



Dollis Road, Mill Hill East, NW7 1JX

Proposed residential led development

## **TRANSPORT STATEMENT**

**Prepared by: Entran Ltd**

DATE: June 2017



WEST OF ENGLAND  
TRAVEL PLAN AWARDS  
**GOLD AWARD**



Entran is committed to reducing unnecessary waste in the environment. For this reason our paper reports are printed:

- Double sided;
- Using 10 point font; and
- On recycled paper.

Additional copies of this report are available on CD-ROM. If you require this report in another format please ask.



Dollis Road, Mill Hill East, NW7 1JX

Proposed residential led development

## TRANSPORT STATEMENT

Revision	Date	Notes	Author	Checked	Approved
V5	June 17	Revised scheme	RAF	RLF	RGW
V6	June 17	Revised scheme - issue	RAF	RLF	RGW

**Entran Limited**  
**78 York Street**  
**London**  
**W1H 1DP**  
**Bristol**

**T: 0208 709 0991**



## CONTENTS

1.	INTRODUCTION	1
2.	SITE LOCATION AND DESCRIPTION	2
3.	LOCAL TRANSPORT NETWORK	3
4.	PROPOSED DEVELOPMENT	5
5.	PARKING	6
6.	TRAVEL PLAN	8
7.	TRIP GENERATION	12
8.	DELIVERY & SERVICING PLAN	16
9.	SUMMARY AND CONCLUSIONS	19

## TABLES

2.1	Location plan
3.1	Bus route summary
4.1	Schedule of accommodation
5.1	2011 census data
5.2	Predicted growth in vehicle ownership
7.1	B1 office trip rates (TRAVL)
7.2	B1 office trips
7.3	B8 storage trip rates (TRAVL)
7.4	B8 storage trips
7.5	Combined trips from existing uses
7.6	Residential trip rates (TRAVL)
7.7	Residential trips
7.8	Net change in trips

## FIGURES

2.1	Site location plan
3.1	Pedestrian isochrones
3.2	Cycle network
3.3	Existing car clubs



## **APPENDICES**

- A Architects' plans
- B Existing site layout
- C Schedule of accommodation
- D Vehicle swept path analyses
- E Parking demand
- F Car Club literature
- G TRAVL data



## 1. INTRODUCTION

- 1.1. This Transport Statement (TS) has been prepared by Entrant Ltd in support of a planning application for the redevelopment of an existing commercial site for a residential led mixed-use scheme comprising 26 residential units together with replacement employment and retail space. Full details of the proposed development are contained in section 4 of this report.
- 1.2. Guidance published by the DfT and the DCLG in 2007 provides advice on the content and preparation of Transport Assessments and Transport Statements. It also assists stakeholders to determine whether an assessment may be required and, if so, what the level and scope of the assessment should be.
- 1.3. Previous guidance on the assessment of traffic implications associated with development proposals was contained in the “Guidelines for Traffic Impact Assessment” published by the Institute of Highways and Transportation (IHT) in 1994. Since the IHT guidelines were produced, there has been a significant change in Government policy and general guidance regarding improved sustainability in transport. The fundamental difference between TAs and the old TIAs is that TAs seek to influence modes of travel and assess person-trips rather than vehicle trips, whereas TIAs were based on the principles of “predict and provide” for the private car.
- 1.4. The 2007 document brings the Guidance on transport assessment up to date with these changes in Government policy, and expands it to address the assessment of the potential implications of development proposals on the entire transport system.
- 1.5. In 2014 DCLG published a suite of Planning Practice Guidance including advice entitled “Travel plans, transport assessments and statements in decision taking”. The 2007 guidance has not been formally cancelled but now sits beneath the PPG as current government guidance on the transport related effects of development.

### Report layout

- 1.6. Section 2 of this report provides a description of the site and its location. Section 3 then describes the local transport network including the road network, bus provision, pedestrian and cycle facilities and rail station locations.
- 1.7. Section 4 describes the development proposals including means of access. Section 5 provides a detailed assessment of parking demand and provision. Section 6 summarises the ‘Travel Plan to be implemented as part of the proposals.
- 1.8. Section 7 includes an analysis of travel by different modes to the existing commercial uses, and the proposed new homes; Section 8 details the proposed Delivery & Servicing Plan for the development.
- 1.9. Section 9 provides a summary of this Transport Statement and draws conclusions from its findings.

## 2. SITE LOCATION AND DESCRIPTION

- 2.1. A site plan is included as **Appendix A** to this report. The site is located to the north-east of Holders Hill Circus, a four-arm roundabout junction between Dollis Road, Bittacy Hill, Holders Hill Road and Devonshire Road. The site takes direct vehicular access from the roundabout by means of a dropped kerb 'haulingway' style vehicle cross-over and also from a single width private access from Abercorn Way. The application red line boundary is included as **Appendix A** and a location plan is included as Figure 2.1 below:

**Figure 2.1 – Site Location**



- 2.2. The site accommodates a number of commercial buildings, all of which share access onto the public highway. The southern access is flanked by a retail unit with residential above. Two small residential blocks, one brick and one render, share the entrance to the site but do not provide their own on-site parking. These buildings sit outside of the site boundary, however the adjacent property (Devonshire House) sits within the boundary. This is a two storey brick building of little architectural merit.

### Existing buildings

- 2.3. There are six commercial buildings on the rear part of the site; the floor areas and extant use of these buildings are shown in Table 2.1 below.

**Table 2.1 – Existing commercial buildings.**

Unit	Use	Ground floor	First floor	Total
1	B8	60m <sup>2</sup>	-	60m <sup>2</sup>
2	B1	221m <sup>2</sup>	103m <sup>2</sup>	324m <sup>2</sup>
3	B1	97m <sup>2</sup>	-	97m <sup>2</sup>
4	B1	127m <sup>2</sup>	-	127m <sup>2</sup>
5	B8	168m <sup>2</sup>	105m <sup>2</sup>	273m <sup>2</sup>
6	B8	59m <sup>2</sup>	-	59m <sup>2</sup>
<b>Total</b>		<b>732m<sup>2</sup></b>	<b>208m<sup>2</sup></b>	<b>940m<sup>2</sup></b>

- 2.4. The existing buildings which are to be demolished have a combined GFA of 940m<sup>2</sup> comprising 548m<sup>2</sup> of B1 office use and 392m<sup>2</sup> of B8 storage use. The existing building flanking the site access is to be demolished and replaced but the transport effects of this are essentially neutral as explained later in this report. The existing site layout is included as **Appendix B**.

