

**United Kingdom Holocaust Memorial
and Learning Centre**

Environmental Statement (Volume 5)
Appendix M Transport Assessment
Addendum
August 2019

The Secretary of State for Housing Communities and Local Government

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1. INTRODUCTION

1.1. APPOINTMENT

- 1.1.1. WSP has been appointed by the Ministry of Housing, Communities & Local Government to provide transport consultancy to support the proposed development of the UK Holocaust Memorial and Learning Centre (UKHMLC). The site falls within Victoria Tower Gardens, located in the administrative boundary of Westminster City Council (WCC) and is within a short walk of the Houses of Parliament and Westminster Abbey.
- 1.1.2. The purpose of this Transport Assessment (TA) Addendum is to address comments from WCC and Transport for London (TfL) on elements that required further clarification, namely in relation to cycle parking provision, kerbside restrictions and an extended Healthy Streets audit scope.

1.2. DEVELOPMENT SITE

SITE OVERVIEW

- 1.2.1. The UKHMLC is proposed to be located within Victoria Tower Gardens, an open space which is bounded by Millbank to the west, the River Thames to the east, the Palace of Westminster to the north and Lambeth Bridge to the south. In total, the Gardens have five entrances – four accessible from Millbank and the fifth from Lambeth Bridge.
- 1.2.2. **Figure 1** shows the location of the proposed Memorial. Note that the UKHMLC does not occupy the entirety of Victoria Tower Gardens.

Figure 1 – Indicative Site Boundary



- 1.2.3. The site is currently used as a park and throughway for pedestrians and cyclists and is open from dawn until dusk. The gardens are part of the Jubilee Greenway walking and cycling route from Westminster Bridge to Buckingham Palace, an important heritage route that marks the Queen's Diamond Jubilee and the London 2012 Olympic Games with parks and monuments across central London.

1.3. PROPOSED APPLICATION

- 1.3.1. The United Kingdom Holocaust Memorial Foundation launched an international design competition in September 2016 for the National Holocaust Memorial and Learning Centre. The winning architects have designed a structure to be located at the southern end of Victoria Tower Gardens, with the aim to honour the victims and survivors of the Nazi persecution and to educate future generations about the dangers of prejudice.
- 1.3.2. The proposals comprise the following elements:
- § A memorial (Class D1)
 - § An adjacent learning centre (Class D1)
 - § An entrance pavilion (ancillary Class D1)
 - § A refreshment kiosk (Class A1)

1.4. REPORT STRUCTURE

- 1.4.1. The remainder of this report is set out as follows:
- § Chapter 1 – Introduction to the TA Addendum
 - § Chapter 2 – Sets out the comments by WCC and TfL
 - § Chapter 3 – Details the response to comments
 - § Chapter 4 – Conclusions

2. TFL AND WCC COMMENTS

2.1. TFL COMMENTS

- 2.1.1. This section summarises TfL's comments issued on 8th February 2019 and points raised during subsequent meetings. These will be responded to in the following chapter.

COACH DROP-OFF / PICK-UP LOCATION

"The applicant is aware there is an aspiration to impose restricted access to Abingdon Street - Millbank - Great Peter Street and Millbank - Lambeth Bridge to provide enhanced security in future. As such, coach pick up/ drop off on Millbank would be undesirable. TfL cannot support non-servicing access for vehicles directly outside the site on Millbank North."

HEALTHY STREETS

"TfL have proposals to transform the road layout at Lambeth Bridge. This involves replacing the northern and southern roundabouts with signalised crossroads, improving the existing highway layout by creating dedicated facilities for pedestrians and cyclists and reducing the dominance of motor traffic in the area as part of the Safer Junctions programme. The public realm will be enhanced with wider footways and clearer crossing facilities for vulnerable road users. This will directly improve pedestrian and cyclist connections to Victoria Tower Gardens, enhancing the look and feel of the area, promoting a sense of place to Lambeth Bridge and its surroundings."

"With the coach pick up/drop off taking place away from Millbank North, Gate 5 will become a key entrance for visitors arriving from coach or River Bus. It is appropriate to request s106 contribution towards the Millbank / Horseferry Road / Lambeth Bridge upgrade works in line with similar recent permissions in the area. This would be secured by condition, and the amount of contribution required will be confirmed in due course."

"TfL considers that the PCL of this site as a 'Tourist Attraction' should be of minimum PCL of B+, therefore improvement would be needed to achieve this to cater for the significant increase visitors to the area."

ON-STREET SERVICING/COACHES

"The coach bays were proposed to be subject to a 'Coach Only' restriction to prevent other servicing vehicles (not connected to UKHMLC) stopping in the bays. While the remaining servicing trips generated by UKHMLC would be infrequent, the loading bay was proposed in order to enable these vehicles to stop along a section of kerbside which is not coach bay or bus cage. Occasional HGVs required to transport bulky equipment for exhibitions etc. would service the site at night when the bus lane restrictions do not apply."

2.2. WCC COMMENTS

2.2.1. This section summarises WCC's comments issued on 31st May 2019 and points raised during subsequent meetings. These will be responded to in the following chapter.

CYCLE PARKING

“The site does not contain cycle parking to accommodate visitors. The reasoning (constraints of the site) highlight overall problems with site to accommodate the proposal in highway and transport terms and impact on the surrounding highway and its users. Further, given the increased volumes of people in the area, locating the short term cycle parking on highway will create additional obstructions to pedestrians. The location of short term cycle parking needs to be reviewed.”

HEALTHY STREETS

“The adverse impacts of the proposals are highlighted in the applicants own assessment against the Healthy Street criteria – with a reduction of 5 points and the addition of a zero score – when compared to the existing highway environment. The applicant is offering no alternative design, management or mitigation to address this. This aspect needs to be reviewed.”

3. RESPONSE TO COMMENTS – CYCLE PARKING

3.1. INTRODUCTION

3.1.1. This section will set out WSP's response to the comments in relation to cycle parking.

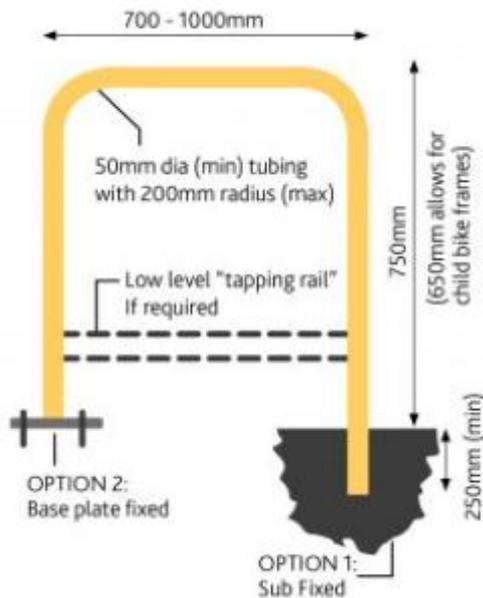
3.2. CONTEXT

- 3.2.1. The development proposals include the installation of 17 new Sheffield stands on the western kerbside of Millbank, between Dean Stanley Street and the Lambeth Bridge roundabout. This area currently has two sections of Sheffield stands. The proposals are to add nine new Sheffield stands as an extension to one section and eight stands as an extension to the other.
- 3.2.2. During discussions with WCC it was established that some of the spacing between existing stretches of stands is due to buried services preventing the installation of foundations below ground.
- 3.2.3. WCC also considered that provision of cycle parking outside the site was not appropriate and that a lack of on-site cycle parking was indicative of the proposed development's constraints in transport terms.

3.3. RESPONSE

- 3.3.1. The applicant considers that the most suitable location for cycle parking for visitors to the Memorial is along Millbank opposite the entrances.
- 3.3.2. Cyclists will access the Memorial from Millbank and will be able to clearly see the location of this parking located on the footway in a position which does not lead to any increased obstruction to pedestrian flow.
- 3.3.3. From there, they will cross Millbank using either the zebra crossing or the proposed signalled crossing at the redesigned Lambeth Bridge junction and walk into the Gardens.
- 3.3.4. It is not considered likely that cyclists would choose to secure their bicycles to railings or other inconsiderate locations when there is plentiful cycle parking on the opposite footway, especially given that this footway is also the most accessible for northbound cyclists.
- 3.3.5. Provision of short-term visitor cycle parking within the Gardens would necessitate either increasing the building footprint or removing additional soft landscaping to provide a hard surface for 34 bicycle spaces. This would have negative impacts on drainage and landscaping. In addition, wheeling bicycles into the Gardens would obstruct pedestrian flow on the footway, through the gates and on the pedestrian routes within the Gardens. The TA acknowledges the large numbers of visitors using these routes at peak times. Placing the cycle parking at a convenient location directly opposite the Memorial represents an effective means to cater for cyclists in a way that minimises pedestrian obstruction.
- 3.3.6. To establish the precise locations of buried services along the western footway of Millbank, utilities mapping/site inspections could be undertaken.
- 3.3.7. Figure 2 illustrates two options for cycle parking stands, option 1 which uses a fixed base plate at ground level with minimal drilling beneath the surface, and option 2 which involves intrusion into the ground for a sub-fixed cycle stand would require excavation of a minimum of 250mm.
-

Figure 2 – Cycle Parking Design



- 3.3.8. Whilst the depth of buried utilities is yet to be established is considered that there is likely to be space along the footway to accommodate an additional 17 Sheffield stands. This may involve placing them at different locations along the same section of footway at locations where no buried services are present.

POTENTIAL NON-INTRUSIVE DESIGN

- 3.3.9. In the event that the presence of buried services mean that some or all the cycle parking needs to be provided without any excavation, there are a number of cycle parking options that could be suitable.
- 3.3.10. One example is providing a non-invasive planter which has lockable sections for bicycles. The weight of the plant and soil means these are difficult to move, 'securing' them to the ground. However, they can be emptied and moved by management staff where necessary. An example is illustrated in Figure 3.

Figure 3 – Planter Cycle Parking (Source: Front Yard Company: PlantLock)



- 3.3.11. In terms of a suitable location for the above options, the southern end of the pavement, immediately north of the roundabout, appears to be the most suitable location. This is as it is not directly in the pedestrian desire line, however it is still easily accessible and visible for potential cyclists.
- 3.3.12. Another example is the option of a Planter Rack, effectively a larger version of the planter above, with storage for up to 6 bicycles (dependent on provider's size). These also require no concrete base, with little drilling. Similarly, to above, the weight on the planter secures it. This is illustrated in Figure 4 below.

Figure 4 – Planter Rack Cycle Parking (Source: Cycle Hoop: Planter Rack)



- 3.3.13. Cyclehoops are another design that could be implemented for the scheme at Millbank. These hoops can be fitted to existing lampposts and bollards, converting them to secure cycle parking spaces for two vehicles. The website states: “*Traditional cycle stands require digging, concreting and sufficient pavement space. The Cyclehoop is easy to install and ideal for retrofitting to existing street furniture, making it great for locations where normal cycle stands cannot be installed and where pavement space is limited*”. An image of the option is shown as Figure 5.

Figure 5 – Cyclehoop for Lamp Posts and Bollards (Source: Cyclehoop)



SUMMARY

- 3.3.14. In summary, the above section details alternative cycle parking options which would avoid intrusive activity, therefore not affecting the services.

4. RESPONSE TO COMMENTS – COACH PARKING

4.1. INTRODUCTION

This section responds to the comments on coach parking.

4.2. CONTEXT

- 4.2.1. The development proposals are for a 30m coach bay to be installed along the eastern side of Millbank adjacent to the site. This would be subject to a drop-off / pick-up only restriction and be for the use of coaches only.
 - 4.2.2. For the provision of a coach parking/drop off bay WCC have encouraged the use of a form of double yellow lines. This also requires additional signage to restrict waiting times to as short as possible.
 - 4.2.3. The CoW Kerbside Management & Enforcement Code of Practice document (April 2017) provides information on the parking and MTC kerbside management and enforcement protocols in the City of Westminster.
 - 4.2.4. Figure 6 details the current enforcement practices preventing coaches stopping on the carriageway in close proximity to the site. As part of the proposals, signage to support the coaches allowing them to stop, unload, wait for the passengers to visit the site, then reload and drive off will be implemented, avoiding the coach having to circulate and return to pick passengers up.
-

Figure 6 – CoW Restricted Streets

<p>RESTRICTED STREETS AND YELLOW LINES Commercial Vehicles Coaches/Buses</p>
<p>Waiting Restrictions Apply, Loading Restrictions Do Not Apply</p> <p>PCN Code 01 <i>"Parked in a restricted street during prescribed hours"</i></p>
<p>Enforcement by Marshal</p> <p>Coach defined as a vehicle containing more than 8 seats exclusive of the driver (i.e. 9 plus the driver). Coaches are now classed as 'buses'.</p> <p>Exemptions</p> <ol style="list-style-type: none"> 1. WCC formal instruction to disregard. 2. Visible signs of unavoidable vehicle breakdown or if recovery service vehicle in attendance. <p>Observations</p> <ol style="list-style-type: none"> 1. 10 mins casual observation. If evidence of picking up/setting down passengers and their luggage is then observed, give as long as is necessary to complete the process. If no activity is seen after 10 mins observation then issue instant PCN.
<p>Coach-Only Pay-to-Park Bays</p> <p>PCN Code 05c <i>"Parked after the expiry of paid for time (buses only)"</i></p> <p>PCN Code 11 <i>"Parked without payment of the parking charge"</i></p> <p>PCN Code 23c <i>"Parked in a parking place or area not designated for that class of vehicle (buses only)"</i></p>
<p>Enforcement by Marshal</p> <p>These bays are for coaches only 08:00-midnight. Coach defined as a vehicle containing more than 8 seats exclusive of the driver (i.e. 9 plus the driver) and are now classed as 'buses'.</p> <p>Coach Enforcement</p> <p>Prior to issue give 5 mins constant observation and confirm on the Pay-to-Park system that no payment has been made or that no valid Coach Parking Card is on display. If no payment shown after this period, issue code 11 PCN.</p> <p>If payment has expired by 10 mins or more, issue code 05c PCN.</p> <p>Coach Parking Cards may be used as an alternative to Pay-to-Park (except in the overnight bays in Bulleid Way). If obscured or face down and details cannot be read, issue instant code 11 PCN</p> <p>Where coaches have paid to park, it is acceptable for them to move to another coach Pay-to-Park bay city-wide using the same payment as tariffs are consistent</p> <p>When confirming whether a vehicle has paid to park, Marshals must check by both location number and VRM. When entering the VRM, Marshals should take care with the number 0 and the letter O, and the number 1 and the letter I. If in doubt, both should be checked.</p> <p>Other Vehicle (non-coach) Enforcement</p> <p>During hours of control, instant code 23c PCN to any non-coach vehicle parked within the bay unless exemption below applies. Vehicle to be authorised for relocation and can occur from 30 mins after the issue of the PCN</p>

- 4.2.5. It is known open-top tour buses have special bus stops, but can also utilise standard bus stops.
- 4.2.6. Transport for London have produced a guide for *“Operating Coaches in London”*, outlining information regarding restrictions and special parking arrangements for coaches in London. The guidance has been prepared by TfL, working closely with the coach industry, London boroughs and other key stakeholders to address issues with coach parking, operation and efficiency.
- 4.2.7. Within the guidance it is noted that vehicles registered as buses can use red route bus stops for picking up and setting down, but cannot park or wait. With yellow routes, picking up and setting down is permitted on double and single yellow lines, but only while activity is taking place. Some London boroughs allow observation times, but this does not apply when loading restrictions are in force. Parking is not permitted at any time and coaches are advised to check signage before using bus stops to pick up and set down, with many restricted to TfL buses.
- 4.2.8. Transport for London have also produced a *“Tourist Coach Action Plan”* (2013) in partnership with the Confederation for Passenger Transport (CPT), highlighting the importance for better tourist coach access provision, and considerations to minimise the impact and improve the efficiency of tourist coaches. The table indicated in Figure 7 provides some context on the approach to yellow line parking.

Figure 7 - TfL - Definition of coach facilities in London

Table 1: Definition of coach facilities in London

Type	Description
Pick up and set down (PUSD) – on red routes	Coaches are allowed to stop at certain locations while passengers are boarding or alighting. These sites include dedicated facilities and red route bus stops where the sign plate indicates 'Except Buses' ¹ .
PUSD – on yellow lines	Coaches are allowed to set down and pick up passengers on single and double yellow lines. Some highway authorities allow up to 10 minutes waiting time when no loading restrictions are in operation. Where bus stop sign plate indicates 'Except Local Buses', tourist coaches are not permitted to stop.
Short-stay parking	Mostly dedicated on-street facilities – maximum stay of 20 to 30 minutes depending on location. Charges apply in some cases.
Medium-stay parking	Mostly on-street – maximum stay of one to four hours, though a few locations permit up to 12 hours. A charge applies to the majority of these dedicated facilities. Overnight parking is not generally permitted.
Long-stay parking	Off street coach parks – generally independently run on private land. Twenty-four hour parking is commonly provided, though the maximum stay period is at the owner's discretion. These sites often provide extra driver facilities, such as toilets.
Coach stations	Coach stations in central London (including Victoria Coach Station) are important passenger interchange points for tour companies operating excursions around London and to UK destinations.

¹. Vehicles of more than eight seats plus driver and therefore any restriction exempting 'buses' can be used by such a vehicle, including bus lanes.

- 4.2.9. Through the application, it would be pertinent to consider extended drop-off times for coach parking within yellow lines as an alternative to coach bays. During discussions with WCC, the Council expressed a preference for double yellow lines to be used instead of a coach bay.
- 4.2.10. As shown in **Figure 6**, on double yellow lines in Westminster coaches are permitted to wait for up to ten minutes, plus the time required for loading / unloading to take place. This would be sufficient for the needs of the proposed development's coach groups.
- 4.2.11. It is noted that double yellow lines can also be used by other types of vehicle for loading and unloading. This means that occupancy of this section of kerbside by servicing vehicles is more likely compared to if a dedicated coach bay were installed. However, given the existing servicing capacity on the western kerbside of Millbank, the eastern kerbside is not likely to draw significant amounts of diverted existing demand, and the proposed development itself will generate negligible servicing trips.
- 4.2.12. Unlike in some other areas, blue badge holders are not permitted to park on double yellow lines in Westminster, and therefore parked vehicles would not obstruct coaches (or other vehicles) from loading along this section of kerbside.

5. HEALTHY STREETS ASSESSMENT

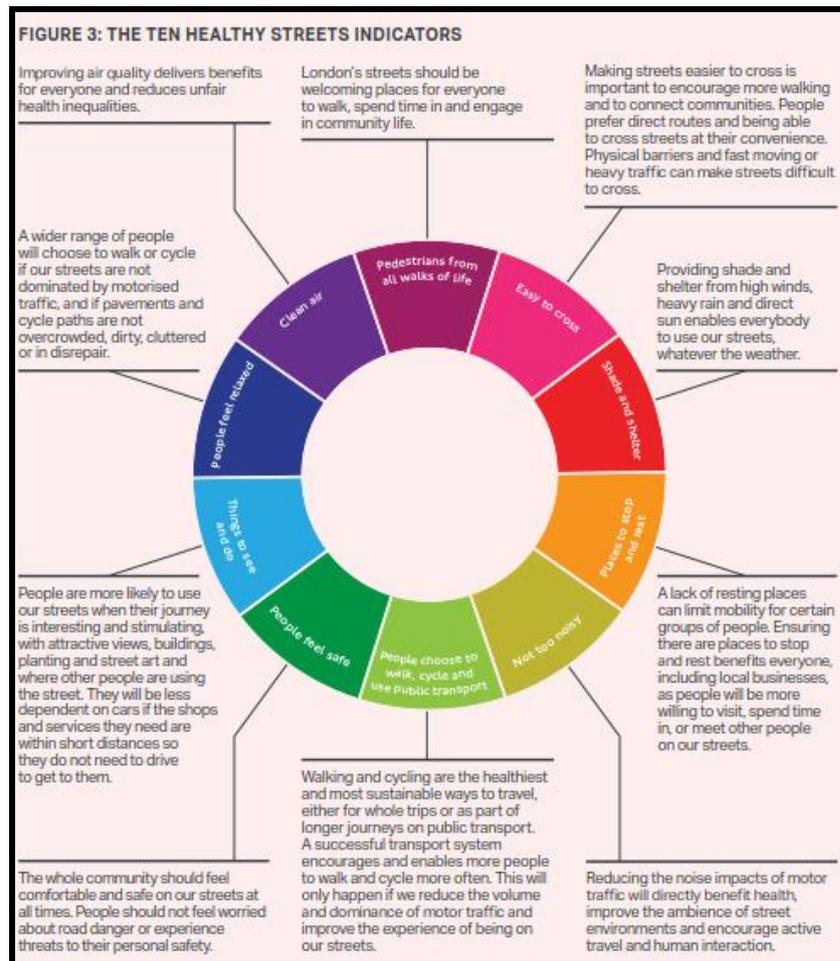
5.1. CONTEXT

- 5.1.1. During discussions with TfL regarding the potential alternative coach drop-off / pick-up location on Millbank south of Lambeth Bridge, it was requested that the Healthy Streets Assessment be extended to cover the eastern side of Millbank as far south as Millbank Pier.
- 5.1.2. In addition, the updated Healthy Streets Assessment should also take into account TfL's proposed conversion of the Lambeth Bridge roundabout to a signal controlled junction.
- 5.1.3. A site visit was undertaken on the 24th July 2019 to view the additional area to be included within the assessment.
- 5.1.4. The updated Healthy Streets Assessment is presented below.

5.2. HEALTHY STREETS ASSESSMENT

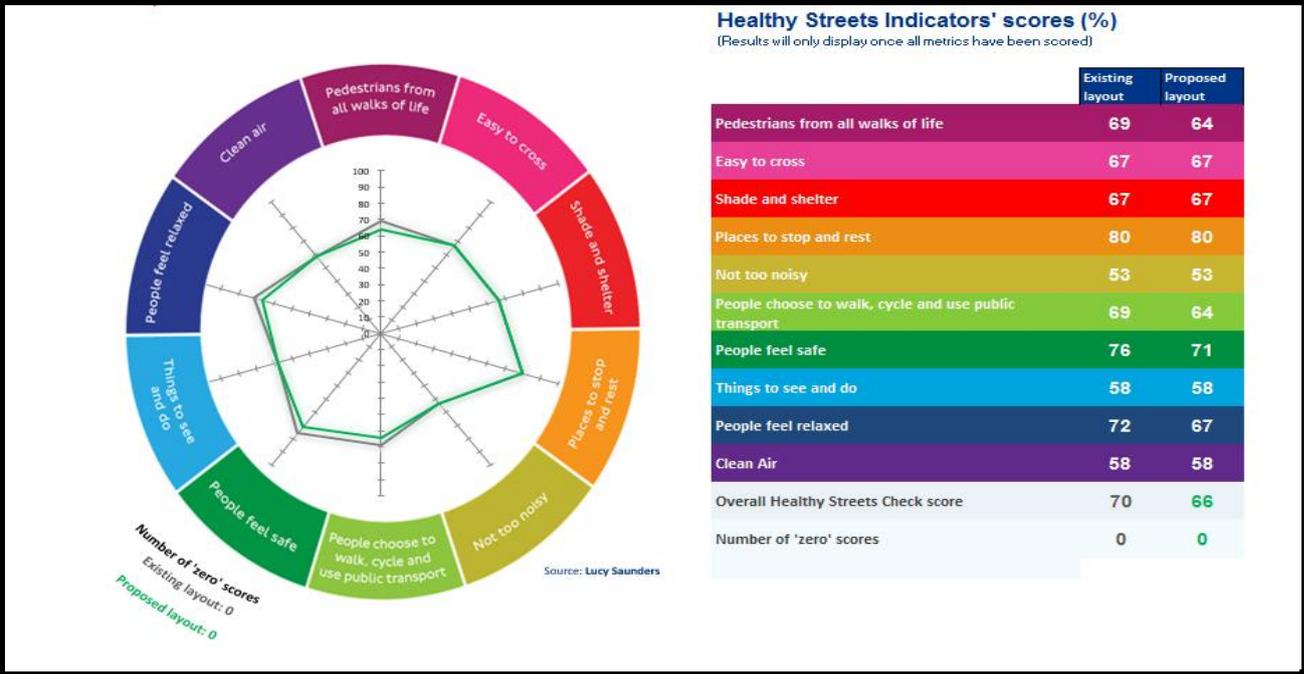
- 5.2.1. The proposed development scheme includes design alterations at the Millbank interface with the public highway, and this has been demonstrated through a Healthy Streets Check for Designers. To note, the proposals do not generate any significant change to the Millbank interface with the exception of eastern kerb activity. The highway proposals are indicated on the proposed scheme layout plan at Appendix A and improvements include:
 - § Improved quality of walking surface, through implementation of modified accesses and associated resurfacing as appropriate
 - § Improved surveillance through increased activity
 - § Improved landscaping / sense of place
 - 5.2.2. These improvements are considered to reflect TfL's 'Healthy Streets Check for Designers' agenda, and this has been demonstrated through a Healthy Streets audit of the existing and proposed Millbank interface arrangements for comparison.
 - 5.2.1. In summary, the Healthy Streets Check is a spreadsheet tool to support designers. It helps any proposed changes to the way streets are laid out or used to result in improvements. Specifically, the assessment audits the Millbank interface with the application site against ten Healthy Streets Indicators, drawing a comparison to baseline conditions.
 - 5.2.2. **Figure 8** shows the Healthy Streets indicators against which the proposed development is assessed.
-

Figure 8 - The Ten Healthy Streets indicators



- 5.2.3. The Healthy Streets audit for the Millbank baseline arrangement received a score of 70%, scoring well on crossing facilities, effective footway widths, quality of walking surfaces, lighting, surveillance and street trees. No metrics received 'zero' scores.
- 5.2.4. The Healthy Streets audit for the proposed Millbank interface arrangement received a score of 66% with no metrics perceived to merit a "zero" score.
- 5.2.5. As outlined above the scheme does not significantly alter the Millbank interface except for the eastern kerbside design to facilitate coach drop-off and pick-up without reducing bus stop capacity for TfL buses.
- 5.2.6. Figure 9 below shows the Healthy Streets audit results for the section of Millbank affected by the proposed development.

Figure 9 - Millbank Healthy Streets audit results



- 5.2.7. It is concluded that the Millbank interface scores well in both the existing and proposed scenarios when assessed using the Healthy Streets Audit. The proposals do not significantly alter how pedestrians interact with Millbank and the existing infrastructure creates a healthy environment for all users.
- 5.2.8. As highlighted by Figure 9, the proposed scheme results in a slight reduction in the Healthy Streets score following alterations to the existing bus and general traffic lane on the eastern side of the carriageway adjacent to the site. This has a minor effect on cyclists using Millbank; however, this is not expected to significantly impact existing cyclists using the route.
- 5.2.9. The full Healthy Streets Audit report is provided in Appendix B.

6. CONCLUSIONS

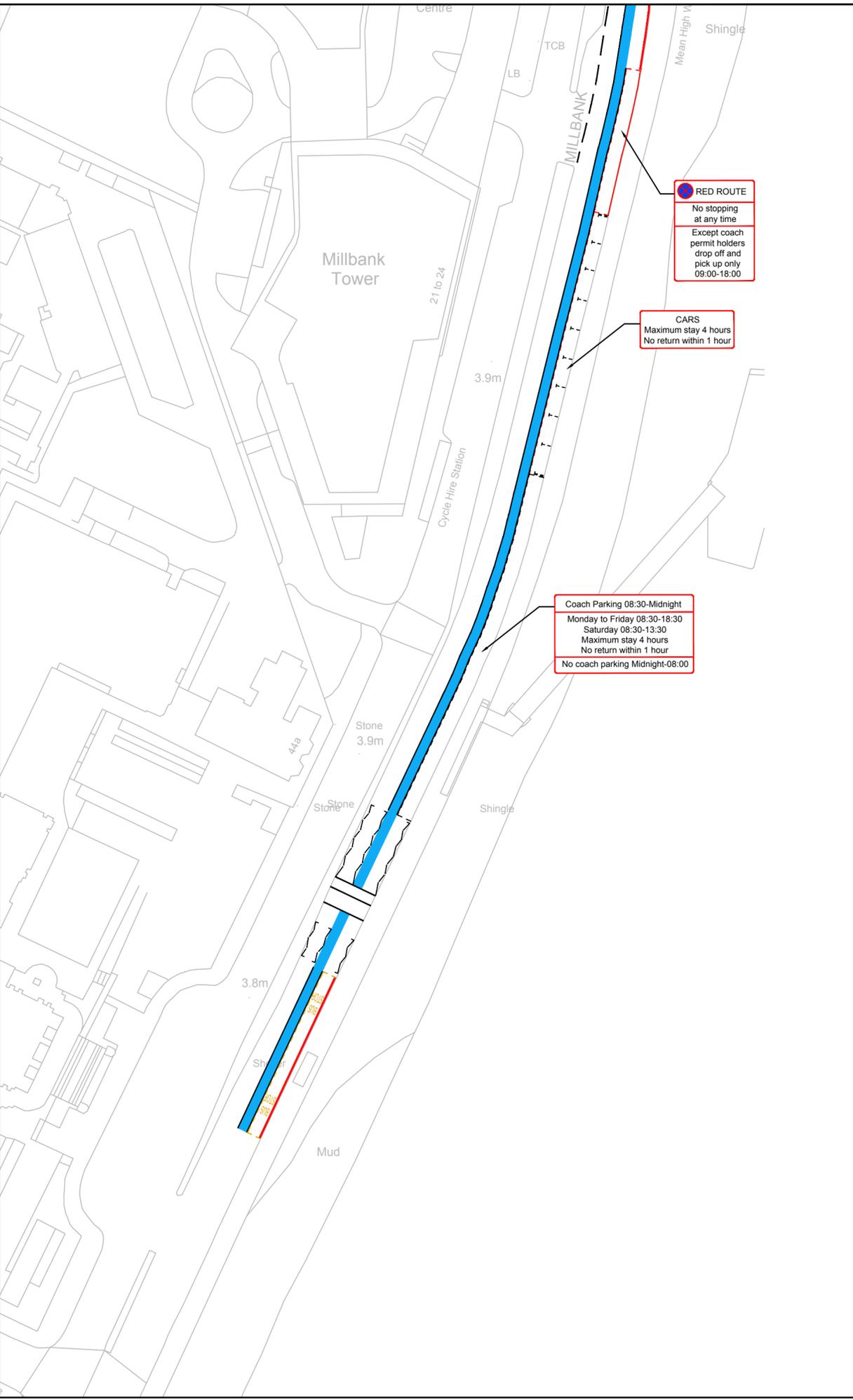
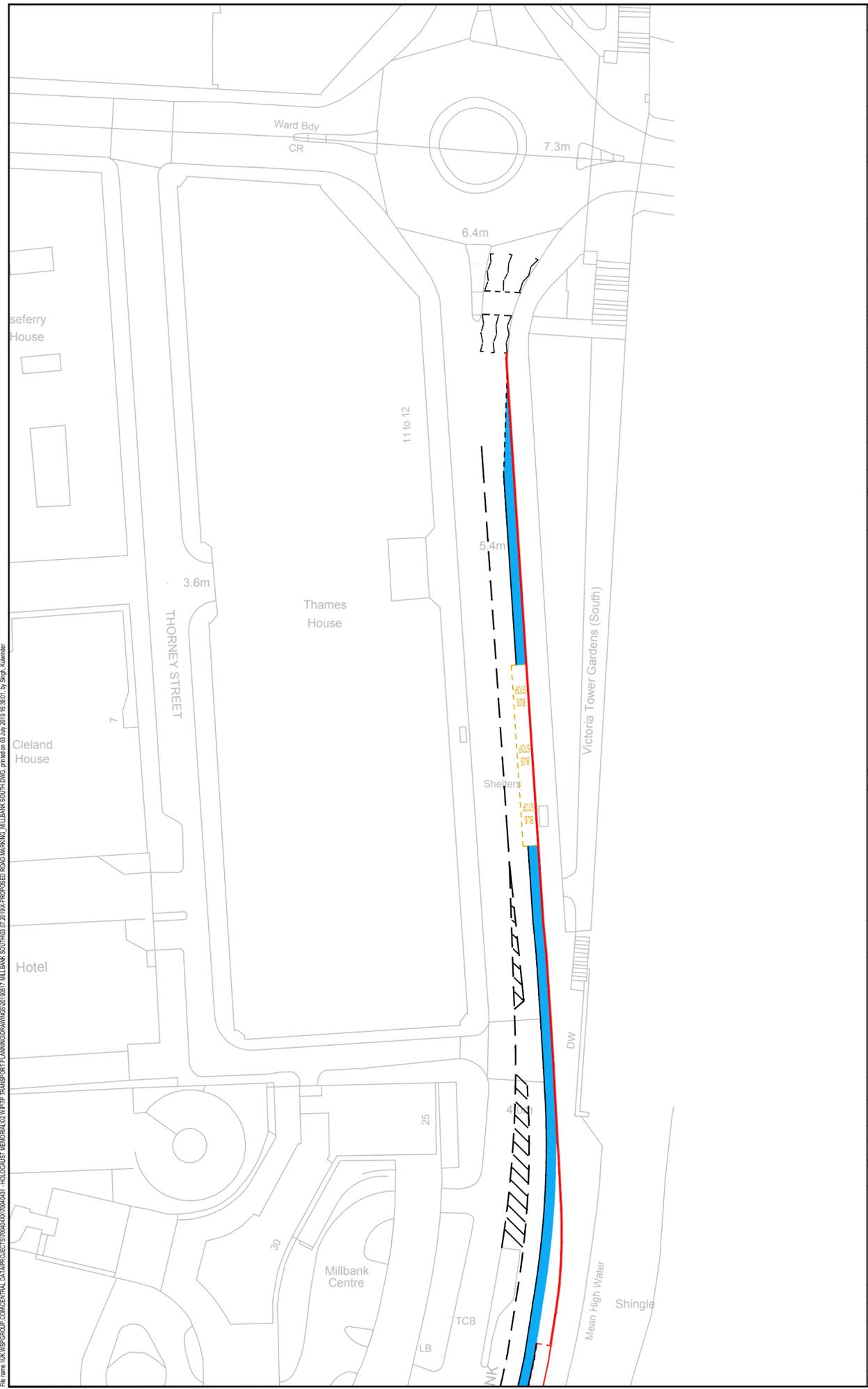
- 6.1.1. WSP has been appointed by the Ministry of Housing, Communities & Local Government to provide transport consultancy to support the proposed development of the UK Holocaust Memorial and Learning Centre within the City of Westminster
- 6.1.2. The UKHMLC is projected to be visited by up to one million people a year, most of whom will be existing pedestrians on the wider network given the site's proximity to major trip attractors around Parliament Square.
- 6.1.3. A comprehensive transport assessment of the development proposals has been undertaken in order to determine the anticipated transport impacts of the UKHMLC's operation and setting out the measures to mitigate these impacts where appropriate.
- 6.1.4. Through a carefully considered design supplemented by some changes to the kerbside arrangements immediately adjacent to the site, coach groups can be accommodated without unduly impacting on other road users along Millbank. Detailed pedestrian analysis has also been undertaken to highlight the locations with the highest footfall at different times.
- 6.1.5. This transport assessment has also informed the Waste Management Plan, the Construction Logistics Plan and the Travel Plan which will all serve to reinforce the sustainable management of transport of people and goods associated with the construction and operation of the proposed UKHMLC.

