

# PENTAVIA MILL HILL

## TRANSPORT ASSESSMENT ADDENDUM

PROJECT NO. 2110/1130    DOC NO. D012

DATE: APRIL 2019

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CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

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# 1 INTRODUCTION

- 1.1.1 This Transport Assessment (TA) Addendum has been prepared to provide additional information in relation to the redevelopment of Pentavia Retail Park.
- 1.1.2 The information within this TA Addendum supports some minor changes to the scheme which seek to further improve the overall quality of the proposal as well as information requested by TfL.



## 2 ACTIVE TRAVEL ZONE ASSESSMENT

- 2.1.1 Further to the release of new TA guidance by TfL in February 2019, a request was made to undertake an Active Travel Zone (ATZ) assessment.
- 2.1.2 The ATZ assessment is contained within **Appendix A** of this report.



## 3 ROAD SAFETY AUDIT

- 3.1.1 Further to the release of new TA guidance by TfL in February 2019, a request has been made by TfL for a Stage 1 Road Safety Audit (RSA) to be undertaken for proposed new bus stop locations that will be relocated as part of the development.
- 3.1.2 At the time of writing the RSA is in the process of being commissioned / TfL approving the auditors. The details of the RSA will be provided to TfL as soon as they become available. The auditor has indicated that the report will be ready 8-10 working days post approval from TfL.
- 3.1.3 The audit brief is contained within **Appendix B** of this report.



## 4 RESIDENTIAL PARKING

- 4.1.1 A Technical Note (TN) has been prepared which responds to the reason for refusal made by London Borough of Barnet (LBB) in regard of the proposed redevelopment of Pentavia Retail Park insofar as they relate to transport matters. LBB's reason for refusal states:

*"The proposed development would provide inadequate levels of residential parking provision to serve the development, resulting in likelihood of additional parking stress within the surrounding area parking to the detriment of highway and pedestrian safety and the free-flow of traffic, contrary to Policies CS9 and CS15 of the Local Plan Core Strategy (adopted September 2012), and Policy DM17 of the Local Plan Development Management Policies DPD (adopted September 2012)."*

- 4.1.2 The TN responding to the reason for refusal clearly, and contained within **Appendix C** identifies that the proposed development is not contrary to any of the referenced planning policies, will not generate parking stress on local streets, and conversely will contribute to ensuring the free flow of traffic and safety of vulnerable road users by its limitation on car parking.



# 5 RESPONSE TO BCC COMMENTS

- 5.1.1 A TN has been produced to respond to comments raised by Barnet Cycle Campaign (BCC) in respect of the proposed redevelopment of Pentavia Retail Park.
- 5.1.2 In response to the comments made, several positive improvements to cycling accessibility and usability have been incorporated into the revised plans.
- 5.1.3 Plans have been amended to widen the existing shared cycle footpath on the A1 adjacent the site, with the developer offering up land for adoption by TfL in order to facilitate the works. This will increase the width to 2.5m.
- 5.1.4 The widened footpath on the A1 connects to the proposed ramp to Bunns Lane. The design of which has been reviewed to increase the width of the ramp to 2.5m.
- 5.1.5 A new proposed shared route has also been added to the plans. It runs from north to south immediately adjacent the M1 and the proposed developments access road. This route is generally flatter, with less changes in vertical alignment by comparison to the other routes available. It is also the shortest route should cyclists from north to south, and is likely to be more appealing for cyclists who are keen to make headway.
- 5.1.6 **Figure 5-1** indicates the cycle connections proposed across the site.

**Figure 5-1: Site wide cycle connections**



- 5.1.7 The TN containing all responses is contained within **Appendix D**.

# APPENDIX A

ACTIVE TRAVEL ZONE ASSESSMENT





# PENTAVIA MILL HILL

## ACTIVE TRAVEL ZONE ASSESSMENT REPORT

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# 1 INTRODUCTION

- 1.1.1 Velocity Transport Planning (VTP) have been commissioned by Meadow Residential in October 2017 to provide transport planning advice in relation to the redevelopment of Pentavia Retail Park, in the Mill Hill ward, to the north of London Borough of Barnet (LBB).
- 1.1.2 This Active Travel Zone (ATZ) Assessment has been produced to support the recently submitted planning application. The ATZ assessment has been carried out in line with the new TfL Transport Assessment guidance which came into effect on 1 April 2019 and aims to show how the proposed development supports Vision Zero and the Healthy Streets policies.
- 1.1.3 The ATZ assessment has been prepared using the 'ATZ assessment instructions' obtained from the TfL Transport Assessments webpage (<https://tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guide/transport-assessments>)
- 1.1.4 There are four parts to the ATZ assessment process, namely:
1. **Map One:** The ATZ and all potential key active travel destinations
  2. **Map Two:** Neighbourhood safety and the most important journeys with supporting text, including a vision zero analysis and safety improvement ideas.
  3. **Map Three:** ATZ Neighbourhood healthy characteristics check including text on severance, deficiency, local change, the development
  4. **Neighbourhood Photo Survey:** ATZ neighbourhood key routes check based on the Healthy Streets indicators
- 1.1.5 The Neighbourhood Photo Survey site visit was carried out on 4 April 2019 between 10:30 – 16:30. The weather was fine / cloudy with rain earlier in the morning before the site visit began. Even though the site visit was carried out within daylight hours, consideration was made as to how the journey would feel when it is dark.



