

The Imperial London Hotels Limited

Imperial Hotel, Russell Square

Transport Statement

May 2019

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1 INTRODUCTION

- 1.1 Vectos has been appointed by The Imperial London Hotels Limited to provide traffic and transport advice in relation to proposals at Imperial Hotel, Russell Square, which is located within the administrative boundary of the London Borough of Camden (LBC).
- 1.2 At present the site comprises a 382-bed hotel and is located on Russell Square, bound by President Hotel to the north, St Giles International College to the south, Russell Square to the west and residential/office buildings to the east. The site is located in a highly accessible Central London location with a number of underground stations in close vicinity including Russell Square, Holborn and Kings Cross. In addition, the site is well served by buses, pedestrian and cycling facilities.
- 1.3 Proposals include a rooftop extension, which will see the relocation of the existing dining, bar and meeting rooms to the 9th and 10th floor levels. It is noted that the rooftop area will be open to the public as well as guests. The proposals will not increase the number of bedrooms at the hotel and will not result in a change in the access, parking or servicing arrangements.
- 1.4 It is noteworthy that initial pre-application discussions have taken place with LBC, which set out that a Transport Statement should be produced as part of the planning application.
- 1.5 Following this introduction, this Transport Statement is split into five sections as follows:
- **Section 2** considers the existing use of the site and reviews the accessibility of the site by all modes of transport;
 - **Section 3** outlines the transport planning policies pertinent to this application;
 - **Section 4** provides an overview of the proposed development together with details of the access, parking and servicing strategies;
 - **Section 5** assesses the trip generating potential of the proposals by all travel modes and outlines their likely impacts; and
 - **Section 6** summarises the key findings and conclusions of the report.

2 BASELINE CONDITIONS

Site Location and Surrounding area

- 2.1 At present the site comprises a 382-bed hotel and is located on Russell Square in close vicinity to Russell Square Gardens. The site is bound by President Hotel to the north, St Giles International College to the south, Russell Square to the west and residential/office buildings to the east. Other surrounding buildings are primarily of hotels, restaurants and retail uses.
- 2.2 The site is located in a highly accessible Central London location with a number of underground stations in close vicinity including Russell Square and Holborn. In addition, the site is well served by buses, pedestrian and cycling facilities.
- 2.3 The location of the site location is illustrated in **Figure 1**.

Local Highway Network

- 2.4 The site is located to the east of Russell Square, which borders Russell Square Gardens. Russell Square predominately comprises two-way single lane carriageways with parking opportunities on both sides of the road. In the immediate vicinity of the site Russell Square comprises a two lane, two-way carriageway to the north and comprises a two-way single carriageway providing access onto Southampton Row to the south.
- 2.5 In the vicinity of the site to the north and south, Russell Square is subject to double yellow lines which prohibits parking at all times and double yellow lines on the kerb which prohibits loading at any time.
- 2.6 Russell Square is also located within parking permit zone CA-D, which is in operation Monday to Friday between 08:30 and 18:30 hours and on Saturday between 08:30 and 13:30 hours.
- 2.7 Southampton Row provides a route towards Holborn Underground Station and has a bus lane on the eastern side of the road, which is in operation between Monday and Saturday between the hours of 07:00-10:00 and 16:00-19:00. Southampton Row also provides a route towards the A40 to the south, which is a major trunk road that passes through seven London boroughs including the City of London, Camden, Westminster, Kensington & Chelsea, Hammersmith & Fulham, Ealing and Hillingdon.

- 2.8 Queen Square is located to the east of the site and provides the existing service access to the rear of the site. Queen Square is a one way road in a clockwise direction around Queen Square Gardens and falls within parking permit zone CA-D.

Accessibility by Non-car Modes

Accessibility by Foot

- 2.9 There is a well-connected set of footways in the vicinity of the site, which provide connections to nearby public transport interchanges, including Russell Square Underground Station to the north and nearby bus stops on Southampton Row and Russell Square. Access to these nearby facilities are aided by signalised crossings in the vicinity of the site.
- 2.10 Russell Square Gardens is located to the west of the site and provides off-road pedestrian routes through the gardens from one side of the square to the other.
- 2.11 There are also a number of wayfinding facilities in close vicinity to the site including in the areas around Russell Square Gardens. These facilities provide a consistent visual language and wayfinding system across the system across the city, allowing visitors to navigate around London.

Accessibility by Cycle

- 2.12 There are a number of roads in the vicinity of the site that are part of the TfL cycle quietways. This includes Russell Square, Southampton Row, Woburn Place and Guilford Street. In addition, Montague Street and Montague Place are part of Quietway 1 (north), which provides a link from Covent Garden to Kentish Town. It is noted that Quietway 1 is to be extended to the north via Tavistock Place towards Kings Cross and Camden Road stations.
- 2.13 There are also advanced cyclist stop lines at the signalised junctions in the vicinity of the site, which assist cyclists to pull away in front of traffic and thus creates a safer environment for cyclists.
- 2.14 The bus lane located on the eastern side of Southampton Row also provides on-road cycling opportunities. This link to the south provides access onto the bus lanes on the A40 to the west and Theobalds Lane to the east. Cyclists can therefore travel towards Farringdon to the east and Tottenham Court Road to the west.

- 2.15 To the north, Tavistock Place has segregated cycle lanes travelling in both the eastern and western directions. It is noteworthy that Tavistock Place is proposed to become part of Quietway 1 (north) and that Tavistock Sidmouth, located to the east of Tavistock Place is part of Cycle Superhighway 6 (CS6). CS6 provides a route between King's Cross and Elephant & Castle.
- 2.16 Tottenham Court Road, which is located approximately 700 metres to the west of the site is currently undergoing improvements as part of the West End Project. The West End Project is set to improve the public realm on Tottenham Court Road and will create new safer provisions for cyclists by reducing the amount of traffic currently using the route.
- 2.17 There are also a number of Santander bike docking stations in close vicinity to the site. The closest docking stations are located approximately 240 metres to the north of the site at Russell Square Station, which provides access to 26 bikes and 300 metres to the east on Guildford Street, which provides access to 32 bikes.
- 2.18 In addition, there are also Sheffield stands located in close vicinity to the site and Russel Square Gardens.

Public Transport Accessibility Level (PTAL)

- 2.19 The Transport for London (TFL) online PTAL calculator, WebCAT, indicates that the site achieves a PTAL of 6b. This is the highest PTAL possible and therefore indicates an excellent level of accessibility to public transport services. The full PTAL output report is attached at **Appendix A**. Further details of the public transport opportunities in the vicinity to the site are set out below.

