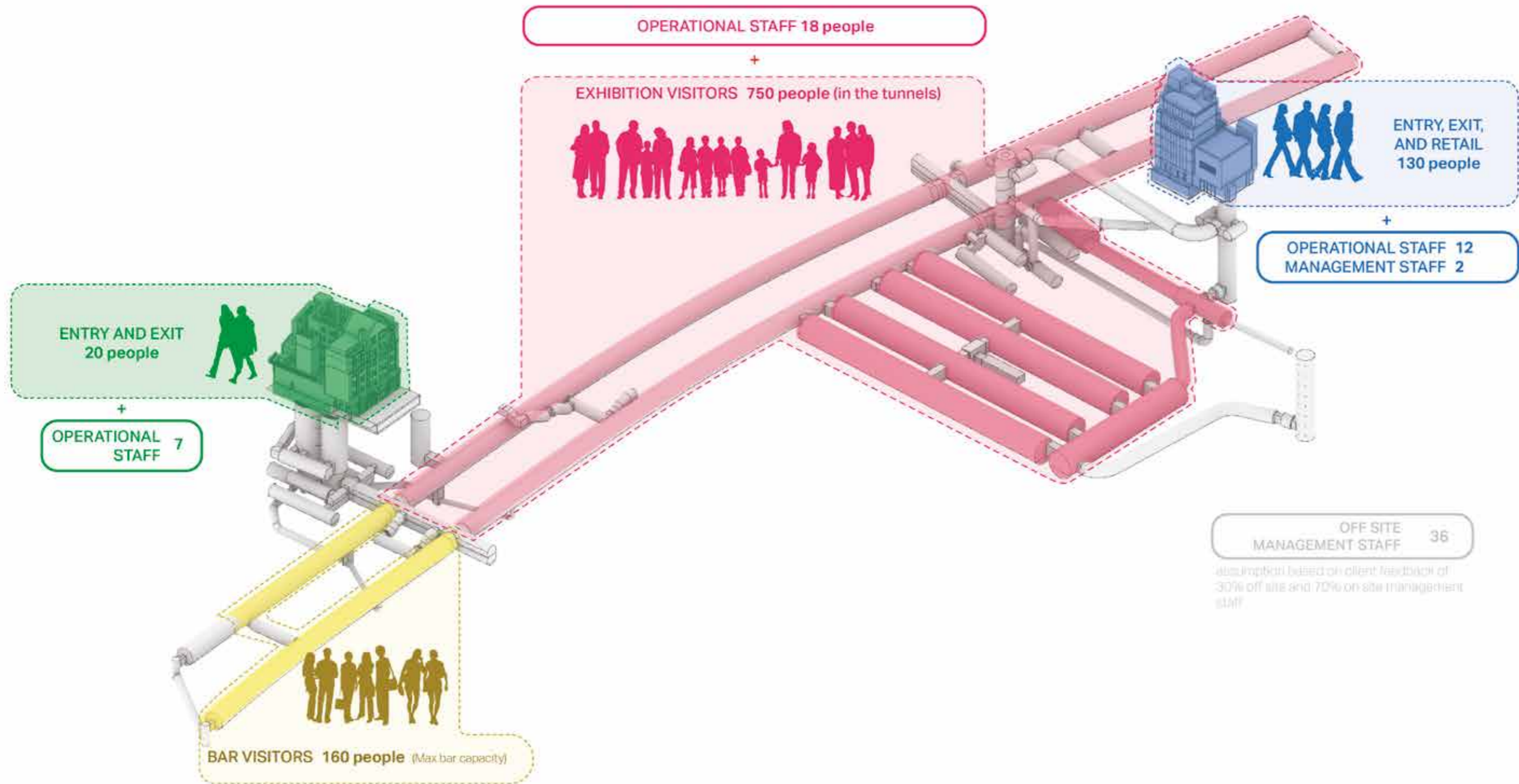


Figure 64. Diagram showing the Simultaneous Maximum Occupancy at each zone, including visitors, operational and management staff

4.1.7 Socio-Economic Impact Assessment

Economic impacts

The Proposed Development would bring significant additional economic activity and employment to the Site and the surrounding area, to the benefit of the CoL and Camden economy. The main driver of economic benefits will be through the additional expenditure generated through the visitors to the Proposed Development once operational. There will also be economic benefits associated with the construction phase.

