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The Hillingdon Hospitals NHS Foundation Trust

The Hillingdon Hospital Redevelopment

Outline Delivery and Servicing Plan

May 2022

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The Hillingdon Hospitals
NHS Foundation Trust

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1 Introduction

1.1 Background

1.1.1 This Outline Delivery and Servicing Plan has been prepared by Mott MacDonald to accompany a hybrid planning application being submitted by the applicant, Hillingdon Hospitals NHS Foundation Trust (the Trust) to the London Borough of Hillingdon.

1.1.2 The site is in West London and is located south of Uxbridge and north of West Drayton. The Local Planning Authority is the London Borough of Hillingdon (LBH).

1.1.3 The proposed development will be submitted as a hybrid planning application comprising:

- FULL application seeking planning permission for demolition of existing buildings and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park / expansion space, and other works incidental to the proposed development.
- OUTLINE planning application (all matters reserved, except for access) for the demolition of buildings and structures on the remaining site (excluding the Grade II Furze and Tudor Centre) for a mixed-use development comprising residential (Class C3) and supporting Commercial, Business and Service uses (Class E), new pedestrian and vehicular access; public realm, amenity space, car and cycling parking.

1.1.4 This report provides the Outline Delivery and Servicing Plan (DSP) for the proposed development. The report is intended to provide a framework approach to management of deliveries and servicing at the site that the Trust can adopt and refine prior to occupation of the new hospital.

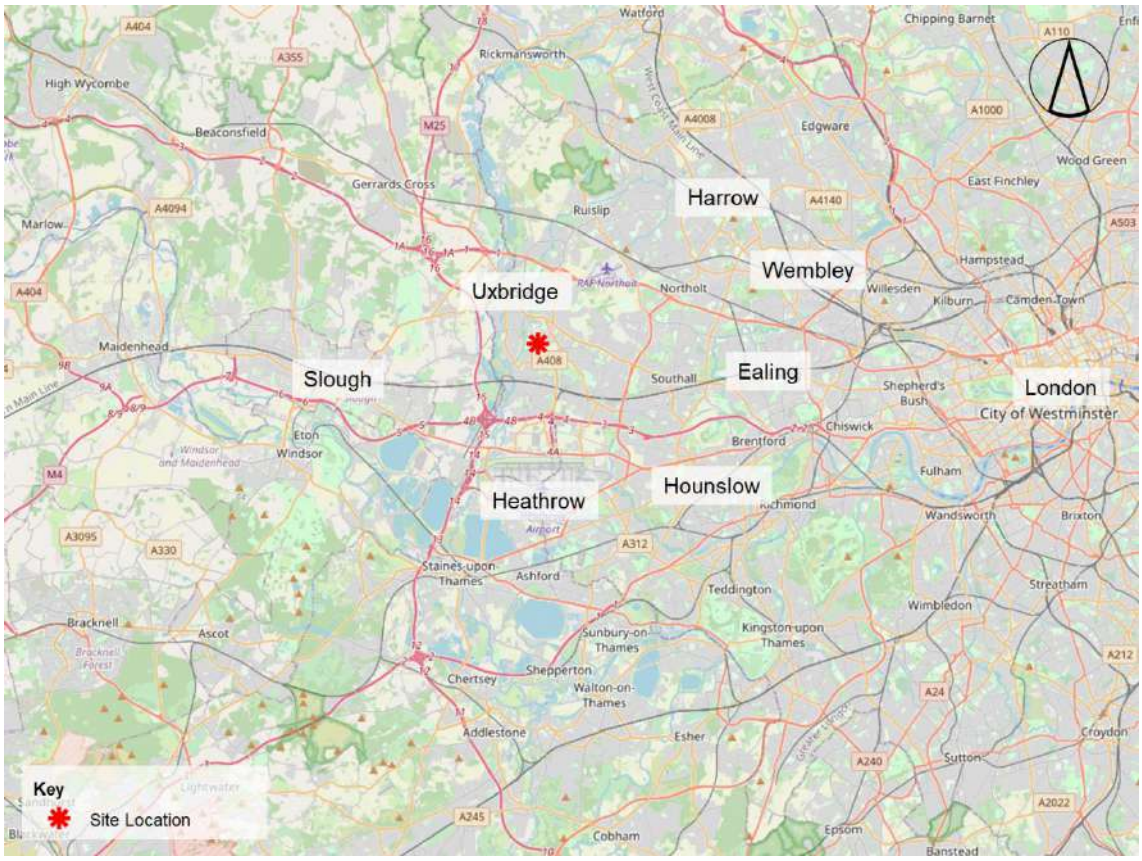
1.1.5 This report accompanies a suite of supporting transport related documents which have also been prepared in support of this application, including:

- Transport Assessment;
- Hospital Travel Plan Framework;
- Residential Travel Plan Framework;
- Delivery and Servicing Plan (this report);
- Car Park Management Plan;
- Outline Construction Logistics Plan; and
- Mobility Hub Vision Paper.

1.2 Site Location

1.2.1 Hillingdon Hospital is located in West London, approximately 2km north of West Drayton and 2.5km south of Uxbridge. The site location at a regional level is shown in Figure 1.1.

Figure 1.1: Site Location – Regional Context



Source: Open Street Map

1.2.2 The northern site boundary fronts Pield Heath Road, which is a local distributor road connecting to the A437 in the east and to the A408 in the west. Colham Green Road runs along the eastern site frontage, providing a connection from the hospital site and from Pield Heath Road to Stockley Road and onwards to the M4 motorway which runs east to west approximately 4km south of the site. The M4 provides connections to central and southern areas of London to the east and to the M25 orbital motorway and the south-west region to the west.

1.2.3 The site location in a local context is shown in Figure 1.2.

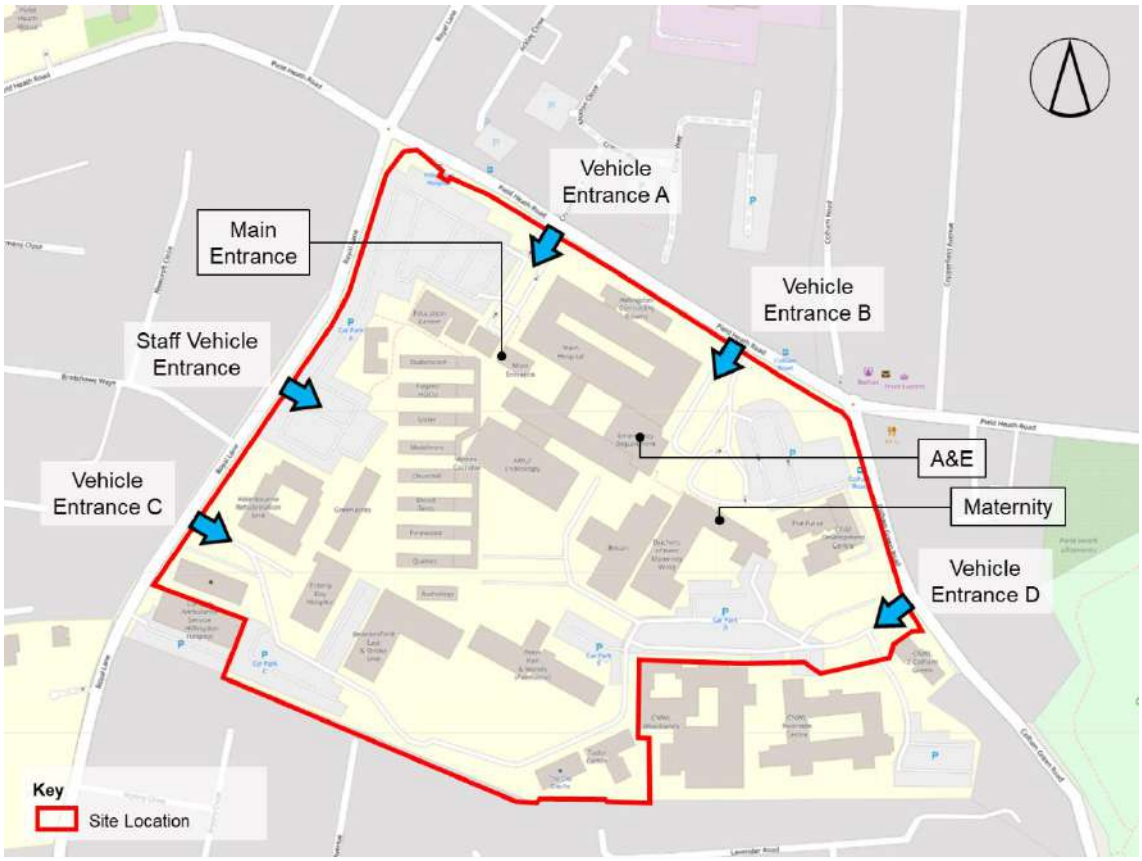
Figure 1.2: Site Location – Local Context

Source: Open Street Map

1.2.4 The existing site is accessed from five locations, shown in Figure 1.3. The five locations are:

- Vehicle Entrance A – from Pield Heath Road (Main Entrance);
- Vehicle Entrance B – from Pield Heath Road (A&E and maternity entrance);
- Vehicle Entrance C - from Royal Lane (this links to vehicle entrance D providing an uncontrolled through route across the site);
- Vehicle Entrance D – from Colham Green Road (this links to vehicle entrance C providing an uncontrolled through route across the site); and
- Staff Vehicle Entrance – from Royal Lane (staff car park entrance).

Figure 1.3: Existing site access locations



Source: Open Street Map

1.3 Development Proposals

1.3.1.1 The proposed development will be submitted as a hybrid planning application comprising:

- Full application seeking planning permission for demolition of existing buildings and redevelopment of the site to provide the new Hillingdon Hospital, multi-storey car park and mobility hub, vehicle access, highways works, associated plant, generators, substation, new internal roads, landscaping and public open space, utilities, servicing area, surface car park/ expansion space, and other works incidental to the proposed development.
- Outline planning application (all matters reserved, except for access) for the demolition of buildings mixed-use development comprising residential (Class C3) and supporting Commercial, Business and Service uses (Class E), new pedestrian and vehicular access; public realm, amenity space, car and cycling parking.

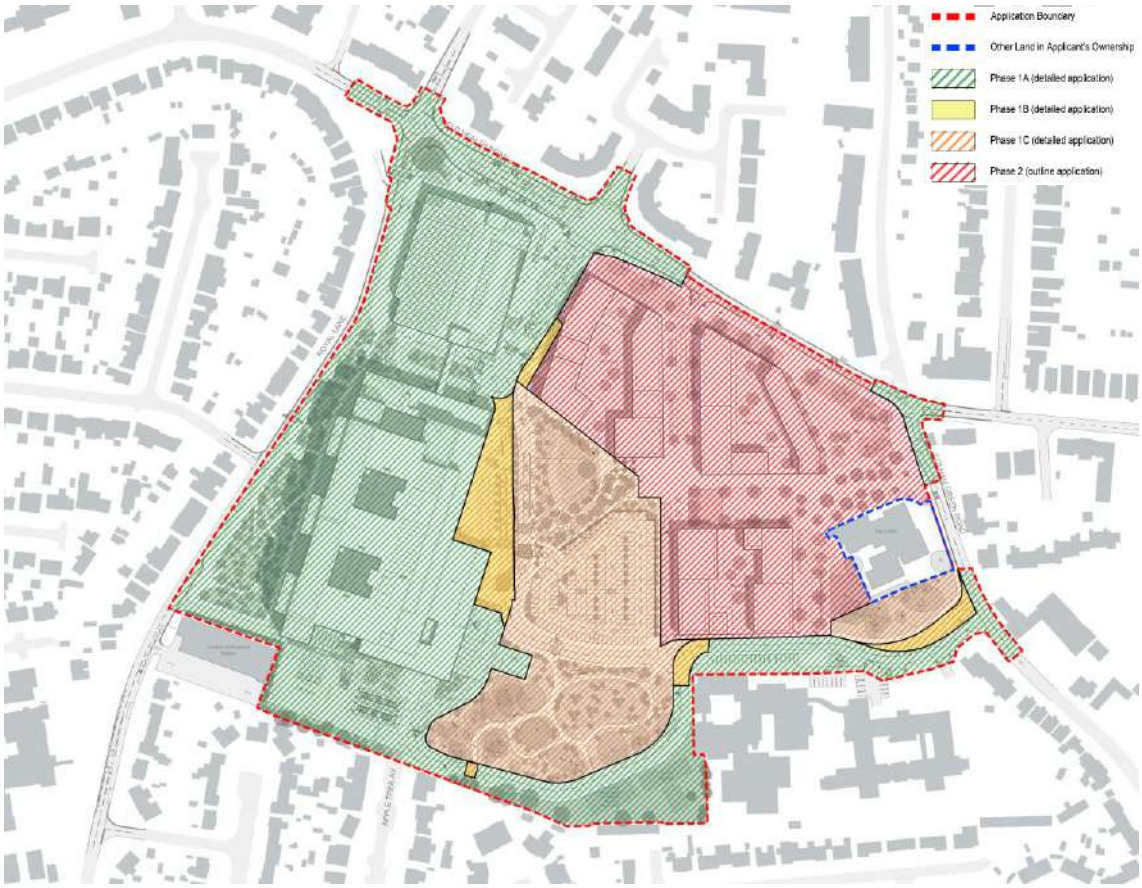
1.3.1.2 The outline planning application comprises up to 327 residential units and (Use Class C3) and up to 800 sqm of town centre uses (Use Class E) in a series of buildings ranging in height from 3 up to 8 storeys with associated access and car parking for up to 302 vehicles and up to 515 cycle parking spaces, refuse storage, landscape and amenity areas and associated servicing.

1.3.2 The areas of the site are designated into different phases set out below and shown in **Error! R eference source not found.**.

- Phase 1a – New hospital, MSCP, and access.
- Phase 1b – All interim elements that need to be put into place so that the new hospital can be operational whilst the remaining hospital site to the east can be demolished.

- Phase 1c – All elements of the new hospital site that can only be built once the old hospital site to the east has been demolished, including the surface car park, new bus stops, and junction access upgrades.
- Phase 2 – Outline application area for the residential development.

