Great Ormond Street Hospital for Children NHS Foundation Trust

Great Ormond Street Hospital, Children's Cancer Centre (GOSHCCC)

Revised Transport Assessment

111057

OCTOBER 2022

RSK

RSK GENERAL NOTES

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Title: Great Ormond Street Hospital, Children's Cancer Centre (GOSHCCC), Revised Transport Assessment

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1 INTRODUCTION

RSK has been commissioned by the appointed design and build contractor, John Sisk & Son (Holdings) Ltd (referred to hereafter as Sisk) to prepare a Transport Assessment in support of a planning application on behalf of the Applicant, Great Ormond Street Hospital for Children NHS Foundation Trust (referred to hereafter as The Trust), for Phase 4 of their long-term Masterplan to develop a new Children's Cancer Centre (GOSHCCC).

The proposals comprise the redevelopment of the Great Ormond Street Hospital (GOSH) Frontage Building comprising demolition of the existing building and erection of a replacement 8 storey hospital building (Class C2 Use) together with 2 basement floors, roof top, balcony and ground floor landscaped amenity spaces, cycle storage, refuse storage and other ancillary and associated works pursuant to the development.

The hospital is a world-renowned provider of paediatric specialist medical care, treating patients from across the UK. Great Ormond Street Hospital (GOSH) now provides 63 different specialist services to children with over 240,000 patient visits and 63,000 procedures undertaken every year. There are around 5,000 FTE staff with a total of 5,790 staff (as of October 2022) including part-time workers at this site and circa 300,000 patients attend every year.

This revised Transport Assessment (TA) has been updated to respond to comments made by transport officers from the London Borough of Camden (LBC). At the same time, the revised TA reflects revisions that are proposed to the DCMP including the intent to provide a temporary entrance from Guilford Street during the construction activities.

1.1 Background context

This planning application relates to Phase 4 of the five-phase redevelopment programme for Great Ormond Street Hospital which aims to rebuild two thirds of the hospital over a 20-year period, to upgrade and better meet forecast future healthcare needs.

Improving outcomes for cancer is a major priority for the UK and paediatric cancer is assuming increasing importance. The proposed GOSHCCC will create a national resource for children with rare and difficult-to treat cancers. GOSH has a vision for the centre – *to create facilities where our expert clinicians can improve outcomes for children through holistic, personalised and coordinated care across the child's entire cancer journey.*

1.1.1 The site

The majority of the site is currently occupied by the existing GOSH Frontage Building, a five storey building (inclusive of basement) dating from the 1950s that was constructed in two separate phases. The building is currently occupied by a number of GOSH departments including Audiology Department, Clinical Research Facility (CRF), Department of Child and Adolescent Mental Health and Paediatric Psychology Department.

The western most part of the site is occupied by the main GOSH Entrance providing connections to the wider GOSH island site and by a small rear element (external staircase) of the Paul O'Gorman Building that will be demolished to facilitate the proposed development.

The site is bounded by the Paul O'Gorman Building to the west, Octav Botnar Wing to the east, the Variety Club Building and Premier Inn Clinical Building to the north and Great Ormond Street to the south. GOSH is situated on the northern side of Great Ormond Street, within the London Borough of Camden (LBC), approximately 1 km due south of King's Cross Station. The area provides excellent access to a variety of sustainable transport modes.

The proposed development will provide a dedicated cancer care unit and new main entrance to GOSH to give the hospital a greater sense of identity and more welcoming arrival. The current floor area of 5,806 m^2 will be increased to a proposed floor area of 18,303 m^2. The building will provide improved space and facilities for care that GOSH already provides, often spread across a number of buildings in outdated accommodation. The majority of facilities will be decanted from other buildings around the wider hospital island site with some capacity increase in beds, new theatre suite and new equipment. The increase in capacity will cater for general population growth and therefore will lead to a gradual increase in patient visits and staff while reducing waiting times for patients.

The recent pandemic has led to a change in working practices at GOSH with an increase in virtual appointments for outpatients and an increase in staff being able to work from home. Although there will be an increase in patient numbers and staff, these will not lead to a greater volume compared to pre-pandemic and therefore effectively result in no change in transport needs. Further details are described in Chapter 4.

Construction works are currently proposed to start in 2023 and completion around mid-2026.

The proposals include the promotion of a one-way order (through the Demolition and Construction Management Plan) along the site frontage in a westbound direction, reducing the congestion that currently occurs and minimising the risk of delays to emergency services. This is necessary to facilitate demolition and construction works in this constrained urban location. The order will initially be temporary during demolition and construction works to ensure that delivery vehicles do not cause congestion on the approach routes and facilitate an offloading area.

Following completion of the project all temporary highway adjustments are to be reverted to conditions prior to commencement of demolition works. Subject to design progression the potential permanent implementation of a one-way system and/or partial pedestrianisation on Great Ormond Street could be a solution as part of a future phase.

LBC will be responsible for planning and highway matters, although the London Mayor and Transport for London are also relevant statutory bodies in relation to transport matters.

Given the limited changes to staff and patient travel and servicing arrangements, a detailed Transport Assessment is not considered necessary. However, an assessment of the impacts during construction has been undertaken to establish the likely effects on existing users on the surrounding transport network.

1.2 Structure of this report

The following chapters describe the work that has been undertaken as part of this study:

- Chapter 2 reviews the relevant transport policies applicable to the site;
- Chapter 3 describes the local transport context of the site;
- Chapter 4 provides an outline of the proposals, including construction activities;
- Chapter 5 assesses the impact of the development; and
- Chapter 6 provides a summary and our conclusions.

2 POLICY REVIEW

It is necessary to understand the national and local planning policies which relate to the development. Therefore, the following chapter sets out key policies and demonstrates how the development of the site would meet these.

2.1 National policy context

2.1.1 National Planning Policy Framework, 2021

The revised National Planning Policy Framework (NPPF) sets out the current national planning policy and outlines the important role that transport policies have to play in facilitating sustainable development.

Paragraphs 10-11 state that at the heart of the NPPF is a "*presumption in favour of sustainable development"* and that for decision taking this means granting permission for development unless "*the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed*" or "*any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed the policies*."

Paragraph 112 of the NPPF states that plans for new development should:

- *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.*

This assessment will consider the sustainability of the site in relation to the above points and provide an appraisal of the options for development that meet the policies of the NPPF.

2.2 Regional policy and context

2.2.1 London Plan, (2021)

The London Plan covers a range of planning issues. It plans for growth on the basis of its potential to improve the health and quality of life of all Londoners, to reduce inequalities and to make the city a better place to live, work and visit. It uses the opportunities of a rapidly growing city to plan for a better future, using each planning decision to improve London, transforming the city over time. It plans not just for growth, but for Good Growth – sustainable growth that works for everyone, using London's strengths to overcome its weaknesses.

With regard to parking, Policy T6 includes points relating to car-free developments as well as other key factors relating to parking:

- *Car parking should be restricted in line with levels of existing and future public transport accessibility and connectivity.*
- *Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite').*
- *An absence of local on-street parking controls should not be a barrier to new development, and boroughs should look to implement these controls wherever necessary to allow existing residents to maintain safe and efficient use of their streets.*
- *Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles*
- *Adequate provision should be made for efficient deliveries and servicing and emergency access.*
- *Outer London boroughs wishing to adopt minimum residential parking standards through a Development Plan Document must only do so for parts of London that are PTAL 0-1*

Policy T6.1 of the London Plan goes on to outline the maximum car parking standards which should be adopted by all new developments. For areas within Outer London and a PTAL of 3, the maximum parking provision is 0.75 spaces per unit, with the last bullet point above indicating that there should be no minimum parking requirement.

Notwithstanding, the site has a PTAL score of 6b, indicating that there is excellent accessibility by public transport. There is also excellent access to a range of services within walking and cycling distance, reducing the need to travel by car or public transport.

2.2.2 London Mayor's Transport Strategy

The Mayor of London's Transport Strategy (MTS) states that "car dependency has contributed to an increase in poor public health across our city". The strategy highlights that reducing car dependency is the only way to keep London moving in the future. The central aim of the strategy is for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041. Like the London Plan, the MTS outlines in Proposal 80 that car parking provision will be restricted in new developments with those locations more accessible expected to be car-free.

2.2.3 Healthy Streets

The Healthy Streets for London publication, supported by TfL and the London Mayor, states that *"Car ownership is the greatest factor that influences how often Londoners walk and cycle."* It highlights that more than a third of trips made by car could be walked in under 25 minutes and two thirds of car trips could be cycled in under 20 minutes. It is therefore clear that lower car ownership will increase use of sustainable modes, including walking and cycling, which will improve Londoners' health, reduce carbon emissions and improve air quality.

2.3 Local policy context

2.3.1 LB Camden Transport Strategy 2019-2041

The Camden Transport Strategy (CTS) sets out the future direction for transport in Camden and describes the context of traffic and transport in the borough. The transport challenges it identifies include:

- **Objective 1**: To transform our streets and places to enable an increase in walking and cycling';
- **Objective 2**: To reduce car ownership and use, and motor traffic levels in Camden;
- **Objective 3**: To deliver a sustainable transport system and streets that are accessible and inclusive for all;
- **Objective 4**: To substantially reduce all road casualties in Camden and progress towards zero killed and seriously injured (KSI) casualties;
- **Objective 5**: To reduce and mitigate the impact of transport-based emissions and noise in Camden;
- **Objective 6**: To deliver an efficient, well-maintained highways network and kerb-side space that prioritises the sustainable movement of goods and people; and
- **Objective 7**: To ensure economic growth and regeneration is supported by, and supports, a sustainable transport network.

2.3.2 Camden Planning Guidance – Transport

This guidance, adopted in March 2019, explains the circumstances under which transport assessments are sought, what they should assess and how they should be prepared.

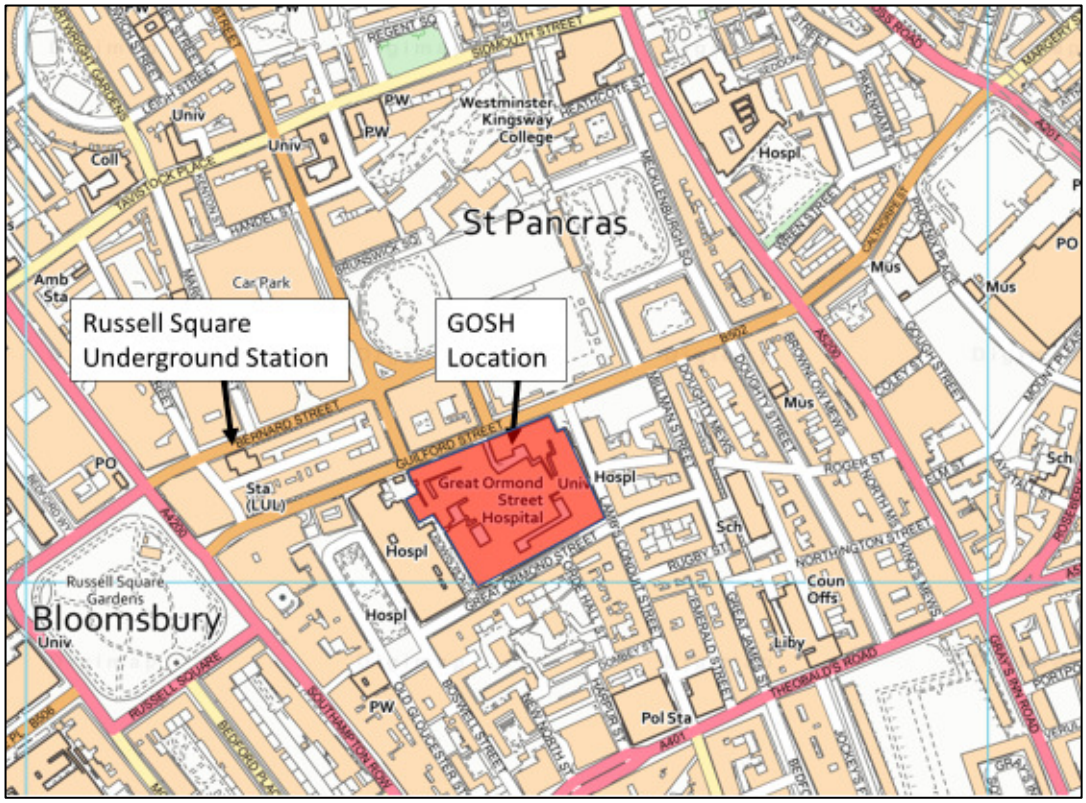
The guidance states that “a Transport Assessment, Statement or Note is required for all applications that involve a change in the way that a site is accessed from the highway.” In addition, “these documents must clearly demonstrate what measures will be required in order to mitigate the transport impact of the development.”

3 EXISTING TRANSPORT CONTEXT

3.1 Site location

The site is located within Bloomsbury, 1 km south of King's Cross / St Pancras and Euston Stations and 1.5 km north of Waterloo Bridge across the River Thames. The site is situated along the north side of Great Ormond Street which is linked by Queen Square to the west with Lamb's Conduit Street to the east, as illustrated in Figure 3.1 below.

Figure 3.1 Site Location



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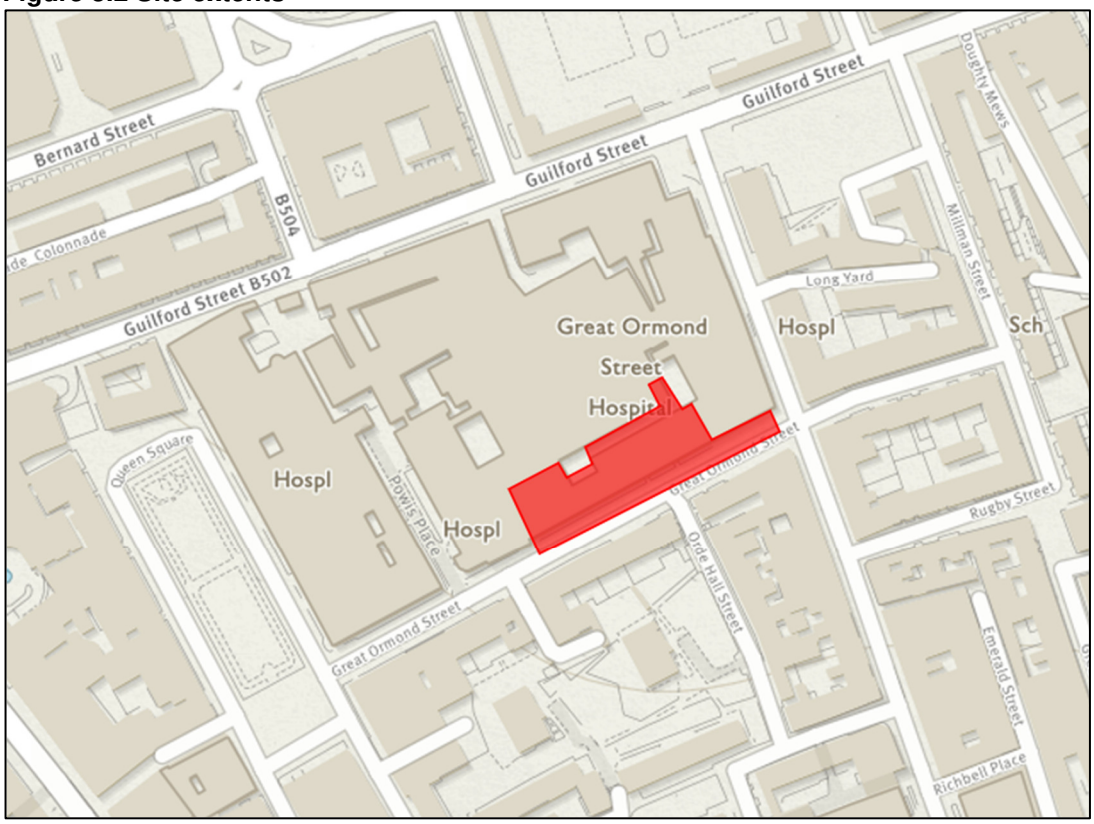
The proposed development is surrounded on three sides by the existing hospital with residential properties along the southern side of Great Ormond Street. It is located within a few minutes walk of Russell Square Underground Station to the north west, while the hospital is surrounded by a mixture of offices, residential and retail premises. There are also a number of hospital buildings adjacent to or in the local vicinity, primarily the University College London Hospital (UCLH) and National Hospital immediately to the west and Royal London Hospital for Integrated Medicine (RLHIM) fronting Great Ormond Street (west of Powis Place).

Figure 3.2 below illustrates the extents of the proposed site development, shaded in red.

Figure 3.2 Site extents



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3.2 Local access

GOSH provides clinical care to children from across the UK, with around 50% of inpatients travelling from outside of London for treatment. This may involve air, rail, coach or bus travel as well as by car. This section describes the transport context of the site within the local area, particularly transport interchanges. GOSH is situated within a PTAL zone of 6b, which is the highest level of accessibility achievable in London.

3.2.1 Highway network

The site is located in the congestion charging zone and low emission zone. Car parking facilities are available in the nearby Bloomsbury Square NCP for staff, offering a limited number of dedicated spaces. Patients and visitors generally use the on-street parking available in the surrounding area. The Trust manages a dispensation scheme, which allows members of the public accompanying patients to park in a specified area of on-street spaces in Queen Square and Guilford Street on single yellow lines.

Great Ormond Street

The site's primary connection is gained along Great Ormond Street, which serves GOSH and RLHIM hospitals along the northern side and predominantly residential properties opposite. In the vicinity of the site, the single carriageway road is around 8 m wide with street lighting, footways and dropped kerbs on both sides of the carriageway.

Great Ormond Street is subject to a posted speed limit of 20 mph and there are parking restrictions offering a mixture of both resident permit holder parking and pay-by-phone public parking on the south side, available Monday to Friday 8:30 am to 18:30 pm and Saturdays 8:30 am to 13:30 pm. The north side offers minimal public parking and a reasonable extent of ambulance and doctor parking. A plan illustrating the various parking restrictions is enclosed at Appendix 1.

Queen Square

Queen Square is a public space with a road around its perimeter of the same name at the western end of Great Ormond Street. It is a one-way road in a clockwise direction around the square, meeting Great Ormond Street at a give-way as the main route turns southwards into Boswell Street in the form of a one-way southbound road to the A401. Old Gloucester Street runs parallel to Boswell Street in a northbound only direction from the A40/A401. The southern side of Queen Square is two-way, offering a more convenient route to reach Great Ormond Street, particularly for blue light access to Powis Place.

Queen Square provides on-street car parking around its perimeter on both sides of the road with some ambulance parking outside NHNN on the eastern side.

Lamb's Conduit Street/ Guilford Place

Lamb's Conduit Street connects the A401 at its southern end with Guilford Street (B502) at its northern end. The southern section is initially two-way, turning one-way northbound through a semi-pedestrianised retail area to meet Great Ormond Street at a give-way. The priority movement is from Great Ormond Street as the western arm to Lamb's Conduit Street as the northern arm, passing further retail premises, and turns into Guilford Place at its northern junction with Guilford Street. Great Ormond Street continues eastwards from Lamb's Conduit Street serving residential properties as a minor road.

B502 Guilford Street / Bernard Street / Grenville Street

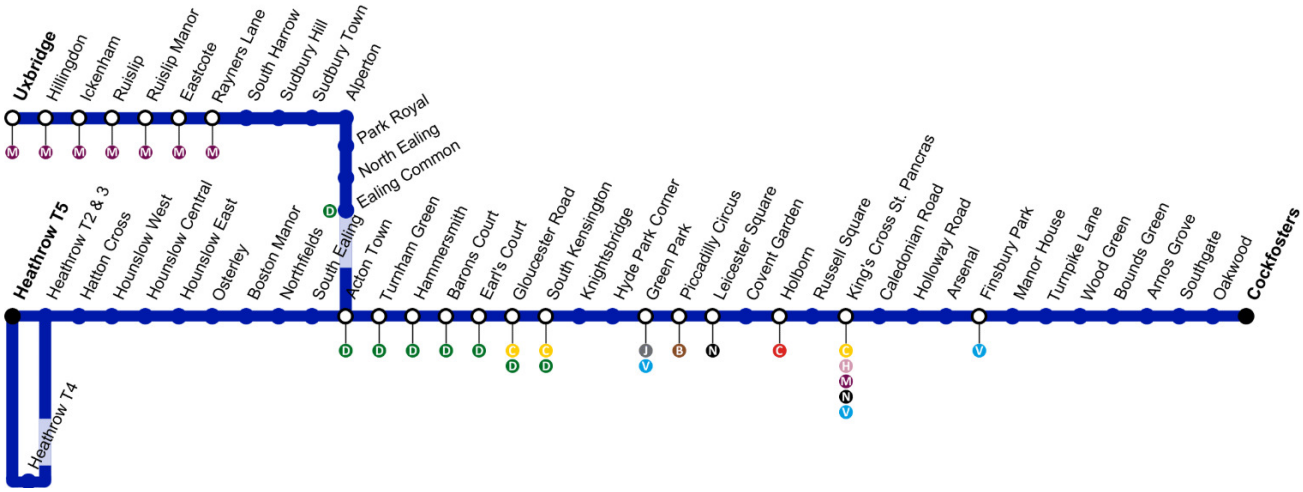
B502 Guilford Street serves a mixture of residential, office and hotel accommodation, connecting Gray's Inn Road to the east with Russell Square to the west. The westernmost section on the approach to Russell Square is one-way in a westerly direction. Bernard Street is similar in character and runs parallel to the north of Guilford Street, providing the eastbound route for traffic, connecting between the two via Grenville Street. The three roads act as a one-way system that starts and ends on Russell Square. These streets provide regular zebra crossings and offer a mixture of parking and loading restrictions.