Copies of the Vehicle and Pedestrian Movement Study (Atkins, October 2017) and the traffic and survey data upon which the report was based (Intelligent Data, 2017) is included in Appendix C and Appendix D of and supplementary to this Transport Assessment Addendum.

Appendix A

HIGHWAYS IMPROVEMENT DESIGNS





DO NOT SCALE

RED ROUTE
 No stopping at any time
 Except coach permit holders drop off and pick up only 09:00-18:00

CARS
 Maximum stay 4 hours
 No return within 1 hour

Coach Parking 08:30-Midnight
 Monday to Friday 08:30-18:30
 Saturday 08:30-13:30
 Maximum stay 4 hours
 No return within 1 hour
 No coach parking Midnight-08:00

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P01	03/07/2019	KS	FIRST ISSUE	XXX	XXX
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS: **S0 - WORK IN PROGRESS**



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CLIENT: Ministry of Housing, Communities and Local Government

ARCHITECT: Adjaye Associates

PROJECT: UK Holocaust Memorial and Learning Centre

TITLE: Millbank (south)
 Proposed Kerbside Layout

SCALE @ A1:	1:500	CHECKED:	GB	APPROVED:	GB
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PROJECT NO:	70040431	DESIGNED:	GB	DRAWN:	KS	DATE:	03/07/19
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DRAWING NO:	0001	REV:	P01
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Appendix B

HEALTHY STREETS AUDIT 2019



Healthy Streets		Scoring System					Enter score here		Notes
		3	2	1	0	More info on each question	Existing layout	Proposed layout	
1	Total volume of two way motorised traffic	There are fewer than 500 vehicles per hour at peak.	There are 500 to 1000 vehicles per hour at peak.	There are more than 1000 vehicles per hour at peak, where people cycling are separated from motorised traffic.	There are more than 1000 vehicles per hour at peak, where people cycling are mixed with motorised traffic.	i	1	1	
2	Interaction between large vehicles and people cycling	No large vehicles are using the street, or cycle traffic is separated from motorised traffic.	The proportion of large vehicles is less than 2% of motorised traffic, 7am to 7pm.	The proportion of large vehicles is 2% to 5% of motorised traffic, 7am to 7pm. <u>or</u> The proportion of large vehicles is greater than 5% of motorised traffic, 7am to 7pm, and people are cycling either: - in a nearside general traffic lane or bus lane at least 4.5m wide, or - in a cycle lane where the combined width of the cycle lane and the next general traffic lane is at least 4.5m.	The proportion of large vehicles is greater than 5% of motorised traffic, 7am to 7pm, and people are cycling either: - in a nearside general traffic lane or bus lane less than 4.5m wide, or - in a cycle lane where the combined width of the cycle lane and the next general traffic lane is less than 4.5m.	i	1	1	The level of traffic generated by the new developments is not expected to increase levels of larger vehicles significantly beyond the existing baseline traffic flow.
3	Speed of motorised traffic	85th percentile speed is less than 20mph. <u>or</u> Existing 85th percentile speed is 20 to 25 mph, but there are some proposals to reduce speed further. <u>or</u> Existing 85th percentile speed is over 25 mph but a complete redesign of the street environment should reduce this to below 20mph.	85th percentile speed is 20 to 25mph. <u>or</u> Existing 85th percentile speed is 25 to 30 mph, but there are some proposals to reduce speed further.	85th percentile speed is 25 to 30mph. <u>or</u> Existing 85th percentile speed is greater than 30 mph, but there are some proposals to reduce speed further.	85th percentile speed is greater than 30mph. <u>or</u> Existing 85th percentile speed is greater than 30 mph, and there are no proposals to reduce this speed.	i	1	1	
4	Traffic noise based on peak hour motorised traffic volumes	There are fewer than 55 vehicles per hour (c. <58 DB).	There are 55 to 450 vehicles per hour (c. 58-70 DB).	There are more than 450 vehicles per hour (c. >70 DB).	-	i	1	1	The noise from vehicle traffic in relation to the the new developments is not expected to increase beyond the existing.
5	Noise from large vehicles	The proportion of large vehicles is less than 5% (c. +0 to +3DB).	The proportion of large vehicles is 5 to 10% (c. +3 to +5 DB).	The proportion of large vehicles is greater than 10% (c. +5 DB and over).	-	i	1	1	The noise from vehicle traffic in relation to the the new developments is not expected to increase beyond the existing

6	NO2 concentration (from London Atmospheric Emission Inventory)	<p>If assessing existing: The NO2 concentration is less than 32µg/m3.</p> <p>If assessing proposal: The existing NO2 concentration is less than 32µg/m3 <u>or</u> the existing concentration is 32 to 40µg/m3 with local traffic volume reduction measures proposed.</p>	<p>If assessing existing: The NO2 concentration is 32 to 40µg/m3.</p> <p>If assessing proposal: The existing NO2 concentration is 32 to 40µg/m3 with no proposal to reduce local traffic volume <u>or</u> the existing NO2 concentration is greater than 40µg/m3 with local traffic volume reduction measures proposed.</p>	<p>If assessing existing: The NO2 concentration is greater than 40µg/m3 (legal limit value).</p> <p>If assessing proposal: The existing NO2 concentration is greater than 40µg/m3 with no proposal to reduce local traffic volume.</p>	-	i	1	1	
7	Reducing private car use	There is no through-movement for motorised traffic, with access limited to local residents, deliveries and public service vehicles.	There are some time or movement restrictions for motorised traffic.	There are no access restrictions for motorised traffic.	-	i	1	1	The proposals will not increase private car trips to the site
8	Ease of crossing side roads for people walking	<p>Side roads are closed to motor traffic.</p> <p><u>or</u></p> <p>Side roads are one-way out for motor vehicles and have features to encourage drivers to turn cautiously.</p>	Side roads are two-way or one-way in for motor vehicles, and have features to encourage drivers to turn cautiously.	Side roads have dropped kerbs only.	Side roads have no dropped kerbs.	i	2	2	There are several crossing points along the boundary of the site between Millbank Pier and Houses of Parliament, enhancing connectivity to nearby bus stops and adjoining streets.
9	Mid-link crossings, to meet pedestrian desire lines	All main pedestrian desire lines are provided for with crossings.	Only some of the main pedestrian desire lines are provided for with crossings.	No main pedestrian desire lines are provided for with pedestrian crossings.	-	i	3	3	
10	Type and suitability of pedestrian crossings away from junctions	<p>Crossing is uncontrolled, with conflicting traffic volume less than 200 vehicles per hour.</p> <p><u>or</u></p> <p>A Zebra or parallel crossing is provided.</p> <p><u>or</u></p> <p>Crossing is signalised so that people crossing the main carriageway have priority, while traffic on the main carriageway has on-demand green.</p>	<p>Crossing is uncontrolled, with conflicting traffic volume between 200 and 1000 vehicles per hour.</p> <p><u>or</u></p> <p>Crossing is signalised and straight-across where the distance to cross is less than 15m or greater than 15m in a 20mph speed limit.</p> <p><u>or</u></p> <p>Crossing is signalised and staggered where the distance to cross is greater than 15m in a 30mph+ speed limit.</p>	<p>Crossing is uncontrolled, with conflicting traffic volume greater than 1000 vehicles per hour.</p> <p><u>or</u></p> <p>Crossing is signalised and straight-across where the distance to cross is greater than 15m in a 30mph+ speed limit.</p>	-	i	2	2	
11	Technology to optimise efficiency of movement (pedestrians, cyclists, buses and general motor traffic)	All appropriate detection and optimisation technology has been applied to traffic signals.	Some detection and optimisation technology has been applied to traffic signals.	No detection and optimisation technology applied to traffic signals.	-	i	1	1	

12	Additional features to support people using controlled crossings	Controlled crossings have many additional features to enhance their quality (please see scoring guidance).	Controlled crossings have some additional features to enhance their quality (please see scoring guidance).	Controlled crossings have no additional features to enhance their quality (please see scoring guidance). <u>or</u> There is no step-free access at the crossing point and/or there is no physical delineation between the footway and carriageway away from crossing points.	-	i	3	3	
13	Width of clear continuous walking space	There is 2m or more clear width for walking in quiet locations (flows of <600 pedestrians an hour). <u>or</u> There is 2.5m or more clear width for walking in moderately busy locations (flows of 600-1200 pedestrians an hour). <u>or</u> There is 3m or more in busy locations (flows of >1200 pedestrians an hour).	There is 2m to 2.5m clear width for walking in moderately busy locations (flows of 600-1200 pedestrians an hour). <u>or</u> There is 2.5m to 3m in busy locations (flows of >1200 pedestrians an hour).	There is 1.5m to 2m clear width for walking in quiet and moderate locations (flows of <1200 pedestrians an hour). <u>or</u> There is 2m to 2.5m clear width for walking in busy locations (flows of >1200 pedestrians an hour).	There is less than 1.5m clear width for walking.	i	3	3	The pavements are wide across the boundary of the site, and to the south of Victoria Tower Gardens along Lambeth Bridge
14	Sharing of footway with people cycling	No part of the footway is designated as shared use for walking and cycling.	Part or all of a footway wider than 3m with fewer than 200 pedestrians per hour is designated as shared use.	Part or all of a footway used by more than 200 pedestrians per hour is designated as shared use. <u>or</u> Part or all of a footway less than 3m wide is designated as shared use.	-	i	3	3	No footway sharing is required along the A3212 in proximity of the site
15	Collision risk between people cycling and turning motor vehicles	Side roads are closed to motorised traffic, or turning movements by motor vehicles are minimised. <u>and</u> At signal-controlled junctions, all conflicting movements between cycle traffic and turning motor traffic are separated.	Some measures are in place to reduce turning movements by motor vehicles at priority junctions. <u>and</u> At signal-controlled junctions, cycle movements are not separated and fewer than 5% of turning vehicle movements are made by larger vehicles but mitigation measures are in place.	There are no restrictions on turning movements by motor vehicles at side roads and other uncontrolled accesses. <u>and</u> At signal-controlled junctions, cycle movements are not separated and more than 5% of turning vehicle movements are made by larger vehicles but mitigation measures are in place.	At signal-controlled junctions, cycle movements are not separated, more than 5% of turning vehicle movements are made by larger vehicles and there are no mitigation measures in place.	i	1	1	

16	Effective width for cycling	Where cycles are separated from other traffic, the width of the lane or track is 2.2m or more (one-way) or 3.5m or more (two-way). Otherwise: Width of the nearside general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is 4.5m or more.	Where cycles are separated from other traffic, the width of the lane or track is 1.5m to 2.2m (one-way) or 2.5m to 3.5m (two-way). Otherwise: Width of the nearside general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is between 4m and 4.5m.	Where cycles are separated from other traffic, the width of the lane or track is less than 1.5m (one-way) or less than 2.5m (two-way). Otherwise: Width of the nearside general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is less than 3.2m.	Width of the nearside general traffic lane (where there is no cycle lane) or width of the cycle lane plus adjacent general traffic lane is between 3.2m and 3.9m.	i	3	1
17	Impact of kerbside activity on cycling	There is no kerbside activity. <u>or</u> People cycling are physically separated from parking or loading facilities.	There is occasional kerbside activity, and people cycling can keep at least 1.0m clearance to vehicles parked or loading.	There is frequent or continuous kerbside activity, and people cycling can keep at least 1.0m clearance to vehicles parked or loading.	People cycling cannot maintain at least 1.0m clearance from vehicles parked or loading.	i	3	2
18	Quality of carriageway surface	The carriageway surface is even and smooth, with sufficient skid resistance. <u>or</u> There are defects but resurfacing of the whole carriageway is proposed.	There are a few minor defects in the carriageway surface (please see scoring guidance).	There are many minor defects in the carriageway surface (please see scoring guidance).	There are major defects in the carriageway surface (please see scoring guidance).	i	2	2
19	Quality of footway surface	There is an even and level surface for walking on footways. <u>or</u> There are defects but resurfacing of the whole footway is proposed.	There are a few minor defects in the footway surface (please see scoring guidance).	There are many minor defects in the footway surface (please see scoring guidance).	There are major defects in the footway surface (please see scoring guidance).	i	3	3
20	Surveillance of public spaces	There is constant surveillance – because mixed use buildings overlook the street or space, or because there are many people using the space or walking through.	There is intermittent surveillance – because surrounding buildings are single-use or do not completely overlook the street, or because there are few people using the space or walking through.	There is poor surveillance – because few buildings overlook the street or space, there is little activity.	–	i	3	3
21	Lighting	Street lighting meets the British Standard 5489:2003 and the European Standard CEN/TR 13201. <u>and</u> Lighting of off-carriageway facilities for walking or cycling exceeds the same standards.	Street lighting meets the British Standard 5489:2003 and the European Standard CEN/TR 13201 but lighting of off-carriageway spaces for walking or cycling does not.	Street lighting does not meet the British Standard 5489:2003 and the European Standard CEN/TR 13201.	–	i	3	3

22	Provision of cycle parking	Cycle parking exceeds existing demand and is accessible by all.	Cycle parking meets existing demand and is accessible by all.	Cycle parking does not meet existing demand. <u>or</u> Cycle parking meets existing demand but is not accessible by all.	-	i	3	3			
23	Street trees	If assessing existing: There are multiple trees, with canopies spaced less than 15m apart on average. If assessing proposal: All existing trees are to be retained and the street is already tree-lined with less than 15m between tree canopies. <u>or</u> All existing trees are to be retained, with planting of new trees designed to reduce the average canopy spacing to less than 15m.	If assessing existing: There are multiple trees, with canopies spaced more than 15m apart on average. If assessing proposal: Not all existing trees are to be retained, however new planting will ensure the overall number of trees is maintained or increased. <u>or</u> All existing trees are to be retained, however the canopy spacing will remain more than 15m on average.	If assessing existing: There are no trees, or only one tree. If assessing proposal: There are no existing or proposed trees. <u>or</u> The number of trees has been reduced.	-	i	3	3			
24	Planting at footway-level (excluding trees)	If assessing existing: There is substantial planting in good condition designed to create or improve social space and/or act as a connection between other green spaces (eg pocket park, rain garden, community garden area). If assessing proposal: Existing greenery is to be enhanced with integrated SuDS features or new planting or new areas of greenery are proposed.	If assessing existing: There is some planting, eg shrubs, verges, hedges, ornamental flower beds, or adaptation for some animal species. If assessing proposal: Existing standalone greenery is to be retained.	If assessing existing: There is no planting, or existing planting is in a poor condition. If assessing proposal: No green infrastructure is proposed, or the size of existing greenery is to be reduced.	-	i	2	2			
25	Walking distance between resting points (benches and other informal seating)	There is less than 50m between resting points.	There is between 50m and 150m between resting points.	There is more than 150m between resting points.	-	i	1	1			
26	Walking distance between sheltered areas protecting from rain. Including fixed awning or other shelter provided by buildings/infrastructure	There is less than 50m between sheltered areas.	There is between 50m and 150m between sheltered areas.	There is more than 150m between sheltered areas.	-	i	1	1			
							Are there any bus services running on this street? (Y/N) If not, do not complete metrics 27-28		Y	Y	An answer is required here in order to generate results
27	Factors influencing bus passenger journey time	There are positive influences on bus journey time, e.g. bus lanes, and/or exemptions for buses from movement bans for general traffic.	Buses are mixed with traffic but not significantly delayed.	There are negative influences on bus journey time, e.g. unclear markings, narrow lane width, parking/loading issues, short cage length, mixing with congested traffic.	-	i	3	2			

28	Bus stop accessibility	Bus stop is wheelchair accessible, there is clear space for boarding and alighting and there is a clearway in place at the bus stop.	Bus stop is wheelchair accessible but either there is limited clear space around the bus stop for boarding and alighting or, for borough roads, there is no clearway in place.	Bus stop is not wheelchair accessible, ie the kerb height is less than 100mm.	-	i	3	3	
Are there any rail/underground/bus stations accessible from this street? (Y/N) If not, do not complete metrics 29-31							N	N	An answer is required here in order to generate results
29	Bus stop connectivity with other public transport services	The bus stop is within sight of another service – less than 50m away.	The bus stop is between 50m and 150m away from another service.	The bus stop is more than 150m away from another service.	-	i			
30	Street-to-station step-free access	All entry points to the station are step-free.	The main entry point to the station is not step-free but step-free alternatives are provided.	There is no step-free access to the station.	-	i			
31	Support for interchange between cycling and underground/rail	Secure cycle parking is provided close to station access points, and exceeding existing demand.	Cycle parking is available close to station access points that meets existing demand.	There is insufficient cycle parking to meet demand, or cycle parking is poorly located for station access points.	-	i			
If 'zero' scores (known road danger issues) remain, please explain why opposite:							0	0	<i>Insert design response for 'zero' scores here</i>

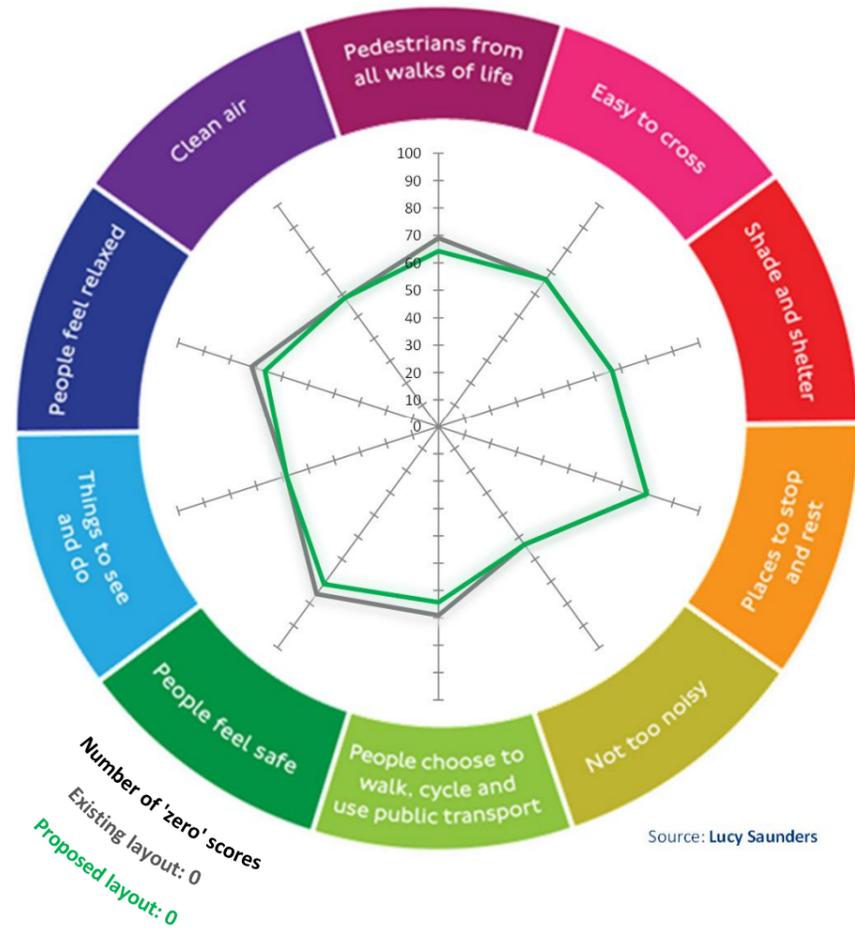
Healthy Streets Check Summary Results

Indicators explained >

An overview of how each metric aligns with different Indicators

Interpreting results >

A summary of how to use and improve on your results



Healthy Streets Indicator scores (%)

(Results will only display once all metrics have been scored)

	Existing layout	Proposed layout
Pedestrians from all walks of life	69	64
Easy to cross	67	67
Shade and shelter	67	67
Places to stop and rest	80	80
Not too noisy	53	53
People choose to walk, cycle and use public transport	69	64
People feel safe	76	71
Things to see and do	58	58
People feel relaxed	72	67
Clean air	58	58
Overall Healthy Streets Check score	70	66
Number of 'zero' scores	0	0

! Check impact on buses

Appendix C

VICTORIA TOWER GARDENS &
MILLBANK - VEHICULAR &
PEDESTRIAN MOVEMENTS STUDY
(ATKINS)





Victoria Tower Gardens & Millbank

Vehicular and pedestrian movement study to support the development of the Holocaust Memorial
Final Report - October 2017

Atkins Job Number: 5152854	Document Reference: Victoria Tower Gardens & Millbank Vehicular and Pedestrian Movement Study to support the development of the Holocaust Memorial
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Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date
01	Draft 01 - interim report	CT	GW	BC	SJ	18/07/17
02	Draft 02- interim report	CT	GW	BC	SJ	20/07/17
03	Draft 03 - final report for client review	CT	RS	BC	SJ / CG	26/10/17

This document and its contents have been prepared and are intended solely for the United Kingdom Holocaust Memorial Foundations's information and use in relation to Victoria Tower Gardens & Millbank Movement Study.

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Victoria Tower Gardens & Millbank

Vehicular and pedestrian movement study to support the development of the Holocaust Memorial
Final report - October 2017



Background and Study Area

This chapter of the report introduces the study undertaken in Victoria Tower Gardens and outlines the layout and key features of the study area



Introduction

The United Kingdom Holocaust Memorial Foundation (UKHMF) launched a memorial international design competition in September 2016 for a National Holocaust Memorial and learning centre. The memorial and centre will stand in the shadow of Parliament, in Victoria Tower Gardens. The aim of the memorial is to honour victims and survivors of Nazi persecution and educate future generations about the dangers of prejudice. Ninety-two teams expressed an interest in the project, with a shortlist of 10 who were accepted to submit concept designs. The public has been invited to vote on the shortlisted designs.

Atkins was commissioned by DCLG (Department for Communities and Local Government) to undertake a transport movement study to inform the development of the shortlisted designs. The study comprises pedestrian and vehicular movement assessments including pedestrian flows along Millbank, the number of visitors accessing the Gardens, as well as pedestrian behaviours in the park. Vehicular movements on Millbank are studied, as well as kerbside activities on Millbank and the surrounding streets, to identify potential parking capacity for visitors.

The study also aims to identify any general issues on the site which may be exacerbated by the development of the memorial and learning centre in this location.

The movement study includes:

Site scoping

- A qualitative review of the landscape and historical context; and
- A review of the site's key strengths and issues.

Pedestrian movement and behavioural analysis

- Pedestrian flow movement assessment along Millbank;
- A qualitative review of user behaviour in the Gardens; and
- Examination of preferred garden paths, uses, and destinations.

Vehicular and cyclist movement, parking and loading

- Vehicular and cyclist flow movement assessment along Millbank; and
- Parking and loading study on Millbank and surrounding streets.

Due to unforeseen road works in the area, pedestrian and vehicular data was collected over 2 phases, as follows:

- **Phase 1 - May 2017:** Pedestrian flow data collected on a Saturday and a Monday Bank Holiday (corresponding to weekend data).
- **Phase 2 - September 2017:** Pedestrian flow data collected on a Wednesday (corresponding to weekday data). Vehicular data collected on a Wednesday (corresponding to weekday data) and on a Saturday (weekend data). Kerbside activity collected over 7 days (5 weekdays and a weekend).

This final report has been organised as follows:

- Chapter 1: Background and Study Area page 05
- Chapter 2: Existing COnditions page 13
- Chapter 3: Pedestrian Movement & Behavioural Analysis page 19
- Chapter 4: Vehicular & Cyclist Flows page 33
- Chapter 5: Kerbside Analysis page 41
- Chapter 6: Transport Assessemnt Scope page 51
- Chapter 7: Conclussions page 55

The study area

Victoria Tower Gardens is bordered by the Thames on the east, Millbank on the west and by the Palace of Westminster to the north. It has five entrances, with entrance on Lambeth Bridge being the only one with steps (Figures 1 and 2).

Victoria Tower Gardens is a public park managed by The Royal Parks, and designated as a Grade II listed garden. The Gardens were created as part of Sir Joseph Bazalgette's construction of major sewage works for London in the 1870s.

The Palace of Westminster to the north of the Gardens is a Grade I listed building within the Westminster World Heritage Site and within the Westminster Abbey and Parliament Square Conservation Area. The House of Commons and Big Ben are to the north of the palace and Westminster Abbey is on the opposite side of Abingdon Street.

The boundaries of the Gardens to the west and north are demarcated by iron railings, to the south by the retaining wall of Lambeth Bridge, and to the east by the granite embankment wall. The original layout of the Gardens comprised four grass lawns around a central circular lawn, all divided by paths. In the 1920s the southern end of the Gardens was redesigned as a children's play area. In 1933 the layout was simplified in order to give clear views to the Houses of Parliament and some of the shrubs and trees were removed.

The Gardens are visited by a large number of tourists year-round. According to the competition brief, visitors to Victoria Tower Gardens are anticipated to number up to one million annually.

The Parliamentary Education Centre, which is located at the north end of Victoria Tower Gardens, was officially opened in 2015. It was anticipated to double the number of young people visiting Parliament with their school, from 45,000 to 100,000 pupils every year.

Key

-  Westminster underground station
-  Significant Buildings
-  Green space / Parks
-  Buildings / Developments
-  Pavement
-  Water
-  Road

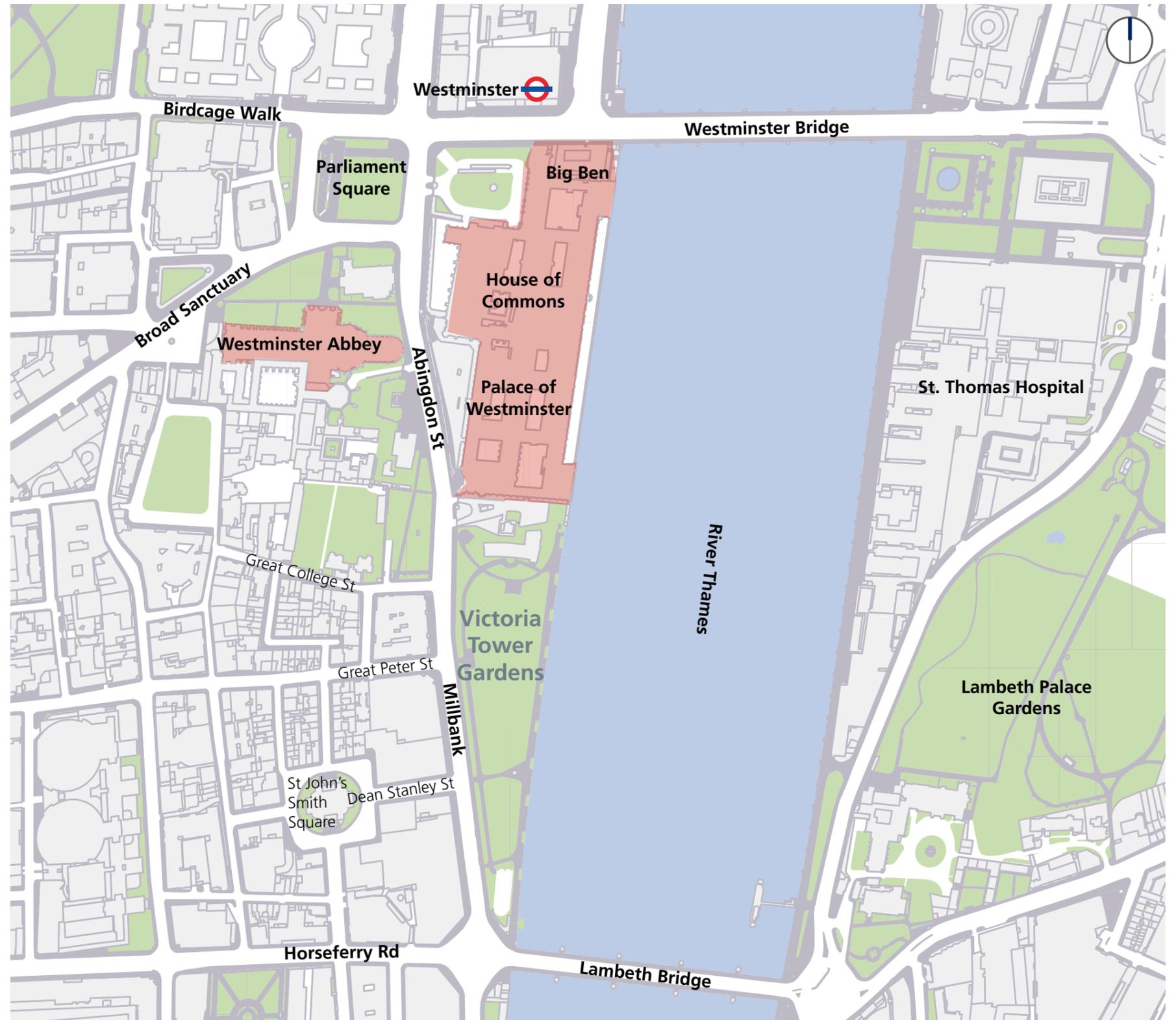


Figure 1: Victoria Tower Gardens Context

Surrounding streets

The street frontages to the west of the Gardens are occupied primarily by offices with some residential buildings.