Figure 1.4: Site Areas and Key Phases



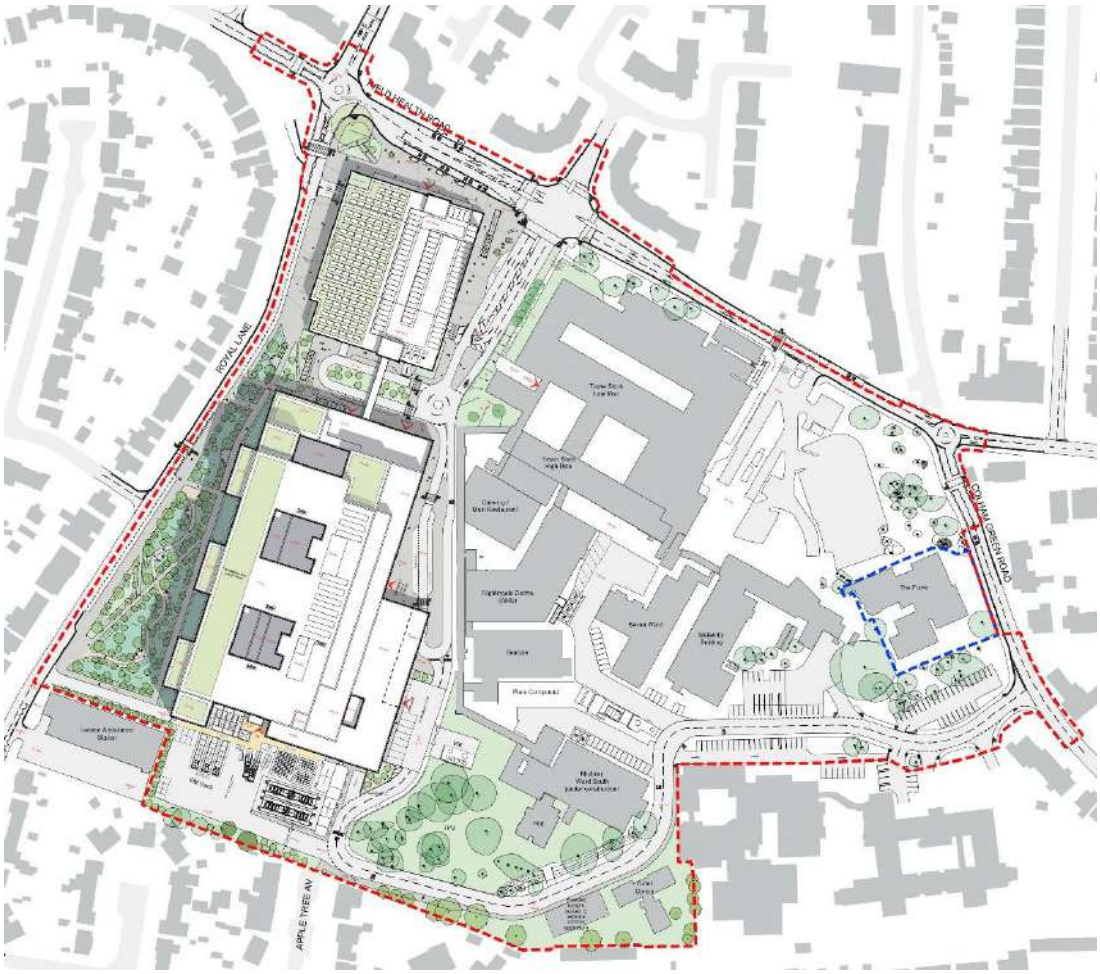
Source: IBI Group

1.3.3 This DSP assesses the development upon completion of two key phases of the development.

1. Phase 1b is assessed, as this will be the operational layout for the new hospital for a significant period of time whilst the decommissioning and demolition of the existing hospital site takes place.
2. Phase 2 is assessed, as this represents the permanent site layout once the existing hospital site and new hospital site have been developed.

1.3.4 The proposed site masterplan for Phase 1b is shown in Figure 1.5.

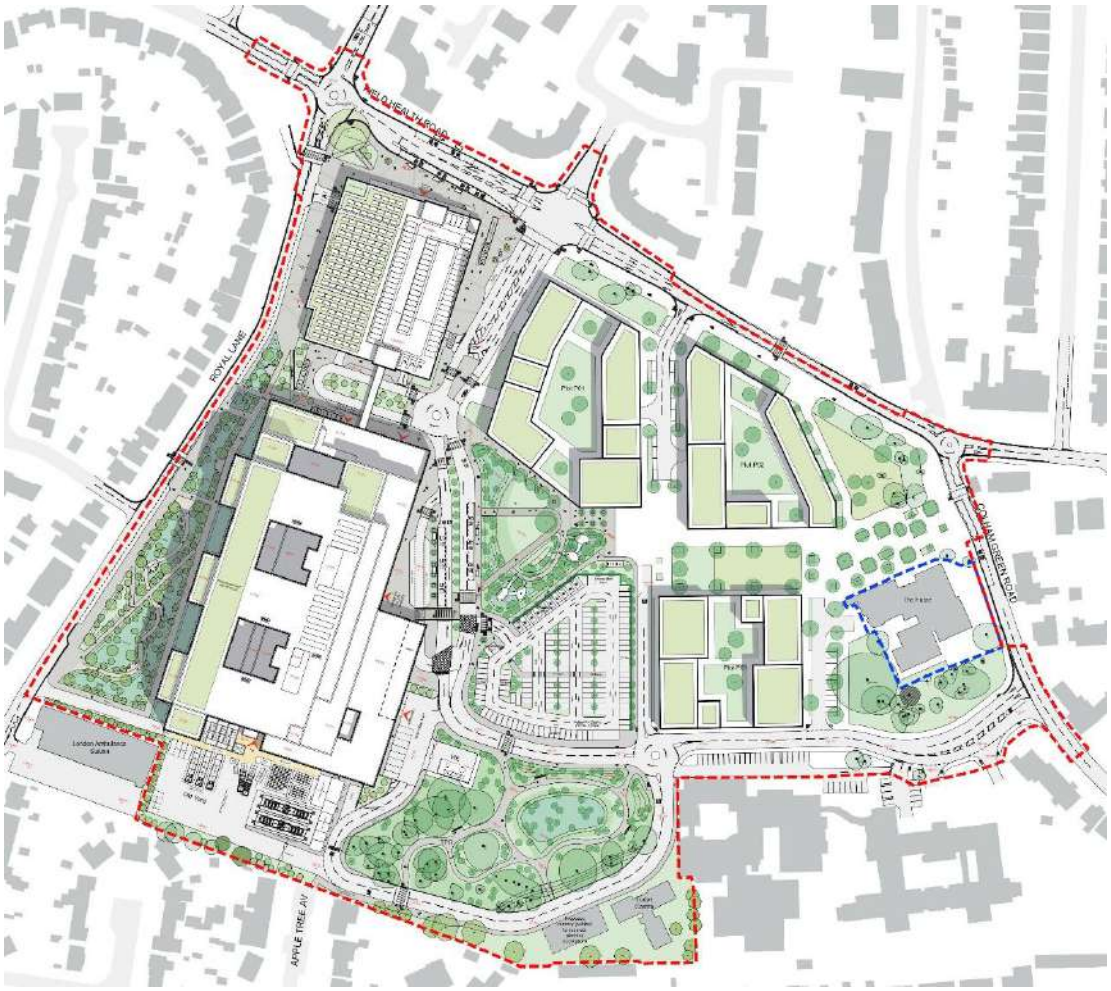
Figure 1.5: Proposed Phase 1b Site Layout



Source: IBI Group

1.3.5 The proposed site masterplan for Phase 2 is shown in Figure 1.6. During Phase 2, buses will be diverted from Pield Heath Road and Colham Green Road into the site, where they will stop at new bus stops located between the main hospital entrance and the A&E entrance.

Figure 1.6: Proposed Phase 2 Site Layout



Source: IBI Group

1.3.6 This report has been prepared in relation to delivery and servicing activity on the whole site upon completion of Phase 2, though it should be noted that the majority of delivery and servicing activity will be associated with the new hospital. However, where relevant and where differences exist, it also contains information regarding Phase 1b.

1.4 Report Purpose

1.4.1 This DSP is developed to inform the Local Planning Authority of the applicant's intent to manage delivery and servicing trips to and from the proposed development, in order to minimise and manage the impact of such trips on the surrounding local highway network.

1.4.2 The Mayor's Transport Strategy defines a DSP as:

> "A travel plan that aims to improve the sustainability of freight and servicing. Produced jointly by suppliers, clients and the freight industry, the DSP seeks to reduce the number of deliveries required, while ensuring remaining deliveries are made as safely as possible and in an environmentally friendly way."

1.4.3 This report:

- Sets out the forecast level of delivery and servicing trips to the new hospital and to the residential development;

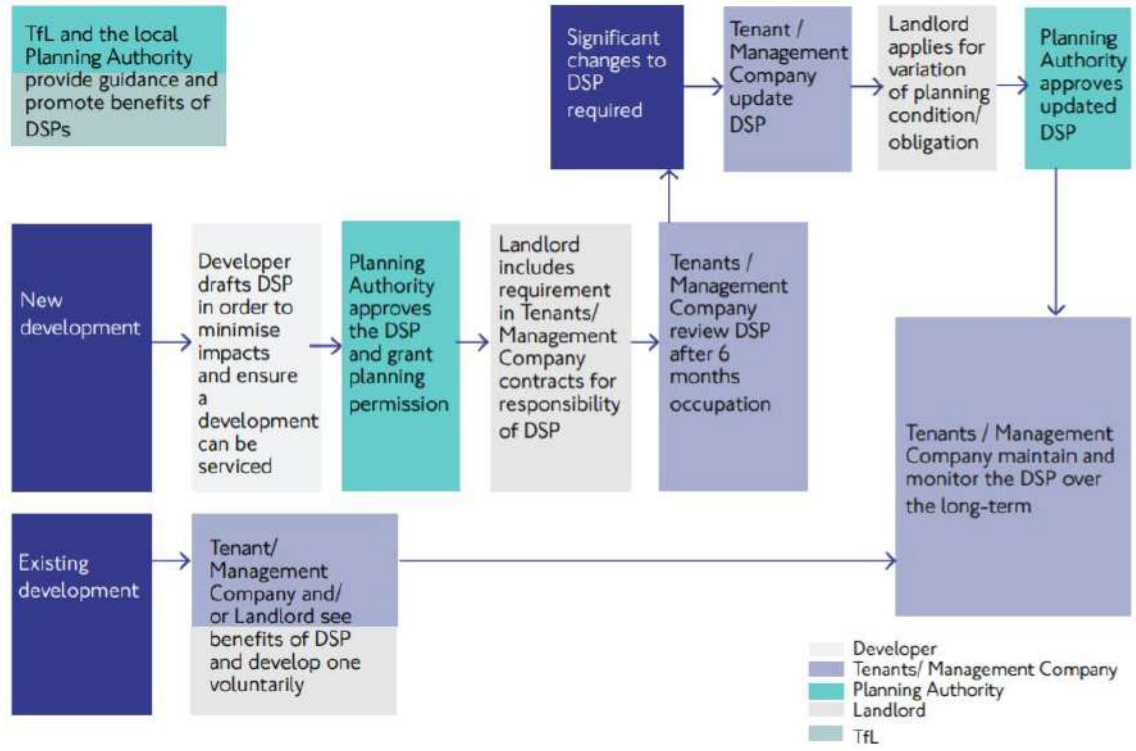
- Demonstrates the proposed access arrangements for these trips;
- Sets out the waste storage and collection arrangements; and
- Provides a framework of measures that can be implemented to minimise the impact of servicing and refuse collection trips on the surrounding highway network and promote a shift towards more sustainable and environmentally conscious ways of servicing the hospital.

1.4.4 It is important that the DSP is communicated to all relevant staff (those involved in procurement, planning logistics, and those staff responsible for operation of the service yard). This will give all employees a sense of ownership and responsibility over the DSP and management of freight and servicing activity.

1.4.5 It is important to note that the preparation of the DSP is not just a one-off action at planning application stage, or upon initial occupation. The DSP needs to be continually communicated to staff for successful implementation, continually monitored to see how it is performing and continually reviewed and updated with amendments based on progress and feedback from staff and operators. The communication and implementation of the actions in the DSP therefore needs to be an ongoing conversation and challenge process.

1.4.6 The DSP preparation and implementation stages, along with responsibilities, are shown in Figure 1.7. In this instance, the DSP has been prepared for a new hospital and so will be updated and implemented by the hospital Estates team.

Figure 1.7: Stages and Responsibilities for Implementing a DSP over time



Source: TfL

1.5 Delivery and Servicing Plan Objectives

1.5.1 This DSP provides a framework for delivery and servicing for the proposed redevelopment, and seeks to achieve the following objectives:

- To minimise the impacts of delivery and servicing movements at Hillingdon Hospital

- Set out how goods and services will be delivered, and waste removed, in a safe, efficient and environmentally friendly way;
- To control delivery and servicing movements to minimise risks of conflict with general hospital traffic, patients, visitors and staff;
- Ensure that the volume of trips for delivery and servicing is minimised, so that the impact of freight activity on the local highway network, residents, commercial occupiers and the environment is reduced to the minimum amount;
- Identify deliveries which could be consolidated, or retimed to reduce delivery and servicing trips, particularly in the peak periods;
- Minimise the space required for the storage and distribution of goods; and
- To make Hillingdon Hospital a greener and more pleasant environment for all users.

1.6 Report Structure

1.6.1 Following this introduction, the remainder of this report is structured as follows:

- Chapter 2 – Policy Context and Guidance
- Chapter 3 – Delivery and Servicing Strategy
- Chapter 4 – Delivery and Servicing Plan Objectives
- Chapter 5 – Delivery and Servicing Forecast Demand
- Chapter 6 – Delivery and Servicing Plan Measures
- Chapter 7 – Targets and Monitoring

2 Policy Context and Guidance

2.1 Introduction

2.1.1 Relevant key transport policies and guidance have been reviewed to provide context for the assessment of the proposed redevelopment. This section of the DSP references the policies that have been considered in the preparation of the report.

2.2 The National Planning Policy Framework (2021)

2.2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced.

2.2.2 Chapter 9 of the NPPF on Promoting Sustainable Transport states that applications for development should:

- Create places that are safe, secure, and attractive, minimising the scope for conflicts between pedestrians, cyclists, and vehicles, avoid unnecessary street clutter, and respond to local character and design standards; and
- Allow for the efficient delivery of goods, and access by service and emergency vehicles.

2.3 The London Plan (2021)

2.3.1 The New London Plan provides the strategic plan for Greater London for the next 20-25 years. It sets out an integrated economic, environmental, transport and social framework for the development of London.

2.3.2 Policy SD7 states that development proposals should support efficient delivery and servicing in town centres including the provision of collection points for business deliveries in a way that minimises negative impacts on the environment, public realm, the safety of all road users, and the amenity of neighbouring residents.

2.3.3 Policy T2 states that development proposals should:

- Demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance;
- Reduce the dominance of vehicles on London's streets whether stationary or moving; and
- Be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport.

2.3.4 Policy T7 describes that development proposals should facilitate sustainable freight and servicing, including through the provision of adequate space for servicing and deliveries off-street. Delivery and servicing plans will be required and should be developed in accordance with Transport for London (TfL) guidance and in a way which reflects the scale and complexities of developments.

2.3.5 Policy T7 states that developments should be designed and managed so that deliveries can be received outside of peak hours and in the evening or night-time. Appropriate facilities are required to minimise additional freight trips arising from missed deliveries and thus facilitate efficient online retailing.