## 2 MAP ONE

2.1.1 Map One maps all of the key destinations in a wider catchment in the vicinity of the site, including:

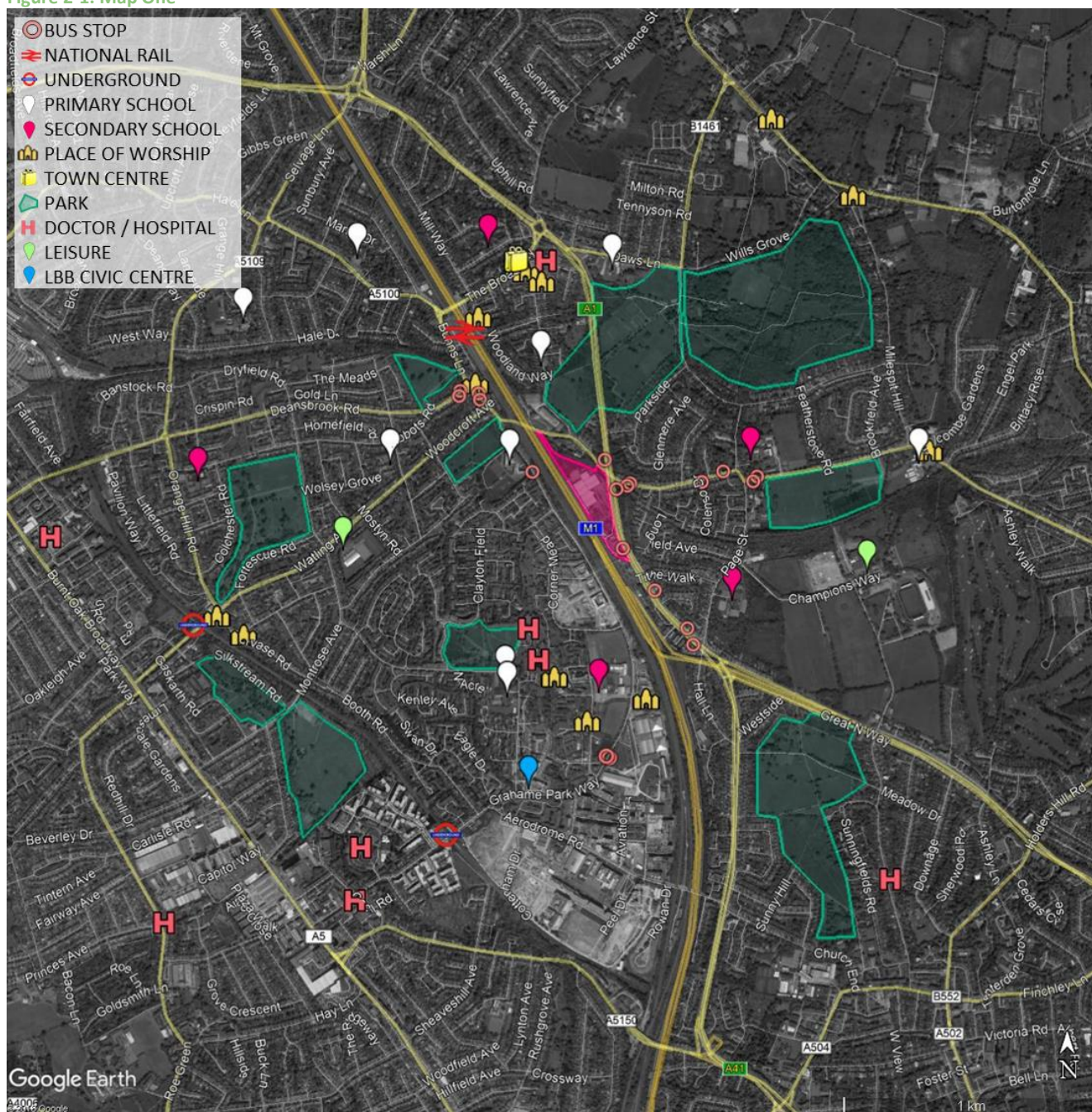
- Town Centre's
- National Rail and underground stations
- The nearest bus stops providing access to a number of different key routes
- Primary and Secondary Schools
- Health Centres / Hospitals
- Parks / Leisure Centres
- Places of Worship
- Key Employment Site – the London Borough of Barnet's new Civic Centre

2.1.2 The above key destinations are displayed on **Figure 2-1**.

2.1.3 No cycle network is mapped as no current or future TfL cycle network exists within the vicinity of the site. However, there are a number of key cycle routes around the development as detailed in the Transport Assessment.



Figure 2-1: Map One



2.1.4 As can be seen in **Figure 2-1**, there are a number of key destinations that will attract walking and cycling trips from the development site. Multiple bus stops are accessible in less than a 5-minute walk, Mill Hill Broadway rail station is within a 12 minute walk, providing access to Thameslink services, Mill Hill Broadway Town Centre is within a 13 minute walk providing access to a range of shops and amenities, and multiple schools, parks and places of worship are within a 5-15 minute walk from the site.

2.1.5 Two key leisure facilities are within a 16-18 minute walk from the site (or a 5-6 minute cycle), the Barnet Cophall Leisure Centre, and the Barnet Burnt Oak Leisure Centre. A key employment site, the new LBB Civic Centre offices are located an 18 minute walk (or 8 minute cycle) from the site.





## 3 MAP TWO

3.1.1 Map two prioritises the key destinations within the ATZ. Since the proposed development is predominately residential the site will generate person trips to a number of different destinations - transport, education, work, leisure, worship, and shopping. Therefore, it is difficult to prioritise any of the land use categories as more important than the other and at least one from each category in the list in Section 2 are included. These key destinations are:

- Mill Hill Broadway Town Centre
- Mill Hill Broadway Station
- Burnt Oak and Collingdale Town Centre's / Underground Stations
- The nearest bus stops providing access to a number of different key routes
- The three nearest primary schools, Dollis Junior School, The Orion Primary School, and North London Montessori School
- The three nearest secondary schools, Hasmonian High Girls School, Copthall School, and St James' Catholic High School
- The nearest health centre, Millway Medical Practice, at Mill Hill Broadway Town Centre
- Multiple parks, including Mill Hill Park, Woodcroft Park, Lyndhurst Park, and Chase Lodge Playing Field
- Multiple places of worship, including Northwest Church, St Michael and All Angels, and the Catholic Church of the Sacred Heart & Mary Immaculate
- Barnet Copthall Leisure Centre
- London Borough of Barnet's new Civic Centre on Graham Park Way / Bristol Road