Coram's Fields are located opposite the junction with Guilford Place, resulting in a high pedestrian demand across the road where a zebra crossing facility is provided on the eastern side of the junction.

3.2.2 Rail services

The closest station, Russell Square, is 500m north-west from the site. The Underground station is on the Piccadilly line between Holborn and King's Cross St Pancras. Train frequency is generally every 4-7 minutes between 6am and midnight in both directions and runs from Heathrow/Uxbridge to Cockfosters Station. Figure 3.3 provides a route map of the Piccadilly London Underground line.

Figure 3.3 Underground route map: Piccadilly Line



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Three mainline rail stations are located around 1 km to the north of GOSH. Euston station is on the West Coast Main Line network, connecting London with Birmingham and Manchester, along with regional services to Milton Keynes, Watford and Northampton. King's Cross station is on the East Coast Main Line network, connecting to Leeds, York and Newcastle along with regional services to Luton, Cambridge, Brighton and Bedford. St Pancras station provides connections across south-east England and International Eurostar services to continental Europe along with services to East Midlands.

3.2.3 Bus Services

The closest bus stop to the site is 300m to the west on Southampton Row, covering a 5-minute walkable distance via Cosmo Place. The stop offers access to a range of bus services, offering several routes, including access to Euston station, Trafalgar Square and West Croydon and provides seating, shelter and timetable information. Further services may also be accessed at the stop 400m south of the site. Further details of routing and timetable information can be found in Table 3.1 below.

Table 3.1 Local bus services

Service	Route	Operating times & typical weekday frequency
59	Telford Avenue – Euston Bus Station	First Bus: 04:44 Last Bus: 01:14 Every 5-10 minutes
68	St Julian's Farm Road – Euston Bus Station	First Bus: 05:39 Last Bus: 00:09 Every 5-10 minutes
91	Tottenham Lane Y M C A – Whitehall/ Trafalgar Square	First Bus: 05:29 Last Bus: 00:39 Every 5-10 minutes
188	North Greenwich Station – Russel Square	24 Hours Every 5-10 minutes
N91	Cockfosters Station – Whitehall/Trafalgar Square	First Bus: 00:09 Last Bus: 05:39 Every 30 minutes
X68	West Croydon – Russell Square	First Bus: 15:51 Last Bus: 18:52 Every 15 minutes
19	Finsbury Park Interchange – Parkgate Road	First Bus: 05:44 Last Bus: 00:45 Every 5-10 minutes
38	Clapton Pond – Victoria Bus Station	First Bus: 05:47 Last Bus: 23:53 Every 5 minutes
55	Walthamstow Bus Station – Great Titchfield Street/ Oxford Circus Station	First Bus: 04:29 Last Bus: 00:40
243	Redvers Road – Waterloo Station/ Mepham Street	24 Hours Every 10 minutes
N19	Finsbury Park Interchange – Clapham Junction Station	First Bus: 00:59 Last Bus: 05:27 Every 30 minutes
N38	Walthamstow Bus Station – Victoria Bus Station	First Bus: 00:03 Last Bus: 05:38 Every 20 minutes
N41	Trafalgar Square/ Charing Cross Station – Tottenham Hale Bus Station	First Bus: 00:44 Last Bus: 04:44 Every 30 minutes
N55	St Thomas of Canterbury Church – Great Titchfield Street/ Oxford Circus Station	First Bus: 00:52 Last Bus: 05:20 Every 30 minutes

These services offer a high-frequency provision within central London, including connections to major transport interchanges such as main line rail stations, Victoria coach station and a number of bus stations.

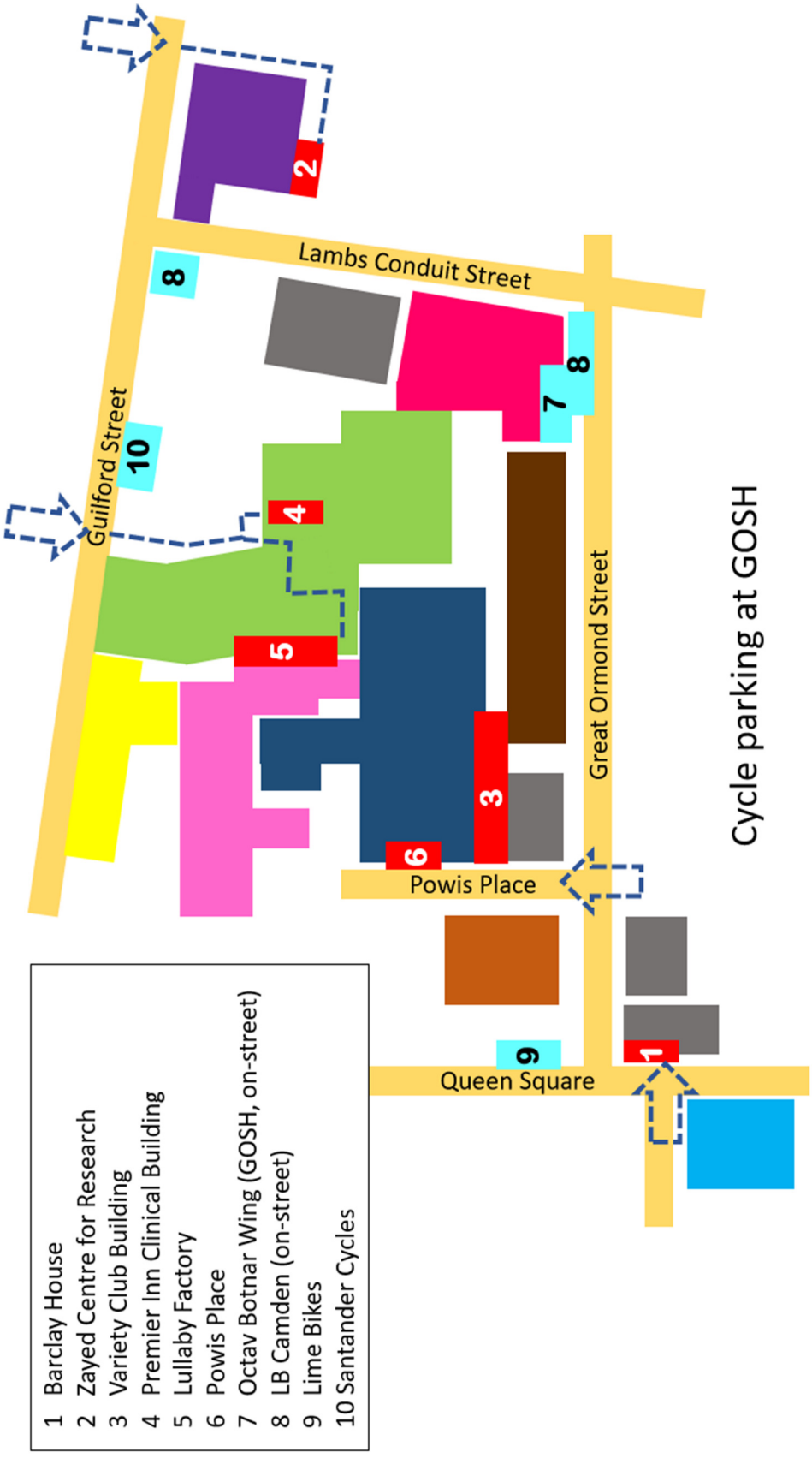
3.2.4 Cycling

There are a large range of dedicated lanes and bicycle friendly roads within the vicinity of the site. Bicycle friendly roads connect to several stations near to the site, including Holborn underground to the south and Farringdon rail station to the south-east, providing important connections to Central London and the Greater London area. Routes also connect to several green spaces within the site vicinity, as well as a large range of food and retail services. Figure 3.4 illustrates the network of cycle routes within the site vicinity.

Figure 3.4 Local cycle routes

Cycle hire, including e-bikes, is available from a number of docking stations within a few minutes' walk of GOSH, the closest being on Guilford Street and in Queen Square, offering easy access by cycle across central London. In addition, GOSH provides on-site cycle parking in the form of 299 long stay spaces and 29 short stay, located around the wider GOSH site, as indicated in Figure 3.5. The GOSH site also benefits from several public short stay cycle parking locations within the immediate vicinity of the site along Great Ormond Street, Lambs Conduit Street and Guilford Place.

Figure 3.5 Cycle parking locations



The majority of the long-stay (staff) cycle parking is either covered or somewhat sheltered with a varied level of provision including semi-vertical stands; two-tier racks; and Sheffield stands.

With regard to this application, it is noted that the existing provision within the Variety Club Building (VCB) is 93 long-stay spaces, provided via 37 semi-vertical stands and 28 Sheffield stands accommodating 56 bikes.

The Morgan Stanley Clinical Building currently provides a total of 88 spaces with 44 semi-vertical stands and 22 two-tier racks accommodating 44 bikes.

Centralised staff showers and changing rooms are available for the wider GOSH site in the basement of the Morgan Stanley Clinical Building. Additional facilities are located across the hospital offering lockers and changing facilities.

3.3 Pedestrians

Due to the site's location in a built-up area, the existing footway network is well established, connecting the site to several local facilities and public transport.

A street-lit footway is provided on both sides of Great Ormond Street, including dropped kerbs and tactile paving at crossing points, speed bumps and double yellow line parking restrictions along several sections of the road, limiting vehicular access.

Such accessibility is consistent within the rest of the site vicinity, providing safe access to Russell Square Station, bus stops and several services/amenities, including food outlets and coffee shops, all of which are approximately a 5-minute walkable distance from the site. There are a number of shortcut routes for pedestrians that do not follow the traffic routes, particularly from Queen Square to key destinations in the surrounding area.

3.4 Overall accessibility

GOSH is ideally located for access to sustainable modes of travel facilitating travel on foot, by cycle and by public transport across London while benefiting from connections by train across the UK. Given the long distances that many patients travel, it is served well by three main line rail stations with the Underground network providing convenient connections to all major stations across central London. The site's PTAL rating of 6b demonstrates the site's ability for staff and patients to reach the site by non-car modes.

3.5 Current staff and patient travel patterns

The Trust operates a Travel Plan that promotes the use of sustainable transport to reach the hospital for staff and patients. This has been established over a number of years and is monitored regularly through surveys. The last pre-pandemic survey was undertaken in 2018, which collected 321 responses from staff and 227 responses from patients and

visitors. The Travel Plan is currently being updated which includes a more recent post-pandemic travel survey.

Figure 3.6 illustrates the 2018 modal split for staff, highlighting that over three quarters travelled by rail and Underground services and only 1% travel by car. This reflects the excellent accessibility that the site affords including unsociable hours and weekends when shifts will inevitably be changing over.

Figure 3.6 2018 Staff travel survey results

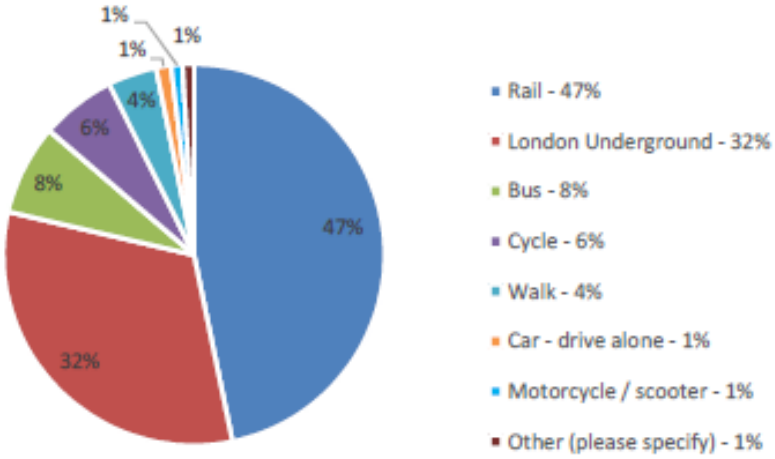


Figure 3.7 illustrates the modal split based on the post-pandemic travel survey, undertaken in March 2022. This reflects a modest shift from rail and Underground to walking and cycling and a small increase in bus and car use. This is likely to reflect the change in attitudes towards travelling on crowded trains but also those less likely to travel due to the length of their commute to GOSH and therefore work from home.

Figure 3.7 2022 Staff travel survey results

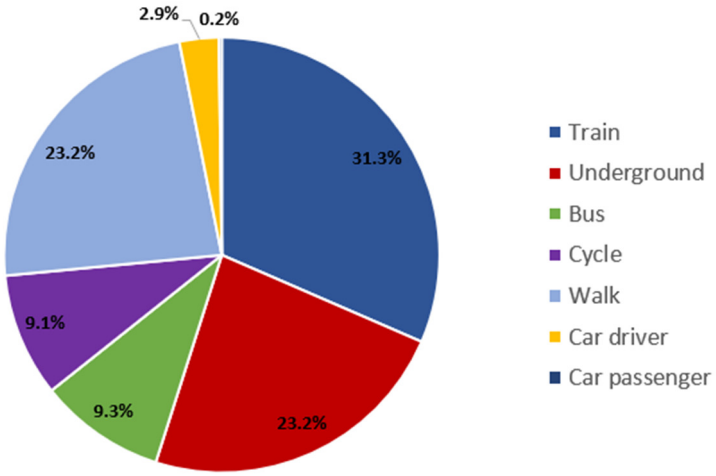
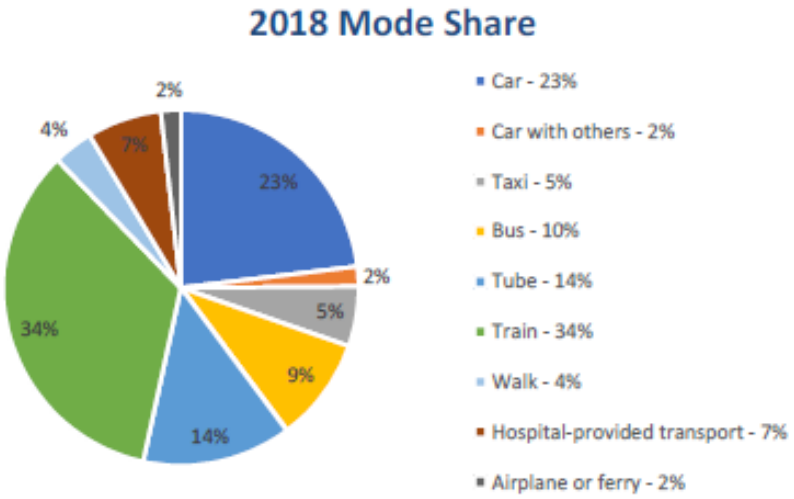


Figure 3.8 illustrates the modal split for patients and visitors, highlighting that a quarter travel by car to GOSH while almost a half travel by rail and Underground services. This reflects the longer distances, travelling with others and that a proportion of patients will be unable to travel easily by public transport due to their condition.

Figure 3.8 Patient and visitor travel survey results



As part of the ongoing commitment for the Travel Plan, the Trust has created a Safe, Active & Sustainable Travel working group that has made multiple interventions across GOSH:

- Created cycling champions,
- Supported groups/resources
- Introduced cycle repair and training
- Achieved a 'Cycle Friendly Employer' Gold Award.

The travel plan will represent a strategy for The Trust that brings together these existing groups and initiatives under a single umbrella. It will incorporate joint working, such as the support and advocacy of active travel in Camden and The Play Street Programme (in partnership with the London Borough of Camden) which has demonstrated how Great Ormond Street could evolve in the future alongside the hospital. This potential future public realm work could provide wide-ranging benefits to users of the site, easing the transition between the north and south side of Great Ormond Street; improving air quality; and increasing the overall amenity of the street.

The travel plan will also have links to associated strategies such as the Clean Air Hospital Framework and consider how measures can be introduced and monitored to meet objectives surrounding air quality. Travel plan delivery will be owned by two sustainability

programme of work areas ('Transport' and 'Community & Public Realm') that are part of the internal structure delivering on GOSH's holistic Climate and Health Emergency response.

4 PROPOSED DEVELOPMENT

GOSH is a world leading provider of specialist healthcare to children in the UK, referred for care from hospitals and health practitioners across the country. The site currently employs around 5,000 FTE staff (around 5790 overall) while attracting around 300,000 patient visits and undertaking around 63,000 procedures every year.

Although the planning application red line boundary comprises the frontage building, the proposals form part of the wider GOSH island site. The CCC proposals form Phase 4 and the primary objective of the development is to create facilities for the care and treatment of children with cancer. This phase includes a number of department decants from the Southwood Building and whilst the occupation of the CCC will not achieve full vacation of the Southwood Building, other spaces around the hospital will be created as a result of decants into the CCC. For example, the cancer inpatient wards relocating into the CCC will move from levels 5 and 6 of the Variety Club Building (VCB).

The application is supported by a red line boundary to define the area of development and a blue line boundary to identify those elements of the wider island site that are also in the applicant's control. The wider island site represents a single hospital with numerous buildings and departments and shared facilities, including staff, of which the Frontage Building and its replacement cannot easily be defined in isolation within the red line boundary. On this basis, the majority of the transport aspects associated with the planning application are discussed as the wider island site.

4.1 Building implications

As outlined in Chapter 1, this phase will involve the demolition of the Frontage Building that faces onto Great Ormond Street and construction of an eight storey building (with two basement levels) Children's Cancer Centre (GOSHCCC) to provide clinical services for cancer care, while a new main entrance will also be created.

The proposed CCC will provide some new capacity in terms of bedspaces and facilities, leading to an uplift in staff requirements. However, there are complex aspects to the new building that arise from the Trust's phased Masterplan, space requirements and changing practices, the latter experiencing significant change as a result of the Covid-19 pandemic.

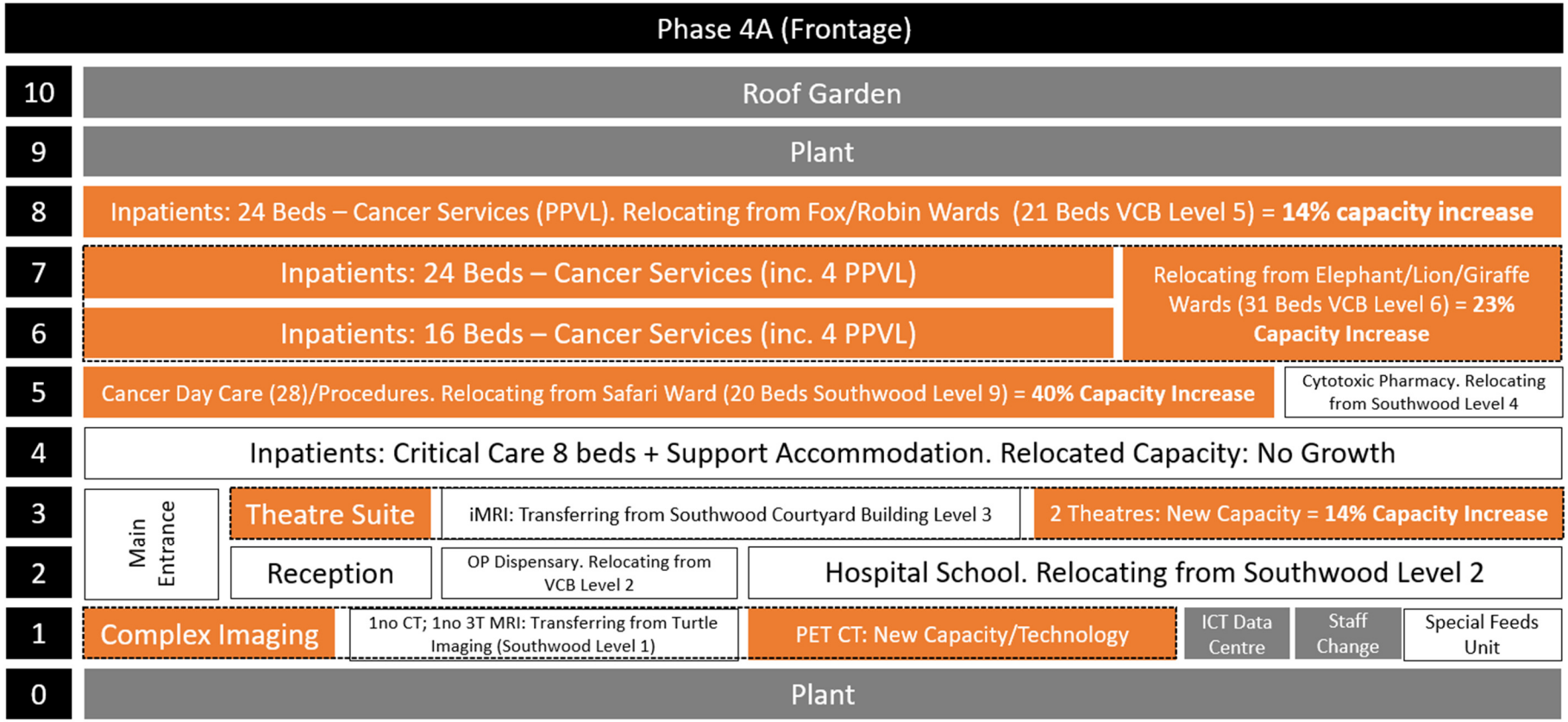
As noted above, the proposals will accommodate a decantation of other services into the new building. Many of the existing spaces are too small for current requirements with hospital space standards having evolved over the last 30+ years since many of the wards were constructed. The Trust need to construct a CCC that meets modern space

standards and have an aspiration to create significantly improved facilities for patients, their families and GOSH staff.