2.3.6 Policy T7 requires large developments to enable micro-consolidation, with management arrangements set out in Delivery and Servicing Plans.

2.3.7 Section 10 of the London Plan also states that Construction Logistics and Delivery and Servicing Plans should be developed in line with TfL guidance and adopt the latest standards around safety and environmental performance of vehicles to ensure freight is safe, clean, and efficient. To make the plans effective they should be monitored and managed throughout the construction and operational phases of the development.

2.4 Mayor's Transport Strategy (2018)

2.4.1 The central aim of the Mayor's Transport Strategy is to create a future London that is not only home to more people, but is a better place for all of those people to live in. The strategy sets out a number of policies and proposals in order to achieve this aim.

2.4.2 Policy 5 states that The Mayor, through TfL and the boroughs, and working with stakeholders, will prioritise space efficient modes of transport to tackle congestion and improve the efficiency of streets for the movement of people and goods, with the aim of reducing overall traffic levels by 10-15 per cent by 2041.

2.4.3 Proposal 15 states that The Mayor, through TfL, will work with the boroughs, businesses and the freight and servicing industry to reduce the adverse impacts of freight and service vehicles on the street network. The Mayor aims to reduce the number of lorries and vans entering central London in the morning peak by 10 per cent by 2026.

2.4.4 Proposal 16 states that The Mayor, through TfL, and working with the boroughs and members of the Freight Forum, will improve the efficiency of freight and servicing trips on London's strategic transport network by:

- Identifying opportunities for moving freight on to the rail network where this will not impact on passenger services and where the benefits will be seen within London;
- Increasing the proportion of freight moved on London's waterways; and
- Reviewing the potential benefits of a regional freight consolidation and distribution network and completing the network of construction consolidation centres in London.

2.4.5 Proposal 17 states that The Mayor, through TfL, working with the boroughs and the Freight Forum, will work with landlords and all parts of the supply chain, including the freight industry, Business Improvement Districts (BIDs) and individual businesses, to improve the efficiency of last mile deliveries and servicing. This will be achieved by:

- Supporting BIDs and other clusters of businesses to jointly procure goods and services;
- Establishing a network of micro-distribution services and facilities served by zero emission vehicles and walking and cycling deliveries;
- Re-timing goods and services to the times where they will have least impact on streets;
- Using local access and loading restrictions to support more efficient freight practices;
- Improving the design and management of loading and servicing activities at the kerbside and off-street; and
- Developing an online tool, incorporating a 'London lorry standard', to simplify the regulatory environment for HGVs operating in London.

2.4.6 Proposal 34 states that The Mayor, through TfL and the boroughs, will work with Government and stakeholders across London to ensure that sufficient and appropriate charging and refuelling infrastructure is put in place to support the transition from diesel- and petrol-powered vehicles to Ultra Low Emission Vehicles, including ensuring that London's energy-generating and supply system can accommodate and manage the increased demand associated with this transition.

2.4.7 Proposal 35 states that The Mayor, through TfL and the boroughs, and working with Government, will seek to implement zero emission zones in town centres from 2020 and aim to deliver a zero-emission zone in central London from 2025, as well as broader congestion reduction measures to facilitate the implementation of larger zero emission zones in inner London by 2040 and London-wide by 2050 at the latest.

2.5 TfL Deliveries in London

2.5.1 TfL's Deliveries in London online portal provides advice on making and receiving deliveries, including parking and loading, delivering efficiently, and driving near vulnerable road users.

2.5.2 TfL work with operators, boroughs, and partners across the freight industry to ensure that goods and services get delivered in London on time, and in a safe, clean, and efficient way.

2.5.3 The portal contains useful links for planning for and managing deliveries in London, including:

- Efficient Deliveries:
  - Reducing deliveries and servicing visits;
  - Retiming deliveries; and
  - Deliveries toolkits.
- Delivering Safely:
  - Driving near vulnerable users;
  - Safer lorry scheme; and
  - Work related road risk.
- Direct Vision Standard and HGV Safety Permit.

2.5.4 The guidance seeks to:

- Ensure that London's transport networks allow for the efficient and reliable handling and distribution of freight and the provision of servicing in order to support London's economy;
- Minimise the adverse environmental impact of freight transport and servicing in London; and
- Minimise the impact of congestion on the carriage of goods and provision of servicing.

2.5.5 A summary of the TfL guidance and best practice in relation to deliveries and servicing is provided below.

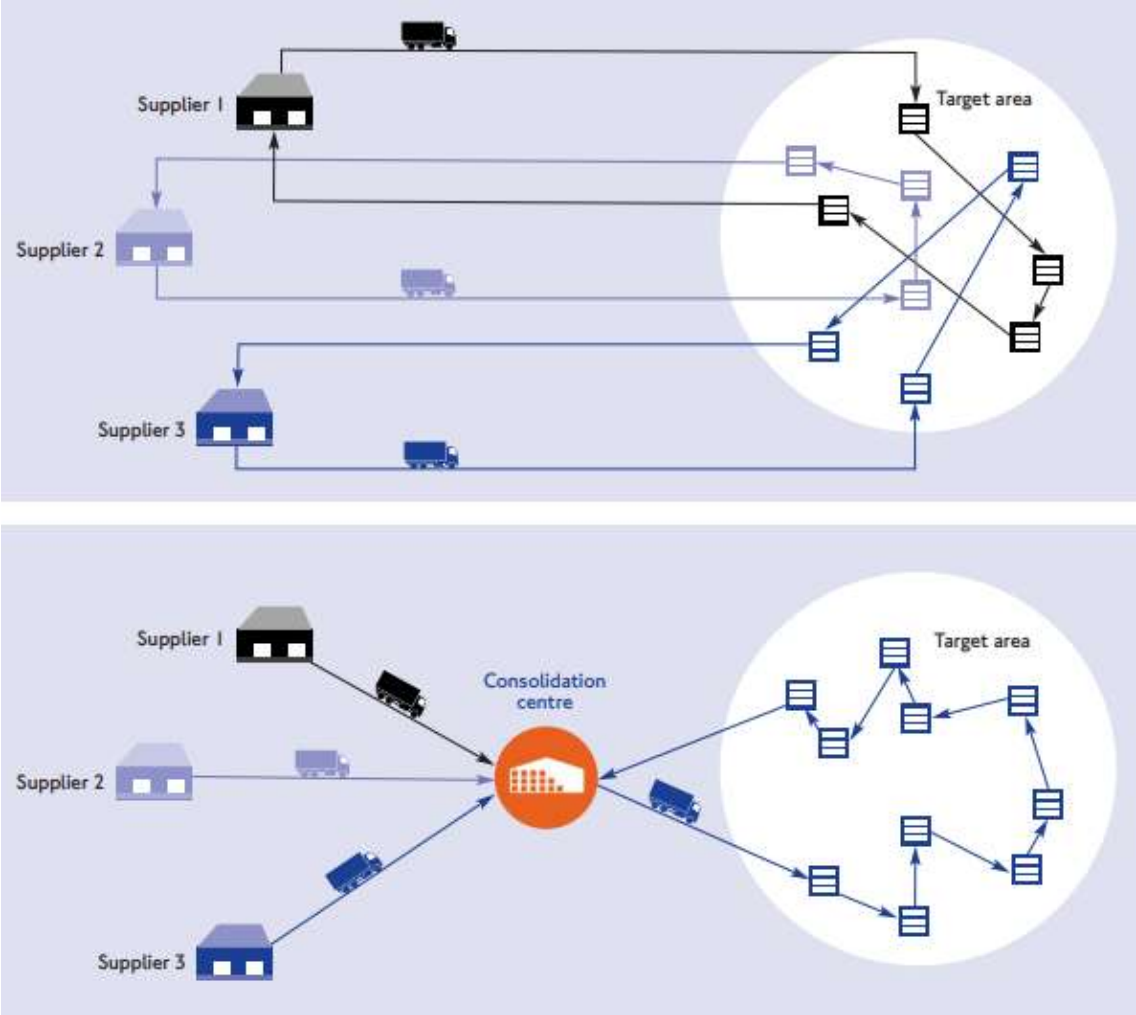
Rethinking Deliveries Report

2.5.6 The Rethinking Deliveries Report seeks to understand different delivery strategies currently employed across the world and subsequently implement effective solutions on a wider scale in both the private and public sectors.

2.5.7 The report explains the concept of consolidating delivery and servicing trips and describes the associated benefits of using this method. The Rethinking Deliveries Report states that the goal of consolidations is to reduce the number of vehicles carrying freight entering a city by making sure their carrying capacity is fully used.

2.5.8 Figure 2.1 from the Rethinking Deliveries report shows how consolidation of delivery and servicing trips can reduce the impact of freight on highway networks in and around cities.

Figure 2.1: Consolidation of Delivery and Servicing Trips



Source: TfL

2.5.9 The Rethinking Deliveries Report states that the use of consolidation centres can reduce the impact of freight on congestion, the environment, and air quality. There are also benefits associated with safety, security, and operational efficiency.

2.6 TfL Freight and Servicing Action Plan

2.6.1 TfL's Freight and Servicing Action Plan (FSAP) provides clarity on future policies and sets out the actions that can be taken now, and in the future, to support safe, clean and efficient freight operations. These actions are fundamental to achieving the Mayor's vision for London.

2.6.2 This FSAP provides a clear roadmap for change. The plan brings together existing programmes, identifies new innovations and opportunities, and provides the clarity needed to inform business decisions and meet our aim for safe, clean and efficient freight and servicing in London.

2.6.3 The evidence-based actions in the FSAP have been developed in collaboration with industry, the boroughs, and BIDs in order to support:

- Safe freight;
- Clean freight;
- Efficient freight; and

- Protecting land for freight.

2.6.4 The plan identifies the Freight Operator Recognition Scheme (FORS), DSPs, Construction Logistics Plans (CLPs) and the Freight Information Panel (FIP) as key projects for delivering freight more sustainably in London.

3 Delivery and Servicing Strategy

3.1 Introduction

3.1.1 This section sets out the delivery and servicing strategy applicable to the redevelopment proposals. This part of the DSP aims to ensure that servicing of the site can be carried out efficiently, whilst minimising any other effects on the local highway network, residents, and commercial occupiers within the vicinity of the site.

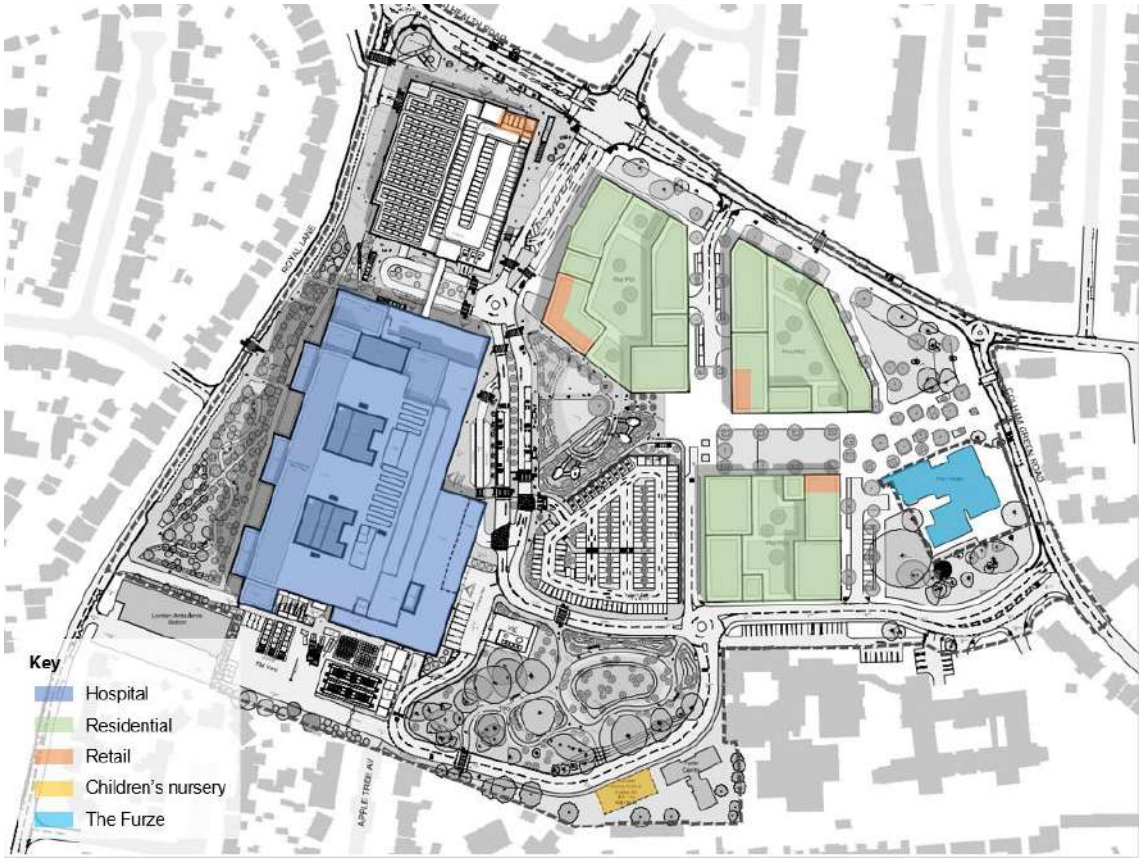
3.2 Delivery and Servicing Proposals

3.2.1 The future servicing at the site will be undertaken in designated locations for each land use. The proposed land uses for Phase 2 are set out below:

- A major acute hospital;
- Up to 327 residential dwellings;
- Ancillary retail units;
- The Furze (building to retained and ancillary to new hospital); and
- Children's nursery school (subject of a separate application and not reflected in this report).

