TN003: Patient Travel Behaviour

Client name	Discipline	Date	Project Number
Moorfields Eye Hospital NHS Foundation Trust UCL Institute of Ophthalmology Moorfields Eye Charity	Transportation	23 February 2021	60588325
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Revision History

Revision	Revision date	Details	Authorised	Name	Position

1. Introduction

The purpose of this Technical Note is to assess the potential impact of relocating Moorfields Eye Hospital (MEH) from the existing site at City Road to the proposed site at St Pancras Hospital on patient travel choices, based on partial postcode data provided by MEH. In particular, consideration is given to whether the relocation may result in a greater proportion of patients choosing to travel by taxi or private car to the new site.

This note considers both the home location of existing patients and accessibility to the two sites by public transport and how this is impacted by the change in location.

2. Patient Postcode Analysis

Anonymous truncated postcode data was provided by Moorfield's Eye Hospital NHS Foundation Trust for patients that visited the City Road site between 01 March 2019 and 28 February 2020. The data was aggregated providing monthly totals. Postcodes with between one to five patients have been coded as five patients to increase anonymity.

It should be noted that as the postcodes have been truncated to postcode district (i.e. the first part of the postcode) the exact distance that patients live from the existing and proposed sites cannot be determined accurately.

Figure 2.1 illustrates the geographical distribution of patients that visited Moorfields Eye Hospital between March 2019 and February 2020.

Figure 2.1: Patient geographical distribution (postcode district)

