Paddington Central

FIVE KINGDOM STREET

TRANSPORT STATEMENT ADDENDUM

JULY 2020

British Land

ADDENDUM TO TRANSPORT ASSESSMENT

5 Kingdom Street

PROJECT REF: 120662

Sweco
Lector Court
151-153 Farringdon Road
London, EC1R 3AF

FINAL v2

Prepared for: British Land

21st July 2020

Reg. office:
Sweco UK Limited
Grove House
Mansion Gate Drive
Leeds, LS7 4DN

+44 20 3002 1210
www.sweco.co.uk

Reg.no 2888385

Sweco
Lector Court
151-153 Farringdon Road
London EC1R 3AF

Status / Revisions

VER.	DATE	CHANGE CONCERNS	REVIEWED	APPROVED
DRAFT	12.06.2020	DRAFT	UU	UU
FINAL	16.07.2020	FINAL REPORT ISSUE	UU	UU
FINAL v2	21/07/2020	FINAL v2	UU	UU

Table of contents

Appendix List

Reg. office:
Sweco UK Limited
Grove House
Mansion Gate Drive
Leeds, LS7 4DN

+44 20 3002 1210
www.sweco.co.uk

Reg.no 2888385

Sweco
Lector Court
151-153 Farringdon Road
London EC1R 3AF

1. Introduction

1.1. Background

1.1.1. Sweco has been commissioned by British Land to provide transport advice in relation to the proposed development on a site at 5 Kingdom Street, Paddington Central. The application site falls within the Paddington Central area, which was granted outline planning permission in 2000 (Ref: 97/06935/OUT), for 'Redevelopment to provide a mix of uses; namely offices, 210 residential units, local shopping and studio/ light industrial units'.

1.1.2. A detailed planning application was submitted in May 2019 (received and validated by Westminster City Council (WCC) on 14th May 2019, WCC Planning Reference 19/03673/FULL) for a new building of ground (Kingdom Street) + mezzanine + 17 storeys + roof terrace/ single height office floorspace/ double height plant space, with three levels below Kingdom Street level. The proposed building would deliver high-quality office use floorspace (B1(a)) to meet demand within the Paddington Opportunity Area, while the new commercial, community, leisure and/ or cultural uses provided on the lower levels will add vibrancy to the local and wider area.

1.1.3. This planning application was considered at WCC Planning Committee of 7th January 2020, and the Committee resolved to refuse planning permission (in line with the planning officer's recommendation) on the following grounds:

> *'Subject to referral to the Mayor of London, resolve to refuse permission on design, townscape and heritage asset grounds.'*

1.1.4. The application has since been "called in" by the Mayor of London. British Land has also used this opportunity to make some amendments to the scheme, and this report is an Addendum to the Transport Assessment (dated 24th April 2019) which was submitted as part of the detailed Planning Application. This Addendum report should be read in conjunction with the Transport Assessment submitted for the application.

1.1.5. The key amendments to the scheme, relevant to this report, are as follows:

- Reconfiguration of the floorspace at Ground Floor level and above resulting in an increase in office floorspace of up to 718 sqm GIA (including the flexible retail/office space at ground floor);
- The Novotel servicing arrangement has been refined; and
- Commitment to provide 3,900 sqm of B1 (a) Affordable workspace in the Crossrail box.

1.1.6. The Stage 2 GLA response (dated 23rd March 2020) outlined the following in relation to transport:

- Financial contributions requested towards highways improvements works at the junction of Harrow Road and Westbourne Bridge
- Financial contributions towards Legible London signage
- Financial contribution towards a study of potential improvements to enhance the physical condition of Westbourne Bridge

- Car Parking Management Plan, detail Travel Plan, Construction Logistics Plan and Delivery and Servicing Plan, all to be secured by condition of Section 106 agreement
- The provision of an additional cycle hire station within the public realm, on the basis that the original request from the GLA (a financial request to extent the existing cycle hire docking station on Orsett Terrace was not feasible due to site constraints)

1.1.7. The GLA Stage 2 report also references WCC's Highways objection over "increased stress on highways and public transport network". It should be noted that further analysis and assessments were submitted to WCC in December 2019, following discussions with Ian Morrison (WCC Highways Officer) and subsequently there were no objections to the proposals on highways and transport. Furthermore, transport was a not a reason for refusal of the planning application. The planning committee report states that *"trip generation modelling indicates that the proposed development will not have a significantly detrimental impact on the safety or operation of the highway network."* However, WCC requested an Operational Management Plan is secured for the evening uses which should include the directing of guests arriving and departing from these uses.

1.2. Report Structure

1.2.1. Following this introductory chapter, this report has been structured as follows:

- Section 2 outlines and describes the proposed amendments to the scheme, including changes to access proposals;
- Section 3 outlines the proposed trip generation of the proposals, and the impact on the transport network; and
- Section 4 provides a summary of the report.

2. 5 Kingdom Street Design changes

2.1. Introduction

2.1.1. The following summarises the key design changes which are being covered in this addendum.

- Reconfiguration of the floorspace at Ground Floor level and above resulting in an increase in office floorspace of up to 718 sqm GIA (including the flexible retail/office space at ground floor);
- The Novotel servicing arrangement has been refined; and
- Commitment to provide 3,900 sqm of B1 (a) Affordable workspace in the Crossrail box.

2.2. Floor areas and land uses

2.2.1. One of the key changes to the design is the commitment to provide 3,900 sqm GIA (4,109 sqm GEA) affordable workspace (B1(a) office) within the Box. Previously a range of flexible uses were being proposed for the "Box". With part of the use of the Box now being fixed, the remaining area of the Box (3,490 sqm GIA / 3,677 sqm GEA) could comprise the following:

- Restaurant (A3)/ Market Hall (sui generis); combined, to make up to 100% of the flexible area within the Box
- Conference / exhibition space (D1): will make up to 100% of the flexible area within the Box
- Cinema (D2): will make up no more than 50% of the flexible area within the Box; and
- Gym/ sports (D2): will make up no more than 50% of the flexible area within the Box

2.2.2. The principles for these fixed and flexible uses are summarised in **Table 2.1** and **Table 2.2** below.

Table 2.1 – Principle of uses within the main building, plus fixed use within the Box

Land Use for fixed uses	Area (GIA, sqm)	Area (GEA, sqm)	Staff numbers (FTE)	Capacity
B1(a) Office/ Affordable workspace Includes 3,900 sqm GIA of the Box	52,164	54,957	4,868	-
Retail	265	279	-	-
Flexible retail/ office (A1/A3/B1)	723	762	-	-
Auditorium	738	778	-	250 seats

Table 2.2 - Principle of flexible uses within the Box

Land Use for remainder of Box	Maximum Area (GIA, sqm)	Maximum Area (GEA, sqm)	Capacity
REMAINDER OF BOX, which could form a combination of the following flexible uses:	**3,490**	**3,677**	
A3 Restaurant / Market Hall (SG)	3,490	3,677	1,745 people
Cinema	1,745	1,839	800
Gym/ Sports	1,745	1,839	249
D1 conference/ event space	3,490	3,677	698 people

2.2.3. The original Transport Assessment assessed 50% of the Box as B1(a), since this provided the worst-case trip generation during the traditional weekday AM and PM peak periods. However, following dialogue with WCC in December 2019, further assessment work was undertaken by Sweco which considered the scenario which generates the highest occupancy for the proposals and considered 24-hour trip generation.

2.2.4. As outlined above, the B1(a) Office/ Affordable workspace part of the Box is now a fixed use. Therefore, this has been considered as part of the fixed use assessment, alongside the flexible uses which provides the highest occupancy. The table above illustrates that out of all the flexible uses, the A3/ Market Hall (SG) has the highest occupancy, at 1,745 people. Therefore, this TA Addendum assesses the following:

- B1(a) Office/ Affordable workspace, including 3,900 sqm GIA of the Box
- Flexible retail/office A1/ A3/ B1
- Auditorium
- A3 Restaurant/ Market Hall, forming remainder (3,490 sqm GIA) of the Box

2.2.5. The three key levels in terms of transport, and accessibility, are the Ground Floor Level (Kingdom Street Level), Lower Ground Floor Level (Harrow Road Level), and Lower Box Level (Track Level). The updated general arrangement drawings for these levels, as well as the Mezzanine and Upper Box Levels (which provide some end of trip facilities for cyclists), which have been prepared by Allies and Morrison architects are included as part of the submission for this amended scheme.