### 3. LOCAL TRANSPORT NETWORK

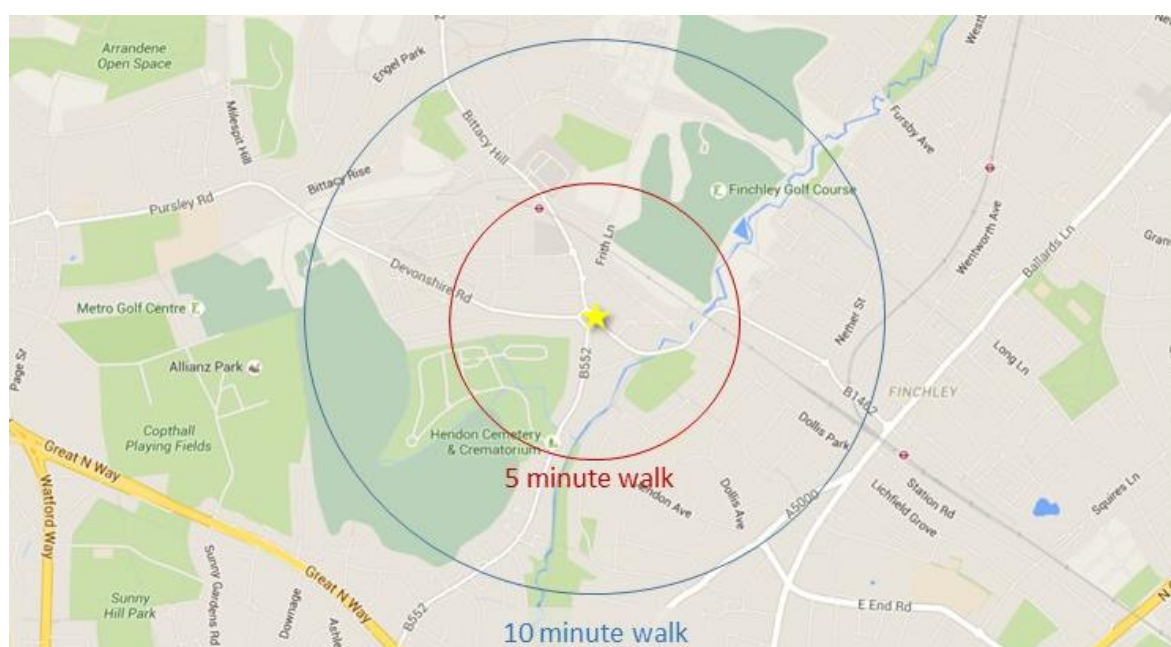
#### General

- 3.1. Holders Hill Circus is a four-arm roundabout junction between Dollis Road (B1462), Bittacy Hill (B552), Holders Hill Road (B552) and Devonshire Road. The B552 runs generally north to south from Highwood Hill and Mill Hill in the north, to Hendon in the south. Before reaching Hendon the B552 has a junction with the A1 Great North Way which in turn links to the M1 motorway and the North Circular Road.

#### Sustainability audit

- 3.2. Acceptable journey distances on foot vary depending on the purpose of the journey, the environment in which the journey is taking place and of course the individual walking. Prior to being superseded by the National Planning Policy Framework (NPPF) PPG13 suggested that walking offers the greatest potential to replace short car trips for journeys less than 2km. The IHT guide 'Providing for Journeys on Foot' suggests that for journeys to work a desirable walking distance would be 500m, an acceptable walking distance would be 1km and the preferred maximum walking distance would be 2km, in line with the PPG13 advice.
- 3.3. Figure 3.1 shows five and ten minute walking isochrones from the site. This indicates that Mill Hill underground station is less than 5 minutes' walk and Finchley is around 10 minutes' walk providing easy access on foot to a range of facilities such as employment, retail and entertainment uses.

**Figure 3.1 – Pedestrian isochrones.**

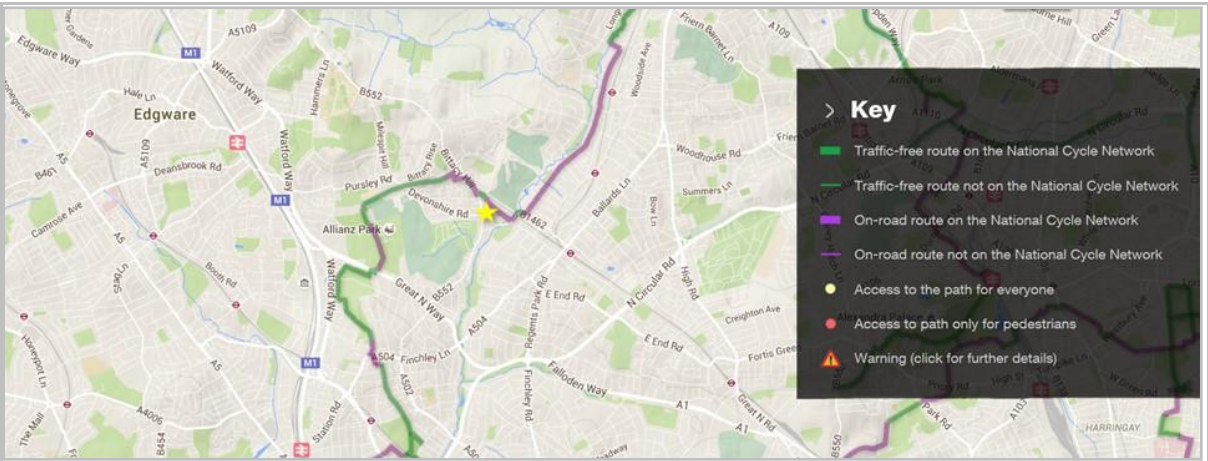


- 3.4. The roads surrounding Holders Circus have wide footways with high quality surface materials (blocks and small element paving). The northern and southern arms (B552) have controlled crossings (Zebra) with flush kerbs and tactile paving. The other arms have uncontrolled crossings with dropped kerbs and central pedestrian refuges. The uncontrolled crossings do not have tactile paving but this is the case for all uncontrolled crossings in the vicinity so appears to be highway authority policy rather than omission.
- 3.5. The site benefits from good access to local cycle routes. To the north of the site Abercorn Way is a lightly trafficked street which provides a link to recommended cycle routes and traffic-free cycle routes heading north and south from the site. These recommended cycle routes provide good access to local leisure facilities, Hendon rail station and Middlesex University.