Accessibility by Bus

- 2.20 There are a number of bus stops that are located in close proximity to the site, including a bus stop on Southampton Row, approximately 85 metres to the south of the site, on Russel Square, approximately 130 metres to the west and on Bedford place located approximately 140 metres to the west. There is also a further bus stop located approximately 240 metres to the north on Wolburn Place.

- 2.21 These stops are served by a number of routes including 59, 68, 91, 168, 188, N91 and X68, which provide regular connections across London, including towards King's Cross, Hampstead Heath, Crouch End.
- 2.22 In addition to the above, there is a further bus stop located approximately 450 metres to the south of the site on Bloomsbury Square. This stop provides access to services 19, 38, 55, 98, N19, N38, N41, N55 and N98.
- 2.23 Further details of the services provided from the bus stops within close vicinity to the site are attached within the TfL bus spider maps at **Appendix B**.

Accessibility by Underground

- 2.24 There are a number of underground stations within close proximity to the site, which provide comprehensive access to the wider underground network and therefore to a range of destinations across London. Russell Square Underground Station is located approximately 200 metres to the north of the site. This station is located within travelcard zone 1 and is served by the Central Line and the Piccadilly Line. Holborn Underground Station is located approximately 700 metres to the south of the site on the A40 and is on the Central Line and is the adjacent stop to Russell Square on the Piccadilly Line.
- 2.25 Slightly further afield from the site are Goodge Street, Euston Square and King's Cross St. Pancras Underground Stations. Both Euston Square and King's Cross St. Pancras stations are very close to the mainline equivalents, London Euston and King's Cross.
- 2.26 Euston Square Underground Station is located approximately 1.2 kilometres to the north-west of the site and provides access to the Circle, Hammersmith & City and Metropolitan lines. London Euston is a 280 metre walk from the Underground Station. The mainline hub provides access to several major UK cities such as Manchester, Birmingham, Glasgow and Edinburgh.
- 2.27 King's Cross St. Pancras Underground Station is 1.3 kilometres north of the site. The station is very well connected as it is served on the Circle, Hammersmith & City, Metropolitan, Northern, Piccadilly and Victoria lines. The mainline station is a short walk away, which provides direct links to Leeds, Edinburgh and Cambridge.

- 2.28 In addition to the above, St Pancras International is 1.6 kilometres to the north of the site. The Eurostar from this station provides direct trains to destinations across Europe.

Summary

- 2.29 The above review demonstrates that the site is located in a highly accessible location with a range of sustainable transport choices in the vicinity of the site.
- 2.30 The pedestrian and cycle facilities in the vicinity of the site provide the opportunity for staff and visitors to undertake journeys by foot or cycle and provide access to a range of destinations. Furthermore, the pedestrian and cycle facilities provide a connection to the public transport infrastructure in the vicinity of the site.
- 2.31 The site achieves a PTAL 6b, which highlights excellent accessibility to public transport opportunities. There are a number of bus services and underground stations in the vicinity of the site providing a choice of public transport routes, which provide access to a range of destinations.

3 POLICY CONTEXT

National Planning Policy Framework

3.1 The National Planning Policy Framework (NPPF) was published in February 2019 and sets out a presumption in favour of sustainable development that recognises the importance of transport policies in facilitating sustainable development, and that planning decisions should have regard to local circumstances. In this regard, paragraph 102 states that:

"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- *The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised - for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account - including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."*

3.2 Similarly, paragraph 103 states that:

"The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making."

3.3 Paragraph 110 therefore requires developments to be located and designed to:

"... 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..."

3.4 Ultimately, the NPPF requires local planning authorities to ensure that:

- *"Appropriate opportunities to promote sustainable transport modes can be - or have been - taken up, given the type of development and its location;*
- *Safe and suitable access to the site can be achieved for all users; and*
- *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

3.5 Indeed paragraph 109 states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

The London Plan

3.6 The London Plan, which sets out the strategic targets for the spatial development of London to 2031 and beyond, was first published in 2004 and has subsequently been updated in February 2008, July 2011, October 2013, March 2015 and March 2016. The focus of the current London Plan is for London to:

"excel among global cities - expanding opportunities for all its people and enterprises, achieving the highest environmental standards and quality of life and leading the world in its approach to tackling the urban challenges of the 21st century, particularly that of climate change"

3.7 From a transportation perspective, the Mayor intends that London will be a city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling. In achieving this aim, a series of policies have been developed that seek to ensure new developments:

- Do not have an adverse effect upon the transport network and that impacts are assessed within a Transport Assessment (Policy 6.3A);
- Operate Travel Plans, Delivery Service Plans and Construction Logistics Plans to encourage less reliance upon motor vehicles and to ensure that servicing and construction activities are undertaken safely (Policy 6.3C);
- Provide secure, integrated and accessible cycle parking facilities, together with on-site changing facilities (Policy 6.9B);
- Incorporate high quality pedestrian links that link with and enhance the current pedestrian environment (Policy 6.10B);
- Adopt a parking strategy that accords with adopted parking standards (Policy 6.13C); and,
- Operate Delivery and Service plans and Construction Logistics Plans to minimise disruption associated with larger vehicles (Policy 6.14B).

3.8 On 13th March 2018, the Mayor of London published a new Mayor's Transport Strategy. The Transport Strategy states:

Policy 1: The Mayor, through TfL and the boroughs, and working with stakeholders, will reduce Londoners' dependency on cars in favour of active, efficient and sustainable modes of travel, with the central aim for 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041.

Policy 2: The Mayor, through TfL and the boroughs, and working with stakeholders, will seek to make London a city where people choose to walk and cycle more often by improving street environments, making it easier for everyone to get around on foot and by cycle, and promoting the benefits of active travel. The Mayor's aim is that, by 2041, all Londoners do at least the 20 minutes of active travel they need to stay healthy each day.

Policy 21: The Mayor, through TfL and the boroughs, and working with stakeholders, will ensure that new homes and jobs in London are delivered in line with the transport principles of Good Growth for current and future Londoners by using transport to: a) Create high-density, mixed-use places, and b) Unlock growth potential in underdeveloped parts of the city.

Camden Policy

3.9 The Camden Local Plan is the key strategic document in Camden's development plan. It sets out the vision for shaping the Borough and contains policies for guiding planning decisions and was adopted in July 2017. The transportation policies considered relevant to this application are set out below.