2.3. Access strategy

2.3.1. There are no changes to the access strategy outlined in the original planning application. However, further design work has been undertaken in relation to the following:

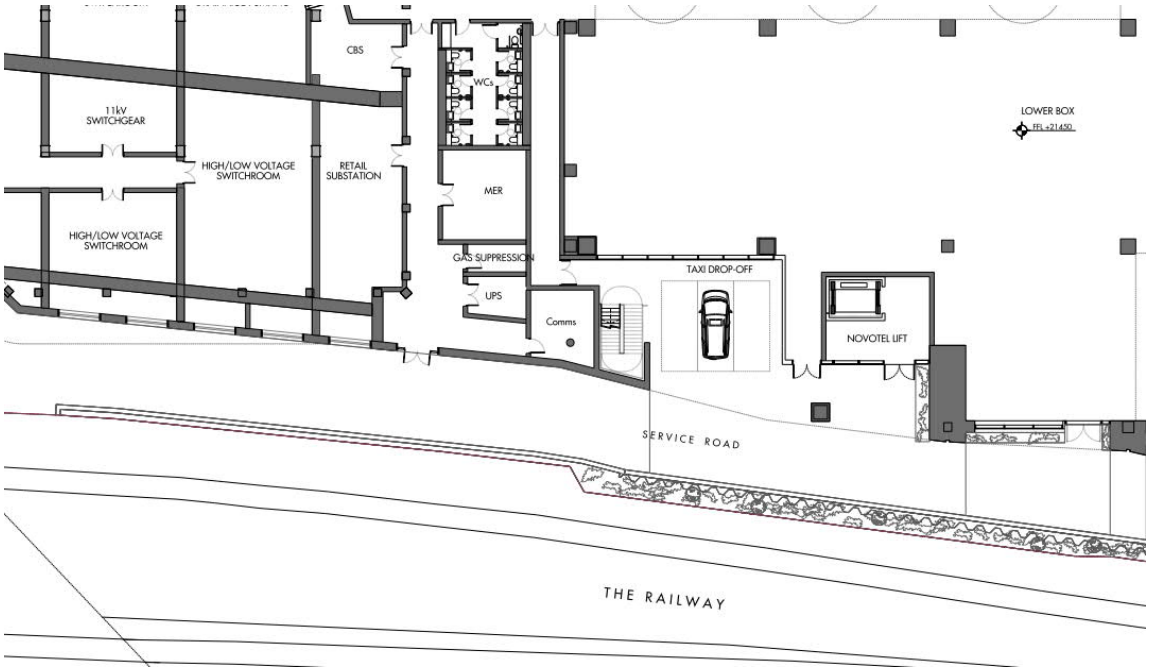
- Servicing for the existing Novotel Hotel
- Pick up and drop off area for taxis and private hire vehicles

2.3.2. These are discussed in further detail below.

Servicing for Novotel Hotel, and pick up/ drop off for Taxis / Private hire vehicles

2.3.3. Following further discussions between the applicant and Novotel, the servicing strategy has been refined. Novotel's existing servicing area is at the service road at Harrow Road level. As outlined in the original planning application this road is being removed. Therefore, all servicing, including the Novotel will be at Track Level (Lower Box Level). **Figure 1** below illustrates the servicing area, and a new goods lift is being provided to connect with the Ground Floor Level of the Novotel.

Figure 1 – Novotel Servicing Lift and Taxi drop off/ pick up



2.3.4. The delivery vehicle will load/ unload on the service road, and then reverse (into the area which shows three taxi pick-up/ drop off bays). The delivery vehicle will then exit the Site towards the west. As shown in **Figure 1**, the scheme now also accommodates three taxi bays for pick up/ drop off for the 5 Kingdom Street scheme. This is an increase from the two spaces included in the application scheme. Access to these spaces would be controlled by site security and management and it is envisaged that they will mainly be in use during late evening. Although demand is unlikely to occur at the same time, deliveries to the Novotel will be managed so that they do not coincide with the use of the taxi pick-up/ drop off area.

2.3.5. Swept paths of this layout with a delivery vehicle and a large car (representing a taxi / private hire vehicle) are provided in **Addendum Appendix A** and show that 7.5t vans are able to access the Novotel for servicing. Larger vehicles may require infrequent access, and these vehicles will exit the Site by continuing along the service road (towards the east).

2.4. Cycle Parking

2.4.1. Long and short-stay cycle parking is to be provided in accordance with the New London Plan. The 2019 TA calculated cycle parking spaces on the basis that that 50% of the Box would be B1(a) Office; this was because of all the flexible uses being considered, the B1(a) office cycle parking standard was the "worst case" in terms of cycle parking provision

2.4.2. The location of these spaces at Lower Ground and Upper Box levels and the form of cycle parking has not fundamentally changed; however, the numbers have been re-calculated to reflect changes to the floor areas for each land use within the revised scheme.

2.4.3. Short-stay cycle parking (for visitors) will be provided in accordance with the draft New London Plan, and this will be located within the public realm, at Kingdom Street, and at the West Link (a new pedestrian and cycle access from the Westbourne Terrace Road/ Harrow Road junction). Considering the range of flexible uses being considered and applying the maximum development scenario (as outlined at para 2.2.4), up to 226 spaces would be required. This is a minor reduction when compared to the application scheme which required up to 258 short stay spaces.

2.4.4. Based on the standards set out in the draft New London Plan, 730 spaces would be required for the long-stay (i.e. staff) cycle parking. These spaces are provided within the Lower Ground Floor Level. Access to the spaces on the Lower Ground Level would be available directly from the new West Link, as well as Kingdom Street.

2.4.5. It is noted the draft New London Plan states that whilst the provision of spaces for folding bikes is generally not an acceptable alternative to conventional cycle parking, an exception may be applied in office development within the Central Activities Zone which is close to a rail terminus and is therefore applicable to this development. Based on this, and the Site's proximity to Paddington Station, a 5% reduction has been applied to the cycle parking provision for B1(a) office use. Folding bike lockers will be provided. This has been agreed with TfL (Pak-Lim Wong, Planning Officer).

2.4.6. **Addendum Appendix B** provides a breakdown of the cycle parking calculation taking into account an allowance for folding bikes. Overall the level of long-stay cycle parking provision is broadly similar to the application scheme albeit with a lower proportion of spaces provided as folding bike lockers.

2.4.7. The long-stay cycle parking is in the form of two-tier racks, and Sheffield stands. There are also larger spaces available for adapted cycles. The short-stay cycle parking is in the form of Sheffield stands, and again some larger spaces are provided to cater for non-standard cycles.

2.4.8. Showers and lockers are provided in accordance with the standards outlined in the draft New London Plan. These are located on the same levels as the cycle parking as well as on each of the office levels above ground floor.

2.4.9. The location of the short and long-stay parking can be seen in the general arrangement plans (prepared by Allies and Morrison architects) included within the package of documents for this submission.

2.4.10. Transport for London requested (as part of the GLA Stage 1 report) a contribution of £45,000 towards providing up to 15 additional cycle hire docking points at the Orsett Terrace cycle hire

docking station to accommodate the expected increase of demand for the facilities. WCC officers did not consider this to be feasible due to site constraints (it would require removal of on-street parking which is used by residents).

2.4.11. As a result, WCC advised that they would seek a docking station on site. WCC say that they will need to agree a suitable location on site for a new station, and the GLA Stage 2 report states that the specific location, detail and financial contribution towards this docking station was to be resolved as part of the detailed design of the public realm and would be secured by legal agreement. The applicant is committed to the provision of a docking station either within the Paddington Central Campus or on nearby public highway land and the associated financial contribution.

3. Development Trip Generation and Impact

3.1. Approach to assessment

3.1.1. As outlined earlier in this report, this addendum is based on the combination of land uses which result in the highest population. There is now a commitment to deliver 3,900 sqm GIA of the Box as Affordable workspace, and therefore this is now a fixed use. Whilst the remainder (3,490 sqm GEA) of the Box is being considered for a number of uses, the A3 Restaurant/ Market Hall will have the highest population at 1,745 people. Therefore, this assessment is based on this scenario.

