

Gateway Evolution Ltd

101 CAMLEY STREET, CAMDEN

Transport Assessment Report

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1 INTRODUCTION

- 1.1 TTP Consulting has been appointed by Gateway Evolution Limited to provide traffic and transport advice in relation to the redevelopment of 101 Camley Street, located in the London Borough of Camden.
- 1.2 This report considers the effect of the proposals on transport issues including sustainable travel, trip generation, the operation of the local highway network, traffic management, parking and servicing. It has been prepared following detailed site visits and with the benefit of preapplication feedback received from the Greater London Authority (GLA), Transport for London (TfL) and the London Borough of Camden (LBC). Included at Appendix A is a copy of the minutes from a pre-application meeting held with LBC's highways department on 18.02.14.
- 1.3 The existing development comprises a distribution warehouse unit that measures approximately 1,613sq m of floorspace (land use B8). It is provided with a servicing yard that has vehicle crossovers on Granary Street and Camley Street.
- 1.4 The proposed development seeks to demolish the existing warehouse unit in order to provide 121 residential units and 2,220sq m of B1 employment floorspace. A basement level will be provided to accommodate disabled parking and servicing activity.
- 1.5 TTP Consulting has extensive experience of working on proposals of this nature, including within LBC. It is with the benefit of this experience, on-site observations and discussions with the above authorities that this report has been produced.
- 1.6 The remainder of the report is structured as follows:
 - Section 2 sets out the existing situation;
 - Section 3 details the accessibility of the site;
 - Section 4 sets out the development proposals;
 - Section 5 refers to relevant policy guidance;
 - Section 6 provides a multi-modal trip generation assessment;
 - Section 7 identifies the effects of the proposals; and,
 - Section 8 provides a summary and conclusion.



2 EXISTING SITUATION

2.1 This section describes the site and existing situation in the context of the local surrounding area.

Site Description

- The site is located within the London Borough of Camden on the western side of Camley Street, immediately east of Granary Street and south of Regent's Canal.
- 2.3 The site's location with respect to the wider highway network is shown at **Figure 1**, whilst **Figure 2** shows the site's location in the context of the local area.
- 2.4 101 Camley Street is currently occupied by a distribution unit, measuring approximately 1,613sq m of floorspace. It is provided with a servicing yard north and east of the building. The surrounding area comprises a mixture of residential streets and light industrial and storage uses. In addition, St Pancras Hospital is located opposite the site to the west.
- 2.5 The site is located in close proximity to the King's Cross Opportunity Area within the King's Cross Hinterland. The King's Cross Opportunity Area covers 54 hectares (134 acres) of land in total and its approximate borders comprise Euston Road and the two main line stations of St Pancras and King's Cross to the south, the North London Line to the north, York Way to the east and the main lines from St Pancras to the west.
- 2.6 The Railway Hinterlands (approximately 45 acres) is currently an area with over 50% residential use but which is undergoing change which is likely to continue as a flow-on effect from the significant King's Cross railway lands development. Improvements in accessibility are likely to take place as a result of development in the wider area, enhancing inter connectivity between the Railway Hinterlands and Kings Cross and Camley Street, which has already been substantially upgraded in recent years with improved linkage to Goods Way and King's Cross/St. Pancras Station.

Local Highway Network

2.7 The site is provided with two vehicular access points. The main entrance is accessible from Camley Street towards the northern end of the site. A secondary access is provided on Granary Street also towards the north of the site, but which is not currently in use. Both accesses are gated and served by vehicle crossovers.



- 2.8 Granary Street is a two-way, single lane carriageway that measures approximately 7.4 metres in width. It is provided with single yellow lines on both sides of the carriageway for the majority of the length of the site. Double yellow line controls are provided in proximity to the junction with Camley Street whilst on-street pay and display parking opportunities are provided towards the southern end of the site on the eastern side of Granary Street.
- 2.9 To the north Granary Street connects with the A5202 St Pancras Way whilst to the south access is provided onto Camley Street.
- 2.10 Camley Street measures approximately 6.4 metres in width and is provided with a single lane in each direction subject to single yellow lines on both sides of the carriageway within the vicinity of the site. Towards the junction with Granary Street double yellow line controls are in place on both sides of the carriageway.
- 2.11 A height restriction of 4.1 metres applies to Camley Street (principally the southern end) which is signed appropriately as a result of rail bridges passing overhead a short distance to the south of the junction with Granary Street.
- 2.12 To the north, Camley Street connects to Barker Drive with access restricted to pedestrians and cyclists only. The junction between Barker Drive and St Pancras Way (A5202) to the west permits all vehicle types but is left in/left out only, with St Pancras Way being one-way southbound towards the A501 Euston Road. To the south, Camley Street passes between Kings Cross and St. Pancras Stations and across the A5202 Goods Way before connecting with Euston Road.
- 2.13 The A501 Euston Road forms part of the Transport for London Road Network (TLRN) and is the main strategic route in the local area, connecting with the A40 to the west and the A1 to the east.
- 2.14 St Pancras Way connects to the A501 Euston Road to the south of the site via Midland Road and runs broadly parallel to Camley Street, passing across the A503 Camden Road to the north to link with the A400.

Existing Traffic Flows

In order to understand the existing levels of traffic associated with the site, a manual traffic count was undertaken to identify the number of vehicle movements into and out of the site. The survey took place on Tuesday 4th February 2014. A summary of the data is provided in **Table 2.1**.



Table 2.1 – Summary of Existing Vehicle Movements at 101 Camley Street								
Period	Arrivals	Departures	Total					
AM Peak (07:00-08:00)	17	13	30					
Inter Peak (14:00-15:00)	17	16	33					
PM Peak (17:15-18:15)	11	6	17					
Daily (00:00-24:00)	87	105	192					

On Street Parking

- 2.16 Camden has a number of Controlled Parking Zones (CPZ) which cover the entire borough.
- 2.17 The site is situated within the Somers Town CPZ (Zone CA-G), which has restrictions in place every day from 08:30-18:30.
- 2.18 A copy of the relevant CPZ plan for the Borough is included at **Appendix B**.

Accident Data

- 2.19 A review of Personal Injury Accident (PIA) data provided by Transport for London (TfL) has been undertaken for the latest three year period available (up to October 2013). This data includes information relating to the date, location, weather conditions, severity and cause for each PIA. A full set of the accident data is provided in Appendix C, including a plan showing the full extent of the study area and location of the PIAs.
- 2.20 The information indicates that there have been no incidents within the immediate vicinity of the site, i.e. the length of Granary Street and part of Camley Street between the junctions with Crofters Way and Goods Way.
- 2.21 The three nearest incidents, which took place beyond Goods Way and Crofters Way, were all slight in severity and as a result of failing to look properly and driver error.
- 2.22 Based upon this review it is not apparent that there are any accident clusters or identifiable trends within the vicinity of the application site that require further investigation or mitigation.



3 ACCESSIBILITY

Walking

- 3.1 Walking is the most important mode of travel at a local level. Guidance from The Chartered Institution of Highways & Transportation suggests a maximum 'acceptable' walking distance for pedestrians without mobility impairment of 2 kilometres. Given the location of the site it is likely that the majority of trips will involve part of the journey being on foot. Additionally, it would be convenient to walk to the existing public transport services (bus, underground and rail) for other longer distance journeys.
- 3.2 The local pedestrian environment is well maintained and benefits from street lighting and a number of informal and formal crossing points that are provided with dropped kerbs and tactile paving.
- 3.3 There are footways along both sides of the majority of roads in the vicinity of the site providing access to residential, commercial, community and leisure facilities along with public transport services. In addition, traffic free adjacent use pedestrian/cycle routes are provided within the locality of the site, extending from the northern section of Camley Street to Agar Grove.
- 3.4 The towpath along Regent's Canal also provides pedestrians with a traffic free route with access to the local road network provided on Camley Street, a short distance to the north of the junction with Granary Street and, also, close to the junction with Barker Drive.
- 3.5 Included at **Figure 3** is a plan showing some of the key pedestrian routes from the site to local amenities in the Camden area by distance and journey time. **Figure 4** provides similar information for pedestrian routes to the nearest bus stops and St Pancras and Kings Cross stations.
- In support of, and to provide more detailed information on the above, a pedestrian audit was carried out. The audit considers the quality of the existing pedestrian environment in the surrounding area. A copy of the pedestrian audit has been included at **Appendix D**.

Cycling

3.7 Accepted guidance suggests that for journeys up to 5 kilometres cycling represents an important mode of transport. The location of the site makes it ideal for travel by cycle journeys. Central London and a number of employment areas are all located within five kilometres as well as mainline stations such as Euston, Kings Cross and St Pancras.



- 3.8 Camley Street itself is considered to be a suitable route for cyclists as suggested in Transport for London's Local Cycling Guide 14. In addition the site benefits from being located in proximity to an off-road cycle route that runs adjacent to the Regents Canal. There is also an adjacent use two-way footway/cycleway provided between Camley Street and Agar Grove, with oncarriageway segregated routes in place along St Pancras Way.
- 3.9 **Figures 3 and 4** include further information regarding some of the key cycle routes within the locality, the corresponding distances and journey times.
- 3.10 Barclays Cycle Hire docking stations are located west of the site on Royal College Street and south of the site on Pancras Road, both approximately 500 metres walk distance from the site.

 In total 69 cycles are available across these two docking stations.

Public Transport

Buses

3.11 There are a number of bus stops within the vicinity of the site which serve a range of routes to different destinations within Central and Outer London. The nearest bus stop is located on the A5202 Pancras Road, approximately 350 metres west of the site. Bus stop 'V' provides southbound services for bus routes 46 & 214. The bus stop for northbound services is located approximately 120 metres west from bus stop 'N'. **Table 3.1** summarises the frequency of the bus services operating from these bus stops closest to the application site.

Table 3.1 – Summary of Bus Service Frequency							
No.	Route	Weekday	Frequency	Weekend Frequency			
NO.		Peak	Off-Peak	Saturday	Sunday		
45	St Pancras International to Streatham Place	5-9	8-12	6-10	15		
46	Lancaster Gate to City Thameslink	8-12	8-12	10-14	15		
63	Forest Hill to Kings Cross	4-8	4-8	5-9	7-10		
214	Highgate to Finsbury Square		6-10	6-10	10-12		



- 3.12 Within the Department for Transport (DfT) document 'Inclusive Mobility' guidance suggests that those in residential areas should ideally not be required to walk more than 400 metres to a bus stop. In addition, Transport for London (TfL) guidance suggests that an ideal spacing between bus stops is 400 metres.
- 3.13 The closest bus stops to the site as identified above are within 400 metres of the site. To better understand the existing facilities provided by these bus stops, a bus stop audit has been undertaken, the results of which are included at **Appendix E**, with a summary provided at Section 7.
- 3.14 The relevant TfL bus route 'spider map' showing local services in the surrounding area is shown at **Appendix F**.

Underground Services

- 3.15 King's Cross St Pancras underground station is located nearest to the site, approximately 680 metres south of the site. It provides access to the Northern Line, Piccadilly Line, Victoria Line, Circle Line, Hammersmith and City Line and Metropolitan Line offering frequent services to all parts of London on a regular basis.
- 3.16 There are a number of additional underground stations located within walking distance of the site which are summarised in **Table 3.2**.

Table 3.2 - Summary of Underground Services								
Station	Underground Line	Route	Walk Distance (m)					
Mornington Crescent	Northern Line	Morden – High Barnet or Edgware	800 m					
Camden Town	Northern Line	Morden – High Barnet or Edgware	1.25km					
	Circle	Central London loop with extension to Hammersmith						
Euston Square	Hammersmith & City Line	Hammersmith - Barking	1.8 km					
	Metropolitan Line	Aldgate – Uxbridge or Amersham						



Rail Services

- 3.17 St Pancras Station and Kings Cross Station are situated approximately 680 metres (9 minutes walk) south of the site. Both stations offer an extensive range of services to numerous destinations both within London and nationally.
- 3.18 Camden Road Station is also within approximately 1,250 metres (16 minutes walk) of the site and forms part of the London Overground network offering services from Stratford to Richmond or Clapham Junction.
- 3.19 As such the site benefits from a substantial number of rail services to numerous destinations across London and the rest of the country. The local train services are frequent providing access to an extensive catchment area and the wider public transport network.

Public Transport Accessibility Level (PTAL)

- 3.20 Public Transport Accessibility Levels (PTALs) are a theoretical measure of the accessibility of a given point to the public transport network, taking into account walk access time and service availability. The method is essentially a way of measuring the density of the public transport network at a particular point.
- 3.21 Walk times are calculated from the specified point of interest to all public transport access points: bus stops, light rail stations, underground stations and Tramlink halts, within pre-defined catchments. The PTAL then incorporates a measure of service frequency by calculating an average waiting time based on the frequency of services at each public transport access point. A reliability factor is added and the total access time is calculated. A measure known as an Equivalent Doorstep Frequency (EDF) is then derived for each point. These are summed for all routes within the catchment and the PTALs for the different modes (bus, rail etc.) are then added to give a single value.
- 3.22 The PTAL is categorised in six levels, 1 to 6 where 6 represents a high level of accessibility and 1 a low level of accessibility. The PTAL levels 1 and 6 are further subdivided into A and B levels, with level A indicating the location is rated towards the lower end of the PTAL category and B towards the higher end.
- 3.23 The measure, therefore, reflects:
 - Walking time from the point of interest to the public transport access points;
 - The reliability of the service modes available;



- The number of services available within the catchment; and,
- The level of service at the public transport access points i.e. average waiting time.
- 3.24 Using the TfL Planning Information Database, the southern end of the site has the highest possible PTAL rating of 6b, demonstrating an excellent level of accessibility to public transport.

 Appendix G includes a copy of TfL's calculation for this.