Horseferry Road is an arterial road while Great College Street, Great Peter Street, and Dean Stanley Street are quieter streets and have on-street resident permit and pay by phone parking. Dean Stanley Street leads to St John's Smith Square, a Grade I listed concert hall.

Great College Street has a Santander Cycle docking station at the intersection with Millbank and provides access to underground parking (QPark Westminster). The street is signposted as 'unsuitable for coaches'.

Millbank extends to Abingdon Road to the north which currently has anti-terrorist road blockers installed for the security of the Houses of Parliament.



Figure 3: Great Peter Street



Figure 4: Horseferry Road

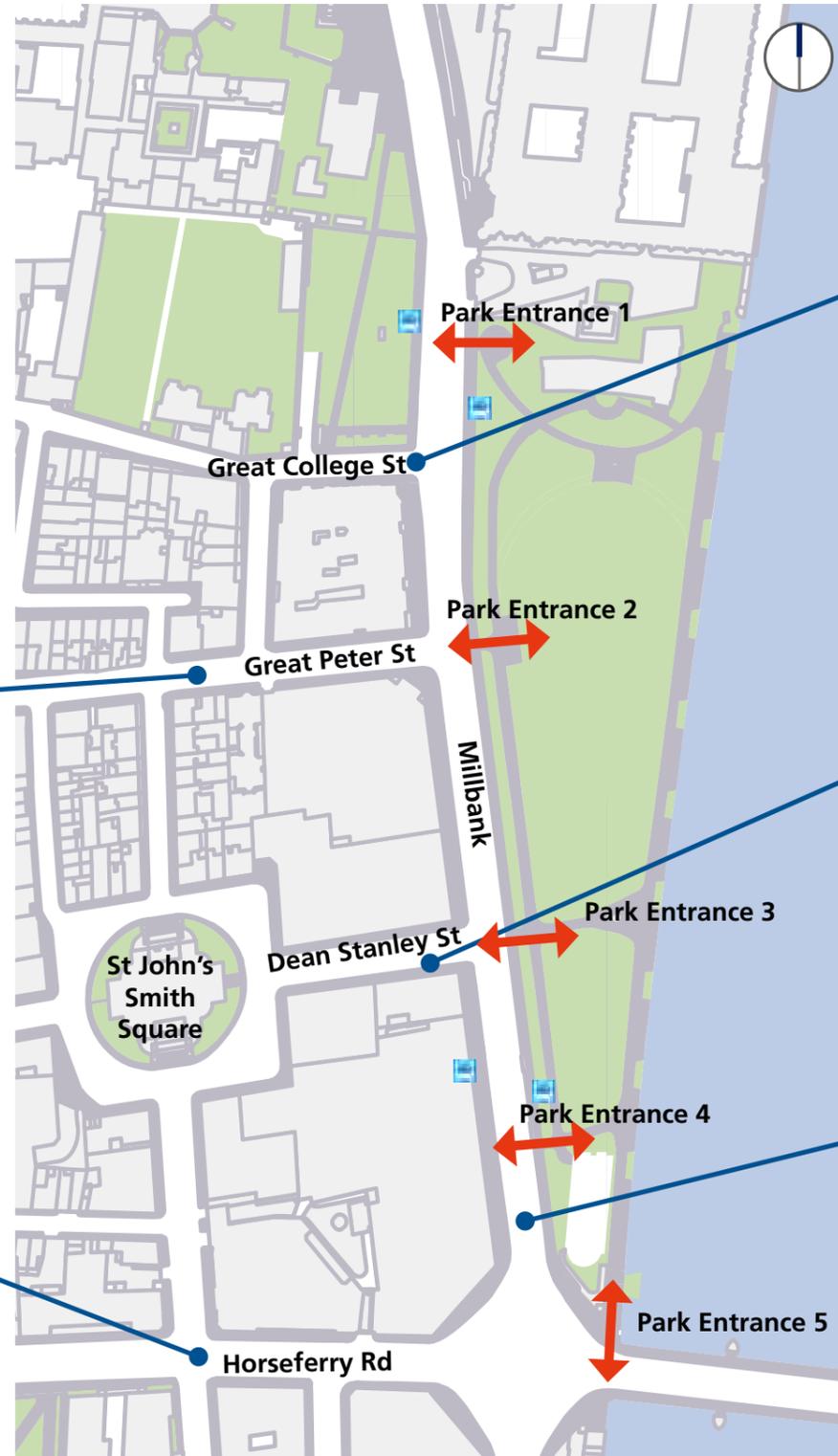


Figure 2: Victoria Tower Gardens surrounding streets



Figure 5: Great College Street



Figure 6: Dean Stanley Street



Figure 7: Millbank

Key features of Victoria Tower Gardens

Victoria Tower Gardens has several monuments associated with democracy: the abolition of slavery, the fight for universal suffrage and civic sacrifice. The Gardens' key features and points of interest are summarized in Figures 8-10, moving from north to south.

Key

1 - Park Entrance 1: Gates to Victoria Tower Gardens. This is also the location of the memorial to Emmeline Pankhurst (Grade II, 1930), the leader of the suffragettes who campaigned for women's right to vote.

2 - Path towards the Education Centre.

3 - Seating outside the Education Centre.

4 - The Burghers of Calais (Grade I, 1915), by the French sculptor, Auguste Rodin, represents the idea of freedom from oppression. It tells the story of the siege of Calais in 1347, during the Hundred Years' War.

5 - The Parliamentary Education Centre which opened in 2015 to educate young people about the Parliament and democracy. It includes Parliament-themed learning rooms, augmented reality experiences, and 360° projections.

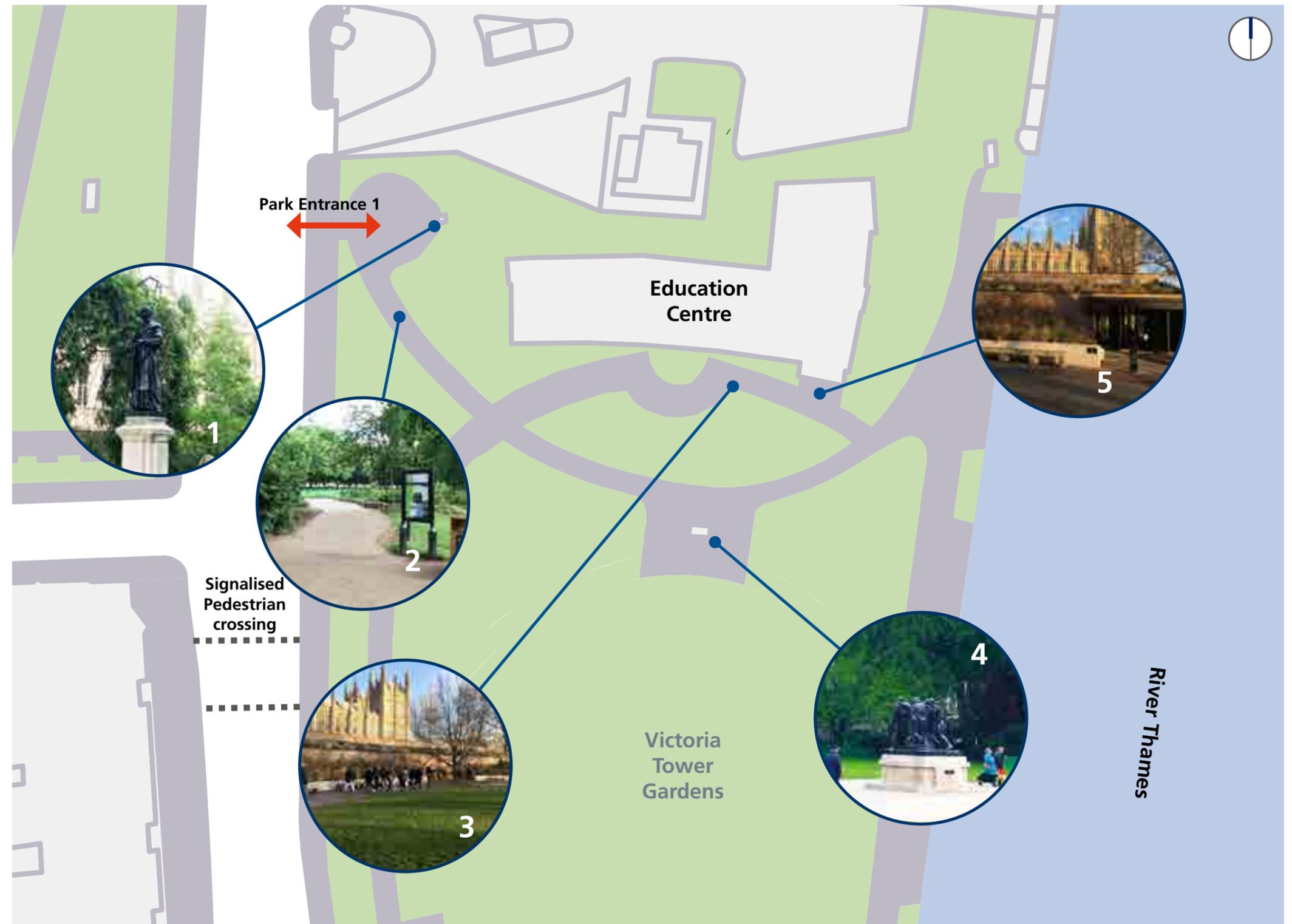


Figure 8: Features of Victoria Tower Gardens - North Section

Key

6 - Park Entrance 2: Gates to Victoria Tower Gardens (facing Great Peter Street).

7 - Benches on western side of the park.

8 - Park Entrance 3: Gates to Victoria Tower Gardens (facing Dean Stanley Street).

9 - The Buxton Memorial Fountain (Grade II*, 1865) celebrates the abolition of slavery and commemorates the work of the MP Thomas Fowell Buxton.

10 - Benches on the eastern side of the park (along the River Thames).

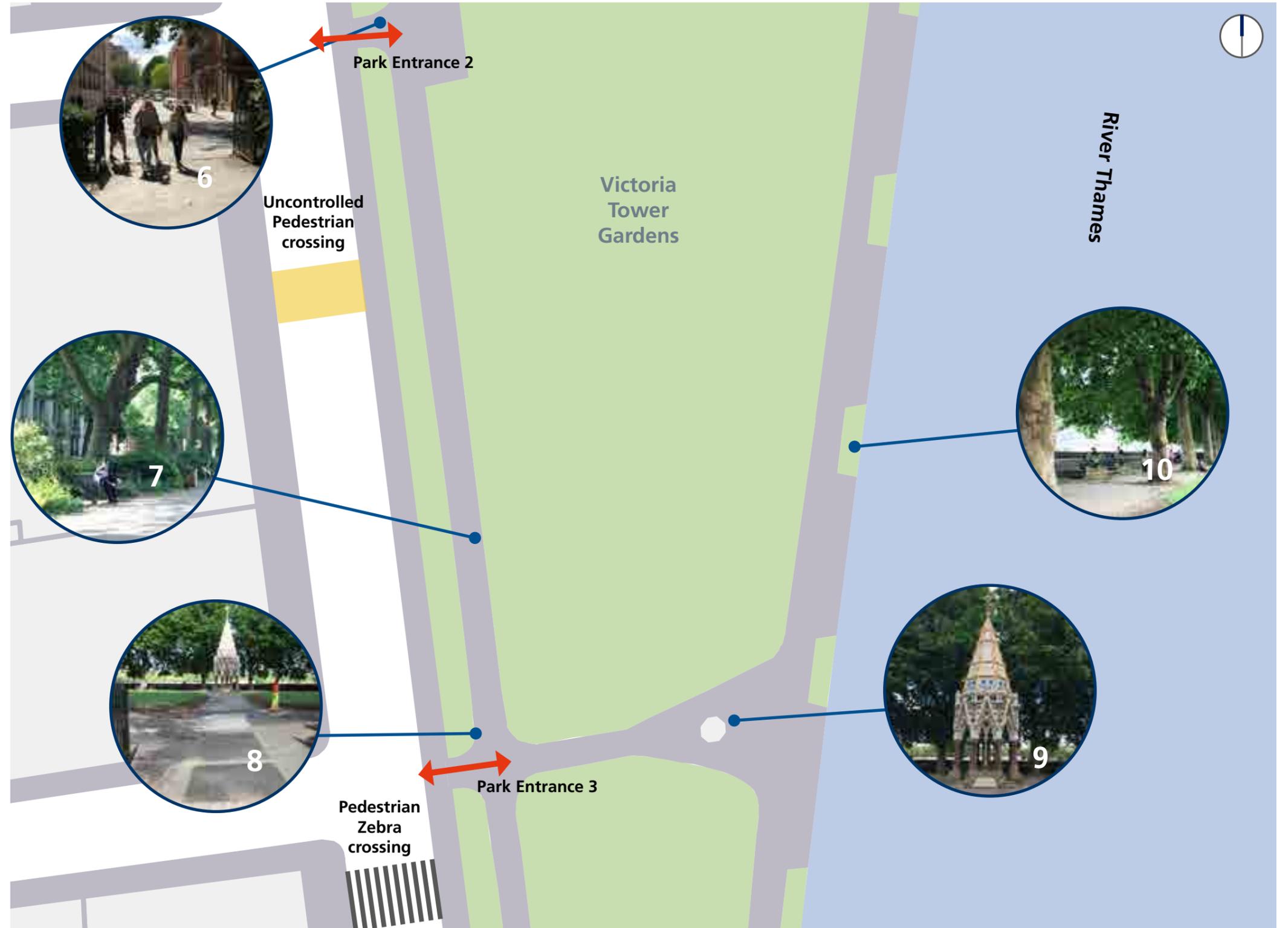


Figure 9: Features of Victoria Tower Gardens - Centre Section

Key

11 - Park Entrance 4: Gates to Victoria Tower Gardens (south).

12 - Single storey timber kiosk that sells food/ drink.

13 - Park Entrance 5: Gates to Victoria Tower Gardens with steps (south).

14 - The Horseferry Playground which features a sandpit, swings, a wide slide, dance chimes and a water play installation designed to represent the River Thames.

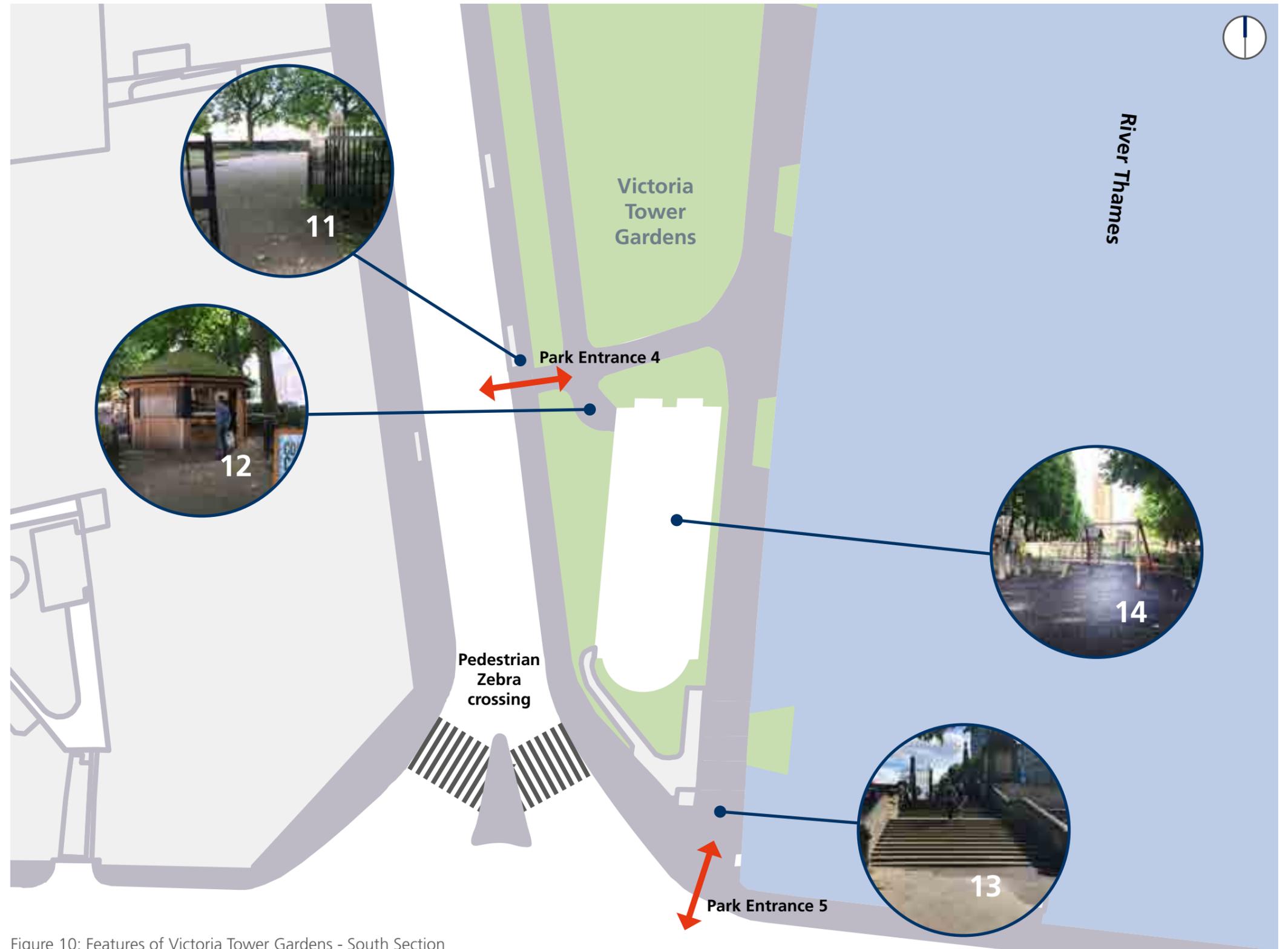


Figure 10: Features of Victoria Tower Gardens - South Section



Existing Conditions

This chapter documents the existing conditions around Victoria Tower Gardens as well as within.



Strengths and issues analysis

Background

Victoria Tower Gardens is part of the Jubilee Greenway from Westminster Bridge to Buckingham Palace. The Jubilee Greenway is a walking and cycling route which was launched in 2009. The full Jubilee Greenway route was completed in 2012 to mark the Queen's Diamond Jubilee and the London 2012 Olympic and Paralympic venues with parks and monuments across central London.

Victoria Tower Gardens is open from 07:00 until dusk with 16:00 being the earliest closing time in winter and 21:30 being the latest in the summer months of June and July.

Several site visits were undertaken to determine the strengths and weaknesses of the existing site, including the perimeter road and the park itself. These are described in the next pages.

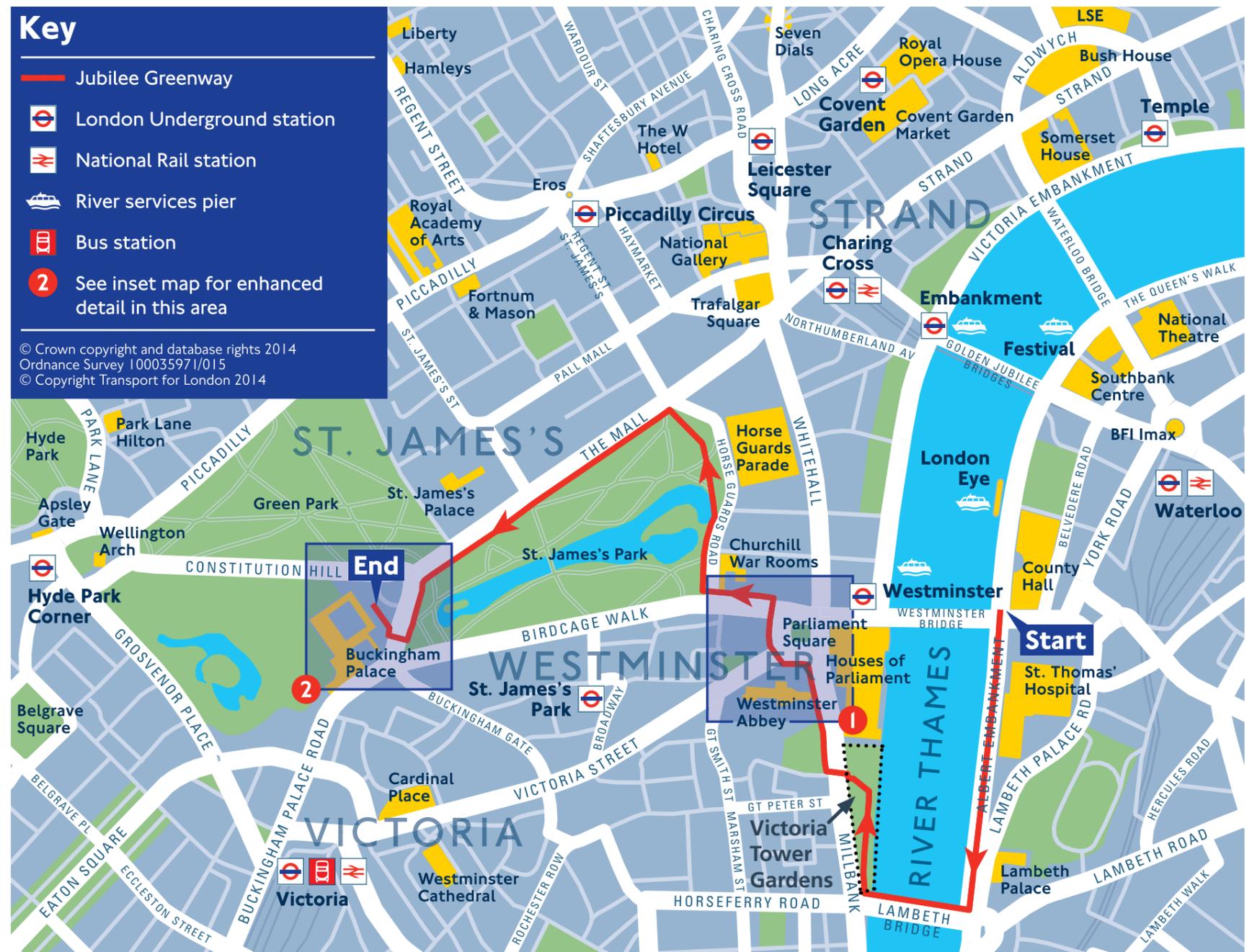


Figure 11: Jubilee Greenway Section 9 of 10 through Victoria Tower Gardens, TfL 2012

Existing strengths of the surrounding area

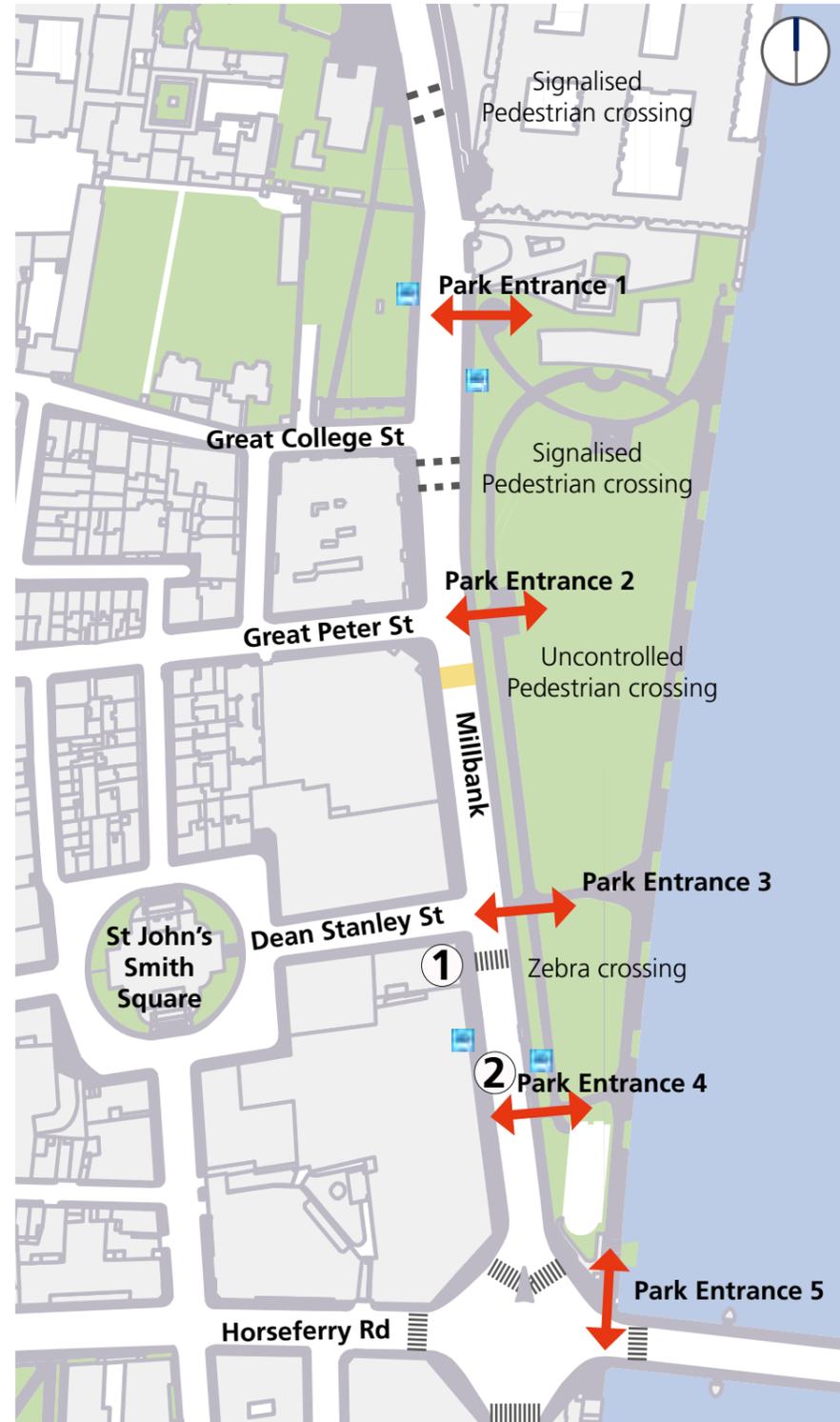


Figure 12: Existing strengths of the surrounding area

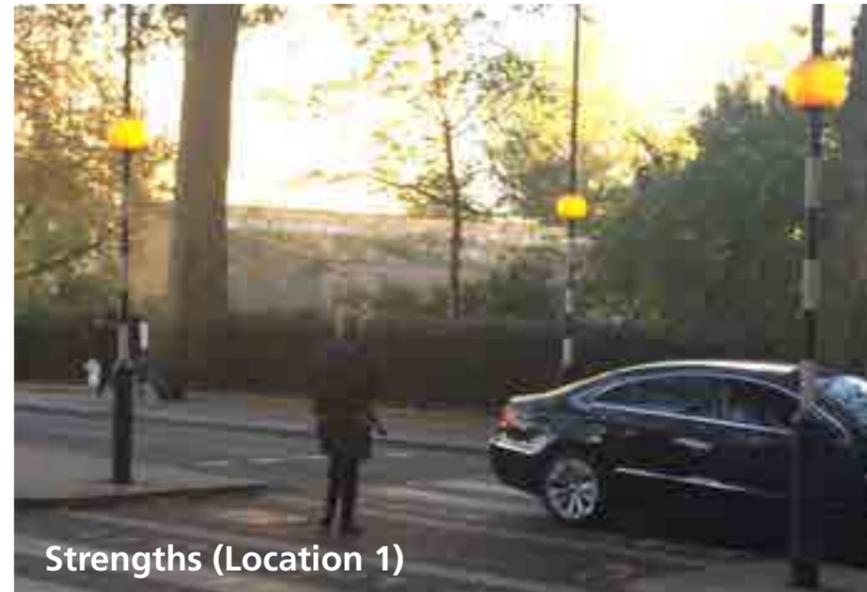


Figure 13: Zebra crossing coinciding with park entrance

There are a number of crossings along Millbank which facilitate access towards the park entrances. The crossings are shown in Figure 12: signalised crossings close to the north entrance (Park Entrance 1), an uncontrolled crossing south of the entrance closest to Great Peter Street (Park Entrance 2), and Zebra crossings in close proximity to Park Entrances 3, 4, and 5. This enhances the permeability of Millbank by giving pedestrians multiple opportunities to cross and access the different gates.



Figure 14: Area served by public transport

There are several bus stops along Millbank which serve the area, including routes 3 and 87. Westminster underground station is also within close proximity of the Gardens making Victoria Tower Gardens easily accessible by public transport.

Existing issues of the surrounding area

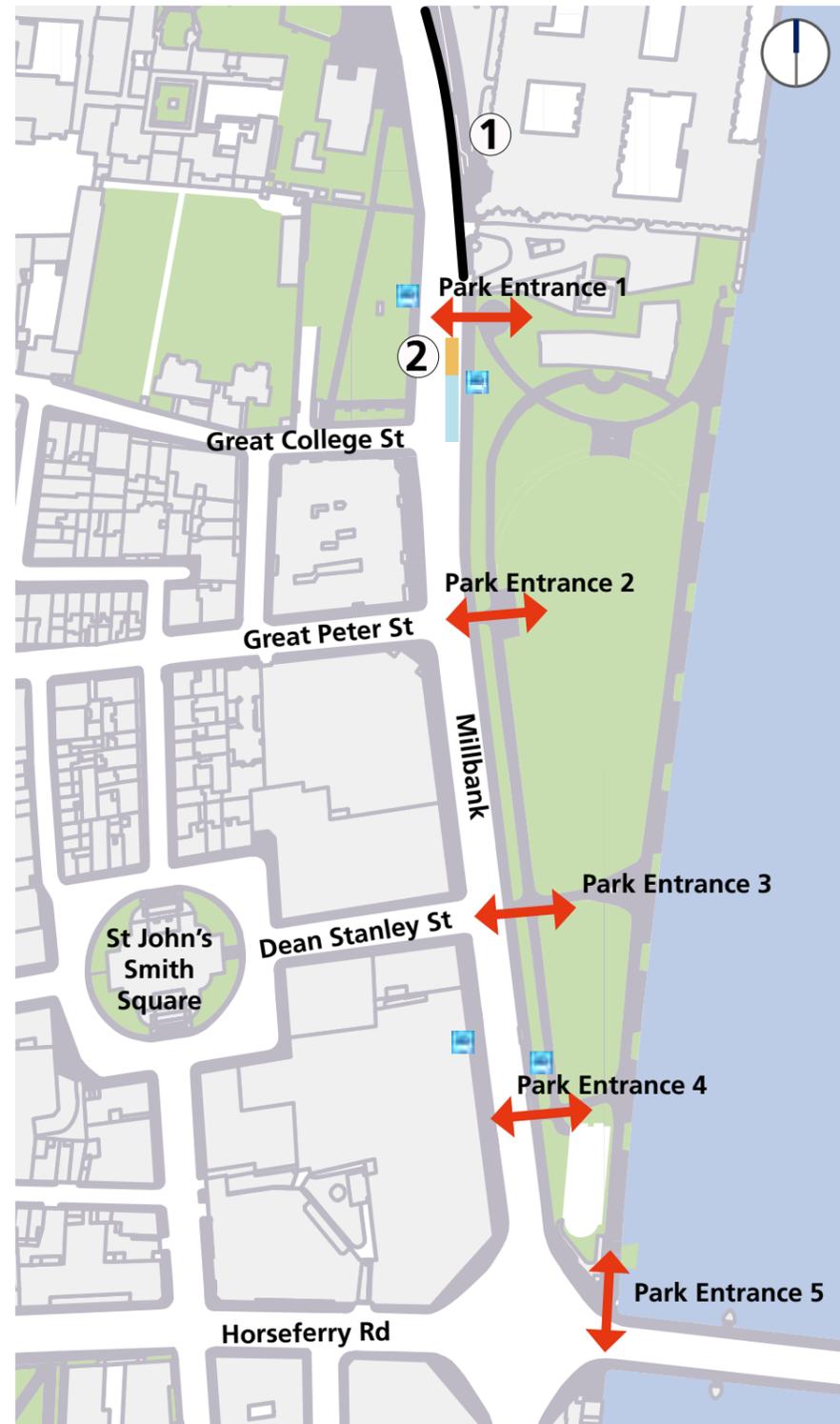


Figure 15: Existing weaknesses around Victoria Tower Gardens

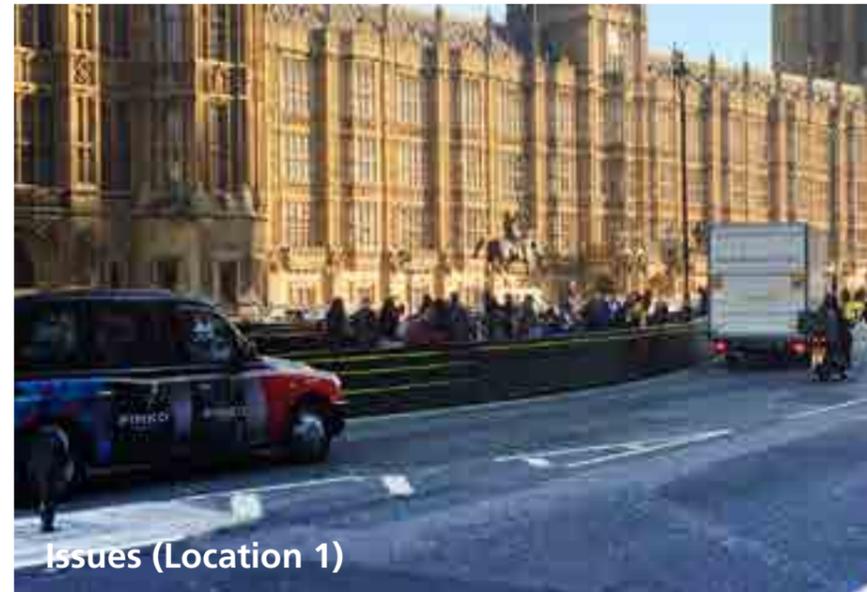


Figure 16: Security measures north of Victoria Tower Gardens

Barriers bordering Houses of Parliament are installed as a security measure north of the park, to the west of The Houses of Parliament. These reduce pedestrian permeability on Abingdon Road and reduce the visual quality.