3.2.2 The locations of the above listed uses are shown in Figure 3.1.

Figure 3.1: Location of Phase 2 Uses



Source: IBI Group

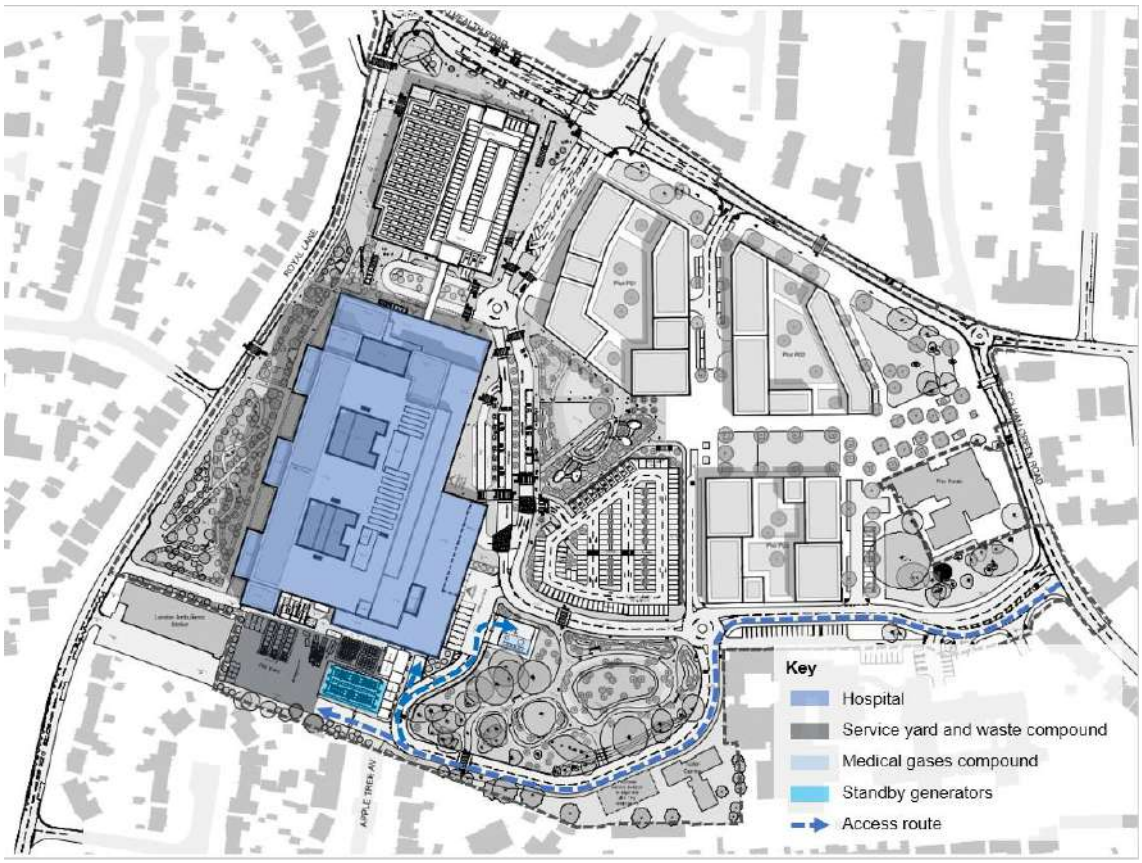
3.3 Hospital Servicing and Refuse Strategy

Servicing Locations and Access

3.3.1 The hospital servicing locations and their proposed access routes are shown in **Error! R eference source not found.** and comprise:

- Service yard and waste compound;
- Medical gases compound; and
- Standby generators.

Figure 3.2: Hospital Servicing Locations



Source: IBI Group

Delivery and Servicing Strategy

3.3.2 The majority of the deliveries currently arrive at the existing hospital Service Yard in the morning period, specifically between 8am and 10am and planned deliveries for the NHS supply chain usually arrive overnight. It is therefore expected that these timings will remain unchanged.

3.3.3 The proposed service yard for the new hospital comprises three HGV loading bays and eight LGV loading bays. Once the deliveries arrive and are unloaded, they will be distributed to the relevant hospital departments by the on-site logistics team internally.

3.3.4 Deliveries will be mainly undertaken by LGV but there will also be larger vehicles arriving on site. The southern service route between the service yard and Colham Green Road will be a minimum 7.3m width and has been designed to accommodate typical design vehicles to ensure safety and offer flexibility.

3.3.5 The design vehicles utilised are:

- 7.0m van/LGV;
- 10m rigid truck/HGV;
- 11.2m refuse vehicle/HGV; and
- 16.5m maximum legal length articulated HGV.

3.3.6 Swept path analysis has been undertaken covering all key areas of the site. The swept path analysis is shown in Appendix A. All suitable design vehicles can service the site with no conflict and in a forward gear without the need to reverse.

3.3.7 Servicing trips to the standby generators will take place within the service yard and suitable road access will be provided for a small mobile crane, used for removal/replacement of equipment. These will be infrequent trips for equipment failure only. Suitable road access will also be provided for an oil tanker, which will be required to fill generator bulk storage tanks approximately once every six months.

3.3.8 Servicing trips to the medical gases have a dedicated servicing area, these trips are infrequent.

Refuse Strategy

3.3.9 Refuse vehicles will collect refuse from the waste compound, which will be situated within the service yard. This will be accessed from Colham Green Road via the southern service route. Refuse vehicles (and compactor vehicles) will drive into the service yard before reversing to the waste compound area and can turn in one movement within the yard.

3.3.10 The hospital currently classifies its waste into the following waste streams. This is anticipated to remain the same into the future:

- Healthcare waste (i.e., clinical, offensive, infectious waste);
- Confidential waste;
- Residual waste;
- Food waste;
- Cardboard;
- Mixed Dry Recycling (MDR);
- Waste electrical and electronic equipment (WEEE);
- Metals; and
- Bulky Waste.

3.3.11 The treatment and disposal of this waste will be in line with the Trust's policy.

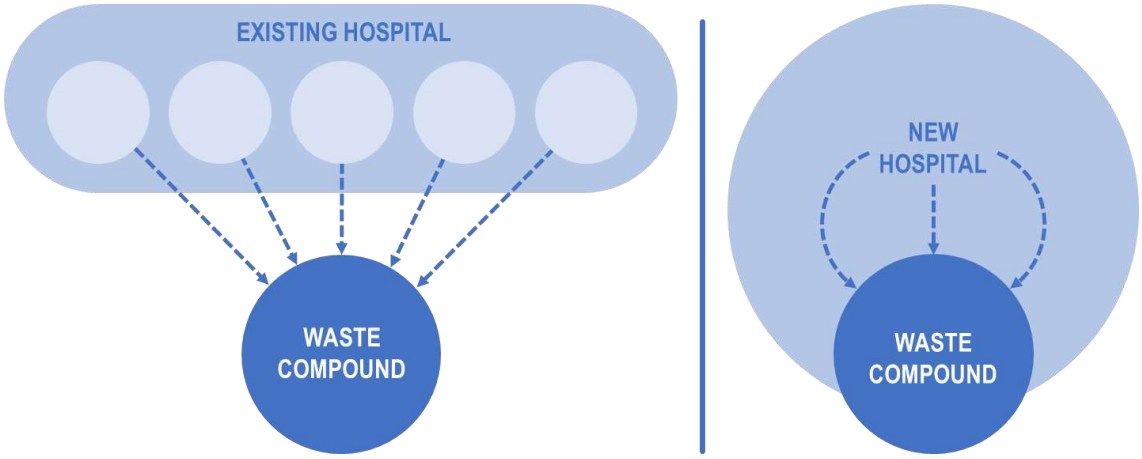
3.3.12 The frequency of collections for each waste stream is shown below:

- Healthcare waste – collected daily;
- Recycling (including confidential waste, cardboard, and MDR) – collected once a week;
- General waste (including residual waste and food waste) – collected twice a week; and
- WEEE, metals and bulky waste – collected infrequently as required.

3.3.13 Taking account of the above frequencies, a maximum of four waste collection trips per day are likely to take place as a robust worst-case. Surveys undertaken at the current site in February 2021 captured seven LGV trips and one HGV trip to the existing waste compound between 06:00 and 20:00 on the survey day. Some of these trips will however have included internal trips delivering waste to the compound from elsewhere on the hospital site. Under the proposed arrangements for the new hospital these internal waste transfer trips (trips from within the

hospital grounds to the waste compound itself) will be significantly reduced as the new site layout allows for the vast majority of waste can be transferred within the new hospital building, reducing vehicle-based trips within the site. This is illustrated in Figure 3.3.

Figure 3.3: Existing and Future On-Site Waste Transfer



Source: Mott MacDonald

3.3.14 Waste management will aim to maximise recycling and recovery. All waste disposal areas, internally and externally, will be access controlled and the service yard will be secure with a gated access point.

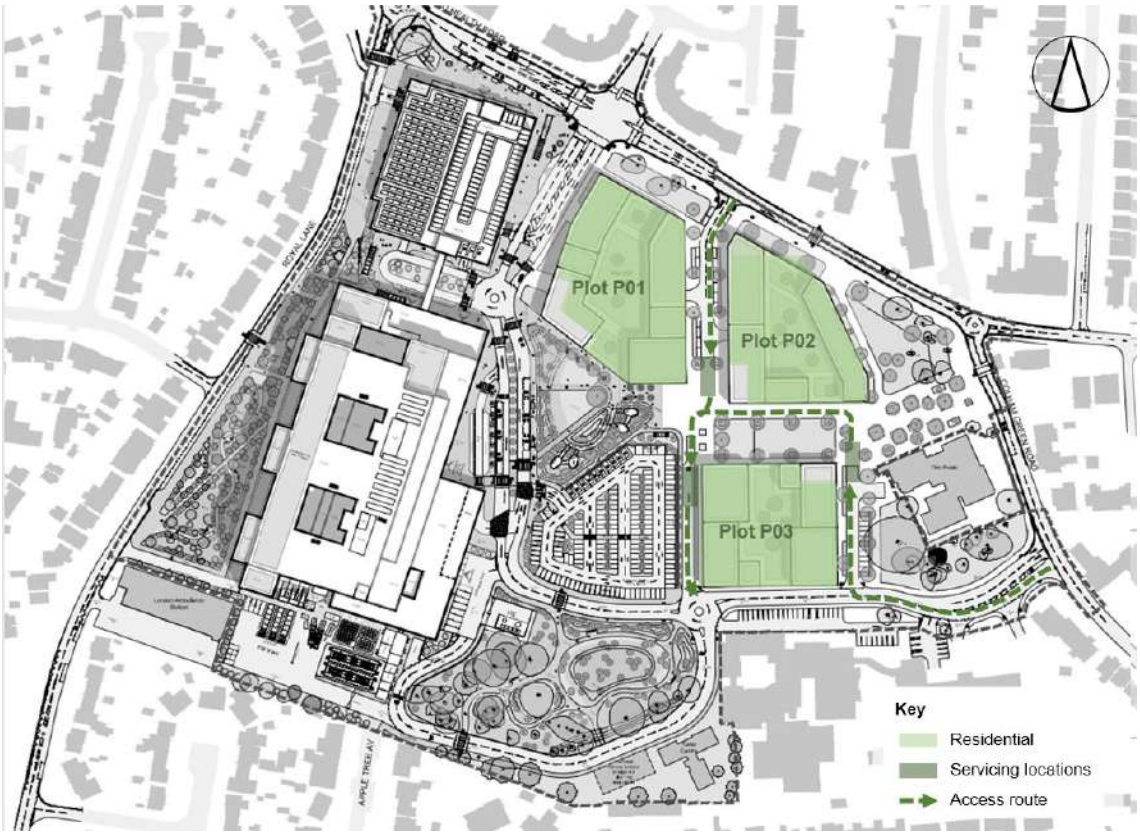
3.4 Residential Servicing and Refuse Strategy

Servicing Locations and Access

3.4.1 The residential servicing locations and their proposed access routes are shown in Figure 3.4, and comprise:

- Plot P01 from northern residential access road via Pield Heath Road;
- Plot P02 from northern residential access road via Pield Heath Road; and
- Plot P03 from southern residential access road via the Colham Green Road access.

Figure 3.4: Residential Servicing Locations



Source: IBI Group

Delivery and Servicing Strategy

3.4.2 Servicing of residential areas and deliveries for residents and occupiers at Plot P01 and Plot P02 will be undertaken on the residential access road from Pield Heath Road. There will be space at the end of the access road for delivery and servicing vehicles to stop and unload without conflict with other site users. These vehicles can then continue ahead to exit via the plaza and west of Plot P03. The Plaza will only be accessible for deliveries, servicing, and emergency vehicles. This approach will allow servicing vehicles to exit the site via the Colham Green Road access without having to turn around, thus reducing the possible conflict that may otherwise arise from reversing.

3.4.3 Servicing of residential areas and deliveries for residents and occupiers at Plot P03 will be undertaken on the access road off Colham Green Road. There will be space at the end of the access road for delivery and servicing vehicles to stop and unload without conflict with other site users. Similarly, delivery and servicing vehicles can continue ahead to exit via the plaza and west of Plot P03 before leaving the site onto Colham Green Road.

3.4.4 The internal road layout will be designed to accommodate a range of service vehicles, including refuse collection vehicles and a fire tender vehicle.

3.4.5 Swept path analysis has been undertaken covering all key areas of the site. The swept path analysis is shown in Appendix A. All suitable design vehicles can service the site with no conflict and in a forward gear without the need to reverse.

Refuse Strategy

3.4.6 Refuse storage will be provided on the ground floor of residential plots, with refuse bin numbers being determined based on the size of each plot and in-line with appropriate standards.

Residents will be responsible for disposing of waste from individual apartments directly to the residential waste stores on the ground floor of each plot. The residential waste will be collected by LBH waste collection operatives who will wheel out the bins to the refuse vehicle waiting in the space at the end of each residential access road.

3.4.7 Refuse collection will be undertaken outside of the peak hours wherever possible.

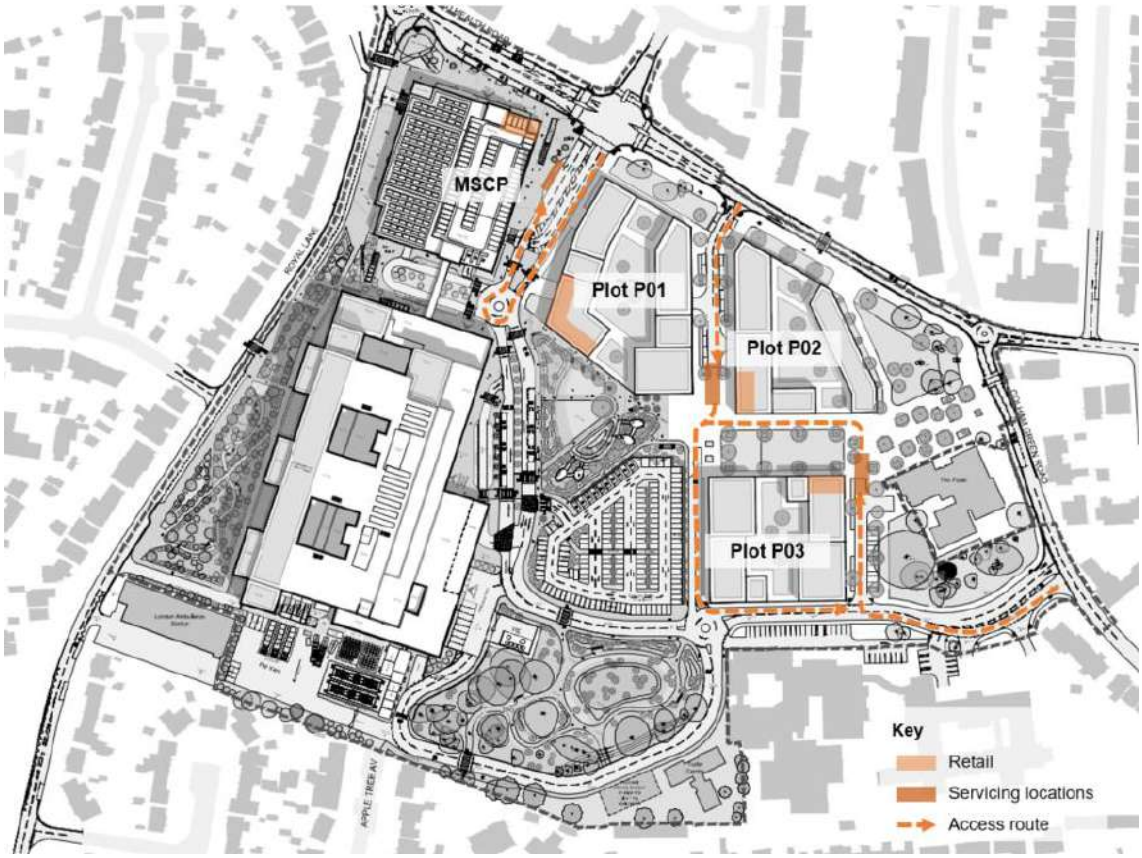
3.5 Retail Servicing and Refuse Strategy

Servicing Locations and Access

3.5.1 The retail servicing locations and proposed access routes are shown in Figure 3.5, and comprise:

- Mobility Hub/multi storey car park from Main Entrance via Pield Heath Road, or via the Colham Green Road access and internal roadways
- Plot P01 from northern residential access road via Pield Heath Road
- Plot P02 from northern residential access road via Pield Heath Road
- Plot P03 from southern residential access road via Colham Green Road access

Figure 3.5: Retail Servicing Locations



Source: IBI Group

Delivery and Servicing Strategy

3.5.2 The retail units located on the ground floor of each residential block will also be accessed using the residential roads with servicing space provided at the end of each residential access road. These vehicles will be able to unload and exit the site in the same way as residential delivery and servicing trips.