- Policy T1: Prioritising walking, cycling and public transport – The Council will promote sustainable transport by prioritising walking, cycling and public transport in the borough.
- Policy T3: Transport infrastructure – The Council will seek improvements to transport infrastructure in the borough and will:
 - “a) not grant planning permission for proposals which are contrary to the safeguarding of strategic infrastructure improvement projects; and*
 - b) protect existing and proposed transport infrastructure, particularly routes and facilities for walking, cycling and public transport, from removal or severance”*
- Policy T4: Sustainable movement of goods and materials – *“Developments of over 2,500 sqm likely to generate significant movement of goods or materials by road (both during construction and operation) will be expected to:*
 - d) minimise the impact of freight movement via road by prioritising use of the Transport for London Road Network or other major roads;*
 - e) accommodate goods vehicles on site; and*
 - f) provide Construction Management Plans, Delivery and Servicing Management Plans and Transport Assessments where appropriate.”*

4 DEVELOPMENT PROPOSALS

Overview

- 4.1 The following text outlines details of the development proposals and summarises how it will be accessed along with providing details of the associated parking and servicing strategies.

Development Proposals

- 4.2 Proposals include a rooftop extension, which will see the relocation of the existing dining, bar and meeting rooms to the 9th and 10th floor levels. It is noted that the rooftop area will be open to the public as well as guests.
- 4.3 The number of restaurant covers, which currently is 120 covers, and the 9 existing meeting rooms are not anticipated to change as part of the proposals.
- 4.4 It is also important to note that the proposals will not increase the number of bedrooms or change the number of car parking spaces on-site and will not significantly increase the number of staff on site.

Access and Parking Strategy

- 4.5 Access to the site will remain as per the existing situation and as such, vehicles will access the site will remain from Russell Square.
- 4.6 At present there is a drop off/pick up area located at the frontage of reception and a basement car park located on site. As part of the development proposals the drop off/pick up and parking arrangements will remain unchanged. This is considered appropriate given the changes as part of the proposals.

Servicing Arrangements

- 4.7 Servicing currently takes place to the rear of the site from Queen Square. As part of the proposals this arrangement is not proposed to change. Swept path analysis attached at **Appendix C** demonstrates that refuse vehicles can adequately access the site. **Appendix C** also demonstrates that vehicles likely to service the site such as a laundry vehicle can also adequately access the site.

- 4.8 It is anticipated that the proposals will lead to an immaterial change in servicing activity and as such the existing servicing arrangement is considered appropriate.
- 4.9 Further details of the servicing arrangements and anticipated level of servicing activity is provided in the Operational Management Plan (OMP), which is submitted under separate cover.

5 EFFECT OF DEVELOPMENT

Overview

- 5.1 The following text outlines the levels of trips that are likely to be generated by the hotel together with an overview of the likely impact that these could have upon the local transport networks.

Trip Generation

Dining and Bar Facilities

- 5.2 The development proposals include a rooftop extension, which will see the relocation of the existing dining, bar and meeting rooms to the 9th and 10th floor levels.
- 5.3 It is noted that the dining facilities at the hotel will continue to serve 120 covers. Given that the number of guests staying at the hotel will not change, it is anticipated that there will be no increase in trip generation associated with guests to the dining/bar areas.
- 5.4 Notwithstanding the above, the new dining and bar facilities located on the 9th and 10th floor levels will be open to the public. Whilst the current dining and bar facilities at the hotel are already open to the public, the rooftop element of the proposals is considered more desirable to the public and as such has the potential to generate new trips. However, given the highly accessible location of the site, these are likely to be via sustainable travel modes. Therefore, the number of trips is not anticipated to be significant and are likely to be distributed across the variety of sustainable travel methods in the vicinity of the site.

Meeting Rooms

- 5.5 As part of the proposals the 9 meeting rooms are to be relocated to the 9th and 10th floor levels. As the number of meeting rooms and activity associated with the meeting rooms is not anticipated to change, the proposals will not result in an increase in trip generation.

Staff Trips

- 5.6 With regard to staff trips, it is anticipated that full time staff will increase from 110 to 120 and part time staff will increase from 10 to 15. These modest increases in staff numbers are unlikely to result in a material increase in trips. In addition, as the site is in a highly accessible

Central London location, any new trip is likely to be undertaken by sustainable modes such as underground, bus, cycling or walking.

Summary

- 5.7 On the basis of the information presented above, it is evident that the proposals will not lead to a significant increase in vehicle or person trips. Given the accessible location of the site, any additional person trips will be distributed across a variety of routes and sustainable transport opportunities including rail, bus, cycling and walking.
- 5.8 On that basis, it is evident that the change in total person movements associated with the proposed development will not result in a material effect on the operation of the highway and transport networks in the vicinity of the site. No further assessment of the effect of movements associated with the development proposals is considered necessary.

6 SUMMARY AND CONCLUSIONS

- 6.1 Vectos has been appointed by The Imperial London Hotels Limited to provide traffic and transport advice in relation to proposals at Imperial Hotel, Russell Square, which is located within the administrative boundary of the London Borough of Camden (LBC).
- 6.2 At present the site comprises a 382-bed hotel and is located on Russell Square, bound by President Hotel to the north, St Giles International College to the south, Russell Square to the west and residential/office buildings to the east. The site is located in a highly accessible Central London location with a number of underground stations in close vicinity including Russell Square, and Holborn. In addition, the site is well served by buses, pedestrian and cycling facilities.
- 6.3 Proposals include a rooftop extension, which will see the relocation of the existing dining, bar and meeting rooms to the 9th and 10th floor levels. It is noted that the rooftop area will be open to the public as well as guests. The proposals will not increase the number of bedrooms at the hotel.
- 6.4 As the proposals do not comprise significant changes to the existing situation, the access, parking and servicing arrangements will remain as per the existing scenario. Further details on servicing is provided in the Operational Management Plan, which is submitted under separate cover.
- 6.5 The proposals will not lead to a significant increase in vehicle or person trips. Given the accessible location of the site, any additional person trips will be distributed across a variety of routes and sustainable transport opportunities including rail, bus, cycling and walking. On that basis, it is evident that the change in total person movements associated with the proposed development will not result in a material effect on the operation of the highway and transport networks in the vicinity of the site.
- 6.6 On the basis of the above, it is considered that the proposals can be accommodated without detriment to the operation of the local highway network. As such, it is considered that there is no reason why the proposals should be resisted on traffic or transportation grounds.