Car Club

- 3.25 The closest car club bays in the vicinity of the Site is located in Charrington Street and is within a 300m walk distance of the Site.
- 3.26 Car clubs offer a viable alternative to owning a car for people living / working in the vicinity, particularly for those that require the use of a car on an infrequent basis.



4 DEVELOPMENT PROPOSALS

- 4.1 The proposals seek to provide a residential development comprising 121 units and 2,220sq m GEA of B1 employment floorspace. A copy of the Architect's layout plans is included at **Appendix H**.
- 4.2 The proposed residential mix is set out in **Table 4.1**.

Table 4.1: Summary of Housing Provision								
No. Bedrooms	Private Housing	Affordable Housing	Total					
Studio	4	N/A	4					
1	16	3	19					
2	41	18	59					
3	29	7	36					
4	1	2	3					
Total	91	30	121					

Parking

- 4.3 The proposed development is car-free except for the provision of 13 disabled parking spaces at basement level.
- 4.4 In total the residential units will be provided with 237 cycle parking spaces including 12 for visitor use. For the commercial element of the development 11 cycle parking spaces are proposed. All cycle parking will be provided in secure and undercover storage facilities.

Access

- 4.5 The existing crossover located on Granary Street would be relocated further south to provide access into the basement area for disabled parking and servicing via a single width vehicle ramp. The vehicle access and associated crossover on Camley Street would be removed and the footway reinstated.
- 4.6 Pedestrian and cycle access, for both the residential and commercial element of the proposals will be provided from the Granary Street and Camley Street frontage. Access to upper floors will be provided by lifts and stairwells.



4.7 A new footbridge is proposed across the canal to connect the Site and Granary Street with the tow path/cycle route located adjacent to 103 Camley Street, which is currently under construction.

Refuse

- 4.8 A number of refuse stores are provided on the lower ground and upper ground levels which will be accessible directly from the street.
- 4.9 All refuse collection activity will be undertaken on-street, outside the frontage of the site, with refuse vehicles stopping on Granary Street and Camley Street. The transfer of waste within the development will be facilitated by lifts located in proximity to the refuse stores.

Servicing

- A servicing area is provided at basement level which will be accessible via a vehicle ramp from lower ground floor level on Granary Street. The basement and ramp will have a minimum headroom of 2.6 metres and will allow vehicles to enter and exit the site in forward gear. A vehicle swept path analysis is included at **Appendix I** which shows the entry and exit movements of vehicles into and out of the basement.
- 4.11 Small to medium sized delivery vehicles (e.g. transit van) would be able to service the site using the basement. Given the nature of the development proposed, it would be reasonable to assume that the majority of deliveries would be by vehicles of this type. Deliveries by larger vehicles can be accommodated on-street on Granary Street.



5 POLICY AND SUPPORTING DOCUMENTS

National Policy

- 5.1 The National Planning Policy Framework (NPPF) was published in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied.
- 5.2 In relation to transport, the NPPF states that:

"The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."

Effect of Development

5.3 When considering the transport effects of a development, the NPPF states that:

"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- safe and suitable access to the site can be achieved for all people; and
- improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

Promoting Sustainable Travel Choices

- 5.4 In order to promote opportunities for sustainable travel, the NPPF advises that:
 - "..developments should be located and designed where practical to accommodate the efficient delivery of goods and supplies;
 - give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and



- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones."
- 5.5 The NPPF highlights that a key tool for facilitating the promotion of sustainable travel choices will be a Travel Plan and that "All developments which generate significant amounts of movement should be required to provide a Travel Plan."

Parking

5.6 In relation to parking policy, the NPPF states that:

"If setting local parking standards for residential and non-residential development, local planning authorities should take into account:

- the accessibility of the development;
- the type, mix and use of development;
- the availability of and opportunities for public transport;
- local car ownership levels; and
- an overall need to reduce the use of high-emission vehicles."

Regional Policy

- 5.7 The London Plan 2011 provides policies and advice on matters that are of strategic importance to Greater London. It is a requirement that local policies, as set out in Unitary Development Plans (UDPs) and emerging Local Development Frameworks (LDFs), should be in accordance with it. The transport aspects of the London Plan, relevant to the proposed development, are discussed in the following paragraphs.
- 5.8 Policy 6.1 Strategic Approach states that:

"The Mayor will work with all relevant partners to encourage the closer integration of transport and development ... encouraging patterns and nodes of development that reduce the need to travel, especially by car."



5.9 Policy 6.13 Parking states that:

"The Mayor wishes to see an appropriate balance being struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use."

- 5.10 The site is accessible to public transport and local facilities and provides no on-site car parking and so is in line with TfL standards and policy.
- 5.11 In relation to the provision of parking for Blue Badge holders. The Parking Addendum associated with the London Plan states that:

"Developments should provide at least one accessible on or off street car parking bay for designated Blue Badge holders, even if no general parking is provided."

- 5.12 It is also important to take into consideration the London Plan Revised Early Minor Alterations document (June 2013) which reviews cycle parking standards to ensure they support delivery of the significant increase in cycling in London in the Parking Addendum to Chapter 6 of the London Plan. These changes to standards include:
 - B1 Business:
 - 1/150 for staff and visitors
 - C3 dwellings:
 - 1 per 1 or 2 bedroom dwelling for residents + 1 per 40 units for visitors
 - 2 per 3+ bedroom dwelling for residents + 1 per 40 units for visitors

Local Policy

Camden Local Development Framework (Core Strategy and Development Policies)

5.13 LBC policy guidance is set out in the Core Strategy and Development Policies, both of which were adopted in November 2010 with policies DP16 through DP19 covering transport related issues.



5.14 Policy DP16 states that:

"The Council will seek to ensure that development is properly integrated with the transport network. We will resist development that fails to assess and address any need for the following:

- Movements to, from and within the site;
- Links to existing transport networks;
- Additional transport capacity off-site (such as improved infrastructure and services) where existing or committed capacity cannot meet additional need generated by the development; and
- Safe pick-up, drop-off and waiting areas for taxis, private cars and coaches where this activity is likely to be associated with the development."
- Policy DP17 encourages walking, cycling and the use of public transport in all new developments and policies DP18 ("Parking standards and limiting the availability of car parking") and DP19 ("Managing the impact of parking") look to minimise the impact and amount of parking that comes forward as part of any new scheme.

Camden Transport Strategy

- 5.16 Camden's Transport Strategy was published in 2011 as part of the Local Implementation Plan. It sets out the direction the Council want to take on transport and puts in place objectives accordingly. The objectives relevant to the planning application site are as follows:
 - 1. "Reduce motor traffic levels and vehicle emissions to improve air quality, mitigate climate change and contribute to making Camden a low carbon and low waste borough.
 - 2. Encourage healthy and sustainable travel choices by prioritising walking, cycling and public transport in Camden."

Camden Planning Guidance

5.17 Camden's Planning Guidance 7 document provides information on a number of transport related issues relevant to Travel Plans, car-free developments, on-site car parking, car clubs and cycling facilities.



6 TRIP GENERATION

- 6.1 The following provides an assessment of the predicted level of trips to and from the site by all modes of transport, which will be used in turn to assess the effect of the proposals on existing public transport services and on the walking and cycling network.
- 6.2 It should be noted given the site is proposed to be car-free (with the exception of disabled parking) and as a result of the existing site use as a distribution centre, the number of vehicle trips associated with the site is expected to decrease significantly. Therefore, in traffic terms, the proposals will ensure that there is a positive impact on the local highway network.
- 6.3 No account has been taken of the non-vehicle trips that could potentially be generated by the existing site and, therefore, the trip generation exercise is considered to provide a robust assessment.

Methodology

- 6.4 To establish a comprehensive multi modal trip generation assessment for the proposed development the TRAVL database was interrogated for each individual land use. (Although the TRAVL database has now been superseded, we have used the trip generation data used for and agreed as being acceptable/appropriate for the adjacent 103 Camley Street development. Any differences between data contained within the TRAVL and TRICS databases would not have a material impact on the findings and/or assessment).
- 6.5 The trip generation by each mode of transport to and from the proposed development has been estimated throughout a typical weekday. The trip rates and modal split percentages have been based upon TRAVL data, where possible taking into account the characteristics of the site such as its location, public transport provision and parking availability.

Residential

- The trip generation assessment for the residential element of the scheme is contained at **Appendix J**.
- 6.7 The sites selected have a similar number of units to that proposed and are located in areas with good to excellent public transport in central or inner London. They are therefore considered to provide a robust basis from which to estimate the trip generation.



Commercial

The trip generation for the B1 employment space has been calculated using sites from TRAVL located in central London with the same PTAL rating and are, therefore, regarded as being a realistic representation. The trip generation results are included at **Appendix J**.

Summary

Total Development Trips

A summary of the development trip generation within the weekday AM peak (08:00 to 09:00) and PM peak (17:00 to 18:00) is summarised in **Table 6.1** below.

Table 6.1: Summary of Total Development Trips										
Period	Car driver	Car pass.	Taxi	Motor Cycle	Bus	Tube	Rail	Walk	Cycle	Total
AM In	1	0	0	0	13	5	4	13	1	39
AM Out	2	0	0	0	17	6	3	14	2	44
PM In	3	1	1	1	29	9	2	22	3	70
PM Out	3	1	1	1	29	15	12	34	3	99
Daily In	28	8	8	8	276	119	84	284	26	843
Daily Out	27	8	8	8	267	115	81	275	25	817

- Based on the trip generation for all the different elements of the proposed scheme it is likely that it would generate circa 1,660 two-way trips (i.e. 843 in and 817 out) per day, with circa 83 two-way trips in the AM peak between 08:00 and 09:00 (39 in and 44 out) and 169 two-way trips in the PM peak between 17:00 and 18:00 (70 in and 99 out).
- A detailed summary of the total development trips throughout a weekday is provided at **Appendix J**.

Impact on Public Transport

6.12 For the residential element of the development the TRAVL database has indicated that there will be 943 public transport trips throughout the day. For the commercial element the TRAVL data includes walking and public transport trips together and as such it is difficult to accurately predict how many public transport trips will be generated as a result of the development. It is however considered that even if all walking and public transport trips were assumed to be public transport trips the impact on public transport services would not be detrimental given the site achieves a PTAL of 6b and benefits from being located with proximity to numerous and frequent bus, rail and underground services.



- 6.13 There are a minimum of 50 bus services located within 640 metres of the site, 150 underground services and many destinations accessible by rail during the traditional peak periods. As such it is considered that there is plenty of capacity to accommodate trips associated with both the residential and commercial elements of the development.
- The increase in public transport trips is not expected to be significant and there is unlikely to be a measurable impact on public transport capacity due to the development.

Traffic Generation

- As set out previously in **Table 2.1** the existing site currently generates an average of 192 two-way vehicle movements on a weekday.
- Based on the above and taking into consideration the car free nature of the scheme, it is reasonable to assume that the proposals will have positive impact in traffic terms on the operation of the local highway network. Furthermore, it is likely that there would be a substantial decrease in vehicle trips which represents a tangible benefit of the scheme.



7 EFFECTS OF THE PROPOSALS

7.1 This section considers the potential traffic and transport effects of the proposed development.

Pedestrians

- 7.2 The existing pedestrian network in the locality of the site has been audited to determine the quality of the environment and existing routes to/from key destinations. **Appendix D** contains a copy of this audit.
- 7.3 The audit assessed six main routes between the development site and key destinations based on a number of parameters for both links (roads/streets) and crossings. Although the quality of the routes varied both individually and collectively, it was demonstrated that overall there is a high level of pedestrian infrastructure in terms of footway provision and crossing facilities.
- 7.4 Permeability through the site will be improved with connections through the site providing access between Granary Street and Camley Street. In addition links between the Site and 103 Camley Street will be improved through the implementation of a footbridge over the canal. As part of the proposals, access to the surrounding area would be improved which would result in the enhancement of the quality and accessibility of the pedestrian environment.

Proposed Footbridge

- 7.5 A new footbridge is proposed over Regent's Canal that would connect 101 Camley Street at its northern end with 103 Camley Street, which is currently under construction. The footbridge will be funded by a pooled contribution, with financial contributions already secured from 103 Camley Street and the Travis Perkins site. It is envisaged that the proposed development will deliver the foundations for the bridge footing within the 101 Camley Street site. The proposed developments at 101 Camley Street and 102 Camley Street will also provide a financial contribution towards the construction of the footbridge.
- 7.6 During pre-application discussions the Council and GLA confirmed their support for the footbridge, as set out in formal pre-application responses. The general features of the footbridge in relation to access and its indicative design (as shown at **Appendix H**) were accepted following pre-application discussions.



7.7 The new footbridge would shorten the walk distance between the site and Camley Street north of the canal by approximately 270 metres (a 3 minute walk). Importantly, the footbridge will include a platform lift adjacent to the site to assist mobility impaired users and/or those with bicycles. An additional platform lift is already being provided as part of the development at 103 Camley Street, thus providing assisted access on both sides of the canal. The footbridge will also be fitted with cycle channels on the stairs to enable bicycles to be wheeled up/down and avoid the need for them to be carried.

Cyclists

- 7.8 As detailed in Section 3, there are numerous cycle routes within the immediate and wider area surrounding the site. A number of roads including Camley Street are recommended for cycling, whilst the towpath alongside the canal provides a shared use facility with pedestrians.
- 7.9 There is a traffic free adjacent use route to the north of Camley Street and segregated oncarriageway routes along St Pancras Way.
- 7.10 The proposals include secure and sheltered cycle parking facilities in accordance with local standards and this will serve to encourage future occupants of the site to travel by bicycle, especially when combined with the Travel Plan measures which promote cycling.

Public Transport

- 7.11 As demonstrated in Section 3, the site is well served by public transport with bus, underground and overground rail services combining to produce a PTAL rating of 6b.
- 7.12 The nearest bus stops to the site are within approximately 350 metres for routes 46 and 214 which provide a regular service between St Pancras and King's Cross Stations and Camden.
- 7.13 Underground and overground rail services are accessible from several stations within walking distance of the site, most notably King's Cross and St Pancras. This will therefore benefit future residents/occupiers of the proposed scheme and encourage the use of public transport.