Figure 17: High Vehicular Flows

Millbank has a high number of cars, buses, and goods vehicles on it with some congestion during peak times. Moreover, it is an important through route for cyclists.



Figure 18: Coach parking with visitors accessing Victoria Tower Gardens

Some coaches park close to the northern entrance of Victoria Tower Gardens. This can be an issue for TfL buses, when the coach partially obstructs bus stop L.



Figure 19: Temporary signage to indicate road closure

There are frequent road closures due to major events around Millbank, Parliament Square and other surrounding streets. This creates additional street clutter and management challenges.

Observations in Victoria Tower Gardens



Strengths

Figure 20: Amenity value

The park offers a green retreat for visitors. People visit the park to relax, to eat, meet friends or take photos of the Houses of Parliament and the monuments around the park.



Strengths

Figure 21: Good quality paving and lighting

The paving is of good quality throughout the park. Although the park closes in the evenings, there is some low level lighting for pedestrians.



Strengths

Figure 22: Multiple entrances providing good accessibility

The Garden has four entrances along Millbank and one entrance on Horseferry Road. The entrances on Millbank are step-free and allow for disabled access.



Strengths

Figure 23: Signage and wayfinding in the park

There are signs in the park to guide visitors as well as maps at the entrances with information about the park.



Strengths

Figure 24: Benches and seating

There are numerous seating facilities around the park: there are benches facing the river on the eastern side, benches on the western side, as well as seating near the Education Centre.



Issues

Figure 25: Maintenance issues

Areas of turf next to the surfaced paths were fenced off to allow the grass to recover. It is assumed that this has been caused by high visitor numbers with pedestrians walking on the grass.



Pedestrian Movement

This chapter documents pedestrian movements that were observed using CCTV surveys on the footways and park entrances, as well as pedestrian behaviours in the park.

3

Pedestrian flows

Methodology

Pedestrian flows were collected along the footways of Millbank (19 locations), on the crossings leading to the park (seven locations) and at park access points (five locations). Data collection took place during a bank holiday weekend to capture some of the busiest days in the summer. Data was collected between 07:00 and 21:00 on:

- Saturday, 27th May, 2017 - Weekend
- Monday, 29th May, 2017 - Bank Holiday
- Wednesday, 13th September, 2017 - Weekday



Figure 26: Pedestrian flow gate locations

Results - Weekend and Bank Holiday

The weather was mostly sunny on Saturday but overcast with some spells of rain on the Bank Holiday Monday.

On Saturday, the busiest period was between 15:00 to 17:00. On Bank Holiday Monday, the area was busiest between 11:00 to 15:00.

On Bank Holiday Monday, 192 people per hour (pph) were observed along the footways and crossings and 179 pph entered and exited the

park. The number of pedestrians in the area was higher on the Saturday (approximately by 17%) compared to the Bank Holiday Monday. On Saturday, an average of 225 pph were observed along the footways and crossings, with 238 pph entering and exiting the park (approximately 33%).

It should be noted that the data collection dates were taken very close to the Manchester terrorist attack (May 22nd 2017) and to the general election, which took place on June 8th 2017. These events may have adversely impacted on pedestrian flows during this period.

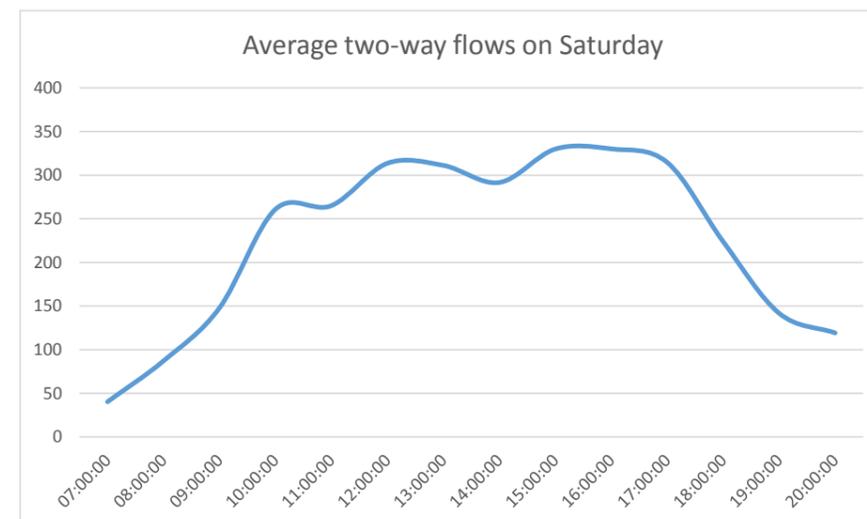


Figure 27: 15 minute two-way flows at all locations - Saturday

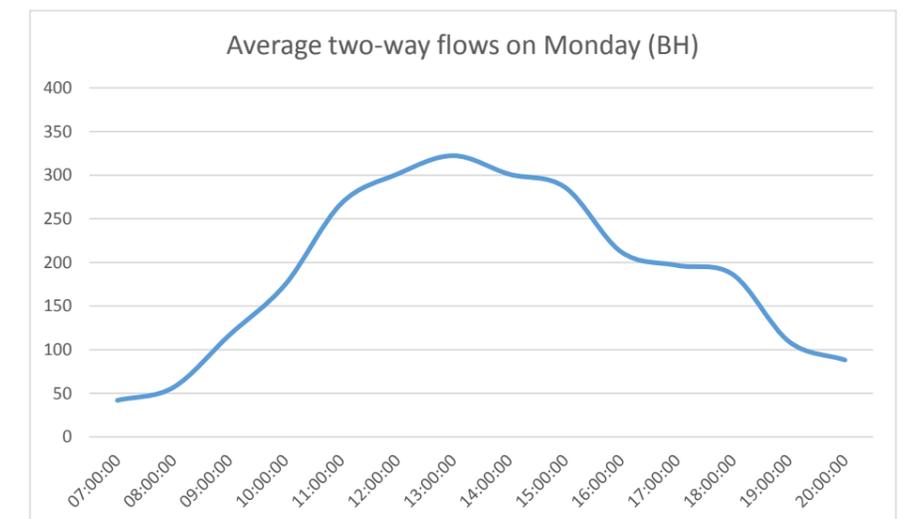


Figure 28: 15 minute two-way flows at all locations - Monday (BH)

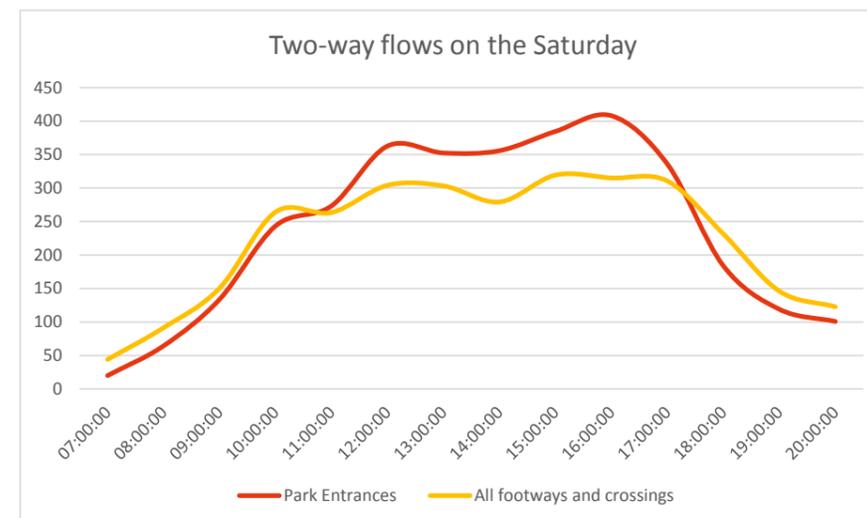


Figure 29: Two-way flows in park versus footways and crossings

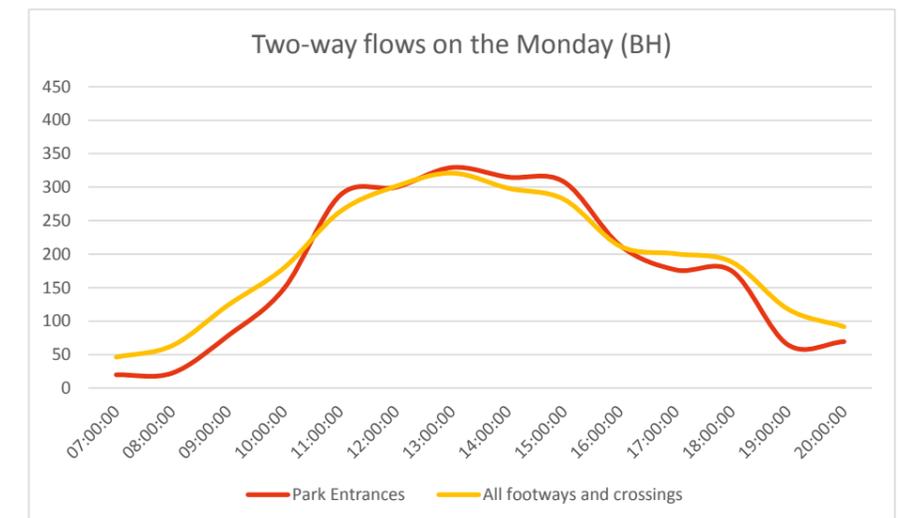


Figure 30: Two-way flows in park versus footways and crossings

Pedestrian flows

Results - Weekday

The weather was dry and overcast with some spells of sunlight on Wednesday.

The pedestrian flow profile shows 3 distinctive peaks: a morning (AM) peak (around 8:00), afternoon (PM) peak (around 17:00), and an interpeak (around 12:00) with the PM peak witnessing the highest flows. However, looking only at the number of people entering and exiting the park, the busiest time period is between 12:00 and 13:00 (lunch time) suggesting that the park works as a destination to city workers during their lunch time break.

On Wednesday, 429 pph were observed along the footways and crossings and 169 pph entered and exited the park. Despite the presence of tourists in the area, the number of people along Millbank are higher on the weekday compared to the weekend and Bank Holiday.

However, the number of people entering and exiting the park is less on the weekday compared to the weekend (30% less) and Bank Holiday (6% less). This suggests that, despite the park being a popular attraction to city workers during their lunch time break, the park is relatively 'empty' for the remaining time during the week.

Conversely, compared to weekdays, a higher number of people visit the park at the weekend. This shows that Victoria Tower Gardens is a popular destination to tourists and local visitors (including young children and their families visiting the playground) throughout the day.

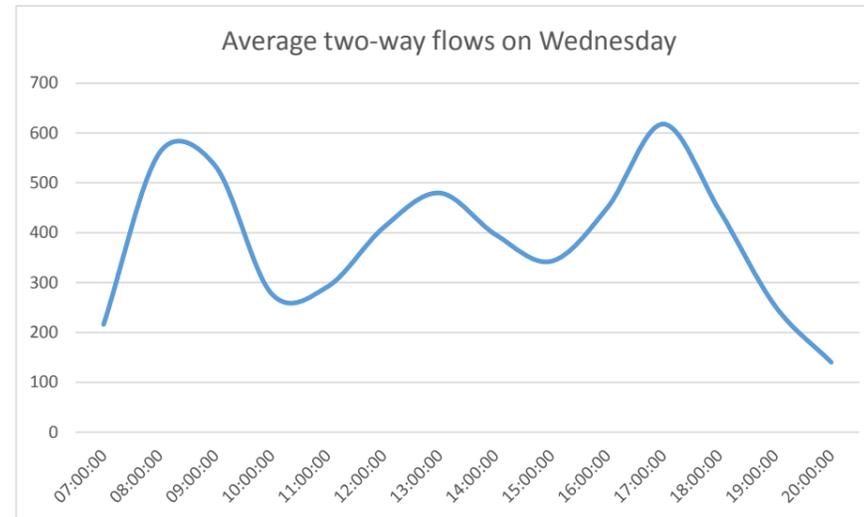


Figure 31: 15 minute two-way flows at all locations - Wednesday

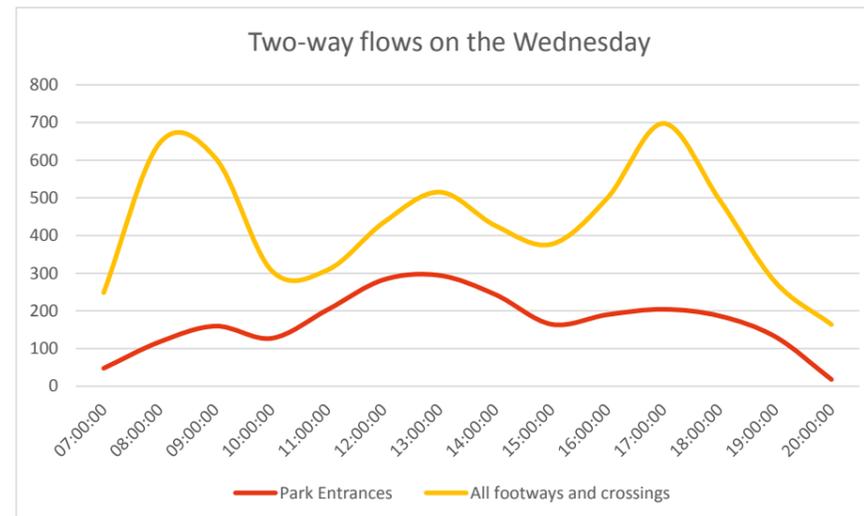


Figure 32: Two-way flows in park versus footways and crossings

Pedestrian flows - weekend

Entrance 1 is the busiest entrance with an average of 700 people per hour entering and exiting the Gardens throughout the day; around 1,200 people access the Gardens between 16:00 and 17:00 (the peak hour). Entrance 1 is the closest to the Houses of Parliament as well as to the coach drop off area (the Parliamentary Education Centre was closed during the data collection days). It is the most convenient entrance for tourists visiting from other attractions or getting off the coach.

The number of visitors using Entrances 2, 3, and 4 decreases sharply to the south, with approximately 46 pph on average observed using these entrances throughout the day. Entrance 5 is the second most well used entrance with around 300 pph on average using it across the day, and approximately 470 people entering and exiting the Gardens between 16:00 and 17:00. These are probably visitors entering/exiting from Lambeth Bridge.

The highest number of pedestrians on the footways was observed to the north of the park near the Houses of Parliament. As with the park entrances, pedestrian flows decrease significantly further south towards Lambeth Bridge as well as on the side street. This is likely to be related to the location of visitor attractions which are primarily north of the Gardens, with the majority of people walking further south presumed to be local residents or office workers rather than tourists.

Hourly Pedestrian Flows



Figure 33: Saturday - all day average pedestrian flows (07:00 to 21:00)

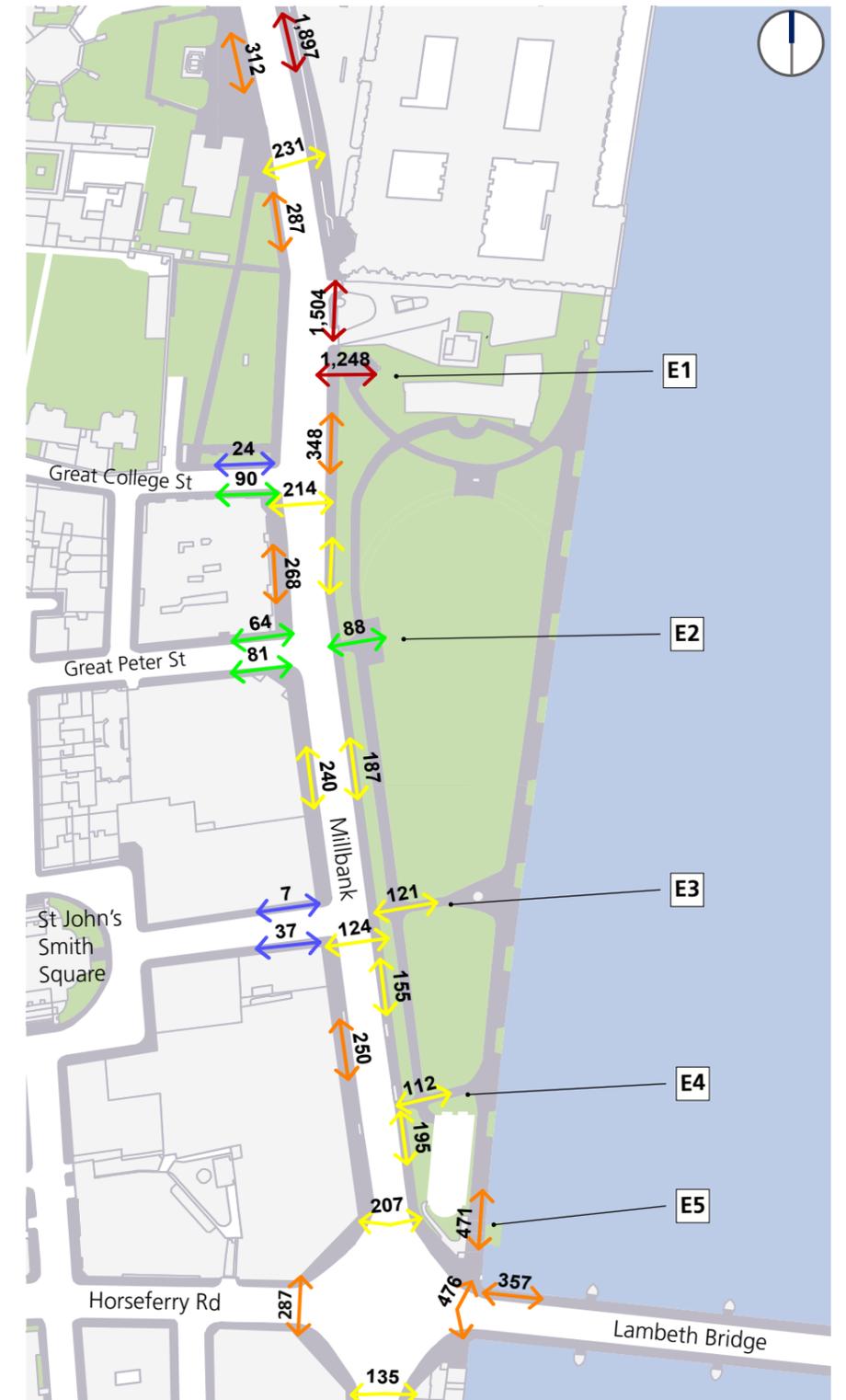


Figure 34: Saturday - peak hour pedestrian flows (16:00 to 17:00)

Pedestrian flows - bank holiday

Similar to the Saturday, Entrance 1 is the busiest entrance with around 500 pph using it throughout the day and around 980 people entering and exiting it between 13:00 and 14:00 (the peak hour). Once again, the number of visitors using Entrances 2, 3, and 4 decreases sharply to the south with less than 70 pph were observed using them. Entrance 5 is the second most well used entrance with around 240 pph on average entering and exiting it and around 400 people in the peak hour (13:00 - 14:00).

As Monday was a bank holiday, the pedestrian flow profile was similar to Saturday (weekend) with the highest flows north of the park near the Houses of Parliament, primarily attributable to high numbers of tourists.

Hourly Pedestrian Flows

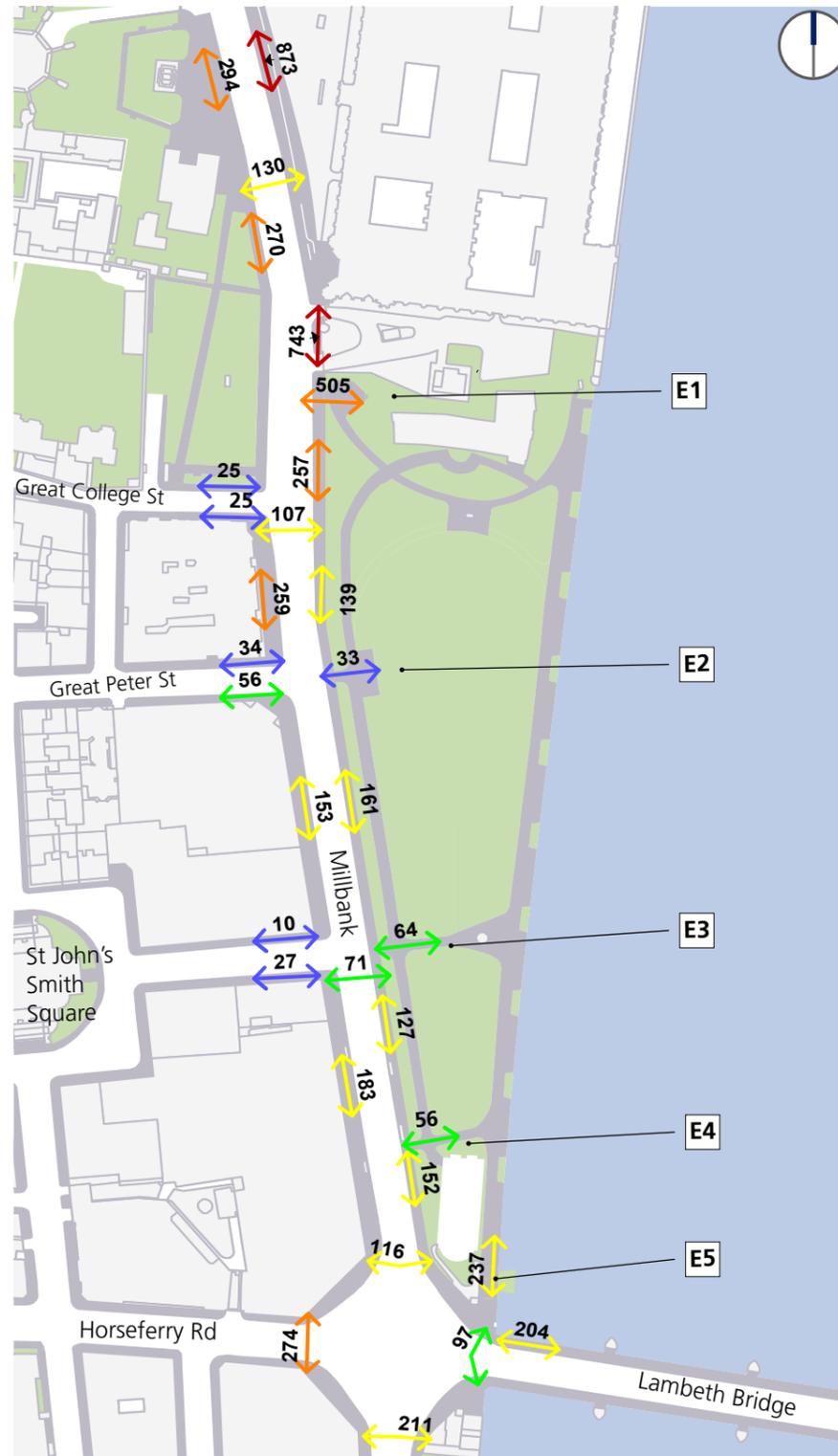


Figure 35: Monday - all day average pedestrian flows (07:00 to 21:00)

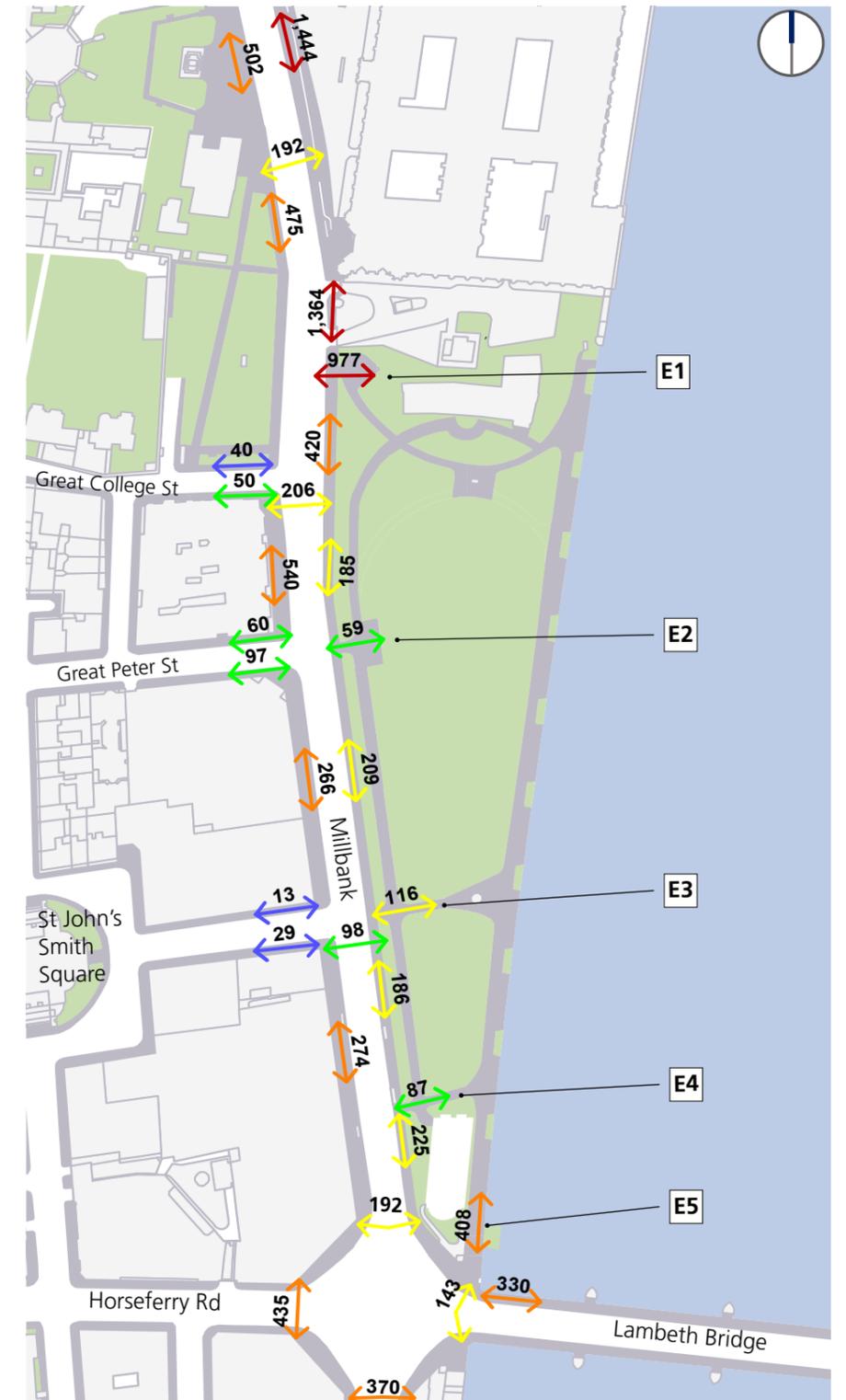


Figure 36: Monday - peak hour pedestrian flows (13:00 to 14:00)

Pedestrian flows - weekday

Similar to the weekend and the Bank Holiday, Entrance 1 is the busiest entrance with around 440 pph using it throughout the day and around 540 people entering and exiting it between 17:00 and 18:00 (the peak hour). Entrance 5 is not as well used as the weekend and Bank Holiday but is still the second most used entrance. Entrances 2 and 3 are more well-used compared to the weekend and Bank Holiday as professionals enter the park from the nearby offices.

Higher flows are observed along the footways of Millbank, to the southern side (especially between 17:00 and 18:00), during the peak hour.

This may be attributable to local professionals in the area using those footways of Millbank as well as the side streets. There is also a higher crossing activity along the crossings of Millbank that may also be attributed to the locals using them to cross to/from the park.

Hourly Pedestrian Flows



Figure 37: Wednesday- all day average pedestrian flows (07:00 to 21:00)

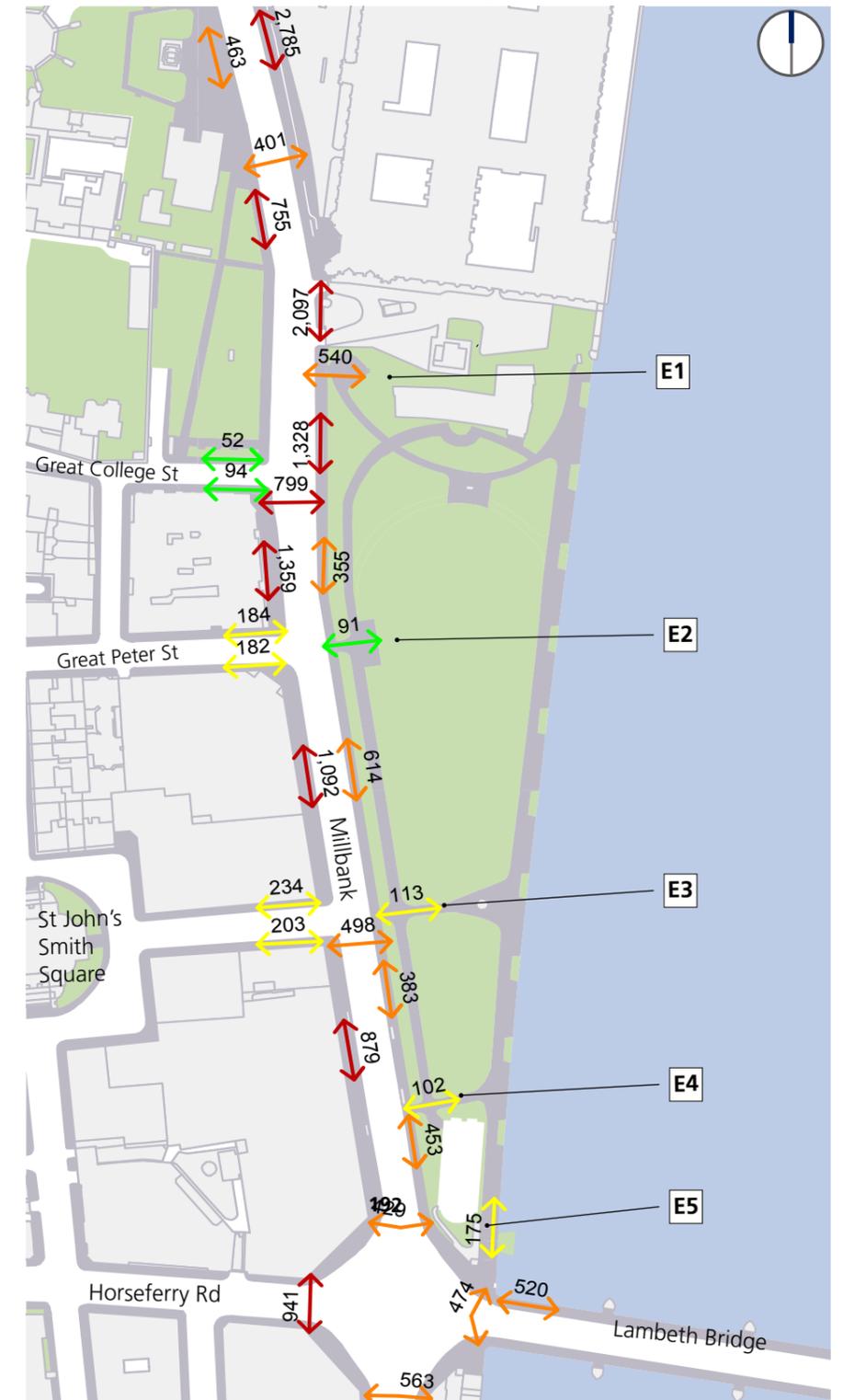


Figure 38: Monday - peak hour pedestrian flows (17:00 to 18:00)

Pedestrian behaviours in the Park

Methodology

To understand where pedestrians walk in the park, how they use the space and seating facilities and what they do, additional park surveys were undertaken. Path following¹ and snapshot surveys² were conducted during the two days when pedestrian flows were counted.