On the basis of the above, a re-provision of the same number of bedspaces would attract an increase in floor area of around 30% for an inpatient bedroom suite in the CCC, while the whole of Level 8 of the CCC will provide an uplift in total floorspace of 67% from the current Fox and Robin wards that will decant. Some of the wards relocating into the CCC will accommodate an increase in bedspaces with an overall increase from a total of 80 to 100. Full details of the wards and associated facilities that are being decanted into the new CCC are illustrated at Figure 4.1, highlighting those areas that will result in an increase in patient capacity and staff in orange and those not affected in white. Areas in grey are ancillary areas, such as plant rooms, that do not accommodate staff or patients as a function.

The increase in space allocated for the school will allow a greater number of inpatients to attend school and therefore not affect external trips to and from GOSH.

Figure 4.1 Phase 4A functional content / new capacity



4.2 Patient implications

The Phase 4 proposals will form part of the wider proposals for GOSH in being able to accommodate an increase in patients, reflective of the population growth in the UK. Inpatients are those staying in wards occupying beds, of which there will only be 100, typically either within cancer care, critical care or associated with surgical operations and therefore have a low daily turnover. Outpatients are those attending appointments with consultants, which are significantly higher in volume and represent the largest share of patient numbers.

The pandemic led to a change in working practices with a high proportion of outpatient appointments being held virtually. Although the proportion being held virtually has reduced significantly, there are still many types of appointment that can be held this way and is therefore expected to continue. However, work needs to be done to balance virtual appointments going forward. Table 4.1 provides a summary of the number of outpatients in recent years, indicating the growth and how the proportion of virtual appointments affects the number of face-to-face visits.

Table 4.1 Outpatient summary

Appointment type	2019/20	2020/21	2021/22	2022/23 (projection)	Future projection
Total outpatient attendances	187,329	185,704	224,204	230,288	230,000
Virtual telephone	17,209	61,610	47,499	40,265	32,200
Virtual video	0	43,821	38,069	34,077	25,300
In person total	170,120	80,273	138,636	155,945	172,500
Virtual total	17,209	105,431	85,568	74,343	57,500
% in person	90.8%	43.2%	61.8%	67.7%	75%
% virtual	9.2%	56.8%	38.2%	32.3%	25%

It is clear from the above table that while overall outpatient numbers are predicted to increase by around 23%, the increase in face-to-face appointments will only increase by a marginal 1.4%. Therefore, patient travel is not expected to materially change as a result of Phase 4.

4.3 Staff implications

There are almost 5,000 FTE staff at GOSH, with a variety of departments and roles that require different shift patterns. For example, nurses typically rotate on 2 or 3 shifts a day and 3 or 4 days a week while scientific staff typically work a single daytime shift Monday to Friday. Therefore, an uplift in all staff numbers does not necessarily translate into the same increase in travel patterns or to the total number of staff on-site at a given time of day. Furthermore, the pandemic led to a change in the way that a large proportion of staff work such that working from home (WFH) is an option for many roles. The change in these practices during the pandemic has remained a permanent change for GOSH, resulting in a reduction in the number of staff on site on any given time and a reduction in travel to and from GOSH for staff.

As indicated in Figure 4.1, only some of the spaces to be decanted into CCC will require an uplift in staff numbers. These are around the wards and theatres where new roles will be created with the remaining staff relocating from their current position within the wider island site. It is predicted that 70 new FTE roles will be created, representing a marginal 1.4% increase in staff at GOSH.

However, staff working practices through the pandemic have changed the way many roles are able to operate and working from home is an option for many roles. The opportunity for working from home differs between role types, while a large proportion of staff are on shifts to cover the 24/7 operation of GOSH. Table 4.2 provides a summary of the staff patterns before and after the pandemic using data from departments and HR, noting the increase of 70 within new roles for Phase 4.

Table 4.2 Staff summary

Staff type	Pre-pandemic			Post-pandemic		
	Number	% shift	% on-site	Number	% shift	% on-site
Professional scientific and technical	358	40%	90%	358	40%	80%
Clinical services	593	40%	90%	593	40%	80%
Admin & clerical	1,282	2%	90%	1,282	2%	50%
Health Professionals	356	15%	90%	356	15%	80%
Estate and ancillary	45	15%	90%	45	15%	80%
Healthcare scientists	334	5%	90%	334	5%	80%

Staff type	Pre-pandemic			Post-pandemic		
	Number	% shift	% on-site	Number	% shift	% on-site
Medical & dental	827	50%	90%	807 *(+20)*	50%	80%
Nursing registered	1,775	75%	90%	1,725 *(+50)*	75%	90%
Total (FTE)	**4,962**	**-**	**2,478**	**5,032**	**-**	**2,045**

Based on the above table, it is clearly demonstrated that the change in working practices for staff have led to a reduction in the proportion of staff being on site at any given time from 50% to 40% during the daytime, which more than outweighs the small increase in staff arising from Phase 4. For comparison, the night shift will typically utilise around 6% of the total staff numbers, which is virtually unchanged as a result of the pandemic.

4.4 Construction stage

To assist the construction of the new building, there will be the requirement for site offices, welfare unit and storage space for equipment and materials, as well as space to load and offload vehicles.

Following extensive examination of solutions, the preferred and optimal arrangement is for the northern half of Great Ormond Street, including the footway alongside, to be closed to traffic and pedestrians with hoarding and appropriate vehicle protection. Gates will be provided at either end and midway along the hoarding for vehicles to enter and exit in forward gear and loaded / offloaded in between. This will also require a temporary one-way (westbound) order to be implemented on Great Ormond Street and suspend sections of parking on both sides between the junctions of Lamb's Conduit Street and Queen Square. The impact of the one-way order on traffic flows and parking suspensions on car parking demand has been assessed in chapter 5.

The main pedestrian entrance to GOSH will need to be closed during construction and temporarily relocated to Guilford Street. The temporary entrance has formed part of a detailed strategy to examine the available options which minimise disruption for staff, patients and visitors, while maintaining clear routes for construction traffic to reach the compound and for blue light services to reach Powis Place to serve UCLH and GOSH. Details of the temporary entrance strategy are outlined in Appendix 3. This includes some reallocation of parking restrictions to provide adequate space for ambulances, disabled users and local residents during construction to minimise effects on these users. Full details are outlined in Chapter 5.

To provide sufficient segregation between construction phase operations and ongoing GOSH operations Sisk site project offices will be erected on the eastern corner of Great Ormond Street for demolition of the Frontage Building. As the number of workers increase for the main construction phase, additional offices and welfare accommodation will be provided within the Paul O'Gorman Building to the west, minimising the scale and impact of temporary structures along Great Ormond Street. Further details of the construction stage proposals can be found within the Sisk Demolition and Construction Management Plan (DCMP) submitted with the planning application.

The DCMP has carefully considered the likely impacts on other road users and premises served by Great Ormond Street, particularly the adjoining UCLH. Of utmost importance is the blue light route to Powis Place, serving both UCLH and GOSH. Ambulances can approach from the west via Queen Square or from the east via Lambs Conduit Street. The proposals for one-way traffic along Great Ormond Street will ensure minimal disruption to traffic travelling from the eastern approach. Meanwhile, from the western approach, the parking bays will be suspended on the north side of Great Ormond Street in front of the RLHIM to ensure that eastbound ambulances will not be affected by large HGVs exiting the temporary compound. Only ambulances will be permitted to use this section of Great Ormond Street. Details of this mitigation are illustrated on the drawing enclosed at Appendix 4.

Pedestrian access during construction will be limited along Great Ormond Street with the northern footway being closed between Powis Place and Lambs Conduit Street. Pedestrians travelling to the temporary main entrance from the south will typically arrive either through Queen Square or along Lambs Conduit Street. These users will simply continue northwards to Guilford Street to reach the temporary entrance rather than turn down Great Ormond Street. This will help to segregate pedestrians from construction activity.

4.5 Future proposals

4.5.1 Traffic management

To provide for the long-term future of the operation of Great Ormond Street, LBC have aspirations to reduce traffic flows along the frontage of GOSH. Consultation is ongoing and includes options for a permanent one-way order with alternatives that restrict all through movement except for emergency vehicles.

Similar one-way arrangements are proposed for the construction stage to facilitate closure of half of the road to secure a compound for deliveries. Retention of these arrangements or alternative proposals post-completion will reduce the conflicts and

congestion that frequently occur at either end of Great Ormond Street. These options do not form part of this planning application.

4.5.2 Parking provision

The hospital does not provide any on-site car parking. However, there are spaces dedicated to staff in the nearby Bloomsbury Square NCP car park. There are no proposed long-term changes to car parking provision in or around the hospital, including disabled parking as part of this application.

4.5.2.1 Cycle parking

GOSH also provides a large number of cycle parking stands for staff and visitors across the hospital site. The proposed development will displace 93 long stay cycle spaces that currently sit within the footprint of the new building. In the short-term, it is proposed to relocate 88 of these spaces to the Morgan Stanley Clinical Building (MSCB) in the heart of the hospital, close to the main lockers and showers. A new provision of five spaces to accommodate cargo bikes will also be provided adjacent to the Premier Inn Clinical Building (PICB), close to the service entrance. Combined with the proposed relocation of spaces, this will result in no loss of cycle parking overall.

Cycle parking beat surveys were undertaken over a period of six weekdays in Autumn 2021. This involved observations of utilisation in the mornings (between 08:00 and 10:00) and afternoons (14:00). The surveys established the average demand for cycle parking which for the staff (long-stay) parking occupancy was 57%.

Further observations were undertaken during a site visit in January 2022 between 12:30 and 13:30 with an observed occupancy for long-stay parking during winter at around 43%. The use of different types of provision was also noted and it was found that those provided at ground level – i.e. Sheffield stands and the lower tiers of two-tier racks were most well-utilised.

Cycle parking requirements, as set out in the London Plan, require 1 long-stay space per 5 staff plus 1 short-stay space per 30 staff for hospitals. These standards have been applied to the number of staff on site at any given time, representing a 20% modal share by cycle. As set out above, the number of staff on site at any given time has reduced since the pandemic and therefore the demand, based on a fixed modal share, would actually reduce overall. This is summarised in Table 4.3 below.

Table 4.3 Cycle parking calculation summary

FTE staff number	Pre-pandemic			Post-pandemic		
	Number	% on-site	Long stay	Number	% on-site	Long stay
Whole of GOSH	4,962	50%	497	5,032	40%	403
Frontage Building / Phase 4 only	794	50%	80	864	40%	70

The cycle parking requirements would only apply to the whole of the island site should it be a new development and retrospective application of this requirement would be unjustified in planning terms. Application of these requirements to just the growth in staff associated with Phase 4 would require an additional 6 spaces.

The wider island site is tightly constrained with limited space to accommodate all of the needs of the hospital, its staff, patients and visitors. GOSH has continually improved its cycle parking provision and currently provides an excess of cycle parking compared to the demand or likely short term growth. Its current demand and future supply is secured through the Trust's Travel Plan (2018) and new draft Travel Plan (2022) which has been submitted in support of this application.

The proposals comprise the removal of underutilised semi-vertical stands and standard two-tier racks within the MSCB, retaining 10 of the semi-vertical spaces. New two-tier racks will be introduced which will provide 80 spaces with a gas strut mechanism to the top troughs and a further 80 spaces to the lower tier via 40 Sheffield Stands. A further three Sheffield stands will accommodate six more bicycles resulting in an overall total of 166 spaces in this area, including a net increase of 30 Sheffield stand spaces over the existing VCB provision, as detailed in Appendix 2.

This range of cycle parking types is supported both in LBC standards and in the London Plan, offering flexibility for its users and ensuring inclusivity as it caters for a spectrum of mobilities. Furthermore, there are a range of cycle hire schemes within close proximity to GOSH that facilitate short distance cycle trips, either for the last part of a journey from a rail station or for business related travel to other locations within Central London.

To support the relocation of spaces, a suite of measures will be put in place to ensure the spaces at the MSCB are used to their full potential and is a positive experience for staff at a standard commensurate with the existing VCB provision. This will include:

- Assessment of and any required improvements to lighting quality within the MSCB cycle parking area;
- Ingress/egress assessment and necessary improvements including the automation of doors to aid accessibility;
- Plan for pigeon deterrent and associated cleaning within cycle parking area;
- Plan for improvements to the general amenity of the cycle parking area, such as notice board, paint, planters/hanging garden;
- A communications plan covering access, route, and how to safely use the two tier racks, encouraging the use of higher racks;
- Permanent waymarking signage; and
- Extra cleaning incorporated along waymarked route.

This relocation of cycle parking will occur in advance of construction and will therefore ensure that there is no temporary reduction in cycle parking during construction.

As outlined above, a further five spaces will be provided at the adjoining PICB, adjacent to the service yard, as shown in Appendix 2. These will accommodate larger bikes such as cargo bikes and trikes to encourage more inclusive cycling and the take up of cycling by those that use a larger cycle. The handrail in this area will be reduced in order to improve access for users of these bikes.

A further improvement will be made to the cycle parking access at Barclay House: Following the recent replacement of the decking in this area, the existing padlock will be removed and replaced with ID access control to enable ease of use.

The total number of spaces provided at GOSH will accommodate the existing demand for cycle parking and continues to provide in excess of the current cycle parking demand for staff, allowing for growth during construction of the CCC. Furthermore, The Trust is continuing to develop and extend cycle parking to meet the needs of the staff and whilst not part of this application, investigations are being made for a scheme to accommodate future growth in cycling, following the completion of the CCC.

4.5.3 Pedestrian access

The future main entrance will be retained broadly in its current position, centrally on Great Ormond Street. The footway along the frontage of the site will be reinstated post-completion. Future public realm proposals by The Trust and LBC will deliver an improved environment of trees and seating, offering a wide route for people to gather, wait and enjoy the streetscene.

4.5.4 Drop off facilities and ambulance parking

Ambulances currently drop-off on Great Ormond Street and take patients through the main entrance. The proposed development will not alter this arrangement. There are ambulance stands provided on Great Ormond Street, which will remain. The taxi drop-off facilities and public parking spaces along Great Ormond Street will also remain following the completion of the proposed development, which are illustrated on the plan enclosed at Appendix 1.

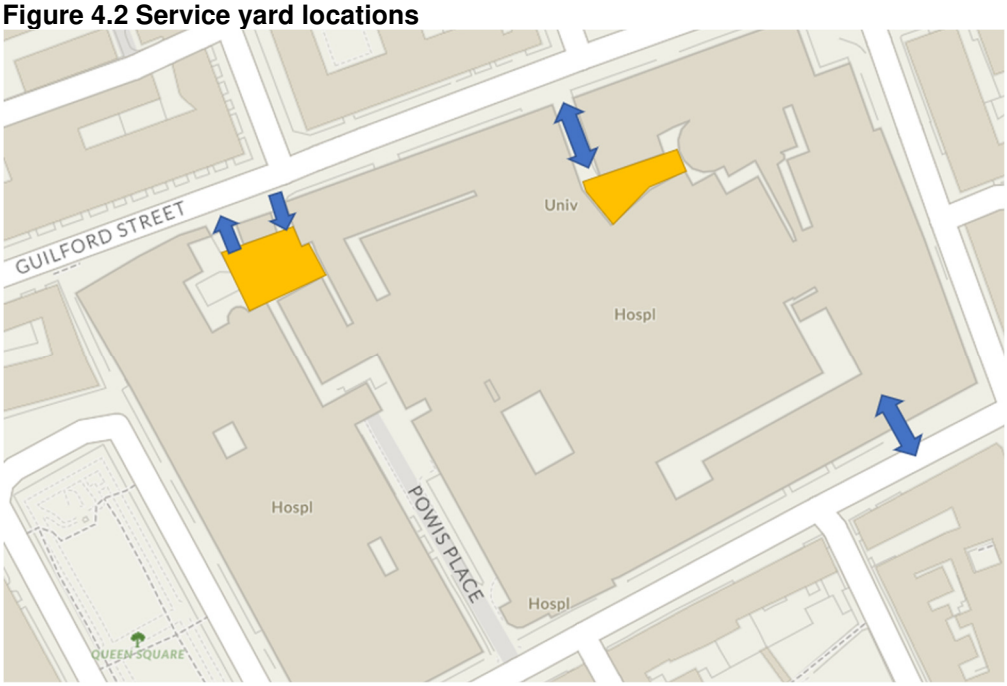
Ambulances are currently provided as a mixture of Trust-organised patient transport and private patient transport associated with other hospitals. The Trust-organised ambulances are within the control of GOSH and are typically in use, transporting patients to and from GOSH, with limited waiting time as this affects the efficiency of the fleet being managed.

Private patient transport is not under the control of GOSH and is sometimes used to transport patients a long distance to GOSH for an appointment and then wait for the return journey. As noted above, the increase in patient appointments will be offset by a reduction in the number of face-to-face consultations pre-pandemic. Therefore, this will not lead to an increase in the number of journeys being made by private patient transport.

4.5.5 Servicing and refuse collection

The wider GOSH site benefits from two servicing areas. The main service yard, shared with UCLH, is located to the north-west of the hospital with separate entry and exit points to Guilford Street. A second yard is located to the north-east of the hospital and is accessed via a narrow entrance from Guilford Street and is typically suitable for smaller vehicles. The main entrance on Great Ormond Street is only used for small deliveries by couriers who do not have pre-arranged delivery slots. The two service yards are illustrated in Figure 4.2 below. An additional service location is on Great Ormond Street, between the Frontage Building and the Octav Bonar Wing, providing access to the hospital's mortuary.

Figure 4.2 Service yard locations



Contains Ordnance Survey Data © Crown Copyright 2022

These service areas accommodate a range of vehicle types and sizes from small vans to heavy goods vehicles, delivering a range of medical equipment and supplies and removal of waste. These service access points were surveyed in 2019 and in 2022 for a three hour period in the morning (07:00-10:00) and again in the evening (16:00-19:00) to determine vehicle movements, which is summarised in Table 4.4. This demonstrates that servicing movements have remained consistent between pre and post-pandemic.

Table 4.4 Summary of servicing movements

	2019			2022		
Service area	**AM**	**PM**	**Total**	**AM**	**PM**	**Total**
Main Yard	18	8	26	26	3	29
Secondary Yard	14	4	18	16	1	17
Mortuary	8	0	8	0	0	0
Total	40	17	52	42	4	46

These arrangements will remain unaltered following the proposed development. It is not anticipated that the number of deliveries will increase as a result of the proposals with less than five deliveries per day associated with both the existing Frontage Building and Phase 4 proposals. The small increase in capacity within Phase 4 will likely to lead to slightly larger orders or a marginal increase in the frequency of orders, neither of which will have a material effect on the use of the access points or the operation of the highway.

5 TRAFFIC & PARKING ASSESSMENT

5.1 Development proposals

The proposed development will not materially affect the current levels of staff or patient visits from pre-pandemic levels, but provide improved facilities in modern buildings, co-located from other areas within GOSH as part of the long-term programme of redevelopment. On this basis, it not expected that the trip generation of the hospital will be affected by these development proposals.