Parking

Car Parking

7.14 A total of 13 disabled car parking spaces are proposed for the development which would be located within a basement car park. Swept paths showing a large car entering and exiting the disabled parking spaces is included at **Appendix K**.



- 7.15 The site is within an area of excellent accessibility to public transport where 72% of households in the lower layer super output area and site ward do not have a car.
- 7.16 Notwithstanding the low level of car ownership and car based journeys, the Applicant is willing to commit to a permit free agreement to ensure that there will be no impact upon the availability of on-street parking for existing residents in the vicinity.
- 7.17 Given that the CPZ operates 24 hours a day 7 days a week it is considered unlikely that the proposed development would result in any significant on-street parking.
- 7.18 Despite the accessibility of the site to pedestrians and cyclists and the availability of public transport, there may on occasion be the need to use a car. As set out in Section 3 there are a number of car clubs in the surrounding area which would be available to future residents and employees.

Cycle Parking

- 7.19 The proposal includes the provision of 248 cycle parking spaces in the form of Josta 2-tier stands. The cycle parking would be located within sheltered and secure areas.
- 7.20 The level of provision is in accordance with standards set by TfL and the LB Camden.

Refuse and Servicing

- 7.21 Separate bin stores are to be provided for the different elements of the scheme and accessible directly from the street so as to minimise the drag distance to the collection vehicle. Refuse vehicles would collect waste on-street Granary Street and Camley Street.
- 7.22 Pre-application discussions were held with the Council's environment department on 07.05.14 to discuss the proposed waste storage and collection strategy. The proposals were considered to be acceptable in principle, both in terms of the storage of refuse and the manner in which it would be collected on-street from Granary Street and Camley Street.
- 7.23 An off-street servicing area has been provided within the basement which can accommodate small to medium sized vehicles (e.g. transit vans) which would account for the majority of servicing movements to the development.
- 7.24 It is anticipated that in the region of 10-11 deliveries per day will be associated with the residential use of the development, and approximately 4-5 deliveries per day with the commercial use.



7.25 Given the existing use of the site and the surveyed number of vehicle movements (see **Table 2.1**) it is not considered that the refuse and servicing demands of the proposals will lead to any impact on the local highway network.



8 MITIGATION MEASURES

8.1 The following mitigation measures have been included so as to reduce the potential impact of the proposals from a traffic/transport perspective.

Travel Plan

- 8.2 A travel plan has been prepared by TTP Consulting as part of the planning application in order to promote sustainable travel choices.
- 8.3 The travel plan has been prepared in accordance with the latest DfT and TfL Guidance and is aimed at the future residents and employees of the development.
- 8.4 A summary of the key features of the travel plan are as follows:

Aims and Objectives

- 8.5 The primary objective of the travel plan will be to set out a long term strategy to facilitate and encourage modes of travel to the site by means other than the private car, which reflects current central and local government policy.
- 8.6 The strategy needs to be long term as changing travel habits take time and will only occur through a combination of incentives, improved facilities, government initiatives and changes in individual's attitudes.

Measures and Initiatives

- 8.7 The initiatives and measures that form part of the travel plan are a mixture of 'hard' and 'soft' measures.
- 8.8 The 'hard' measures include the provision of facilities such as safe and secure cycle parking and improved pedestrian links.
- 8.9 The 'soft' measures include initiatives such as the promotion of Car Clubs and providing information on public transport services.
- 8.10 The travel plan will be finalised, and agreed prior to the occupation of the proposed development.



Construction Management Plan

- 8.11 A Construction Management Plan (CMP) will be prepared and secured by way of a Section 106 agreement. The CMP will seek to outline the management of traffic during the construction period.
- 8.12 The CMP will be a live document that will be updated as necessary to include relevant information and address issues that may be identified through consultation with local residents as the project progresses and on appointment of the main contractor. Any revisions made to the CMP document will be submitted to the Council for approval.
- 8.13 It is anticipated that the majority of construction activity can be accommodated within the site boundary itself given vehicle access can be achieved from Camley Street and Granary Street.
- 8.14 Construction vehicles are expected to access the site from either the A5202 St Pancras Way from the west or the A5202 Pancras Road from the south.
- 8.15 A Construction Project Manager (CPM) will be appointed to oversee the programme of works. They will be expected to liaise with other local construction sites in order to minimise the potential for conflicts arising from construction-related vehicles. In addition the CPM will be responsible for monitoring and reviewing all construction activities and resolving any complaints.



9 SUMMARY AND CONCLUSION

Summary

- 9.1 TTP Consulting has been appointed by Gateway Evolution Limited to provide traffic and transportation advice in relation to their proposal to redevelop 101 Camley Street within the London Borough of Camden.
- 9.2 The applicant is seeking to redevelop the site from a distribution warehouse into 121 residential units and 2,220sq m of B1 employment use.
- 9.3 Public transport accessibility within the vicinity of the site is excellent with numerous buses, underground and rail services within a reasonable walking distance. This is evidenced by the site's PTAL rating of 6b.
- 9.4 The development would be car free with the exception of 13 disabled parking spaces provided on-site at basement level. The Applicant is also willing to sign up to a permit free agreement to prevent future residents from parking on-street. Vehicle movements associated with the site would therefore be minimal and would represent a significant decrease compared with the existing site traffic, as shown by the traffic surveys undertaken.
- 9.5 A multi-modal trip generation exercise has shown that the majority of trips to/from the site would be on foot and by public transport. The impact on public transport, notably additional bus demand has been demonstrated to be negligible given the high range and frequency of services available.
- 9.6 The proposed development provides 248 cycle parking spaces, which is in accordance with GLA and Camden standards.
- 9.7 Accessibility through the site will be enhanced, and the provision of a new footbridge to 103 Camley Street will be enabled through the construction of the foundations for the landing point of the bridge at 101.

Conclusion

9.8 In light of the above, we conclude that the planning application proposal is acceptable in traffic and transport terms and fully in accordance with the key requirement of the NPPF in so far as the residual impacts will not be severe.

Figures



101 Camley Street, London Borough of Camden

Gateway Evolution Ltd

111-113 Great Portland Street London W1W 6QQ Tel: 020 7100 0753 www.ttp-consulting.co.uk Registered in England: 7441800

DRAWING REFERENCE: Figure 1 REVISION:



Local Area Plan

PROJECT:

101 Camley Street, London Borough of Camden

Gateway Evolution Limited

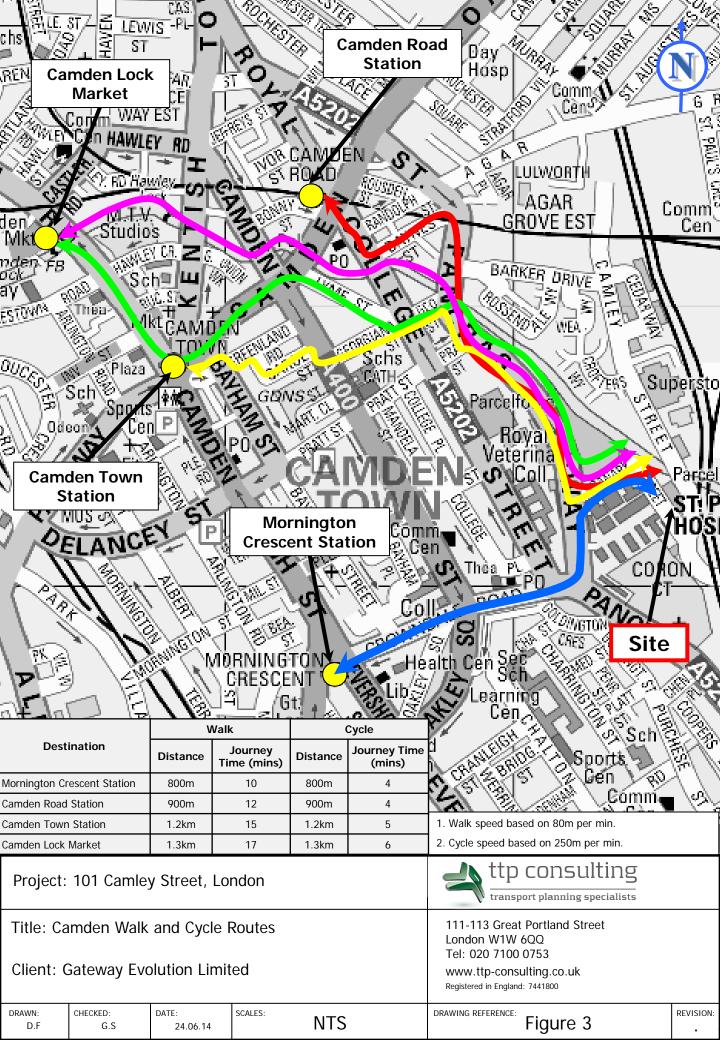


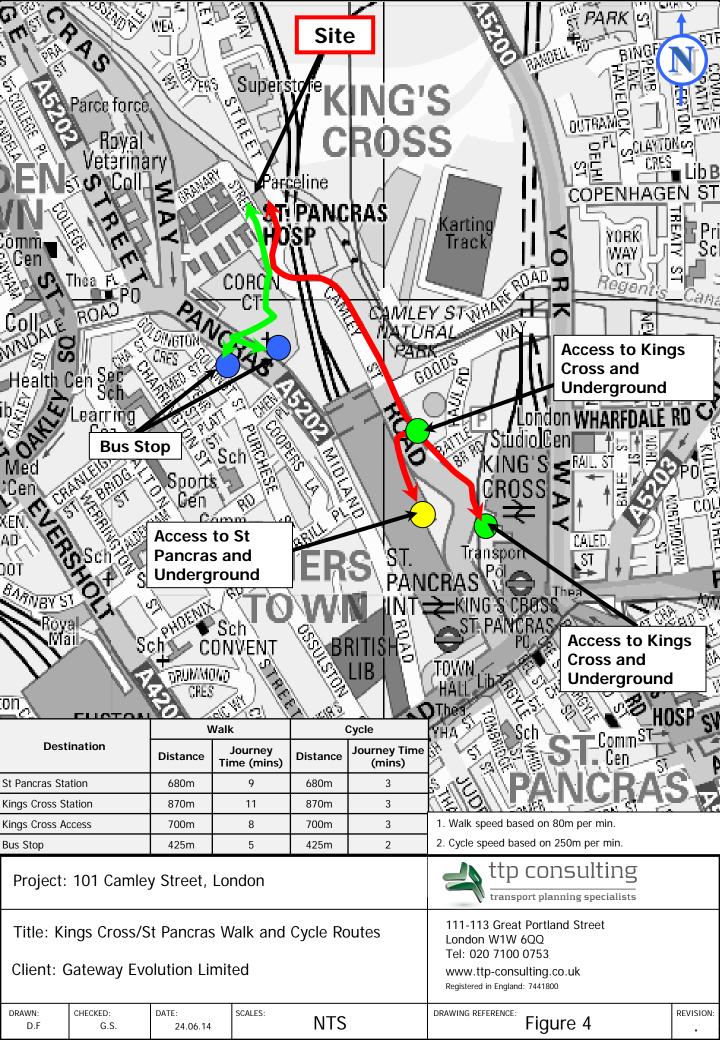
London W1W 6QQ Tel: 020 7100 0753

www.ttp-consulting.co.uk Registered in England: 7441800

DRAWING REFERENCE:

REVISION: Figure 2





Appendix A

Minutes of Meeting with LBC Highways 18.02.14



File Reference: N01-GS-101 Camley St Meeting Note (140220)

Date: 20/02/14

Project Title: 101 Camley Street

Subject: 101 Camley Street - Note of Meeting

Location: Camden's offices

Date & Time: 18th February 2014 @ 12:00

Attendees:

John Duffy - London Borough of Camden Steve Cardno - London Borough of Camden

George Steele - TTP Peter Caneparo - TTP

Car Parking

1.1 TTP explained that the scheme currently includes a basement with a two-way vehicle ramp. It is envisaged that the basement would accommodate on-site disabled parking and servicing for small to medium sized vehicles e.g. transit vans, with the type of vehicle limited by the 2.6m height clearance. Lifts and stairwells also provide access from the upper levels.

- 1.2 Camden noted that they would seek a car-free development given the nature of the site.

 Disabled parking on-site would be acceptable, and it was suggested that circa 6 bays would be appropriate given the number of residential units, although this would largely be determined by the number of wheelchair accessible units.
- 1.3 Camden queried whether there was a need to include a basement if disabled parking and servicing could be accommodated on-street. It was suggested that the existing on-street parking bays on Granary St. near the junction with Camley St. could potentially be used by blue badge holders and/or the parking bays could be extended to provide additional spaces.
- 1.4 It was agreed that TTP would undertake a parking usage survey of the on-street spaces to determine the current level of demand (which is expected to be low).
- 1.5 Camden noted that they no longer insist on car club provision for sites in highly accessible areas. Therefore, whilst the offer of car club membership would be welcomed, it is not considered essential. TTP are seeking a feasibility report from Zipcar in any event.



Cycle Parking

- 1.6 Camden expects cycle parking to be provided in accordance with their minimum standards. TfL's standards would also need to be considered as the scheme is referable to the Mayor. It was noted that a high number of spaces are currently shown internally and that Camden would accept 100% provision of Josta 2-tier stands for staff/residents.
- 1.7 The provision of Sheffield stands within the public realm for visitors was welcomed and some additional spaces would be beneficial.
- 1.8 Cycle parking could alternatively be located in the basement provided cycles can be transported to ground level in lifts, with stairwells also fitted with cycle channels.