3.1.2. As outlined in the 2019 TA, the trip generation for the office land use has been determined using a first principles approach. The trips are calculated based on the anticipated number of staff (FTE – full time equivalent), average employee attendance and peak hour arrival/departure rates. Estimates for the number of staff have been taken from the updated socio-economics assessment for the revised scheme. For the office land use, there are the staff associated with the main office and flexible office uses (which are on the lower ground floor level and all the floors above), as well as the employees associated with the affordable workspace within the Box. The estimated total number of FTE office employees are outlined in **Table 3.1** below.

Table 3.1 – Office staff numbers (extracted from socio-economics assessment)

Land Use	Level	Staff numbers (FTE)
B1 (a) Office	Lower Ground Floor Level and above	4,454
	Upper and Lower Box Level	414
TOTAL		**4,868**

Source: Socio-economic assessment

3.1.3. It has been assumed that on any typical day 85% of all employees are present on the site and that 50% of these will travel during the assessment peak hours. The predicted trip generation across a typical weekday has been derived from the profile established from the TRICS data which predicted that some 91% of trips occur within a 12-hour period 7am – 7pm. The TRICS arrival and departure profile is provided within the Transport Assessment (Appendix E).

3.1.4. The resultant total person staff trip generation across the day is summarised in **Table 3.2** below.

Table 3.2 – Office trip generation (all person)

Time period	Arrivals	Departures	Total
0600-0700	247	34	281
0700-0800	421	55	476
0800-0900	1,084	63	1,147
0900-1000	804	85	889
1000-1100	290	139	430
1100-1200	171	148	319
1200-1300	247	339	586
1300-1400	306	274	580
1400-1500	174	162	336
1500-1600	100	260	359
1600-1700	92	528	620
1700-1800	71	1,075	1,146
1800-1900	46	556	603
1900-2000	27	262	289
2000-2100	26	99	126
2100-2200	32	58	90
TOTAL	**4,138**	**4,138**	**8,276**

3.1.5. Using 2011 Method of Travel to Work data for the workplace population, covering the super output area (mid-layer), which includes the Site and surrounding area a modal split has been determined. It should be noted that the modal split has been determined ignoring car drivers, and motorcycle parking since this is not being provided as part of the proposed development. The resultant mode split is summarised in **Table 3.3** below (Transport Assessment Appendix F provides the raw data and illustrating the super output area). It should be noted that this is the same methodology that was applied in the Transport Assessment submitted as part of the planning application.

Table 3.3 – Modal split assumptions

Mode of travel	Modal split (%)
Underground, metro, light rail or tram	40%
Train	35%
Bus, minibus or coach	11%
Taxi	0%[1]
Bicycle	4%
On foot	9%
TOTAL	**100%**

Source: Census data

3.1.6. It can be seen from **Table 3.3** that 86% of trips to and from the proposed development are likely to be made by public transport. The remainder (approximately 13% of trips) will be by walk and cycle.

3.1.7. This mode split has then been applied to the 'all-person' trip generation detailed in **Table 3.2** to generate trip generation estimates by mode of travel across the day. **Table 3.4** summarises the peak hour trip generation by mode from the table above for ease of reference. The table includes the traditional AM and PM peak periods (which also coincide with the peaks for the office trip generation), as well as daily trip generation. The full trip generation across the day can be found in **Addendum Appendix C**.

Table 3.4 – Peak hour and daily trip generation for B1(a) office

Time period	Office AM Peak (0800-0900hrs)		Office PM Peak (1700-1800hrs)		Daily	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
Underground	438	26	28	434	1,671	1,672
Train	382	22	25	379	1,457	1,457
Bus	115	7	7	114	439	439
Taxi	4	0	0	4	14	14
Cycle	48	3	3	48	185	185
Walk	97	6	6	96	371	371
TOTAL	**1,084**	**63**	**71**	**1,075**	**4,138**	**4,138**

[1] Less than 1%, rounding error

3.1.8. From the above it is clear that travel to and from the site will be dominated by public transport trips, with underground and rail representing the largest mode. Just under a third of the total trips across the day are made during the peak periods of 0800-0900hrs and 1700-1800hrs.

SG Auditorium

3.1.9. The SG Auditorium will primarily be a venue for events comprising 250 seats. During the evening and weekends, the SG Auditorium could be used for theatre, concerts and other such events. Due to the nature of the Paddington Central Campus, it is highly likely that some of the trips generated by this land use will be linked trips and therefore not entirely new to the local transport network.

3.1.10. However, it is understood from the applicant that permission will be sought for the auditorium to operate between the hours of 0900-2300hrs also daily. Therefore, this assessment considers the evening use of the auditorium, as these are more likely to be primary trips. As such it is assumed that all these evening trips will be new (primary trips). Given the evening operating hours for the SG Auditorium (between 1900hrs and 2300hrs), it is acknowledged that there are likely to be some arrivals and departures before 1900hrs and after 2300hrs respectively, however the assumptions provide a worst-case assessment by distributing all arrivals over the traditional network peak period with departures spread over a larger time period. This is the same approach which was taken in the further assessment work which was submitted to WCC in December 2019. This arrival and departure profile has been applied to the total seat numbers to estimate trip generation. The resulting all person arrivals and departures for the SG Auditorium is summarised in **Table 3.5** below.

Table 3.5 – Auditorium trip generation (all person)

Time period	Arrivals	Departures	Total
1800-1900	125		125
1900-2000	125		125
2300-2400		250	250
TOTAL	**250**	**250**	**500**

3.1.11. Sweco have also considered a different modal split to apply to any uses which generate evening activity, i.e. after 1800hrs. This is to reflect the fact that there is likely to be some taxi use in the evening hours and following discussions with WCC a taxi mode share of 20% has been assumed with the other transport modes having been adjusted accordingly. This “evening” modal split assumption is outlined in **Table 3.6** below.

Table 3.6 – Modal split for evening uses

Mode of travel	Modal split (%)
Underground, metro, light rail or tram	32%
Train	28%
Bus, minibus or coach	8%
Taxi	20%
Bicycle	4%
On foot	7%
TOTAL	**100%**

3.1.12. This has been applied to the "all-person" trip generation detailed in **Table 3.5** to generate trip generation estimates by mode of travel across the day. **Table 3.7** summarises the peak hour trip generation by mode, and the table include the PM peak periods, late night peak and well as daily trip generation. The full trip generation across the day can be found in **Addendum Appendix C.**

Table 3.7 – Peak hour and daily trip generation for SG Auditorium

Time period	Aud. PM Peak (1800-1900hrs)		Aud. PM Peak (1900-2000hrs)		Aud. Late Peak (2300-2400hrs)		Daily	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
Underground	40	0	40	0	0	81	81	81
Train	35	0	35	0	0	70	70	70
Bus	11	0	11	0	0	21	21	21
Taxi	25	0	25	0	0	51	51	51
Cycle	4	0	4	0	0	9	9	9
Walk	9	0	9	0	0	18	18	18
TOTAL	**125**	**0**	**125**	**0**	**0**	**250**	**250**	**250**

A3 Restaurant/ Market Hall

3.1.13. Finally, the remainder of the Box has been assessed as A3 Restaurant/ Market Hall. Whilst this was not assessed in the 2019 TA, it was assessed within the further assessment which was submitted to WCC in December 2019. The trip generation for this use was based on the approach taken for the recently opened Mercato Metropolitano in Mayfair, a food and drink offer which includes a number of food stalls, bars, a rooftop terrace and micro-brewery, and is similar to the offer at 5 Kingdom Street. The trip generation for this scheme was based on a first principles approach, based on a typical arrival/ departure profile for the Bluebird Restaurant,

Kings Road, Chelsea. Sweco made use of the same approach as the developers of Mercato Metropolitano (North Audley Street), using these trip rates and scaling up to reflect 75% of the maximum occupancy. This was discussed and agreed with WCC in December 2019. Based on this, the trips forecast for the proposed Market Hall use are outlined in **Table 3.8**.