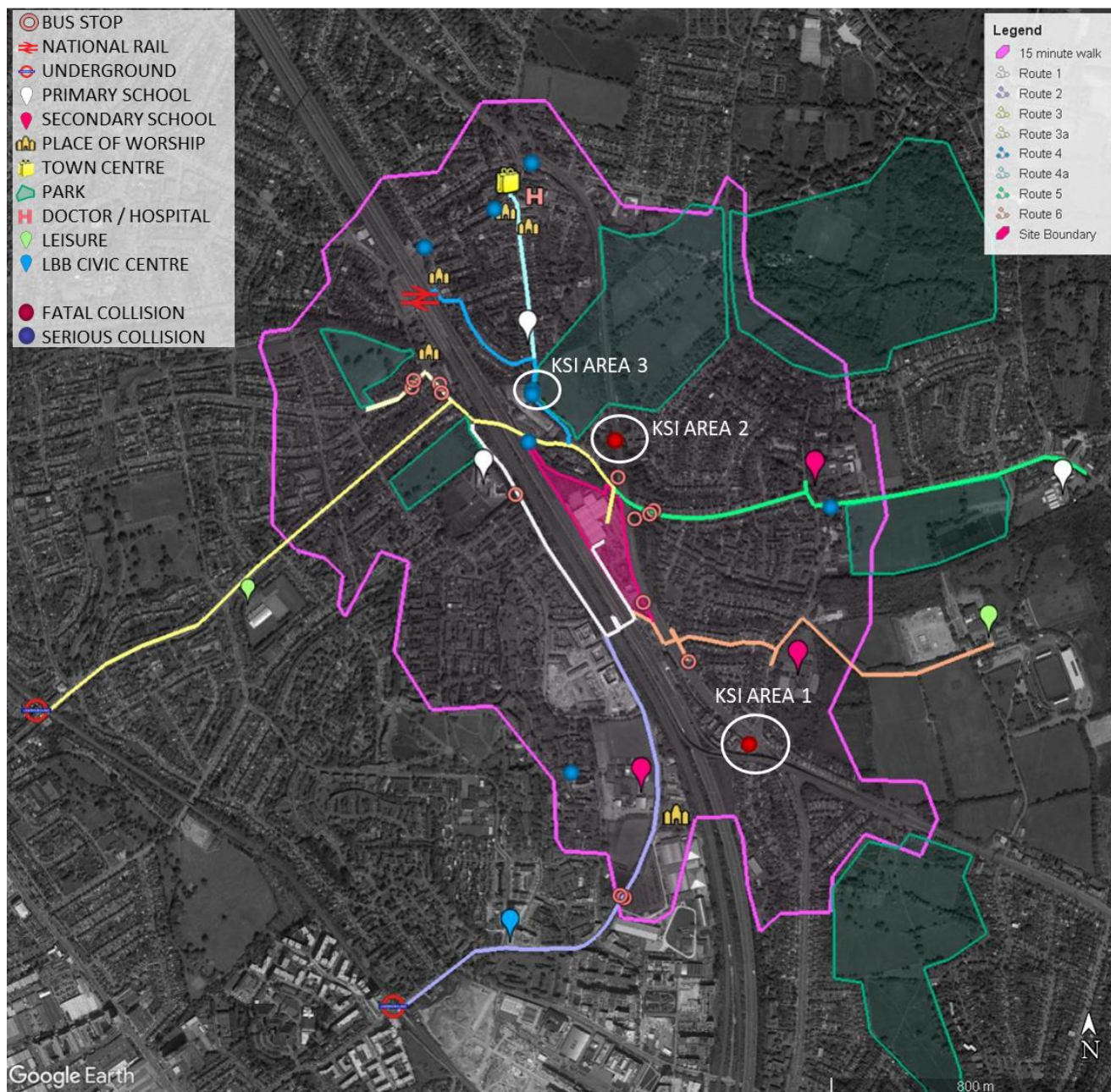
3.1.2 Map Two is shown at **Figure 3-1** and remaps the ATZ at a smaller neighbourhood scale, just big enough to include the most important key destinations described above.

3.1.3 The key walking and cycling routes have been marked to these key destinations from the development site. A 15-minute walking catchment from the site has been shown for scale.

3.1.4 The KSI's have also been added to the map. No junctions identified by TfL for improvement as part of the Safer Junctions scheme are included near the site. There are three areas where there has been either a fatal collision or two serious collisions which are indicated on the map.



Figure 3-1: Map Two – Key Destinations, Walk/Cycle Routes, and KSI's



### 3.1.5

As can be seen on **Figure 3-1** six routes to key destinations have been identified and were confirmed with TfL prior to carrying out the neighbourhood assessment. Some routes include a short branch route (labelled as Route Xa) where a key destination is located just off a main route. These key journeys are described further in the Neighbourhood Photo Survey section (**Section 4**). The KSI analysis is described in the section below.