Figure 39: Pedestrian path following and stationary surveys

As there were road works that required the delay of the vehicular surveys, data was only collected on the weekend to capture the high pedestrian volumes during a bank holiday weekend. The surveys were completed in May (for the weekend and Bank Holiday) and then in September for the weekday. Tuesday 12th of September was chosen in September because it was a dry day with spells of sunshine.

May

The time periods surveyed on the Saturday and Monday were:

- 9:00-11:00
- 12:00-14:00
- 17:00-19:00

September

The time periods surveyed on the Tuesday were:

- 9:00-10:00
- 12:30-13:30
- 17:00-18:00

During these times, path following was carried out for 15 minutes from each of the five park entrances. Moreover, snapshot surveys were also carried out for each hour³.

While undertaking the surveys, the surveyors noted several activities:

- Stopped at the kiosk
- Stopped to look at wayfinding map (panels)
- Stopped to look at personal map (paper)
- Stopped to check phone
- Stopped to take photo
- Sat down on bench
- Looked at river
- Sat down for a picnic
- Asked for directions
- Other (with description)

Visitors were also categorised as tourists and 'non-tourists'⁴.

¹ Path Following surveys are surveys where surveyors follow the path of a group or individual in the park noting their activities along the way, including reasons for stopping until the group or individual leaves the study area (the park boundary) or stops for more than 1 minute.

² Snapshot surveys are surveys where surveyors note all stationary activities around the park (differentiating between standing and sitting) in order to identify the areas where people prefer to stand/sit.

³ It is important to note that the number of recorded routes was not proportional to the number of visitors per entrance. Path following was carried out for 15 minutes from each entrance - more groups or individuals were captured on the Monday rather than the Saturday even though the flows on the Saturday were higher.

⁴ Tourists were identified by the use of cameras and maps, clothes (such as rucksacks) and general behaviours.

Path following survey results - weekend

Figure 40 shows the path following results from all the park entrances on the Saturday.

Figure 41 is a heat map¹ that shows that most people use the paths at the north and south entrances. Although most visitors adhered to the park paths, there were several who walked on the grass on a 'diagonal' route from Park Entrance 1 towards the Buxton Memorial. This was especially pronounced on Saturday with some groups looking to save time by walking directly to the memorial.

Note that the Parliament Education Centre was closed on Saturday and Bank Holiday Monday.

Saturday Findings

- In total, 102 groups were followed on Saturday.
- The largest group size was 47 foreign students and teachers² on a guided tour.
- Most large groups were observed accessing the park from Entrance 1. This entrance is the nearest entrance for tourists walking south from other sites as well as the coach drop off area (see also Figure 12).
- The park was used by people who came to sit on a bench or on the grass and spend time relaxing, with a few visiting the kiosk and going into the playground. In addition to being a place where visitors spent time, some individuals and groups did not stay long and came in to see another view of the Houses of Parliament, to take photos, or look at the river and exit.
- The main activities observed were to take photos or to look at the river and several monuments in the park.
- Almost half of the groups that were followed comprised tourists.

¹ A heatmap is a graphical representation of data where the individual values contained in a grid are represented as colours. A 1m x 1m grid was taken to identify the locations where the most number of paths coincide.

² Noted as tourists.



Figure 40: Pedestrian walking routes on Saturday

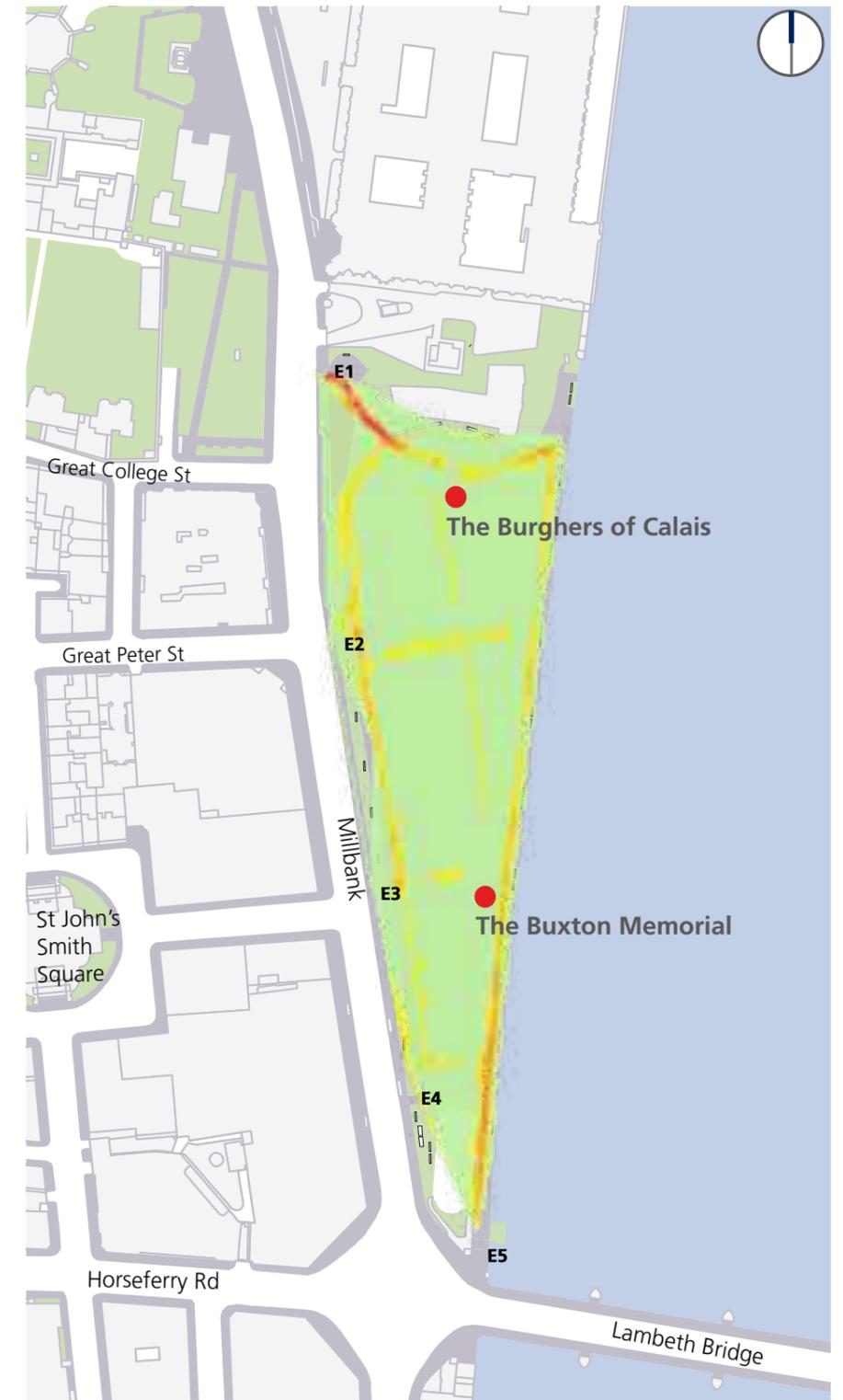


Figure 41: Heat map of most used routes on Saturday

Group size and stationary activity - weekend

It is evident from Figure 42 that the largest group sizes are generally found in the northern section of the park, adjacent to the Houses of Parliament. As previously discussed, Entrance 1 is the most convenient for tourist groups walking south from other sights in the area and close to the coach drop off area.

Saturday Findings

- The park was busiest at 12:00 (with similar flows at 17:00), with the highest number of people sitting and standing. Several groups were having picnics at that time.
- The park was quieter with fewer stationary activities in the morning between 09:00-11:00 as tourists and visitors started arriving to the area later.
- 69% percent of the stationary activity was related to people sitting on the benches or the grass, as Saturday was a sunny day.
- The playground was busy with families or groups of parents with their children. The playground visitors ranged from local families to tourists with children. The families with buggies generally avoided Park Entrance 5 and entered from the remaining four step-free entrances.

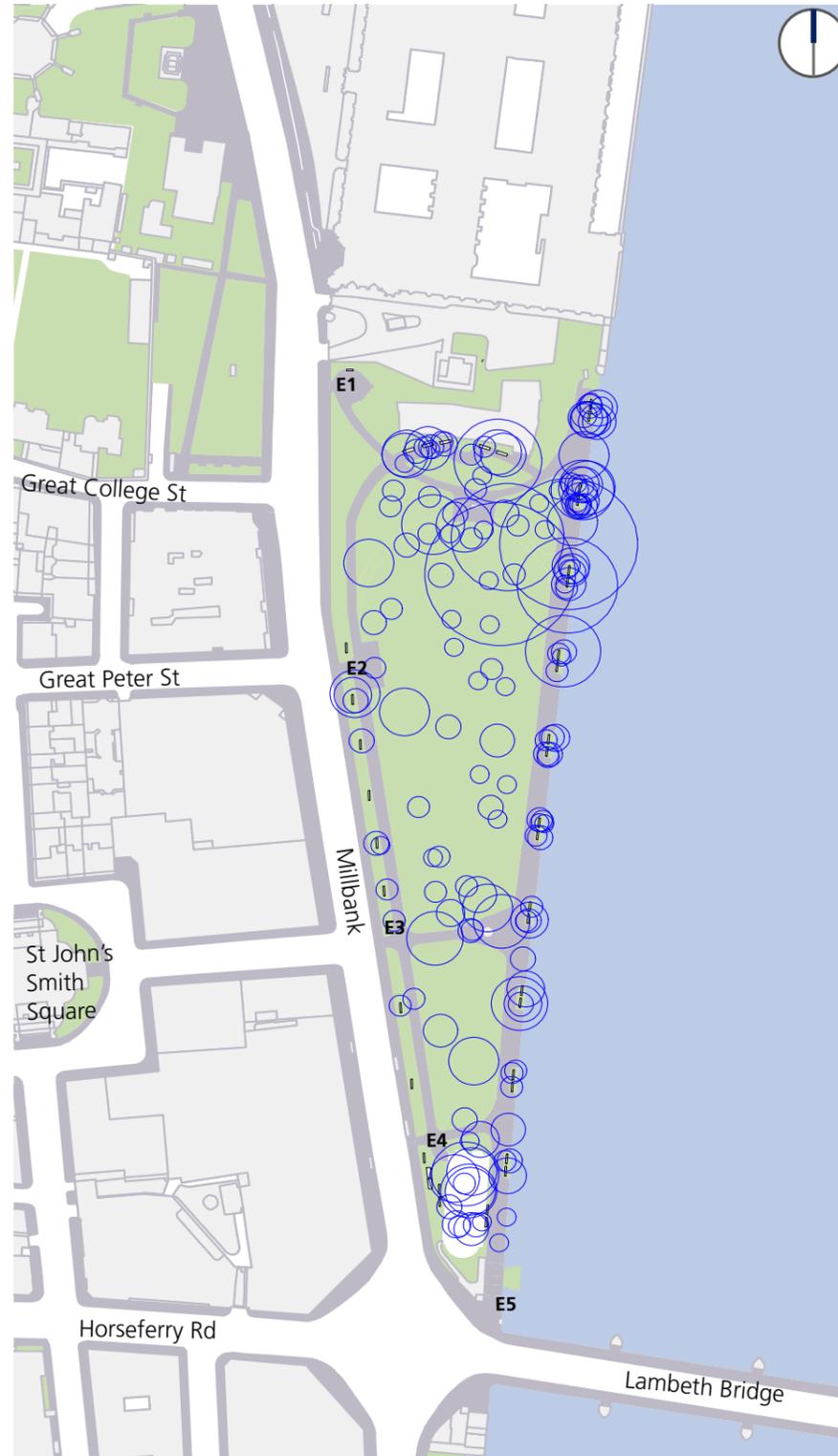


Figure 42: Group sizes on Saturday



Figure 43: Stationary Activity on Saturday

Path following survey results - bank holiday

Bank Holiday Monday Findings

- In total, 123 groups were followed on the Monday Bank Holiday.
- Similar to Saturday, the most well used entrances are Park Entrances 1 and 5.
- The biggest group size was a group of 40 foreign students having lunch in the park.
- The larger groups were observed accessing the park from Entrance 1 as this is the most convenient entrance for tourists walking south from other sites or being dropped off by coaches.
- As before, the main reason why people stopped in the park was to take photos or to look at the river and several monuments.
- Almost half of the groups followed appeared to be comprised of tourists.
- Compared to Saturday, pedestrian movements across the grass on the bank holiday were generally less direct, potentially as there were fewer people sitting down on the grass with more space for people to wander freely. There also appeared to be more dog-walkers on Monday, taking a meandering route through the park.



Figure 44: Pedestrian walking routes on Monday Bank Holiday



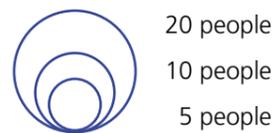
Figure 45: Heat map of most used routes on Monday Bank Holiday

Group size and stationary activity - bank holiday

Bank Holiday Monday Findings

- The largest group sizes can be found in the northern section of the park, adjacent to the Houses of Parliament.
- The park was busiest at 13:00 with the highest number of people sitting and standing.
- Similar to the Saturday, the park was least busy with stationary activity in the morning between 09:00-11:00.
- Since Monday was cloudy with some hours of mild rain (leaving the grass wet), stationary sitting activities were lower when compared to Saturday (32% on Monday compared to 69% on Saturday).
- The playground was busy with families or groups of parents with their children. The playground visitors ranged from local families to tourists with children. The families with buggies generally avoided Park Entrance 5 and entered from the remaining four step-free entrances.

Group Size



Stationary Activity

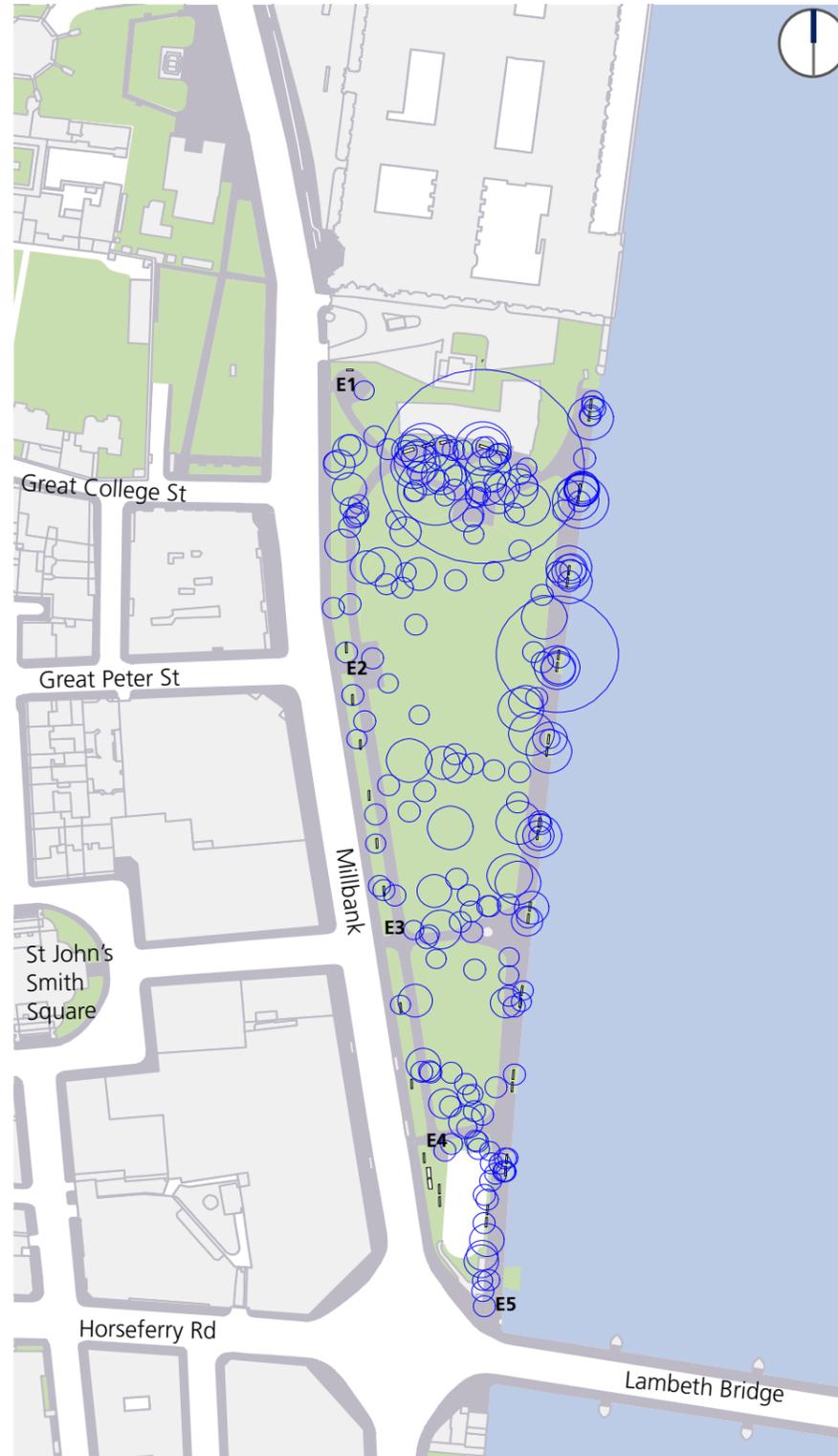
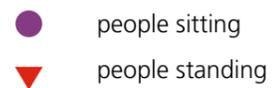


Figure 46: Group sizes on Monday Bank Holiday

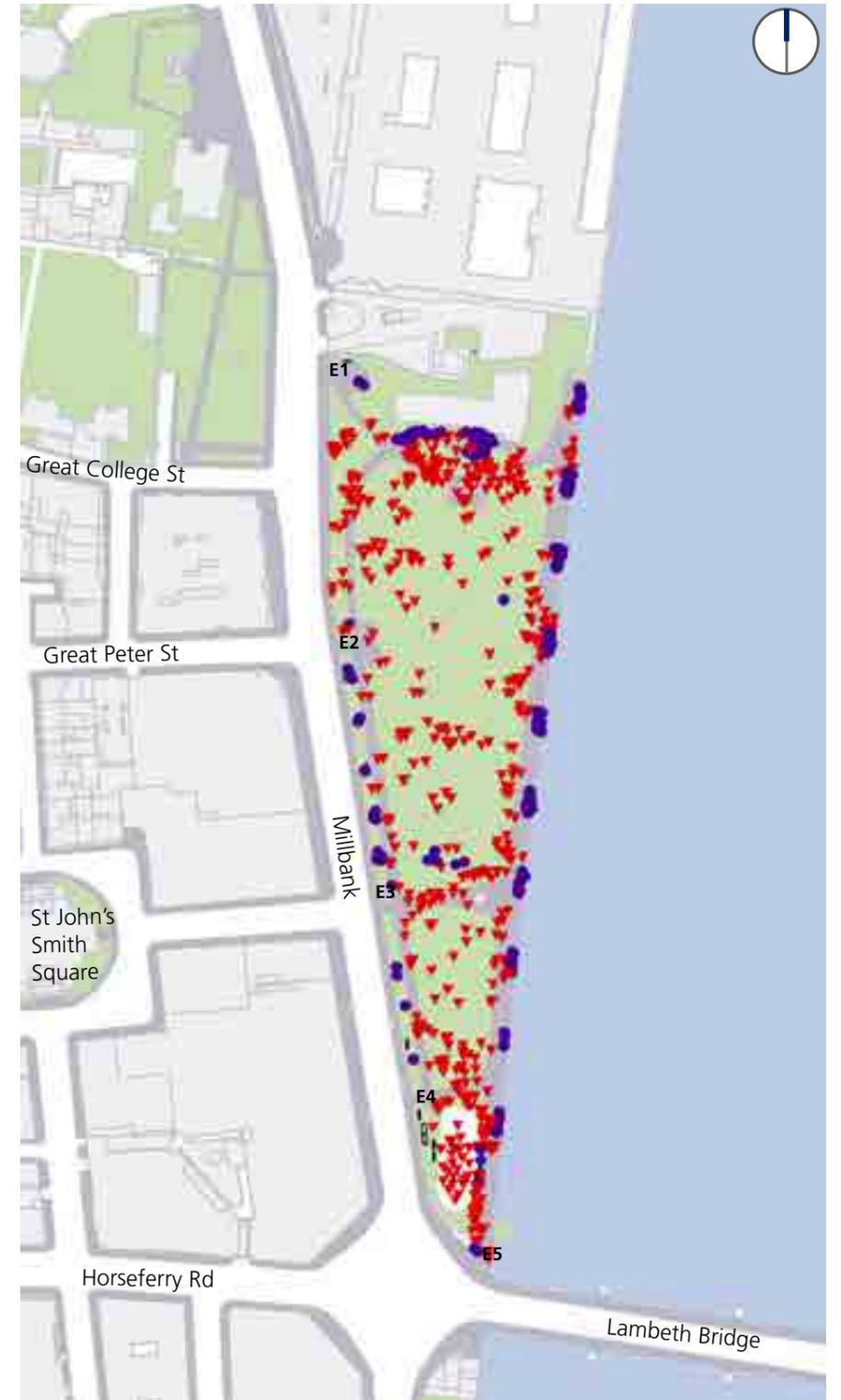


Figure 47: Stationary Activity on Monday Bank Holiday

Path following survey results - weekday

Tuesday Findings

- In total, 58 groups were followed on the Tuesday.
- The biggest group size was 40 people on a team building activity.
- A group of 30 students was observed in the morning entering the park from Entrance 3, stopping at The Burghers of Calais monument at the north side of the park before heading to the Education Centre. This is shown in Figure 50 below.
- It was observed that during lunchtime, people who work in proximity of the park came to the park as groups or individually to have lunch sitting on the grass or the benches.
- It was observed that several joggers use the park as a through way particularly from E1 and E5.
- During the evening, the park was used mostly by commuters as a through route.
- Compared to the weekend and bank holiday, the park was still frequented by many tourists but also had a higher proportion of visitors who appeared to be commuters, working professionals, or local residents.



Figure 50: Group of 30 students stopped at Burghers of Calais before heading towards the Education Centre

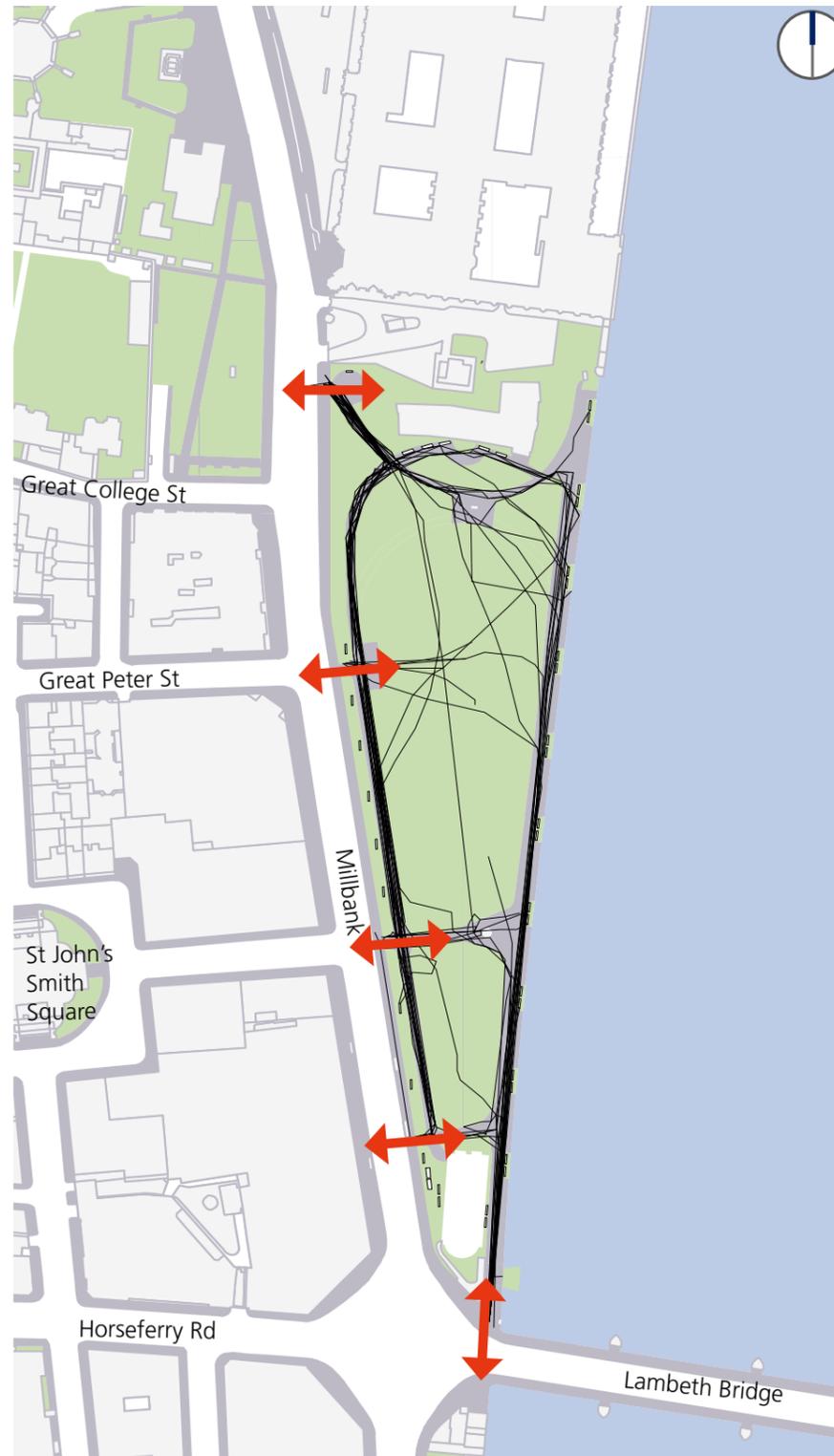


Figure 48: Pedestrian walking routes on Tuesday



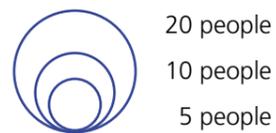
Figure 49: Heat map of most used routes on Tuesday

Group size and stationary activity - weekday

Tuesday Finding

- The park was busiest at 12:00 with the highest number of people sitting and standing (189).
- Similar to the Saturday and bank holiday, the park was least busy with stationary activity in the morning between 09:00-10:00.
- Even though there were fewer and smaller groups compared to the weekend and bank holiday, there were many individuals in the park who were local professionals in the area. As it was sunny during lunchtime, a lot of them sat on the grass or benches to have lunch.

Group Size



Stationary Activity

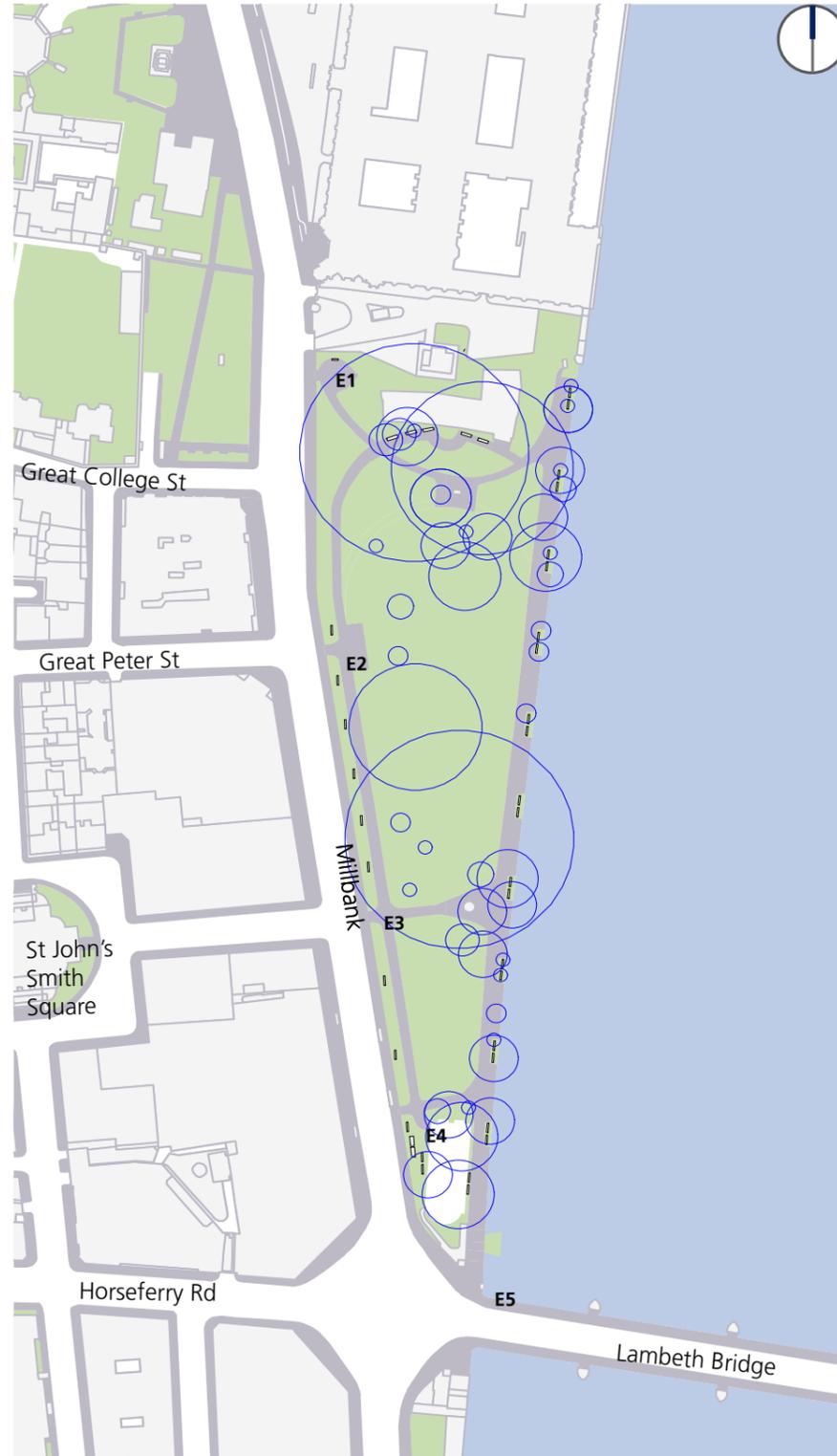
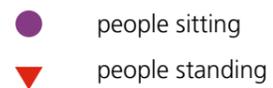


Figure 51: Group sizes on Tuesday



Figure 52: Stationary Activity on Tuesday



Vehicular and Cyclist Flows

This chapter documents vehicular and cyclist movements that were observed using CCTV surveys on Millbank.