**Figure 3.2 – Local cycle routes**



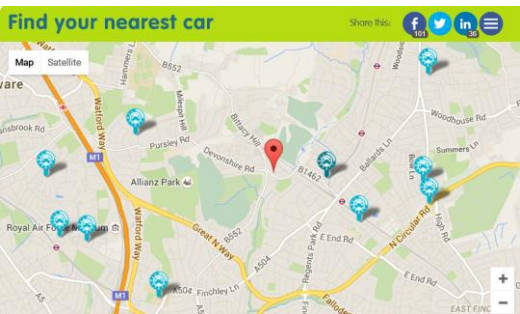
3.6. The nearest bus stops are located on Bittacy Hill just 80m (1 minutes’ walk) to the north-west of the site. Additional stops are also on Dollis Road and Holders Hill Road. All stops are ‘flag’ stops with timetable information. All stops have bus ‘cages’ marked on street but do not have extra height kerbs. Full bus timetables can be found at [www.londonbusroutes.net](http://www.londonbusroutes.net) and are summarised below.

**Table 3.1 – Bus route summary**

No	Details	Duration	Frequency
240	Edgware – Mill Hill – Golders Green	0557-037	12 mins
382	Mill Hill East – Finchley - Southgate	0550-2348	15 mins

- 3.7. The nearest underground station is Mill Hill East which is 410m (4-5 minutes’ walk) north of the site. Mill Hill East is on the Northern Line and provides direct access to London Euston (21 mins).
- 3.8. The nearest national rail station is Mill Hill approximately 3.5km to the west of the site. This station has secure cycle parking and can be reached by bike from the site in less than minutes. Alternatively the 240 bus service runs directly from Holders Hill Circus to Mill Hill station. An alternative station is Hendon, approximately 4km to the south of the site. Hendon station also has secure cycle parking and can be reached by bike from the site in 17-18 minutes.
- 3.9. There are a number of Car Club operators already active in the area. Figure 3.3 below shows the Zip Car and EasyCar Club vehicle locations closest to the site.

**Figure 3.3 – Existing Car Club vehicles**



3.10. The nearest existing car is about 1km from the site. This distance could be walked in around 11 minutes but may deter some people from using the Car Club.



#### 4. PROPOSED DEVELOPMENT

- 4.1. The proposal is to demolish the existing industrial buildings to the rear of the site and build new residential accommodation; and to demolish the existing retail/residential building which flanks the site access (Building C) and replace it with a new building with retail at ground floor, employment at first and residential above. The proposed schedule of accommodation is summarised in Table 4.1 below and set out in detail in **Appendix C**.

**Table 4.1 – Schedule of accommodation**

Unit type	Number
One-bed	14
Two-bed	12
<b>Total</b>	<b>26</b>

- 4.2. Building C includes 120m<sup>2</sup> of replacement retail at ground floor level and 43m<sup>2</sup> of office B1 at first floor. For the purpose of this assessment the commercial elements (ground and first floor) of the replacement Building C are deemed to be traffic-neutral. The four flats above included in the travel demand calculations.
- 4.3. The proposed site layout is shown on Collado Collins Architects' drawings included as **Appendix A**.

##### Means of access

- 4.4. The proposed development retains the existing vehicle access onto Holders Hill Circus but closes the existing access from the site onto Abercorn Way for vehicles, retaining it for pedestrians and cyclists only. This private access would still provide vehicular access to one residential property fronting onto Abercorn Way.
- 4.5. The internal layout has been designed to allow a refuse vehicle or delivery vehicle to enter, turn and leave in a forward gear. A vehicle swept path analysis has been carried out using the proprietary computer program AutoTrack. Full details are included as **Appendix D**.
- 4.6. The existing access onto Abercorn Way is currently gated. A new, purpose built gate will be introduced at the site boundary. Within the site a new cycleway/footway will connect to the private access onto Abercorn Way. The Access onto Holders Hill Circus will also be gated, however, this set of gates will include a vehicle gate and a separate pedestrian gate.



## 5. PARKING

### Local Policy

- 5.1. The London Plan advises that in locations with high public transport accessibility, car-free developments should be promoted but that outer London Boroughs should promote more generous standards for housing development in areas with low public transport accessibility (generally PTALs 0-1). The site at Dollis Road falls somewhere between these two descriptions meaning that the maximum standard of “up to one space per unit” would apply in this instance.

### DCLG Residential Car Parking Research 2007

- 5.2. In 2007 DCLG commissioned the research paper ‘Residential Car Parking Research’ which was used to inform PPS3. Whereas PPS3 has been superseded by NPPF this research document is very useful in providing an empirical background to increases or decreases in parking demand depending on proportions of allocated or unallocated spaces, or mixes of unit sizes and tenure. This is discussed below.

### 2011 Census data

- 5.3. The 2011 census data provides car ownership levels per household by ward. The data differentiates between ‘Houses’ and ‘Flats, maisonettes and apartments’. The scheme comprises a mix of one and two-bed units which are more akin to the maisonettes in the Census data rather than the general houses which include 3, 4 and 5-bed houses. The site is close to the boundary between three wards, namely Mill Hill, West Finchley and Finchley Church End. For this reason all three wards have been examined.

**Table 5.1 – 2011 census data for car and van ownership for Maisonettes and Apartments**

	Dwellings	Proportion
All households	9,388	
No vehicle	3,705	39%
1 vehicle	4,547	49%
2+ vehicles	1,136	12%

- 5.4. Table 5.2 shows that 39% households living in smaller dwellings in this area have no vehicle at all and only 12% have more than one vehicle. The average vehicle ownership was **0.74** vehicles per household.
- 5.5. The figures above relate to 2011. At present there is no predicted year of completion for the Dollis Road development but it would be prudent to allow for future parking demand. If we assume 2016 as year of occupation then the design year would be 2021. It is highly likely that external factors such as fuel prices, land-use policy or social attitudes are likely to affect car ownership levels by 2021, but for a robust assessment it would be appropriate to apply the same rate of growth from 2011 to 2016 and 2021 as was seen between 2001 and 2011.
- 5.6. Table 5.2 below shows the predicted growth in vehicle ownership for all households.