## 3.2 KSI ANALYSIS

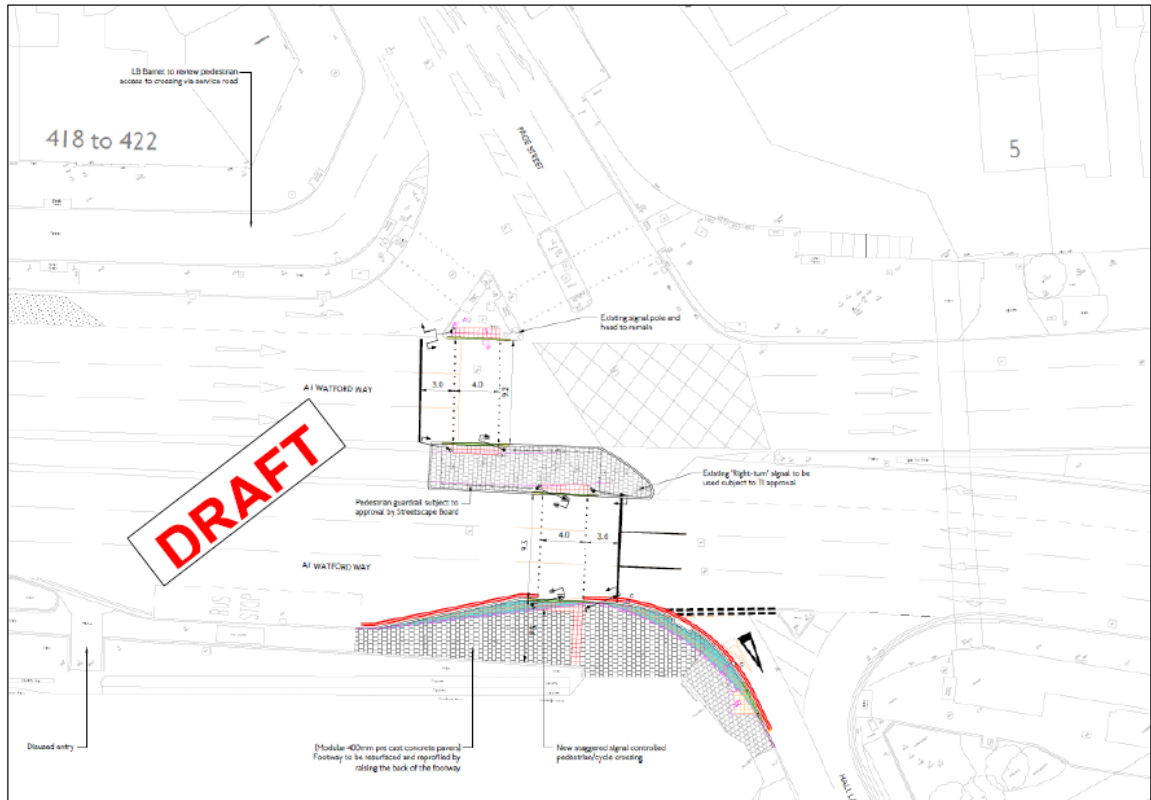
### KSI AREA ONE

- 3.2.1 One fatal collision has been recorded at the Page Street junction with the A1. The collision occurred in October 2013. The driver of a motorcycle has swerved to avoid a pedestrian who was crossing the road not on a pedestrian crossing. The rider could not avoid the pedestrian and they collided resulting in the death of the pedestrian. The motorcycle was travelling northwest on the A1, the pedestrian was crossing the A1 northeast bound.
- 3.2.2 This section of the A1 is a very busy dual carriageway with three lanes in either direction. As such, a pedestrian underpass is provided to enable pedestrians to cross the road safely in this location. It is also worth noting the route to the subway involves crossing Hall Lane, which is also a risk for people accessing the subway.
- 3.2.3 Pedestrian underpasses can be a deterrent for pedestrians as they can require negotiating stairs, it may not be obvious that there is an underpass / it isn't on their main desire line, or it may appear unsafe. Therefore, in this case the pedestrian may have decided to chance crossing the A1 at grade rather than use the underpass due to one of these factors. However, it is difficult to know why this particular pedestrian decided to make the decision to cross the A1 in this location. When inspecting this location onsite the pedestrian subway is in a very well-maintained condition - there is an easy to negotiate ramp as well as stairs, the underpass itself is well presented with mosaic tiles, it is clean, and well lit. However, when approaching the A1 from Page Street as the pedestrian was in this case, planting means that you cannot see the subway or any signs for the subway until you are at the road about to cross, with the subway entrance further to the left around the corner.
- 3.2.4 Therefore, a possible improvement to avoid other pedestrians risking crossing the A1 at grade could be to improve legibility to the subway by using signs on Page Street directing pedestrians to the subway around the corner, or by trimming and cutting back the trees on this corner. The view to the A1 from Page Street is shown in the photograph (**Figure 3-3**) below, the entrance to the subway is to the right but out of view until the pedestrian is past the foliage on the corner.
- 3.2.5 TfL has proposed to install an at grade signal crossing of the A1. This is proposed to be a Toucan for cyclists and pedestrian just north of Hall Lane. TfL has agreed a contribution to this scheme from the Hasmomean School on Page Street as part of their development. To deliver this scheme TfL needs additional funding, see the proposal below.





Figure 3-2: Draft Preliminary design for proposed crossing, supplied by TfL



- 3.2.6 The above is a draft preliminary drawing, for TfL to be able to implement the scheme – further complimentary signal works (and civils works) are required on other parts of the junction.
- 3.2.7 The entrance to the subway from Page Street (stairs and ramp) is shown in **Figure 3-4**.



Figure 3-3: View across the A1 from Page Street



Figure 3-4: Subway entrance under the A1 – looking south from the Page Street corner



- 3.2.8 No other pedestrian collisions have been recorded at this junction of any severity, which is to be expected as the A1 at this location is highly trafficked and would be very difficult and dangerous to cross. Therefore, it is expected that not many pedestrians would choose to cross at grade here due to these deterrents.
- 3.2.9 This collision is not on one of the key walking/cycling routes identified between the site and key destinations and as such it is less likely that new walking trips will be introduced to this location as a result of the development, as there are more direct, safe and attractive routes from the site to the key destinations. TfL has requested funding towards the proposed Toucan crossing of the A1, but TfL has confirmed this is not a priority for offsite transport mitigation. We will explore this further with TfL and Barnet Council.