4

Vehicular and cyclist flows

Methodology

Vehicular and cyclist flows were collected for the 4 junctions on Millbank with: Great College Street, Great Peter Street, Dean Stanley Street, and Horseferry Road. Data collection took place during a weekday and weekend between 07:00 and 19:00 on:

- Wednesday, 13th September, 2017 - Weekday
- Saturday, 16th September, 2017 - Weekend

The junction flow locations are shown in Figure 55.

In order to verify if the vehicular flows at the junction were representative of a typical weekday and weekend, Automatic Traffic Counts were collected from the 5th of September until the 27th with some intermittent gaps because of instrument failure. This data shows that the vehicular flow data collected on the 13th and 16th of September are consistent with the rest of the weekdays and weekends.

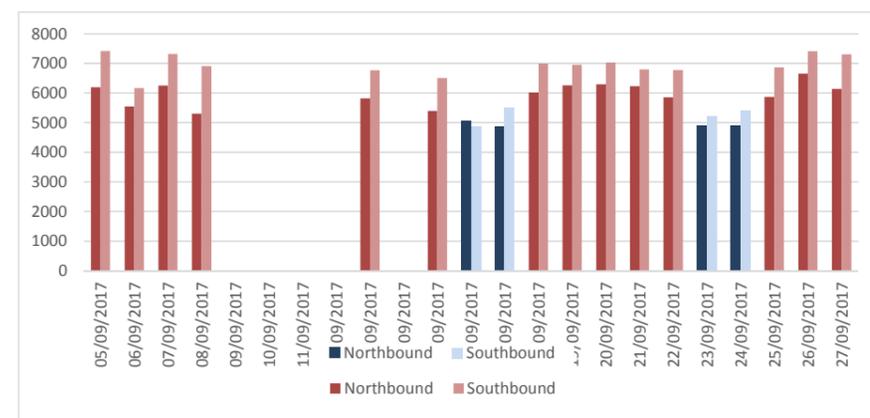


Figure 53: Average ATC data between 7:00-19:00

Looking at vehicular and cyclist flows, the weekday flow profile witnesses two peaks, at 08:00 and 18:00 whereas the weekend has more constant flows throughout the day.

The next two sub-sections will explore vehicular and cyclist flows at the 4 junctions.

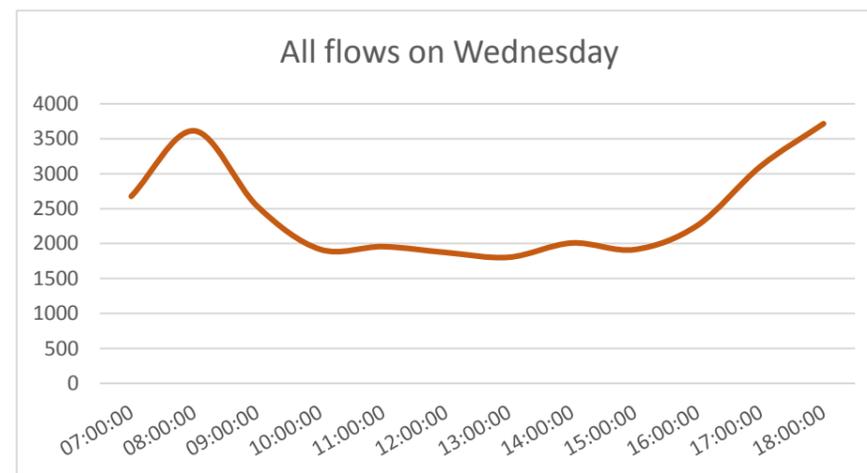


Figure 54: Hourly flows on the junctions - Weekday

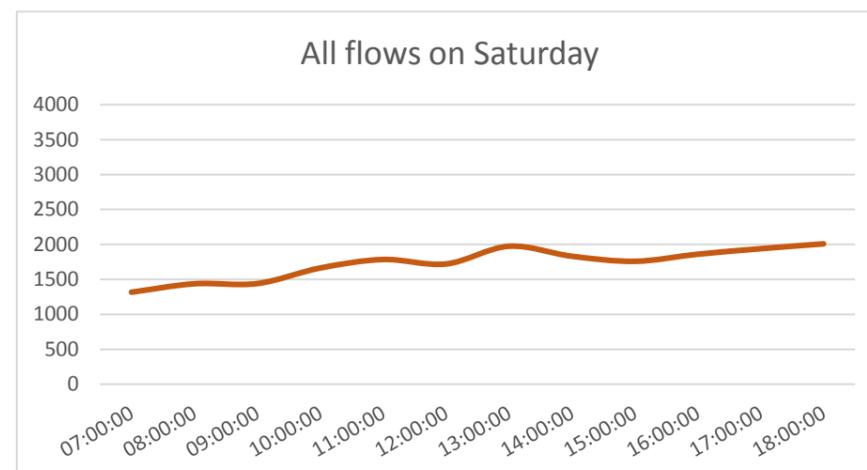


Figure 55: Hourly flows on the junctions - Weekend



Figure 56: 15 minute two-way flows at all locations - Saturday

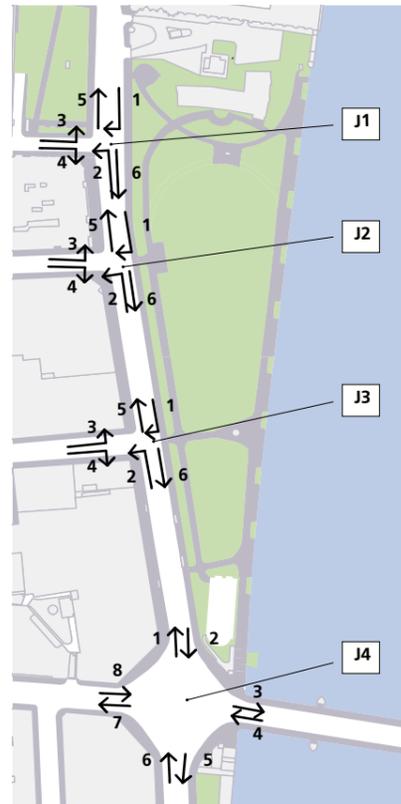
Average vehicular flows - weekday

The average weekday flows show that there are around 500 vehicles an hour travelling southbound and between 390 and 440 travelling northbound on Millbank. Figure 58 categorises the vehicles by vehicle type: car, taxi, goods vehicle (GVs), buses, motorcycles (M/C). The northbound/southbound movement on the weekday is made up of mostly private cars (between 35%-40%) followed by goods vehicles (between 25%-30%).

The side streets, Great College Street, Great Peter Street and Dean Stanley Street, are not that well-used by vehicles while Lambeth Bridge witnesses the highest vehicle flows on average.

	Car	Taxi	GVs	Buses	M/C	
J1	1	13	2	3	0	1
	2	10	1	3	0	1
	3	13	3	3	0	1
	4	7	2	2	0	1
	5	159	68	109	35	68
	6	197	73	130	26	68
J2	1	17	15	6	0	2
	2	10	4	6	0	1
	3	23	19	11	0	5
	4	30	13	19	0	4
	5	156	67	107	35	69
	6	210	71	144	27	69
J3	1	7	7	4	0	2
	2	5	1	2	0	2
	3	5	3	5	0	1
	4	5	1	3	0	1
	5	144	53	102	35	65
	6	210	64	143	27	69
J4	1	143	51	99	35	66
	2	213	64	143	27	69
	3	313	106	187	43	56
	4	292	110	170	45	55
	5	262	51	166	22	64
	6	225	50	124	19	67
	7	181	91	101	28	31
	8	168	75	116	38	25

Figure 58: Vehicular flow by category



Hourly Vehicle Flows



Figure 57: Wednesday - all day average (vph) vehicular flows (07:00 to 19:00)

Peak vehicular flows - weekday

As mentioned, the peak hour on the weekday is 18:00-19:00. At this time there is a southbound vehicular movement of around 630 vehicles on Millbank and a slightly less northbound flow of around 430 vehicles.

The highest flows are eastbound on Lambeth Bridge with 825 vehicles turning there.

	Car	Taxi	GVs	Buses	M/C	
J1	1	20	0	2	0	3
	2	10	1	0	0	0
	3	16	0	2	0	1
	4	10	0	2	0	0
	5	249	94	43	30	40
	6	260	97	39	29	193
J2	1	23	26	1	0	0
	2	17	5	1	0	0
	3	19	29	2	0	2
	4	37	13	7	0	9
	5	255	93	37	31	43
	6	274	84	46	29	196
J3	1	9	9	1	0	2
	2	9	2	0	0	0
	3	2	9	2	0	1
	4	2	2	2	0	3
	5	242	64	42	31	42
	6	274	83	47	29	204
J4	1	244	61	38	28	42
	2	276	90	51	29	190
	3	417	159	100	43	106
	4	338	103	53	43	62
	5	303	70	52	33	182
	6	379	53	63	14	52
	7	254	77	30	21	27
	8	225	121	53	39	53

Figure 59: Vehicular flow by category

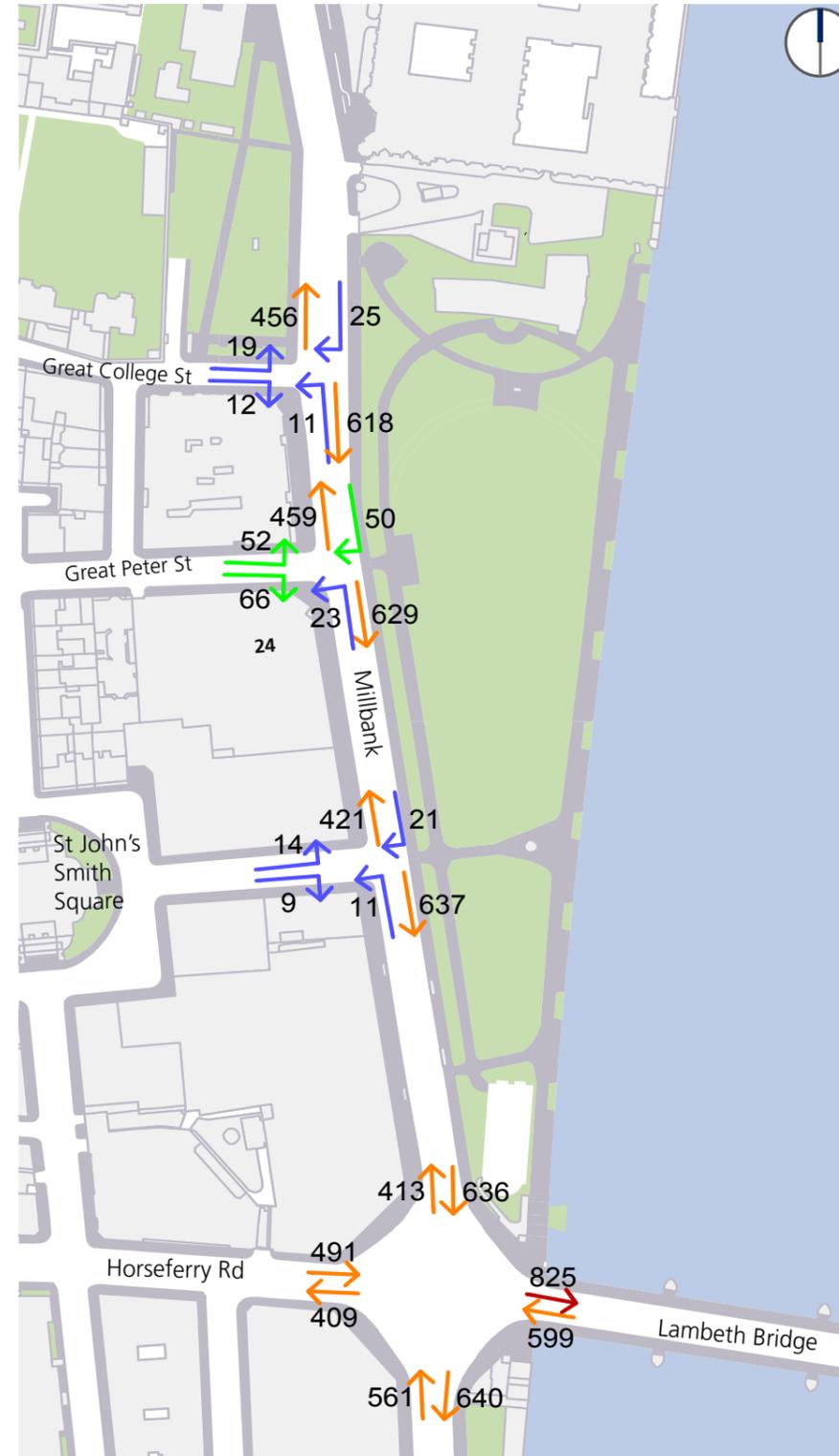
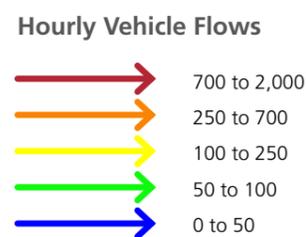


Figure 60: Wednesday - peak hourly vehicular flows (18:00-19:00)

Average vehicular flows - weekend

On the weekend, vehicular flows are slightly lower than the weekday as shown in Figures 61 and 62. The average weekend flows show that there are around 380 vehicles an hour on average travelling southbound and between 390 and 400 travelling northbound on Millbank. The flows are predominantly made up of private cars (between 60%-70%) with taxis and goods vehicles each making up about 10% each of the total north/south flows.

As with the weekday, the side streets, Great College Street, Great Peter Street, and Dean Stanley Street are not that well-used by vehicles while Lambeth Bridge witnesses the highest vehicle flows in both directions.

	Car	Taxi	GVs	Buses	M/C	
J1	1	10	1	1	0	1
	2	12	1	1	0	0
	3	9	1	1	0	0
	4	7	0	0	0	0
	5	251	43	49	31	24
	6	220	37	54	24	23
J2	1	13	4	2	0	0
	2	10	2	1	0	0
	3	16	6	3	0	1
	4	31	5	6	0	1
	5	254	42	48	31	24
	6	238	37	57	25	23
J3	1	3	2	1	0	1
	2	4	1	1	0	2
	3	3	1	1	0	0
	4	4	0	1	0	0
	5	249	39	47	31	24
	6	239	35	57	24	23
J4	1	250	40	47	31	26
	2	240	35	56	24	23
	3	414	71	72	27	21
	4	479	78	79	35	27
	5	376	35	72	21	22
	6	366	35	57	15	22
	7	273	62	47	19	15
	8	229	60	45	24	12

Figure 62: Vehicular flow by category



Hourly Vehicle Flows



Figure 61: Saturday - all day average vehicular hourly flows (07:00 to 19:00)

Peak vehicular flows - weekend

During the weekend peak hour, flows on Millbank in each direction are in the range of 450-500 vehicles per direction. The vehicular flows on Lambeth Bridge are the highest with more than 700 vehicles in each direction. As seen in Figure 55, flows do not substantially vary throughout the day.

	Car	Taxi	GVs	Buses	M/C	
J1	1	10	0	0	0	0
	2	7	1	0	0	0
	3	9	0	0	0	0
	4	6	0	0	0	1
	5	384	44	21	22	24
	6	285	53	29	33	35
J2	1	15	4	1	0	2
	2	11	0	0	0	0
	3	19	6	1	0	1
	4	33	4	2	0	1
	5	382	51	23	21	24
	6	297	54	28	33	32
J3	1	3	2	1	0	1
	2	3	3	0	0	1
	3	2	2	1	0	0
	4	3	1	0	0	1
	5	373	48	20	20	23
	6	309	50	24	32	35
J4	1	370	56	18	20	23
	2	306	60	21	34	34
	3	547	97	56	30	26
	4	586	92	38	37	26
	5	388	40	24	29	27
	6	478	38	31	10	20
	7	383	73	29	22	18
	8	318	76	37	20	14

Figure 64: Vehicular flow by category

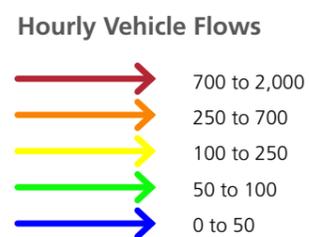


Figure 63: Saturday - peak hour vehicular flows - vph (18:00-19:00)

Average cyclist flows - weekday

On average, Millbank witnesses high cyclist flows with between 210-260 cyclists per hour (cph) travelling in each direction (Figure 65). Cycle flows represent around 40% of northbound flows and 30% of southbound flows, on average along Millbank, exceeding private cars. The flows point to a predominant north/south cycle movement throughout the day.

During the peak hour, there is a predominantly high southbound cyclist movement on Millbank with more than 1,000 cyclists in the peak hour. In contrast, the morning peak hour witnesses an opposite trend with a predominant northbound movement. This can be due to commuters using this route as it is part of CS8 towards/from Wandsworth.

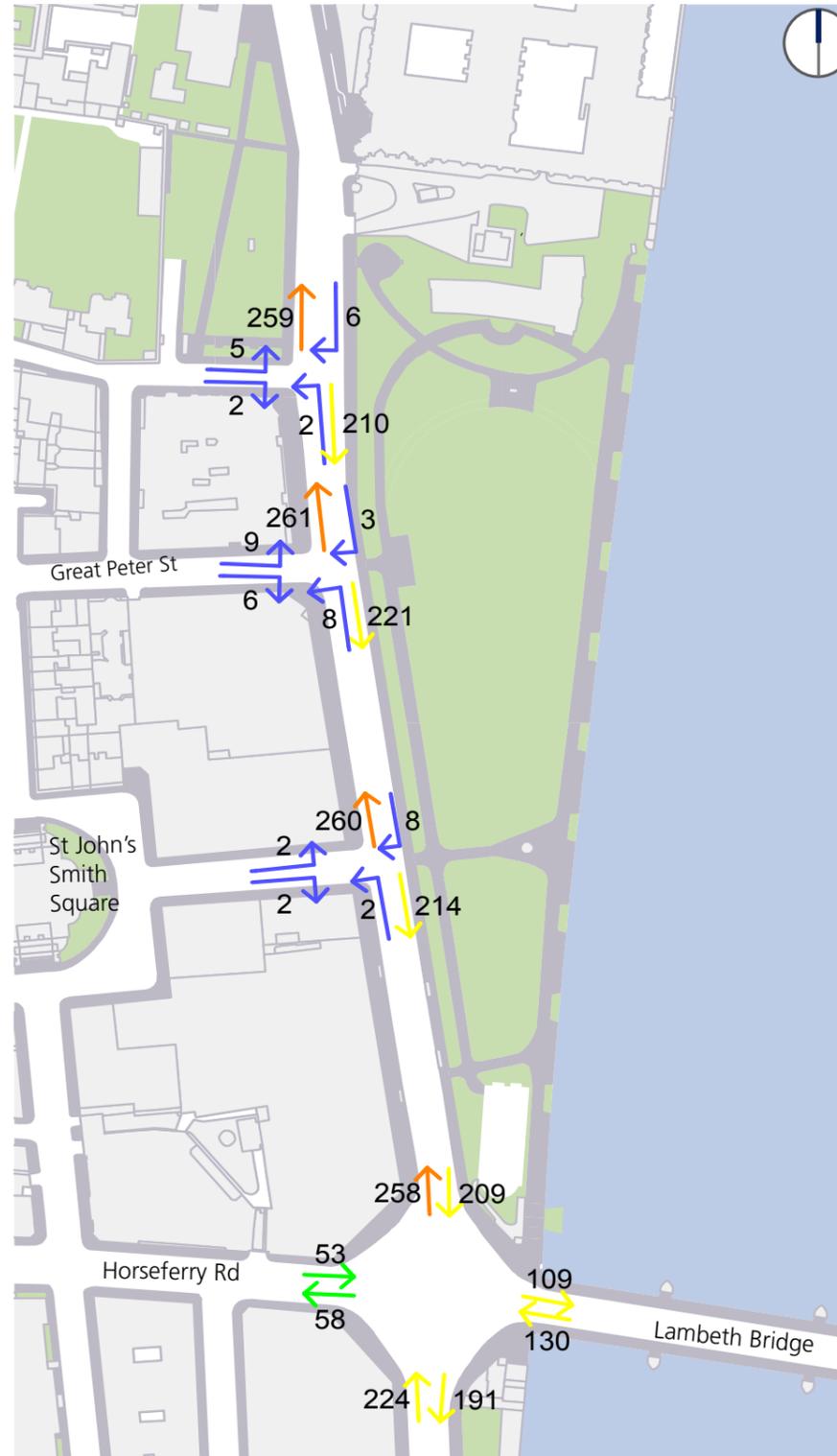


Figure 65: Wednesday - all day average cyclist flows (07:00 to 19:00)

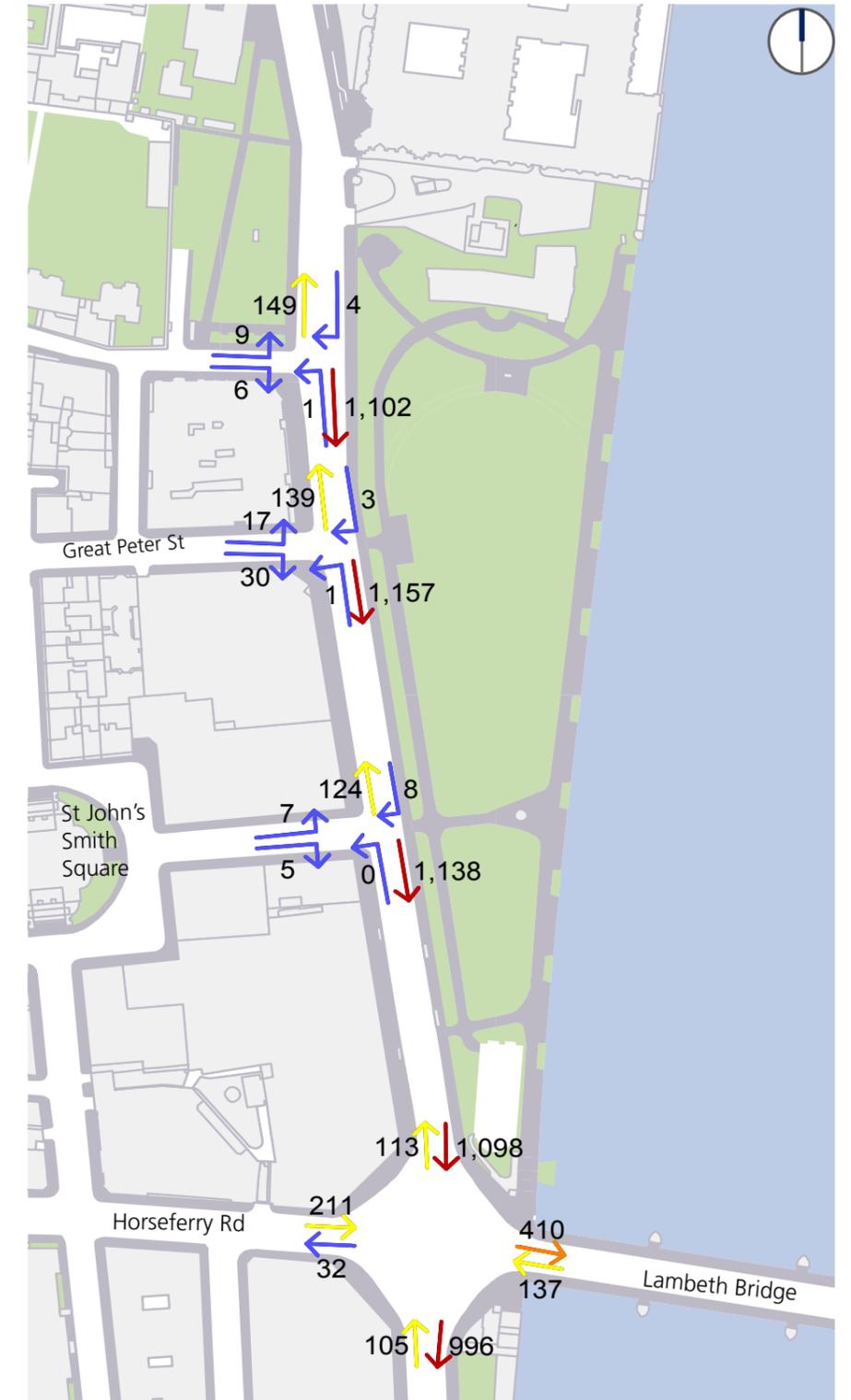


Figure 66: Wednesday - peak hour cyclist flows (18:00-19:00)

Peak cyclist flows - weekend

During the weekend, there are significantly fewer cyclists with around 60 cyclists in each direction.

As with vehicles, side streets, Great College Street, Great Peter Street, and Dean Stanley Street, are even less used by cyclists. However, in contrast to vehicular flows, cyclist flows on Lambeth Bridge are low.

Similar to the average flows on the weekend, even during the peak hour, cyclist flows are very low compared to the weekday peak hour (less than a third on Millbank). This corroborates that the cyclists during the weekday are mostly commuter cyclists.



Figure 67: Saturday - all day average cyclist flows - vph (07:00 to 19:00)



Figure 68: Saturday - peak hour cyclist flows - vph (18:00-19:00)

Kerbside Analysis

This chapter describes the vehicle observation studies that have been undertaken to examine kerbside space use patterns within the study area.

5

Introduction

Methodology

Quantitative analysis of kerbside activity was carried out to establish the existing issues and opportunities presented by the current kerb configurations.

Data on kerbside activity was collected for a full week, Monday to Sunday, during 3 survey periods: 13-15 September, 30 September and 1-3 October 2017. The kerbside was divided into 91 "Kerbzones" in order to differentiate use in an area with multiple parking, waiting and loading restrictions.

Figure 69 shows the various restrictions that currently exist in the study area.

Data for vehicles stopping in the study area was gathered for 24 hours each day under the following considerations:

- Timing: arrival time, departure time, and duration of stay
- Kerbzone used
- Vehicle Classification: taxi, car, motorcycles, LGVs, OGVs, public transport (buses), tour buses and private coaches
- Reason for stopping: pick up/drop-off, servicing¹, waiting, and parking

Further, weekday averages represent averages for all 5 weekdays and the weekend averages represent the averages for 2 weekend days combined.

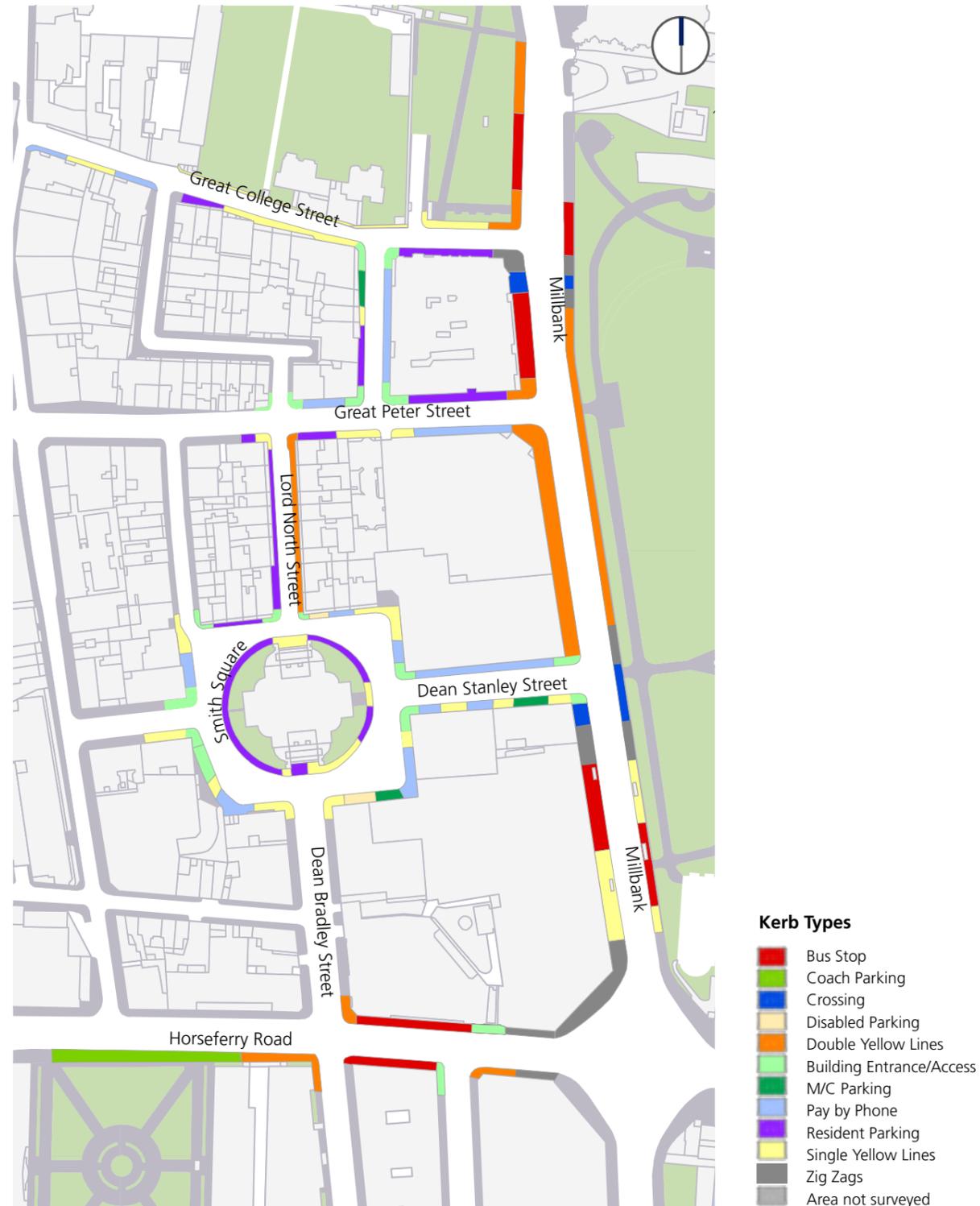


Figure 69: Kerbside types and restrictions

¹ For the purpose of the study, reasons for stopping were simplified and servicing includes multiple categories, including loading, unloading, maintenance, servicing and waste collection.

Vehicle arrivals

When looking at kerbside behaviour around Millbank, three distinct patterns were observed:

- Public transport, or red TfL buses, represents the greatest share of arrivals during the weekdays, with 45% of vehicle shares. This is comparable to all other vehicles using the study area (see Figure 72).
- During weekdays there are clear commuting peaks in terms of arrivals for all vehicles. Nevertheless, reductions in arrivals during the interpeak period are more extreme for public transport vehicles (see Figure 70).
- Weekdays are busier than weekends for both public transport (buses) and all other vehicles. Saturdays and Sundays have half of the activity observed during an average weekday. The highest weekday activity was observed on Wednesday (13 September 2017).

Each kerbside activity carried out has a different pattern (see Figure 71) with a few overlapping peaks.