**Table 5.2 – Predicted growth in vehicle ownership**

	Combined wards
2011	0.74
2016	0.78
2021	<b>0.82</b>

- 5.7. Table 5.2 shows that the predicted future average parking demand these households is comfortably below the London Plan maximum parking standards, even allowing for continued growth in car ownership.
- The parking demand for these units, allowing for growth, equates to  $26 \times 0.82 = 21$  car parking spaces. Further details of the parking demand calculations are included as **Appendix E**.
- 5.8. The proposed development provides **21 parking spaces** which includes 1 on-site space for a new Car Club, further details of which are contained in the Travel Plan section of this report. The sustainable travel charity CarPlus states that one car club space removes up to 20 vehicles from the roads and can therefore reduce parking demand by that amount. As required, 20% of the spaces will have active electric vehicle charging points and a further 20% will have passive provision.
- 5.9. The internal road layout has been designed with a variable width carriageway to accommodate on-street visitor parking at a ratio of 10%.



## 6. TRAVEL PLAN

- 6.1. As stated in the introduction, this TS has been developed to seek to influence modes of travel to the proposed redevelopment rather than merely predicting travel patterns and providing mitigation.
- 6.2. The development will be supported by a two-part Transport Implementation Strategy (TIS) comprising:
  - Travel Plan;
  - Delivery and Servicing Plan;
- 6.3. These are described in the following chapters.

### Travel Plan

- 6.4. Unlike employment, retail or educational sites it is not possible to dictate to residents how they should travel. For this reason residential travel plans are based on the provision of infrastructure and information rather than the imposition of management procedures. The proposed studio employment space is suitable for a Travel Plan for staff and visitors. In the case of this proposed mixed-use development the introduction of appropriate infrastructure and the communication of relevant information are structured as one 'Travel Plan'.
- 6.5. The proposed development will provide appropriate infrastructure to encourage sustainable travel and will also provide information and incentives where practicable.
- 6.6. The effects of travel choices on our environment, our health and our quality of life are well documented. Sources describe how increases in road traffic have produced unsustainable levels of congestion and pollution. The effects can be felt at a local level through poor air quality, noise and busier roads and at a global level through suggested linkages to climate change. Journeys by road are becoming slower and more unreliable causing problems for business and stress to drivers.
- 6.7. There has been a significant increase in the proportion of individuals travelling to work by car. Over 80% of car journeys to work are driver only. Even a small modal shift in home-work-home journeys away from the car would result in a considerable reduction in traffic congestion at peak times.
- 6.8. Travel planning must be realistic and should not expect to remove car usage altogether. Instead, an effective travel initiative will maximise the use of sustainable travel to achieve more sensible and appropriate use of the private car. If every car commuter used an alternative to the car on just one day a week, car usage levels for commuting would be reduced by as much as 20% immediately, with commuter parking requirements also reduced by up to 20%. In an accessible location such as Mill Hill, however, low-car or car-free housing is a realistic prospect as illustrated by the local Census data.

### Infrastructure

- 6.9. A key element of the proposed development is the introduction of appropriate infrastructure to encourage sustainable travel.
- 6.10. The Site is already accessible on foot, by bike and by bus and rail. The transport infrastructure surrounding the Site lends itself to encouraging these modes of travel. The development has therefore been designed to incorporate direct, secure pedestrian access into the site, and to provide secure cycle parking spaces for each dwelling.



### Car Club

- 6.11. Zipcar already operates a number of car club vehicles in this area. They have reviewed this site location and the proposed development and have agreed that they would be happy to provide a Car Club as part of this development.
- 6.12. Zipcar would provide the vehicle and operate the Car Club. Their offer would include:
- Free 3 year memberships of Zipcar;
  - First car to be delivered by first occupation;
  - Bespoke marketing material and membership certificates;
  - Briefing of sales staff at the development on the car club and attendance at promotional events;
  - 24/7 booking system including mobile booking site (IOS and Android) and iPhone app;
  - Vehicle insurance;
  - Vehicle maintenance and valeting;
  - Creation of reports and statistics for the developer and Council;
  - Personal Account Manager;
- 6.13. This would be fully funded by the developer at no expense to the new occupiers. Importantly, the Car Club would also be available to local residents in the area. The provision of the Car Club can be secured by appropriate planning condition.
- 6.14. In accessible areas Car Clubs allow residents who only require occasional use of a vehicle to make the choice not to own a vehicle themselves. Equally, many two-car households only use 1.1 cars on a regular basis so the provision of a Car Club allows them to own a single vehicle and use the Car Club as often as they like on a pay-as-you-go basis. The charitable organisation CarPlus states that one Car Club space can remove 20 vehicles from the road.
- 6.15. Zipcar would work closely with the developer and the Council to ensure all car club related marketing material (printed and digital) matches the 'look and feel' of the Dollis Road site so that residents view the car club as their car club, operating alongside the Travel Plan measures. The Zipcar proposal is attached as **Appendix F**.



### Residents' Travel Pack

- 6.16. It will be the responsibility of the developer to ensure that residents are provided with an information pack containing details of the Car Club, public transport timetables and maps, as well cycling and pedestrian infrastructure when they move in to the flats.
- 6.17. The site's communal areas will be maintained by a management company. The management company will be obliged to provide an update to the 'Residents Travel Pack' once every twelve months in order that any new residents are made aware of their local transport options.
- 6.18. The information pack will include information and incentives for all purchasers/tenants. The information will enable the new residents to make informed decisions about their modes of travel. The incentives will be provided by the developer in the first instance and will be dependent on negotiating suitable packages with local shops and services. The likely content of the Residents' Travel Pack will be:
- Car Club membership and information;
  - Cycle route information;
  - Sustrans leaflets on the beneficial effects of walking and cycling ;
  - Free reflective clothing i.e. cycle bib, arm bands etc.;
  - Free bicycle locks/helmets;
  - Developer to negotiate local cycle shop discount;
  - Details of local cycle groups (e.g. LCC);
  - Details of BikeBUDi travel system ;
  - Cycle hire;
  - Bus route/timetable information;
  - Train timetable information;
  - Details of car-sharing website (e.g. [www.Liftshare.com](http://www.Liftshare.com));
  - Details of CarBUDi travel system;
  - Taxi company information – possible discount vouchers for a taxi company;
  - Details of TaxiBUDi travel system;
  - Supermarket home delivery details.
- 6.19. This list is not exhaustive or a prescriptive list of what will be in the travel pack but provides details of the likely content of the pack. Details of the final pack will be agreed in partnership with the Council.