Servicing

- 1.9 As above it was noted that small to medium sized delivery vehicles would be able to service the site using the basement. Given the nature of residential and employment use, it would be reasonable to assume that the majority of deliveries would be by vehicles of this type. Deliveries by larger vehicles could take place on-street on Granary St.
- 1.10 A traffic count commissioned by TTP at the existing access recorded 192 two-way movements in a day, with the vast majority of vehicles being light goods vehicles. The current proposals would generate approximately 15-17 deliveries per day, resulting in a significant reduction in traffic associated with the site.
- 1.11 In the event a basement was not included, Camden would be content for all servicing to take place on-street from Granary St.

Refuse

- 1.12 It is proposed that refuse collection would be undertaken on-street from Granary St. adjacent to the refuse stores. Ideally the refuse store within Core B would be relocated closer to Granary St. to ease the transfer of waste on collection days.
- 1.13 Camden is to issue their current waste guidelines and suggested liaising with Environmental Services for more detailed advice. [**Post Meeting Note:** Camden has since issued the latest waste guidelines, which are in the process of being updated.]



Canal Foot Bridge

- 1.14 A brief discussion took place regarding the proposed foot bridge which will link 101 Camley St. to 103 Camley St. as this is largely being progressed by others within Camden and the project team.
- 1.15 The Council currently has 3 options for the bridge, with the least expensive option estimated at 640K and the most expensive at 830K. Contributions towards the bridge totalling 300K have been secured from 103 Camley St. (100K) and the Travis Perkins site (200K). It is envisaged that further contributions will be sought from 101 Camley St., 102 Camley St. and potentially one other neighbouring site.
- 1.16 Camden highways queried how the bankside of the canal adjacent to 101 Camley St. will be managed/controlled to prevent anti-social behaviour. It was noted that discussions with the Canal & Riverside Trust are being pursued separately on this matter by other members of the project team.

Application Material

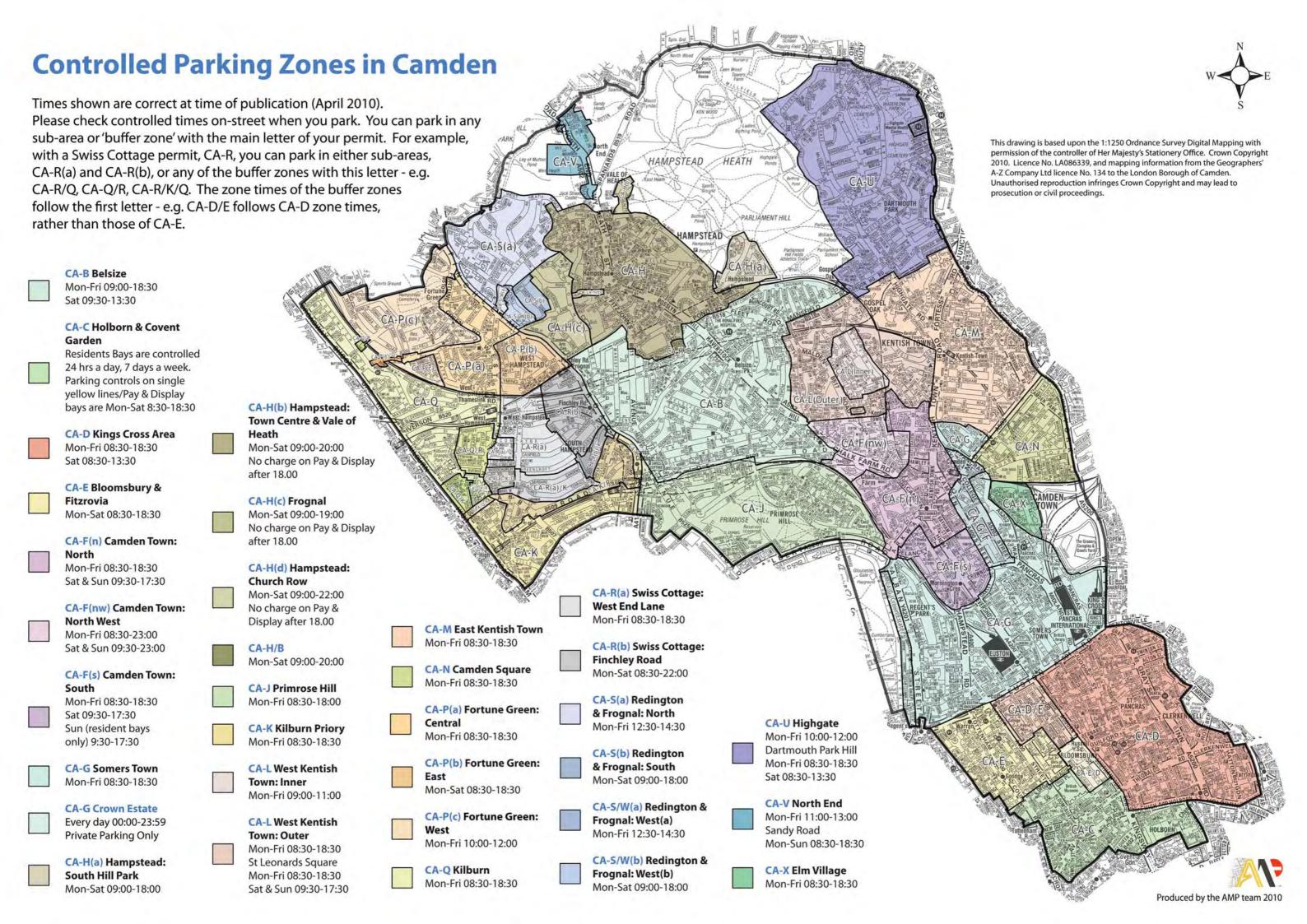
- 1.17 A Transport Assessment (TA) and separate Travel Plans (TP) for the residential and employment uses are required for the planning application.
- 1.18 It was agreed that a Servicing Management Plan (SMP) was not necessary provided a chapter on servicing is included within the TA. However, TfL may still request an SMP.
- 1.19 It was agreed that a Construction Management Plan (CMP) could be conditioned or subject to legal agreement. A chapter will be included in the TA setting out the main objectives and principles of the CMP.
- 1.20 A pedestrian/cycle audit was included in the TA for 103 Camley St. and it was agreed that this could be updated for 101 Camley St.

Other Considerations

- 1.21 It was noted that there are two nearby schemes being developed that would be worth taking into consideration, the St Pancras Hospital and the Travis Perkins site.
- 1.22 Camden queried whether the proposed tree line on Granary Street is within the red line boundary.

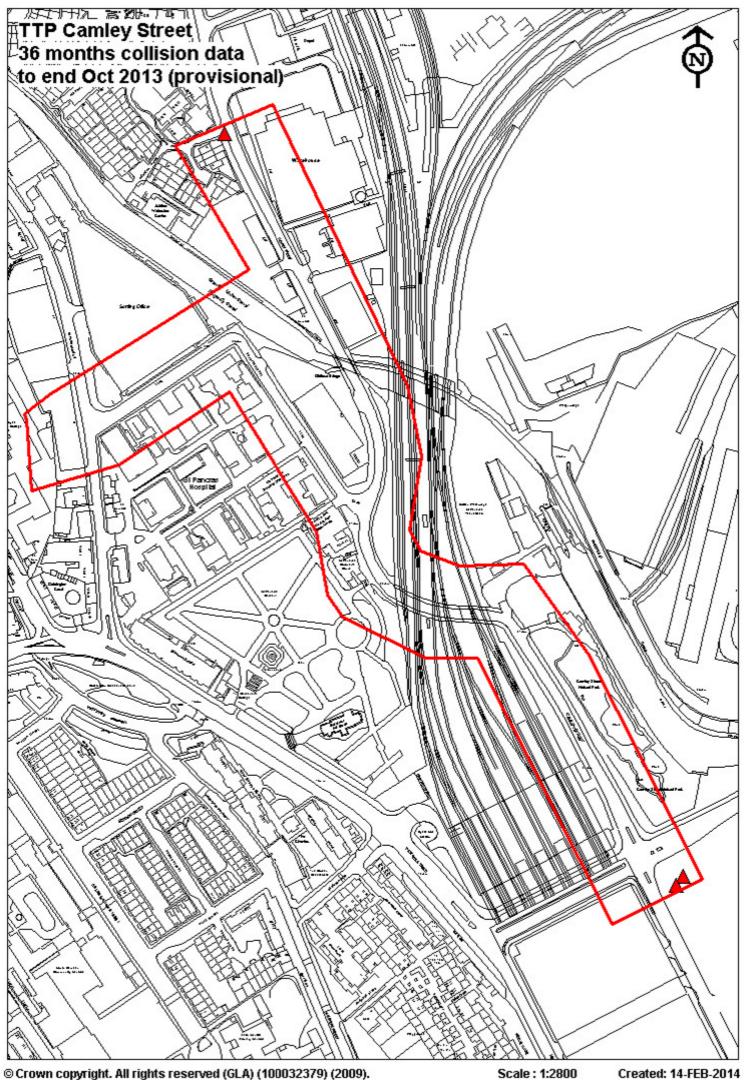
Appendix B

CPZ Map



Appendix C

TfL Accident Data



Date: 14 FEB 2014 12:14 Interpreted Listing

Page: 1 of 1 (summary)



TTP Camley Street 36 months collision data to end Oct 2013 (provisional)

Summary of Accidents Selected		
Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
001 GIS AREA TTP Camley Street (P)	36 MTS TO OCT-2013	3

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation

Date: 14 FEB 2014 12:14

Page: 1 of 2

Interpreted Listing



TTP Camley Street 36 months collision data to end Oct 2013	3 (provisional)			
001 GIS AREA TTP Camley Street (P)			36 MTS TO OCT-2013	3 SORTED BY DATE
1 0111CW10736 MON 09/05/11 08:15 LIGHT CAMLEY STREET J/W CI	ROFTERS WAY		02 CELL 529500/183500	529700 / 183870
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE	CWY T/STAG JUN GIVE	WAY/UNCONT NO XING FACILITY IN 5	OM	
V1 OVERTOOK A STATIONARY VEHICLE AND THEN COLLIDED WITH V2 V	WHO WAS TURNING RIGHT.			
CASUALTY 001 (002) (58 Yrs - M CM23) SLIGHT DRIVER/RIDER				
VEHICLE 001 (002) CAR (28 Yrs - M N19)	OVERTAKE STAT VEH O/S	NTOS	JCT MID	
BT - NOT REQUESTED		N/S HIT FIRST		
VEHICLE 002 (001) CAR (58 Yrs - M CM23)	TURNING RIGHT	N TO SW	JCT MID	
BT - NOT REQUESTED		O/S HIT FIRST		
V001 A 405 (FAILED TO LOOK PROPERLY)	V001 A 406	(FAILED TO JUDGE OTHER PERSON'S	PATH OR SPEED)	
2 0111CW11628 THU 25/08/11 20:00 DARK GOODS WAY J/W ST PA	NCRAS ROAD		02 LINK 632-720	530035 / 183326
		O SIG NO XING FACILITY IN 5		
V1 AND V2 WERE MOVING OFF FROM ATS WHEN THEY COLLIDED WITH	EACHOTHER.			
CASUALTY 001 (002) (31 Yrs - M SW2) SLIGHT DRIVER/RIDER				
VEHICLE 001 (002) CAR (55 Yrs - F EW1W)	MOVING OFF	NE TO SW	JCT MID	
BT - NEGATIVE		O/S HIT FIRST		
VEHICLE 002 (001) PEDAL CYCLE (31 Yrs - M SW2)	MOVING OFF	NE TO SW	JCT MID	
BT - NOT APPLICABLE		N/S HIT FIRST		
V002 A 410 (LOSS OF CONTROL)	V001 A 405	(FAILED TO LOOK PROPERLY)		
V002 A 405 (FAILED TO LOOK PROPERLY)				
3 0113EK40356 MON 24/06/13 11:55 LIGHT GOODS WAY J/W CAML	EY STREET		02 LINK 632-720	530030 / 183320
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE	ECWY MULTIJUN AUTO	O SIG PEDN PHASE AT ATS		
V1 NORTH-EAST BD COULD NOT AVOID PED CAS WHO WALKED INTO H	IS PATH - [CAS ON CELLPHONE (C	002)]		
CASUALTY 001 (001) (33 Yrs - M NW2) SLIGHT DRIVER/RIDER				
CASUALTY 002 (001) (50 Yrs - M N9) SLIGHT PEDESTRIAN	CROSSING ROAD WITHIN 5	OM XING SE BOUND FROM DRIVERS	N/SIDE	
VEHICLE 001 (000) M/C 50-125CC (33 Yrs - M NW2)	SLOWING OR STOPPING	SW TO NE COMM TO/FROM WORK	K JCT MID	
BT - NOT REQUESTED		FRONT HIT FIRST		
LEFT CWY NEARSIDE	_			
C002 A 802 (FAILED TO LOOK PROPERLY)	C002 A 999	(OTHER FACTOR)		

Date: 14 FEB 2014 12:14 Interpreted Listing

Page: 2 of 2



TTP Camley Street 36 months collision data to end Oct 2013 (provisional)

End of Report

Appendix D

Pedestrian Audit



File Ref: N01-DF-Pedestrian Audit

Date: March 2014

Job Title: 101 Camley Street

Subject: 101 Camley Street Pedestrian Audit

Introduction

- 1.1 This report has been written following a detailed pedestrian audit around the proposed development site on Camley Street. The audit was undertaken in March 2014 and assesses what are considered to be the primary pedestrian routes between the site and the main local facilities/trip attractors.
- 1.2 The audit should be read in conjunction with **Figures 3 and 4** of the Transport Assessment Report which highlight the pedestrian routes which have been considered.