3.5.3 The retail unit located at the main hospital site access off Pield Heath Road will be serviced using a dedicated servicing bay which is provided alongside the main entrance route on the northbound approach to the main entrance signal-controlled junction.

3.5.4 The service bay can be accessed by vans (LGVs) by the vehicles making a u-turn manoeuvre at the compact roundabout within the site. Any larger vehicles required to service the retail unit on the ground floor of the multi-storey car park would be required to access the unit from the Colham Green Road access, routing via the internal road connecting to the main drop-off loop and onwards to the service bay.

3.5.5 Swept path analysis has been undertaken covering all key areas of the site. The swept path analysis is shown in Appendix A. All suitable design vehicles can service the site with no conflict and in a forward gear without the need to reverse.

Refuse Strategy

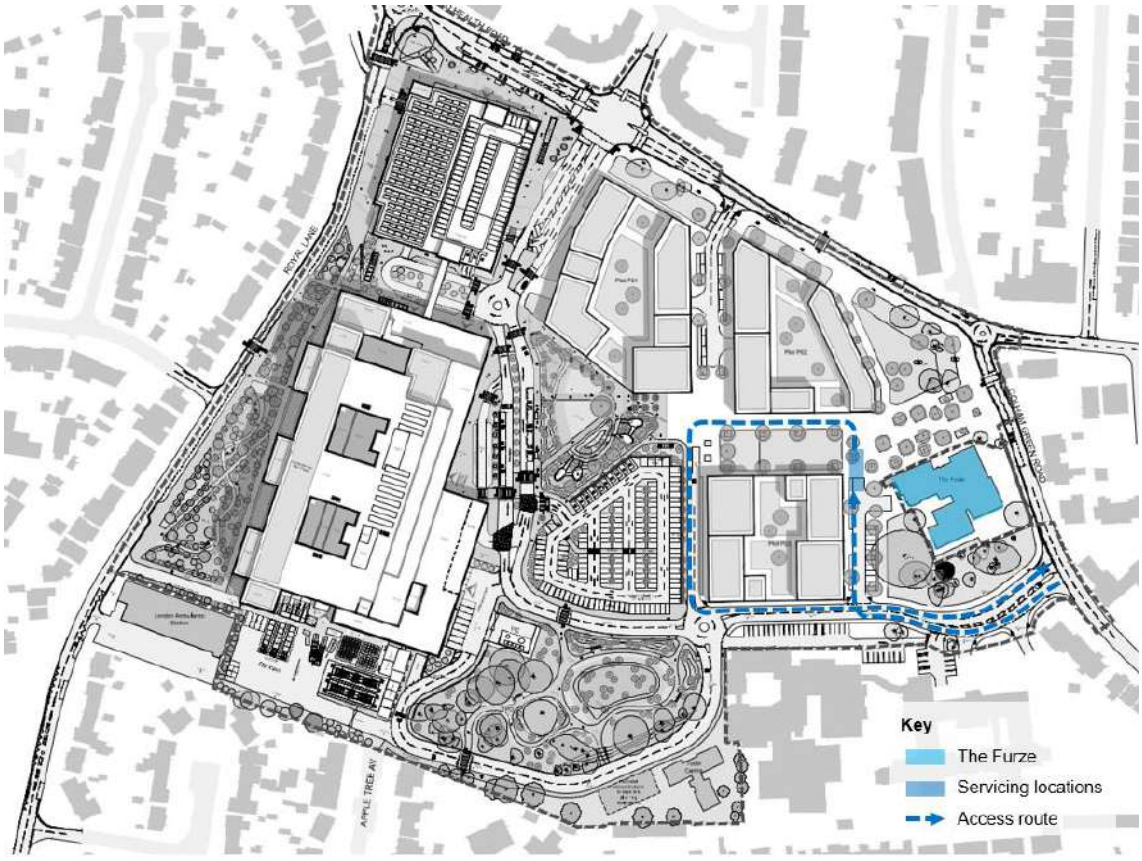
3.5.6 Commercial occupiers will be required to provide waste storage areas within their premises. On collection days, the collection operatives will collect the waste directly from the retail units and empty them in the refuse vehicle waiting at the end of the residential access roads, or in the loading bay provided at the Pield Heath Road access.

3.6 The Furze Servicing and Refuse Strategy

Servicing Locations and Access

3.6.1 The Furze servicing location and access route is shown in Figure 3.6.

Figure 3.6: The Furze Servicing Location



Source: IBI Group

Delivery and Servicing Strategy

3.6.2 The Furze will be accessed via the residential access road east of Plot P03. Delivery and servicing vehicles will be able to stop beyond the residential access to Plot P03 without conflict with other site users.

3.6.3 Deliveries by HGV are not anticipated to be frequent due to the size of the building. HGVs leaving the site will be able to proceed ahead from The Furze to exit via the plaza area and the western side of Plot P03 before leaving the site onto Colham Green Road. LGVs can turn using The Furze access point and exit south on the access road east of Plot P03.

3.6.4 Swept path analysis has been undertaken covering all key areas of the site. The swept path analysis is shown in Appendix A. All suitable design vehicles can service the site with no conflict and in a forward gear without the need to reverse.

Refuse Strategy

3.6.5 Refuse collection vehicles will collect hospital waste from the Waste Compound. This will be accessed from Colham Green Road. Refuse will be taken from the Furze to the Waste Compound before collection. The refuse strategy will be the same as that for the rest of the Hospital buildings.

3.7 Ambulance Access

Proposed – Phase 1b

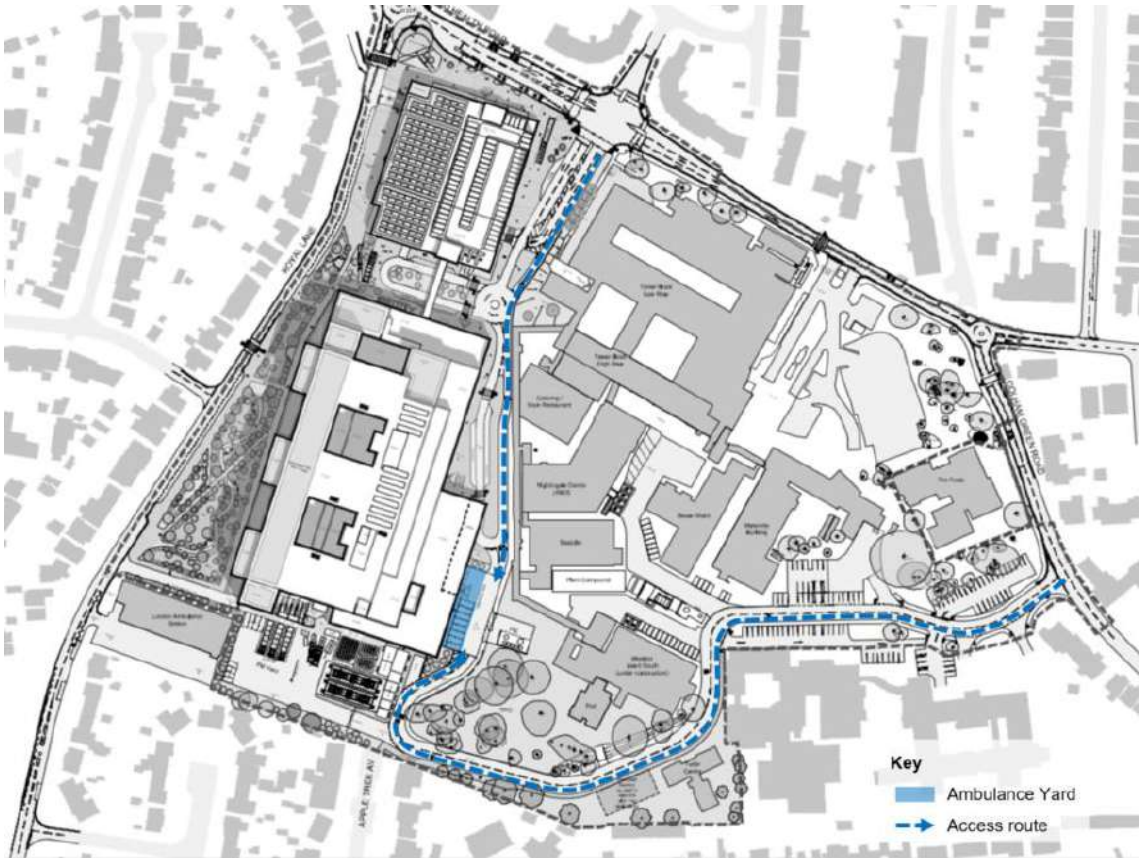
3.7.1 The Phase 1b development will include updating the current provision for ambulances at the hospital, enabling smoother transfers and easier flow. The proposed Phase 1b plan enables the existing A&E entrance to be maintained until the complete transition of the new hospital. Once the new hospital is complete, emergency ambulances will be able to access the site via two entrance points, one from Pield Heath Road via the Main Entrance, and one from Colham Green Road via the southern service route.

3.7.2 When accessing from Pield Heath Road, the new internal road layout restricts private vehicle access beyond the drop-off locations. An ambulance gate (‘Authorised Vehicles Only’) will provide a route for ambulances to enter the ambulance yard.

3.7.3 The access from Colham Green Road provides a direct link to the new ambulance yard using the southern service route. This new route provides resilience and removes the need to travel along Pield Heath Road for ambulances arriving from the south and east.

3.7.4 The proposed Phase 1b ambulance access routes are shown in Figure 3.7.

Figure 3.7: Proposed Phase 1b Ambulance Access Routes



Source: IBI Group

Proposed – Phase 2

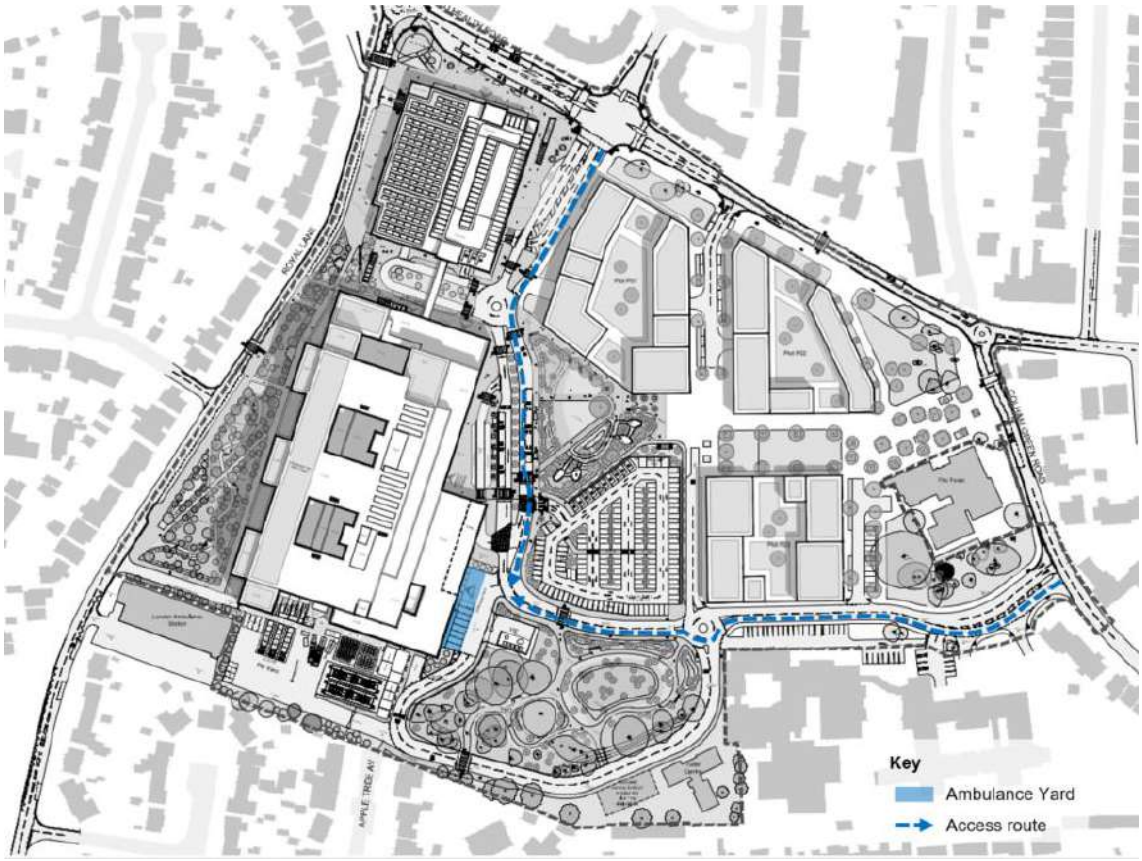
3.7.5 Once the new hospital site is completed, the current A&E entrance will be closed off, and the internal layout in the eastern area of the site will be revised as Phase 2 is built out.

3.7.6 The internal link from Colham Green Road will be updated to include a mini-roundabout junction. This will allow a new 'Ambulance and Bus Only' link to be formed running west from the new mini-roundabout into the ambulance yard, for emergency ambulances and buses only. It should be noted that ambulances will still be able to access the ambulance yard using the southern service route, as per Phase 1b, if ever needed though this is unlikely.