### Objectives

- 6.20. In line with Central Government policies and guidance, the primary objectives of the TP are to:
- Remove travel as a barrier to social inclusion;
  - Discourage the use of unsustainable modes of transport and enable residents to make travel choices that benefit themselves and their community;
  - Raise awareness of alternative modes of transport and thus encourage a modal shift towards more sustainable travel modes;
  - Minimise single car occupancy and total vehicle kilometres.

### TP Co-ordinator

- 6.21. A Travel Plan Co-ordinator (TPC) will be appointed for the development. It is not possible to specify who this person will be at this stage; however, as the development will have areas of communal maintenance it is likely that a member the management company will be given the role of TPC. The TPC will be a named person whose contact details will be provided to all residents. The TPC will not be a full-time position but the named TPC will be available full-time. The TPC will have responsibility for provision of information and for carrying out spot travel surveys to establish the effectiveness of the measures.





## 7. TRIP GENERATION

- 7.1. The impact of the proposed development is determined by comparing the net increase in journeys between the existing and proposed uses. Accordingly, the DfT Guidance on Transport Assessment (March 2007) advises at paragraph 4.7 that baseline traffic data should be derived as follows:

***“Baseline transport data***

- *The quantification of person trips generated from the existing site and their modal distribution, or, where the site is vacant or partially vacant, the person trips which might realistically be generated by any extant planning permission or permitted uses;”*

- 7.2. The transport impact of the proposed development is therefore determined by comparing the potential journeys associated with the extant use of the site and those anticipated for the proposed use. The following assessment therefore examines the journeys associated with the extant and proposed uses.
- 7.3. It is acknowledged that TfL take a slightly different view to DfT on this matter and consider that in certain circumstances, where a building has been vacant or substantially vacant (25%) for 12 months its baseline trips should be reduced accordingly. This is a particularly onerous requirement as many buildings are vacant for that length of time for a variety of commercial or contractual reasons and then brought back into use without the need for further planning permission.

TRAVL database analysis.

- 7.4. The most onerous employment use in terms of travel generation is B1 Office use. The TRAVL data for office use relates to three offices of an appropriate scale and location to be considered comparable to the proposed development.
- 7.5. The TRAVL output data combines walking and public transport. For the purpose of this assessment this figure has been divided between walking, bus and rail at a ratio of 2:1:1 but it is acknowledged that those using buses and rail will be walking to and from the site. The multi modal trip rates are shown in table 7.1 below.

**Table 7.1 – B1 office trips (TRAVL)**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	0.072	0	1.145	0	0.573	0.573	2.649
1700-1800	0.144	0	1.360	0	0.680	0.680	2.864
Daily	1.802	0	17.017	0	8.509	8.509	35.836

- 7.6. If these trip rates are applied to the existing 548m<sup>2</sup> of office space the trips would be as shown in table 7.2 below.

**Table 7.2 – Office multi-modal trips (548m<sup>2</sup> B1 use) based on TRAVL database**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	0	0	6	0	3	3	15
1700-1800	1	0	7	0	4	4	16
Daily	10	0	93	0	47	47	196

- 7.7. The TRAVL data for storage use relates to four warehouses of an appropriate scale and location to be considered comparable to the proposed development.
- 7.8. The TRAVL output data combines all public transport. For the purpose of this assessment this figure has been divided bus and rail equally but it is acknowledged that those using buses and rail will be walking to and from the site. The multi modal trip rates are shown in table below.

**Table 7.3 – Storage multi-modal trip rates per 100m<sup>2</sup> based on TRAVL database**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	1.283	0.154	0.051	0.032	0	0	1.52
1700-1800	1.046	0.267	0.06	0.037	0.0045	0.0045	1.419
Daily	12.556	1.674	0.499	0.228	0.0255	0.0255	15.008

- 7.9. If these trip rates are applied to the existing 392m<sup>2</sup> of storage space the trips would be as shown in table 7.4 below.

**Table 7.4 – Storage multi-modal trips (392m<sup>2</sup> B8 use) based on TRAVL database**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	5	1	0	0	0	0	6
1700-1800	4	1	0	0	0	0	6
Daily	49	7	2	1	0	0	59

- 7.10. The combined multi-modal trips associated with the existing commercial buildings is therefore as shown in Table 7.5 below.

**Table 7.5 – Combined existing multi-modal trips**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	5	1	6	0	3	3	21
1700-1800	5	1	7	0	4	4	22
Daily	59	7	95	1	47	47	255

#### Proposed

- 7.11. The proposed development comprises 26 new one and two bedroom dwellings.
- 7.12. As for the other uses the TRAVL survey data combines walking and public transport into one category. For the purpose of this assessment these trips have been disaggregated into walking, bus and rail at a ratio of 2:1:1. Again, it is acknowledged that those using buses and rail will be walking to and from the site.
- 7.13. The multi-modal trip rates are shown in table 7.6 below.

**Table 7.6 – Residential multi-modal trip rates per dwelling based on TRAVL database**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	0.127	0.104	0.549	0.040	0.275	0.275	1.370
1700-1800	0.197	0.069	0.670	0.029	0.335	0.335	1.635
Daily	1.492	0.523	5.074	0.220	2.537	2.537	12.383



- 7.14. If these trip rates are applied to the proposed 26 dwellings the trips would be as shown in table 7.7 below.

**Table 7.7 – Residential multi-modal trips (26 dwellings) based on TRAVL database**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	3	3	14	1	7	7	36
1700-1800	5	2	17	1	9	9	43
Daily	39	14	132	6	66	66	322

- 7.15. Table 7.7 also shows most journeys on foot, followed by public transport and then car usage which is reasonable for a site in this location.

#### Net change

- 7.16. The effect of the proposed development is determined by comparing the proposed travel demand (Table 7.7) with the permitted baseline (Table 7.5). The net change in travel is shown in table 7.8 below.