Methodology

- 1.3 A key component, for reviewing and assessing pedestrian environments is the 5C's. The 5C's reflect the fact that transport users, regardless of mode, wish to make their journeys in the shortest, most convenient manner that is consistent with their personal and road safety and with a pleasant and comfortable journey experience, a theme that is reflected within the methodology. The London Advisory Planning Committee first introduced the 5C's in 1997 as a basis on which new measures to encourage walking should be developed. The 5C's are:
 - Connected routes should link origins and destinations;
 - Convenient routes should facilitate the desired journey without undue deviation or difficulty;
 - Conspicuous route design should allow the user to be seen by, and to see, other
 pedestrians and vehicles to promote personal security and road safety;
 - Coherence routes should be continuous; and
 - Convivial routes should be pleasant to use.
- 1.4 In addition to the above, Planning Policy Guidance Note 13 (PPG13) has been taken into account, which states that: "walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres".

 Therefore, the maximum walking distance for the pedestrian audit has been taken to be 2km.



1.5 The study area for the audit considers the above guidance and is based on routes from the development site to what are considered to be the main local facilities/trip attractors. The routes are summarised as follows:

Route 1 - Site to St Pancras Station and Kings Cross Station

Route 2 - Site to Pancras Road Bus Stops

Route 3 - **Site to Mornington Crescent**

Route 4 - Site to Camden Town Station

Route 5 - Site to Camden Road Station

Route 6 - Site to Camden Lock Market

- 1.6 Each route is made up of links (roads/streets) and crossings which the auditor has considered within the context of the surrounding area. For example, a residential road may not provide any formal pedestrian crossings but this is not necessarily a deficiency if there are low traffic flows and vehicle speeds.
- 1.7 The parameters considered when auditing links and crossings are set out in **Table 1** below.

Table 1 - Pedestrian Link & Crossing Parameters								
Link Parameters	Crossing Parameters							
Effective Width	Crossing Provision							
Obstruction	Deviation from the Desire Line							
Permeability	Crossing Capacity							
Legibility	Legibility							
Lighting & Security	Dropped Kerbs & Tactile Information							
Surface Quality	Obstructions							
User Conflict	Surface Quality							
Maintenance	Maintenance							



Pedestrian Audit

Route 1 – Site to Kings Cross and St Pancras Stations

Route description: Upon leaving the site head south along Granary Street and Camley Street, then continue along Pancras Road where there are multiple points of access to both St Pancras Station and Kings Cross Station.

1.8 Granary Street is provided with a single lane in each direction with footways located on both sides of the carriageway. The footways are clear, well maintained and provided with an appropriate width to facilitate pedestrian movements as shown in **Photo 1**.



1.9 Granary Street connects with Camley Street to the south of the application site. At this point an informal crossing is provided at the junction between Camley Street and Granary Street as detailed in **Photo 2**. The crossing is located on the desire line and has been recently resurfaced with tactile paving, dropped kerbs and pedestrian road markings. Although pedestrian flows are light and there is not significant demand at the crossing, the central refuge is short and narrow which affects capacity and users with prams and/or those on mobility scooters.



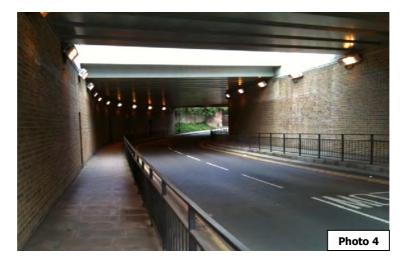


- 1.10 Camley Street has a single lane in each direction with footways on both sides of the carriageway of varying width. The footway on the west side is wider than that on the east with widths typically exceeding 3 metres, but with mature trees planted adjacent to the kerb from the site towards the northern extent of the road. The footway along the eastern side is circa 1.5 to 2 metres in width with overgrowing vegetation in places.
- 1.11 Further south on Camley Street there is an informal crossing point (**Photo 3**) with a refuge island. Although the crossing provides dropped kerbs and tactile paving, its position on a bend results in limited visibility for pedestrians, specifically for southbound vehicles. Advanced warning signs exist for the crossing but they are partially obscured by overgrowing vegetation and not placed in optimal locations. The benefit of the crossing in its current location is that it is on the desire line with the access to St Pancras Gardens.





1.12 South of the crossing pedestrians pass under a rail bridge along footway that has guard railings and sufficient overhead lighting, as shown in **Photo 4**.



- 1.13 The footway continuing south past the rail bridge is over 2.5 metres wide and appears recently resurfaced and experiences low pedestrian flows. The potential for user conflict is therefore minimal and the surface is of a high quality.
- 1.14 The southern end of Camley Street terminates at the junction with Goods Way and Pancras Road where a signalised pedestrian crossing is provided, as shown in **Photo 5**. The environment has been recently improved with colour contrasting on surfaces, tactile paving and dropped kerbs of a shallow or level gradient, which benefits mobility impaired users in particular.



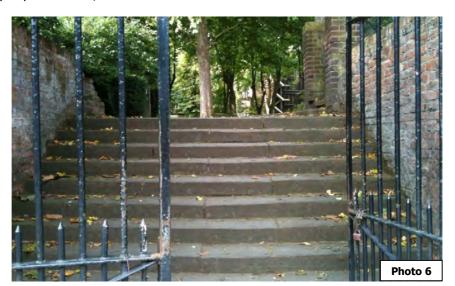


Due to on-going highway works on Pancras Road between Camley Street and Euston Road, it was not possible to undertake a reliable audit of the area. However, it is evident from the works completed thus far that significant improvements are being made which will benefit pedestrians. This includes the provision of dedicated signalised pedestrian crossings, wide footways, lighting and CCTV (to improve security) and the use of high quality materials.

Route 2 - Site to Pancras Road Bus Stops

Route description: Upon leaving the site head south along Granary Street and Camley Street towards the entrance of St Pancras Gardens. Pass through St Pancras Gardens and exit on to Pancras Road where there are bus stops within close proximity for northbound and southbound services.

- 1.16 The first part of the route between Granary Street, Camley Street and St Pancras Gardens is detailed in **Route 1** and **Photos 1 and 2** above.
- 1.17 St Pancras Gardens is accessed by steps from Camley Street and is pedestrian only with cycling prohibited. It is only open during daylight hours and pedestrians would have to use an alternative route via Granary Street at night.
- 1.18 St Pancras Gardens are well maintained and provide a pleasant pedestrian environment with even surfaces and CCTV which improves the perception of security. Although a sloped access is provided on Pancras Road, the stepped only access on Camley Street presents a barrier to mobility impaired users, as shown in **Photo 6**.





1.19 Pancras Road provides wide footways on both sides of the carriageway with the west side being tree lined with a width of over 7 metres. The east side varies in width but exceeds 2 metres even at the narrowest point. Adjacent to St Pancras Gardens to the north of the bus stops is a zebra crossing with tactile paving and dropped kerbs, as shown in **Photo 7**.



1.20 As can be seen from **Photo 8** the wide footways around the bus stops produce sufficient waiting areas which reduce the potential for user conflict. A separate audit of the bus stops has been undertaken and this is included within the Transport Assessment Report.



1.21 To the south of the bus stops Pancras Road continues to Euston Road via Midland Road. There are a number of informal crossings as shown by **Photo 9** in addition to a signalised crossing at the junction with Midland Road.





1.22 As can be seen from **Photo 8** the informal crossings provide dropped kerbs and tactile paving of the appropriate colour. The central refuge is level with the carriageway to assist mobility impaired users and provides sufficient crossing capacity.

Route 3 – Site to Mornington Crescent Station

Route description: Depart the site heading west on Granary Street followed by a left on to St Pancras Way. Head to the junction with Crowndale Road and continue along said road to Mornington Crescent Station.

1.23 There are footways along both sides of Granary Street at least 2 metres in width. Although parts of the carriageway have been resurfaced, the footways are for the most part worn and cracked in places, particularly along the southern half of the street. The lack of natural surveillance and high walls on both sides contributes to a lack of security. Overgrown vegetation suggests that the area is not maintained. **Photo 10** illustrates the above points.





1.24 Between St Pancras Way and Crowndale Road there are a number of signals at the separating junction, some of which have signalised pedestrian crossings. The signalised crossings at the junction appear to have been recently improved as evidenced by the high quality of the environment in terms of surfacing, colour contrast, road markings and use of materials. The use of road markings and colour contrasting combines to improve legibility for pedestrians.
Photo 11 shows the crossing on Crowndale Road at the junction with Royal College Street, which is representative of the signalised crossings in the vicinity.



1.25 Heading along Crowndale Road the quality of the environment varies. The footways on both sides alter in width but exceed 2 metres. Although there is a large amount of street furniture comprising cycle parking, sign posts, litter bins and trees etc. the footways are wide enough to prevent obstructions and/or user conflict.



1.26 The quality of the pedestrian crossings varies along the length of Crowndale Road. As demonstrated in **Photo 11** some crossings have been recently improved. However, further west a lack of maintenance is evident, as shown in **Photo 12**.



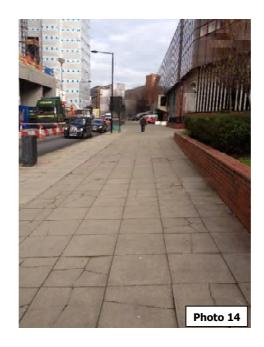
- 1.27 **Photo 12** shows the zebra crossings at the junction between Crowndale Road and Bayham Street. Road and kerb stone markings appear worn and some of the tactile paving stones are cracked, which can create trip hazards.
- 1.28 At the junction between Crowndale Road and Camden High Street where Mornington Crescent Station is located, there are a number of signalised crossings, as typified by **Photo 13**. Tactile paving and dropped kerbs are provided with the central refuge islands being level to optimise accessibility, especially for mobility impaired users. Although there are crossings on each arm of the junction, the staging of the signals is such that most crossings are staggered which increases delay and encourages pedestrians to cross without waiting for the green man.





Route 4 – Site to Camden Town Station

- 1.29 **Route description:** Head west on Granary Street from the site and then turn right onto St Pancras Way before continuing northbound and turning left onto Georgiana Street. Traverse Camden Street to Carol Street and continue west across Bayham Street to Camden Town Station.
- 1.30 St Pancras Way is provided with a wide footway in excess of 3 metres towards the junction with Granary Street. Further north the footway slightly narrows to approximately 2.4 metres in width. The footways on both sides of the carriageway are well maintained and considered to be of a high standard as shown in **Photo 14**.





1.31 St Pancras Way is served by zebra crossings that provide a route across the carriageway. The zebra crossings are clearly marked and provided with dropped kerbs and tactile paving. **Photo**15 and **Photo** 16 show the zebra crossings that are located on St Pancras Way between Granary Street and Georgiana Street.





1.32 Georgina Street has a 20mph restriction with footways on both sides which experience a light footfall. User conflict is minimal but some paving stones are cracked and in need of maintenance. There is an informal crossing on Georgina Street and a signalised crossing at the junction with Royal College Street. There is good legibility at the crossings with appropriate surface markings and directional signs with distances to nearby local facilities. Colour contrasting of tactile paving distinguishes the different crossing types with dropped kerbs at suitable gradients to assist mobility restricted users. **Photo 17** shows Georgina Street and part of the crossing at the junction with Royal College Street.





1.33 To cross Camden Street from Georgina Street there is a pelican crossing on the desire line to Carol Street, as shown by **Photo 18**. There is sufficient visibility at the crossing and the wide footways mean there is adequate waiting capacity which does not interfere with passing pedestrians.



1.34 Carol Street is a quiet residential road that is one-way westbound and experiences low pedestrian flows. The footways are narrow in places with street furniture creating points of obstruction which a user with a pram or mobility scooter may find difficult to pass. Surface material and quality varies but is generally in a state of disrepair.



- 1.35 Heading north on Bayham Street from Carol Street there is a puffin crossing which can be used to access Camden Road. There are high pedestrian flows in the area which leads to congestion at the crossing waiting areas during peak periods, which increases the possibility of user conflict.
- 1.36 To access Camden Town Station there are additional pelican crossings on Chalk Farm Road and Kentish Town Road. The intensification of uses in the area produces high pedestrian flows which create a high demand for the crossings and results in congested waiting areas and user conflict.

Route 5 - Site to Camden Road Station

Route description: Head north from the site along Granary Street and St Pancras Way. Turn left onto Georgiana Street and then right onto Royal College Street towards Camden Road Station.

- 1.37 The first part of the route up to Royal College Street and Georgiana Street is detailed in Route
 3. Royal College Street is provided with footways on both sides of the carriageway providing a direct route towards Camden Road. The road is residential in nature and served by a series of zebra crossings.
- 1.38 Immediately to the south of Baynes Street there is a zebra crossing on Royal College Street as shown in **Photo 19**. The crossing is on the desire line and has tactile paving and dropped kerbs.



1.39 Between Camden Road Station and Baynes Street, Royal College Street provides footways of varying width but generally between 2-2.5 metres. There is a large amount of street furniture, some of which is positioned close to the centre of the footway thereby creating an obstruction.



1.40 Camden Road is one of the main strategic routes in the area and includes numerous local amenities. Pedestrian flows are high and are accommodated by wide footways on both sides. Adjacent to Camden Road Station there is a signalised pedestrian crossing which forms part of the junction with Royal College Street, as shown by **Photo 20**.



1.41 As can be seen the crossing provides dropped kerbs with a level central refuge island, tactile paving and pedestrian surface markings. However, there is a large amount of street furniture adjacent to the station including hoarding which reduces the waiting capacity of the crossing and increases the possibility of user conflict with passing pedestrians.

Route 6 - Site to Camden Lock Market

Route description: Turn right out the site on to Granary Street and head north on St Pancras Way. Continue along Georgina Street and Royal College Street and head north west along Lyme Street to Camden Road. Walk along Camden Road to the junction with Camden High Street and head north to Camden Lock Market.

- 1.42 The first part of the route between the site and Camden Road is described in **Route 5**.
- 1.43 Georgina Street connects with St Pancras Way and is a traffic calmed road with wide footways. There is a signalised pedestrian crossing at the junction with Royal College Street which has good visibility and waiting capacity as well as the presence of tactile paving and dropped kerbs (see **Photo 17**).
- 1.44 Lyme Street is also traffic calmed and has 1.5-2 metres footways interspersed with trees and bollards in places.