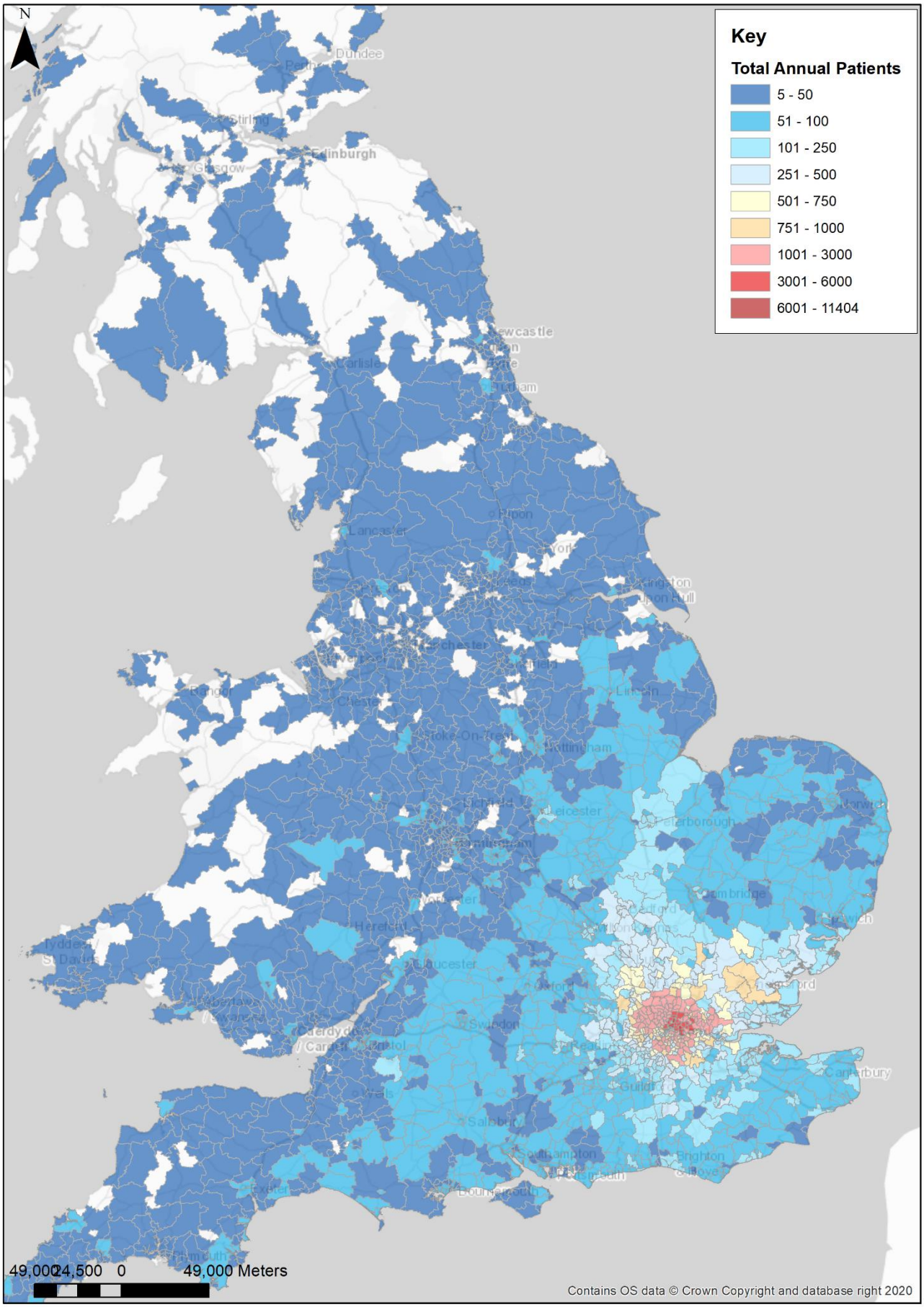
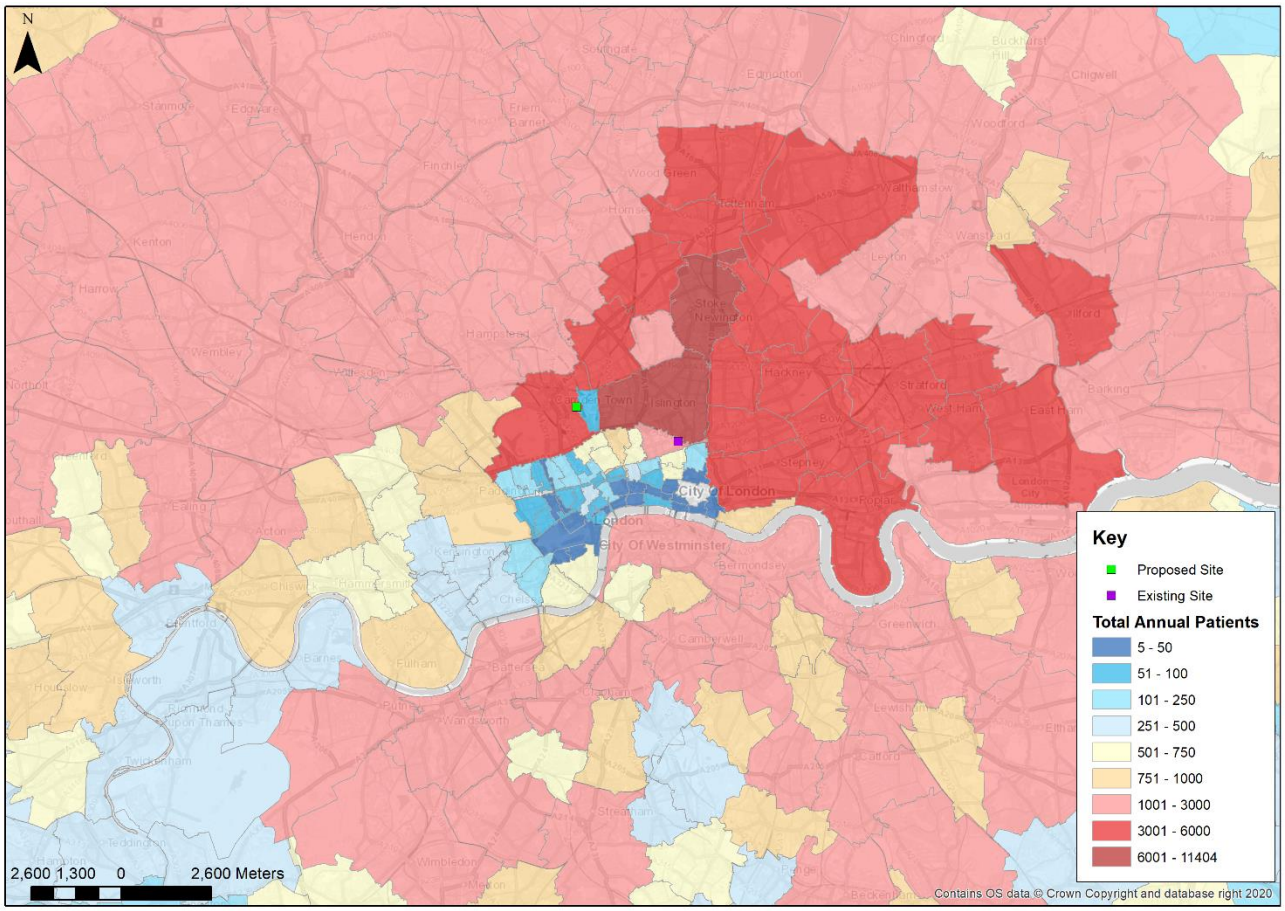