**Table 7.8 – Net change in multi-modal trips**

	Driver	Passenger	Walk	Cycle	Rail	Bus	TOTAL
0800-0900	-2	2	8	1	4	4	15
1700-1800	0	1	10	1	5	5	21
Daily	-20	7	37	5	19	19	67

- 7.17. Table 7.18 demonstrates that even when a range of robust assumptions are compounded, when compared to the permitted use of the site the proposed development would generate about the same number of vehicle trips during the morning and evening peak periods, but significantly fewer vehicle trips across the whole day.
- 7.18. The development would result in a net increase in travel by sustainable modes of travel but the increase by each mode would be imperceptible to other highway users and would have no material effect on transport capacity.
- 7.19. The TRAVL analysis does not pick up goods vehicle movements for all the existing 'B' class uses but it is inevitable that the proposed residential use would generate significantly fewer HGV trips than the existing industrial and storage uses.

Sensitivity test (traffic)

- 7.20. The proposed development comprises a mix of 14 one-bedroom and 12 two-bedroom dwellings. The census data demonstrates that small units of this type in this particular area are occupied by households with relatively low car ownership. For this reason the TRAVL data chosen is for one, two and three bedroom flats rather than houses. The survey sites for houses in the TRAVL database (and in TRICS) also include larger three, four and five-bed houses which are not representative of the proposed development. Notwithstanding this, a sensitivity test has been carried out to establish the peak hour traffic flows that would be generated if these higher rates were used.
- 7.21. In both TRAVL and TRICS the peak hour trip rate for larger houses in an area like Mill Hill ranges between 0.4 and 0.55 trips per dwelling. For this sensitivity test we have used a robust figure of 0.5. If that is applied to the 26 dwellings the result would be 13 trips in the peak hour.
- 7.22. Residential trip rates are tidal in nature with a higher proportion of departures in the morning peak and arrivals in the evening peak. The data suggests a ratio of 4:1 which would mean 10 departures and 3 arrivals in the morning and vice versa in the evening.
- 7.23. This tidal flow of movements means that during the morning 60 minute peak period one vehicle would arrive every 20 minutes while one vehicle was leaving every six minutes. Two way vehicle flow would be very infrequent.
- 7.24. It is important to note that these are not the predicted vehicle trips, indeed they are two to three times higher than the predicted trips, but even using these very robust assumptions the site access would operate satisfactorily and the number of additional vehicle trips on the surrounding highway network would be imperceptible to other highway users.



## 8. DELIVERY & SERVICING PLAN

- 8.1. The Delivery & Servicing Plan (DSP) forms part of a two-part Transport Implementation Strategy (TIS) which is intended as a live management document for the construction and operation of the proposed development and comprises:
- Travel Plan (TP); and
  - Delivery & Servicing Plan (DSP).
- 8.2. This DSP highlights the implications of the proposed development with regard to existing and also proposed servicing constraints. This takes into consideration adopted methods of good design practice. This DSP has been prepared in accordance with the Freight Transport Association document '*Designing for Deliveries*' and the TfL guidance document '*Managing freight effectively: Delivery and Servicing Plans*'.
- 8.3. The DSP has three main elements:
- A plan to reduce the number of trips, particularly in the peak period, justified by a transport assessment that considers the benefits of using consolidation;
  - A plan showing when and where deliveries and servicing can take place safely and legally; and
  - Details of contractual changes requiring suppliers and servicing companies to reduce the number of trips and to use legal loading facilities. The selection process for supply and servicing contracts will specify Freight Operator Recognition Scheme (FORS) membership.
- 8.4. The impact of the FORS membership will help provide major benefits to the following:
- **Efficiency** of the economy will improve as commercial vehicle Penalty Charge Notices (PCNs) are reduced by the contractual use of legal loading facilities and scheme-registered operators. Reliability will also increase as freight operators reduce trips and make more off-peak and out-of-hours deliveries;
  - **The environment** will improve through a reduction in congestion, the take-up of initiatives such as consolidation and the promotion of a long-term shift to more sustainable forms of freight; and
  - **Society** will benefit from a reduction in casualties as freight vehicles make more use of off-peak and out-of-hours delivery and servicing times. The use of legal loading plans for cash-in-transit activities - and access to the Commercial Vehicle Education Unit's local insight into problem areas – will also cut the number of thefts.
- 8.5. This DSP forms an integral part of the TS. It is intended to be a live document, drawn up in consultation with the local highway authorities and used as a management tool by operator of the proposed development. This document has been prepared prior to the development commencing. The effectiveness of this DSP will be continually monitored and may evolve over time in partnership with the highway authority in order to promote and influence best practice at this site.



#### Refuse collection

- 8.6. Dollis Road and Abercorn Way are both already on the Council's residential refuse and recycling collection routes. The Council operates a kerbside collection; however, the proposed development has been designed to allow a large refuse vehicle onto site to collect waste and recycling.
- 8.7. A vehicle swept path analysis has been carried out using the proprietary computer program AutoTrack. Full details are included as **Appendix D**.

#### Grocery deliveries

- 8.8. The internal shared space circulation area has been designed to allow panel vans and grocery deliveries (Ocado, Amazon etc.) to enter and leave the site in a forward gear. This ensures no deliveries of this nature need to take place within the public highway.

#### Large deliveries

- 8.9. The grocery and parcel deliveries referred to above will constitute the majority of goods vehicle movements; however, occasional larger vehicles may make deliveries such as removal vans or some white goods deliveries. These will be able to enter and leave in a forward gear in the same way as the refuse vehicles.

#### Hours of delivery

- 8.10. The existing commercial uses have no restriction on their delivery hours. The proposed redevelopment will result in net reduction in HGV movements when compared to the current use of the site. It will therefore be best practice to permit deliveries 24 hours a day rather than compressing deliveries into a shortened time-frame in order to minimise the number of vehicle movements during any given hour. If the planning authority considers a restriction is required for reasons of residential amenity rather than highway safety or operation then any such reasonable restriction could be secured by planning condition.

#### Route management

- 8.11. All deliveries will enter the site from Dollis Road. Any daily delivery vehicles will be able to turn on site. Residents will be advised that they should instruct drivers to arrive and depart to/from Holders Hill Circus and not from Abercorn Way. This is not the most direct route in any case but best practice would be for residents to inform all drivers of the appropriate route.

#### Promotion of LGV rather than HGV

- 8.12. In some locations such as town centres, conservation areas, or residential areas DSP's promote the use of light vehicles rather than heavy vehicles. This may result in a greater number of trips but by smaller vehicles. In the case of this proposed development the constrained nature of the local road network means that LGVs should where practicable be promoted rather than HGVs. Given the modest scale of the proposed development the number of deliveries is predicted to be very low in either case.