5.2 Traffic management proposals

The construction stage will result in proposed changes to the flow of traffic along Great Ormond Street by introducing a one-way order, allowing only westbound traffic to pass along it. This will reduce the potential for conflict and congestion along the frontage of GOSH and ensure that emergency access is unhindered at all times.

Details of the scheme will be agreed with LBC in advance of construction and will aim to minimise impacts on other road users, while ensuring that construction traffic movements do not affect the operation of GOSH or neighbouring hospitals. As discussed earlier, this will result in some sections of parking being suspended along Great Ormond Street while other parking restrictions will be reallocated to accommodate GOSH-related parking demand and mitigate impacts on residents.

5.3 Traffic impacts

The likely impacts of the construction stage proposals on traffic flows will result from the closure of the eastbound lane along Great Ormond Street and the implications on traffic routing to and from those destinations surrounding GOSH.

5.3.1 Traffic surveys

A comprehensive dataset of traffic, parking and kerbside activity surveys were undertaken in 2019 at multiple locations around GOSH to determine the existing use of the highway network. This data recorded turning counts at numerous junctions, parking demand across streets surrounding GOSH and kerbside activity along Great Ormond Street, Lambs Conduit Street and Guilford Street.

Subsequent to the above, an automatic traffic counter (ATC) was installed in February 2020 and in November 2021 multiple ATCs were installed along Great Ormond Street. For reference, ATC1 was located at the western end and ATC3 at the eastern end.

Additional surveys were undertaken in September 2022 to repeat the kerbside activity and servicing counts along with an ATC on Great Ormond Street in order to validate the 2019 surveys and demonstrate trends over time. Overall, these surveys represent a mixture of pre and post pandemic conditions, allowing a comparison of conditions.

The data collected indicates that the weekday average traffic flow has reduced year on year in the eastbound direction since 2020 but has remained broadly the same for westbound traffic movements. Figure 5.1 and Figure 5.2 highlight that there are some differences between the two 2021 locations, representing each end of Great Ormond Street, with the westbound flow at the western end and the eastbound flow at the eastern end being higher than the upstream movement (i.e. at the other end of the street). The likely cause of this will be the additional movements entering Great Ormond Street from Orde Hall Street, which will have an effect on the westbound movements from this point, and U-turning vehicles (such as taxis) arriving in a westbound direction and leaving in an eastbound direction.

Figure 5.1 ATC eastbound weekday average traffic flow summary

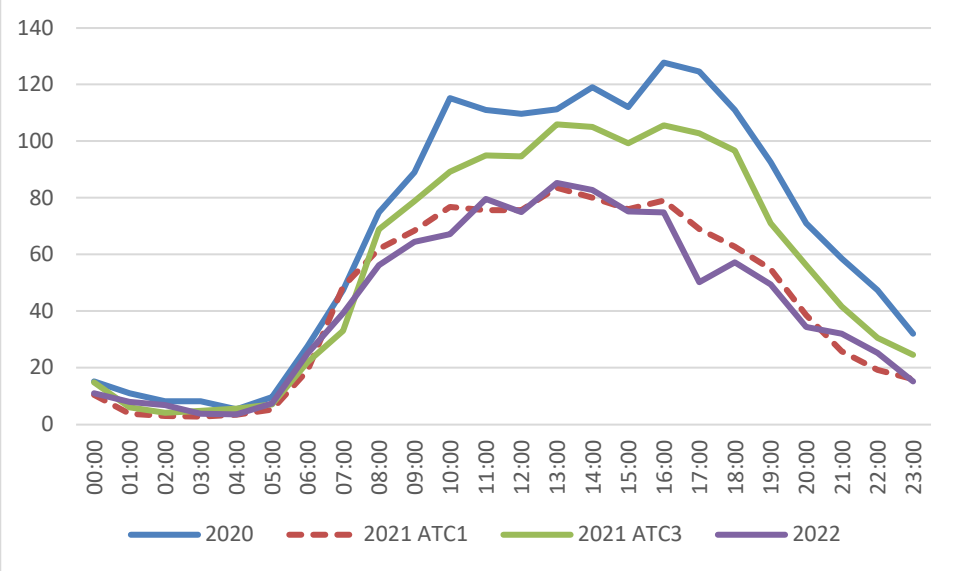
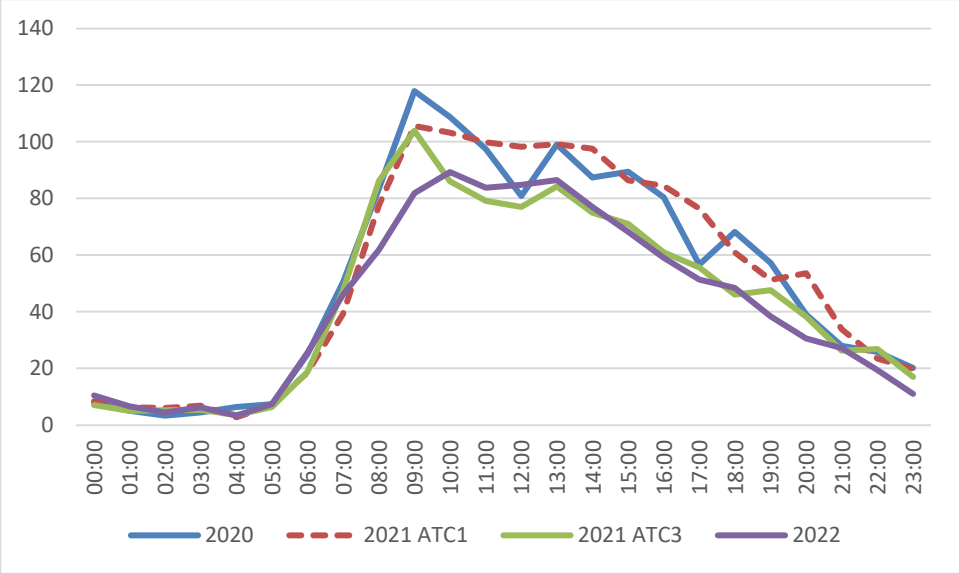


Figure 5.2 ATC westbound weekday average traffic flow summary



Kerbside activity surveys provide an indication of existing demand for ambulances, taxis and other users, allowing types of user to be identified, which assists when determining the quantity of users who will be relocated to Guilford Street and those who will remain on Great Ormond Street.

5.3.2 Predicted impacts

The 2019 junction turning counts included each junction along the route between Guilford Street and Theobalds Road via Great Ormond Street, which will be mostly affected by the one-way order. However, the surveys were undertaken at a time when traffic was unable to travel eastbound along Guilford Street beyond the Guilford Place junction, due to closure of the eastbound lane during the construction of the Zayed Building (Phase 3). On this basis, the 2019 turning count data cannot be relied upon for assessment of traffic impacts although the ATC data from 2022 is considered robust for this purpose.

Traffic flowing along Great Ormond Street is likely to be predominantly associated with GOSH, surrounding hospitals and local residents. A proportion of traffic may be using Great Ormond Street as a through route. The westbound movement offers limited destinations beyond Great Ormond Street and Queen Square given that traffic along Boswell Street must turn left onto Theobalds Road and return in an eastbound direction. The eastbound movement does offer an alternative route from Theobalds Road to Grays Inn Road, although the traffic volumes do not indicate this to be a popular route as each direction only experiences around 80 vehicles an hour.

The traffic flows during construction, when the one-way order will be implemented, are predicted to reduce in both directions. The eastbound traffic, which equates to around 80 vehicle movements per hour, will divert to other routes and may result in an increase in traffic along Boswell Street as vehicles travelling to Queen Square will have no other exit route.

Traffic movements associated with GOSH will generally relocate to the north side of the hospital along Guilford Street. It is anticipated that the majority of ambulance and taxi demand from the kerbside surveys will relocate along with a proportion of the disabled permit holders and general users, identified in the parking surveys. There is limited parking available for non-residents along Great Ormond Street itself, representing a relatively small proportion of the overall parking availability in the south area serving GOSH, estimated to be around 20%. As a worst case, it would be reasonable to assume the demands outlined in Table 5.1 are relocated.

Table 5.1 Summary of relocated traffic demands (two-way)

Traffic type	Actual demand		Relocated demand	
	AM period (07:00-10:00)	PM period (16:00-19:00)	AM period (07:00-10:00)	PM period (16:00-19:00)
Traffic movements – Great Ormond Street				
Ambulances	11	11	11	11
Taxis	27	23	27	23
Cars	48	63	10	13
Parking demands – South area				
Disabled	Up to 41	Up to 44	Up to 8	Up to 9

The kerbside activity surveys don't identify the direction of movement, however the proportion of eastbound / westbound movements is around 50/50 on average across the day. It would therefore be reasonable to reduce traffic movements in each direction by around 24 during both the AM and PM periods. Spread across the three hours in each period, the traffic flow reduction would equate to around 8 vehicles in each direction per hour.

This will result in a small reduction in the westbound flow along Great Ormond Street or around 8 vehicle movements per hour. Eastbound movements to GOSH will either use Queen Square or divert along Southampton Row to reach Bernard Street and onto Guilford Street. The residual eastbound movements will therefore equate to around 70 vehicles per hour being diverted onto alternative routes.

Construction traffic movements are estimated to be up to 36 HGV deliveries per day at peak construction activity. Spread across the working day, this could equate to around four deliveries per hour, which will be offset by the reduction in other vehicles.

Although there will be some changes in traffic flows on alternative routes, this is comfortably within the capacity of these roads. The remaining traffic along Great Ormond Street will be travelling in a single direction without conflict of oncoming traffic. Therefore, the traffic will flow more consistently along the road, reducing congestion and idling vehicles and as a result it should contribute to improving air quality in the area.

5.4 Parking impacts

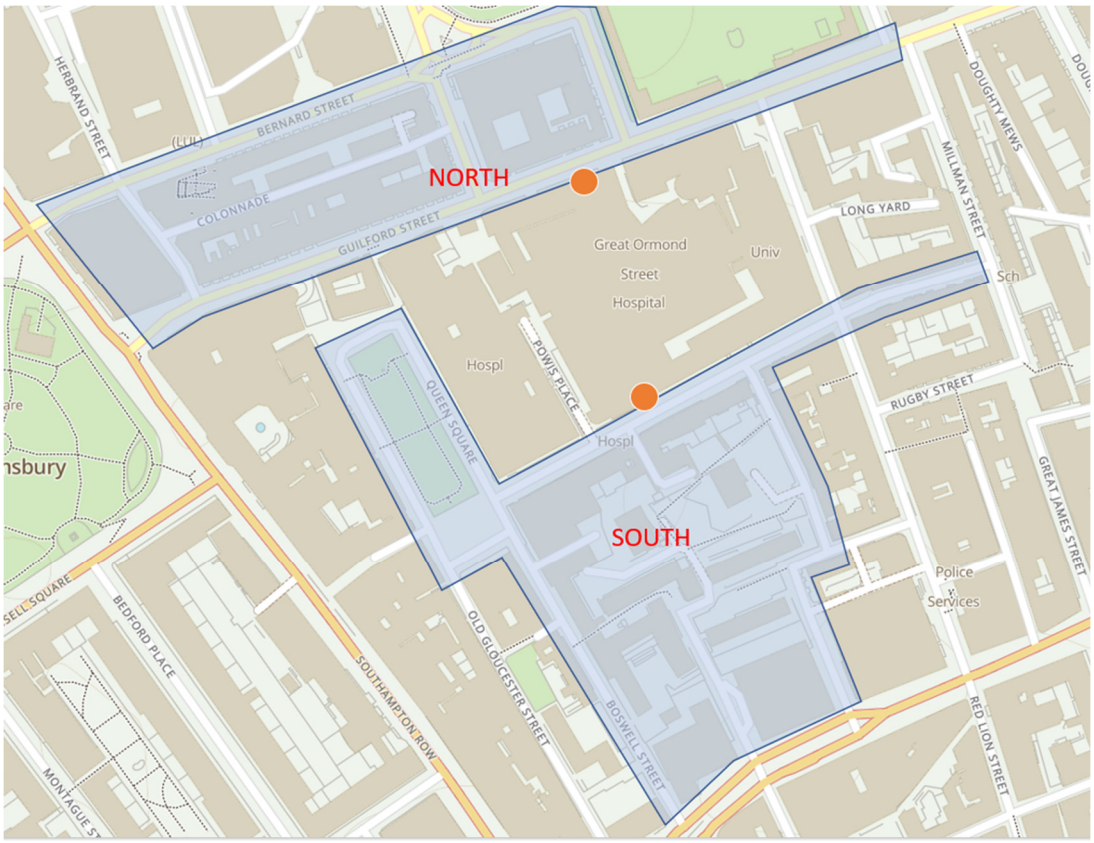
The 2019 surveys provide valuable information with respect to kerbside activities along Great Ormond Street, the majority of which will be associated with GOSH, and parking surveys in the surrounding streets.

The kerbside activities provide a breakdown of demands for ambulances and taxis, including length of duration of stay, both of which will be relocating to Guilford Street. The parking surveys identify which users are occupying different types of parking bays and other restrictions, which also highlights where capacity might exist to accommodate any displaced demands.

During construction, there will be a change in the location of parking demands and availability. Displaced demand from Great Ormond Street will include vehicles that will be directed towards Guilford Street and surrounding roads, which will in turn displace other parking demands as restrictions are reallocated accordingly. The suspension of parking bays along Great Ormond Street will also displace resident permit parking and therefore require local reallocation of parking restrictions as mitigation.

The enclosed Temporary Entrance Strategy at Appendix 3 provides full details of the assessment, however the proposed mitigation and its effects are outlined below. The demand for parking around the existing entrance has considered streets within a short walking distance, south of GOSH. In addition, the existing demand for parking around the temporary entrance on the north side of GOSH has been considered to understand the available capacity to accommodate increased movements. These areas are highlighted in Figure 5.3.

Figure 5.3 Parking demand zones in relation to entrances



Demand data for the southern zone encompasses Great Ormond Street, Queen Square, Orde Hall Street, Harpur Street, New North Street and Boswell Street. The results indicate that the ambulance bays are generally under utilised across this area, while demonstrating that the pay-by-phone bays are less than a third utilised. Residents permit parking is around 85% utilised, while the demand for disabled users significantly exceeds the parking capacity.

Demand data for the northern zone encompasses Guilford Street, Bernard Street, Herbrand Street, Grenville Street, Brunswick Square and Lansdowne Terrace. The data demonstrates that there is available capacity within the pay by phone bays, currently operating at less than 50% full. Residents permit parking is under utilised at around 60% while disabled bays are generally well utilised at up to 80%.

Notably, the assessment includes an adjustment to the data to separate out the demand for vehicles with disabled permits as these users park in a variety of locations, affecting the demand by specific type of user. This allows a more accurate picture to be presented of the disabled user demand.

The assessment has shown that the proposed temporary entrance and construction compound will have an effect on parking demand across a variety of users, pedestrians and cyclists. Each of these will require mitigation to ensure that suitable access is provided for GOSH-related activity as well as ensuring the safety of other road users along Great Ormond Street and surrounding network. Where possible, parking bays are retained for use by residents as these are most affected by the proposals without any activity being relocated.

5.4.1 South zone impacts

To mitigate the loss of resident parking within the south zone, it is recommended that some of the retained parking bays within the zone are reallocated for resident permit use. The current proposals are to convert pay-by-phone spaces along Orde Hall Street and those being retained on Great Ormond Street for this purpose, noting that a reasonable provision of public parking already exists within Queen Square and the parking demand surveys show that spare capacity is available. Table 5.2 provides a summary of recommended changes, highlighting net changes in provision of each type affected, while Table 5.3 outlines the predicted utilisation across the south zone. This demonstrates that there will be adequate provision for residents and ambulances as priority users, while accommodating the majority of other users.

Table 5.2 Summary of net changes in parking provision (south zone)

Road	Ambulance	Resident	Disabled	Pay-by-phone	Total
Great Ormond Street	-9	-3	-	-14	-26
Boswell Street	-	-10	-	-5	-15
Orde Hall Street	-	+4	-	-4	0
Total (south)	-9	-9	-	-23	-41

Table 5.3 Summary of net changes in parking provision (south zone)

User type	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Predicted demand										
Ambulances	5	7	5	7	6	6	5	5	5	15
Taxis	0	0	0	0	0	0	0	0	0	2
Residents	64	65	63	65	64	54	56	58	58	65
Disabled	13	17	19	22	33	35	31	30	30	8
Other users	22	28	29	28	23	18	20	16	22	42
Total	103	117	116	122	126	113	112	109	114	132
Predicted utilisation										
Ambulances	33%	47%	33%	47%	40%	40%	33%	33%	33%	15
Taxis	0%	0%	0%	0%	0%	0%	0%	0%	0%	2
Residents	98%	100%	97%	100%	98%	83%	86%	89%	89%	65
Disabled	142%	187%	213%	249%	364%	391%	347%	329%	329%	9
Other users	51%	67%	69%	67%	55%	42%	48%	38%	51%	42
Disabled + other	*67%*	*88%*	*94%*	*99%*	*110%*	*104%*	*100%*	*89%*	*100%*	51

Although the disabled parking provision would appear to be inadequate, it is acknowledged in this report that users occupy a variety of spaces in the surrounding area and the actual demand in the south area will reduce during construction while there is no reduction in the number of disabled bays. Notably, the combined utilisation of disabled and other users only materially (>5%) exceeds 100% during 2 time periods.

5.4.2 North zone impacts

The proposed temporary entrance on Guilford Street will require provision of ambulance bays and areas for drop off and pick up. The south side of Guilford Street in the vicinity of GOSH contains a number of resident permit bays along with an intermittent single yellow line along the south side, with double yellow line restrictions along a long section of the north side. To the west of Grenville Street, a single yellow line restriction on the side extends towards Russell Square, which is available for use by parents of children attending GOSH through special dispensation, agreed with LBC.

It is recommended that the resident permit bays along Guilford Street are reallocated as ambulance bays with some minor alterations to adjoining single and double yellow lines to offer 10 ambulance bays. Additional resident permit bays along Grenville Street and Bernard Street are also recommended to be reallocated to pay-by-phone bays or disabled to accommodate some of the relocated demand for other users.

Table 5.4 provides a summary of recommended changes, highlighting net changes in provision of each type affected, while Table 5.5 outlines the predicted utilisation across the north zone. This demonstrates that there will be adequate provision for residents and ambulances as priority users, while accommodating disabled and other users within the available spare capacity.

Table 5.4 Summary of net changes in parking provision (north zone)

Road	Ambulance	Resident	Disabled	Pay-by-phone	Total
Guilford Street	+10	-9	-	-	+1
Grenville Street	-	-5	+3	+2	0
Bernard Street	-	-3	-	+3	0
Total (south)	+10	-17	+3	+5	+1

Table 5.5 Summary of net changes in parking provision (north zone)

User type	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Predicted demand										
Ambulances	2	2	2	2	3	5	3	4	3	10
Taxis	0	0	0	0	0	0	0	0	0	3
Residents	26	28	29	28	29	23	23	24	23	31
Disabled	7	8	8	10	14	15	13	13	13	12
Other users	38	43	39	55	53	52	50	47	44	57
Total	73	81	78	96	99	95	89	87	83	113
Predicted utilisation										
Ambulances	20%	20%	20%	20%	30%	50%	30%	40%	30%	10
Taxis	0%	0%	0%	0%	0%	0%	0%	0%	0%	3
Residents	84%	90%	94%	90%	94%	74%	74%	77%	74%	31
Disabled	58%	66%	70%	85%	113%	126%	110%	107%	107%	12
Other users	67%	76%	68%	97%	94%	91%	87%	82%	77%	57
Disabled + other	65%	74%	68%	95%	97%	97%	91%	86%	82%	69

6 SUMMARY AND CONCLUSIONS

6.1 Summary

RSK has been commissioned by John Sisk & Son (Holdings) Ltd to prepare a Transport Assessment in support of a planning application on behalf of the Applicant, Great Ormond Street Hospital for Children NHS Foundation Trust for a new Children's Cancer Centre. The current proposals represent Phase 4 of their long-term Masterplan.

The proposed development includes the demolition of the existing Frontage Building fronting onto Great Ormond Street. A new eight storey building (together with two basement levels) will be constructed to provide a dedicated Children's Cancer Centre and new main entrance to GOSH to give the hospital a greater sense of identity and more welcoming arrival.

The proposals include the promotion of a one-way order along the site frontage in a westbound direction, reducing the congestion that currently occurs and minimise the risk of delays to emergency services. The order will initially be temporary during construction to ensure that delivery vehicles do not cause congestion on the approach routes and facilitate an offloading area. Following completion of the project, all temporary highway adjustments are to revert back to the environment as was prior to commencement of the construction phase.

This Transport Assessment has considered the potential traffic and transport impacts of the proposals on the surrounding transport and highway network.