FIGURES



Key:

-  Site Location
-  Underground Stations
-  Local Bus Stops

Imperial Hotel, Russell Square

Imperial Hotels London Ltd.

Site Location Plan



Network Building, 97 Tottenham Court Road, London W1T 4TP
 Tel: 020 7580 7373 Email: london@vectos.co.uk www.vectos.co.uk

DRAWN: BG

CHECKED: JW

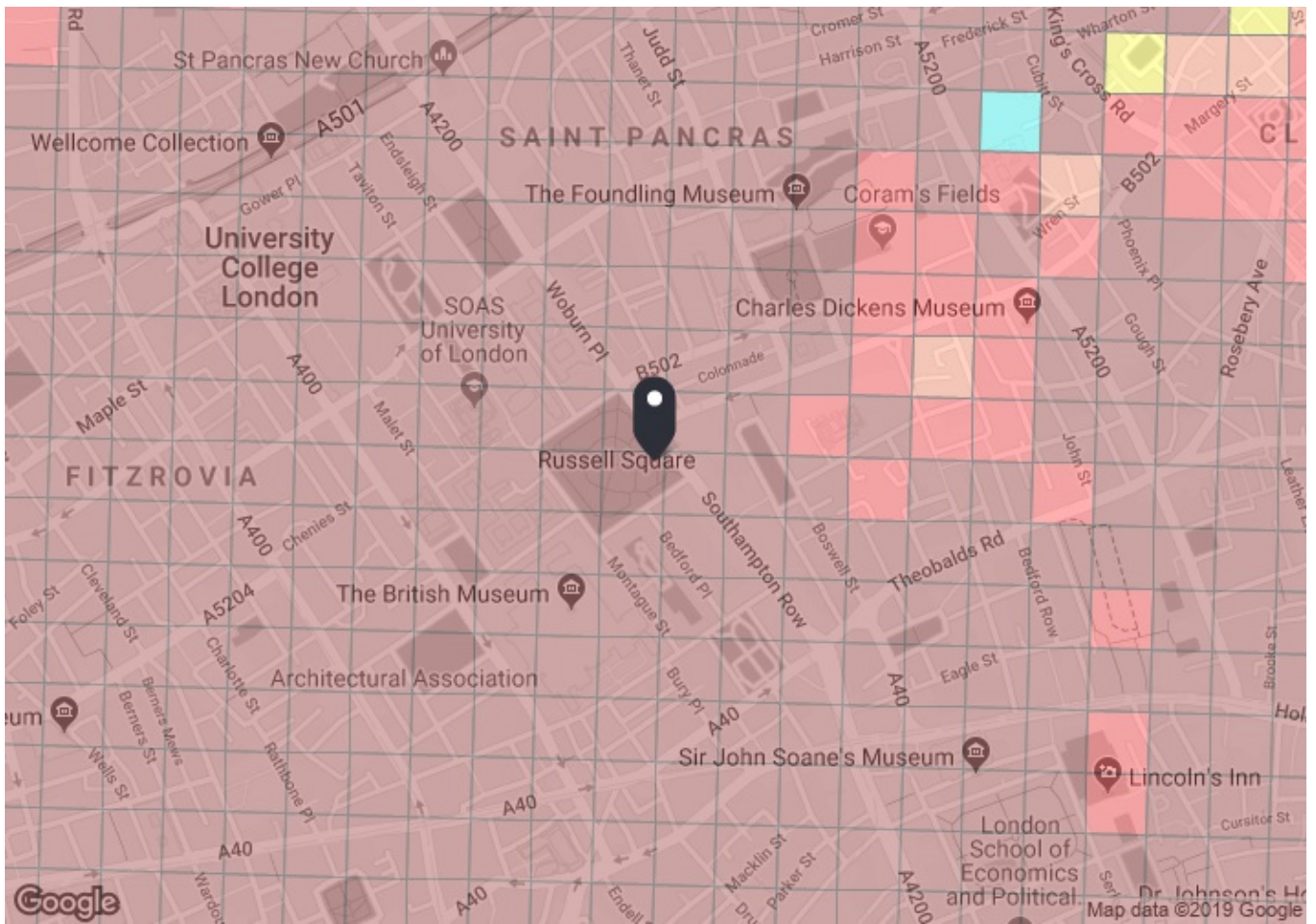
DATE: 17/04/19

SCALE: NTS

DRAWING REFERENCE: Figure 1

APPENDIX A

PTAL Output Report



PTAL output for Base Year
6b

WC1B 5BB
Russell Square, Bloomsbury London WC1B 5BB, UK
Easting: 530182, Northing: 181972

Grid Cell: 87878

Report generated: 16/04/2019

Map key - PTAL

	0 (Worst)		1a
	1b		2
	3		4
	5		6a
	6b (Best)		