Table 3.8 – Market Hall trip generation

	Arrivals	Departures	Total	Accumulation
0600-0700	0	0	**0**	0
0700-0800	196	65	**262**	131
0800-0900	196	196	**393**	131
0900-1000	131	196	**327**	65
1000-1100	84	149	**233**	0
1100-1200	79	79	**157**	0
1200-1300	277	39	**317**	238
1300-1400	437	160	**597**	516
1400-1500	160	317	**476**	359
1500-1600	317	238	**555**	437
1600-1700	160	118	**277**	479
1700-1800	79	39	**118**	518
1800-1900	238	118	**356**	639
1900-2000	555	277	**832**	916
2000-2100	555	160	**715**	1,311
2100-2200	317	437	**754**	1,191
2200-2300	199	516	**715**	874
2300-0000	39	793	**832**	120
TOTAL	**4,018**	**3,897**	**7,915**	

3.1.14. It should be noted that no allowance has been made for linked trips, and therefore this assessment considers a worst-case where all the trips to this land use are assumed to be new (primary). It is likely that the trips during the day, for example in the morning, and lunchtime period are likely to be trips from those already within the Paddington Central Campus.

3.1.15. As outlined earlier in this section, Sweco have also considered a different modal split to apply to the uses within the Box, after 1800hrs. This “evening” modal split assumption is outlined in **Table** 3.6.

3.1.16. This evening mode splits has then been applied to the 'all-person' trip generation outlined in **Table 3.8** to generate trip generation estimates by mode of travel across the day. **Table 3.9** below summarises the results for the traditional peak periods, late night, as well as across the day. The full trip generation across the day can be found in **Addendum Appendix C**.

Table 3.9 – Peak hour and daily trip generation for A3 Restaurant / Market Hall

Time period	A3 Restaurant/ Market Hall AM Peak (0800-0900hrs)		A3 Restaurant/ Market Hall PM-peak (1800-1900hrs)		A3 Restaurant/ Market Hall Late Peak (2300-2400hrs)		Daily	
	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
Underground	79	79	77	38	13	256	1,469	1,388
Train	69	69	67	33	11	223	1,280	1,210
Bus	21	21	20	10	3	67	386	365
Taxi	1	1	48	24	8	161	394	473
Cycle	9	9	9	4	1	28	163	154
Walk	18	18	17	8	3	57	326	308
TOTAL	**196**	**196**	**238**	**118**	**39**	**793**	**4,018**	**3,897**

Total trip generation

3.1.17. The total trip generation for the proposals (B1(a) Office/ Affordable workspace, SG Auditorium and A3 Restaurant/ Market Hall combined is summarised in **Table 3.10** below for various periods throughout the day. The full trip generation across a 24-hour period is provided in **Addendum Appendix C.**

Table 3.10 – Total trip generation by mode for 5 Kingdom Street proposals

Time	Underground		Train		Bus		Taxi		Cycle		Foot	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0800-0900hrs	517	105	451	91	136	28	4	1	57	12	115	23
1300-1400hrs	300	175	262	153	79	46	3	1	33	19	67	39
1700-1800hrs	60	450	52	392	16	118	1	4	7	50	13	100
1900-2000hrs	230	195	201	170	61	51	138	57	26	22	51	43
2300-2400hrs	13	337	11	294	3	89	8	212	1	37	3	75
Daily	3,221	3,140	2,807	2,737	847	826	459	538	357	348	715	697

4. Development impact and mitigation strategy

4.1. Impact of Proposed Development

4.1.1. As outlined in **Table 3.3**, it is estimated that 86% of trips to and from the proposed development will be made via public transport.

4.1.2. The highest all-person trip generation during the morning and evening peak is between 0800-0900hrs, and 1900-1800hrs respectively. There is also a late-night peak during 2300-2400hrs. During the peak period of 0800-0900hrs, it is estimated that there could be up to approximately 624 movements (two-way) by underground and 457 movements (two-way) in the evening 1900-1800hrs peak. During 2300-2400hrs, this reduces to 385 two-way movements. As outlined earlier in the Transport Assessment report, during the peak periods, there are up to 22 Bakerloo Line trains, 6 Circle and Hammersmith and City Line trains and up to 6 District Line trains operating each way through Paddington Station, and therefore these additional trips are not expected to have a significant impact.

4.1.3. The Transport Assessment provides further information on the West Link which is proposed as part of the development which opens up a pedestrian and cycle connection onto Harrow Road. This reduces walk distances to both Warwick Avenue and Royal Oak underground stations, therefore relieving any potential pressure off Paddington Station by providing people with a viable alternative. The provision of the West Link will therefore help to disperse these trips. Directional signage will be provided within Site to guide people to these stations. The WCC Committee report also notes this:

> *'It is however also noted that as a result of the improvement to open up the Harrow Road as an entry point to Paddington Central, people would be able to better disperse, namely to public transport at Royal Oak, Warwick Avenue, Harrow Road, and to Paddington (via both the Westbourne Bridge and through Paddington Central).'*

4.1.4. Similarly, it is expected that there will be approximately 544, 398 and 336 movements (two-way) arrivals and departures by rail during 0800-0900hrs, 1900-2000hrs and 2300-2400hrs. Again, this level of addition trips is not expected to have an impact given the number of services coming in and out of Paddington Station, currently at 50 services per hour. The completion of Crossrail and the full opening of the Elizabeth Line is expected to increase London's rail capacity by 10%.

4.1.5. A total of 164, 120, and 101 movements (two-way) are expected to be made by bus, during the 0800-0900hrs, 1900-2000hrs and 2300-2400hrs respectively. With 100 services per hour running in the vicinity of the development, these additional trips are unlikely to have a significant impact.

4.1.6. The level of taxi trips during the day (0800-1800hrs) is forecast to be low, based on 2011 Census Travel to Work data. However, during the evening this increases to 243; it should be noted that this is all person trips (i.e. the number of people departing by taxi). A total of three pick-up/-drop off spaces are provided at Lower Box Level.

4.1.7. Whilst the level of cycle trips is also currently estimated to be fairly low, a significant level of cycle parking is proposed for both long stay and short stay, in line with TfL standards, to reflect the growth of cycling in London.

4.1.8. It should be noted that this level of trip generation is an absolute worst-case since the land uses selected for the flexible uses are those which will generate the greatest number of trips. There is also the potential that some of these uses, such as the auditorium and A3 Market Hall/ Restaurant would generate trips on a weekend, however existing flows on the transport network would be lower during these times than in the weekday peak periods. Given these additional trips are not expected to have an impact during the weekday peak periods, they will also be accommodated during the weekend.

4.2. Sustainable Travel

4.2.1. A Framework Travel Plan (FTP) has been prepared for the proposed development and was submitted as part of the original planning submission. This document has not been updated to reflect the 5 Kingdom Street design changes because the TP measures proposed would still be applicable for the revised design. The FTP was prepared using current TfL guidance and sets out the measures proposed to reduce overall travel demand and encourage the use of sustainable modes. The document also contains suggested mode share targets for the Site which will be reviewed and, if necessary, amended following completion of the initial travel survey. The GLA and TfL have requested that a detailed travel plan is secured through a S106 obligation and the applicant will agree to this.

4.3. Construction

4.3.1. An Outline Construction Environmental Management Plan has been prepared and submitted as part of the planning application. This provides details on the proposed construction methodology, phasing, access routes as well as estimates on likely construction vehicle numbers and how these will be managed. This information is included in the Construction Strategy Chapter in the Environmental Statement (Chapter 5, ES Volume II). It should be noted that the construction methodology and length of the construction period remain unchanged as a result of the scheme amendments.

4.4. Servicing and Waste Strategy

4.4.1. A Delivery and Servicing Plan, and Waste Management Plan (DSWMP) has been prepared and submitted as part of the planning application and an Addendum to the DSWMP has also been prepared. It should be noted that the principles of the delivery and servicing strategy remain unchanged.

4.4.2. For ease of reference, the 'Servicing Vehicle' trip rates and resultant number of vehicles for each land use are summarised in **Table 4.1**. These trip rates have been extracted from the TRICS database, and further information on the calculation of these trips is provided in the DSWMP submitted as part of the planning application.