Weekly Arrival Profile

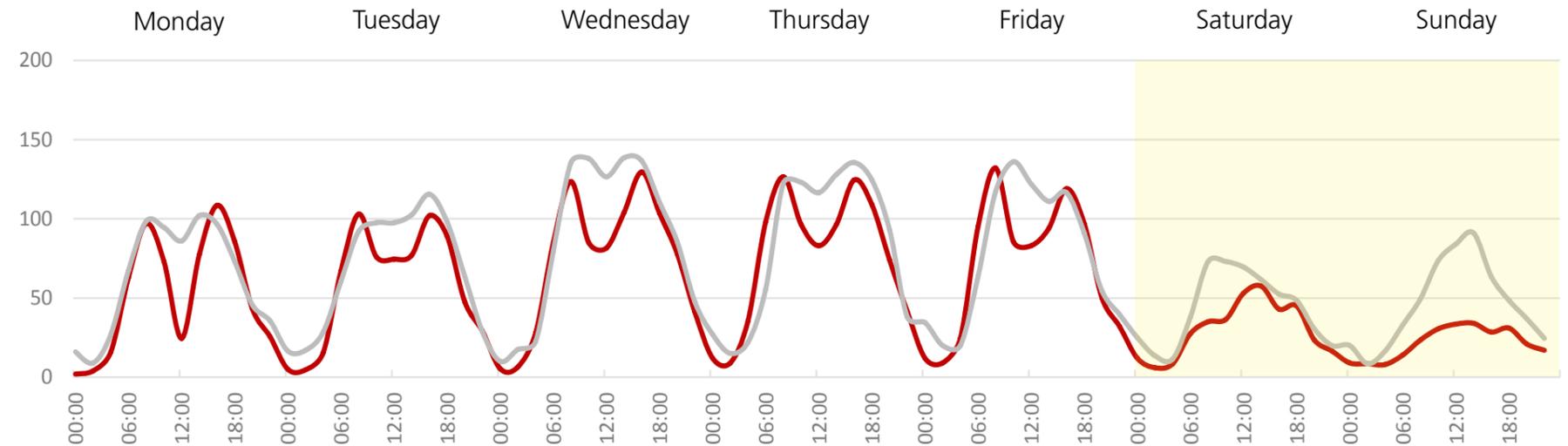


Figure 70: Hourly vehicle arrivals along the entire survey area, Monday to Sunday 00:00-24:00. Public transport vehicles in red and all other vehicles (cars, taxis, coaches, LGVs and HGVs) in grey.

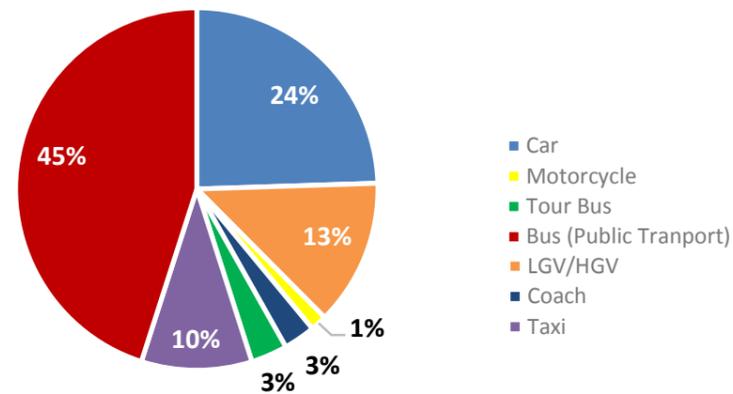


Figure 72: Share of arrivals by vehicle type



Average Weekday Arrivals

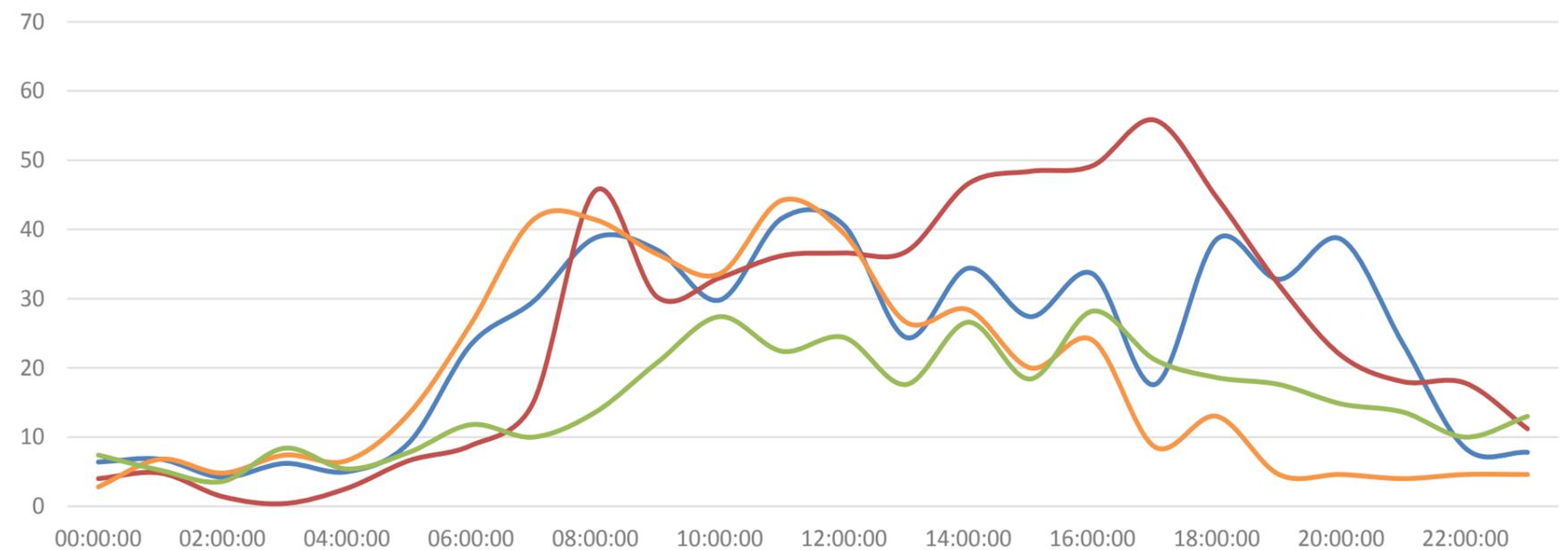


Figure 71: Hourly vehicle arrivals sorted by stopping reason, weekday average. Public transport is excluded from this graph.

Primary use of kerbsides

A robust way to compare kerbside use is through occupancy time and number of arrivals.

Each reason for stopping has a vastly different impact on the site in terms of average time spent at kerbside:

- Parking: 1 hour 45 minutes
- Pick-Up/Drop-Off: 2 minutes (not including public transport. Public buses spend 30 seconds at bus stops, on average)
- Servicing: 20 minutes
- Waiting: 3 minutes

Figures 73 and 74 show the primary kerbside use in terms of total stopping time. Parking is prevalent throughout the site on weekdays, pushing servicing and waiting to the margins of legal kerbside usage. Parking is also present in areas where it is not permitted (please refer to Figure 69 for parking restrictions).



Weekday Primary Use

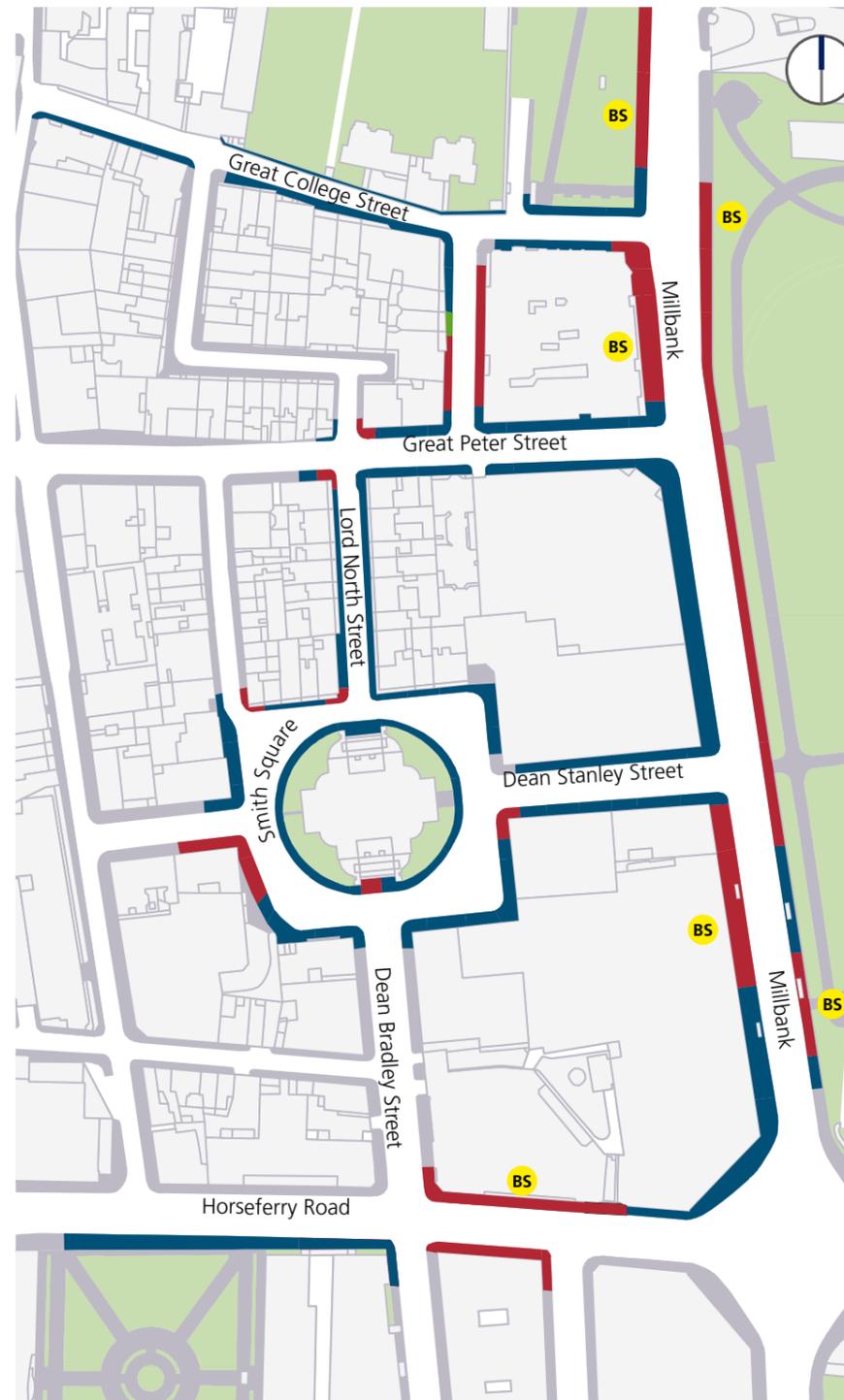


Figure 73: Primary use of kerbside by highest time occupancy, weekday. Excludes public transport

Weekend Primary Use

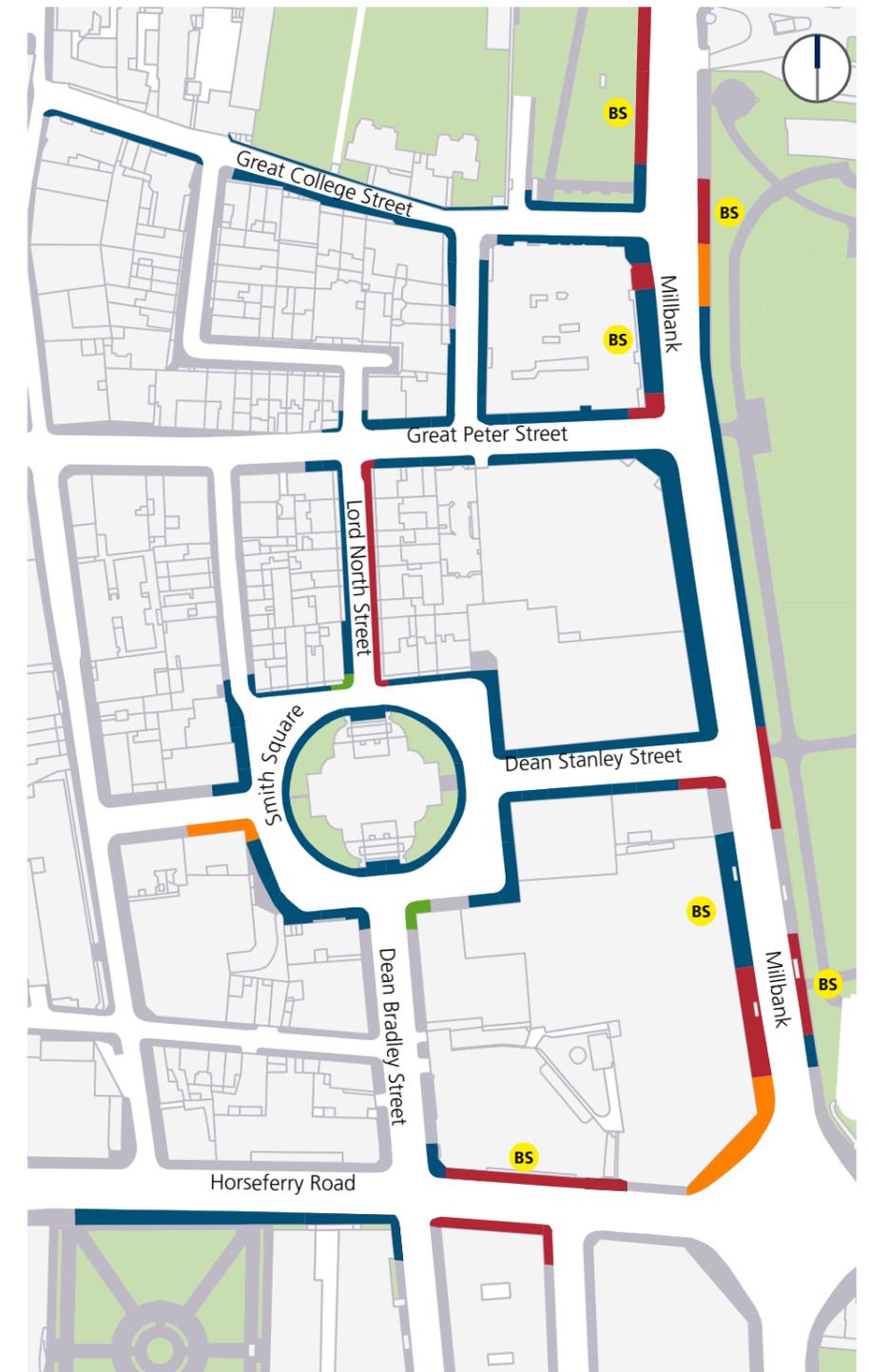


Figure 74: Primary use of kerbside by highest time occupancy, weekend. Excludes public transport.

Occupancy rates

- Areas with single yellow lines and pay by phone restrictions are mostly at or near full capacity (refer to Figure 75).
- There is significant stopping activity in areas with double yellow lines along Millbank and Horseferry Road.
- It was observed that Smith Square and Great Peter Street have high rates of occupancy and also the highest rates of vehicles parked overnight. These areas have a number of resident parking bays, and vehicles remain parked for periods of over 4 hours a day, on average. Especially on the west side of Lord North Street, cars remain parked and stationary for most of the day.
- Parking is also prevalent on the more flexible single yellow line and pay by phone areas on the southeast corner of Smith Square. Parking has the most vehicle arrivals, and vehicles typically remain stationary for over two hours, which is higher than the site average for parking.
- Occupancy is high throughout the site, which causes overflow of stopping vehicles into adjacent areas where stopping might not be permitted.

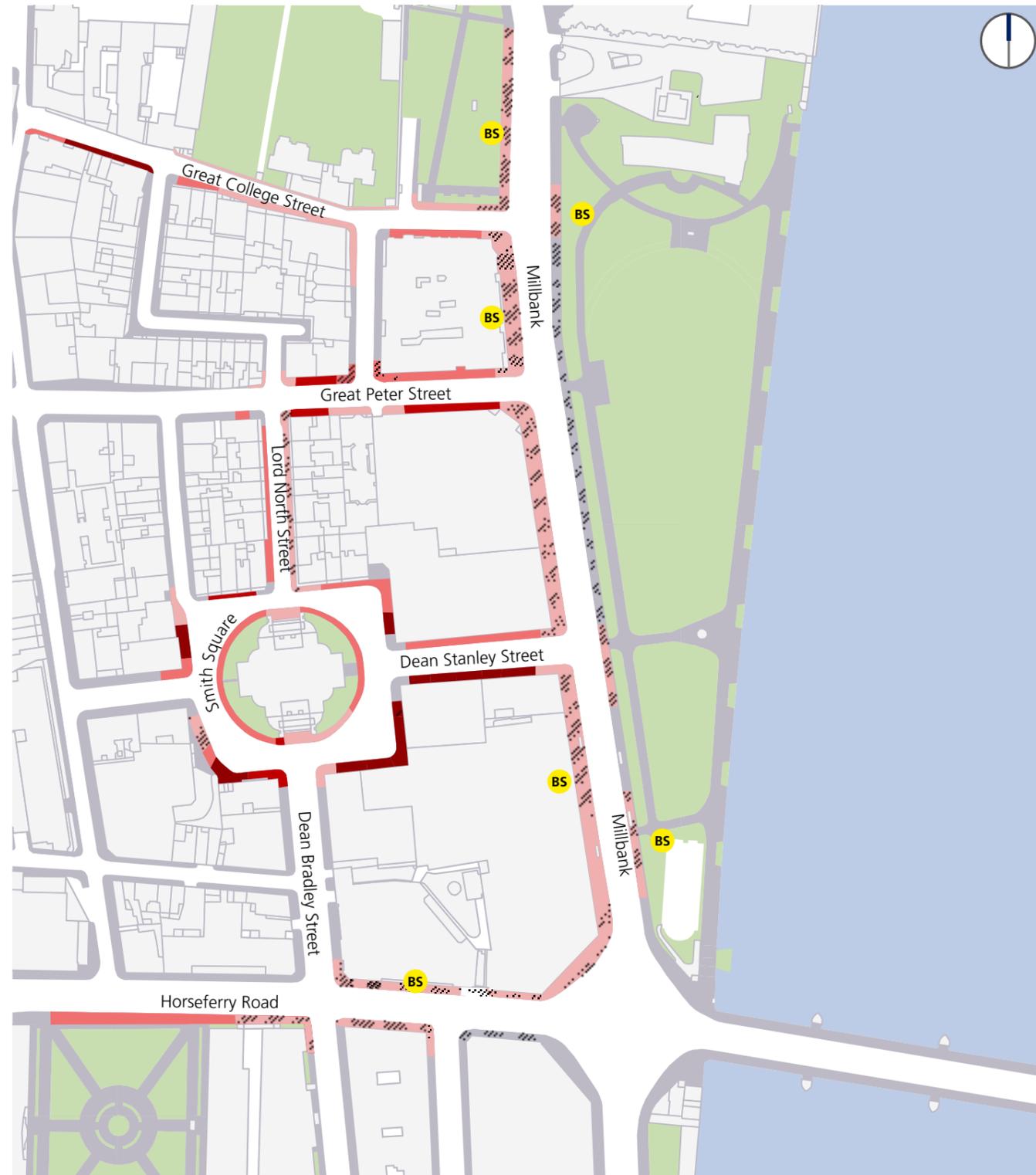
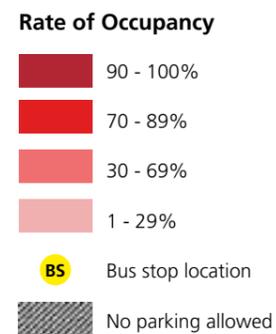


Figure 75: Primary occupancy of kerbside by highest time occupancy, weekday 7am-7pm. Excludes public transport.

Private bus operators

Coaches and tour buses represent only 6% of total vehicles stopping in the study area and have 4% of kerbside space allocated to their use. Nevertheless, their length and limited manoeuvrability can have an important impact on the site, especially since demand from coaches changes drastically throughout the day, and overflow can negatively affect public transport. Coaches generally demand more space and time, with a stopping time of 20 minutes on average. Tour buses are generally more similar in length to public buses¹ and typically stop for 40 seconds.

Weekday

The adjacent image shows the average number of arrivals to the site from Monday to Friday. Tour Buses run consistent routes with a frequency of 5-15 minutes depending on time of day. These buses use existing bus stops to pick up and drop off passengers throughout the weekday.

Coaches are a more fluctuating service, with a sharp peak at 16:00, where 30 coaches arrive on average per weekday. The hour of greatest activity was Tuesday, when 38 coaches arrived on site from 16:00-17:00.

Weekend

Figure 77 shows the average number of arrivals to the site on Saturday and Sunday. Tour buses operate with increased frequency whilst coaches represent only 25% of weekday arrivals.

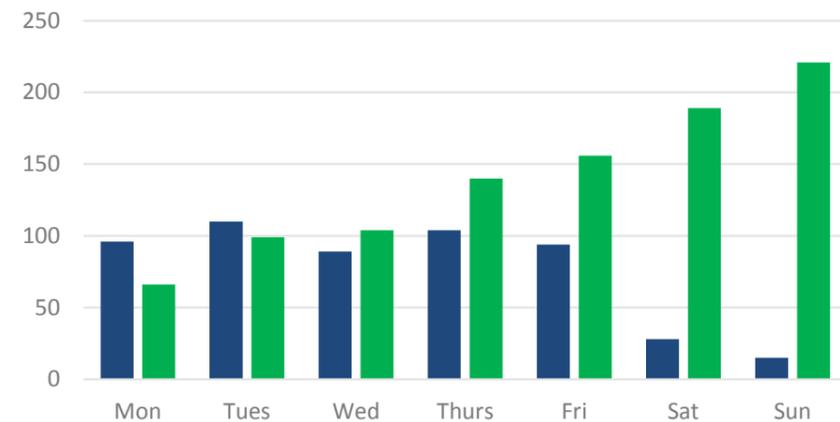


Figure 76: Total daily arrivals of private coaches (blue) and tour buses (green) into the study area.

Weekday Arrivals

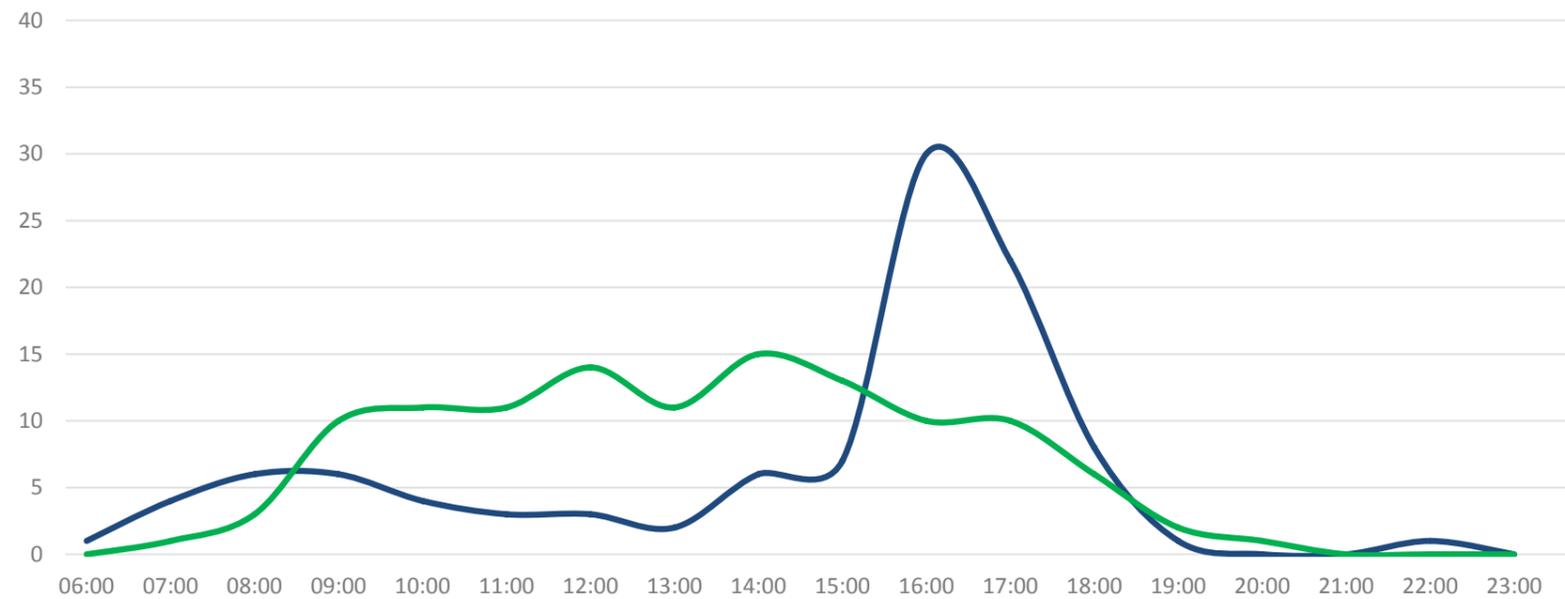


Figure 78: Hourly profile of coach and tour bus arrivals, average Monday to Friday

— Private Coach
— Tour Bus

Weekend Arrivals

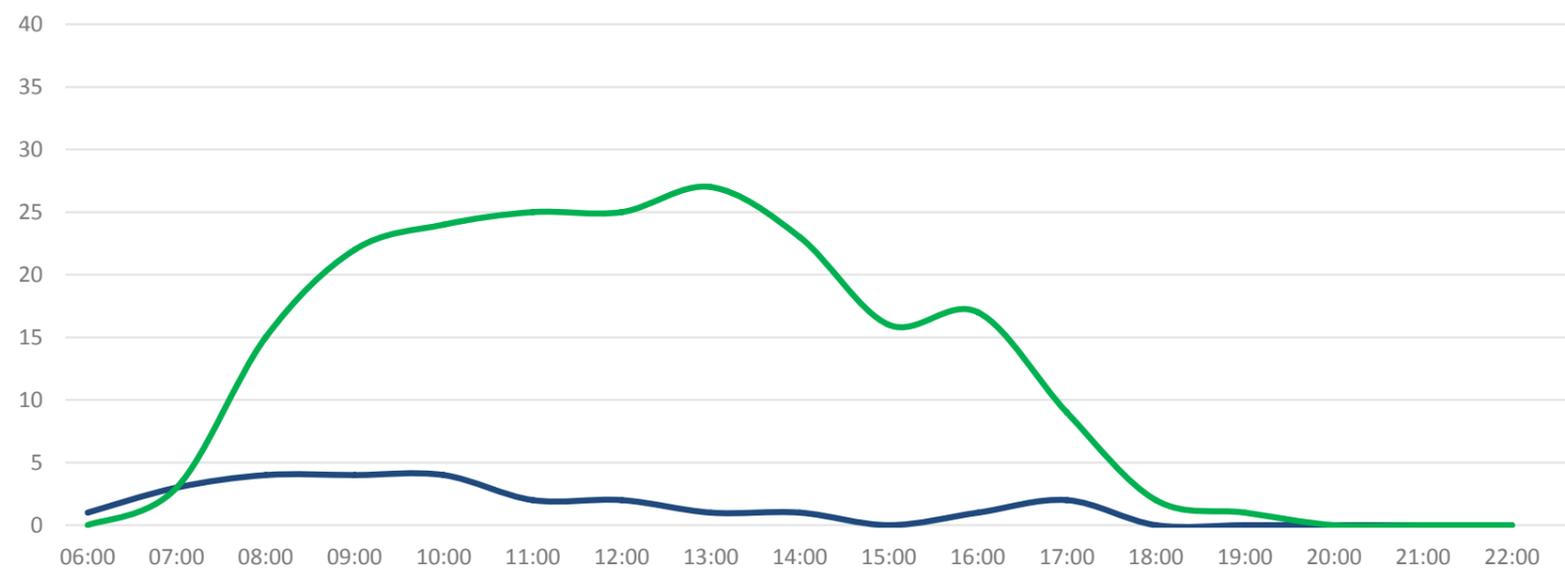


Figure 77: Hourly profile of coach and tour bus arrivals, average Saturday and Sunday

¹ A typical Ayats Bravo double-decker used by the Original Tour Company is between 13.0-13.75 metres in length, compared to 11.23 metres for a standard TfL Double Decker Routemaster. Coaches can be up to 15 metres in length.

Private bus operators

Private Coaches

Private coaches have 70 metres of designated stopping space on the south side of Horseferry Road, with capacity for up to 5 coaches. Whilst this provision is adequate throughout most of the day, there is an overflow of coaches at peak hours, and there is stopping activity along Millbank (see Figure 79) and Horseferry Road. Impact is negative at local bus stops, as coaches hinder public transport and create congestion.

Tour Buses

The Original Tour operates a route through the study area, stopping at Horseferry Road and Abingdon Street (just north of Millbank) which can be clearly seen in Figure 80. First service is at around 08:00 and last service is at around 21:00. When there is excess capacity at bus stops, this service waits along Millbank.