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

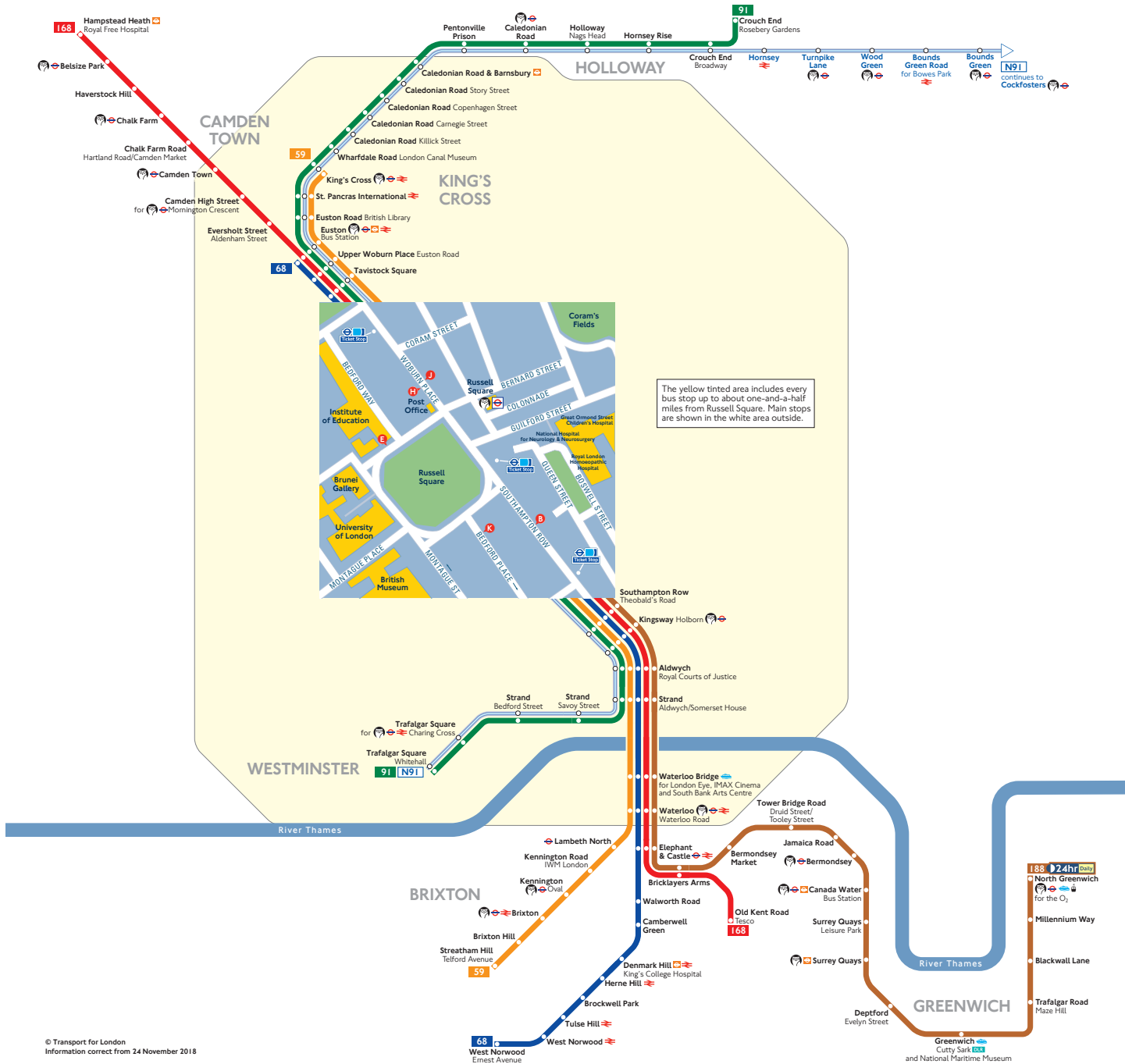
Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	BLOOMSBURY SQUARE	8	486.49	10	6.08	5	11.08	2.71	0.5	1.35
Bus	BLOOMSBURY SQUARE	242	486.49	6.5	6.08	6.62	12.7	2.36	0.5	1.18
Bus	BLOOMSBURY SQUARE	38	486.49	10	6.08	5	11.08	2.71	0.5	1.35
Bus	BLOOMSBURY SQUARE	1	486.49	8	6.08	5.75	11.83	2.54	0.5	1.27
Bus	BLOOMSBURY SQUARE	19	486.49	8	6.08	5.75	11.83	2.54	0.5	1.27
Bus	BLOOMSBURY SQUARE	171	486.49	7.5	6.08	6	12.08	2.48	0.5	1.24
Bus	BLOOMSBURY SQUARE	55	486.49	10	6.08	5	11.08	2.71	0.5	1.35
Bus	RUSSELL SQUARE STH SIDE	98	76.4	9	0.96	5.33	6.29	4.77	1	4.77
Bus	RUSSELL SQUARE STH SIDE	X68	76.4	4	0.96	9.5	10.46	2.87	0.5	1.43
Bus	RUSSELL SQUARE STH SIDE	188	76.4	8	0.96	5.75	6.71	4.47	0.5	2.24
Bus	SOUTHAMPTON RWRUSSELL S	59	216.85	10	2.71	5	7.71	3.89	0.5	1.95
Bus	SOUTHAMPTON RWRUSSELL S	91	216.85	9	2.71	5.33	8.04	3.73	0.5	1.86
Bus	SOUTHAMPTON RWRUSSELL S	68	216.85	9	2.71	5.33	8.04	3.73	0.5	1.86
Bus	SOUTHAMPTON RWRUSSELL S	168	216.85	9	2.71	5.33	8.04	3.73	0.5	1.86
LUL	Goodge Street	'Morden-Edgware'	938.73	4.67	11.73	7.17	18.91	1.59	0.5	0.79
LUL	Goodge Street	'HighBarnet-Morden'	938.73	0.33	11.73	91.66	103.39	0.29	0.5	0.15
LUL	Goodge Street	'Kennington-Edgware'	938.73	14.67	11.73	2.79	14.53	2.06	0.5	1.03
LUL	Goodge Street	'HighBarnet-Kenningt'	938.73	5.33	11.73	6.38	18.11	1.66	0.5	0.83
LUL	Goodge Street	'MillHill-Morden'	938.73	1.67	11.73	18.71	30.45	0.99	0.5	0.49
LUL	Goodge Street	'MillHillE-Kenningt'	938.73	1.67	11.73	18.71	30.45	0.99	0.5	0.49
LUL	Russel Square	'Cockfosters-LHRT4LT'	391.78	4.67	4.9	7.17	12.07	2.49	0.5	1.24
LUL	Russel Square	'RayLane-Cockfosters'	391.78	3.67	4.9	8.92	13.82	2.17	0.5	1.09
LUL	Russel Square	'LHRT4LT-ArnosGrove'	391.78	4.67	4.9	7.17	12.07	2.49	0.5	1.24
LUL	Russel Square	'ArnosGrove-RayLane'	391.78	0.33	4.9	91.66	96.56	0.31	0.5	0.16
LUL	Russel Square	'Oakwood-RayLane'	391.78	0.33	4.9	91.66	96.56	0.31	0.5	0.16
LUL	Russel Square	'Nthfields-Cockfoster'	391.78	1	4.9	30.75	35.65	0.84	0.5	0.42
LUL	Russel Square	'LHRT5-Cockfosters'	391.78	6	4.9	5.75	10.65	2.82	1	2.82
LUL	Russel Square	'Uxbridge-Cockfosters'	391.78	3.67	4.9	8.92	13.82	2.17	0.5	1.09
LUL	Russel Square	'Ruislip-Cockfosters'	391.78	2.33	4.9	13.63	18.52	1.62	0.5	0.81
LUL	Russel Square	'ArnosGrove-Uxbridge'	391.78	1	4.9	30.75	35.65	0.84	0.5	0.42
LUL	Russel Square	'Oakwood-Uxbridge'	391.78	0.33	4.9	91.66	96.56	0.31	0.5	0.16
LUL	Russel Square	'Oakwood-Ruislip'	391.78	0.33	4.9	91.66	96.56	0.31	0.5	0.16
LUL	Holborn	'Ealing-Epping'	696.29	3	8.7	10.75	19.45	1.54	0.5	0.77
LUL	Holborn	'Epping-Whuislip'	696.29	3	8.7	10.75	19.45	1.54	0.5	0.77
LUL	Holborn	'RuislipGar-Epping'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'WhiteCity-Epping'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'Epping-NActon'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'Northolt-Epping'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'Debden-WRuislip'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'WhiteCity-Debden'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'Debden-Northolt'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'RuislipGdns-Debden'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'Loughton-WRuislip'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'NActon-Loughton'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'RuislipGdns-Loughton'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'Loughton-WhiteCity'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'Loughton-Northolt'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'Ealing-Loughton'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'Ealing-NewburyPark'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'WRuislip-NewburyPark'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'NActon-NewburyPark'	696.29	0.33	8.7	91.66	100.36	0.3	0.5	0.15
LUL	Holborn	'Hainault-Ealing'	696.29	5.33	8.7	6.38	15.08	1.99	0.5	0.99
LUL	Holborn	'Hainault-Nacton'	696.29	1.33	8.7	23.31	32.01	0.94	0.5	0.47
LUL	Holborn	'Hainault-WRuislip'	696.29	3.33	8.7	9.76	18.46	1.62	0.5	0.81
LUL	Holborn	'RuislipGdns-NP-Hain'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'Hainault-WhiteCity'	696.29	1.67	8.7	18.71	27.42	1.09	0.5	0.55
LUL	Holborn	'Hainault-NP-Northolt'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38
LUL	Holborn	'GrangeHill-WD-Eal'	696.29	1	8.7	30.75	39.45	0.76	0.5	0.38