3.7.7 Ambulances accessing the site from Pield Heath Road will be able to utilise the same access point as Phase 1b.

3.7.8 The proposed Phase 2 ambulance access routes are shown in Figure 3.8.

Figure 3.8: Proposed Phase 2 Ambulance Access Routes



Source: IBI Group

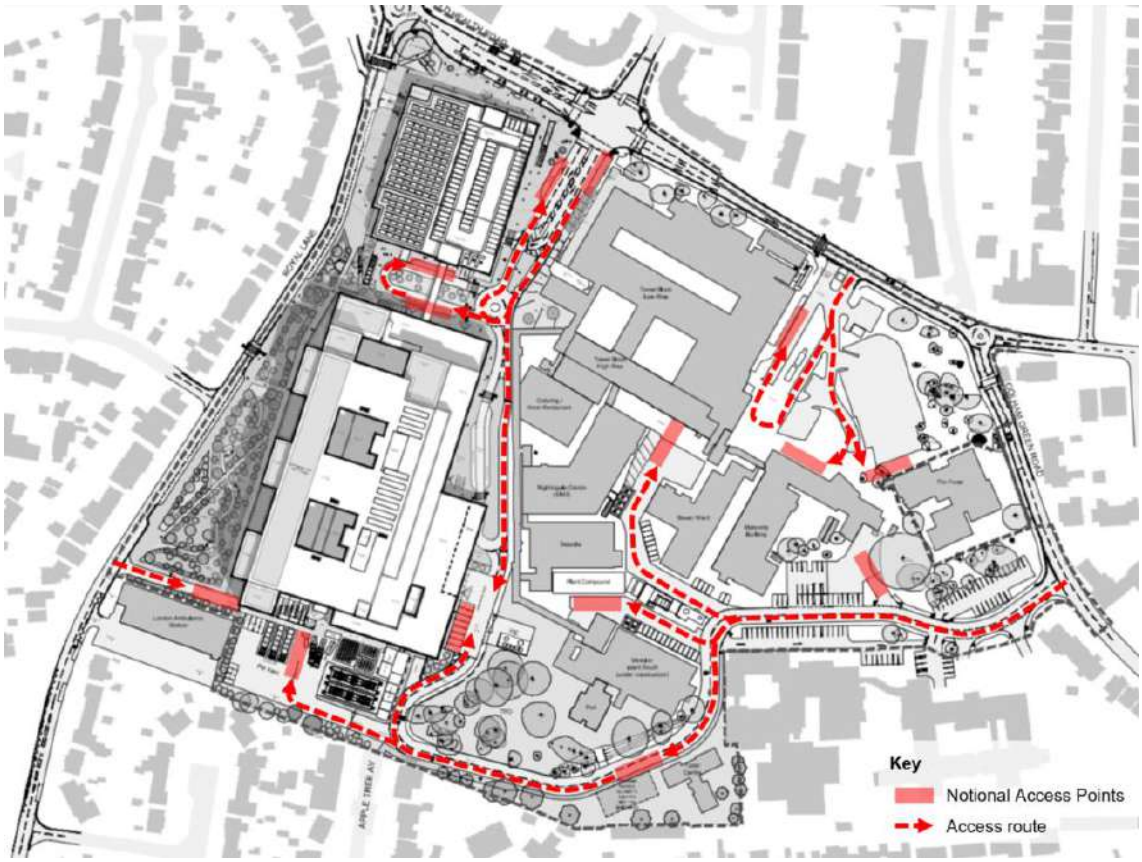
3.8 Fire Tender Access

Proposed – Phase 1b

3.8.1 The internal road layout will be designed to accommodate fire tender access and to ensure drivers are able to turn around without the need to reverse long distances. The internal road layout will also allow for fire tenders to gain close access to all buildings on the site.

3.8.2 A site plan showing the routes within the site where fire tender vehicles will be able to gain access in Phase 1b is shown in Figure 3.9.

Figure 3.9: Proposed Phase 1b Fire Tender Access Routes



Source: IBI Group

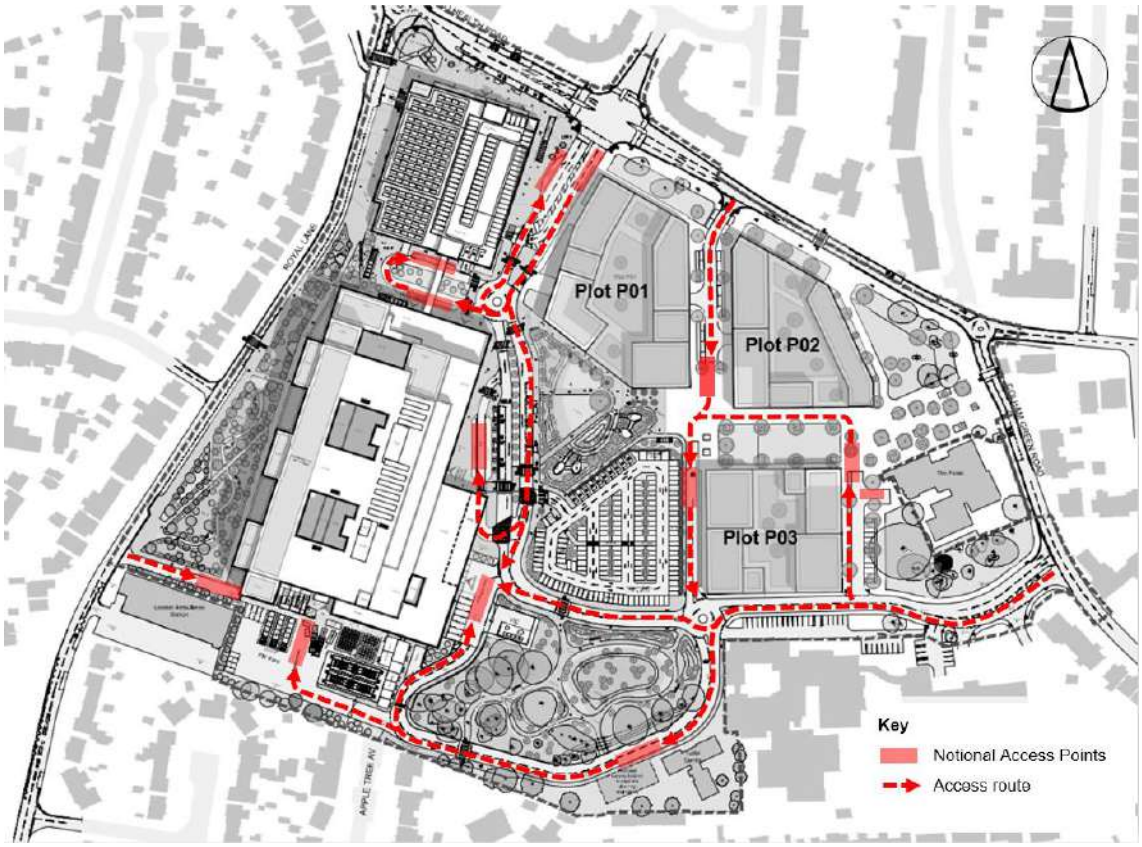
Proposed – Phase 2

3.8.3 In Phase 2, the internal link from Colham Green Road is updated but access for fire tender vehicles from the external road network will remain largely unchanged.

3.8.4 The new mini roundabout will be designed to accommodate fire tender access and ensure drivers are able to turn around without the need to reverse long distances. The internal road layout will also allow for fire tenders to gain close access to all buildings on the site, without interfering or blocking other hospital/development traffic.

3.8.5 A site plan showing the routes within the site where fire tender vehicles will be able to gain access in Phase 2 is shown in Figure 3.10.

Figure 3.10: Proposed Phase 2 Fire Tender Access Routes



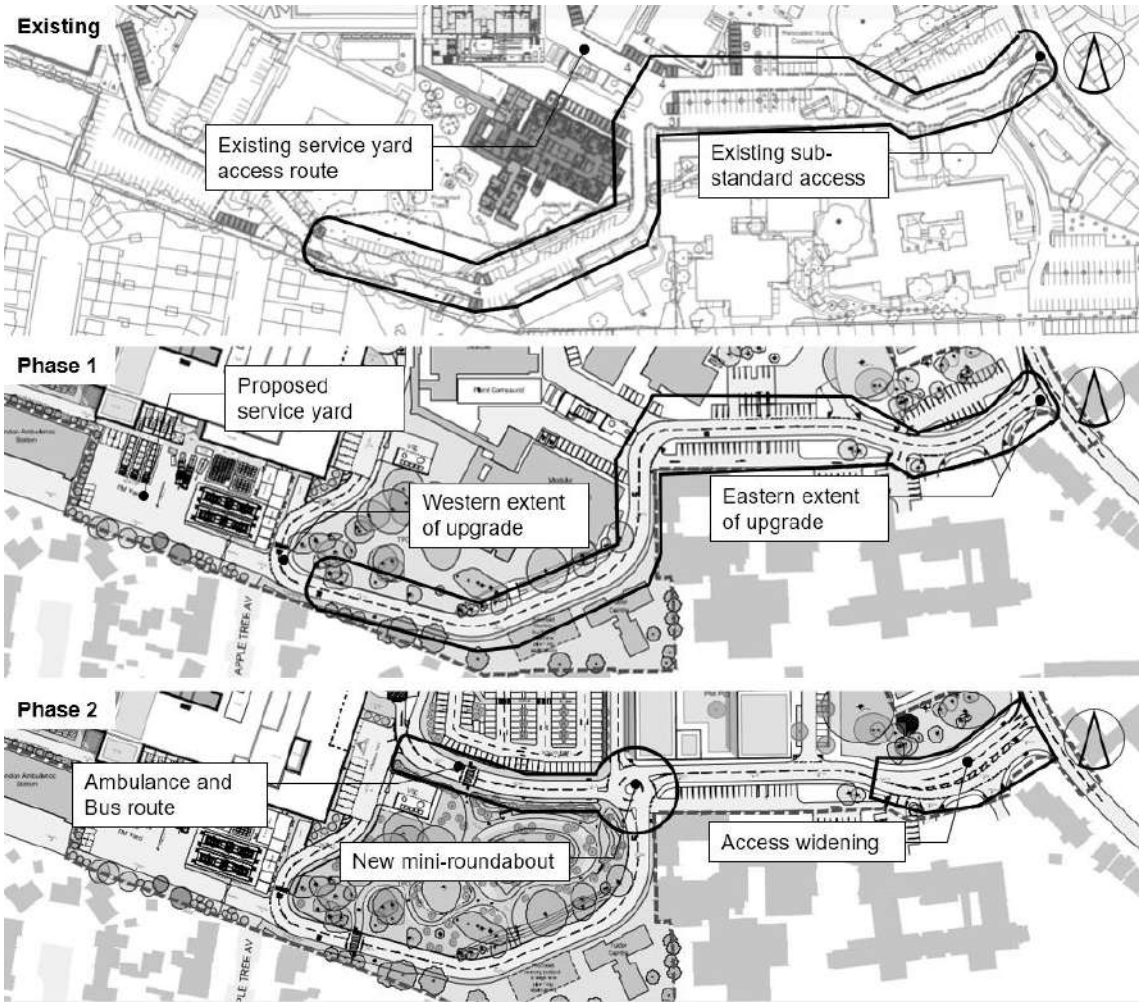
Source: IBI Group

3.9 Servicing Access

3.9.1 The redevelopment will significantly improve and simplify the access strategy for the site.

3.9.2 Primary servicing access will be gained via the Colham Green Road access, which is proposed to be upgraded to an industrial standard road as part of the redevelopment in Phase 1b. Further changes will also take place in Phase 1c, including the introduction of a mini-roundabout that will enable a dedicated ambulance and bus only route to the ambulance yard and further widening on approach to Colham Green Road to provide dedicated left and right turn lanes. The Phased changes are highlighted in Figure 3.13.

Figure 3.11: Service Route Upgrades



Source: IBI Group

3.9.3 Access for generator servicing will take place less frequently and only in the case of equipment failure or to fill generator bulk storage tanks, which is required approximately every six months. Servicing access for some of the retail servicing vehicles from Pield Heath Road will be low intensity.

3.9.4 The access arrangements for each location where servicing or delivery vehicles require access are summarised in Table 3.1.

Table 3.1: Servicing Access Arrangements

Use/Users	Area	Access from	Servicing Arrangements
Hospital	Service yard	Southern service road via Colham Green Road	Loading bays in the Service yard
	Waste compound	Southern service road via Colham Green Road	Loading bays in the Service yard
	Medical gases	Southern service road via Colham Green Road	Truck bay located between Service yard and ambulance yard
	Back-up generators	Southern service road via Colham Green Road	Service yard

Use/Users	Area	Access from	Servicing Arrangements
Residential	P01	Residential access road via Pield Heath Road	Space for servicing vehicles at the end of the access road
	P02	Residential access road via Pield Heath Road	Space for servicing vehicles at the end of the access road
	P03	Residential access road via Colham Green Road	Space for servicing vehicles at the end of the access road
Retail	Mobility hub/multi storey car park	Main Entrance via Pield Heath Road	Space for servicing vehicles at the end of the access road
	P01	Main site access road via Pield Heath Road	Designated loading bay closest to the retail plot
	P02	Residential access road via Pield Heath Road	Space for servicing vehicles at the end of the access road
	P03	Residential access road via Colham Green Road	Space for servicing vehicles at the end of the access road
The Furze	-	Colham Green Road	Loading bays in the Service yard / Space for servicing vehicles at the end of the access road
Emergency Ambulances	Ambulance Yard	Pield Heath Road and Colham Green Road	Dedicated ambulance yard
Fire Tender	All buildings and access points	Pield Heath Road and Colham Green Road into New Hospital and Residential areas	Close access to all buildings

4 Delivery and Servicing Plan Objectives

4.1 Introduction

4.1.1 This chapter sets out the objectives of the DSP. These objectives will contribute to the main aim of the DSP, which is to ensure that servicing of the proposed redevelopment can be carried out efficiently, without creating any negative impacts on local occupiers, residents, and businesses in the vicinity of the site, as well as the local highway network.

4.2 DSP Objectives

4.2.1 DSPs developed through the planning process seek to support sustainable development, provide safe delivery and servicing arrangements, and reduce the impact of vehicular servicing on the local highway network.

4.2.2 The objective of this DSP is to provide a framework for the management of delivery and servicing at the redevelopment which can be adopted by the Trust for the new hospital, and by future developers for the residential development. The DSP will be developed and refined to implement an efficient, well managed and sustainable delivery and servicing structure at the site.

4.2.3 This DSP has been drafted in the context of the guidance provided within the policy documents, and key relevant policies that have been reviewed in Chapter 2. This Framework DSP has been prepared for the proposed redevelopment. The final detailed DSP will be secured via planning condition.