Weekday Private Coach Arrivals

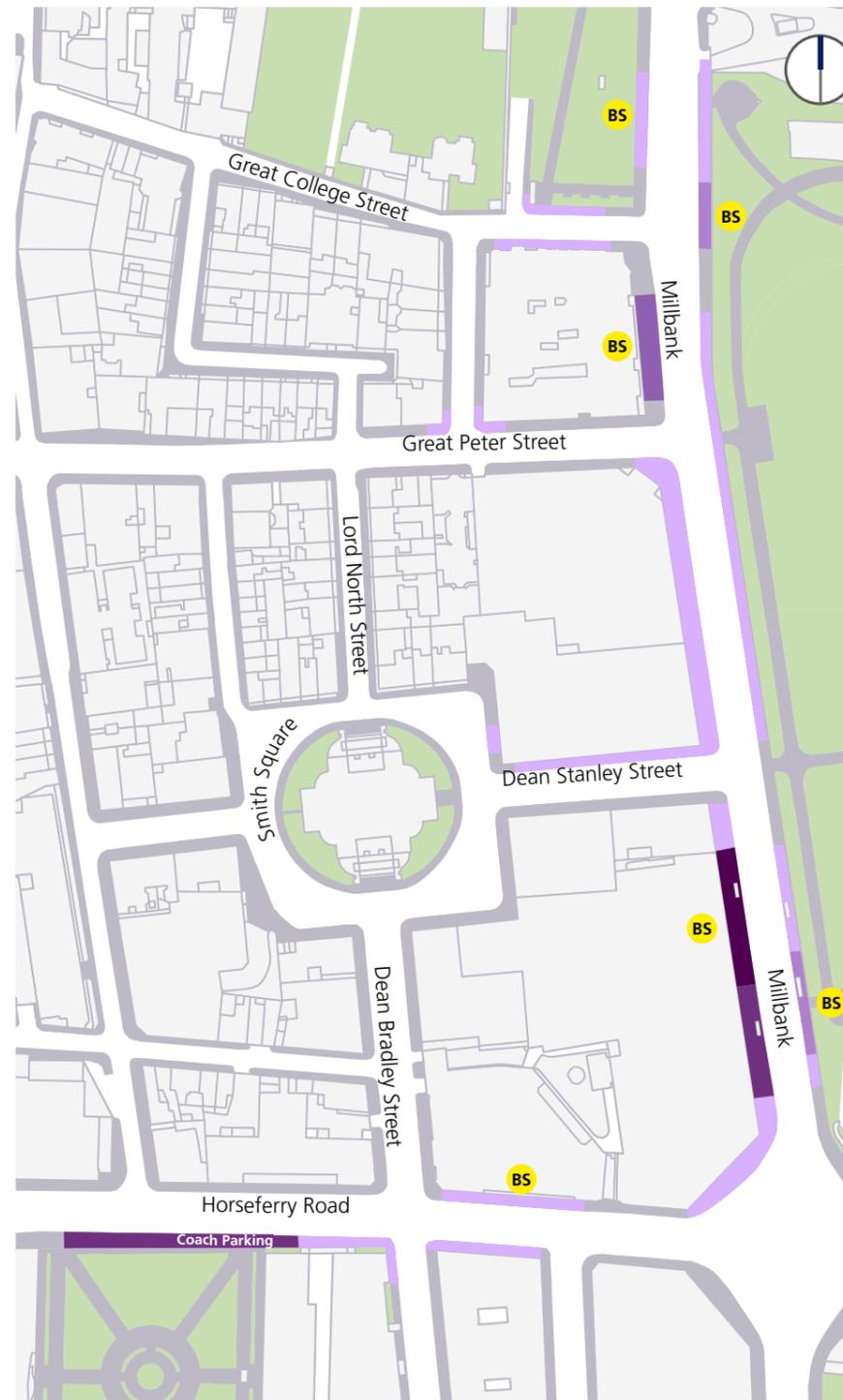


Figure 79: Average number of weekday arrivals for private coaches

Weekday Tour Bus Arrivals

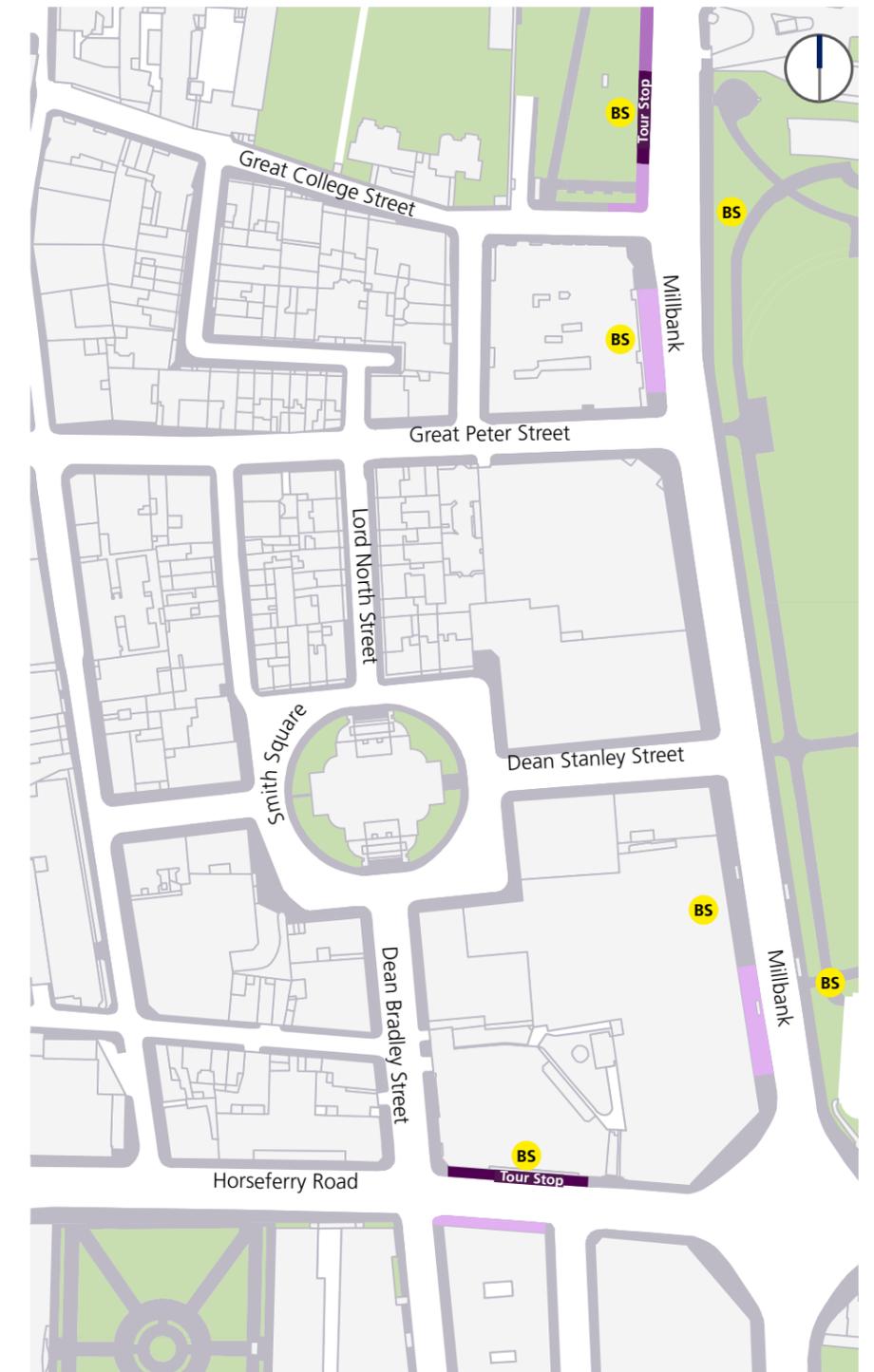


Figure 80: Average number weekday arrivals for tour buses

Servicing

Servicing is a critical activity that occurs within the study area and represents 13% of all vehicle arrivals, but has no designated space. Servicing refers to loading, unloading, maintenance and waste collection, except in Figure 83 where loading and unloading are divided from the blanket category to show variation in demand throughout the week.

Servicing occurs generally in the early morning and around noon. During weekdays 68% of activity is carried out before 1pm.

When comparing a Saturdays and Sundays to weekdays, activity during the weekend represents 29% of that of a typical weekday. There is also a single peak in the morning and very little activity throughout the day.

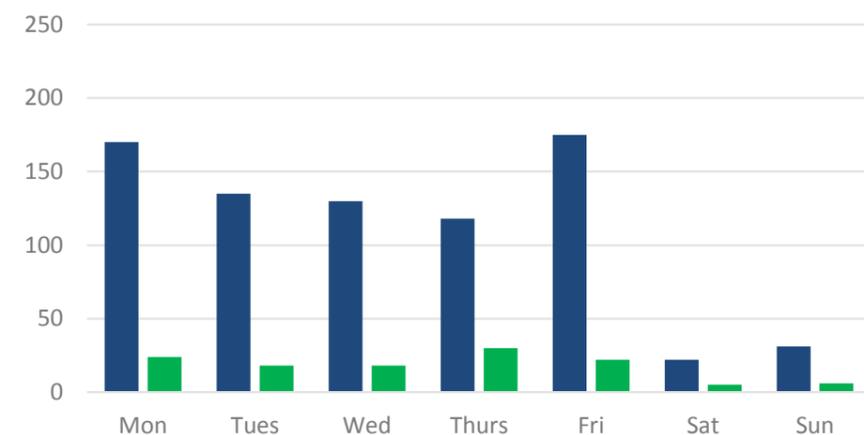


Figure 83: Total daily arrivals of loading vehicles (blue) and service vehicles (green) into the study area.

Weekday Servicing Profile

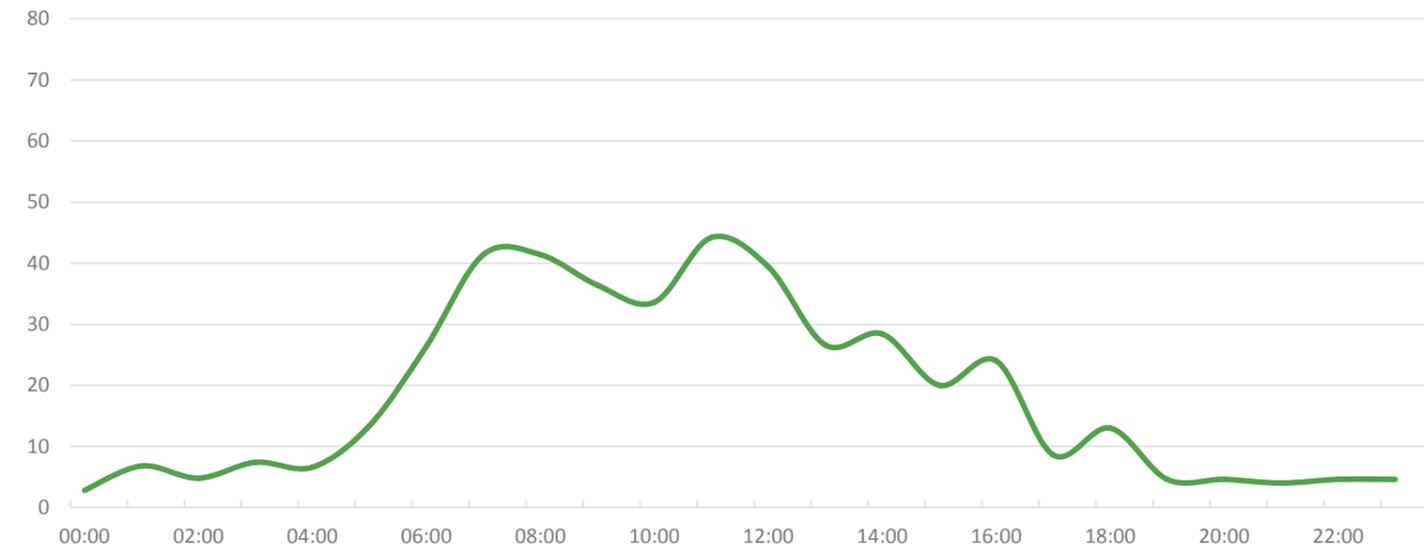


Figure 82: Servicing arrivals per hour, weekday average.

Weekend Servicing Profile



Figure 81: Servicing arrivals per hour, weekend average.

Servicing

Servicing generally requires an amount of time that is significant enough to cause delays and obstructions if vehicles stop in areas where parking is not permitted. Figure 84 shows that servicing activity during the weekday occurs almost everywhere in the study area, including bus stops, zig zags, entrances and disabled parking areas.

On average, a service vehicle will remain parked for 20 minutes during weekdays and 40 minutes during weekends, when there is more capacity.

Servicing fills occupancy gaps in the study area, using bays where parking is permitted, which also represent the areas where occupancy is highest (see Figure 84) as a steady stream of loading vehicles arrive throughout the day.



Figure 84: Average number weekday arrivals for service vehicles.



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Transport Assessment Scope

This chapter sets a scope for the Transport Assessment for the development highlighting potential transport impact considerations.

6

Transport assessment - expected requirements

Transport Assessments (TA) primarily focus on evaluating the potential transport impacts of a development proposal and may propose mitigation measures where these are necessary to avoid unacceptable or “severe” impacts.

Paragraph 32 of the National Planning Policy Framework (NPPF 2012) states that all developments that generate significant amounts of transport movement should be supported by a Transport Statement or TA.

It would be expected, in the case of the Holocaust Memorial development, that the Promotor (or Promotor’s Consultants) would be required by the Local Planning Authority to produce a TA to be submitted along with the Planning Application, to determine whether the transport impact of the development is acceptable.

Transport Assessment Guidance

Following the withdrawal, in October 2014, of The Department for Transport (DfT) ‘Guidance on Transport Assessment’ (March 2007), the high level guidance for the preparation of TAs can be found in DfT’s Planning Practice Guidance (PPG) suite of documents and in particular in “Travel Plans, Transport Assessments and Statements in Decision Taking”.

The DfT guidance states that TAs should be:

- Proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
- Established at the earliest practicable possible stage of a development proposal;
- Be tailored to particular local circumstances;
- Be brought forward through collaborative ongoing working between the local planning authority/transport authority, transport operators, rail network operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies.

Key issues to consider at the start of preparing a TA may include:

- The planning context of the development proposal;
- Appropriate study parameters (i.e., area, scope and duration of study);
- Assessment of public transport capacity, walking/cycling capacity and road network capacity;
- Road trip generation and trip distribution methodologies and/ or assumptions about the development proposal;
- Measures to promote sustainable travel;

- Safety implications of development; and
- Mitigation measures (where applicable) – including scope and implementation strategy.

The DfT guidance states the importance of entering into early discussions with the Local Planning Authority and other relevant authorities to agree the scope of assessment prior to its completion and submission as part of a planning application. In the case of the Holocaust Memorial development, it would be expected that the scope of the TA be discussed in consultation with Westminster City Council (WCC) and potentially Transport for London (TfL) at the outset. This will enable broad agreement on the assessment area (i.e. extent of highway, non-motorised and public transport analysis required), scope (i.e. analysis periods to be covered) and methodologies, to provide the analysis required by WCC for consideration as the Local Planning Authority.

Transport Assessment Scope

The scope and level of detail in a TA will vary from site to site and will in part be defined through early discussions between the Promotor and WCC, but DfT advise that the following should be considered:

- Information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport)
- Information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;
- Data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;
- A qualitative and quantitative description of the travel characteristics of the proposed development, including movements across all modes of transport that would result from the development and in the vicinity of the site;
- An assessment of trips from all directly relevant committed development in the area (i.e .,development that there is a reasonable degree of certainty will proceed within the next 3 years);
- Data about current traffic flows on links and at junctions (including by different modes of transport and the volume and type of vehicles) within the study area and identification of critical links and junctions on the highways network;
- An analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent 3-year period, or 5-year period if the proposed site has been identified as within a high accident area;

- An assessment of the likely associated environmental impacts of transport related to the development, particularly in relation to proximity to environmentally sensitive areas (such as air quality management areas or noise sensitive areas);
- Measures to improve the accessibility of the location (such as provision/ enhancement of nearby footpath and cycle path linkages) where these are necessary to make the development acceptable in planning terms;
- A description of parking facilities in the area and the parking strategy of the development;
- Ways of encouraging environmental sustainability by reducing the need to travel; and
- Measures to mitigate the residual impacts of development (such as improvements to the public transport network, introducing walking and cycling facilities and physical improvements to existing roads).

The Assessment will need to consider the Development’s compliance with National, Regional and Local Authority policies, including the National Planning Policy Framework (NPPF 2012), the London Plan (2016) and WCC Local Plans and Policies.

TfL has provided an indicative TA structure, as shown in Figure 85.

Travel Plan

Local Authorities are generally required to ensure that developments which generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. A key tool to facilitate this will be a Travel Plan. National Planning Policy Framework (NPPF 2012) requires that all developments which generate significant amounts of movement should provide a Travel Plan. A Travel Plan is implemented as part of the development proposals upon occupation and sets out the measures that are proposed to encourage sustainable transport. For the Holocaust Memorial development, the requirement for a Travel Plan, as part of the TA, should be discussed and established with WCC during the pre-application period.

Example high level transport assessment structure

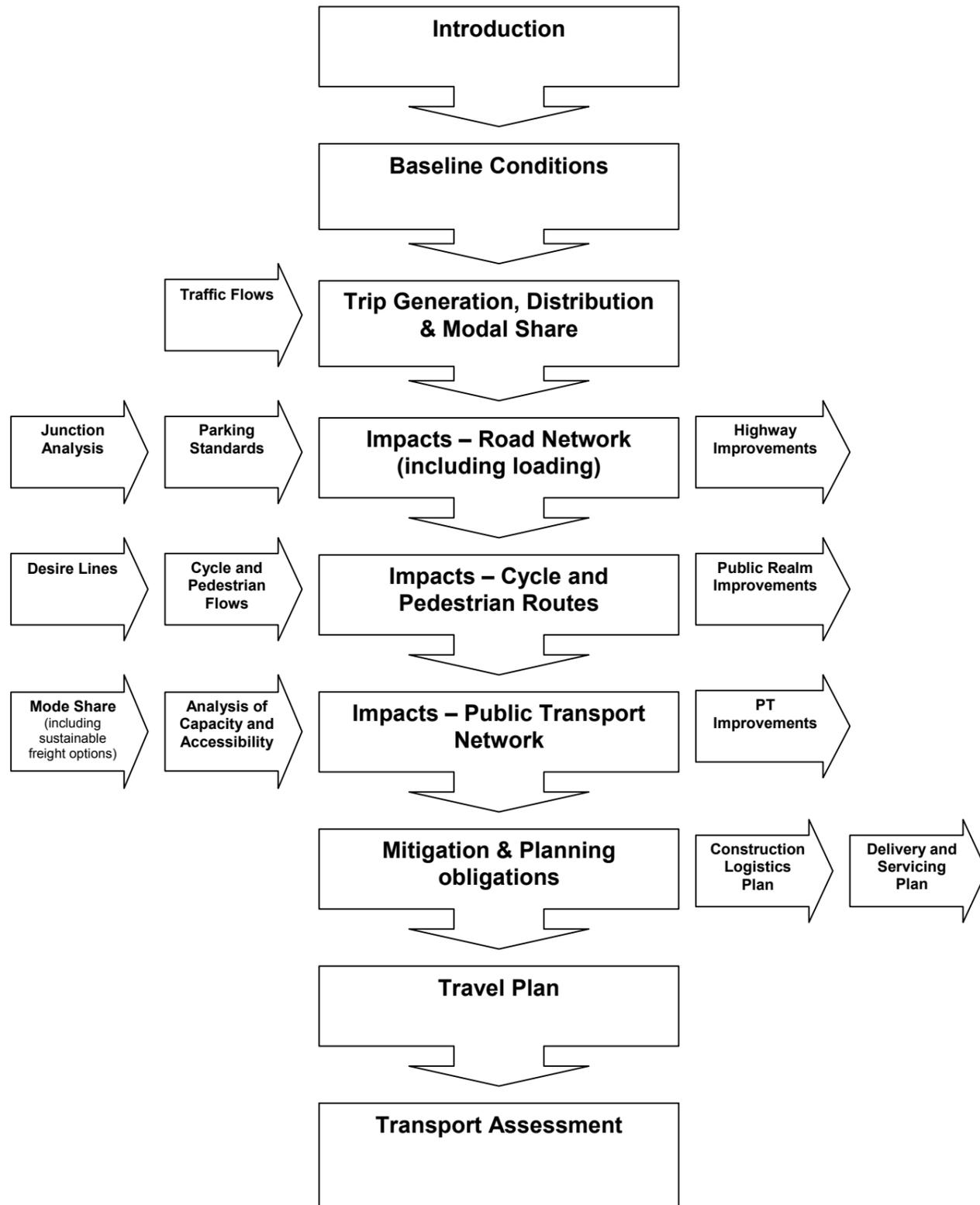


Figure 85: Example high level transport assessment structure

Site-specific issues

The TA for the Holocaust Memorial development will likely need to consider some development and site specific issues, including:

Vehicular Trip Generation

The TA will require information from the Promotor in relation to expected trip generation of the memorial, in operation. This is normally established through interrogation of the nationally accepted TRICs database, which enables the calculation of person/vehicle trips rates for different forms of development. However, this will not include information for this bespoke development.

As the area is already well-visited by tourists (to The Houses of Parliament, Big Ben, Westminster Abbey and other nearby sites), forecasting the percentage of trips which will be dedicated trips to the memorial (i.e. new trips on the transport network) from those which are already made to the area (i.e. people perhaps visiting the area, and adding the memorial to their schedule – effectively no additional trips on the transport network generated solely by the memorial) is likely to be difficult. Therefore, it is likely that assumptions in relation to trip generation will need to be agreed between the Promotor and WCC. Proposed operational arrangements for visitors to the memorial, such as individual and/or group booking procedures and security measures etc., will have a significant impact on visitor arrival and departure profiles. Therefore, these will need to be established from the outset to inform the assumptions underpinning the trip generation for the TA.

Coach Drop Off/Pick Up

A key consideration of the TA, at this particular site, will be around provision for and management of coach drop off/pick up.

It is important to note that coach parking is constrained in Westminster with only 55 coach bays present and high volume of other attractions generating demand. Additionally, Victoria Coach Park (located to the north of Victoria Tower Gardens on Victoria Embankment) only makes provision for 8 overnight coach parking spaces as Stagecoach use it during daytime. This should be considered by the Promotor while specifying a location for coach drop off/pick up as well as parking.

It is unknown at present if the development will have dedicated coach facilities, but a likely key concern of WCC will be how this will be facilitated, as well as where coaches will park between drop off and pick up times. The TA will need to assess the potential increase in demand for travel by coach and the arrangements for coach access and parking.

Kerbside activity has been surveyed for 7 days (24 hours) on Millbank and streets around the site as part of this study. There could, however, be a requirement for an existing off-site coach parking utilisation survey, to inform the TA.

Moreover, there should be an allocated location for blue badge drop off/pick up which complies with DDA requirements. This location should ensure that no conflict with TfL buses along Millbank takes place. The TA should review the design for this against the relevant guidance.

Highway Assessment

During Construction

The Promoter is expected to develop a Construction Management Plan and a Construction Logistics Plan, to minimize the impacts of construction vehicles on the network. Junction modelling may not be required as part of the TA to assess the impacts of construction traffic upon the highway network, given it will be a short-term impact only. However, this is to be discussed and agreed with WCC at the outset. The Promotor should provide the number of construction vehicles expected per day and construction and operational arrangements (such as new temporary construction vehicle access), for consideration within the TA.

Some shortlisted designs mention the use of river transport for construction, which would need to be detailed and assessed within the TA i.e. the logistics of bringing in materials by river, and from river to the site (and impacts thereof).

During Operation

It is anticipated that the amount of additional vehicular traffic generated solely by the memorial is not likely to have a significant impact upon the highway network, so junction modelling to assess these impacts within the TA may not be required for during operation. This should be discussed and agreed with WCC. However, this study collected vehicular flows on Millbank junctions with Great College St, Great Peter St, Dean Stanley St, and Horseferry Rd (the 4 junctions adjacent to the gardens). This data could be used for undertaking traffic modelling if required. However, it would likely need to be supplemented by additional survey data, such as queue length and journey times.

Pedestrian Capacity

During Construction

During construction, alternative paths will likely need to be provided for pedestrians, as well as access into the park. The TA should consider the

Promotor's logistics plan, to ensure that there is no conflict between construction vehicles and pedestrians in the park, and that alternative routes have sufficient pedestrian capacity.

During Operation

Pedestrian crowding is another issue that should be considered within the TA i.e. whether the existing footways and pedestrian crossings can accommodate the new visitor numbers. To avoid pedestrian crowding around entrances and visitors potentially spilling into the road, there may be a need for new pedestrian entrances and subsequently new paths around the park. To inform this analysis, static and potentially dynamic pedestrian modelling could be undertaken as part of the TA.

Pedestrian Security

Security is very important in the context of the development and site. The TA should review any security features proposed by the Promotor.

Public Transport

During the pre-planning stage, the Promotor should discuss the need for any assessment of impacts upon the public transport system. At this stage, it is not expected that detailed analysis be required and that local bus and tube services and stations will have sufficient spare capacity. However, this will be confirmed through early engagement with WCC and TfL.

Servicing

Servicing will depend on the site-specific usage and whether there will be any events taking place at different times of the day. Vehicular access for servicing should be considered for smaller vehicles in the site and larger ones which will have to load and unload outside the site. Specific times and locations should be specified for the latter. Early engagement with TfL regarding servicing vehicles would inform these decisions and eliminate potential for conflict on Millbank which has several buses and bus stops. The TA should review the servicing provision and arrangements set out by the Promotor and assess their suitability.

Cycle Parking

Inclusion of cycle parking in design and careful integration is important to comply with the London Plan. The parking design set out by the Promotor should include parking and storage for the memorial site staff as well as visitors. Minimum standards are set out in the London Plan as well as the guidance in the London Cycle Design Standards. Adherence of the design to these policies should be reviewed within the TA.

Conclusions



Conclusions

Pedestrian Patterns and Movements

During the weekend and Bank Holiday (which are off-work days) pedestrian flows are highest during mid-day in and around the park. It seems that tourists who visit the area's other attractions also visit the park as part of their trip and access it from its northern-most entrance. On those days, Millbank and the side streets footways are not very well-used as tourist flows are concentrated to the north of the site.

On the weekday, the flow profile shows a morning, mid-day, and afternoon peak indicating a commuter pattern. The flows on Millbank are substantially higher whereas the park seems to be mostly visited around mid-day. During the weekdays, the local professionals walk along the footways of Millbank and visit the park. There is also a higher crossing activity along the crossings of Millbank that may be also attributed to the locals using them to cross to/from the park.

The park seems to be visited by large groups on all days, whether groups of tourists, students visiting the education centre, or local professionals on a work social. During the weekend and Bank Holiday larger groups access the park from the north entrance, probably following their visits to the other attractions. People were observed to walk on the designated park paths as well as on the grass to wander around and look at the statues (namely Burghers of Calais and The Buxton Memorial). Some spent time in the park sitting on the benches along the Thames or having picnics on the grass, while others entered to take photos, visit the statues and leave. The park in itself was thus also a destination for tourists who came to this area.

Compared to the weekend and Bank Holiday, the park was still frequented by many tourists during weekdays, but was also a place local professionals came to. It was observed that people who work in proximity to the park came as groups or individually to have lunch. During the morning and evening peaks it was a through route some commuters used and a jogging route throughout the day.

Vehicular Flows

Vehicular flows at the junctions show a predominantly north-south movement on Millbank with less flows to/from the side streets. Vehicular flows on both weekdays and weekends also show high flows on Lambeth Bridge and Horseferry Road. The northbound/southbound movement on the weekday is made up of mostly private cars (between 35%-40%) followed by goods vehicles (between 25%-30%). On the weekend, the flows are predominantly made up of private cars (between 60%-70%)

with taxis and goods vehicles each making up about 10% of the total north/south flows.

Cyclist Flows

Cycle flows represent the highest percentage of total north/south flows on Millbank during the weekday. During the evening peak hour, there is a predominantly high southbound cyclist movement on Millbank with more than 1,000 cyclists in the peak hour. In contrast, the morning peak hour witnesses an opposite trend with a predominant northbound movement. This is a well-used route for commuter cyclists as part of the CS8, while cyclists use Lambeth Road less as it is dominated by vehicles. In contrast, during the weekend, there are significantly fewer cyclists compared to the weekday.

Kerbside Analysis

Overall, kerbside behaviour analysis around Millbank showed that weekdays are busier than weekends for both public transport (buses) and all other vehicles. Saturdays and Sundays have half of the activity observed during an average weekday. During weekdays, there are clear commuting peaks in terms of arrivals for all vehicles.

Public transport, or red TfL buses, represents the greatest share of arrivals during the weekdays, with 45% of vehicle shares. Occupancy time varies substantially depending on the type of activity: from 1 hour and 45 minutes (on average) for parking to 30 seconds for TfL buses.

It was observed that Smith Square and Great Peter Street have high rates of occupancy and also the highest rates of vehicles parked overnight. These areas have a number of resident parking bays, and vehicles remain parked for periods of over 4 hours a day, on average. Especially on the west side of Lord North Street, cars remain parked and stationary for most of the day. Overall, occupancy is high throughout the site, which causes overflow of stopping vehicles into adjacent areas where stopping might not be permitted.

Coaches and tour buses represent only 6% of total vehicles stopping on the study area and have 4% of kerbside space allocated to their use. Nevertheless, their length and limited manoeuvrability have an important impact on the site, especially since demand from coaches changes drastically throughout the day, and overflow can negatively affect public transport. Coaches generally demand more space and time, with a stopping time of 20 minutes on average. Tour Buses are generally more

similar in length to public buses¹ and typically stop for 40 seconds.

Private coaches have 70 metres of designated stopping space on the south side of Horseferry Road, with capacity for up to 5 coaches. Whilst this provision is adequate throughout most of the day, there is an overflow of coaches at peak hours, and there is stopping activity along Millbank and Horseferry Road. Impact is negative at local bus stops, as coaches hinder public transport and create congestion.

Lastly, looking specifically at servicing, analysis shows that servicing activity during the weekday occurs almost everywhere on the site, including bus stops, zig zags, entrances and disabled parking areas. Servicing fills occupancy gaps in the study area, using bays where parking is permitted, which also represent the areas where occupancy is highest as a steady stream of loading vehicles arrive throughout the day.

If we were to summarise, current kerbside conditions show that there is some strain in allocating demand for space for the more transient vehicles uses in the study area. Servicing vehicles, private buses, and taxis compete for limited space in an area where long-term parking is prevalent. During evening peak hours, where pick-up/ drop-off activity and private coach arrivals increase, there is some conflict with public transport operating in Millbank, as there is a lack of compliance of kerbside restrictions from other users.

TA Guidance Highlights

The three main areas the development is foreseen to impact are kerbside capacity in terms of coach pick up/drop off, kerbside capacity in terms of loading/unloading and pedestrian capacity. The first key consideration of the TA, at this particular site, will be around provision for and management of coach drop off/pick up. The promoter should specify a location for coach drop off/pick up, and there should also be a location allocated for blue badge drop off/pick up which complies with DDA requirements. This location should ensure that no conflict with TfL buses along Millbank takes place.

As for servicing, it will depend on the site-specific usage and whether there will be any events taking place at different times of the day. Vehicular access for servicing should be considered for smaller vehicles in the site and larger ones which will have to load and unload outside the site. Specific times and locations should be specified for the latter.

¹ A typical Ayats Bravo double-decker used by the Original Tour Company is between 13.0-13.75 metres in length, compared to 11.23 metres for a standard TfL Double Decker Routemaster. Coaches can be up to 15 metres in length.

Finally, for pedestrian management during the operation of the site, it should be ensured that the existing footways and crossings can comfortably and safely accommodate pedestrians. There may be a need for new pedestrian entrances and subsequently new paths around the park. To inform this analysis, static and potentially dynamic pedestrian modelling could be undertaken as part of the TA.



ATKINS

Plan Design Enable



Appendix D

VICTORIA TOWER GARDENS &
MILLBANK - RAW DATA
(INTELLIGENT DATA LITD)



RAW DATA TRAFFIC SURVEYS – INTELLIGENT DATA 2017

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
 20170619_May ID Surveys	Compressed (zipped) Fol...	4,351 KB	No	4,351 KB	0%	29/07/2019 16:24
 20171002_September ID Surveys	Compressed (zipped) Fol...	15,403 KB	No	15,403 KB	0%	29/07/2019 16:24
 20171016_September ID Surveys	Compressed (zipped) Fol...	1,777 KB	No	1,777 KB	0%	29/07/2019 16:24

MAY 2017 SURVEYS

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
 ID03257 Millbank - Pedestrian and Cycle Counts - Movements 1-18	Microsoft Excel Worksheet	1,249 KB	No	1,265 KB	2%	19/06/2017 17:09
 ID03257 Millbank - Pedestrian and Cycle Counts - Movements 19-38	Microsoft Excel Worksheet	845 KB	No	862 KB	2%	19/06/2017 17:09
 ID03257 Millbank - Pedestrian and Cycle Counts - Park Accesses	Microsoft Excel Worksheet	1,149 KB	No	1,164 KB	2%	19/06/2017 17:09
 ID03257 Millbank - Pedestrian and Cycle Counts - Pedestrian Crossings	Microsoft Excel Worksheet	1,108 KB	No	1,123 KB	2%	19/06/2017 17:09

SEPTEMBER 2017 SURVEYS

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
 ID03398 Millbank - ATC Site 01	Microsoft Excel Worksheet	4,402 KB	No	4,484 KB	2%	29/09/2017 18:30
 ID03398 Millbank - Kerbside Activity	Microsoft Excel Worksheet	1,888 KB	No	1,942 KB	3%	29/09/2017 18:38
 ID03398 Millbank - MCC Site J1 - 13.09.2017	Microsoft Excel Worksheet	683 KB	No	723 KB	6%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J1 - 16.09.2017	Microsoft Excel Worksheet	319 KB	No	363 KB	12%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J2 - 13.09.2017	Microsoft Excel Worksheet	583 KB	No	634 KB	9%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J2 - 16.09.2017	Microsoft Excel Worksheet	578 KB	No	641 KB	10%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J3 - 13.09.2017	Microsoft Excel Worksheet	583 KB	No	629 KB	8%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J3 - 16.09.2017	Microsoft Excel Worksheet	603 KB	No	667 KB	10%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J4 - 13.09.2017	Microsoft Excel Worksheet	641 KB	No	692 KB	8%	29/09/2017 18:30
 ID03398 Millbank - MCC Site J4 - 16.09.2017	Microsoft Excel Worksheet	661 KB	No	716 KB	8%	29/09/2017 18:30
 ID03398 Millbank - Pedestrian and Cycle Counts - Access Gates to Park - 13.09.2017	Microsoft Excel Worksheet	1,270 KB	No	1,281 KB	1%	29/09/2017 18:30
 ID03398 Millbank - Pedestrian and Cycle Counts - Movements 1-18 - 13.09.2017	Microsoft Excel Worksheet	1,394 KB	No	1,405 KB	1%	29/09/2017 18:30
 ID03398 Millbank - Pedestrian and Cycle Counts - Movements 19-38 - 13.09.2017	Microsoft Excel Worksheet	155 KB	No	165 KB	6%	29/09/2017 17:51
 ID03398 Millbank - Pedestrian and Cycle Counts - Pedestrian Crossings - 13.09.2017	Microsoft Excel Worksheet	1,645 KB	No	1,656 KB	1%	29/09/2017 18:30

SEPTEMBER 2017 SURVEYS

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
 ID03398 Millbank - Kerbside Activity - 30th Sept-3rd Oct	Microsoft Excel Worksheet	1,777 KB	No	1,881 KB	6%	16/10/2017 14:47



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