## KSI AREA TWO

- 3.2.10 At this location a rear end collision was recorded involving three vehicles. All vehicles were travelling southbound on the A1. The first vehicle has suddenly braked due to another vehicle, and while the records do not explicitly say, due to the location of the collision, it is assumed that the other vehicle suddenly pulled out of The Rise. A private ambulance was following the first vehicle and collided with its rear as a result of the sudden braking. A third following vehicle then hit the rear of the ambulance. The passenger in the first vehicle (an 85 year old female) died as a result of the collision.
- 3.2.11 This collision occurred in October 2013 at 18:46 when the A1 would have been heavily trafficked. It appears that this collision was influenced by entering traffic from a side road. Therefore, a potential solution could be to perform a safety audit at this junction and address whether there are any serious safety issues here that could be addressed, for example checking whether there is enough visibility to oncoming traffic on the A1 from The Rise.
- 3.2.12 Furthermore, vehicle speeds and spacings on the A1 should allow for enough time to stop in the event of an emergency or sudden braking. Therefore, a potential solution could be to paint chevron markings on the A1 with signage to advise motorists to keep 2 chevrons apart from the vehicle in front. Research carried out by TRL suggested that the trials of these markings on motorways in the UK in 1990 improved drivers following distances and there was a reduction in collisions.
- 3.2.13 It is noted that there is an area south of The Rise and east of the A1 that may be subject to a possible redevelopment proposal.

## KSI AREA THREE

- 3.2.14 Two serious collisions have been recorded in this location. The first involved a driver travelling southbound on Flower Lane losing control on the bend and colliding with a parked vehicle in July 2013. Conditions were light and the road was dry. The driver was exceeding the speed limit and 'aggressive driving' and 'careless/reckless/in a hurry' are also listed as factors that were involved in the collision. The driver of the car sustained serious injuries as a result of the collision.
- 3.2.15 The second collision involved a motorcycle overtaking parked vehicles northbound on the bend and as a result impacted with an oncoming bus. This collision occurred in July 2014 and conditions were light and dry. Factors involved in the collision included 'travelling to fast for the conditions' and 'careless/reckless/in a hurry'.





- 3.2.16 Both collisions involved excess speeds which may have contributed to the severity of the injuries. Further, when a vehicle is travelling too fast for the conditions it is much more likely that the vehicle will lose control when faced with needing to react to a situation that they were not expecting, as is what happened in both of these collisions.
- 3.2.17 There are two potential solutions to improve the safety of this corner. The first is to reduce the overall speed limit on Flower Lane to encourage slower speeds along all of Flower Lane. Considering that there are already 'SLOW' road markings further north of this location, closer to the High Road, it appears that speeding along Flower Lane may be an existing issue. Or driver behaviour at this corner could be influenced by installing variable speed signs with slow down messaging as they approach the corner.
- 3.2.18 Another option could be to install double yellow lines on the outside of this curve so that vehicles travelling northbound do not need to cross the centre line in order to manoeuvre around parked vehicles. Due to reduced sightlines around the bend, which is also on a vertical rise, vehicles parked in certain locations on the bend could result in drivers passing them with reduced visibility of oncoming vehicles. Further the wide centreline treatment could be introduced in order to provide more physical separation between oncoming vehicles.
- 3.2.19 The Flower Lane curve is shown in the photograph below, the carriageway here is narrow so if vehicles were to park on the outside of the curve, vehicles would need to cross the centre line to pass.

Figure 3-5: Flower Lane curve, looking north



- 3.2.20 To reduce the likelihood and severity of collisions we would recommend Barnet Council implement an area wide 20 mph zone, which should include Bunns Lane, Flower Lane, Grahame Park Way and Pursley Road. The exception would be the M1 and A1, where different approaches to managing speed apply. Promoting lower speed limits and enforcing them would also make it feel safer and easier to cross the road. Physical measures to help reduce speed should also be considered by the local authority.