Table 4.1 – Servicing and delivery vehicle arrival trip rate and generation

Land Use	GEA (sqm)	Arrival Trip Rate (daily)	No. of servicing vehicles (daily)
Office	55,815	0.123	69
Food retail	723	1.279	9
Restaurant/Café	3,716	0.56	21
Auditorium	1,261	-	5*
		TOTAL	**105**

** Assume that up to 5 delivery/servicing vehicles a day could visit the auditorium depending on the type of event,*

4.4.3. This level of servicing and delivery trip generation represents a minor reduction when compared with the original planning application.

4.4.4. Based on the TRICS data and methodology detailed in the DSWMP for the original application, it is estimated that the split of the above vehicle trip generation between light and heavy vehicles would result in approximately 95 light goods vehicle arrivals a day and 10 heavy goods vehicle arrivals a day. Assuming this were to be distributed evenly across the day and the vehicles only arrived between 0700-1900, this would equate to an average of 9 vehicles an hour which is not expected to have an impact on the operation of the local highway network. This can easily be accommodated within the four vehicle bays provided in the service yard at Lower Box level. A loading bay office with mail and parcel storage space is provided adjacent to the service yard so that where possible a delivery can be accepted at the service yard without need for the delivery driver to travel any further within the building. This will reduce dwell times and keep the majority of servicing and delivery trips to an absolute minimum, thus providing additional capacity in the service yard.

4.4.5. Delivery and servicing vehicles visiting the site will be advised in advance to travel only via A-roads on their approach to the site and will only access smaller local roads when necessary in order to carry out a delivery.

5. Summary and Conclusions

5.1.1. This TA Addendum has been prepared to assess the impacts of changes to the proposed development at Paddington Central, known as 5 Kingdom Street. A TA report was submitted alongside the planning application (19/03673/FULL) to WCC. This Addendum report outlines changes to the scheme and an updated assessment.

5.1.2. The likely total trip generation of the site has been calculated using a first principles approach. In addition to the B1(a) Office land use, permission is also being sought for flexible uses, and therefore the TA has considered a worst-case approach to trip generation, ensuring robustness. Census data from 2011 has also been used to determine the mode split for the B1(a) Office use. The analysis shows that travel to and from the site will be dominated by underground and rail, together accounting for a 75% mode share. With such high levels of public transport accessibility in the area the level of trip generation associated with the proposed development is not anticipated to have a notable impact on these local networks.

5.1.3. Notwithstanding this, pedestrian and cycle access to the Paddington Central Campus will be significantly improved, through enhanced public realm as well as the provision of a new access point from the west. Known as the West Link, this pedestrian and cycle only access provides access to the development from the Harrow Road Level. This leads to internal routes for cyclists, providing a link through to Kingdom Street and hence the rest of the Paddington Central Campus, as well as a public pedestrian route, through the building through to Kingdom Street. The proposed development already benefits from excellent accessibility for pedestrians and cyclists from Bishop's Bridge Road, as well as alongside the canal, however provision of an access to/ from the west provides connections through to Royal Oak and Warwick Avenue, as well as Little Venice and open spaces such as Westbourne Green Open space improving the permeability of the Site, and meeting principles outlined in TfL's Healthy Street vision, as well as Vision Zero.

5.1.4. In addition to this, cycle parking is being proposed in accordance with the draft New London Plan for both staff and visitors, with approximately 730 long-stay spaces provided, and approximately 226 short stay spaces. Showers and lockers are also provided, and 5% of the cycle spaces are designed to accommodate a non-standard cycle.

5.1.5. All deliveries and servicing will take place off the public highway, in a dedicated service yard at Lower Box Level, comprising a total of four loading bays, which can accommodate vehicles up to a 12m rigid. A dedicated refuse store is also provided at the same level.

5.1.6. **Table 5.1** below uses the suggested table set out in the TfL Heathy Streets Guidance on Transport Assessments, to summarise the key transport impacts, as well as the solutions and mechanism being proposed to address this. This is replicated from the TA.

Table 5.1 – Possible transport impacts and solutions

	Possible transport impacts/ issues	Solutions/ mechanisms
Site and surroundings	Impact of delivery and servicing vehicles	Simplified servicing arrangement, with all servicing and deliveries to take place within the Site Development of a Delivery and Servicing Management Plan with measures set out to manage, minimise and consolidate deliveries
	Additional cycle trips generated to/ from the proposed development	Significant level of cycle parking provided, both long and short stay spaces. Larger spaces also provided to cater for non-standard cycles. End of trip facilities included with the development
	Site currently dominated by infrastructure, with limited opportunity for outdoor recreation	Provision of publicly accessible internal garden space which includes planting and landscape features, seating and resting areas, and provides a safe place for people to relax, as well as stop and rest, with shade and shelter The West link (a new pedestrian and cycle only link to the West) provides more convenient and shorter walk routes to areas such as Little Venice and Westbourne Green
Active Travel Zone (ATZ)	Lack of pedestrian and cycle connectivity to/ from the west of the Site	Provision of the West link, which connects to a publicly accessible internal link enabling a new east-west route through the building to Kingdom Street, improving the permeability of the Site. Walk distances to Warwick Avenue, Royal Oak Underground stations reduced, as well as to open spaces such as Westbourne Green. Provision of signage within the Site will provide directional signage to these additional stations
London-wide network	Current mode share indicates that majority of trips to be made by public transport network, with only a small level of trips by cycle	Significant cycle infrastructure provided as part of the proposed development, including a new east-west route, secure cycle parking, shower facilities and lockers Implementation of Travel Plan measures aiming to increase walk and cycle to the proposed development

5.1.7. Considering the above solutions and mechanisms, no significant adverse effects are anticipated. Furthermore, the TA and this Addendum demonstrates that travel to and from the site will be dominated by walking and public transport trips. With such high levels of public transport accessibility in the area the level of trip generation associated with the proposed development is not anticipated to have a notable impact on these local networks.

Addendum Appendix A – Swept path of Novotel servicing and taxi pick-up and drop off spaces

Reg. office:
Sweco UK Limited
Grove House
Mansion Gate Drive
Leeds, LS7 4DN

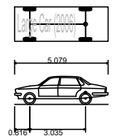
+44 20 3002 1210
www.sweco.co.uk

Reg.no 2888385

Sweco
Lector Court
151-153 Farringdon Road
London EC1R 3AF

NOTES

1. BASED ON DRAWING 606_07_100_P2_DRAFT.dwg RECEIVED FROM ALLIES AND MORRISON 2020.07.16



Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m
Clearance Offset	0.5m

Rev.	Date	Amendment Details	Drawn	Chk'd	App'd
01	16/07/2020	UPDATED B3 PLAN	CW	CW	UU

Sweco
Lector Court
151-153 Farringdon Road
London
EC1R 3AF
Tel: +44 (0)20 3002 1210
Web: www.sweco.co.uk