- 1.45 Camden Road has been detailed previously and provides a link between Lyme Street and Kentish Town/Camden High Street at which there is a complex five-way junction with multiple crossing points. The majority of crossings at the junction are signalised with dropped kerbs and correctly coloured tactile paving. Due to the high pedestrian flows in the area and multi stage crossings, pedestrians often cross informally without using the designated facilities. The multiple staged crossings combined with the delay created by signalled control can exacerbate the problem.
- 1.46 Camden High Street is one-way northbound with wide footways on both sides of the carriageway and high pedestrian flows. Parts of the footway on both sides are designated as shared use footway/loading bays and vehicles can therefore cause temporary obstructions. Retail frontages and displays/stands also protrude onto the footway which can reduce its effective width and the level of service afforded to pedestrians.
- 1.47 There is a high level of natural surveillance along Camden High Street with regularly spaced streetlights on both sides of the carriageway.
- 1.48 Informal crossing locations at side roads have wide sections of tactile paving and dropped kerbs adjoining raised tables which traffic calm the associated priority junctions. The junction with Hawley Crescent is signal controlled with crossings on all four arms with dropped kerbs and tactile paving. The high pedestrian flows exceed the capacity of the crossing waiting areas during peak periods which increases user conflict and leads to overspill on to the carriageway.

Appendix E

Bus Stop Audit

Bus Stop Audit



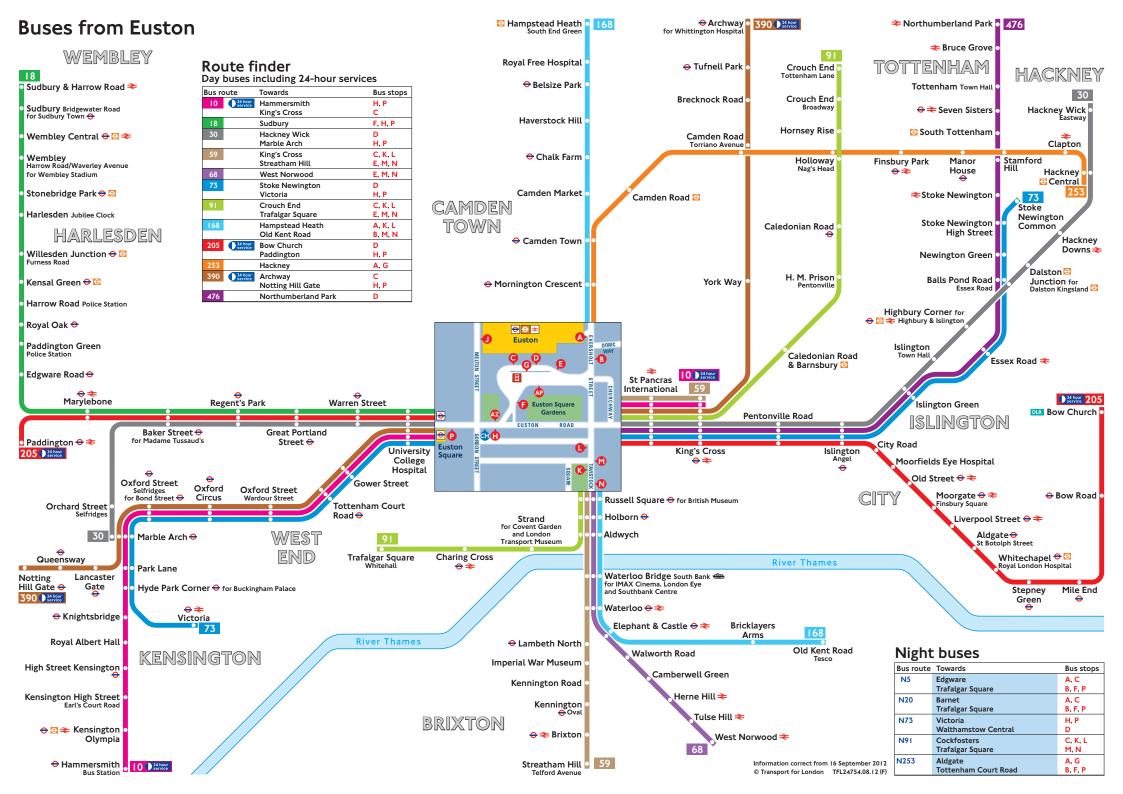
101 Camley Street, London

Bus Stop Location	Bus Stop Name	Direction	Bus Routes	Bus Cage	Shelter & Seating	Street Furniture	Lighting	Timetable Info.	Route Maps	RTI	Ticket Machine	Road Markings	Legible London
Pancras Rd	N	Northbound	46, 214	Yes	Yes	Light Column	Street	Yes	Yes	No	No	Cage & Red Surfacing	No
Pancras Rd	V	Southbound	46, 214	Yes	Yes	Sign Post	Street	Yes	Yes	No	No	Cage & Red Surfacing	No

Appendix F

Bus Map





Appendix G

PTAL Report

PTAI Study Report File Summary

PTAI Run Parameters

PTAI Run 20130507165318 Description 20130507165318

Run by user PTAL web application

Date and time 05/07/2013 16:53

Walk File Parameters

Walk File	PLSQLTest
Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
BUS Walk Access Time (mins)	8
BUS Reliability Factor	2.0
LU LRT Walk Access Time (mins)	12
LU LRT Reliability Factor	0.75
NATIONAL_RAIL Walk Access Time (mins)	12
NATIONAL_RAIL Reliability Factor	0.75

Coordinates: 529797, 183614

Mode	Stop		Route	Distance (metres)	Frequency (vph)	Weight	Walk time (mins)	SWT (mins)	TAT (mins)	EDF AI
BUS	GOODS WAY CAMLEY STREET	46		448.13	6.0	0.5	5.6	7.0	12.6	2.38 1.19

BUS	GOODS WAY CAMLEY STREET	214	448.13	8.0	0.5	5.6	5.75	11.35	2.64 1.32
BUS	GOODS WAY CAMLEY STREET	45	448.13	7.5	0.5	5.6	6.0	11.6	2.59 1.29
BUS	GOODS WAY CAMLEY STREET	63	448.13	12.0	1.0	5.6	4.5	10.1	2.97 2.97
LU LRT	Kings Cross St.Pancras	Piccadilly Line Ruislip to Arnos Grove	915.71	1.3	0.5	11.45	23.83	35.27	0.85 0.43
LU LRT	Kings Cross St.Pancras	Metropolitan Line Watford to Aldgate	915.71	2.3	0.5	11.45	13.79	25.24	1.19 0.59
LU LRT	Kings Cross St.Pancras	Hammersmith and City Hammersmith (H&C Line) to Barking	915.71	6.0	0.5	11.45	5.75	17.2	1.74 0.87
LU LRT	Kings Cross St.Pancras	Piccadilly Line Oakwood to Rayners Lane	915.71	0.7	0.5	11.45	43.61	55.05	0.54 0.27
LU LRT	Kings Cross St.Pancras	Metropolitan Line Uxbridge to Aldgate	915.71	6.3	0.5	11.45	5.51	16.96	1.77 0.88
LU LRT	Kings Cross St.Pancras	Metropolitan Line Aldgate to Wembley Park	915.71	1.0	0.5	11.45	30.75	42.2	0.71 0.36
LU LRT	Kings Cross St.Pancras	Metropolitan Line Amersham to Aldgate	915.71	3.0	0.5	11.45	10.75	22.2	1.35 0.68
LU LRT	Kings Cross St.Pancras	Piccadilly Line Cockfosters to Heathrow Terminal 4	915.71	6.0	0.5	11.45	5.75	17.2	1.74 0.87
LU LRT	Kings Cross St.Pancras	Piccadilly Line Ruislip to Cockfosters	915.71	1.3	0.5	11.45	23.83	35.27	0.85 0.43
LU LRT	Kings Cross St.Pancras	Piccadilly Line Rayners Lane to Cockfosters	915.71	2.7	0.5	11.45	11.86	23.31	1.29 0.64
LU LRT	Kings Cross St.Pancras	Piccadilly Line Oakwood to Uxbridge	915.71	0.7	0.5	11.45	43.61	55.05	0.54 0.27

LU LRT	Kings Cross St.Pancras	Metropolitan Line Croxley to Aldgate	915.71	0.3	0.5	11.45	100.75	112.2	0.27 0.13
LU LRT	Kings Cross St.Pancras	Metropolitan Line Aldgate to Watford	915.71	4.0	0.5	11.45	8.25	19.7	1.52 0.76
LU LRT	Kings Cross St.Pancras	Piccadilly Line Rayners Lane to Arnos Grove	915.71	1.3	0.5	11.45	23.83	35.27	0.85 0.43
LU LRT	Kings Cross St.Pancras	Piccadilly Line Arnos Grove to Northfields	915.71	2.3	0.5	11.45	13.79	25.24	1.19 0.59
LU LRT	Kings Cross St.Pancras	Victoria Line Brixton to Walthamstow Central	915.71	15.7	1.0	11.45	2.66	14.11	2.13 2.13
LU LRT	Kings Cross St.Pancras	Circle Line Hammersmith (H&C Line) to Edgware Road (Circle Line)	915.71	6.0	0.5	11.45	5.75	17.2	1.74 0.87
LU LRT	Kings Cross St.Pancras	Northern Line Morden to Mill Hill East	915.71	2.7	0.5	11.45	11.86	23.31	1.29 0.64
LU LRT	Kings Cross St.Pancras	Northern Line Edgware to Morden	915.71	9.7	0.5	11.45	3.84	15.29	1.96 0.98
LU LRT	Kings Cross St.Pancras	Metropolitan Line Chesham to Aldgate	915.71	0.7	0.5	11.45	43.61	55.05	0.54 0.27
LU LRT	Kings Cross St.Pancras	Victoria Line Seven Sisters to Brixton	915.71	11.7	0.5	11.45	3.31	14.76	2.03 1.02
LU LRT	Kings Cross St.Pancras	Piccadilly Line Heathrow Terminal 4 to Arnos Grove	915.71	2.0	0.5	11.45	15.75	27.2	1.1 0.55
LU LRT	Kings Cross St.Pancras	Piccadilly Line Uxbridge to Cockfosters	915.71	2.7	0.5	11.45	11.86	23.31	1.29 0.64
LU LRT	Kings Cross St.Pancras	Piccadilly Line Cockfosters to Heathrow T5	915.71	6.0	0.5	11.45	5.75	17.2	1.74 0.87
LU LRT	Kings Cross St.Pancras	Northern Line High Barnet to Morden	915.71	9.0	0.5	11.45	4.08	15.53	1.93 0.97
LU LRT	Kings Cross St.Pancras	Piccadilly Line Arnos Grove to Uxbridge	915.71	1.3	0.5	11.45	23.83	35.27	0.85 0.43

LU LRT	Kings Cross St.Pancras	Metropolitan Line Aldgate to Harrow-on-the-Hill	915.71	2.3	0.5	11.45	13.79	25.24	1.19 0.59
LU LRT	Kings Cross St.Pancras	Piccadilly Line Oakwood to Ruislip	915.71	0.7	0.5	11.45	43.61	55.05	0.54 0.27
LU LRT	Mornington Crescent	Northern Line Mill Hill East to Kennington	877.87	4.3	0.5	10.97	7.73	18.7	1.6 0.8
LU LRT	Mornington Crescent	Northern Line Edgware to Morden	877.87	8.3	0.5	10.97	4.36	15.34	1.96 0.98
LU LRT	Mornington Crescent	Northern Line High Barnet to Kennington	877.87	5.4	0.5	10.97	6.31	17.28	1.74 0.87
LU LRT	Mornington Crescent	Northern Line Kennington to Edgware	877.87	5.0	0.5	10.97	6.75	17.72	1.69 0.85
LU LRT	Mornington Crescent	Northern Line Morden to Mill Hill East	877.87	1.0	0.5	10.97	30.75	41.72	0.72 0.36
LU LRT	Mornington Crescent	Northern Line Morden to High Barnet	877.87	3.7	0.5	10.97	8.86	19.83	1.51 0.76
NATIONAL_RAII	St Pancras Domestic	MOORGATE to LUTON	765.02	0.33	0.5	9.56	91.66	101.22	0.3 0.15
NATIONAL_RAII	St Pancras Domestic	BEDFORD MIDLAND to MOORGATE	765.02	2.6	1.0	9.56	12.29	21.85	1.37 1.37
NATIONAL_RAII	St Pancras Domestic	ST ALBANS BR to SUTTON (SURREY)	765.02	0.67	0.5	9.56	45.53	55.09	0.54 0.27
NATIONAL_RAII	St Pancras Domestic	ST ALBANS BR to WEST NORWOOD BR	765.02	0.33	0.5	9.56	91.66	101.22	0.3 0.15
NATIONAL_RAII	St Pancras Domestic	BEDFORD MIDLAND to LONDON BLACKFRIARS	765.02	0.33	0.5	9.56	91.66	101.22	0.3 0.15
NATIONAL_RAII	St Pancras Domestic	DOVER PRIORY to St Pancras Domestic	765.02	1.33	0.5	9.56	23.31	32.87	0.91 0.46
NATIONAL_RAII	St Pancras Domestic	LUTON to MOORGATE	765.02	0.33	0.5	9.56	91.66	101.22	0.3 0.15
NATIONAL_RAII	St Pancras Domestic	St Pancras Domestic to MARGATE	765.02	1.0	0.5	9.56	30.75	40.31	0.74 0.37