## 4 MAP THREE

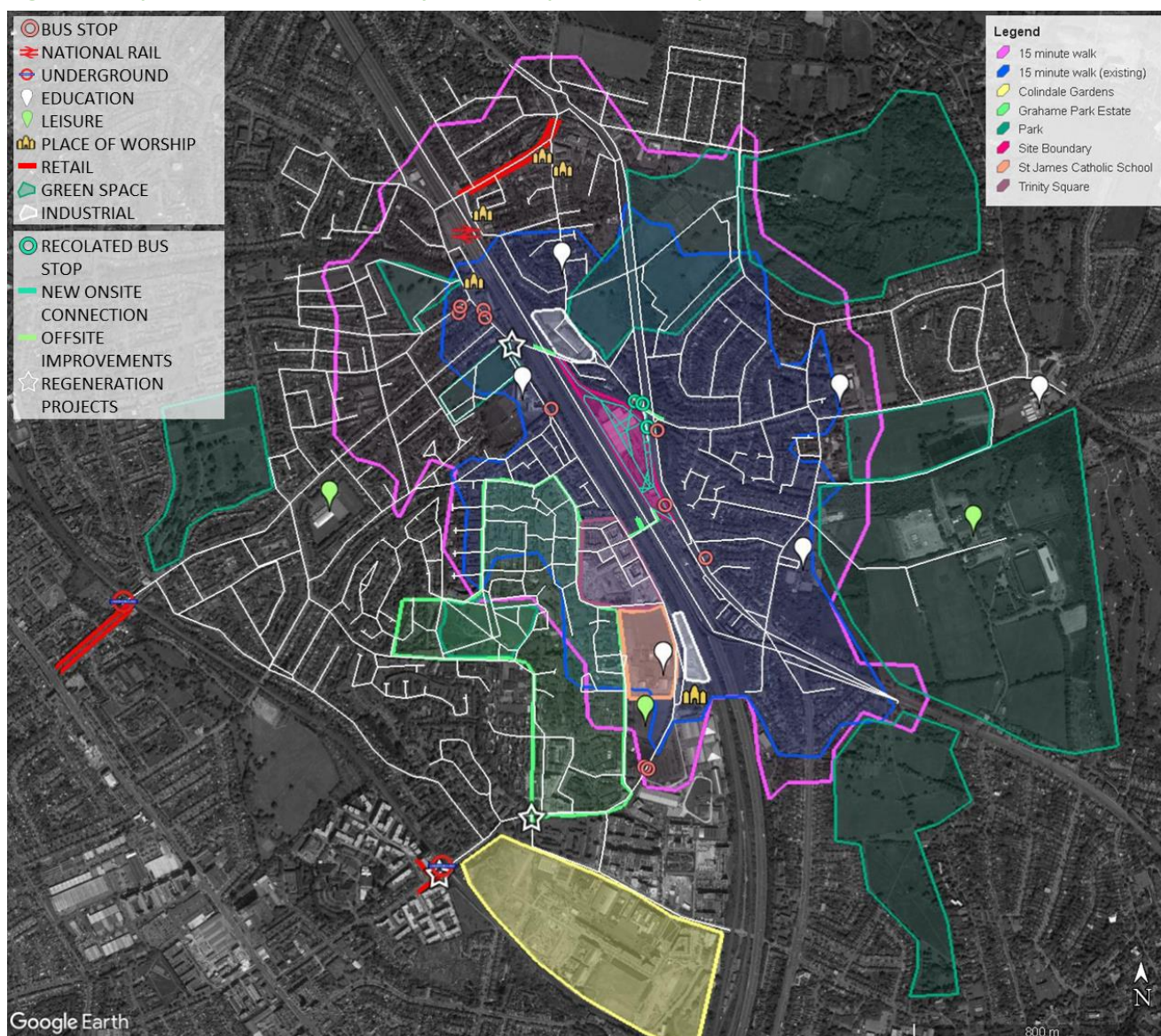
- 4.1.1 The third map looks at the characteristics of a typical healthy neighbourhood. These characteristics are:
- Land use and density
  - Street density
  - Public transport density
  - Green space
- 4.1.2 Other development and regeneration projects have also been mapped in the vicinity of the site, these include:
- Colindale Area Action Plan (CAAP) junction improvements at Bunns Lane / Grahame Park Way
  - CAAP junction improvements at Lanacre Way / Grahame Park way, which includes the removal of the Aerodrome Road Roundabout.
  - New Pelican crossing, bus stop and pedestrian improvements at the Colindale Piazza outside the Colindale Underground Station.
  - Grahame Park Estate development (W/01731JS/04)
  - Trinity Square development (H/03551/14)
  - Colindale Gardens development (H/04753/14)
  - St James Catholic High School development (17/5329/FUL)
- 4.1.3 Map three is shown at **Figure 4-1**. The new connections through the development site as also indicated on the map as well as the relocated bus stops, and areas outside the site where the development will make improvements. The development will make improvements in the following areas:
- A new pedestrian / cycle link is proposed between the site and Bunns Lane that unlocks what was a barrier to the site. The link is proposed to have a positive impact on both the sites accessibility, permeability, and resident's ability to access key services located north of the development. It is intended that the link will open up access to bus routes 221 on Bunns Lane, and 113 on the A1, as well as significantly improve connections to Mill Hill Broadway station. An accessible route linking Bunns Lane with the development is also proposed. This includes a 1:21 gradient ramp that zig-zags up the embankment with more direct stepped access either side. The route will be landscaped with trees and groundcovers to balance surveillance with a buffering from surrounding traffic.
  - The existing pedestrian refuge crossing on Bunns Lane will be upgraded to provide direct access between the new development access and the relocated bus stops.
  - It is also proposed to provide a secondary route to Bunns Lane at the northern tip of the site, which both connects to the site and the A1. The route is proposed as a shared cycle footpath (3.0m wide), to extend the existing shared cycle footpath on the A1 and provide a connection not currently available.





- Improvements to the Grahame Park Way rail underpass and M1 footbridge. Details will be secured post determination in agreement with Highways England but will consist broadly of stone and masonry refurbishment, improved landscaping, and additional lighting and surveillance.
- Improvements to the Bunns Lane / M1 overbridge and rail underpass, details will be secured post determination but will improve the aesthetics of the underpasses including lighting and material improvements.
- Improvements to the Bunns Lane / A1 overbridge, details will be secured post determination but will improve the aesthetics of the underpass including lighting and material improvements.

Figure 4-1: Map three, Land Use, Street Density, Public Transport and Green Spaces



4.1.4 Each of the characteristics of a typical healthy neighbourhood are described in the context of the site below.



## 4.2 LAND USE AND DENSITY

- 4.2.1 Surrounding the site is mainly residential, with many new residential developments recently granted planning permission and in various stages of construction. Each of these new developments will bring benefits to the surrounding road network, with improved footways and pedestrian crossing facilities.
- 4.2.2 Some small pockets of industrial land exist near the site as well as plenty of green space and leisure facilities. Retail and town centre land uses are provided at Mill Hill, Colindale, and Burnt Oak. Plenty of schools exist within a 15 – 20 minute walk of the site.

## 4.3 STREET DENSITY

- 4.3.1 The main barrier for the development site is the location of the A1 and M1 nearby. However, the new connections through the site make journeys to the surrounding area easier and faster. **Figure 4-1** shows a 15 minute walking catchment for the site as existing (using the current access at the south of the site) compared to with the proposed new connections through the site and the new connections to Bunns Lane. It can be seen that Mill Hill Broadway Station, and Mill Hill town centre are now within a 15 minute walk from the site, where they weren't before.
- 4.3.2 Whilst there are several connections over and under the A1 and M1 currently, the development will seek to improve these to make them more aesthetically pleasing and safe in order to make walking and cycling more attractive options for residents.
- 4.3.3 The local street network is shown on Map Three and indicates that whilst there are some pockets of less permeable neighbourhoods that surround the site, there are still main, direct routes to all of the key destinations from the site.
- 4.3.4 Part of the improvements for the local area under the Colindale Area Action Plan (CAAP), include Aerodrome Road being realigned to connect with Grahame Park Way and the current roundabout will be removed improving pedestrian connections through this area. A new puffin crossing outside Colindale Station has also just been installed, as well as improved footways and bus stop outside the station. Junction improvements are also proposed for the Grahame Park Way / Bunns Lane junction including improvements to all pedestrian crossing facilities.