4.2.4 This DSP will therefore seek to achieve the following objectives:

- To minimise the impacts of delivery and servicing movements at Hillingdon Hospital
- Set out how goods and services will be delivered, and waste removed, in a safe, efficient and environmentally friendly way;
- To control delivery and servicing movements to minimise risks of conflict with general hospital traffic, patients, visitors and staff
- Ensure that the volume of trips for delivery and servicing is minimised, so that the impact of freight activity on the local highway network, residents, commercial occupiers and the environment is reduced to the minimum amount;
- Identify deliveries which could be consolidated, or retimed to reduce delivery and servicing trips, particularly in the peak periods;
- Minimise the space required for the storage and distribution of goods; and
- To make Hillingdon Hospital a greener and more pleasant environment for all users.

5 Delivery and Servicing Forecast Demand

5.1 Introduction

5.1.1 This chapter sets out the forecast number of delivery and servicing trips associated with the proposed redevelopment site.

5.2 Existing Delivery and Servicing Trips

Site Surveys

5.2.1 The existing hospital experiences scheduled regular deliveries and collections at the site by a range of vehicles and for a range of purposes. Surveys have been captured in both February 2021 and November 2021, including classified counts at all hospital entrance/exit points and at entry/exit points to the existing service yard and waste yard within the site.

5.2.2 Although the hospital can be accessed from five locations, the majority of servicing activity takes place via the Colham Green Road Entrance.

5.2.3 For full transparency, details of all HGV and LGV arrivals and departures captured in the surveys have been reported in the summary tables below.

5.2.4 It should be noted that during both survey periods construction works were being undertaken on-site, generating additional HGV and LGV traffic over and above the normal situation that will not be experienced upon completion of construction and during normal operation of the new hospital.

5.2.5 Table 5.1 below summarises the February and November 2021 total LGV and HGV arrivals and departures captured through the surveys, reported over 24-hours (including construction traffic).

Table 5.1: Surveyed LGV and HGV Arrivals and Departures (All Site)

	February 2021				November 2021			
	LGV		HGV		LGV		HGV	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	365	365	48	48	271	272	29	26
00:00-00:59	0	2	0	0	0	0	0	0
01:00-01:59	3	2	0	0	0	0	0	0
02:00-02:59	0	0	0	0	0	0	0	0
03:00-03:59	6	3	1	0	0	0	0	0
04:00-04:59	1	1	1	0	6	6	1	0
05:00-05:59	5	5	1	1	3	1	0	1
06:00-06:59	10	5	2	2	6	7	2	2
07:00-07:59	43	18	4	4	22	10	4	3
08:00-08:59	30	33	6	4	23	12	2	3
09:00-09:59	24	31	5	6	39	29	2	3
10:00-10:59	40	37	7	8	20	21	3	2
11:00-11:59	36	29	3	5	30	32	4	4
12:00-12:59	27	31	3	3	25	32	3	3
13:00-13:59	26	31	5	5	19	25	3	2
14:00-14:59	15	24	5	4	20	20	3	1

	February 2021				November 2021			
	LGV		HGV		LGV		HGV	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
15:00-15:59	21	25	3	4	18	31	1	1
16:00-16:59	26	30	1	0	9	10	0	0
17:00-17:59	15	18	0	1	8	9	0	0
18:00-18:59	14	13	0	0	7	8	0	0
19:00-19:59	8	8	0	0	10	10	0	0
20:00-20:59	1	6	1	0	4	5	1	0
21:00-21:59	8	6	0	1	1	2	0	1
22:00-22:59	5	6	0	0	0	1	0	0
23:00-23:59	1	1	0	0	1	1	0	0

5.2.6 The data in Table 5.1 shows the LGV and HGV arrivals and departures each day at the hospital. As stated, this includes construction activity and cannot distinguish between LGV trips for construction, deliveries and servicing, or those by patients or visitors.

5.2.7 The surveys undertaken also included counts within the site at entry points to the service yard and waste compound. The most recent surveys of the service yard and waste compound captured activity from 06:00 to 19:00 when activity and capacity are at their greatest.

5.2.8 Table 5.2 below summarises the February and November 2021 total LGV and HGV arrivals and departures captured through the survey of the service yard, reported from 06:00 to 19:00.

Table 5.2: Surveyed LGV and HGV Arrivals and Departures (Service Yard)

	February 2021				November 2021			
	LGV		HGV		LGV		HGV	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	119	119	15	15	86	85	11	11
06:00-06:59	3	2	1	0	0	0	2	2
07:00-07:59	4	2	4	5	3	2	2	2
08:00-08:59	8	12	0	0	7	6	1	0
09:00-09:59	14	16	2	1	15	15	1	1
10:00-10:59	17	15	0	1	6	10	1	1
11:00-11:59	16	12	0	1	13	9	2	3
12:00-12:59	9	14	2	2	8	9	0	0
13:00-13:59	16	16	2	2	7	10	1	1
14:00-14:59	8	6	2	1	11	7	1	1
15:00-15:59	9	9	2	2	7	10	0	0
16:00-16:59	9	9	0	0	4	2	0	0
17:00-17:59	2	3	0	0	2	1	0	0
18:00-18:59	3	2	0	0	2	3	0	0
19:00-19:59	1	1	0	0	1	1	0	0

5.2.9 Table 5.3 summarises the February 2021 total LGV and HGV arrivals and departures captured through the survey of the waste compound, reported from 06:00 to 19:00. The November surveys did not capture the waste compound.

Table 5.3: Surveyed LGV and HGV Arrivals and Departures (Waste Yard)

	February 2021				November 2021			
	LGV		HGV		LGV		HGV	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	7	7	1	1	November 2021 surveys did not capture any activity at waste compound.			
06:00-06:59	1	1	0	0				
07:00-07:59	2	1	0	0				
08:00-08:59	0	1	0	0				
09:00-09:59	1	1	0	0				
10:00-10:59	1	0	0	0				
11:00-11:59	0	0	0	0				
12:00-12:59	1	1	0	0				
13:00-13:59	0	0	0	0				
14:00-14:59	0	1	0	0				
15:00-15:59	1	1	1	1				
16:00-16:59	0	0	0	0				
17:00-17:59	0	0	0	0				
18:00-18:59	0	0	0	0				
19:00-19:59	0	0	0	0				

5.2.10 On the basis that the November 2021 surveys did not capture activity at the waste compound. The more robust February 2021 surveys at the Service Yard and Waste Compound have been adopted as the baseline and for the purposes of design validation, and validation of the Baseline Clinical Travel Demand Model (CTDM).

The surveys captured on the service yard and waste compound have been added together to reflect the level of demand that can be attributed solely to deliveries and servicing activity at the hospital.

5.2.11 Table 5.4 below summarises the February 2021 total LGV and HGV arrivals and departures that have been attributed to delivery and servicing activities at the hospital, reported from 06:00 to 19:00.

Table 5.4: Surveyed Delivery and Servicing LGV and HGV Arrivals and Departures (Service Yard and Waste Compound)

	LGV		HGV		Combined (LGV & HGV)		Hourly Profile (%)	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	126	126	16	16	142	142	100%	100%
06:00-06:59	4	3	1	0	5	3	4%	2%
07:00-07:59	6	3	4	5	10	8	7%	6%
08:00-08:59	8	13	0	0	8	13	6%	9%
09:00-09:59	15	17	2	1	17	18	12%	13%
10:00-10:59	18	15	0	1	18	16	13%	11%
11:00-11:59	16	12	0	1	16	13	11%	9%
12:00-12:59	10	15	2	2	12	17	8%	12%
13:00-13:59	16	16	2	2	18	18	13%	13%
14:00-14:59	8	7	2	1	10	8	7%	6%
15:00-15:59	10	10	3	3	13	13	9%	9%
16:00-16:59	9	9	0	0	9	9	6%	6%
17:00-17:59	2	3	0	0	2	3	1%	2%
18:00-18:59	3	2	0	0	3	2	2%	1%
19:00-19:59	1	1	0	0	1	1	1%	1%

5.2.12 This shows that the site currently generates circa 140 one-way, or 280 two-way delivery and servicing trips. The majority of vehicles are LGVs, spread throughout the day. In the busiest hour, based on current operations, there were four HGV arrivals and five HGV departures.

5.2.13 In February 2021, the table shows that:

- 25% of arrivals (HGV and LGV) take place in the AM peak period from 07:00 to 10:00
- 9% of arrivals (HGV and LGV) take place in the PM peak period from 16:00 to 19:00

5.2.14 Due to the redevelopment, aspects of the current Estates and Facilities Management operations will be streamlined and made more efficient. For example, the surveys captured demand generated within the site resulting from intra-site deliveries and servicing (trips on-site between the service yard/waste compound and other locations on-site). Once the full hospital operations are contained within one building the vast majority of such trips within the site will be removed.

5.2.15 Once implemented, the DSP will continue to monitor delivery and servicing activity and targets will be updated periodically based on progress against the overarching objectives.

Baseline Clinical Travel Demand Model

5.2.16 The CTDM is a 24-hour travel demand model that has been developed with the Trust and healthcare planning team. The model provides an hourly breakdown of travel demand at the site. The model reports by user type, using site specific and NHS wide data to determine travel demand by mode, arrival times, dwell times and servicing and delivery patterns. This has enabled the development a 24-hour multi-modal person-based travel demand profile representing current hospital operation.

5.2.17 In terms of delivery and servicing trips, the travel demand profile produced by the CTDM has been validated against the February 2021 surveyed delivery and servicing trips set out in

5.2.18 Table 5.4. The CTDM outputs are used as the baseline travel demand for the assessment.

5.2.19 The resulting baseline travel demand profile for delivery and servicing trips, is set out in Table 5.5.

Table 5.5: Baseline CTDM Two-Way Travel Demand Profile for Delivery and Servicing Trips

	LGV		HGV		Total	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	133	133	17	17	150	150
00:00-00:59	0	0	0	0	0	0
01:00-01:59	0	0	0	0	0	0
02:00-02:59	0	0	0	0	0	0
03:00-03:59	1	0	0	0	1	0
04:00-04:59	0	0	0	0	0	0
05:00-05:59	10	10	1	1	11	11
06:00-06:59	4	3	1	0	5	3
07:00-07:59	8	7	1	1	9	8
08:00-08:59	7	11	1	1	8	12
09:00-09:59	14	15	2	2	16	17
10:00-10:59	15	14	2	2	17	16
11:00-11:59	14	11	2	1	16	12
12:00-12:59	10	14	1	2	11	16
13:00-13:59	15	15	2	2	17	17
14:00-14:59	8	7	1	1	9	8
15:00-15:59	11	11	1	1	12	12
16:00-16:59	8	8	1	1	9	9
17:00-17:59	2	3	0	0	2	3
18:00-18:59	3	2	0	0	3	2
19:00-19:59	1	1	0	0	1	1
20:00-20:59	1	1	0	0	1	1
21:00-21:59	1	2	0	0	1	2
22:00-22:59	0	0	0	0	0	0
23:00-23:59	0	0	0	0	0	0

5.2.20 The CTDM forecasts 150 delivery and servicing arrivals per day. The profile has been reviewed against the surveys and corresponds closely with the peak period arrival proportions, as shown below:

- 22% (compared to 25% surveyed) of arrivals (HGV and LGV) take place in the AM peak period from 07:00 to 10:00
- 9% (compared to 9% surveyed) of arrivals (HGV and LGV) take place in the PM peak period from 16:00 to 19:00

5.3 Forecast Hospital Delivery and Servicing Trips

5.3.1 As part of the Transport Assessment, two future scenarios have been forecast using the CTDM approach. These take account of the future patient forecasts and staff numbers along with the way healthcare will be provided/delivered and an element of agile working where appropriate.

5.3.2 Detailed analysis has been carried out on the delivery and servicing activity at the site. For the purposes of designing an operational hospital (and more specifically service yard), a robust approach has been taken to the delivery and servicing activity.

5.3.3 Whilst it is recognised and appreciated that there needs to be a shift to more sustainable transport, the level of activity is a critical element of a fully functioning and effective hospital.

5.3.4 On that basis, the forecast CTDMs do not discount or reduce delivery and servicing activity and the number of delivery and servicing LGV and HGV trips has been maintained at the same level as the baseline CTDM.

5.3.5 This DSP will be refined and finalised before being implemented on-site. The DSP will seek to minimise delivery and servicing trips as far as is possible, in-line with the operational requirements of the hospital. Where delivery and servicing trips cannot be avoided the DSP will seek to ensure a transition to low emission vehicles.

5.4 Forecast Residential Delivery and Servicing Trips

5.4.1 The residential part of the redevelopment is likely to generate a variety of delivery and servicing trips, including:

- Refuse collection in large refuse vehicles;
- Removals in larger vans and HGVs;
- Maintenance vehicles in vans;
- Groceries in vans and box vans;
- Non-perishable smaller parcels and packages in cars and small vans; and
- Takeaways on bicycles, motorcycles or cars.

5.4.2 The forecast delivery and servicing trips for the proposed 327 residential units have been derived using TRICS v7.8.2. The following filtering criteria was used within TRICS:

- Land use: 03 – Residential
- Category: M – Mixed private/affordable housing
- Survey types: Multi Modal
- Selected regions: Greater London
- No. dwellings: 50 to 500
- Parking spaces per dwelling range: 0.5 to 1.25
- Date range: 01/01/2010 to 19/10/2020
- Survey days: Weekdays
- Selected locations: Suburban area, edge of town and neighbourhood centre
- PTAL rating: 1a to 3

5.4.3 This search generated seven sites which were reviewed. All of these sites provide a mixture of flats only, or flats and houses. The trip rates are contained within the associated Transport Assessment, which includes the full TRICS report showing site selection criteria and multi-modal trip rates.

5.4.4 The associated LGV and HGV trip generation associated with up to 327 dwellings is summarised below in Table 5.6. These trips will generally take place outside of the AM and PM peak hours.

Table 5.6: Forecast Residential Delivery and Servicing Trips

	LGV		HGV		Total	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	39	39	5	4	44	43
00:00-00:59	0	0	0	0	0	0
01:00-01:59	0	0	0	0	0	0
02:00-02:59	0	0	0	0	0	0
03:00-03:59	0	0	0	0	0	0
04:00-04:59	0	0	0	0	0	0
05:00-05:59	0	0	0	0	0	0
06:00-06:59	0	0	0	0	0	0
07:00-07:59	2	3	1	1	3	4
08:00-08:59	2	3	1	1	3	4
09:00-09:59	3	3	0	0	3	3
10:00-10:59	4	3	0	0	4	3
11:00-11:59	3	3	1	0	4	3
12:00-12:59	4	5	0	0	4	5
13:00-13:59	5	5	1	0	6	5
14:00-14:59	3	3	0	0	3	3
15:00-15:59	3	2	0	0	3	2
16:00-16:59	3	4	0	0	3	4
17:00-17:59	1	1	0	0	1	1
18:00-18:59	2	2	0	0	2	2
19:00-19:59	2	2	0	0	2	2
20:00-20:59	1	1	0	0	1	1
21:00-21:59	0	0	0	0	0	0
22:00-22:59	0	0	0	0	0	0
23:00-23:59	0	0	0	0	0	0

5.4.5 By applying the TRICS trip rates to forecast delivery and servicing demand, the residential area of the site is forecast to generate 39 LGV arrivals and 5 HGV arrivals over a typical weekday. These are forecast to be spread across the day.