GOSH is centrally located for access to sustainable modes of travel facilitating travel on foot, by cycle and by public transport across London while benefiting from connections by train across the UK. Given the long distances that many patients travel, it is served well by three main line rail stations with the Underground network providing convenient connections to all major stations across central London. The site's PTAL rating of 6b demonstrates the site's ability for staff and patients to reach the site by non-car modes.

Travel surveys undertaken in 2018 indicate that almost all staff already travel using sustainable modes of transport while only a quarter of patients and visitors travel to GOSH by car. Follow up staff travel surveys in 2022 reveal that the pandemic has led to a greater proportion of staff using active travel modes and only a marginal increase in car use.

There are no long-term proposed changes to parking provision, pedestrian access or servicing arrangements in and around the hospital as part of the proposed development.

The proposed temporary one-way order for Great Ormond Street is predicted to reduce traffic flows along Great Ormond Street in both directions, even taking into account construction traffic movements. Removing eastbound traffic travelling along Great Ormond Street will reduce congestion and conflict on the approach routes for all users, minimising the risk of obstructing the emergency access route during construction.

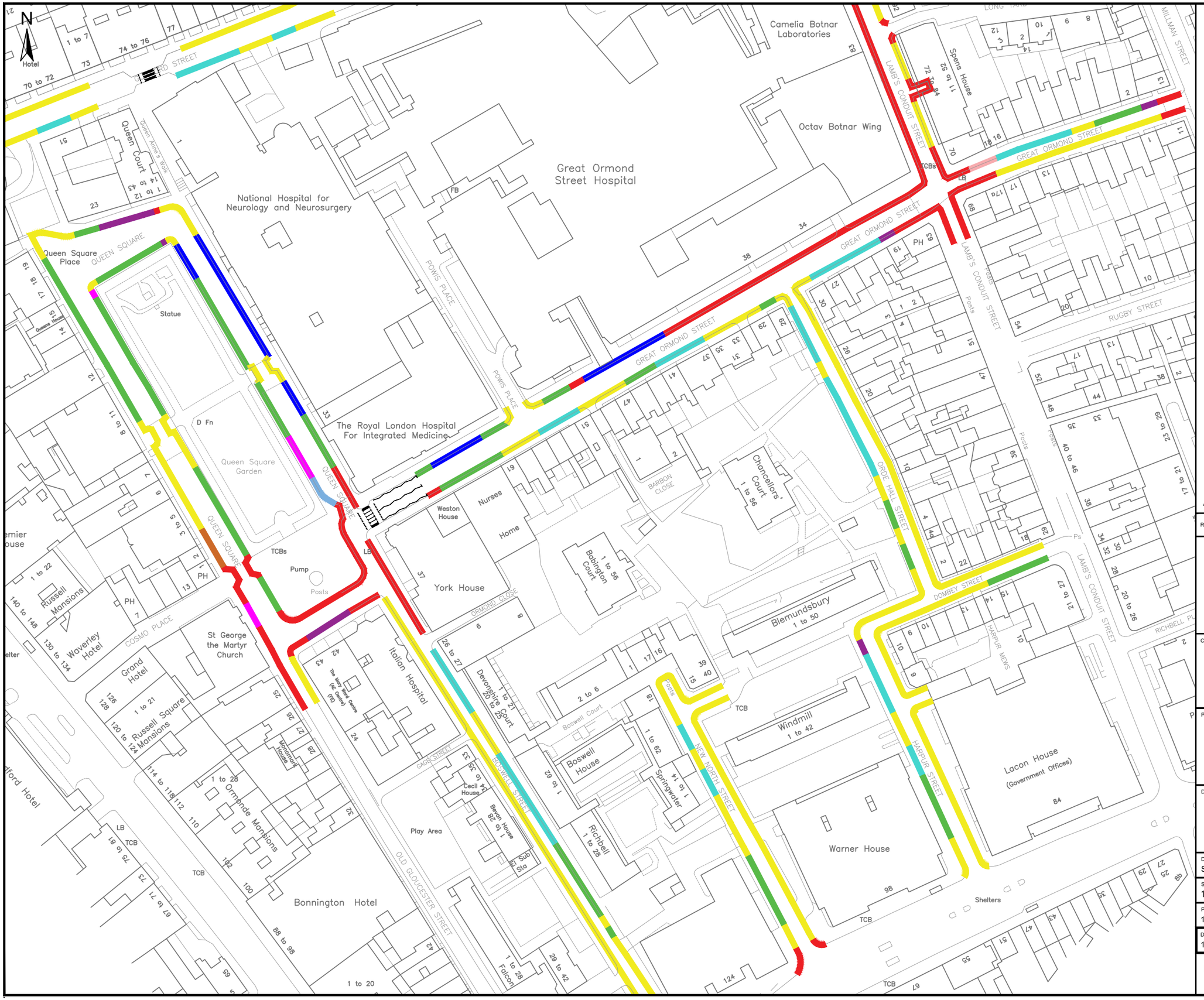
6.2 Conclusion

The proposed development is not expected to affect the trip volumes or travel patterns of existing staff and patient visits to the hospital. The proposals will provide much needed improvements to the facilities and their co-location within GOSH to maintain the high standards of treatment and care of children.

The site is already highly accessible by public transport across London and via main line rail stations for access beyond. The provision for pedestrians and cyclists is adequate for staff and visitors and commensurate with the local setting, making active travel attractive even as part of a longer journey by public transport. Notwithstanding, future public realm proposals for Great Ormond Street will deliver an improved environment with a wider route for those accessing the site on foot or by bike.

Overall, the proposed development is acceptable from a transport perspective.

APPENDIX 1
CURRENT PARKING RESTRICTIONS



Legend

- Ambulance Only
- Parking
  Mon-Fri 8:30am-6:30pm
  Sat 8:30am-1:30pm
- Resident Parking
  Mon-Fri 8:30am-6:30pm
  Sat 8:30am-1:30pm
- Single Yellow
- Double Yellow
- Motorcycle Parking
- Taxi Stands
- Disabled Bay
- Doctors Bay
- Loading Bay
- Car Club Bay
- Electric Car Bay

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
A	SEP22	Amended study area	IW	__	__

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Client

Great Ormond Street Hospital NHS Foundation Trust

Project Title

Children's Cancer Centre (Phase 4)

Drawing Title

Current Parking Restrictions (South Area)

Drawn	Date	Checked	Date	Approved	Date
SF	12/02/20	IW	12/02/20	__	__

Scale	Orig Size	Dimensions
1:1250	A3	METRES

Project No.	Drawing File
111057	

Drawing No.	Rev.
111057-10-01	A

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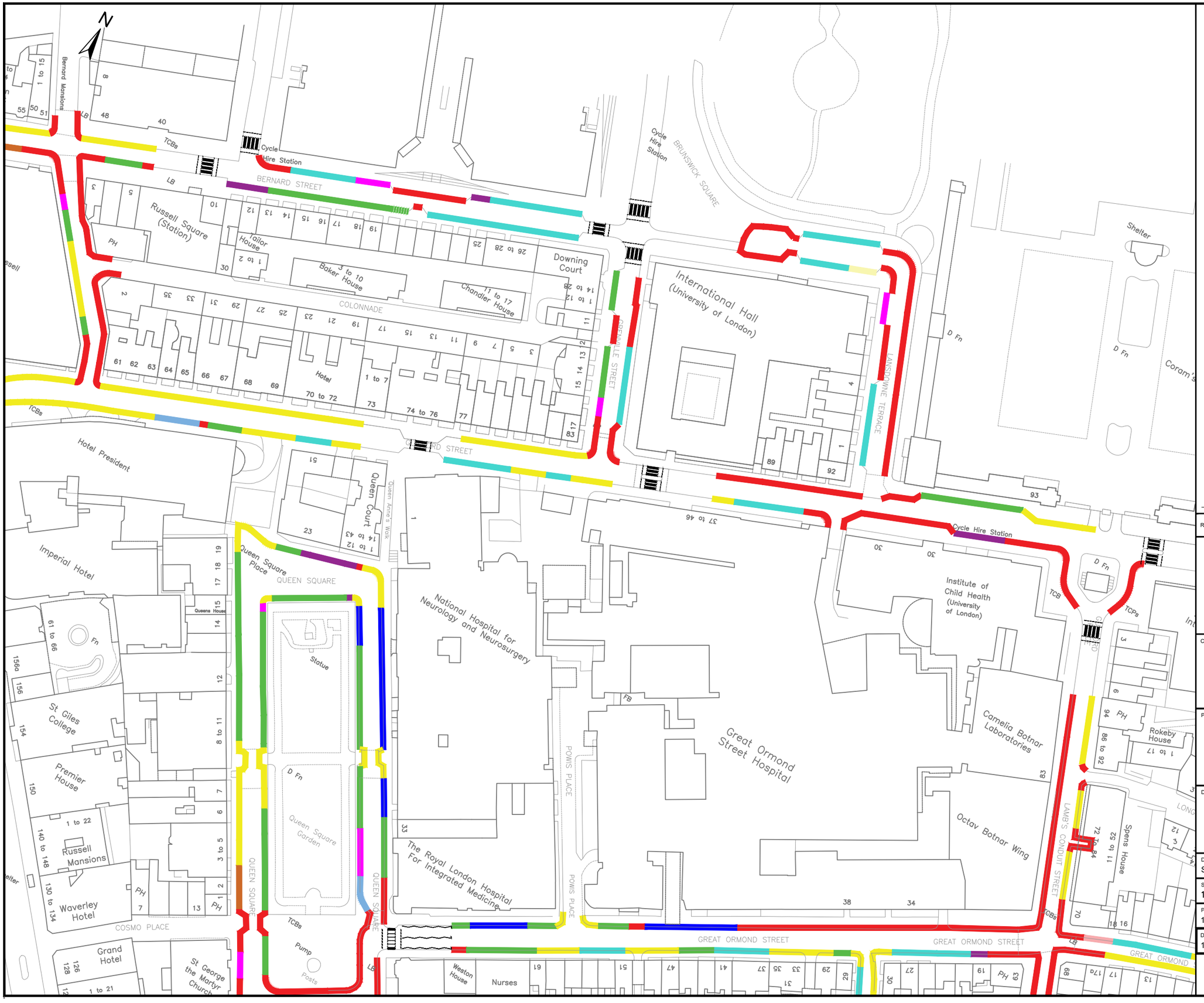

Legend

- Ambulance Only
- Parking
  Mon-Fri 8:30am-6:30pm
  Sat 8:30am-1:30pm
- Resident Parking
  Mon-Fri 8:30am-6:30pm
  Sat 8:30am-1:30pm
- Single Yellow
- Double Yellow
- Motorcycle Parking
- Taxi Stands
- Disabled Bay
- Doctors Bay
- Loading Bay
- Car Club Bay
- Electric Car Bay

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
—	—	—	—	—	—

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Client

Great Ormond Street Hospital NHS Foundation Trust

Project Title

Children's Cancer Centre (Phase 4)

Drawing Title

Current Parking Restrictions (North Area)

Drawn	Date	Checked	Date	Approved	Date
SF	12/02/20	IW	12/02/20	—	—

Scale	Orig Size	Dimensions
1:1250	A3	METRES

Project No.	Drawing File
111057	

Drawing No.	Rev.
111057-10-02	—

Scale
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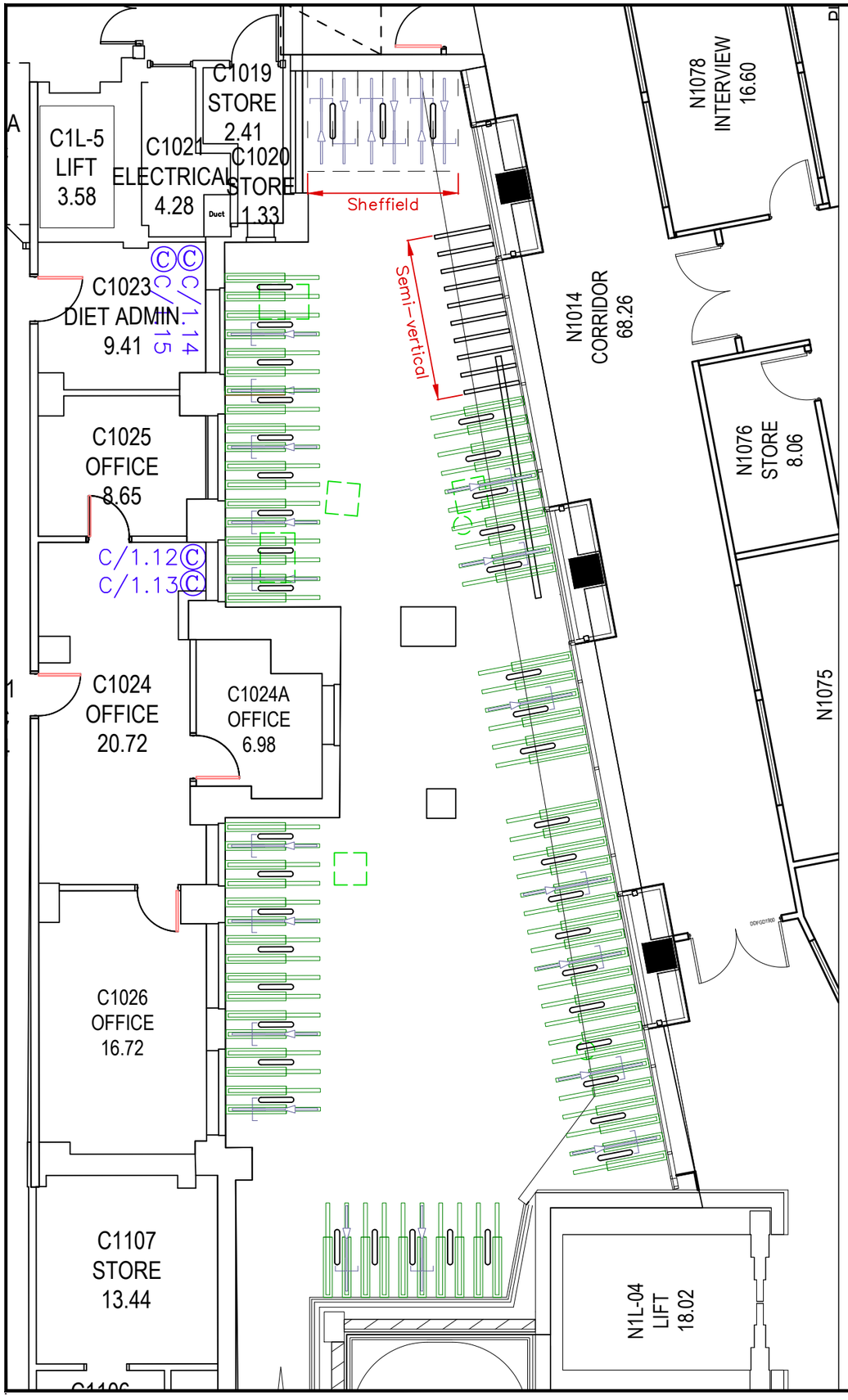
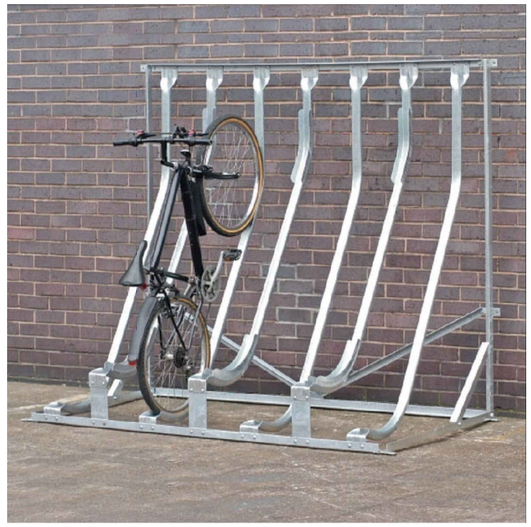
APPENDIX 2
CYCLE PARKING PROPOSALS



Semi-vertical cycle parking



Two-tier cycle parking

Cycle Parking

Existing: 88 spaces (mix of two-tier and semi-vertical)

Proposed:
Two-tier racks - 160 spaces
(80 top tier gas power assisted, 40 Sheffield stands below)
Semi-vertical racks - 10 spaces
Sheffield stands - 6 spaces

Total Provision = 176 spaces (increase of 88 spaces)

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
—	—	—	—	—	—

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Client
Great Ormond Street Hospital
NHS Foundation Trust

Project Title
Children's Cancer Centre
(Phase 4)

Drawing Title
Proposed Cycle Parking:
Morgan Stanley Building
(Lullaby Factory)

Drawn	Date	Checked	Date	Approved	Date
MQ	IW	—	—	—	—

Scale	Orig Size	Dimensions
1:100	A3	METRES

Project No.	Drawing File
111057	

Drawing No.	Rev.
111057-20-01	A

Scale
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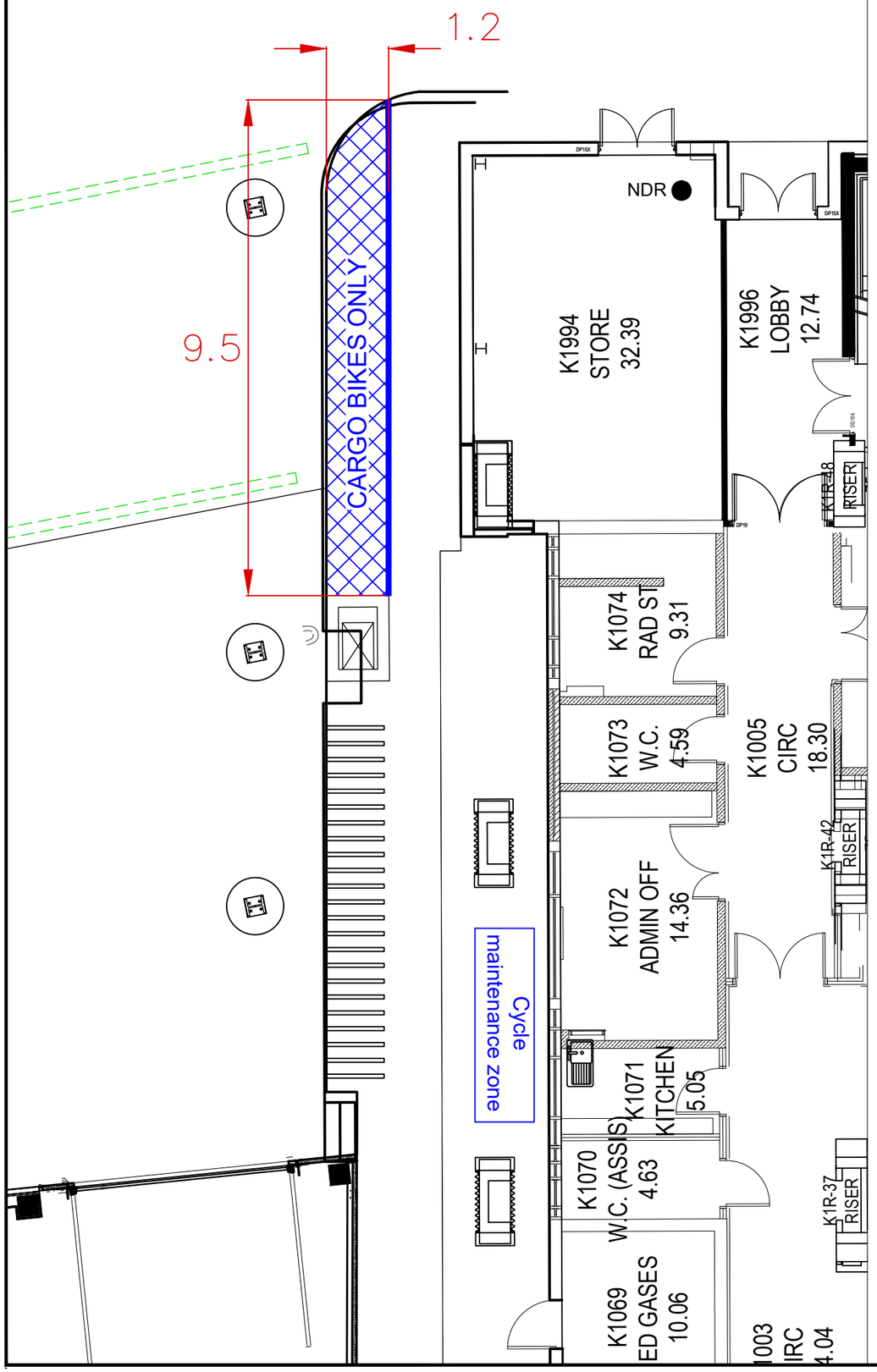
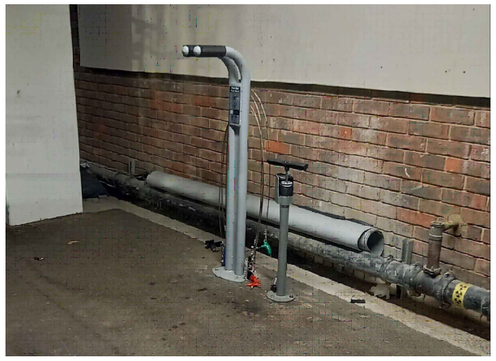


Ground anchor example

Cycle maintenance zone



Semi-vertical cycle parking

Cycle Parking

Existing: 23 spaces (semi-vertical) plus informal along railings

Proposed:
Semi-vertical racks - 23 spaces
Cargo and larger bikes - 5 spaces

Total Provision = 28 spaces (increase of 5 spaces)

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
A	18.07.22	Added examples	IW	—	—

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Client
Great Ormond Street Hospital
NHS Foundation Trust

Project Title
Children's Cancer Centre
(Phase 4)

Drawing Title
Proposed Cycle Parking:
Premier Inn Clinical Building
(adjacent to service yard)

Drawn	Date	Checked	Date	Approved	Date
MQ	IW	—	—	—	—

Scale	Orig Size	Dimensions
1:100	A3	METRES

Project No.	Drawing File
111057	

Drawing No.	Rev.
111057-20-02	A

Scale
0 1 2 4 6

APPENDIX 3
TEMPORARY ENTRANCE STRATEGY

Technical Note

GREAT ORMOND STREET HOSPITAL
Temporary Entrance Strategy

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Our reference: 111057-TN03-Rev03

Author: I Wickett	Date: 19/10/2022	Reviewed: S van de Berg	Date: 19/10/2022

This Technical Note (TN) has been prepared in response to comments from the London Borough of Camden (LBC), neighbours, local businesses and residents groups received following the submission of a planning application (LPA planning application reference number: 2022/2255/P) for Phase 4 of the Great Ormond Street Hospital (GOSH) NHS Trust's long-term Masterplan to develop a new Cancer Centre for Children (CCC). During construction of this development, which includes the redevelopment of the frontage building of the hospital, the main entrance to GOSH will be inaccessible. A temporary entrance will therefore be required to accommodate patients, visitors and staff, proposed to be located on Guilford Street.