Construction logistics

- 8.13. Prior to commencement on site a full and detailed Construction Logistics Plan will be submitted to and approved in writing by the local highway and planning authorities. The CLP will include any restrictions on hours of delivery, vehicle sizes and route management. In addition, during construction the developer will be obliged to:
- Establish and maintain an area for turning vehicles on site so that all vehicles can enter and leave in a forward gear;
  - Establish and maintain an area for site workers to park on site;
  - Establish and maintain a wheel-wash facility for the use of all vehicles leaving the site.
- 8.14. The CLP will be secured by an appropriate planning condition and enforceable by the Council.



## 9. SUMMARY AND CONCLUSIONS

- 9.1. This TS has been prepared alongside a Transport Implementation Strategy, comprising a Travel Plan and a Delivery & Servicing Plan, which together provide the opportunity to reduce dependence on travel by private car and seek to influence all travel to and from the site rather than merely assessing its impact
- 9.2. The development generally comprises the redevelopment of an existing commercial site by demolishing existing industrial and storage buildings to the rear of the site, building new residential accommodation and the replacement of an existing building to the front of the site. The development will create 26 new homes as well as replacement retail and employment space.
- 9.3. The Site has a good level of accessibility by sustainable modes of travel. The site is within easy walking distance of bus and rail facilities and within cycling distance a range of other facilities. The site is well placed to promote travel by sustainable modes of transport.
- 9.4. The internal layout of the site has been designed to allow for all vehicles to enter and leave the site in a forward gear and to avoid any waiting on the public highway.
- 9.5. The transport impact of the proposed development is determined by a comparison of the trips that might realistically be generated by the existing uses, and the proposed development. The site has most recently been used for a mix of B1 to B8 uses.
- 9.6. The transport impact of the development is therefore determined by assessing the maximum permitted vehicle movements associated with the permitted operations and the predicted vehicle trips associated with the proposed development. Even using a range of robust assumptions this assessment demonstrates that the redevelopment would result in no material change in peak hour car trips and a significant reduction in daily car trips. The replacement of industrial and storage uses with 26 dwellings and employment space would also reduce HGV numbers on the local highway network.
- 9.7. The proposed development would retain the existing access onto Holders Hill Circus but would remove all vehicular movements from the existing access onto Abercorn Way. This northern access would be retained for pedestrians and cyclists only.
- 9.8. For the reasons set out in this Transport Statement there is no reason why the proposed development should be refused on grounds of highway capacity, safety, impact on the transport network or sustainability.





# Appendix A

## Architects' plans





NOTES

CONSULTANTS

- Refer to highways consultant's drawings for details
- Refer to landscape consultant's drawings for details
- Landscaping layout is indicative only

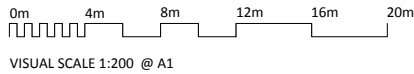
AREAS

- Refer to area schedule

© Copyright Reserved. ColladoCollins Partners LLP

N

Rev	Notes	Date	By	Auth
PA	Planning Submission	16.07.15	MD	RC
PB	Reduced Footprint and Envelope of Building A	17.03.03		
PC	Block A plan staggered, top floor reduced, flat roof shown	13.04.17	MM	FvB
PD	Mews and Block C changes	11.05.17	MM	FvB
PE	Updated Planning Issue	24.05.17	MM	FvB



ColladoCollinsArchitects

17-19 Foley Street  
London W1W 6DW  
T 020 7580 3490  
F 020 7580 2917  
info@colladocollins.com  
www.colladocollins.com

Date: 07/2016  
Drawn By: MD  
Checked by: FvB  
Scale @ A1: 1 : 200  
Scale @ A3: 1 : 400  
CAD File No:

Dollis Mews, Mill Hill East  
ZM Development Managment Ltd  
PROPOSED Second Floor Layout

PLANNING  
15041

P1 102

PE  
Revision





NOTES

CONSULTANTS

- Refer to highways consultant's drawings for details
- Refer to landscape consultant's drawings for details
- Landscaping layout is indicative only

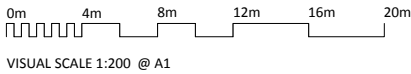
AREAS

- Refer to area schedule

© Copyright Reserved. ColladoCollins Partners LLP

N

Rev	Notes	Date	By	Auth
PA	Planning Submission	16.07.15	MD	RC
PB	Block A plan staggered, top floor reduced, flat roof shown	13.04.17	MM	FvB
PC	Updated Planning Issue	24.05.17	MM	FvB



ColladoCollinsArchitects

17-19 Foley Street  
London W1W 6DW  
T 020 7580 3490  
F 020 7580 2917  
info@colladocollins.com  
www.colladocollins.com

Date: 07/2016  
Drawn By: MD  
Checked by: FvB  
Scale @ A1: 1 : 200  
Scale @ A3: 1 : 400  
CAD File No:

Dollis Mews, Mill Hill East  
ZM Development Managment Ltd  
PROPOSED Third Floor Layout

PLANNING  
15041

P1 103

PC  
Revision















# Appendix B

## Existing site layout





**NOTES**

- Do not scale from this drawing
- Check all dimensions on site
- Subject to site inspection
- This document is for information only and is subject to a preliminary risk analysis to be carried out by all relevant consultants

**AREAS**

- Refer to area schedule

© Copyright Reserved. ColladoCollins Partners LLP

Rev	Notes	dd.mm.yy	By	Auth
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

**NOTES**

Any decisions to be made on the basis of this drawing, whether as to project viability, pre-letting, lease agreements and the like, should make allowance for:

- Design development
- Accurate surveys
- Accurate boundary/site ownership documentation
- Construction methods and building tolerances
- Local Authority/ Statutory consents

ColladoCollinsArchitects

17-19 Foley Street  
London W1W 6DW

T 020 7580 3490  
info@colladocollins.com  
www.colladocollins.com

Date  
22.06.2016

Drawn by:  
MD

Checked by:  
FVB

Scale @A1:  
1:250

Scale @A3:  
1:500

CAD File No:  
P/15041/CAD/as received/site survey

Dollis Mews  
ZM Development Management Ltd  
EXISTING  
Site Survey plan  
**PRELIMINARY**  
15041 .. .. P0 - 001