NATIONAL_RAIL St Pancras Domestic	WIMBLEDON BR to ST ALBANS BR	765.02	1.33	0.5	9.56	23.31	32.87 0.91 0.46
NATIONAL_RAIL St Pancras Domestic	SELHURST to ST ALBANS BR	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15
NATIONAL_RAIL St Pancras Domestic	SUTTON (SURREY) to ST ALBANS BR	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15
NATIONAL_RAIL St Pancras Domestic	St Pancras Domestic to FAVERSHAM	765.02	2.0	0.5	9.56	15.75	25.31 1.19 0.59
NATIONAL_RAIL St Pancras Domestic	Ebbsfleet to St Pancras Domestic	765.02	1.33	0.5	9.56	23.31	32.87 0.91 0.46
NATIONAL_RAIL St Pancras Domestic	MOORGATE to LUTON	765.02	0.67	0.5	9.56	45.53	55.09 0.54 0.27
NATIONAL_RAIL St Pancras Domestic	WIMBLEDON BR to LUTON	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15
NATIONAL_RAIL St Pancras Domestic	MOORGATE to BEDFORD MIDLAND	765.02	0.6	0.5	9.56	50.75	60.31 0.5 0.25
NATIONAL_RAIL St Pancras Domestic	WIMBLEDON BR to BEDFORD MIDLAND	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15
NATIONAL_RAIL St Pancras Domestic	BEDFORD MIDLAND to MOORGATE	765.02	1.0	0.5	9.56	30.75	40.31 0.74 0.37
NATIONAL_RAIL St Pancras Domestic	BEDFORD MIDLAND to BRIGHTON	765.02	2.0	0.5	9.56	15.75	25.31 1.19 0.59
NATIONAL_RAIL St Pancras Domestic	BEDFORD MIDLAND to SUTTON (SURREY)	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15
NATIONAL_RAIL St Pancras Domestic	BROADSTAIRS to St Pancras Domestic	765.02	1.0	0.5	9.56	30.75	40.31 0.74 0.37
NATIONAL_RAIL St Pancras Domestic	MOORGATE to ST ALBANS BR	765.02	1.0	0.5	9.56	30.75	40.31 0.74 0.37
NATIONAL_RAIL St Pancras Domestic	ST ALBANS BR to MOORGATE	765.02	0.67	0.5	9.56	45.53	55.09 0.54 0.27
NATIONAL_RAIL St Pancras Domestic	WIMBLEDON BR to BEDFORD MIDLAND	765.02	0.33	0.5	9.56	91.66	101.22 0.3 0.15

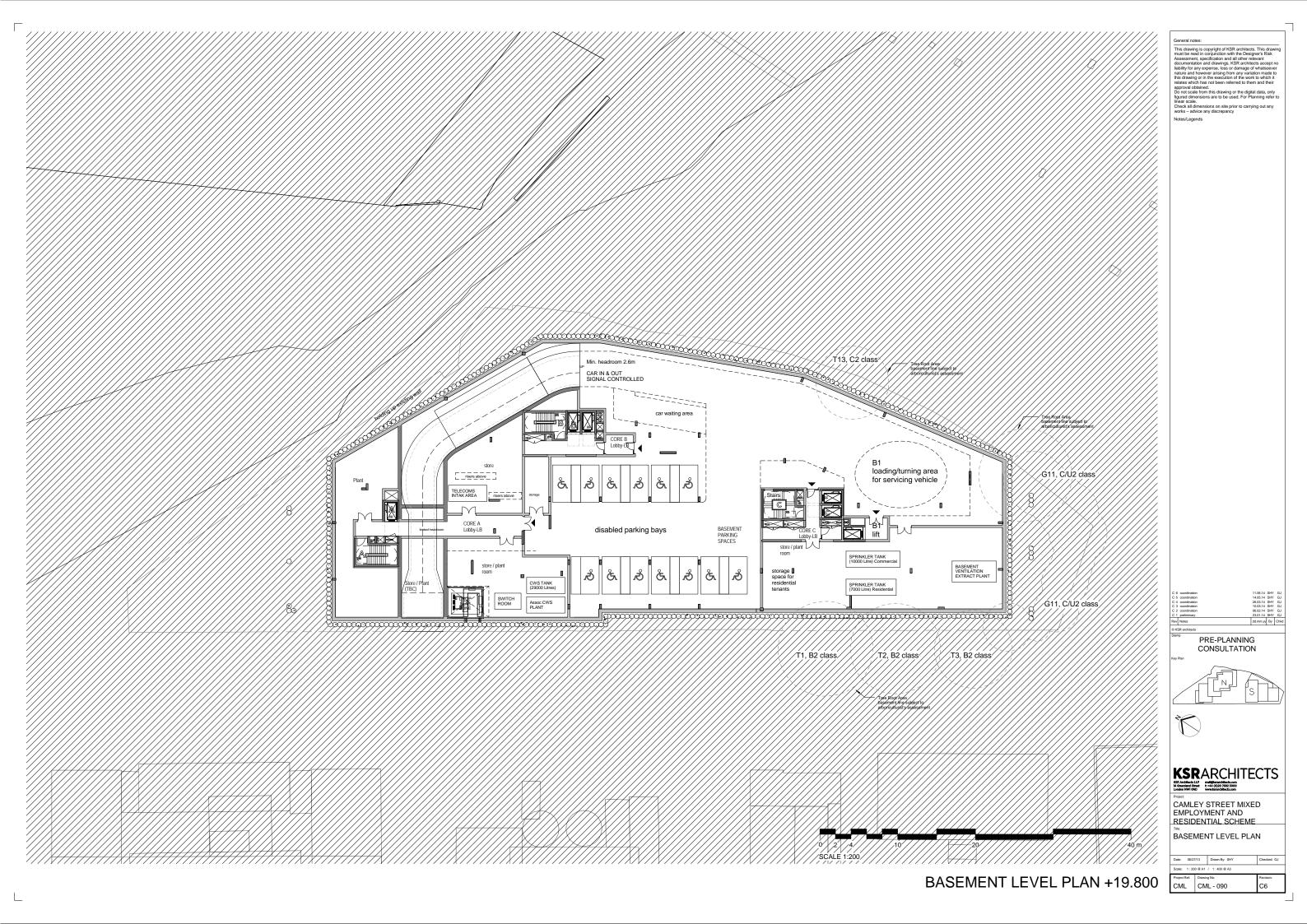
NATIONAL_RAIL	St Pancras Domestic	LUTON to MOORGATE	765.02	0.67	0.5	9.56	45.53	55.09	0.54	0.27
NATIONAL_RAIL	LONDON KINGS CROSS BR	WELWYN GARDEN CITY to LONDON KINGS CROSS BR	915.71	0.33	0.5	11.45	91.66	103.11	0.29	0.15
NATIONAL_RAIL	LONDON KINGS CROSS BR	LETCHWORTH to LONDON KINGS CROSS BR	915.71	0.67	0.5	11.45	45.53	56.97	0.53	0.26
NATIONAL_RAIL	LONDON KINGS CROSS BR	Cambridge to LONDON KINGS CROSS BR	915.71	2.3	0.5	11.45	13.79	25.24	1.19	0.59
NATIONAL_RAIL	LONDON KINGS CROSS BR	WELWYN GARDEN CITY to LONDON KINGS CROSS BR	915.71	0.33	0.5	11.45	91.66	103.11	0.29	0.15
NATIONAL_RAIL	LONDON KINGS CROSS BR	ROYSTON HERTS to LONDON KINGS CROSS BR	915.71	0.33	0.5	11.45	91.66	103.11	0.29	0.15
NATIONAL_RAIL	LONDON KINGS CROSS BR	WELWYN GARDEN CITY to LONDON KINGS CROSS BR	915.71	0.33	0.5	11.45	91.66	103.11	0.29	0.15
NATIONAL_RAIL	LONDON KINGS CROSS BR	LETCHWORTH to LONDON KINGS CROSS BR	915.71	0.33	0.5	11.45	91.66	103.11	0.29	0.15
NATIONAL_RAIL	LONDON KINGS CROSS BR	LONDON KINGS CROSS BR to Peterborough	915.71	2.0	0.5	11.45	15.75	27.2	1.1	0.55

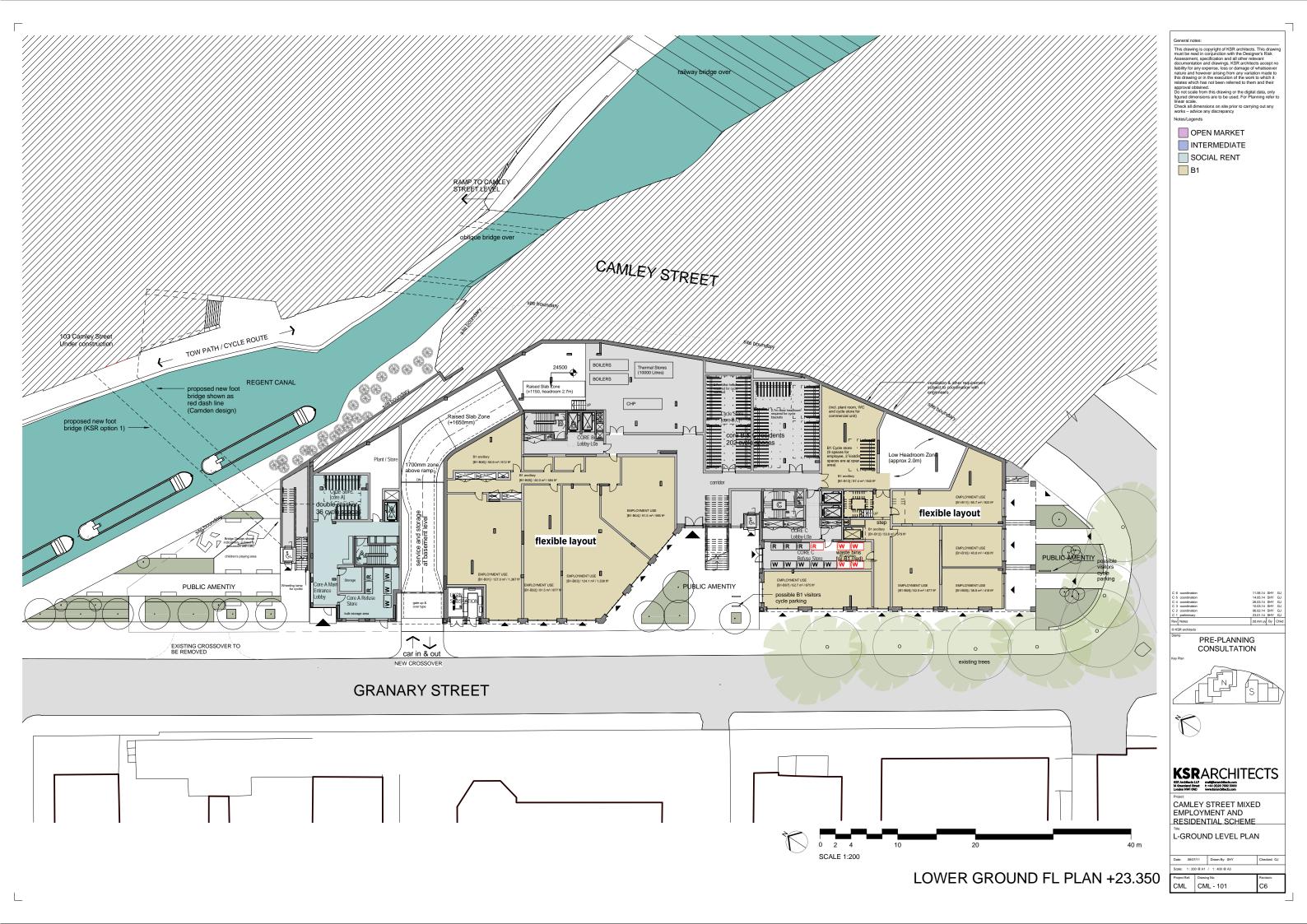
Total AI for this POI is 40.21.

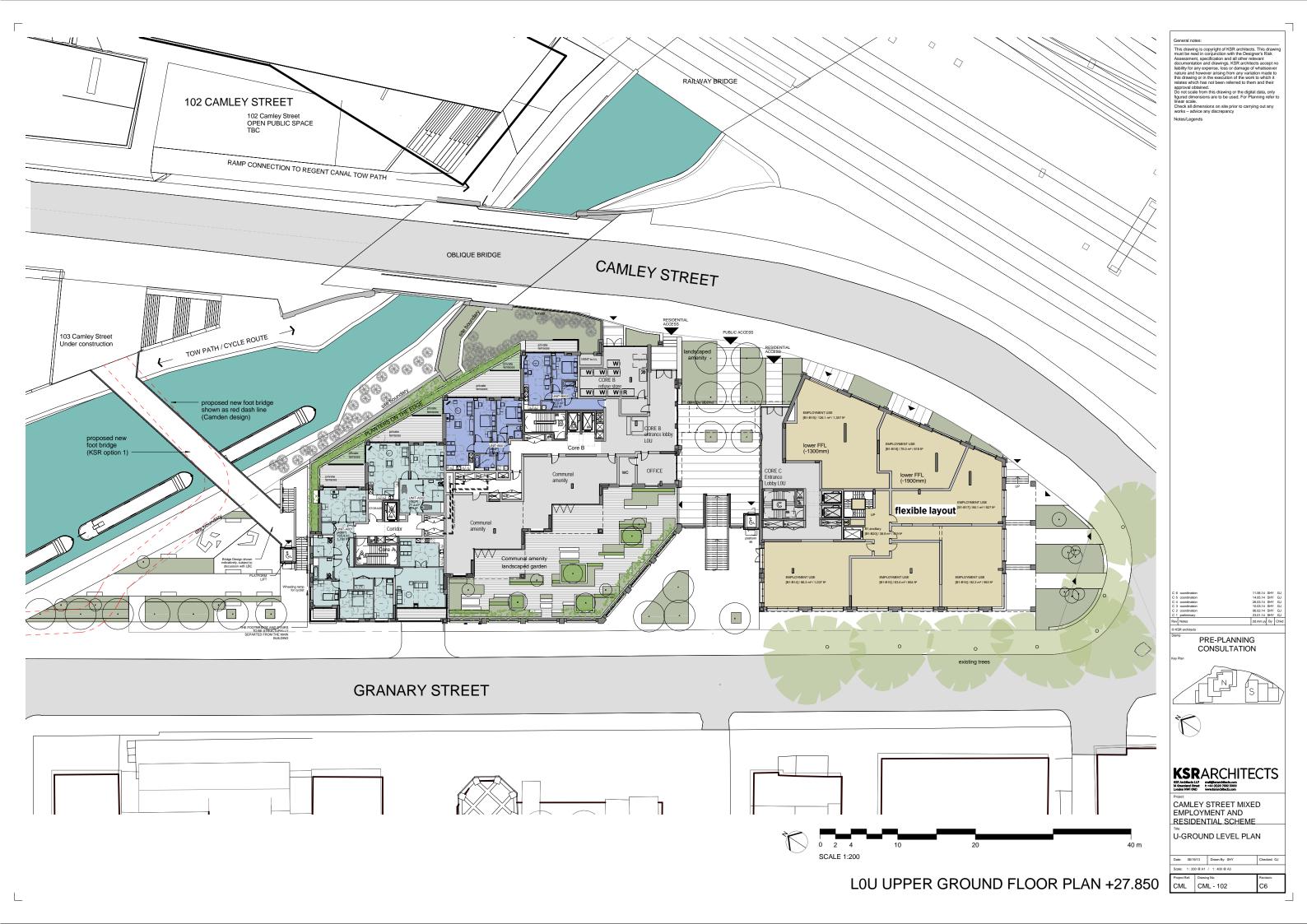
PTAL Rating is 6b.