Figure 2.1 illustrates MEH's status as the leading provider of eye health services in the UK, with patients travelling long distances across Great Britain to the City Road site for specialist care and treatment. It can be assumed that patients who have to travel longer distances to the existing site at City Road are unlikely to change their main method of transport when travelling to the Proposed Site, and that only individuals who live close to the existing site and therefore may have to travel further are the most likely to change travel choices. Patients travelling from distant locations are more likely to stay overnight in the local area, but this is also not expected to change travel from existing patterns.

Figure 2.2 illustrates the geographical distribution of patients by postcode district across London.

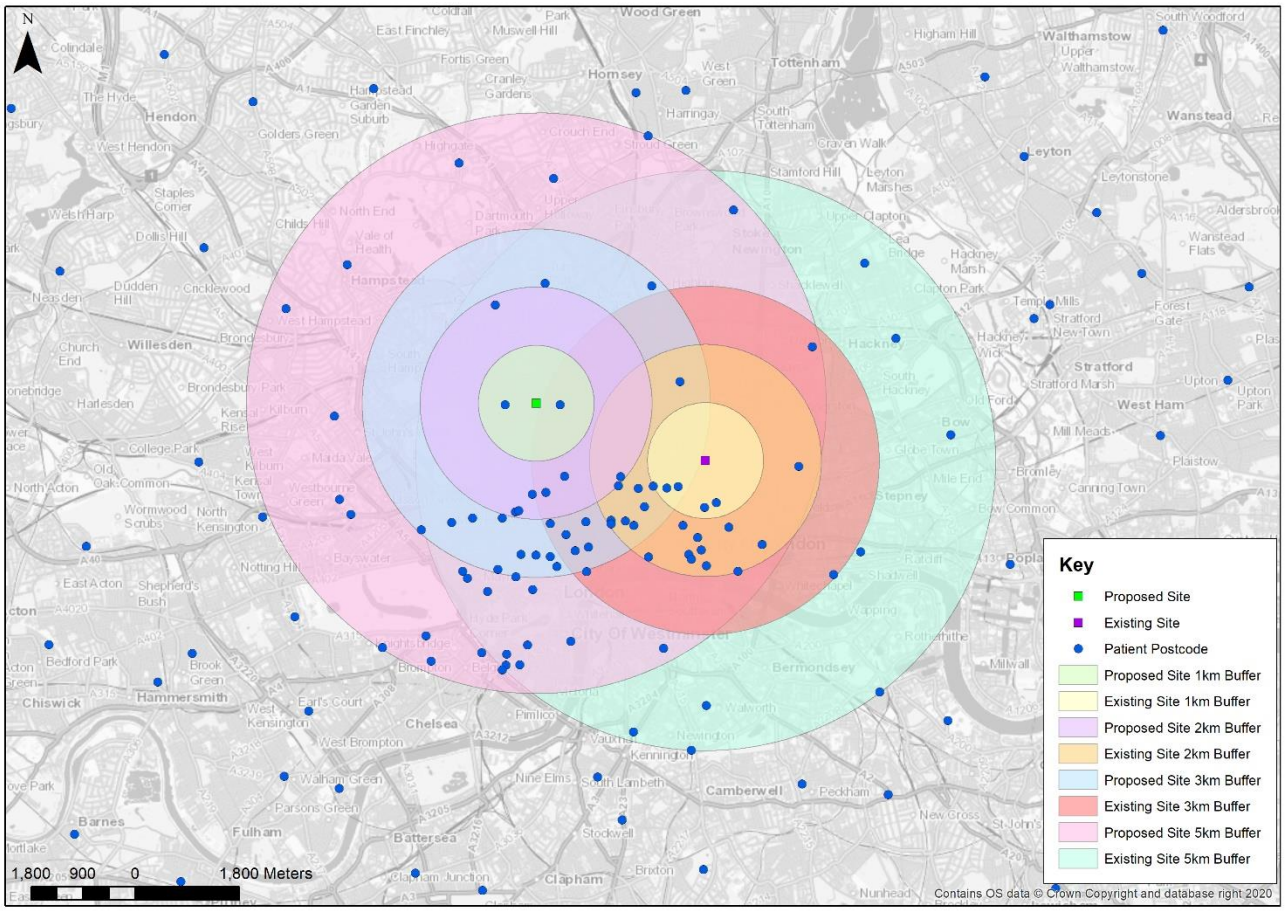
Figure 2.2: Local patient geographical distribution