Construction phase

The construction phase of the Proposed Development would be expected to result in increased economic activity. Economic impacts arising from the construction phase are captured in two ways – first, the employment generated by construction and second, the additional spending in the local area as a result of this employment.

Construction employment

The standard method of calculating construction employment involves dividing the construction cost by the Gross Value Added (GVA) of the average construction worker in the area i.e. their annual economic output/contribution to the economy.

It is estimated that over the estimated 8-month construction period, the Proposed Development would create a total of 1,040 construction job years, and thereby support an average of 1,570 construction jobs over the construction period.

Construction worker expenditure

The construction workforce is highly mobile as job take-up flexibly occurs wherever construction takes place. As a result of this mobility and because construction is temporary, construction employment benefits are not typically viewed to have large local impacts. However, their expenditure does have a local impact.

3Construction workers are expected to spend on retail, leisure, food & beverage on-site before and/or after their work on the day. Greater London Authority (GLA) finds that an average office worker in London is expected to spend £13 per day in and around their workplace The following adjustments are made to accurately estimate construction worker expenditure:

- Sector differentials for earnings of construction workers relative to office workers⁷⁸
- Earnings growth over 2020-2023
- CoL and Camden wage levels workers

Once these differentials are accounted for, it is estimated that the average construction worker would spend approximately £17 per working day in the local area.

Assuming 220 working days per year, the results in an expected expenditure of £3.9m by construction workers over the construction period in the local area.

Operational phase

Economic impacts arising from the operational phase are captured in four ways:

- The expenditure generated by the visitors to the Proposed Development.
- The employment generated by the operation of the Proposed Development.
- The expenditure generated from the workers in a year.
- The economic activity supported expressed as GVA
- The fiscal contributions, tax revenues and business rates paid.

Visitor expenditure

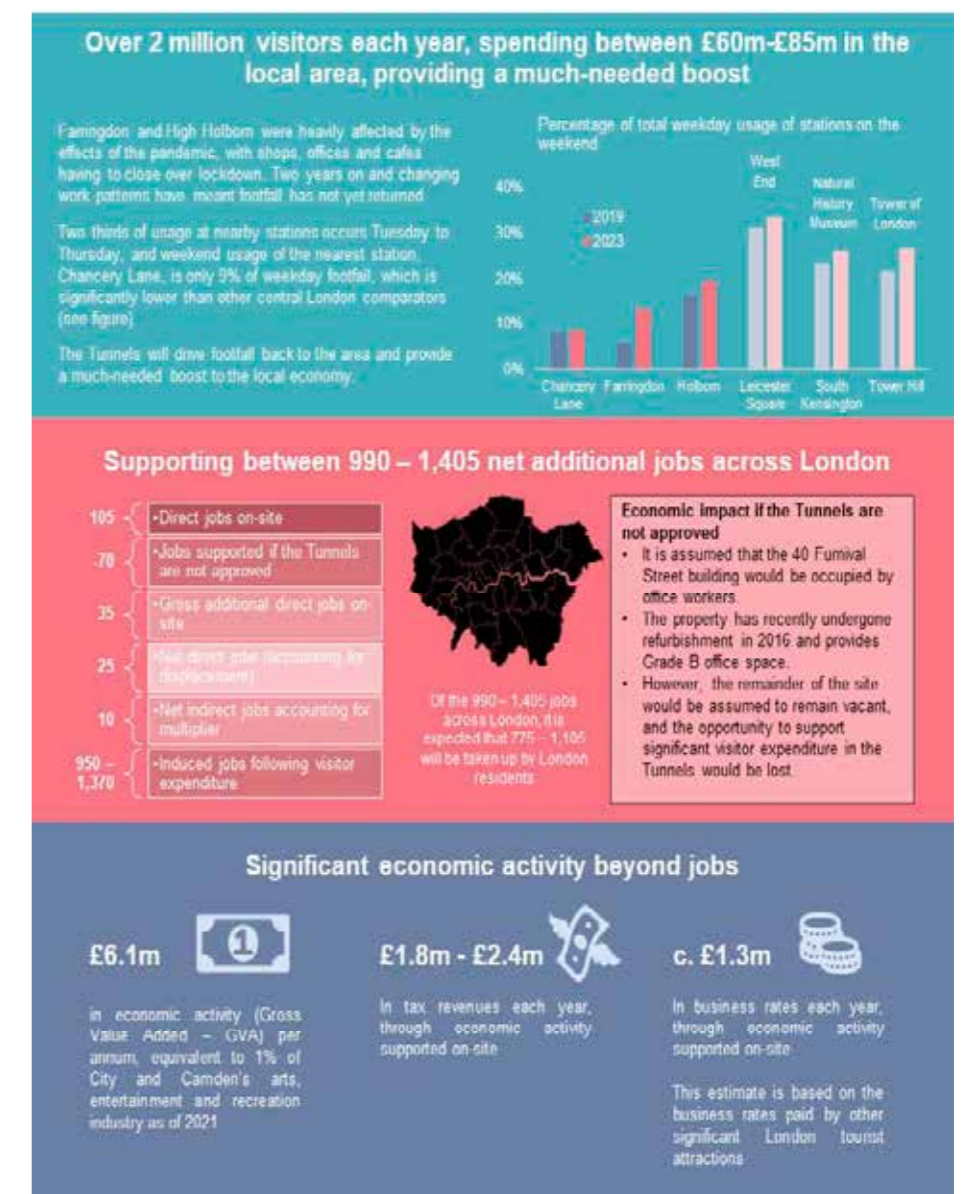
Through generating significant visitor expenditure, the Proposed Development directly helps to meet one of CoL's central desired outcomes of its visitor destination strategy: "Increased levels of visitor spend, jobs and learning opportunities in CoL and London"