## 4.4 PUBLIC TRANSPORT DENSITY

- 4.4.1 As can be seen on **Figure 4-1** there are multiple bus stops in close proximity to the site providing access to a number of key services. Currently, the closest bus stop to the site is on the northbound carriageway of the A1 adjacent the existing petrol station at the southern end of the site and serves the northbound bus route. The bus stop is located within a five-minute walking distance from the centre of Pentavia Retail Park.
- 4.4.2 As part of the development improvements, the current 113 bus stop that is located just north of the site will be relocated just south of Bunns Lane so that the site will have direct access to this stop, providing access to the 113 route within just a couple of minutes depending on where within the site they live.



- 4.4.3 In terms of accessibility for all, this relocation will make this bus stop more easily accessible for surrounding residents as well. Currently to access this bus stop from Bunns Lane pedestrians can either use the ramp on the northern side of Bunns Lane or the steps on the southern side of Bunns Lane and then walk northbound on the A1. However, the current ramp is very steep, not wheelchair compliant and the path is overgrown making the steps a more desirable option for most. As such, neither option is very desirable for the mobility impaired. The new steps and wheelchair compliant ramp from Bunns Lane that will be implemented as part of the development will make access to this bus stop easier for all pedestrians. The distance to the relocated bus stop compared to the existing bus stop is approximately the same if using the stairs. If using the existing ramp then people will need to walk approximately 90m further to access the relocated bus stop via the new development entrance off Bunns Lane. This additional distance is minimal when considering the improved access will have a lesser gradient and will therefore be more accessible for the mobility impaired.
- 4.4.4 Access to southbound bus stops is available via two routes. Pedestrians can head north on the western footway of the A1 and take steps down onto Bunns Lane, walk under the A1 and up steps on the eastern side to gain access to the footpath adjacent southbound traffic. It is noted that an 11-minute walk is required to access the southbound bus stop from the centre of the retail park. Alternatively, pedestrians can walk south on the western side of the A1 to access an underpass which links to Tithe Walk to the east, and bus stop just south of this point. This underpass has ramps and stairs and is approximately eight-minutes walk from the site. The bus stops are served by bus route 113 which provides services between Edgware and Oxford Circus via Hendon Central, Brent Cross and Finchley Road.
- 4.4.5 Bus route 221 operates frequent service between Edgware and Turnpike Lane via North Finchley and Wood Green and provides a direct service from the Site to Mill Hill Broadway, Edgware, and Mill Hill East Stations. Bus stops are located on Bunns Lane currently and as part of the development will be relocated to be adjacent to the new pedestrian/cycle link onto Bunns Lane providing access to the 221 within minutes for residents.
- 4.4.6 More bus services are available within the residential streets to the west of the M1, (303, 302, 251, 114, 642 and 186) and are accessible via the existing subway / footbridge. The subway will be improved as part of the development making this journey more attractive for residents of the site. All of these services can be accessed within a 10 – 15 minute walk from the site.
- 4.4.7 Burnt Oak Station can be accessed using the 251, 114, or 302 bus services, and Colindale station via the 303 service. Both Burnt Oak and Colindale stations are also within a 25 minute walk or a 10 minute cycle.

## 4.5 GREEN SPACE

- 4.5.1 Mill Hill is surrounded by Green Space, making it an attractive area to walk, cycle, exercise, or visit to play or relax. Mill Hill Park is located immediately north of the site off Flower Lane. The new pedestrian / cycle access onto Bunns Lane results in this park being accessible within a 5-6 minute walk from the site. Alternatively, Woodcraft Park is now within a 7-8 minute walk from the site when using the Bunns Lane access.
- 4.5.2 Two key leisure facilities are within a 16-18 minute walk from the site (or a 5-6 minute cycle), the Barnet Copthall Leisure Centre, and the Barnet Burnt Oak Leisure Centre. In the vicinity of the the Barnet Copthall Leisure Centre is also the Chase Lodge Playing Field, the Mill Hill Rugby Football Club, Hendon Rugby Football Club, Allianz Park, and the Metro Golf Centre / Hendon Golf Club.
- 4.5.3 To the west of the M1 is the Grahame Park Community Pitch, next to St James' Catholic High School.





- 4.5.4 Overall, the site is privy to a vast range of green space and leisure facilities to encourage active journeys and lifestyles. As part of the site's design, and through soft measures such as the travel plan, the development will promote these facilities and active travel to them.



## 5 NEIGHBOURHOOD ASSESSMENT

- 5.1.1 The site visit was carried out on 4 April 2019 between 10:30 – 16:30. The weather was fine / cloudy with rain earlier in the morning before the site visit began.
- 5.1.2 Each route was walked and point of view (POV) photographs taken for the ‘worst’ part of each journey. ‘Worst’ is defined as the most unpleasant or potentially unsafe section for people on the street.
- 5.1.3 The POV photographs have been assessed against eight of the Healthy Streets Criteria (Criteria 3 – 10). These are:
- Easy to cross
  - People feel safe
  - Things to see and do
  - Places to stop and rest
  - People feel relaxed
  - Not too noisy
  - Clean air
  - Shade and shelter

### 5.2 ROUTE 1

- 5.2.1 Route 1 extends from the existing M1 overbridge to Woodcroft Park, The Orion Primary School and bus stops. The worst section on Route 1 is the existing underpass under the rail lines. Pedestrians and cyclists cross the M1 via the overbridge using either the stairs or the ramp and then must use this underpass to get to Graham Park Way on the other side of the rail lines. This area underneath the overbridge feels secluded and has some areas of litter and graffiti. **Figure 5-1** and **Figure 5-2** show the area to the east of the underpass and the underpass looking towards Grahame Park Road.