Coordinates have been assigned to the postcode districts using an on-line postcode converter tool (https://gridreferencefinder.com/postcodeBatchConverter) which provides one point within the district. Based on this, 1km, 2km, 3km and 5km buffers have been placed around the existing and proposed sites to calculate how many patients live within the local area of each site. This is illustrated in

Figure 2.3 below.

Figure 2.3: Geographic distribution of patients within 5km



Between March 2019 and February 2020, a total of 443,063 patients visited MEH at City Road, an average of 36,922 patients per month.

Based on

Figure 2.3 above, Table 2.1 and Table 2.1 indicates that over the year 2,654 patients that travelled to the existing site live within 1km, equating to approximately 10 patients on an average weekday. In terms of the proposed site, 3,352 of the patients that visited live within 1km of the St Pancras Hospital site, which equates to 12 patients on an average weekday.

Table 2.1 indicates that 74,005 of the patients that visited the existing City Road site over the course of the year live within 5km, which equates to 16.7% of the total. For the proposed site at St Pancras Hospital, 66,886 patients live within 5km, equating to 15.1% of the total. This is summarised in Table 2.2 below. However, as noted above, due to General Data Protection Regulations only postcode districts were provided and therefore the exact distances that patients live from the sites cannot be determined.

Table 2.2 summarise of the number of patients within 5km of each site. These are the individuals that are considered most likely to be affected by the proposed relocation and potentially change their travel choices.

Table 2.1: Number of patients within 5km of sites (annual)

Distance	From Existing Site	From Proposed Site
<1km	2,654	3,352
1-2km	18,243	3,640
2-3km	7,362	24,458
3-5km	45,746	35,436
TOTAL	**74,005**	**66,886**

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Table 2.2: Patient distribution summary

	From Existing Site	From Proposed Site
Patients within 5km (total per year)	74,005	66,886
Patients within 5km (% of total)	16.7%	15.1%
Patients within 5km (average weekday)	265	240

As shown in the table above, on a typical weekday 265 patients visiting the City Road site live within 5km. Relocating to the St Pancras Hospital site would reduce the number of patients living within 5km by 25 per day, to 240.

3. Public Transport Accessibility - Bus

A review of the accessibility of the two sites by bus has been undertaken. There are bus stops located on City Road outside the existing site and MEH is an official stop on the bus routes. The bus stops located on City Road are served by bus services 43, 205 and 214. Routes and service frequencies are presented in Table 3.1.

Table 3.1: City Road bus service frequency (one direction)

Service	Route	AM Peak (0800-0900)	Inter-peak (1200-1300)	PM Peak (1700-1800)
43	Halliwick Park – London Bridge Station	Every 4 – 8 minutes	Every 4 – 8 minutes	Every 4 – 8 minutes
205	Paddington Station – Bow Church Station	Every 8 – 12 minutes	Every 8 – 12 minutes	Every 8 – 12 minutes
214	Hampstead Lane – Finsbury Square	Every 5 – 8 minutes	Every 5 – 8 minutes	Every 5 – 8 minutes

Table 3.1 indicates that on average 25 buses serve the bus stops located on City Road every hour.

The local bus frequencies for the proposed site are outlined in Table 3.2. This only includes those buses that stop on Crowndale Road, the closest stop to the proposed site (approximately 200m from the main access to the Oriel building on St Pancras Way).