The Proposed Development is expected to attract approximately 2 million visitors each year. This would generate significant consumer spending in the local area and across London.

To account for uncertainty and the desire to avoid overestimation of benefits, the economic impacts

associated with visitor expenditure assume that 2 million people will visit the Proposed Development each year. It is expected that the 2 million visitors at the Proposed Development would generate additional spend of between £60m-£85m per year in visitor expenditure.

Delivering substantial economic benefits to the local area



Social impacts

The Proposed Development would deliver significant benefit to the local communities in CoL and Camden through commitments during both the construction phase and operational phase of the project.

These benefits are delivered both as part of planning policy obligations and the willingness of the Applicant to go above and beyond these policy requirements to deliver social impacts to local people.

Educational impact

The Applicant is committed to offering free tickets for all 10,000+ primary school children in CoL and Camden. Targeting one year at a time, it is possible to fulfil this commitment with spare capacity for other learning opportunities.

The cost of living crisis continues to be felt across households across the UK as of September 2023.¹⁰⁵ This is also true for state schools, many of which find their funding stretched by rising costs. Some schools have started to reduce expenditure with budget cuts made to school trips in 2023 (50%) having doubled compared to 2022 (21%).

The Scheme's ambition is that as much people as possible are able to enjoy such a significant London landmark, regardless of their economic circumstances.

To help achieve this, the Applicant is committed to offering free school trips for all primary schools in CoL and Camden to visit the Proposed Development, including subsidising their transportation. Whilst helping to alleviate the impacts of trip funding cuts, the main benefit of this offering is that school trips provide children with independence and confidence, development outside of their comfort zones and contribute to their perspective of the world.

This would help to inform and educate children of the local area about the history and cultural heritage of the Tunnels, and CoL and Camden in general.

There are 40 primary schools active in Camden and one in CoL in the 2022/23 academic school year, giving a total enrolment count of 10,933 children.¹⁰⁸ The Applicant is committed to providing all of these children an opportunity to visit the Tunnels. This can be achieved by targeting a specific year group across the primary schools, per academic year. With seven year groups in primary school, ranging from reception to year six

and a typical class size of 30 children it would be possible to fulfil this commitment by offering two classes a trip per week – there would even be spare capacity for the applicant to provide additional learning opportunities.

Providing access to heritage

The Site is located near numerous heritage sites in CoL and Camden. The Tunnels and buildings that make up the Proposed Development currently contribute little to enhancing the heritage of the local area.