Existing arrangements

The main entrance to GOSH is located on Great Ormond Street, between the Frontage Building and the Paul O'Gorman Building. This entrance is used by the vast majority of patients and visitors to the wider hospital island site along with a high proportion of staff. Other entrances are available around the wider island site, most of which are for staff access or specific departments, although through access is typically available. Figure 1 illustrates the existing entrance locations.

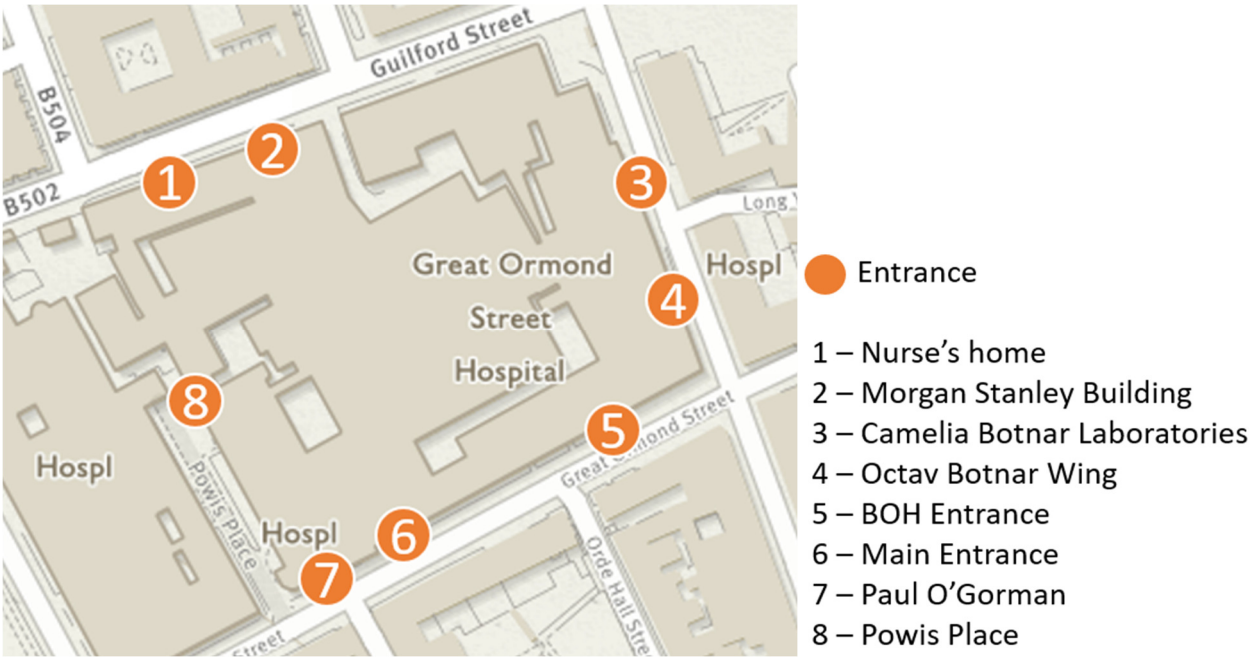


Figure 1: Existing GOSH Entrances

The main entrance on Great Ormond Street is supported by a variety of parking provision in the form of ambulance, doctor and taxi bays along with public parking bays (pay by phone). A range of survey data was collected in 2019 to establish the existing kerbside activity and pedestrian flows along Great Ormond Street and traffic turning movements at a number of junctions. In addition, parking beat surveys were

undertaken to identify parking demand on streets surrounding GOSH. Some of these surveys, comprising kerbside activities, servicing and link counts, have been repeated in 2022 to validate the results now that post-pandemic conditions are considered to have settled down.

The temporary relocation of the main entrance will likely affect the location of parked vehicles for many users for drop off and pick-up purposes and the routes that pedestrians may use to reach the hospital. The traffic flows will also reduce along Great Ormond Street as activity is relocated, more than offsetting any slight increase resulting from construction vehicles. The effect on these users is a key consideration for selecting a temporary entrance as it could lead to congestion (vehicular or pedestrian) around an area that cannot be safely accommodated.

To understand the potential effects, the existing demand must be identified so that any relocation and/or displacement can be assessed. The 2019 and 2022 data has been used in the assessment, representing pre-pandemic circumstances. The pandemic has led to some changes in practices at GOSH while also having a wider effect on general travel, such as potentially lower traffic volumes.

The 2019 and 2022 data allows an assessment of different users and types, identifying the typical demand in the area to understand the likely volume of vehicles to be relocated and the available capacity in the vicinity of the temporary entrance. The key users affected by a relocated entrance comprise ambulances, taxis, pedestrians and general drop off, while secondary effects will be felt by residents, cyclists and servicing.

Parking demand

The demand for parking around the existing entrance needs to consider streets within a short walking distance, south of GOSH. In addition, the existing demand for parking around the temporary entrance on the north side of GOSH will need to be considered to understand the available capacity to accommodate increased movements. These areas are highlighted in Figure 2.

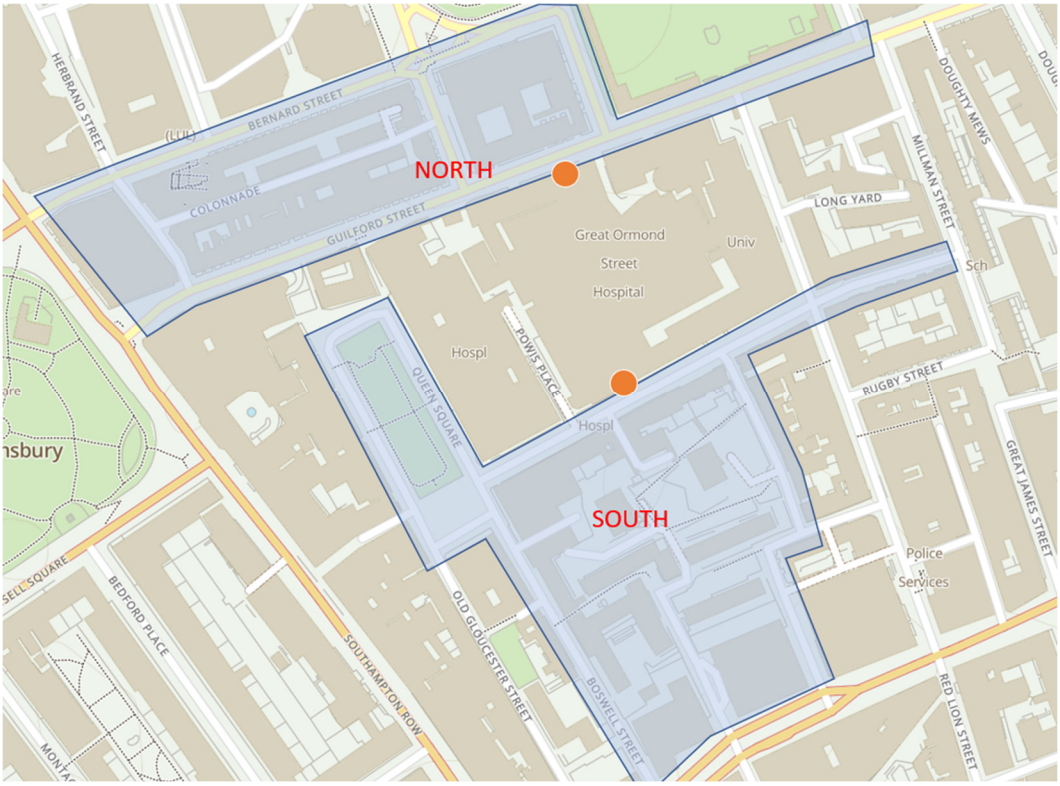


Figure 2: Parking demand zones in relation to entrances

Demand data for the southern zone encompasses Great Ormond Street, Queen Square, Orde Hall Street, Harpur Street, New North Street and Boswell Street. Table 1 provides a summary of the aggregated data for these streets across each of the peak periods surveyed on Wednesday 26th June 2019. Surveys were also undertaken on a Saturday, however these consistently show lower demand than a Weekday and therefore this strategy focuses on the Wednesday data.

The data has been adjusted to separate the demand for vehicles with disabled permits as these users park in a variety of locations, affecting the demand by specific type of user. The results indicate that the ambulance bays are generally under utilised across this area, while demonstrating that the pay-by-phone bays are less than a third utilised. Residents permit parking is around 85% utilised, while the demand for disabled users significantly exceeds the parking capacity.

Table 1: Summary of parking demand – south of GOSH

	AM Peak Period					PM Peak Period				
Restriction	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Ambulance Bay	7	9	7	8	9	11	8	9	8	24
Disabled Bay	7	8	8	9	9	6	6	6	5	9
Doctor's Bay	0	0	0	0	0	0	0	0	1	2
Double Yellow	1	5	4	4	3	2	2	2	3	53
Dropped Kerb	1	2	1	1	1	1	0	0	0	24
Loading Bay	2	1	2	2	0	1	1	0	0	3
Motorcycles Bay	0	0	0	0	0	0	0	0	0	3
Pay by Phone Bay	18	21	21	23	20	15	17	13	20	65
Residents Bay	64	65	63	65	64	54	56	58	58	76
Single Yellow	5	6	8	5	5	3	5	5	4	141
Taxi Bay	0	0	0	0	0	0	0	0	0	2
Zig-Zag	0	0	0	0	0	0	0	0	0	6
Disabled Permits (non-disabled bays)	9	13	16	19	32	38	33	31	32	n/a

Demand data for the northern zone encompasses Guilford Street, Bernard Street, Herbrand Street, Grenville Street, Brunswick Square and Lansdowne Terrace. Table 2 provides a summary of the aggregated data for these streets across each of the peak periods surveyed. Again, the data has been adjusted to separate the demand for vehicles with disabled permits, though notably there are very few disabled permit users parking in non-disabled bays in this zone. The data demonstrates that there is available capacity within the pay by phone bays, currently operating at less than 50% full. Residents permit parking is under utilised at around 60% while disabled bays are generally well utilised at up to 80%.

Table 2: Summary of parking demand – north of GOSH

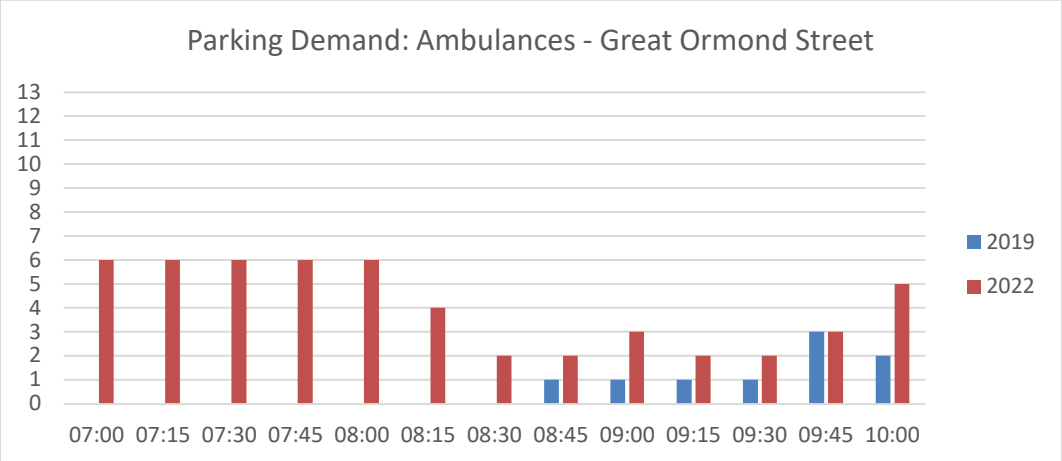
	AM Peak Period					PM Peak Period				
Restriction	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Car Club Bay	0	0	0	0	0	0	0	0	0	2
Disabled Bay	3	3	3	4	5	6	4	4	4	7
Double Yellow	1	1	0	0	0	0	0	0	0	78
Dropped Kerb	0	0	0	3	0	2	1	1	1	15
Electric Vehicles	0	0	0	0	0	0	0	0	0	1
Loading Bay	0	1	0	1	3	1	2	1	1	4
Motorcycles Bay	0	0	0	0	0	0	0	0	0	4
Pay by Phone Bay	5	6	5	13	14	14	14	13	9	30
Residents Bay	26	28	29	28	29	23	23	24	23	48
Single Yellow	24	26	24	28	27	28	25	25	25	102
Taxi Bay	1	0	0	2	0	0	0	0	0	3
Zig-Zag	3	3	3	4	4	3	3	3	3	30
Disabled Permits (non-disabled bays)	1	1	1	1	1	2	2	2	2	n/a

Kerbside Activity

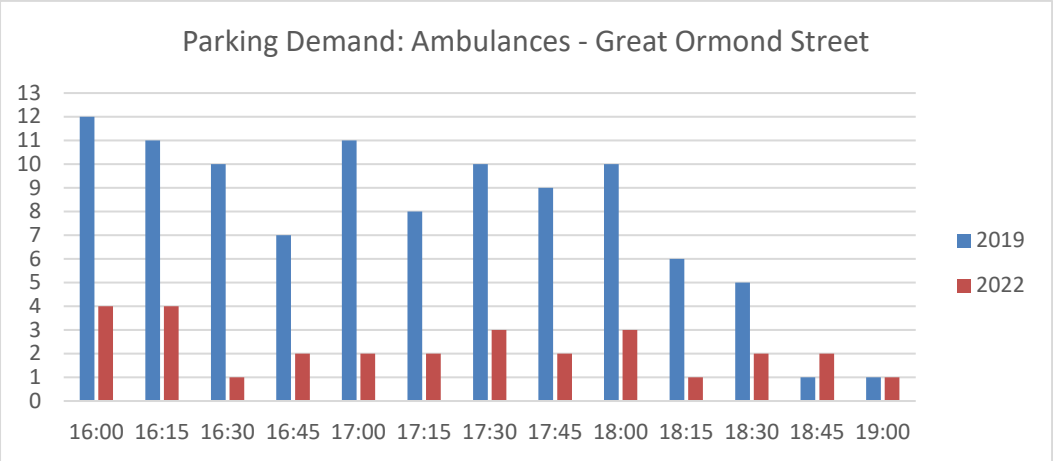
Data collected for ambulances allows consideration of more detail, such as duration of stay and total demand at any given time. The kerbside activity surveys were undertaken on a different day (Tuesday 9th July 2019 and Thursday 8th September 2022) to the parking demand and therefore offers a second snapshot of the demand. These surveys examine all kerbside parking, loading and drop off at any location along Great Ormond Street by vehicle type.

Ambulances

The kerbside data shows that only 7 ambulances were recorded during the AM period of 07:00-10:00 in 2019 and 11 in 2022, several of which were parked for a reasonable duration while the remaining were dropping off/picking up and only incurred a short stay. As a result, there was a maximum of six ambulances using a space on Great Ormond Street.



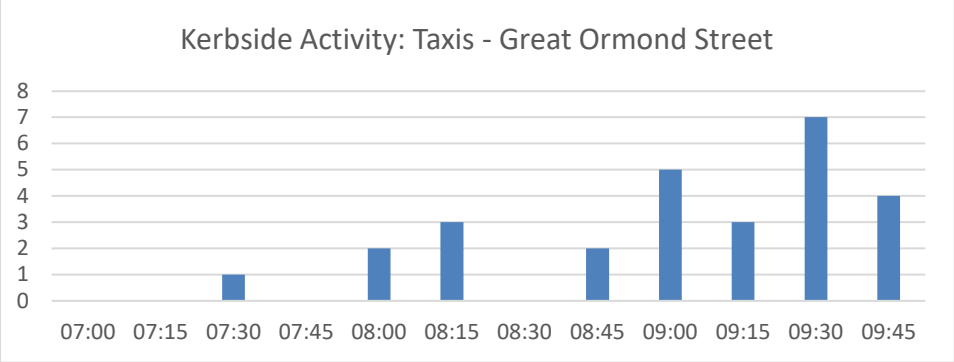
The PM period of 16:00-19:00 was considerably busier in 2019 with 37 ambulances recorded overall, while in 2022 only 11 were recorded. The more recent 2022 data shows that only a single ambulance was parked for a reasonable duration while the remaining 10 were dropping off/picking up and only incurred a short stay of up to 45 minutes. The number of ambulances at any given time was significantly less in 2022, comparable to the AM period.

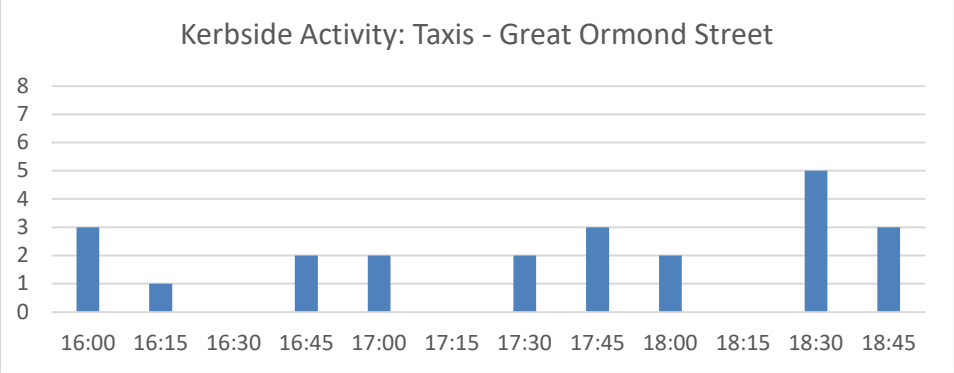


Overall, the average duration of stay for all 44 ambulances within the whole survey period was 36 minutes in 2019, increasing to 50 minutes in 2022. However the reduced number of ambulances clearly leads to a reduction in the number of ambulances waiting at any given time.

Taxis

Similar kerbside data was recorded for taxis, identifying 27 during the AM period and 23 during the PM period. The graphs below, illustrating total numbers, highlight no particular patterns occurring such as peak times, but reaching up to 7 taxis in a 15 minute period. The average duration of stay over the whole survey period was just one minute and 17 seconds and no taxi was waiting for more than 5 minutes.