Table 3.2: Local bus service frequency at proposed site (one direction)

Service	Route	AM Peak (0800-0900)	Inter-peak (1200-1300)	PM Peak (1700-1800)
46	Lancaster Gate Station – Street Bartholomew's Hospital	Every 8 – 12 minutes	Every 8 – 12 minutes	Every 8 – 12 minutes
214	Hampstead Lane – Finsbury Square	Every 6 – 10 minutes	Every 6 – 10 minutes	Every 6 – 10 minutes

Table 3.2 indicates that the bus stops close to the proposed site are currently served by an average of 14 buses an hour throughout the day, approximately half the number of buses stopping at the City Road site.

It should be noted that the 214 bus service stops at both the City Road site and on Crowndale Road near the St Pancras site, and therefore patients that currently use this bus service to travel to the existing site would be able to use this to the proposed site. Bus service 205 also stops at King's Cross Station.

In order to assess patients' accessibility to bus routes that stop at City Road and Crowndale Road, the number of patients living within 400m of the bus routes has been estimated.

Figure 3.2 and

Figure 3.1 illustrate the bus routes that stop at each location and a 400m buffer around each route.

Figure 3.1: Bus routes that stop on City Road

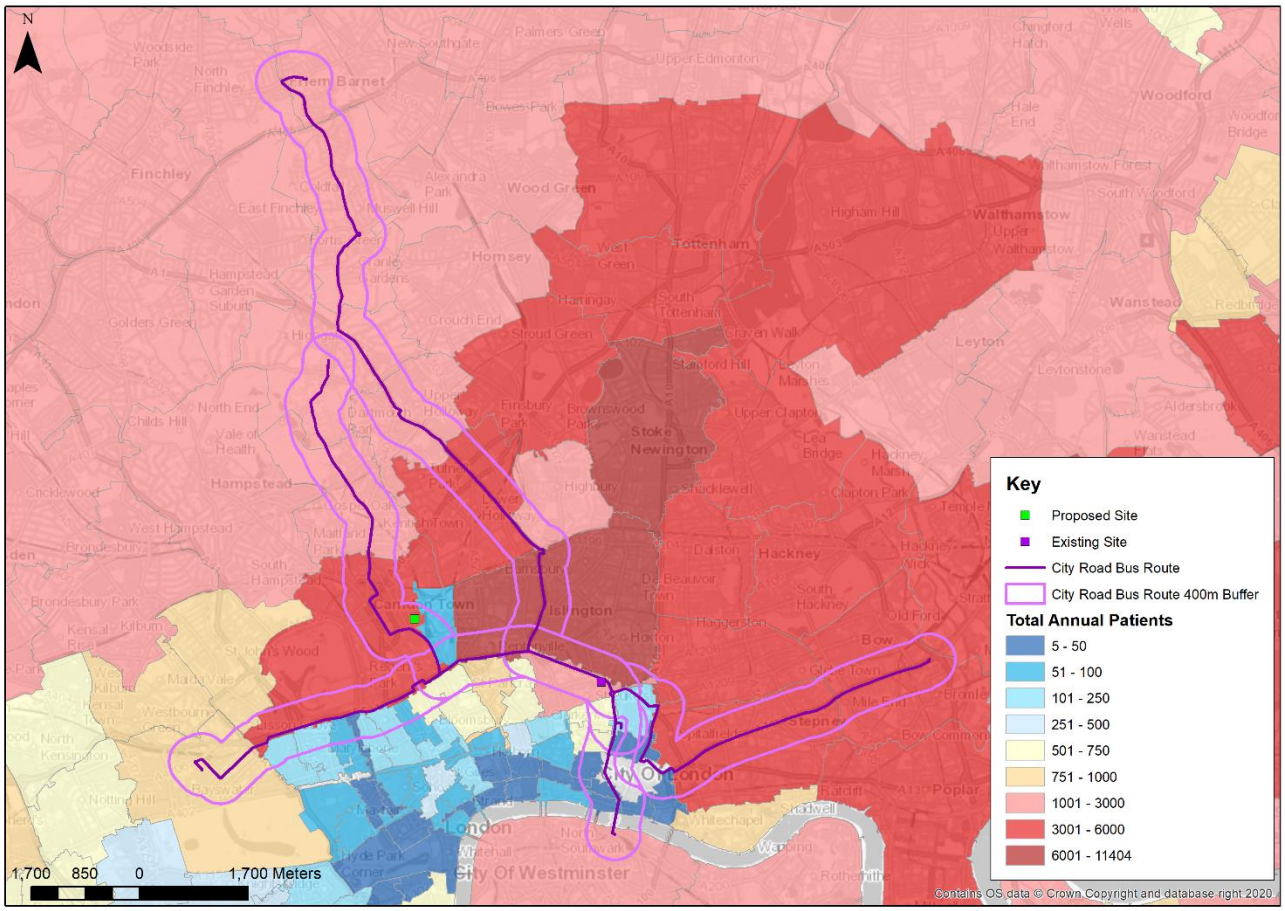
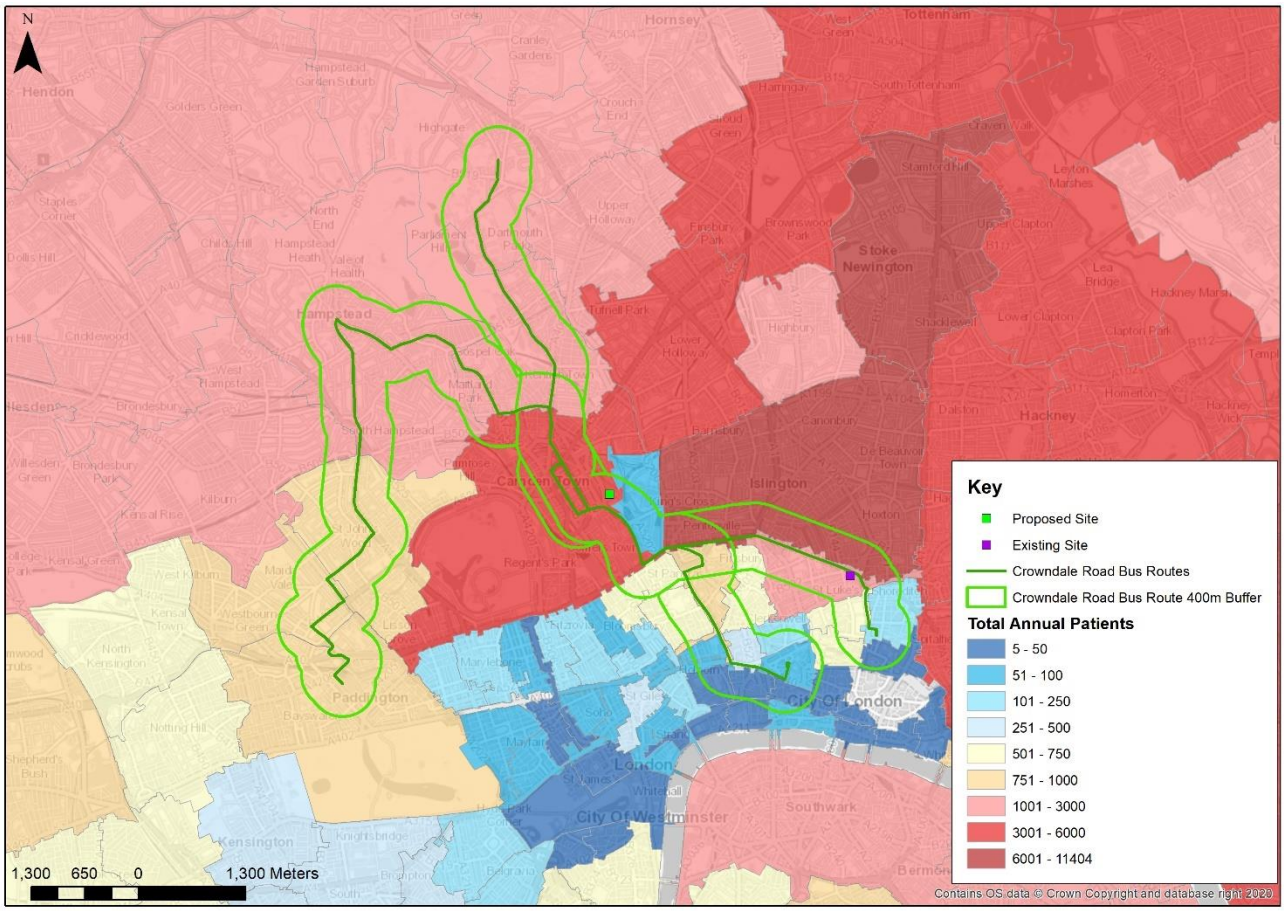


Figure 3.2: Bus Routes that stop on Crowndale Road



As the postcode data provided was truncated to only provide postcode district, it has been assumed that patients living in each district are distributed evenly across the district. The proportion of each district that is within 400m of the bus routes has been estimated and applied to the number of patients within that district. The figures for each postcode district have been summed for each bus route to provide an estimate of the number of patients that live within 400m of a bus route for each site.