Revision

1	
---	--



# Appendix C

## Schedule of accommodation

Building A	GIA / NSA PROPOSED					
	GEA		GIA		NSA	
	sq m	sq ft	sq m	sq ft	sq m	sq ft
Ground	401.0	4,316	354.0	3,810	224.0	2,411
First	407.0	4,381	362.0	3,897	282.0	3,035
Second	362.0	3,897	316.0	3,401	246.0	2,648
<b>TOTAL</b>	<b>1170.0</b>	<b>12594</b>	<b>1032.0</b>	<b>11108</b>	<b>752.0</b>	<b>8095</b>

percentage of units by type

Mews B	GIA / NSA PROPOSED					
	GEA		GIA		NSA	
	sq m	sq ft	sq m	sq ft	sq m	sq ft
Mews 1	106.0	1,141	85.0	915	85.0	915
Mews 2	103.0	1,109	85.0	915	85.0	915
Mews 3	106.0	1,141	85.0	915	85.0	915
Mews 4	108.0	1,163	86.0	926	86.0	926
Mews 5	106.0	1,141	87.0	936	87.0	936
Mews 6	118.0	1,270	93.0	1,001	93.0	1,001
Mews 7	117.0	1,259	93.0	1,001	93.0	1,001
Mews 8	120.0	1,292	93.0	1,001	93.0	1,001
<b>TOTAL</b>	<b>884.0</b>	<b>9515</b>	<b>707.0</b>	<b>7610</b>	<b>707.0</b>	<b>7610</b>

percentage of units by type

Building C	GIA / NSA PROPOSED					
	GEA		GIA		NSA	
	sq m	sq ft	sq m	sq ft	sq m	sq ft
Ground	18.0	194	11.0	118	0.0	0
First	100.0	1,076	83.0	893	50.0	538
Second	145.0	1,561	124.0	1,335	100.0	1,076
Third	70.0	753	59.0	635	59.0	635
<b>TOTAL</b>	<b>333.0</b>	<b>3584</b>	<b>277.0</b>	<b>2982</b>	<b>209.0</b>	<b>2250</b>

percentage of units by type

TOTAL	GIA / NSA PROPOSED					
	GEA		GIA		NSA	
	sq m	sq ft	sq m	sq ft	sq m	sq ft
Block A	1170.0	12,594	1032.0	11,108	752.0	8,095
Block B	884.0	9,515	707.0	7,610	707.0	7,610
Block C	333.0	3,584	277.0	2,982	209.0	2,250
<b>TOTAL</b>	<b>2387.0</b>	<b>25694</b>	<b>2016.0</b>	<b>21700</b>	<b>1668.0</b>	<b>17954</b>

percentage of units by type

Employment	GEA		GIA		
	sq m	sq ft	sq m	sq ft	
Retail A3	138.0	1,485	120.0	1,292	
Office B1	51.0	549	43.0	463	
<b>Total</b>	<b>189.0</b>	<b>2,034</b>	<b>163.0</b>	<b>1,755</b>	

APARTMENT NUMBERS					
1 Bed 2P	2 Bed 3P (1 bath)	2 Bed 4P (2 baths)	3 Bed 5P (2 baths)	3 Bed 6P (2 baths)	TOTAL
No.	No.	No.	No.	No.	No.
2	2				4
6					6
2		2			4
10	2	2	0	0	14
71.4%	14.3%	14.3%	0.0%	0.0%	100.0%

10	4	0	14
71.4%	28.6%	0.0%	100.0%

Habitable Rooms	Bed Spaces
No.	No.
10	10
12	12
10	12
<b>32</b>	<b>34</b>

32	34
----	----

APARTMENT NUMBERS					
1 Bed 2P	2 Bed 3P (1 bath)	2 Bed 4P (2 baths)	3 Bed 5P (2 baths)	3 Bed 6P (2 baths)	TOTAL
No.	No.	No.	No.	No.	No.
		1			1
		1			1
		1			1
		1			1
		1			1
		1			1
		1			1
0	0	8	0	0	8
0.0%	0.0%	100.0%	0.0%	0.0%	100.0%

0	8	0	8
0.0%	100.0%	0.0%	100.0%

Habitable Rooms	Bed Spaces
No.	No.
3	4
3	4
3	4
3	4
3	4
3	4
3	4
<b>24</b>	<b>32</b>

24	32
----	----

APARTMENT NUMBERS					
1 Bed 2P	2 Bed 3P (1 bath)	2 Bed 4P (2 baths)	3 Bed 5P (2 baths)	3 Bed 6P (2 baths)	TOTAL
No.	No.	No.	No.	No.	No.
					0
1					1
2					2
1	0				1
4	0	0	0	0	4
100.0%	0.0%	0.0%	0.0%	0.0%	100.0%

4	0	0	4
100.0%	0.0%	0.0%	100.0%

Habitable Rooms	Bed Spaces
No.	No.
0	0
2	2
4	4
2	2
<b>8</b>	<b>8</b>

8	8
---	---

APARTMENT NUMBERS					
1 Bed 2P	2 Bed 3P (1 bath)	2 Bed 4P (2 baths)	3 Bed 5P (2 baths)	3 Bed 6P (2 baths)	TOTAL
No.	No.	No.	No.	No.	No.
10	2	2	0	0	14
0	0	8	0	0	8
4	0	0	0	0	4
14	2	10	0	0	26
53.8%	7.7%	38.5%	0.0%	0.0%	100.0%

14	12	0	26
53.8%	46.2%	0.0%	100.0%

Habitable Rooms	Bed Spaces
No.	No.
32	34
24	32
8	8
<b>64</b>	<b>74</b>

64	74
----	----

Parking Spaces 21  
Parking Ratio 0.81 spaces per unit  
Average Hab Rooms per unit 2.46  
Average Bed Spaces per unit 2.85

The NSA is the sum of the all of the GIAs of the individual apartments  
The areas have been measured as shown on the following drawings: P1-100\_revPC; P1-101\_revPC; P1-102\_revPC; P1-103\_revPC  
The areas are approximate and relate to the likely areas of the building at the current state of the design.  
The standard RICS Code of Practice for measuring areas has been used with the exception that internal balconies are not included in GIA/NSA  
Any decisions to be made on the basis of these predictions, whether as to project viability, pre-letting, lease agreements and the like, should make allowance for the following:  
1. Design development.



# Appendix D

## Vehicle swept path analyses