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
LUL	Holborn	'GrangeHill-Wald-Whit'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'GrangeHill-Wald-WRsp'	696.29	0.67	8.7	45.53	54.23	0.55	0.5	0.28
LUL	Holborn	'ArnosGrove-Nthfields'	696.29	3	8.7	10.75	19.45	1.54	0.5	0.77
Total Grid Cell AI:										49.63

APPENDIX B

TfL Bus Spider Map

Buses from Russell Square



Route finder

Bus route	Towards	Bus stops
59	King's Cross	H
	Streatham Hill	B J
68	Euston	H
	West Norwood	B J
91	Crouch End	H
	Trafalgar Square	B J
168	Hampstead Heath	H
	Old Kent Road	B J
188	North Greenwich	B E

Night buses

Bus route	Towards	Bus stops
N91	Cockfosters	H
	Trafalgar Square	B J

Other buses

Bus route	Towards	Bus stops
X68	West Croydon ▼	B

Key

- 59 Day buses in black
- N91 Night buses in blue
- Connections with London Underground
- Connections with London Overground
- Connections with National Rail
- Connections with DLR
- Connections with river boats
- Connections with Emirates Air Line
- Monday to Friday peak hours
- Tube/London Overground station with 24-hour service Friday and Saturday nights

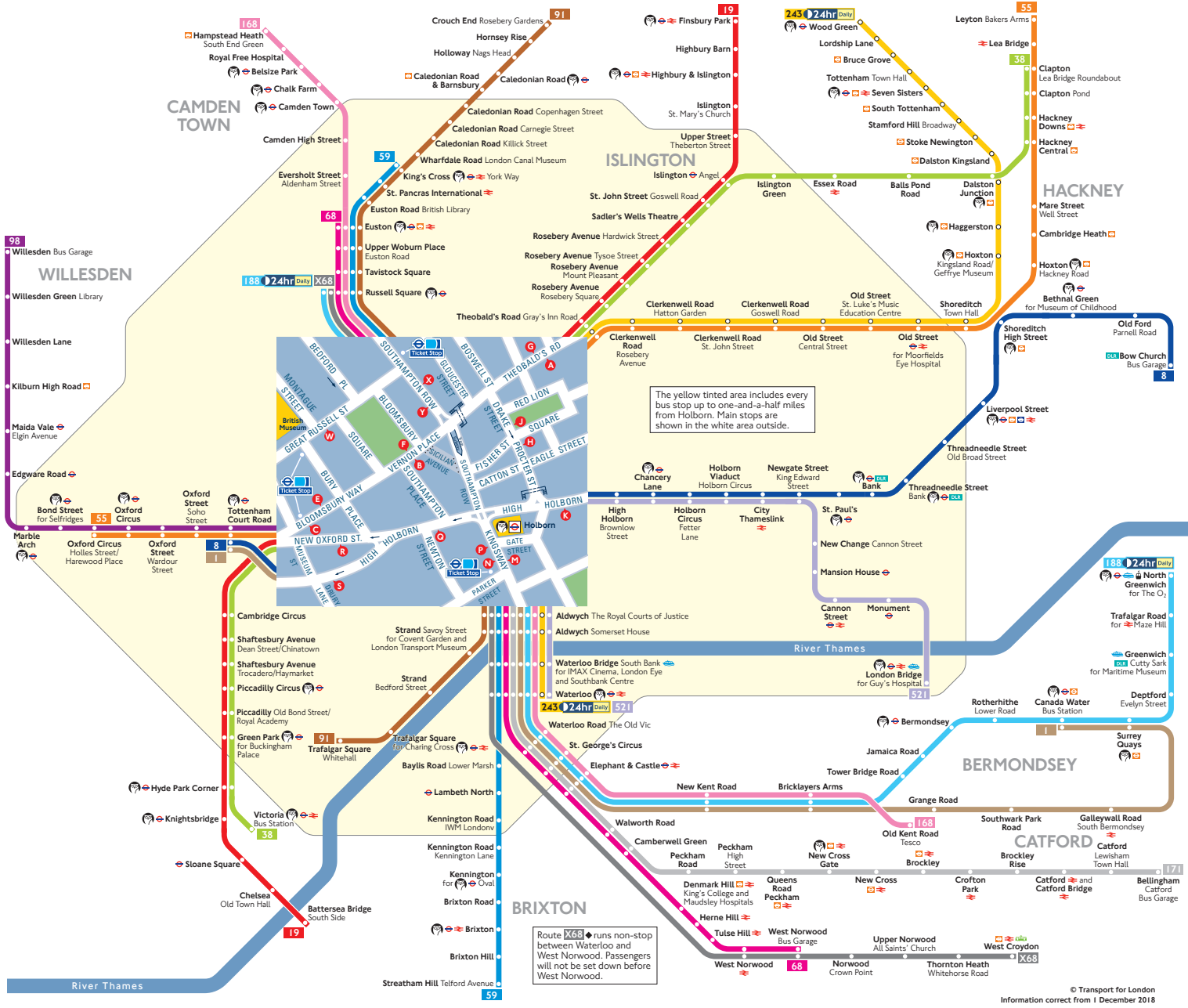
Ways to pay

Use contactless (card or device). It's the same fare as Oyster pay as you go and you don't need to top up