5.5 Forecast Retail Delivery and Servicing Trips

5.5.1 The areas used for retail as part of the redevelopment are likely to generate a small number of delivery and servicing trips, including:

- Refuse collection in large refuse vehicles;
- Maintenance vehicles in vans; and
- Delivery of goods for sale.

5.5.2 It is likely that there will be less than one trip per day for the delivery and servicing of retail areas. Most of these trips are likely to be undertaken out of the peak hours, and delivery of goods for sale will be undertaken late at night or very early in the morning.

5.6 Total Forecast Delivery and Servicing Trips and Comparison with the Existing Hospital

Total Forecast Delivery and Servicing Trips

5.6.1 Table 5.7 shows the total forecast delivery and servicing trips for the hospital and residential development. Delivery and servicing trips for retail areas have not been included in this total because it is expected that they will account for less than one trip per day.

Table 5.7: Total Forecast Daily Two-Way Delivery and Servicing Trips

	LGV		HGV		Total	
Time	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Total	172	172	22	21	194	193
00:00-00:59	0	0	0	0	0	0
01:00-01:59	0	0	0	0	0	0
02:00-02:59	0	0	0	0	0	0
03:00-03:59	1	0	0	0	1	0
04:00-04:59	0	0	0	0	0	0
05:00-05:59	10	10	1	1	11	11
06:00-06:59	4	3	1	0	5	3
07:00-07:59	10	10	2	2	12	12
08:00-08:59	9	14	2	2	11	16
09:00-09:59	17	18	2	2	19	20
10:00-10:59	19	17	2	2	21	19
11:00-11:59	17	14	3	1	20	15
12:00-12:59	14	19	1	2	15	21
13:00-13:59	20	20	3	2	23	22
14:00-14:59	11	10	1	1	12	11
15:00-15:59	14	13	1	1	15	14
16:00-16:59	11	12	1	1	12	13
17:00-17:59	3	4	0	0	3	4
18:00-18:59	5	4	0	0	5	4
19:00-19:59	3	3	0	0	3	3
20:00-20:59	2	2	0	0	2	2
21:00-21:59	1	2	0	0	1	2
22:00-22:59	0	0	0	0	0	0
23:00-23:59	0	0	0	0	0	0

5.6.2 There are a total of 194 forecast delivery and servicing arrivals at the site per day associated with the redeveloped hospital and residential development. Of these, 172 are forecast to be LGV trips and 22 are HGV trips. The busiest single hour period with the most trips per hour is between 13:00 and 13:59, when there are 23 arrivals.

5.6.3 There are a number of measures set out in Chapter 6 which the Trust will seek to implement. These measures will help to reduce the level of delivery and servicing traffic, decrease its impact on the local highway network and communities, reduce waste and encourage trips outside of peak hours.

Hospital Service Yard Accumulation Forecast

5.6.4 Table 5.8 shows the accumulation of delivery and servicing vehicles on the site throughout the day based on the assumption that there are five LGVs and two HGVs at the start of the 24-hour period.

5.6.5 The table presents the accumulation of vehicles per hour, but also the accumulation of vehicles if they are split over 15-minute periods within the hour, as it is expected that most delivery and servicing vehicles will have arrived and departed the site within 15 minutes.

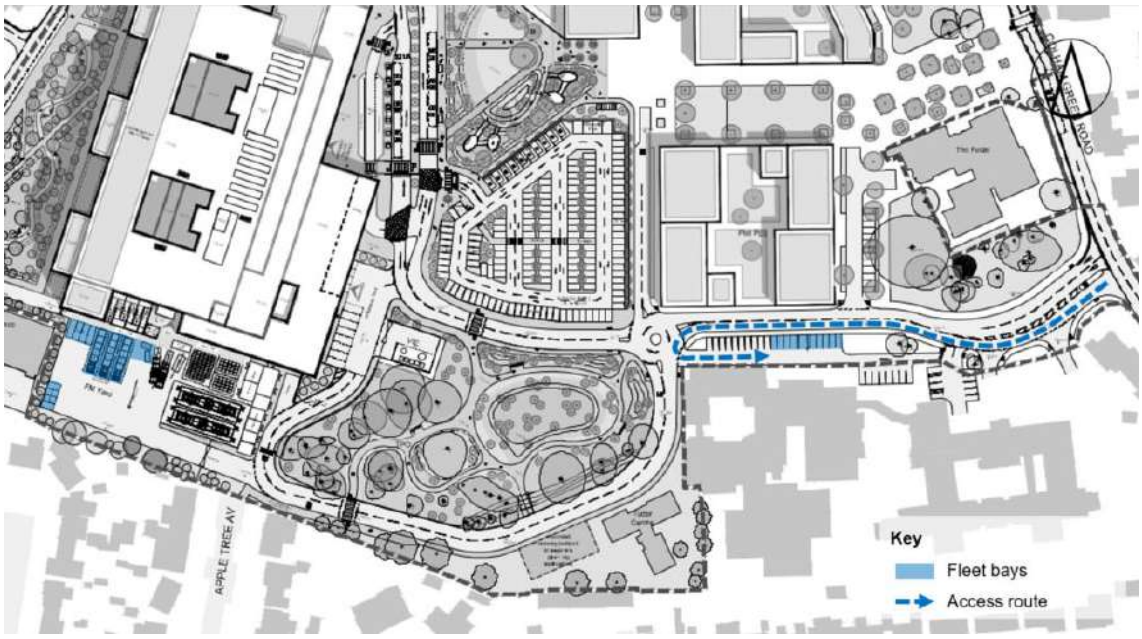
Table 5.8: Accumulation of Forecast Delivery and Servicing Trips

	Vehicle Accumulation – Per Hour			Vehicle Accumulation – Per 15 Minute Period		
	LGV	HGV	Total	LGV	HGV	Total
00:00-00:59	5	2	7	1	1	2
01:00-01:59	5	2	7	1	1	2
02:00-02:59	5	2	7	1	1	2
03:00-03:59	6	2	8	1	1	2
04:00-04:59	6	2	8	1	1	2
05:00-05:59	6	2	8	1	1	2
06:00-06:59	8	1	9	2	0	2
07:00-07:59	9	3	12	2	1	3
08:00-08:59	5	1	6	1	0	2
09:00-09:59	4	2	6	1	0	2
10:00-10:59	6	1	7	1	0	2
11:00-11:59	8	2	11	2	1	3
12:00-12:59	4	1	5	1	0	1
13:00-13:59	4	2	6	1	0	2
14:00-14:59	6	1	7	1	0	2
15:00-15:59	6	1	7	1	0	2
16:00-16:59	6	1	7	1	0	2
17:00-17:59	5	1	6	1	0	2
18:00-18:59	6	1	7	1	0	2
19:00-19:59	6	1	7	1	0	2
20:00-20:59	6	1	7	1	0	2
21:00-21:59	5	1	6	1	0	2
22:00-22:59	5	1	6	1	0	2
23:00-23:59	5	1	6	1	0	2

5.6.6 This shows that there will be a maximum of 12 delivery and servicing vehicles on site in any one hour. Assuming that all delivery and servicing vehicles will spend no longer than 15 minutes on site, there will be no more than three vehicles on site in the service yard at any one time.

5.6.7 The Trust also has its own fleet of vehicles. A number of overspill bays have been set aside north of the Woodlands Centre for use by fleet vehicles as and when required. This location is illustrated in Figure 5.1.

Figure 5.1: Overspill Fleet Vehicle Parking



Source: IBI Group

6 Delivery and Servicing Plan Measures

6.1 Introduction

6.1.1 This chapter sets out the measures and initiatives of the DSP, which will be used to achieve the objectives set out in Chapter 4 and reduce the impacts of the increase in delivery and servicing traffic set out in Chapter 5.

6.1.2 The Trust, commercial occupiers and developers will be responsible for implementing the DSP. A point of contact per occupier will be nominated to implement the DSP on a daily basis. The role is complimentary to that of a Travel Plan Coordinator.

6.1.3 A DSP management team will be formed for the Hospital and other uses separately. This will include site management personnel and representatives of occupants across the site.

6.1.4 The facilities management team of the Hospital will be responsible for implementing the DSP for the Hospital and its buildings. Site managers of the other land uses will also be responsible for implementation of the DSP in premises under their control.

6.1.5 The proposed DSP measures and management initiatives have been grouped and set out in the relevant sections below, as follows:

- Design;
- Safety;
- Procurement;
- Operational efficiency;
- Traffic management; and
- Waste management.

6.2 Design

6.2.1 Good design can minimise the impact of deliveries and servicing on residents, occupants and the local highway network. This is recognised in the London Freight Plan. A number of design related measures, implemented as part of the development proposals, are set out in turn below.

Site Layout

6.2.2 There are proposed alterations to the internal routes to facilitate new industrial standards of 7.3m (min. width) access to the hospital service yard from the Colham Green Road Entrance. This will allow the specified design vehicles to access the service yard without compromising safety on site for other vehicles. This also means that larger vehicles can be used for deliveries and servicing, thus reducing the number of trips needed where feasible.

6.2.3 The hospital service yard will be relocated to a position immediately south of the new hospital building, with secure restricted access measures. In Phase 1b of the redevelopment, the update to the internal structure of the site includes a direct access road from Colham Green Road to the Service Yard. In Phase 2 of the redevelopment, the update to the internal structure includes a roundabout junction which routes delivery and servicing movements to the south from the mini-roundabout, and also provides access to a new dedicated ambulance only route to the ambulance yard on the western arm.

6.2.4 Swept path analysis has been undertaken on the internal routes in both phases, to ensure that specified design vehicles can access the Service Yard. This will provide an efficient

access/egress for delivery and servicing traffic, as they are less likely to encounter traffic on the internal route to the service yard. This also reduces the risks of conflict with general hospital traffic, patients, visitors and staff.

6.2.5 Swept path analysis has been undertaken covering all key areas of the site including the hospital service yard and the residential plots. The swept path analysis is shown in Appendix A. All suitable design vehicles can enter the service yard with no conflicts and in a forward gear without the need to reverse.

Servicing facilities

6.2.6 Delivery and servicing vehicles will be routed straight to the service yard for hospital deliveries and servicing. There are three HGV and eight LGV loading bays in the service yard. Further fleet vehicle parking will be available north of the Woodlands Centre.

6.2.7 In Phase 1b, it is proposed that there will be a dedicated servicing bay adjacent to the new multistorey car park, sized to accommodate a rigid HGV.

6.2.8 Service vehicles associated with the residential development and ancillary retail units in Phase 2 will use the spaces provided adjacent, or in close proximity to the proposed residential plots. For the residential dwellings and retail areas, it is envisaged that drivers will stop in the space provided at the end of each access road. This provides a safe space for service vehicles to stop that allows other traffic to pass them and also reduces the impact of servicing on the rest of the site.

6.3 Safety

6.3.1 A risk assessment will be undertaken prior to use of the site. This assessment will examine the following issues, to ensure that delivery and servicing can be carried out in a safe and efficient way:

- Sufficient manoeuvring space for delivery and servicing vehicles;
- Adequate space for loading and unloading;
- Safe interaction of delivery and servicing vehicles with other vehicles and pedestrians on site;
- Safe and clear routes for delivery and servicing vehicles to their destination; and
- Visibility for delivery and servicing, and site management staff.

6.3.2 There are number of requirements for delivery and servicing vehicles within London, to ensure safe servicing can be undertaken. The Direct Vision Standard requires HGVs to have a permit showing that they meet safety standards. However, the proposed redevelopment will also seek to source supplies from operators registered with a best practice scheme such as TfL's Freight Operator Recognition Scheme (FORS).

6.3.3 The provision of a dedicated servicing yard adjacent to the Hospital buildings and ambulance area will also help to minimise the impacts of delivery and servicing on general traffic, cyclists and pedestrians moving around the rest of the site. Details of the servicing yard and its operations will be shared with suppliers in advance of deliveries.

Security Measures

6.3.4 A key area of the site for security is the service yard. The service yard needs to restrict access to ensure that it is a controlled environment in which HGV/LGV movements can be made without conflict with other users. There should be no unpermitted access to the back of house areas to ensure that servicing and delivery can be undertaken in a safe and efficient manner.

6.3.5 Security measures will be provided within the Hospital servicing yard. All vehicle movements associated with the servicing yard will be monitored by the Trust office to ensure that it is being used safely by planned delivery and servicing vehicles only.

Accommodating Special Deliveries

6.3.6 All special deliveries to the site, such as plant maintenance vehicles or any large loads will need to be pre-arranged. The Facilities Management office, or relevant department, will negotiate with the supplier and agree a time and duration that will minimise the impact of the special delivery on other servicing requirements at the development. These deliveries will be organised to take place outside of peak periods where possible, to reduce impacts on the local highway network, hospital peak arrival and departure periods, local residents and nearby commercial occupiers.

6.4 Procurement

6.4.1 The procurement process should demonstrate an awareness of all vehicle activity associated with the site, its impacts and appropriate measures to reduce impacts.

Freight Operator Recognition Scheme

6.4.2 The hospital and commercial occupiers will be encouraged to contract suppliers registered with a best practice scheme, such as the FORS.

Preferred Suppliers

6.4.3 For goods/services which are likely to be needed for two or more of the varying buildings on site, a preferred supplier should be identified, and used by all. This will reduce the number of delivery trips by consolidating deliveries into one vehicle. This includes goods and services such as essential food items, stationery, personal deliveries, and waste collection where possible.

Locally Sourced Suppliers

6.4.4 Where possible, the management teams will seek to source supplies locally and/or use single suppliers so that deliveries can be consolidated. This will both reduce the length, and number of delivery and servicing trips generated by the site, which will minimise the impact of freight activity on the local highway network, residents, commercial occupiers and the environment.

Sustainable Suppliers

6.4.5 The Management teams will be encouraged to choose suppliers which use more sustainable vehicles, such as hybrid or electric vehicles which adhere to TfL’s LEZ or ULEZ requirements. For smaller deliveries from locally sourced suppliers, deliveries by bicycle will be recommended if and where possible.

6.4.6 The Management teams will encourage suppliers to use the most appropriate delivery mode. For example, using smaller vehicles or motorcycles for smaller deliveries. Other measures will also be recommended to suppliers such as switching to hybrid or electric vehicles and switching off engines when making deliveries. These measures will reduce air and noise pollution, and emissions related to deliveries and servicing, improving the surrounding environment for site occupants and local residents.