SWECO

Client
BRITISH LAND

Drawing Status
PRELIMINARY

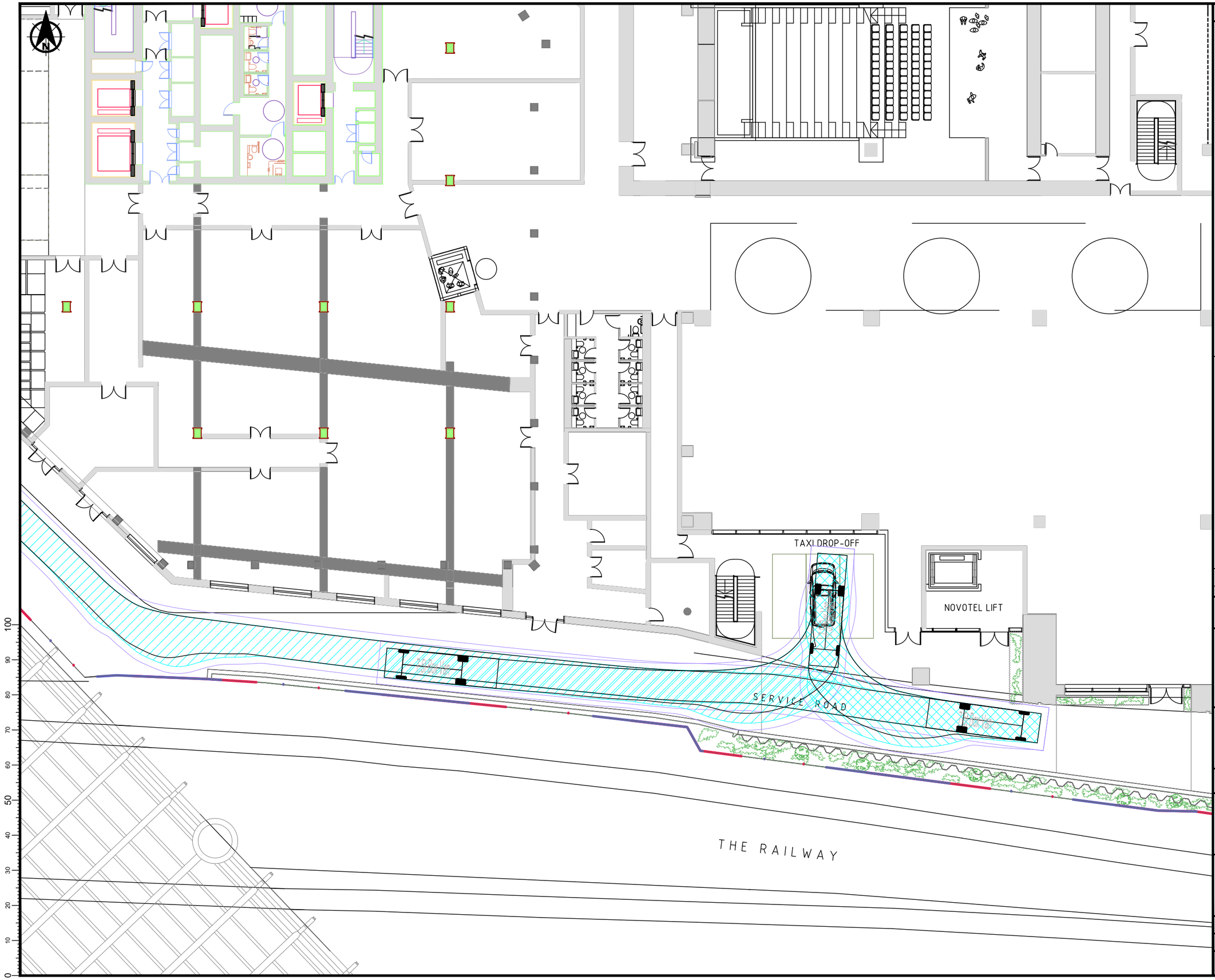
Project Title
FIVE KINGDOM STREET, PADDINGTON CENTRAL

Drawing Title
VEHICLE SWEPT PATH ANALYSIS OF NOVOTEL SERVICE AREA

Scale	Designed	Drawn	Checked	Approved
1:250	GL	GL	UU	UU
Original Size: A3	Date: 16/07/20	Date: 16/07/20	Date: 16/07/20	Date: 16/07/20

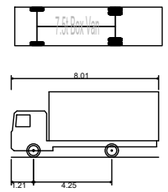
Drawing Number: 120662-TP-0018-01
Revision: 01

C:\CAD\Temp\AcPublish_2364\ 120662-TP-0018 rev01.dwg



NOTES

1. BASED ON DRAWING 606_07_100_P2_DRAFT.dwg RECEIVED FROM ALLIES AND MORRISON 2020.07.16



7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m
Clearance Offset	0.5m

Rev.	Date	Amendment Details	Drawn	Chk'd	App'd
01	16/07/2020	UPDATED B3 PLAN	CW	CW	UU

Sweco
Lector Court
151-153 Farringdon Road
London
EC1R 3AF
Tel: +44 (0)20 3002 1210
Web: www.sweco.co.uk

SWECO

Client
BRITISH LAND

Drawing Status
PRELIMINARY

Project Title
FIVE KINGDOM STREET,
PADDINGTON CENTRAL

Drawing Title
VEHICLE SWEPT PATH ANALYSIS OF NOVOTEL SERVICE AREA

Scale	Designed	Drawn	Checked	Approved
1:250	GL	GL	UU	UU
Original Size	Date	Date	Date	Date
A3	16/07/20	16/07/20	16/07/20	16/07/20

Drawing Number: 120662-TP-0018-02
Revision: 01

C:\CAD\Temp\AcPublish_2364\ 120662-TP-0018 rev01.dwg

TAXI DROP-OFF

NOVOTEL LIFT

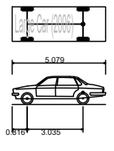
SERVICE ROAD

THE RAILWAY

0 10 20 30 40 50 60 70 80 90 100

NOTES

1. BASED ON DRAWING 606_07_100_P2_DRAFT.dwg RECEIVED FROM ALLIES AND MORRISON 2020.07.16



Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m
Clearance Offset	0.5m

Rev.	Date	Amendment Details	Drawn	Chk'd	App'd
01	16/07/2020	UPDATED B3 PLAN	CW	CW	UU

Sweco
Lector Court
151-153 Farringdon Road
London
EC1R 3AF
Tel: +44 (0)20 3002 1210
Web: www.sweco.co.uk

SWECO

Client
BRITISH LAND

Drawing Status
PRELIMINARY

Project Title
FIVE KINGDOM STREET, PADDINGTON CENTRAL

Drawing Title
VEHICLE SWEPT PATH ANALYSIS OF NOVOTEL SERVICE AREA

Scale	Designed	Drawn	Checked	Approved
1:250	GL	GL	UU	UU
Original Size	Date	Date	Date	Date
A3	16/07/20	16/07/20	16/07/20	16/07/20

Drawing Number	Revision
120662-TP-0018-04	01

C:\CAD\Temp\AcPublish_2364\ 120662-TP-0018 rev01.dwg

Addendum Appendix B – Cycle parking calculations

Reg. office:
Sweco UK Limited
Grove House
Mansion Gate Drive
Leeds, LS7 4DN

+44 20 3002 1210
www.sweco.co.uk

Reg.no 2888385

Sweco
Lector Court
151-153 Farringdon Road
London EC1R 3AF

5 Kingdom Street

FINAL Cycle Parking requirements (16th July 2020)

SWECO

			Long-stay					Short-stay	
			Cycle Parking		Folding bike lockers	Changing rooms		Cycle Parking	
Land Use	**Land Use Class**	**GEA (sqm)**	**Minimum Long-Stay Standard**	**Long-Stay Requirement**		**Lockers**	**Showers**	**Minimum Short-Stay Standard**	**Short-Stay Requirement**
Office (incl. office ancillary space, flexible office space and affordable workspace within the Box)	B1(a)	55,719	Areas with higher cycle parking standards (see Figure 10.2): 1 space per 75 sqm.	706	37	495	74	First 5,000 sqm: 1 space per 500 sqm. Thereafter: 1 space per 5,000 sqm (GEA)	20
Retail (Market Hall (remainder of The Box) + fixed retail)	A3	3,956	From a threshold of 100 sqm: 1 space per 175 sqm gross external area (GEA)	23	N/A	15	2	From a threshold of 100 sqm: 1 space per 20 sqm;	198
Garden	SG	1,723	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auditorium	SG (assume as D1)	778	1 space per 8 FTE staff	1	N/A	1	0	1 space per 100sqm	8
Mixed use ancillary	Unknown	7,283	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL				**730**	**37**	**511**	**77**		**226**

Proportion of total that applies to 'The Box'

N.B. These numbers are included within the total provision for the site as set out in the table above.