Download the free TfL app to top up or buy a ticket anytime, anywhere, or visit tfl.gov.uk/oyster. Alternatively, find your nearest Oyster Ticket Stop at tfl.gov.uk/ticketstopfinder or visit your nearest TfL station

The Hopper fare offers you unlimited pay as you go Bus and Tram journeys within one hour for £1.50. Always use the same card or device to touch in

Buses from Holborn



The yellow tinted area includes every bus stop up to one-and-a-half miles from Holborn. Main stops are shown in the white area outside.

Route X68 runs non-stop between Waterloo and West Norwood. Passengers will not be set down before West Norwood.

© Transport for London
Information correct from 1 December 2018

Route finder

Bus route	Towards	Bus stops
1	Canada Water	E M
8	Tottenham Court Road	P S
19	Bow Church	E H
38	Tottenham Court Road	K O S
55	Battersea Bridge	A B C
59	Finsbury Park	E F G
68	Clapton	E F G
91	Victoria	A B C
98	Leyton	E F G
168	Oxford Circus	A B C
171	King's Cross	N Y
188	Streatham Hill	M X
243	Euston	N Y
521	West Norwood	M X
X68	Crouch End	N Y
	Trafalgar Square	M X
	Willesden	J
	Hampstead Heath	N Y
	Old Kent Road	M X
	Bellingham	E M
	North Greenwich	M X
	Russell Square	N Y
	Waterloo	A M
	Wood Green	G P
	London Bridge	H P
	Waterloo	K M
	Russell Square	N Y
	West Croydon	M X

Key

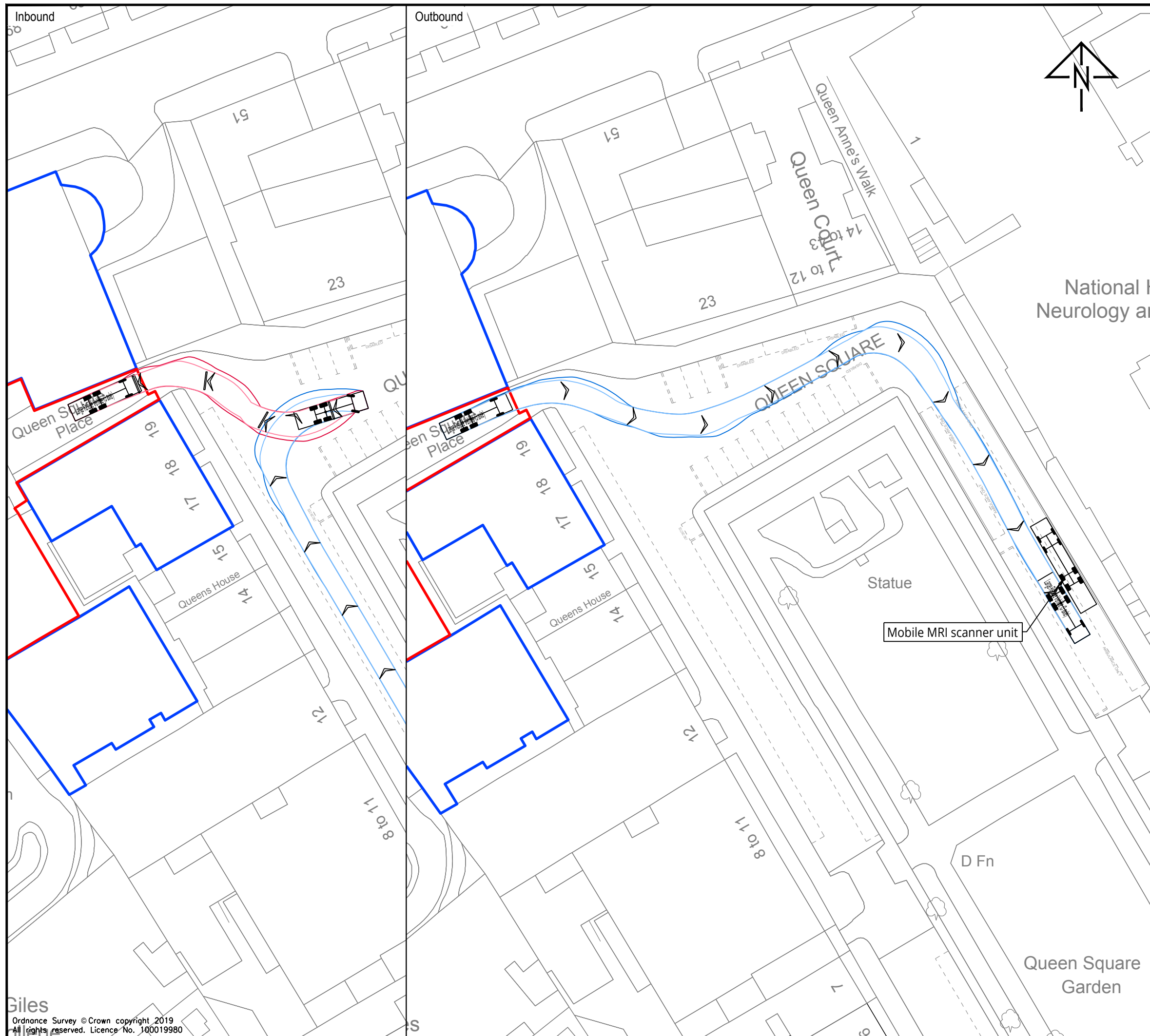
- Connections with London Underground
- Connections with National Rail
- Connections with TFL Rail
- Connections with DLR
- Connections with London Trams
- Connections with river boats
- Connections with Emirates Air Line
- Limited stop, Mondays to Fridays afternoon peak hours only
- Mondays to Fridays morning peak hours only
- Mondays to Fridays only
- Tube/London Overground station with 24-hour service Friday and Saturday nights