Protecting and supporting heritage is a key objective for both CoL and Camden. Specifically:

- CoL – “Destination City will celebrate, promote, and support the Square Mile’s unrivalled history and heritage, its world-class arts and culture, and its outstanding restaurants, cafés, hotels, pubs, and bars to UK and global visitors.”
- Camden – Camden Council recognises the importance of heritage to the people who live and work in the borough. “The Council will preserve and, where appropriate, enhance Camden’s rich and diverse heritage assets and their settings”.

The heritage sector provides a total direct GVA of £15bn to the UK’s economy. This rises to GVA of £37bn once indirect and induced impacts are accounted for. Heritage provides 206,000 direct jobs in the UK

Providing different types of jobs and training

There is expected to be over 100 direct jobs on site once the Proposed Development is in operation. Occupation skill level analysis, using ONS definitions across the nine major groups of skill level shows that the majority of these jobs (76%) are within the low to mid skill range (level 1-2) with the bulk of the remaining jobs (19%) considered to be at the highest occupational skill level (level 4).


With one in five 16-24 year olds unemployed in Camden, 130 the provision of entry level jobs provides a chance for these residents to join or re-enter the world of work, while the higher skilled opportunities simultaneously offers others a chance to up-skill.

The Applicant is committed to meeting the strategies set out by CoL and Camden in their respective Supplementary Planning Documents (SPD).

Both CoL and Camden expect developers to assist with specific training and employment initiatives, via section 106 agreements with the Applicant, during both the construction phase and operational phase of the project.


Aspects of the construction phase obligations are consistent across CoL and Camden and this includes providing apprenticeship starts, work experience placements, local employment procurement and local supply chain procurement.

Delivering wider and social benefits to the local community



Free access for all primary school children in Camden and the City of London

- School trip cuts in 2023 have more than doubled from 21% in 2022 to 50% as the cost-of-living crisis and rising inflation stretches the funding given to the UK’s public schools
- 10,000+ children in primary schools across the City and Camden will be offered free tickets and subsidised travel to learn about the Tunnels’ rich history
- Targeting one academic year at a time, the commitment can be fulfilled with spare capacity for other opportunities



Access for all

- The Tunnels and all experiences are full accessible, multi-sensory and designed for those with learning difficulties and sensory impairments
- Discounts will be provided to those who need them most: universal and pension credit holders, emergency service workers and carers, teachers, students and young people

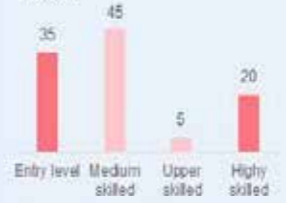
Providing heritage

- Unlocking history
 - M15 & M16 covert operations
 - Deepest bar in London
 - Cold War hotline between the White House and Kremlin
- Old meets new
 - £140m in restoring and preserving the tunnels as they once were
 - £80m installing technology to bring the Tunnels to life
- Heritage is a valuable sector
 - £15bn direct GVA, £37bn once indirect and induced impacts are accounted for, 206,000 direct jobs and for every direct job, 1.7 jobs supported elsewhere
 - Provides a sense of place to the community and a unique identity to the individual

Employment & skills

105 jobs provided by the Tunnels at a range of different skill level

- Entry level jobs for the 1 in 5 aged 16-24 unemployed in Camden
- Highly skilled jobs for others to upskill



- Apprenticeship starts and local job advertisements through local employment vehicles
- Promising a London Living Wage
- 10% local procurement target
- Hosting work experience for local schools
- Collaborate with like-minded partners, museums and universities across both boroughs

Enhancing film tourism

- Inspiration
 - James Bond’s ‘Q Branch’ inspired by the Tunnels following Ian Fleming’s experience working as an Admiralty’s liaison officer in the 1945
- Seizing an opportunity
 - Inbound tourists spent an estimated £0.95m on film related attractions in 2018
 - Highclere Castle (location of Downton Abbey) was bringing £40,000 per day in 2014 from ticket on-site visitor purchases
 - Visit Scotland recorded 46,000 page views specifically related to the Outlander tv show following the release of the season four trailer
 - Northern Ireland saw tourists contributing in excess of £50m to the local economy in 2018 following the release of Game of Thrones