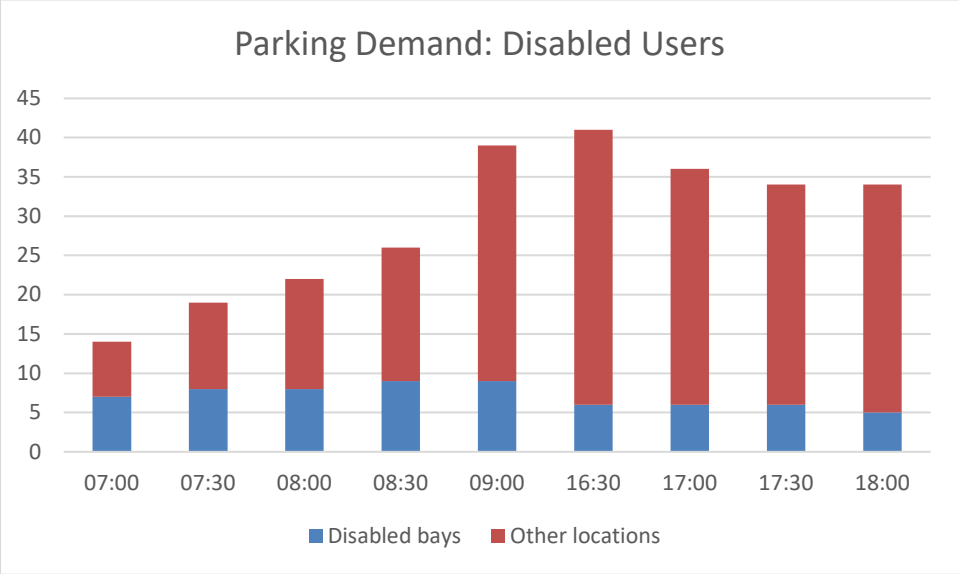




Disabled Users

The parking survey data includes information on disabled users with permits (Blue Badge holders). While the data indicates reasonable compliance with use of disabled bays, it also highlights that the demand for disabled bays exceeds the availability, as mentioned above in the overall parking demand data. The chart below highlights the number of permit users parked in designated bays and those who are parked in other locations within the south area around the GOSH entrance. There are nine disabled bays available within this zone, though the peak demand is around 40.

Notwithstanding the above, the majority of disabled users not parked in a disabled bay are using pay-by-phone spaces, a small proportion using resident permit bays and an even smaller proportion parked on a single yellow line.



Servicing

For servicing purposes, the GOSH wider hospital site is currently served by a main service yard on the north side, shared with the adjacent UCLH and accessed from Guilford Street just west of Grenville Street, with separate entry and exit points. There is a small secondary service area also accessed from Guilford Street just west of Lansdowne Terrace. A further entrance is available from Great Ormond Street, at the eastern end of the Frontage Building, beneath the Octav Bonar Wing, which serves the mortuary. The majority of servicing is taken from the main service yard. Small deliveries are also undertaken through the main entrance with vehicles parking on Great Ormond Street.

Each of the service areas has been surveyed at the same time as the junction turning counts, recording all movements in and out, including cyclists. A summary of the two-way movements during each survey period is provided in Table 3, excluding cycle movements. This demonstrates that servicing movements have remained consistent between pre and post-pandemic.

Table 3: Summary of servicing movements (two-way)

	2019			2022		
Service area	AM	PM	TOTAL	AM	PM	TOTAL
Main Yard	18	8	26	26	3	29
Secondary Yard	14	4	18	16	1	17
Mortuary	8	0	8	0	0	0
Total	40	17	52	42	4	46

The kerbside data includes information on LGVs and OGVs on Great Ormond Street, which is helpful to identify the overall kerbside activity along this section of road. However, it is difficult to identify where vehicles are delivering to, given the number of addresses along Great Ormond Street and the parking pressures, which may lead to vehicles parking a short distance from their destination. Given the dedicated service area on the north side of the Island Site, it is considered that the majority of kerbside deliveries are not related to GOSH. The average duration of stay across the survey period was around 30 minutes in 2019 and reduced to around 20 minutes in 2022, though this data includes any goods vehicle. Around 30-35 servicing movements were recorded pre and post pandemic, demonstrating consistency in the level of local servicing, with around 10% exceeding a waiting time of an hour.

The kerbside surveys included Guilford Street and therefore identifies where servicing may already be taking place and highlight any conflicts when considering amendments to parking restrictions. The AM period was the busiest with 26 servicing movements recorded in 2019 and 40 in 2022, although many of these had a very short duration and were noted as waiting, rather than loading. Around 10% of the AM servicing movements were recorded as exceeding an hour, but were vans parked in the pay-by-phone bays outside Coram's Fields. The PM period recorded just nine servicing movements with only one exceeding an hour's stay. In 2022 this reduced to just three servicing movements. The average duration of stay, excluding those that exceeded an hour, was no more than eight minutes in both survey years.

Pedestrians

Pedestrian movements crossing the road were recorded along Great Ormond Street, divided into sections that represent key locations, such as a formal crossing, or align with building frontages for ease of reference. The data across the survey is broadly similar between AM and PM in terms of overall numbers (around 3,200 per period) and split between zones. The key difference relates to the proportions crossing each end of Great Ormond Street with the western end experiencing around 37% of the total movements and the eastern end at around 25% in the AM with a reversal in the PM to 29% and 37% respectively. Notably, these two locations encompass almost two thirds of the total pedestrian crossing movements. The remaining movements are biased more towards the western end where there are more entrances to destinations. Table 4 provides a summary of the pedestrian crossing movements per zone.

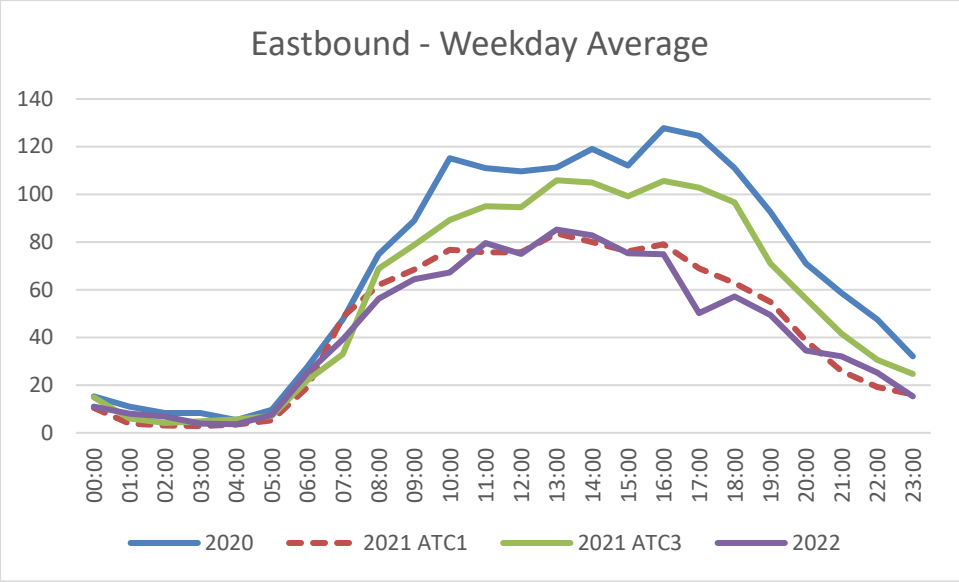
Table 4: Summary of pedestrian crossing movements (two-way)

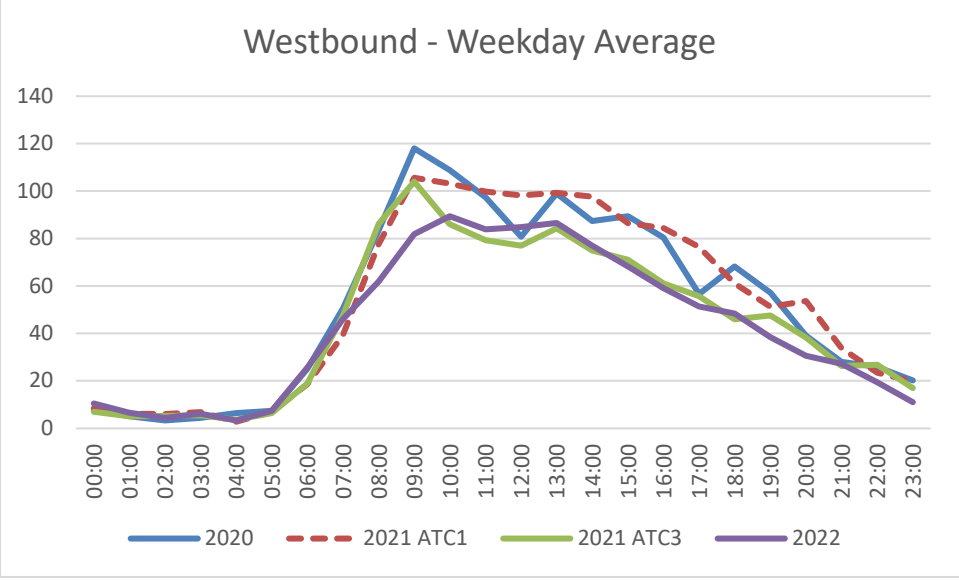
Time period	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Total
	Zebra crossing	Royal London		Main Entrance	Frontage Building		Octav Bonar		
07:00-10:00	1,197	266	346	211	122	190	84	806	3,222
	37%	8%	11%	7%	4%	6%	3%	25%	-
16:00-19:00	925	218	243	237	127	136	124	1,190	3,200
	29%	7%	8%	7%	4%	4%	4%	37%	-
Overall	2,122	484	589	448	249	326	208	1,996	6,422
	33%	8%	9%	7%	4%	5%	3%	31%	-

The largest pedestrian crossing movements occur at either end of Great Ormond Street and a large proportion of these are likely to relate to through movements along Queen Square and Lambs Conduit Street. However, they do provide convenient crossing points with good visibility for anyone crossing the road and therefore offer a natural focus for pedestrians. Between each end of Great Ormond Street, similar to servicing, it can be difficult to attribute specific movements to GOSH, though it is likely to be the greatest contributor. Therefore, the majority of pedestrian movements should be considered as being desire lines to/from the main entrance.

Traffic flows

Data on traffic movements along Great Ormond Street have been collected over a number of years, both pre and post-pandemic. An automatic traffic counter (ATC) was installed along the frontage of the site in February 2020, while three locations along Great Ormond Street were selected in November 2021. A repeat survey towards the eastern end was conducted in September 2022. The data collected indicates that the weekday average traffic flow has reduced year on year in the eastbound direction since 2020 but has remained broadly the same for westbound traffic movements. The graphs below highlight that there are some differences between the two 2021 locations, representing each end of Great Ormond Street, with the westbound flow at the western end and the eastbound flow at the eastern end being higher than the upstream movement. The likely cause of this will be the additional movements entering Great Ormond Street from Orde Hall Street, which will have an effect on the westbound movements from this point, and U-turning vehicles arriving in a westbound direction and leaving in an eastbound direction.





The 2019 surveys included junction turning counts at a number of locations within the vicinity of GOSH, including each junction along the route between Guilford Street and Boswell Street. The turning movements at Guilford Street / Guilford Place indicate that traffic was unable to travel eastbound along Guilford Street

beyond the Guilford Place junction. Street level photography for this period confirms that the eastbound lane was closed during the construction of the Zayed Building at the time of the traffic surveys, which will have affected the routing of through traffic as well as the approach routes for those travelling to GOSH. Through comparison of the turning movements at the eastern end of Great Ormond Street in 2019 with the ATC data in 2020, 2021 and 2022, it is apparent that the 2019 data illustrates a slightly lower eastbound flow and a reasonably higher westbound flow as a result of this closure. On this basis, the 2019 turning count data cannot be relied upon for assessment of traffic impacts.

The 2019 traffic surveys included an additional survey around Queen Square, using automatic number plate recognition (ANPR) to identify movements that used the square to undertake a U-turn from Great Ormond Street in a westbound direction and return in an eastbound direction. Over the whole survey period, only 26 vehicles completed this manoeuvre, including one ambulance. Around 40% of these movements took longer than 5 minutes, indicating that they parked in Queen Square as part of their journey.

Cycling

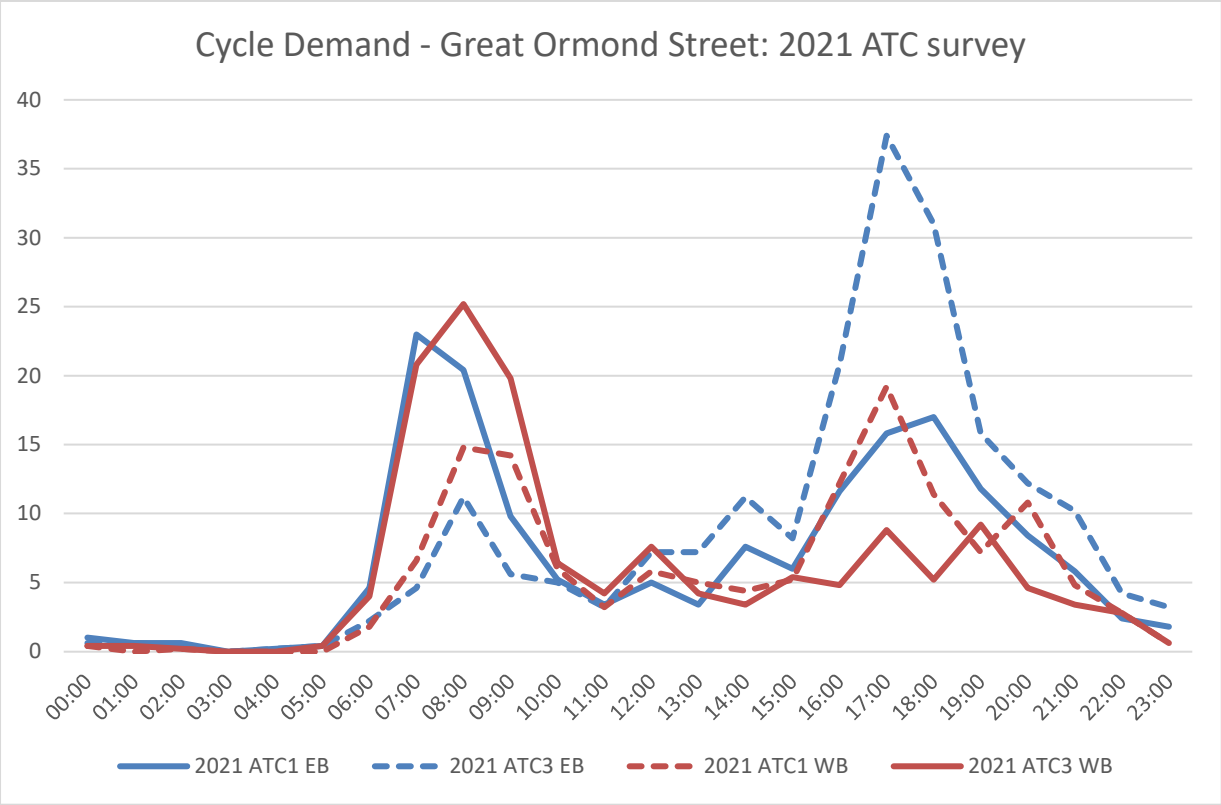
The traffic surveys categorised movements by vehicle type, including cyclists. The 2019 data includes turning movements for cyclists at Queen Square, Powis Place and Orde Hall Street, allowing a comparison of cycle movements along Great Ormond Street and identifying the proportion of cyclists associated with GOSH. The peak period analysis, as summarised in Table 5, compares the net change in cycle movements between Queen Square and Orde Hall Street with those turning in and out of Powis Place.

During the AM survey period, it was determined that 97% of cyclists using Great Ormond Street were travelling to or from GOSH. This reduced to around 70% during the PM survey period. This highlights that Great Ormond Street is not a popular through route for cyclists. 2022 count data for Powis Place indicates that cycle movements are almost identical to those recorded in 2019.

Table 5: Summary of cycle movements

Direction	AM (07:00-10:00)	PM (16:00-19:00)
Net change eastbound	-16	+58
Net change westbound	-61	+14
Total	-77	+72
Net change Powis Place	+75	-50
Proportion	97%	69%

Additional data is available from ATC surveys undertaken in 2021 at three locations along Great Ormond Street. The graph below highlights the changes in cycle movements from the entry point (solid line) to the downstream point (dashed line) for each direction (eastbound = blue, westbound = brown). This data indicates that residual eastbound cycle movements during each peak hour equate to 10 to 15, confirming that the volumes of non-GOSH users is relatively low.



Construction effects

The proposed development will initially require the deconstruction of the Frontage Building, deep excavations adjacent to Great Ormond Street, and then construction of the new CCC building. These activities will require the closure of the footway on the north side of Great Ormond Street between the Paul O'Gorman Building and Lambs Conduit Street, as a minimum, and is expected to also require the closure of half the carriageway along the same section.

The implications of this will necessitate the closure of the main entrance into GOSH and suspension of parking restrictions along some sections of Great Ormond Street. Closure of half the carriageway will also lead to restricting eastbound traffic between Powis Place and Lambs Conduit Street.

Construction vehicles delivering materials will enter a compound, segregated from other users, contained within the north side of Great Ormond Street and will therefore travel from Guilford Street, turn into Guilford Place and travel along Lambs Conduit Street before turning into Great Ormond Street and the compound area. Upon exit, they will continue along Great Ormond Street and turn left onto Queen Square and Boswell Street to reach A40 Theobalds Road. This route therefore needs to be kept clear from other parking, drop off facilities and loading during construction to avoid obstructing the route for heavy goods vehicles (HGVs) and to maintain blue light routes to Powis Place for the National Hospital and GOSH.

These constraints and in response to comments received from the wider public and from LBC, lead to a natural bias towards a temporary entrance on Guilford Street, which would preferably utilise the existing entrance to the Morgan Stanley Clinical Building. The road network north of GOSH offers a smoother flow of traffic than Great Ormond Street as there is a one-way system from Russell Square along Bernard Street, Grenville Street and Guilford Street, returning to Russell Square. This will reduce the risk of congestion by preventing U-turning vehicles and removing two-way traffic along these sections where it would not be possible to pass oncoming traffic. It also relocates the activity associated with the main entrance away from the construction area and GOSH/UCLH blue light routes.

Impact of relocating main entrance

Relocation of the main entrance to Guilford Street will result in a change of travel patterns for staff and patients arriving and departing GOSH. Staff will likely use a number of alternative entrances that are most convenient for their respective department, while patients will be redirected to the temporary entrance on Guilford Street.

The temporary entrance will be used for all patients who currently enter via Great Ormond Street and therefore will include those being transported by ambulance and taxi. Temporary drop-off facilities will be required to accommodate these changes within close proximity to the entrance.

For taxis, there are already designated bays towards the western end, approximately 200 metres west of the entrance, although it is possible to briefly pick up and set down on either side of the road on double yellow lines close to the entrance. Given the short recorded duration of taxi movements, this should be acceptable and unlikely to lead to highway safety concerns.

For ambulances, the typical demand has been shown to be around 10-12 at any given time. It is recommended that existing parking restrictions along the GOSH frontage to Guilford Street are temporarily revised for use by ambulances only, accommodating up to 10 ambulances. Additional management of ambulances is likely to be required, with drivers being advised to park elsewhere if parking for more than an hour, for example.

Virtually all cyclists arriving at the hospital are staff commuting to GOSH, with very few visitors cycling to the site. The long stay cycle parking currently located beneath the Variety Club Building will be relocated to beneath the Morgan Stanley Clinical Building. The entry point will be via the secondary service yard access from Guilford Street and therefore cyclists will take an alternative route that offers a convenient route overall. Locally, this is likely to divert the vast majority of cyclists away from Great Ormond Street. Alternative routes would include through Queen Square and use the connections at its northern end (preferably the western one for cycles only) to reach Guilford Street, or along Lambs Conduit Street to continue to Guilford Place and Guilford Street. Importantly, these routes are available for the reverse movements, without having to use Great Ormond Street. For other non-GOSH cycle movements, it is recommended that cyclists are encouraged to use these same routes to avoid Great Ormond Street. These diversions are unlikely to affect their overall route length given that any east-west route will utilise either Guilford Street or Theobalds Road.

Pedestrian routes to the temporary entrance from the surrounding area will also follow a similar approach to cyclists with wider routes being revised to suit the most convenient network. Any pedestrians arriving from the south, east or west will be able to use the same north-south corridors of Queen Square and Lambs Conduit Street to reach Guilford Street. Those arriving from the north will avoid any part of Great Ormond Street. Guilford Street already benefits from a number of controlled pedestrian crossings, allowing easy access from transport interchanges and parking areas north of GOSH.

A small number of deliveries to GOSH are carried out via the main entrance, such as post and couriers. These will be represented by a low volume of light goods vehicles with a short duration of stay. The relocation of these to Guilford Street will not impact the delivery routes and vehicles are likely to stop in close proximity to the entrance and deliver their goods. There are no loading restrictions in the vicinity of the temporary entrance and it would be inefficient to provide a dedicated loading bay for the low volume of these type of deliveries to GOSH.