Ways to pay

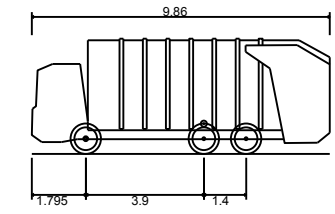
- Use contactless (card or device). It's the same fare as Oyster pay as you go and you don't need to top up
- Download the free TfL app to top up or buy a ticket anytime, anywhere, or visit tfl.gov.uk/oyster. Alternatively, find your nearest Oyster Ticket Stop at tfl.gov.uk/ticketstopfinder or visit your nearest TfL station
- The Hopper fare offers you unlimited pay as you go Bus and Tram journeys within one hour for £1.50. Always use the same card or device to touch in

APPENDIX C

Swept Path Analysis



- Notes:**
1. This is not a construction drawing and is intended for illustrative purposes only.
 2. White lining is indicative only.
 3. Based on Cube Design layout 1289 - P1001.1-Site Location Plan



Large Refuse Vehicle (3 axle)	
Overall Length	9.860m
Overall Width	2.450m
Overall Body Height	3.814m
Min Body Ground Clearance	0.366m
Track Width	2.450m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Imperial London Hotels Ltd

PROJECT:
Imperial Hotel, Russell Square

DRAWING TITLE:
**Swept Path Analysis
Proposed Servicing
Large Refuse Vehicle**

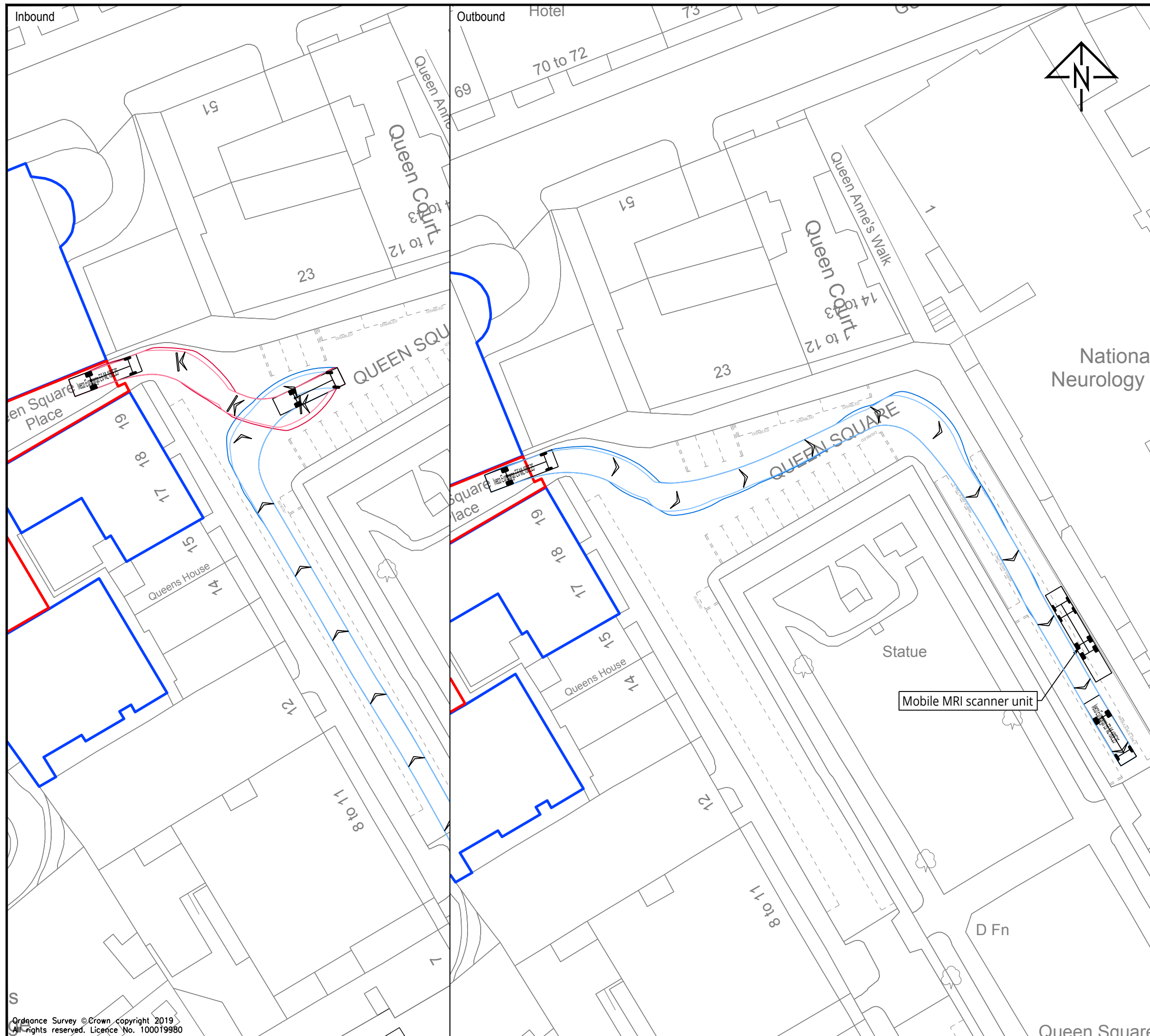
SCALES:
1:500 at A3

DRAWN: PP CHECKED: JW DATE: 23.04.2019

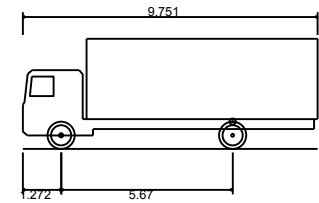


Network Building, 97 Tottenham Court Road, London W1T 4TP
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER: **194735/AT/C01** REVISION: .



- Notes:
1. This is not a construction drawing and is intended for illustrative purposes only.
 2. White lining is indicative only.
 3. Based on Cube Design layout 1289 - P1001.1-Site Location Plan



Iveco Eurocargo E6 ML180E25	
Overall Length	9.751m
Overall Width	2.470m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Wall to Wall Turning Radius	10.210m

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Imperial London Hotels Ltd

PROJECT:
Imperial Hotel, Russell Square

DRAWING TITLE:
**Swept Path Analysis
Proposed Servicing
Laundry Vehicle**

SCALES:
1:500 at A3

DRAWN: PP CHECKED: JW DATE: 23.04.2019



Network Building, 97 Tottenham Court Road, London W1T 4TP
t: 020 7580 7373 e: enquiries@vectos.co.uk

DRAWING NUMBER: **194735/AT/A02** REVISION: .

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