Table 3.3: Patients living within 400m of bus routes

	Buses stopping on City Road	Buses stopping on Crowndale Road
Patients living within 400m of bus routes (annual)	13,232	7,800
Patients living within 400m of bus routes (average weekday)	47	28

As show in the table above, on a typical weekday 47 patients visiting the City Road site live within 400m of a direct bus route. Relocating to the St Pancras Hospital site would reduce the number of patients living within 400m of a direct bus route by 19 per day, to 28.

It should be noted that in addition to the bus stops on Crowndale Road, there are also bus stops at Mornington Crescent that serve bus routes 24, 27, 29 and 134 providing more accessibility by bus for patients, although the stops at Mornington Crescent are approximately 600m from the entrance to the Oriel building.

4. Public Transport Accessibility - Rail

Accessibility by National Rail, London Overground and London Underground to the St Pancras Hospital site is presented in the Transport Assessment (sections 3.3.31-38).

The nearest station to the City Road site is Old Street. This is served by Great Northern National Rail services and the London Underground Northern Line. The table below summarises the accessibility of the existing site at City Road and the proposed site at St Pancras Hospital by train.

Table 4.1: Train services serving each site

Mode	City Road site	St Pancras Hospital site
National Rail	Great Northern (Old Street)	East Midlands (St Pancras International)
		Southeastern (St Pancras International)
		Thameslink (St Pancras International)
		London North Eastern (Kings Cross)
		Great Northern (Kings Cross)
		Hull Trains (Kings Cross)
		Grand Central Railway (Kings Cross)
		Avanti West Coast (Euston)
		West Midlands (Euston)
London Overground	None	Camden Road
		Euston
London Underground *	Northern (Old Street)	Northern
		Hammersmith & City
		Circle
		Piccadilly
		Metropolitan
		Victoria

** All London Underground lines stop at Kings Cross St Pancras; the Northern line also stops at Mornington Crescent*

The PTAL for the City Road site is 6a, and for the St Pancras Hospital site is 6b, both rated 'Excellent' by TfL. However, Table 4.1 illustrates that accessibility to the St Pancras Hospital site by train is significantly better than that for the City Road site, with a much greater direct rail catchment. Many people currently travelling to the existing site will go through Kings Cross/St Pancras, and there is potential for them to get a taxi to the existing site, but these patients may be more likely to walk to the existing site.

5. Summary

Analysis of patient postcode data has identified the following:

- 83% of patients live more than 5km from the City Road site; the proportion for the St Pancras Hospital site is similar at 85%. It is considered unlikely that these patients would change their choice of mode of travel due to the proposed relocation of MEH;
- The number of patients living within 5km of the City Road site equates to 265 patients/day; for the St Pancras Hospital site the figure is similar at 240/day;
- The number of patients living within 1km of the City Road site equates to 10 patients/day; for the St Pancras Hospital site the figure is similar at 12/day;
- The number of patients living within 400m of a direct bus route to the City Road site equates to 47/day; for the St Pancras Hospital site the figure is 28/day; and

- Accessibility to the St Pancras Hospital site by train is significantly better than that for the City Road site, with a much greater direct rail catchment.

Relocation to the St Pancras Hospital site will not have a significant impact on the distances travelled by patients. There are slightly more patients (25/day) living locally (i.e. within 5km) to the City Road site, although more patients live within 1km of the St Pancras Hospital site (equating to 2/day).

In terms of direct access by bus, the City Road site is on a direct route for more patients, although the difference equates to only 19/day. The St Pancras Hospital site has significantly better accessibility by train.

Overall, the partial postcode data does not suggest that relocation of MEH to the St Pancras Hospital site could be expected to result in a significant increase in the number of patients choosing to travel by private car or taxi as their main mode of travel (i.e. directly from home) when compared to the existing site at City Road.