Impact of construction compound

The proposed construction compound will result in the closure of the footway and eastbound carriageway along the north side of Great Ormond Street, between Powis Place and Lambs Conduit Street. This will affect all users of the road, although given the dominance of GOSH related movements along Great Ormond Street, the relocation of these to Guilford Street and the temporary entrance will reduce the demand by all transport modes in this area.

Pedestrians will be directed at each end of Great Ormond Street to use the footway along the southern side of the road, using existing crossing points, with appropriate signage. The remaining pedestrians are likely to be those on a longer journey or visiting local businesses. The majority of pedestrians using Great Ormond Street, particularly along the north side or crossing away from the junctions will be associated with GOSH and therefore the demand along the north side of the road will be minimal during construction.

Cyclists will still be allowed to travel westbound along Great Ormond Street, however an eastbound movement will not be practical. The lack of an appropriate width for a contra-flow cycle line and safety concerns around HGVs entering and exiting the site compound are key considerations, leading to promotion of a diversion route for cyclists. As noted previously, the majority of cyclists using Great Ormond Street are associated with GOSH/UCLH and therefore the remaining users are low in volume.

Service vehicles will still be required to access Great Ormond Street to serve other businesses and residents. This will include deliveries typically using light goods vehicles and waste collection, both of which will incur a short duration of stay. This is unlikely to affect the general operation of Great Ormond Street and appropriate loading restrictions will be imposed to prevent obstruction of the westbound lane. Vehicles will be able to wait along Lambs Conduit Street or Queen Square.

Traffic flows along Great Ormond Street will be affected by the closure of the eastbound lane. Only ambulances will be permitted to travel eastbound from Queens Square and only to reach Powis Place. The current eastbound traffic flow equates to a maximum of around 80 vehicles per hour, some of which will include activity associated with GOSH, such as ambulances, taxis and parking. GOSH-related activity will be relocated to Guilford Street during construction to reach the temporary entrance.

It is anticipated that the majority of ambulance and taxi demand from the kerbside surveys will relocate along with a proportion of the disabled permit holders and general users, identified in the parking surveys. There is limited parking available for non-residents along Great Ormond Street itself, representing a relatively small proportion of the overall parking availability in the south area serving GOSH, estimated to be around 20%. As a worst case, it would be reasonable to assume the demands outlined in Table 6 are relocated.

Table 6: Summary of relocated traffic demands (two-way)

Traffic type	Actual demand		Relocated demand	
	AM (07:00-10:00)	PM (16:00-19:00)	AM (07:00-10:00)	PM (16:00-19:00)
Traffic movements – Great Ormond Street				
Ambulances (movement)	11	11	11	11
Taxis (movement)	27	23	27	23
Cars (movements)	48	63	10	13
Parking demands – South area				
Disabled (parking)	Up to 41	Up to 44	Up to 8	Up to 9

The kerbside activity surveys don't identify the direction of movement, however the proportion of eastbound / westbound movements is around 50/50 on average across the day. It would therefore be reasonable to reduce traffic movements in each direction by around 24 during both the AM and PM periods. Spread across the three hours in each period, the traffic flow reduction would equate to around 8 vehicles in each direction per hour.

Based on the above, the residual eastbound traffic movement along Great Ormond Street would be around 70 vehicles per hour, which would be reassigned to the wider road network. Traffic would have originated from Theobalds Road and therefore the most convenient route would be to continue along Theobalds Road and turn left onto Grays Inn Road to reach the junction with Guilford Street. Both of these are principal roads and are designed to carry higher volumes of traffic including through movements. There is already an established aspiration by LBC to remove through traffic from Great Ormond Street and therefore this temporary closure for eastbound traffic offers a benefit to other users in the vicinity.

Recommended mitigation

The assessment has shown that the proposed temporary entrance and construction compound will have an effect on parking demand across a variety of users, pedestrians and cyclists. Each of these will require mitigation to ensure that suitable access is provided for GOSH-related activity as well as ensuring the safety of other road users along Great Ormond Street and surrounding network.

The compound itself will result in the suspension of parking bays along both sides of Great Ormond Street. It is recommended that, where possible, parking bays are retained for use by residents as these are most affected by the proposals without any activity being relocated. Furthermore, parking bays along Boswell Street are to be suspended, the majority of which are for residents permits, in order to maintain an adequate width for HGVs passing.

Parking bays along the south side of Great Ormond Street towards the western end can be retained and consolidated as these do not affect the operation of the construction compound. The bays along the north side must still be removed as this will be necessary to minimise conflicts between HGVs and blue light ambulances. The higher volume of HGVs along Great Ormond Street resulting from the construction activity will increase the risk of conflict between exiting construction vehicles and incoming ambulances. The removal of these bays along the north side will therefore facilitate two-way movement, allowing eastbound movement up to Powis Place for ambulances only. There remains the potential for ambulances to drop off immediately outside the RLHIM as these will be of short duration and low in volume and are therefore unlikely to occur at the same time as blue light ambulances, which are around a maximum of 10 per day.

To mitigate the loss of resident parking within the south zone, it is recommended that some of the retained parking bays within the zone are reallocated for resident permit use. There are opportunities to convert pay-by-phone spaces along Orde Hall Street and Great Ormond Street for this purpose, noting that a reasonable provision of public parking already exists within Queen Square and the parking demand surveys show that spare capacity is available. Table 7 provides a summary of recommended changes, highlighting net changes in provision of each type affected, while Table 8 outlines the predicted utilisation across the south zone.

Table 7: Summary of net changes in parking provision (south zone)

Road	Ambulance	Resident	Disabled	Pay-by-phone	Total
Great Ormond Street	-9	-3	-	-14	-26
Boswell Street	-	-10	-	-5	-15
Orde Hall Street	-	+4	-	-4	0
Total (south)	-9	-9	-	-23	-41

Table 8 – Parking utilisation during construction (south zone)

User type	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Predicted demand										
Ambulances	5	7	5	7	6	6	5	5	5	15
Taxis	0	0	0	0	0	0	0	0	0	2
Residents	64	65	63	65	64	54	56	58	58	65
Disabled	13	17	19	22	33	35	31	30	30	9
Other users	22	28	29	28	23	18	20	16	22	42
Total	103	117	116	122	126	113	112	109	114	133
Predicted utilisation										
Ambulances	33%	47%	33%	47%	40%	40%	33%	33%	33%	15
Taxis	0%	0%	0%	0%	0%	0%	0%	0%	0%	2
Residents	98%	100%	97%	100%	98%	83%	86%	89%	89%	65
Disabled	142%	187%	213%	249%	364%	391%	347%	329%	329%	8
Other users	51%	67%	69%	67%	55%	42%	48%	38%	51%	42
Disabled + other	*67%*	*88%*	*94%*	*99%*	*110%*	*104%*	*100%*	*89%*	*100%*	50

The above tables demonstrate that there will be adequate provision for residents and ambulances as priority users, while accommodating the majority of other users. Although the disabled parking provision would appear to be inadequate, it is acknowledged in this report that users occupy a variety of spaces in the surrounding area and the actual demand in the south area will reduce during construction while there is no reduction in the number of disabled bays. Notably, the combined utilisation of disabled and other users only materially (>5%) exceeds 100% during 2 time periods.

The proposed temporary entrance on Guilford Street will require provision of ambulance bays and areas for drop off and pick up. The south side of Guilford Street in the vicinity of GOSH contains a number of resident permit bays along with an intermittent single yellow line along the south side, with double yellow line restrictions along a long section of the north side. To the west of Grenville Street, a single yellow line restriction on the side extends towards Russell Square, which is available for use by parents of children attending GOSH through special dispensation, agreed with LBC.

It is recommended that the resident permit bays along Guilford Street are reallocated as ambulance bays with some minor alterations to adjoining single and double yellow lines to offer 10 ambulance bays. These amendments are not expected to affect existing servicing movements as they are limited in number and are generally occurring on single or double yellow lines. Additional resident permit bays along Grenville Street and Bernard Street are also recommended to be reallocated to pay-by-phone bays or disabled to accommodate some of the relocated demand for other users.

Table 9 provides a summary of recommended changes, highlighting net changes in provision of each type affected, while Table 10 outlines the predicted utilisation across the north zone. This demonstrates that there will be adequate provision for residents and ambulances as priority users, while accommodating disabled and other users within the available spare capacity.

Table 9: Summary of net changes in parking provision (north zone)

Road	Ambulance	Resident	Disabled	Pay-by-phone	Total
Guilford Street	+10	-9	-	-	+1
Grenville Street	-	-5	+3	+2	0
Bernard Street	-	-3	-	+3	0
Total (south)	+10	-17	+3	+5	+1

Table 10 – Parking utilisation during construction (north zone)

User type	07:00	07:30	08:00	08:30	09:00	16:30	17:00	17:30	18:00	Capacity
Predicted demand										
Ambulances	2	2	2	2	3	5	3	4	3	10
Taxis	0	0	0	0	0	0	0	0	0	3
Residents	26	28	29	28	29	23	23	24	23	31
Disabled	7	8	8	10	14	15	13	13	13	12
Other users	38	43	39	55	53	52	50	47	44	57
Total	73	81	78	96	99	95	89	87	83	113
Predicted utilisation										
Ambulances	20%	20%	20%	20%	30%	50%	30%	40%	30%	10
Taxis	0%	0%	0%	0%	0%	0%	0%	0%	0%	3
Residents	84%	90%	94%	90%	94%	74%	74%	77%	74%	31
Disabled	58%	66%	70%	85%	113%	126%	110%	107%	107%	12
Other users	67%	76%	68%	97%	94%	91%	87%	82%	77%	57
Disabled + other	65%	74%	68%	95%	97%	97%	91%	86%	82%	69

For general drop off and pick up, a large proportion of these are undertaken by taxi. The nearest taxi rank on Guilford Street is around 200 metres to the west of the temporary entrance. This is a similar distance to the existing taxi rank serving the various clinical sites around Great Ormond Street and Queen Square. It is not recommended to relocate this at the expense of other priority users, particularly as the opportunity to set down passengers remains along the north side of Guilford Street where double yellow lines are present, but no loading restrictions.

As part of the construction arrangements to accommodate large delivery vehicles, it is proposed there is an opportunity to amend the zebra crossing along Guilford Street, immediately east of Guilford Place. The swept path of an incoming vehicle will affect the waiting area for pedestrians and require the removal of the central island. Therefore, it is recommended that this crossing is relocated either a short distance to the east or to the west side of Guilford Place. This will be the subject on ongoing review and discussion with LBC and the wider community and a decision on this will be made as part of the final DCMP that will be prepared and submitted by SISK after a decision is made on the planning application. The zebra crossing retention within a short distance is important, serving the desire line that passes through Coram's Fields and along Lambs Conduit Street.

Key pedestrian crossing points will remain at both ends of Great Ormond Street with high volumes of pedestrians travelling in a north-south direction. It is recommended that these crossing points are protected with additional signage and road markings to raise awareness for construction traffic.

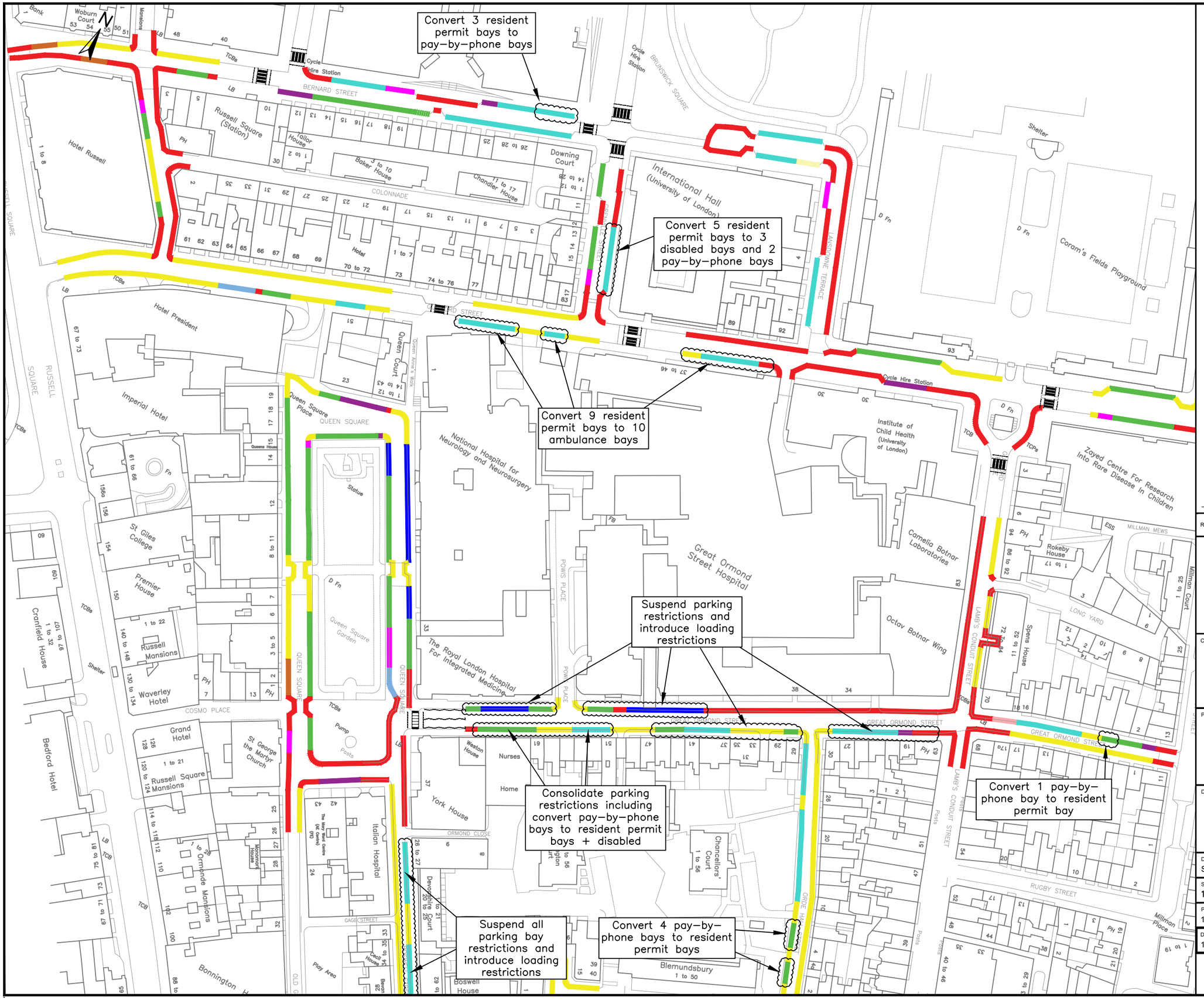
Summary and conclusions

In summary, the proposed mitigation is set out as follows:

- Suspend parking bays along both sides of Great Ormond Street and Boswell Street;
- Consolidate parking provision at western end of Great Ormond Street for residents permits and a disabled bay (south side only);
- Relocate ambulance bays from Great Ormond Street to Guilford Street, displacing existing resident permit bays;
- Reallocate 5 no. existing resident permit bays on Grenville Street to disabled bays;
- Reallocate 3 no. existing resident permit bays on Bernard Street to pay-by-phone bays;
- Reallocate existing pay-by-phone bays on Orde Hall Street and eastern section of Great Ormond Street to resident permit bays;
- Relocate zebra crossing at Guilford Place from east side to west side;
- Raise awareness of crossing point at junction between Great Ormond Street and Lambs Conduit Street;
- Close Great Ormond Street for eastbound traffic except for ambulances only between Queen Square and Powis Place; and
- Divert eastbound cyclists away from Great Ormond Street, the details of which are to be agreed.

The above mitigation represents an evidence-based analysis of the parking demands and kerbside activity associated with GOSH. These measures are considered to be relevant and suitable to accommodate the future predicted parking demand during construction of Phase 4. These measures will result in reduced activity along Great Ormond Street, including traffic flows in both directions, and therefore reduce risks to other users.

APPENDIX 4
IMPACTS DURING CONSTRUCTION


Convert 3 resident permit bays to pay–by–phone bays
Convert 5 resident permit bays to 3 disabled bays and 2 pay–by–phone bays
Convert 9 resident permit bays to 10 ambulance bays
Suspend parking restrictions and introduce loading restrictions
Consolidate parking restrictions including convert pay–by–phone bays to resident permit bays + disabled
Convert 1 pay–by–phone bay to resident permit bay
Suspend all parking bay restrictions and introduce loading restrictions
Convert 4 pay–by–phone bays to resident permit bays
Legend
Ambulance Only
Parking Mon-Fri 8:30am-6:30pm Sat 8:30am-1:30pm
Resident Parking Mon-Fri 8:30am-6:30pm Sat 8:30am-1:30pm
Single Yellow
Double Yellow
Motorcycle Parking
Taxi Stands
Disabled Bay
Doctors Bay
Loading Bay
Car Club Bay
Electric Car Bay
Proposed Amendments
Rev. Date Amendment Drawn Chkd. Appd.
RSK
Fourways House 57 Hilton Street Manchester M1 2EJ
Tel: +44 (0) 161 236 2757
Email: communications@rsk.co.uk
Web: www.rsk.co.uk
Client
Great Ormond Street Hospital NHS Foundation Trust
Project Title
Children's Cancer Centre (Phase 4)
Drawing Title
Temporary Parking Restrictions During Construction
Drawn SF Date 12/02/20
Checked IW Date 12/02/20
Approved Date
Scale 1:1500
Orig Size A3
Dimensions METRES
Project No. 111057
Drawing File
Drawing No. 111057-10-03
Rev.
Scale 0 15 30 60 90

Existing parking restrictions suspended outside Royal London Hospital

Existing parking restrictions suspended along both sides east of Powis Place

Existing resident permit parking to be relocated (3 spaces)

Relocated resident permit parking in place of single yellow restriction

Left turn only for ambulances (signs to be erected)

Existing pay–by–phone parking converted to resident permit parking (4 spaces) plus disabled (1 space)

QUEEN SQUARE

POWIS PLACE

GREAT ORMOND ST

Weston House

Nurses Home

York House

BARBON CLOSE

Pump

Posts

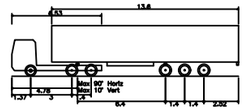
LB

Bs

61 51 47 41 37 2 1

Legend

- Proposed hoarding
- Disabled Bay
- Resident Parking
  Mon-Fri 8:30am-6:30pm
  Sat 8:30am-1:30pm



Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.661m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

Ambulance

Overall Length	5.461m
Overall Width	2.020m
Overall Body Height	2.498m
Min Body Ground Clearance	0.225m
Track Width	1.880m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.500m

Rev.	Date	Amendment	Drawn	Chkd.	Appd.
—	—	—	—	—	—

RSK

Fourways House
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Manchester
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Web: www.rsk.co.uk

Client

Great Ormond Street Hospital NHS Foundation Trust

Project Title

Children's Cancer Centre (Phase 4)

Drawing Title

Temporary Amendments: Great Ormond Street

Drawn	Date	Checked	Date	Approved	Date
SF	12/02/20	IW	12/02/20	—	—

Scale	Orig Size	Dimensions
1:500	A3	METRES

Project No.	Drawing File
111057	

Drawing No.	Rev.
111057-10-04	—

Scale 0 5 10 20 30


Legend
Temporary Entrance
Pedestrian routes
BERNARD STREET
Russell Square (Station)
Tailor House
Baker House
Chandler House
Downing Court
COLONNADE
GRENVILLE STREET
International Hall (University of London)
LANSDOWNE TERRACE
Shelter
Coram's Fields Play
Hotel President
Queen Court
Queen Square Place
QUEEN SQUARE
Queens House
Statue
National Hospital for Neurology and Neurosurgery
Cycle Hire Station
Institute of Child Health (University of London)
Zayed Centre for Rare Disease
Rokeby House
Spens House
LONG YARD
LAMB'S CONDUIT STREET
Camelia Botnar Laboratories
Great Ormond Street Hospital
Octav Botnar Wing
POWIS PLACE
The Royal London Hospital For Integrated Medicine
Queen Square Garden
Pump
Posts
QUEEN SQUARE
GREAT ORMOND STREET
Grand Hotel
St George the Martyr Church
Russell Square Mansions
Premier House
Russell Mansions
Waverley Hotel
Italian Hospital
Weston House
Nurses Home
York House
ORMOND CLOSE
BARBON CLOSE
Babington Court
Chancellors' Court
RUGBY STREET
Rev. | Date | Amendment | Drawn | Chkd. | Appd.
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Client
Great Ormond Street Hospital NHS Foundation Trust
Project Title
Children's Cancer Centre (Phase 4)
Drawing Title
Temporary Pedestrian Routing During Construction
Drawn SF Date 12/02/20
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Scale 1:1250
Orig Size A3
Dimensions METRES
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Scale 0 12.5 25 50 75