Appendix H

Architect's Layout Plans



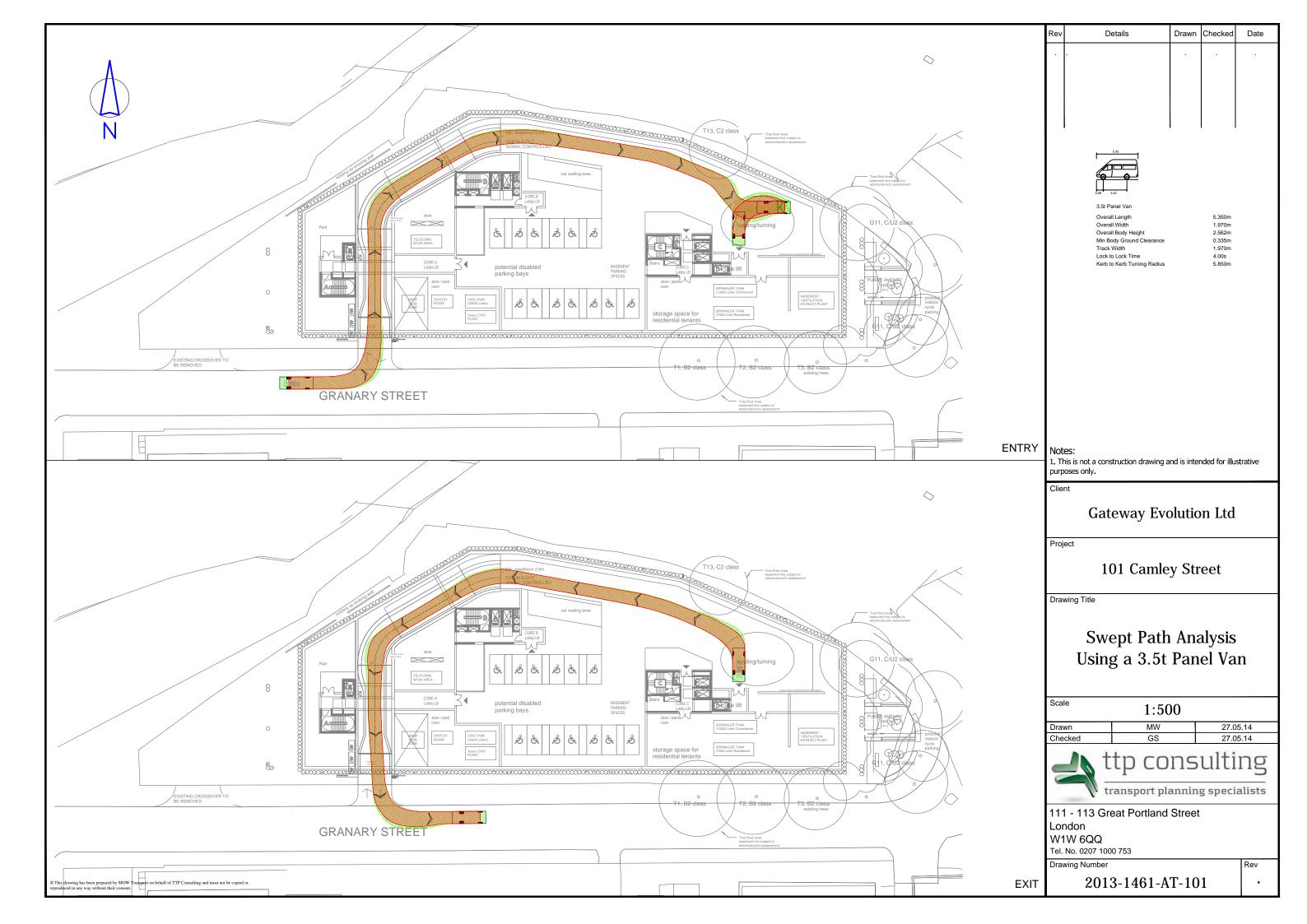






Appendix I

Swept Path Analysis – Servicing Vehicle



Appendix J

Trip Generation Assessment

Camley Street, Camden

Land-use : Residential Trip rates: TRAVL

22:00 0.14 0.14 23:00

TOTAL 4.7

0.00

4.6

Modal Split (%)		Developme					
Car driver	4	121	Dwe				
Car passenger	1						
Taxi	1						
M/Cyc	1						
Bus	44						
Underground	12						
Rail	1						
Foot	31						
P/Cyc	4						
	100						

9

nent Content wellings

	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
Mode	Tel	ips	DEDC	ON TRIPS	DEDEO	M TDIDE	Car I	Oriver	Car	Pass.	Т	axi	Motoro	cycle	В	us	U/G	round	F	Rail	Wal	k	Сус	cle
%	- 111	iha	FERS	JN THIFS	FERSU	IN THIFS	4	4	1	1	1	1	1	1	44	44	12	12	1	1	31	31	4	4
			TRI	P GEN	10	00%																		
00:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0.23	0.30	27	36	27	36	1	1	0	0	0	0	0	0	12	16	3	4	0	0	9	11	1	1
08:00	0.40	0.80	48	97	48	97	2	4	0	1	0	1	0	1	21	43	6	12	0	1	15	30	2	4
09:00	0.30	0.25	36	30	36	30	1	1	0	0	0	0	0	0	16	13	4	4	0	0	11	9	1	1
10:00	0.06	0.17	8	21	8	21	0	1	0	0	0	0	0	0	3	9	1	2	0	0	2	6	0	1
11:00	0.19	0.18	23	22	23	22	1	1	0	0	0	0	0	0	10	10	3	3	0	0	7	7	1	1
12:00	0.25	0.18	30	22	30	22	1	1	0	0	0	0	0	0	13	10	4	3	0	0	9	7	1	1
13:00	0.29	0.19	35	23	35	23	1	1	0	0	0	0	0	0	16	10	4	3	0	0	11	7	1	1
14:00	0.15	0.18	19	22	19	22	1	1	0	0	0	0	0	0	8	10	2	3	0	0	6	7	1	1
15:00	0.47	0.18	57	22	57	22	2	1	1	0	1	0	1	0	25	10	7	3	1	0	18	7	2	1
16:00	0.34	0.27	41	33	41	33	2	1	0	0	0	0	0	0	18	15	5	4	0	0	13	10	2	1
17:00	0.54	0.47	65	57	65	57	3	2	1	1	1	1	1	1	29	25	8	7	1	1	20	18	3	2
18:00	0.40	0.39	48	47	48	47	2	2	0	0	0	0	0	0	21	21	6	6	0	0	15	15	2	2
19:00	0.34	0.39	41	47	41	47	2	2	0	0	0	0	0	0	18	21	5	6	0	0	13	15	2	2
20:00	0.32	0.34	39	41	39	41	2	2	0	0	0	0	0	0	17	18	5	5	0	0	12	13	2	2
21:00	0.22	0.11	26	14	26	14	1	1	0	0	0	0	0	0	12	6	3	2	0	0	8	4	1	1

RESIDENTIAL TRIP GENERATION PROFILE

0

253 245 68

 Land-use : Office Trip rates: TRAVL

Development Content GFA 2220 sqm Modal Split (%) Car driver 2 1 1 9 19 29 39 1 100 Car passenger Taxi M/Cyc Bus Underground

Rail Foot P/Cyc

TOTAL 12.4 12.0 274 266 274 266 5

	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
Mode	PER	SON	PER	PERSON		IARY	Car D)river	Car I	Pass.	T	axi	Motoro	ycle	В	us	U/Gr	round	R	ail	Wall	k	Cyc	cle
%	TR	IPS	TR	IPS	TRI	IPS	2	2	1	1	1	1	1	1	9	9	19	19	29	29	39	39	1	1
	TRIP	RATE	TRIP	GEN	100	0%																		
00:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0.39	0.00	9	0	9	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	3	0	0	0
07:00	0.53	0.34	12	8	12	8	0	0	0	0	0	0	0	0	1	1	2	1	3	2	4	3	0	0
00:80	1.78	0.23	40	5	40	5	1	0	0	0	0	0	0	0	3	0	7	1	11	1	15	2	0	0
09:00	1.57	0.38	35	8	35	8	1	0	0	0	0	0	0	0	3	1	6	2	10	2	13	3	0	0
10:00	0.72	0.42	16	9	16	9	0	0	0	0	0	0	0	0	1	1	3	2	5	3	6	4	0	0
11:00	1.02	0.49	23	11	23	11	0	0	0	0	0	0	0	0	2	1	4	2	6	3	9	4	0	0
12:00	1.81	1.68	40	37	40	37	1	1	0	0	0	0	0	0	3	3	7	7	11	11	15	14	0	0
13:00	1.38	1.21	31	27	31	27	1	1	0	0	0	0	0	0	3	2	6	5	9	8	12	10	0	0
14:00	1.44	1.25	32	28	32	28	1	1	0	0	0	0	0	0	3	2	6	5	9	8	12	11	0	0
15:00	0.66	0.91	15	20	15	20	0	0	0	0	0	0	0	0	1	2	3	4	4	6	6	8	0	0
16:00	0.74	0.89	17	20	17	20	0	0	0	0	0	0	0	0	1	2	3	4	5	6	6	8	0	0
17:00	0.23	1.87	5	41	5	41	0	1	0	0	0	0	0	0	0	4	1	8	1	12	2	16	0	0
18:00	0.07	1.11	2	25	2	25	0	0	0	0	0	0	0	0	0	2	0	5	0	7	1	10	0	0
19:00	0.00	0.39	0	9	0	9	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	3	0	0
20:00	0.00	0.59	0	13	0	13	0	0	0	0	0	0	0	0	0	1	0	2	0	4	0	5	0	0
21:00	0.00	0.20	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0
22:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OFFICE TRIP GENERATION PROFILE

3 3 3 23 23 51 49 78 76 106 102 3 3

5

3 3 Land-use : All Uses

	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
Mode %	PERSO	ON TRIPS	PRIMAR	Y TRIPS	Car Driver		Car Pass.		Taxi		Motorcycle		Bus		U/Ground		Rail		Walk		Cycle	
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	9	0	9	0	0	0	0	0	0	0	0	0	1	0	2	0	2	0	3	0	0	0
07:00	39	44	39	44	1	2	0	0	0	0	0	0	13	17	5	6	4	3	13	14	1	2
08:00	88	102	88	102	3	4	1	1	1	1	1	1	25	43	13	13	12	2	30	32	2	4
09:00	71	38	71	38	2	1	1	0	1	0	1	0	19	14	11	5	10	3	25	13	2	1
10:00	24	30	24	30	1	1	0	0	0	0	0	0	5	10	4	4	5	3	9	10	0	1
11:00	46	33	46	33	1	1	0	0	0	0	0	0	12	11	7	5	7	3	16	11	1	1
12:00	70	59	70	59	2	2	1	1	1	1	1	1	17	13	11	10	12	11	25	21	2	1
13:00	66	50	66	50	2	1	1	0	1	0	1	0	18	13	10	8	9	8	23	18	2	1
14:00	51	50	51	50	1	1	1	0	1	0	1	0	11	12	8	8	9	8	18	18	1	1
15:00	72	42	72	42	3	1	1	0	1	0	1	0	27	11	10	6	5	6	24	15	2	1
16:00	57	53	57	53	2	2	1	1	1	1	1	1	19	16	8	8	5	6	19	18	2	2
17:00	70	99	70	99	3	3	1	1	1	1	1	1	29	29	9	15	2	12	22	34	3	3
18:00	50	72	50	72	2	2	0	1	0	1	0	1	22	23	6	10	1	8	16	24	2	2
19:00	41	56	41	56	2	2	0	1	0	1	0	1	18	22	5	7	0	3	13	18	2	2
20:00	39	54	39	54	2	2	0	1	0	1	0	1	17	19	5	7	0	4	12	18	2	2
21:00	26	18	26	18	1	1	0	0	0	0	0	0	12	6	3	2	0	1	8	6	1	1
22:00	17	17	17	17	1	1	0	0	0	0	0	0	8	8	2	2	0	0	5	5	1	1
23:00	9	0	9	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	3	0	0	0
TOTAL	843	817	843	817	28	27	8	8	8	8	8	8	276	267	119	115	84	81	284	275	26	25

TOTAL TRIP GENERATION PROFILE

Appendix K

Swept Path Analysis - Large Car