			Long-stay					Short-stay	
			Cycle Parking		Folding bike lockers	Changing rooms		Cycle Parking	
Uses in The Box	**Land Use Class**	**GEA (sqm)**	**Minimum Long-Stay Standard**	**Long-Stay Requirement**		**Lockers**	**Showers**	**Minimum Short-Stay Standard**	**Short-Stay Requirement**
Affordable workspace	B1(a)	4,109	Areas with higher cycle parking standards (see Figure 10.2): 1 space per 75 sqm.	52	3	37	5	First 5,000 sqm: 1 space per 500 sqm. Thereafter: 1 space per 5,000 sqm (GEA)	10
A3 Retail (Market Hall) (worst case of A1/A3)	A3	3,677	From a threshold of 100 sqm: 1 space per 175 sqm gross external area (GEA)	21	N/A	14	2	From a threshold of 100 sqm: 1 space per 20 sqm;	184
TOTAL				**73**	**3**	**51**	**8**		**194**

Notes

- GEA figures provided by M3 (email from A Groot 08/07/2020)
- Standards taken from emerging guidance from Draft New London Plan (December 2019 intend to publish version) - **as requested by TfL**
- Auditorium provision is based on staff numbers - 5 FTE (assumption provided by CBRE - 14/07/2020)
- In places of employment, supporting facilities are recommended, including changing rooms, lockers (at least two per three long-stay spaces are recommended) and shower facilities (at least one per ten long-stay spaces is recommended).
- Accessible facilities for disabled cyclists should also be provided - 5% of spaces should be provided as sheffield stands at a wider spacing in order to be suitable for larger/adapted bikes
- Long-stay cycle parking should be secure, and offer protection from weather
- Short-stay cycle parking should be convenient and readily accessible, must have step-free access and be located within 15m of the main entrance wherever possible
- Agreed 5% of long stay office spaces to be provided as folding bike lockers - as per email from TfL for previous scheme (email from Pak-Lim Wong dated 09/08/2019)
- London Cycle Design Guide states that aisle widths for two-tier cycle racks should be 2.5m beyond the lowered frame (i.e. a total of approximately 3.5m)
- Changing room lockers based on full provision of cycle parking

Addendum Appendix C – Full trip generation across day

Reg. office:
Sweco UK Limited
Grove House
Mansion Gate Drive
Leeds, LS7 4DN

+44 20 3002 1210
www.sweco.co.uk

Reg.no 2888385

Sweco
Lector Court
151-153 Farringdon Road
London EC1R 3AF

Land Use	Max. proportion of flexible area in box	Assessment proportion	Max. quantum in box (sqm GIA)	Assessment quantum	
FLEXIBLE USES IN BOX					
Restaurant / Market hall	100%	100%	3,490	1,745	people
Cinema	50%	0%	1,745	0	seats
Conference/exhibition	100%	0%	3,490	0	people
Gym / sports	50%	0%	1,745	0	people
TOTAL				**1,745**	**people**
FIXED USES & USES OUTSIDE THE BOX					
Auditiorium				250	seats
Office				4,868	people
TOTAL				**5,118**	**people**

Includes 'affordable workspace' in the Box & additional 'flexible office uses'

Mode share assumptions	Underground		Train		Bus		Taxi		Cycle		Foot	
All uses	40%	40%	35%	35%	11%	11%	0%	0%	4%	4%	9%	9%
Uses in the Box after 6pm	32%	32%	28%	28%	8%	8%	20%	20%	4%	4%	7%	7%

Restaurant / Market hall

Factor 2.62 *Based on assumption that venue will only operate at 75% of it's maximum seated capacity*

Time	All Person Trip Gen (from Mercato Mayfair)		
	Arr	Dep	Accumulation
0000-0100			
0100-0200			
0200-0300			
0300-0400			
0400-0500			
0500-0600			
0600-0700			
0700-0800	75	25	50
0800-0900	75	75	50
0900-1000	50	75	25
1000-1100	32	57	0
1100-1200	30	30	0
1200-1300	106	15	91
1300-1400	167	61	197
1400-1500	61	121	136
1500-1600	121	91	167
1600-1700	61	45	182
1700-1800	30	15	197
1800-1900	91	45	242
1900-2000	212	106	348
2000-2100	212	61	500
2100-2200	121	167	455
2200-2300	76	197	333
2300-2400	15	303	45
Total	**1,535**	**1,490**	

Time	All Person			
	Arr	Dep	Two-way	Accumulation
0000-0100			**0**	
0100-0200			**0**	
0200-0300			**0**	
0300-0400			**0**	
0400-0500			**0**	
0500-0600			**0**	
0600-0700			**0**	
0700-0800	196	65	**262**	131
0800-0900	196	196	**393**	131
0900-1000	131	196	**327**	65
1000-1100	84	149	**233**	0
1100-1200	79	79	**157**	0
1200-1300	277	39	**317**	238
1300-1400	437	160	**597**	516
1400-1500	160	317	**476**	359
1500-1600	317	238	**555**	437
1600-1700	160	118	**277**	479
1700-1800	79	39	**118**	518
1800-1900	238	118	**356**	639
1900-2000	555	277	**832**	916
2000-2100	555	160	**715**	1,311
2100-2200	317	437	**754**	1,191
2200-2300	199	516	**715**	874
2300-2400	39	793	**832**	120
Total	**4,018**	**3,897**	**7,915**	

Time	Underground		Train		Bus		Taxi		Cycle		Foot	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0000-0100	0	0	0	0	0	0	0	0	0	0	0	0
0100-0200	0	0	0	0	0	0	0	0	0	0	0	0
0200-0300	0	0	0	0	0	0	0	0	0	0	0	0
0300-0400	0	0	0	0	0	0	0	0	0	0	0	0
0400-0500	0	0	0	0	0	0	0	0	0	0	0	0
0500-0600	0	0	0	0	0	0	0	0	0	0	0	0
0600-0700	0	0	0	0	0	0	0	0	0	0	0	0
0700-0800	79	26	69	23	21	7	1	0	9	3	18	6
0800-0900	79	79	69	69	21	21	1	1	9	9	18	18
0900-1000	53	79	46	69	14	21	0	1	6	9	12	18
1000-1100	34	60	29	53	9	16	0	1	4	7	8	13
1100-1200	32	32	28	28	8	8	0	0	4	4	7	7
1200-1300	112	16	98	14	29	4	1	0	12	2	25	4
1300-1400	177	64	154	56	46	17	1	1	20	7	39	14
1400-1500	64	128	56	112	17	34	1	1	7	14	14	28
1500-1600	128	96	112	84	34	25	1	1	14	11	28	21
1600-1700	64	48	56	41	17	13	1	0	7	5	14	11
1700-1800	32	16	28	14	8	4	0	0	4	2	7	4
1800-1900	77	38	67	33	20	10	48	24	9	4	17	8
1900-2000	179	90	156	78	47	24	113	56	20	10	40	20
2000-2100	179	52	156	45	47	14	113	32	20	6	40	11
2100-2200	102	141	89	123	27	37	64	89	11	16	23	31
2200-2300	64	166	56	145	17	44	40	105	7	18	14	37
2300-2400	13	256	11	223	3	67	8	161	1	28	3	57
	1,469	1,388	1,280	1,210	386	365	394	473	163	154	326	308

Auditorium

Time	Profile	
	Arr	Dep
0000-0100		
0100-0200		
0200-0300		
0300-0400		
0400-0500		
0500-0600		
0600-0700		
0700-0800		
0800-0900		
0900-1000		
1000-1100		
1100-1200		
1200-1300		
1300-1400		
1400-1500		
1500-1600		
1600-1700		
1700-1800		
1800-1900	50%	
1900-2000	50%	
2000-2100		
2100-2200		
2200-2300		
2300-2400		100%
Total		

Time	All Person			
	Arr	Dep	Two-way	Accumulation
0000-0100			**0**	0
0100-0200			**0**	0
0200-0300			**0**	0
0300-0400			**0**	0
0400-0500			**0**	0
0500-0600			**0**	0
0600-0700			**0**	0
0700-0800			**0**	0
0800-0900			**0**	0
0900-1000			**0**	0
1000-1100			**0**	0
1100-1200			**0**	0
1200-1300			**0**	0
1300-1400			**0**	0
1400-1500			**0**	0
1500-1600			**0**	0
1600-1700			**0**	0
1700-1800			**0**	0
1800-1900	125		**125**	125
1900-2000	125		**125**	250
2000-2100			**0**	250
2100-2200			**0**	250
2200-2300			**0**	250
2300-2400		250	**250**	0
Total	**250**	**250**	**500**	

Time	Underground		Train		Bus		Taxi		Cycle		Foot	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0000-0100	0	0	0	0	0	0	0	0	0	0	0	0
0100-0200	0	0	0	0	0	0	0	0	0	0	0	0
0200-0300	0	0	0	0	0	0	0	0	0	0	0	0
0300-0400	0	0	0	0	0	0	0	0	0	0	0	0
0400-0500	0	0	0	0	0	0	0	0	0	0	0	0
0500-0600	0	0	0	0	0	0	0	0	0	0	0	0
0600-0700	0	0	0	0	0	0	0	0	0	0	0	0
0700-0800	0	0	0	0	0	0	0	0	0	0	0	0
0800-0900	0	0	0	0	0	0	0	0	0	0	0	0
0900-1000	0	0	0	0	0	0	0	0	0	0	0	0
1000-1100	0	0	0	0	0	0	0	0	0	0	0	0
1100-1200	0	0	0	0	0	0	0	0	0	0	0	0
1200-1300	0	0	0	0	0	0	0	0	0	0	0	0
1300-1400	0	0	0	0	0	0	0	0	0	0	0	0
1400-1500	0	0	0	0	0	0	0	0	0	0	0	0
1500-1600	0	0	0	0	0	0	0	0	0	0	0	0
1600-1700	0	0	0	0	0	0	0	0	0	0	0	0
1700-1800	0	0	0	0	0	0	0	0	0	0	0	0
1800-1900	40	0	35	0	11	0	25	0	4	0	9	0
1900-2000	40	0	35	0	11	0	25	0	4	0	9	0
2000-2100	0	0	0	0	0	0	0	0	0	0	0	0
2100-2200	0	0	0	0	0	0	0	0	0	0	0	0
2200-2300	0	0	0	0	0	0	0	0	0	0	0	0
2300-2400	0	81	0	70	0	21	0	51	0	9	0	18

Office (ground floor and above)

85% Maximum occupancy on any particular day

Time	Profile	
	Arr	Dep
0000-0100		
0100-0200		
0200-0300		
0300-0400		
0400-0500		
0500-0600		
0600-0700	5.96%	0.83%
0700-0800	10.16%	1.33%
0800-0900	26.20%	1.53%
0900-1000	19.43%	2.06%
1000-1100	7.02%	3.37%
1100-1200	4.14%	3.58%
1200-1300	5.97%	8.18%
1300-1400	7.39%	6.63%
1400-1500	4.22%	3.91%
1500-1600	2.41%	6.28%
1600-1700	2.23%	12.75%
1700-1800	1.70%	25.99%
1800-1900	1.12%	13.45%
1900-2000	0.65%	6.33%
2000-2100	0.63%	2.40%
2100-2200	0.77%	1.40%
2200-2300		
2300-2400		
Total	**100%**	**100%**

All Person			
Arr	Dep	Two-way	Accumulation
		0	0
		0	0
		0	0
		0	0
		0	0
		0	0
247	34	**281**	212
421	55	**476**	578
1,084	63	**1,147**	1,598
804	85	**889**	2,317
290	139	**430**	2,468
171	148	**319**	2,491
247	339	**586**	2,400
306	274	**580**	2,432
174	162	**336**	2,444
100	260	**359**	2,284
92	528	**620**	1,849
71	1,075	**1,146**	844
46	556	**603**	334
27	262	**289**	99
26	99	**126**	26
32	58	**90**	-1
		0	-1
		0	-1
4,138	**4,138**	**7,995**	

Time	Underground		Train		Bus		Taxi		Cycle		Foot	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0000-0100	0	0	0	0	0	0	0	0	0	0	0	0
0100-0200	0	0	0	0	0	0	0	0	0	0	0	0
0200-0300	0	0	0	0	0	0	0	0	0	0	0	0
0300-0400	0	0	0	0	0	0	0	0	0	0	0	0
0400-0500	0	0	0	0	0	0	0	0	0	0	0	0
0500-0600	0	0	0	0	0	0	0	0	0	0	0	0
0600-0700	100	14	87	12	26	4	1	0	11	2	22	3
0700-0800	170	22	148	19	45	6	1	0	19	2	38	5
0800-0900	438	26	382	22	115	7	4	0	48	3	97	6
0900-1000	325	34	283	30	85	9	3	0	36	4	72	8
1000-1100	117	56	102	49	31	15	1	0	13	6	26	12
1100-1200	69	60	60	52	18	16	1	1	8	7	15	13
1200-1300	100	137	87	119	26	36	1	1	11	15	22	30
1300-1400	123	111	108	97	32	29	1	1	14	12	27	25
1400-1500	70	65	61	57	19	17	1	1	8	7	16	14
1500-1600	40	105	35	92	11	28	0	1	4	12	9	23
1600-1700	37	213	33	186	10	56	0	2	4	24	8	47
1700-1800	28	434	25	379	7	114	0	4	3	48	6	96
1800-1900	19	225	16	196	5	59	0	2	2	25	4	50
1900-2000	11	106	9	92	3	28	0	1	1	12	2	24
2000-2100	11	40	9	35	3	11	0	0	1	4	2	9
2100-2200	13	23	11	20	3	6	0	0	1	3	3	5
2200-2300	0	0	0	0	0	0	0	0	0	0	0	0
2300-2400	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL

Time	All Person			
	Arr	Dep	Two-way	Accumulation
0000-0100	0	0	**0**	0
0100-0200	0	0	**0**	0
0200-0300	0	0	**0**	0
0300-0400	0	0	**0**	0
0400-0500	0	0	**0**	0
0500-0600	0	0	**0**	0
0600-0700	247	34	**281**	212
0700-0800	617	121	**737**	709
0800-0900	1,280	260	**1,540**	1,729
0900-1000	935	282	**1,216**	2,382
1000-1100	374	288	**663**	2,468
1100-1200	250	227	**476**	2,491
1200-1300	525	378	**902**	2,638
1300-1400	743	434	**1,177**	2,947
1400-1500	334	478	**812**	2,803
1500-1600	416	498	**914**	2,721
1600-1700	252	645	**897**	2,328
1700-1800	149	1,115	**1,264**	1,362
1800-1900	410	674	**1,084**	1,098
1900-2000	707	540	**1,246**	1,265
2000-2100	581	259	**840**	1,587
2100-2200	348	495	**843**	1,440
2200-2300	199	516	**715**	1,124
2300-2400	39	1,043	**1,082**	120
Total	**8,159**	**8,251**	**16,410**	

Time	Underground		Train		Bus		Taxi		Cycle		Foot	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0000-0100	0	0	0	0	0	0	0	0	0	0	0	0
0100-0200	0	0	0	0	0	0	0	0	0	0	0	0
0200-0300	0	0	0	0	0	0	0	0	0	0	0	0
0300-0400	0	0	0	0	0	0	0	0	0	0	0	0
0400-0500	0	0	0	0	0	0	0	0	0	0	0	0
0500-0600	0	0	0	0	0	0	0	0	0	0	0	0
0600-0700	100	14	87	12	26	4	1	0	11	2	22	3
0700-0800	249	49	217	42	66	13	2	0	28	5	55	11
0800-0900	517	105	451	91	136	28	4	1	57	12	115	23
0900-1000	378	114	329	99	99	30	3	1	42	13	84	25
1000-1100	151	117	132	102	40	31	1	1	17	13	34	26
1100-1200	101	91	88	80	27	24	1	1	11	10	22	20
1200-1300	212	153	185	133	56	40	2	1	23	17	47	34
1300-1400	300	175	262	153	79	46	3	1	33	19	67	39
1400-1500	135	193	118	168	35	51	1	2	15	21	30	43
1500-1600	168	201	147	175	44	53	1	2	19	22	37	45
1600-1700	102	261	89	227	27	69	1	2	11	29	23	58
1700-1800	60	450	52	392	16	118	1	4	7	50	13	100
1800-1900	136	263	119	229	36	69	74	26	15	29	30	58
1900-2000	230	195	201	170	61	51	138	57	26	22	51	43
2000-2100	190	92	165	80	50	24	113	33	21	10	42	20
2100-2200	115	165	100	143	30	43	65	89	13	18	26	37
2200-2300	64	166	56	145	17	44	40	105	7	18	14	37
2300-2400	13	337	11	294	3	89	8	212	1	37	3	75
Total	**3,221**	**3,140**	**2,807**	**2,737**	**847**	**826**	**459**	**538**	**357**	**348**	**715**	**697**