Figure 5-1: Grahame Park Way underpass – looking southwest



Figure 5-2: Grahame Park Way underpass – looking southwest



5.2.2 This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is easy to cross as it is a dedicated underpass, providing direct access for pedestrians and cyclists. Making it more attractive to users would encourage more use of the underpass unlocking key destinations to the west of the M1.
- This section may make people feel less safe due to the secluded nature of the underpass and location below the railway, especially when dark. Lighting could be improved through the underpass to make it feel more attractive at night. Lighting and material improvements will be made to this underpass as part of the development.
- Things to see and do at this location are lacking. Landscaping, street art or amenity lighting could be added to the underpass to make it more attractive. Part of the improvements will include new landscaping and new stone making this section more attractive, some art could be incorporated into these improvements.
- There is nowhere to stop and rest at this location, if the area east of the underpass was tidied up with litter managed appropriately, people could sit on the grass bank. Again, improvements to the landscaping will help with this criterion. Informal seating is appropriate in this area.
- People may not feel relaxed here due to the volume of traffic passing on the M1 and the feeling of seclusion at night. Again, enhanced lighting, the removal of debris and litter, and improved landscaping here may help people feel more relaxed, especially at night. The design of the area should be easy to maintain and clean; and should avoid creating features that can accumulate litter.
- This area is too noisy due to the volume of traffic on the M1 and passing trains. Not much can be done to reduce noise here unfortunately. However, the improvements to the landscaping may help reduce the impact of noise at this location. Noise can be deflected by barriers or disguised by more pleasant sounds.
- The air here is poor quality due to the location next to the M1. Again, not much can be done about the air quality locally but over time reducing car use through encouraging mode shift and electric vehicles will improve the air quality overall. Further, the new trees and landscaping in this location will help absorb nitrogen dioxide particles and improve air quality through this section.
- This area does provide good shade and shelter due to the overbridge and the underpass. No improvements needed here, although the new trees will also supply more shelter on the Grahame Park Way side of the underpass. Further, by improving lighting and the aesthetics of this location people may feel more comfortable taking shelter from rain at night in this location.

## 5.3 ROUTE 2

5.3.1 Route 2 branches off from Route 1 to connect to the Kingdom Hall of Jehovah's Witnesses, St James' Catholic School, the Barnet Civic Centre offices, and Colindale Town Centre and underground station. Other notable destinations along this route are the Royal Air Force Museum, pubs / restaurants / cafes, and a Sainsbury's supermarket. This route also passes the Trinity Square, Colindale Gardens, and Grahame Park Square development sites.





5.3.2 The worst part of this journey is by the Royal Air Force Museum vehicle access, as this access does not provide tactile pavers and is subject to ponding when wet, as shown in **Figure 5-3**.

5.3.3 It is noted that as part of Barnet Civic Centre at Colindale that some onsite parking was going to be provided at the RAF Museum and improvements to walking routes may be planned.

**Figure 5-3: Royal Air Force Museum entrance, looking south along Graham Park Road**



5.3.4 This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is not easy to cross as there is a large area of ponded water at the northern dropped kerb. No tactile pavers are provided for the visually impaired. Improved drainage at this access could be improved and tactile pavers supplied to make it easier to cross.
- This section may make people feel less safe due to the increased risk of slipping in ponded water, and the visually impaired may feel less safe as they will be less aware of the crossing and oncoming vehicles. Again, drainage at this access could be improved and tactile pavers supplied to make it safer to cross.
- Regarding things to see and do, the Royal Air Force Museum is at this location. Bus stops are just to the south which include maps and information, as well as pubs / restaurants and cafes further south.
- There is nowhere to stop and rest at this location, however the bus stops immediately south provide seating.



- People may not feel relaxed here due to the presence of ponded water resulting in them needing to walk around the dropped kerb either onto the grass verge (which could be muddy or slippery in the wet) or onto the carriageway. By improving drainage at this access, pedestrians will feel more relaxed crossing this access.
- This area is a little bit noisy due to the presence of construction at St James Catholic School across the road. Once this construction is finished the area will be much quieter. Besides some construction noise this area is very quiet and there are low levels of traffic along this section during the day.
- The air quality here is just over the annual mean objective for Nitrogen Dioxide levels. The areas either side of this location are under the mean objective due to the Royal Air Force Museum on one side and a school / community pitch on the other side of the road. Again, not much can be done about the air quality but over time encouraging mode shift and electric vehicle use will improve the air quality overall here. Also, improving the crossing here will help reduce exposure to poorer air quality by the vehicle access or by walking closer to the road to avoid the ponding.
- This area provides some level of shade and shelter due to the presence of well-spaced street trees with closely aligned canopies, especially in spring / summer. Further, the bus stops immediately south provide some shelter. No improvements needed here, although by improving this crossing and removing the ponded water will help people get to sheltered areas faster without the risk of slipping when wet.

5.3.5 It is recommended that measures to improve pedestrian facilities around RAF Museum access be implemented.

## 5.4 ROUTE 3

5.4.1 Route 3 extends from the new pedestrian / cyclist access from the site onto Bunns Lane to the west along Woodcraft Ave / Walting Ave to Barnet Burnt Oak Leisure Centre, and Burnt Oak town centre / underground station.

5.4.2 The worst section of this journey is the section under the rail line as here footways are reduced, sightlines reduced, and the overall environment is less aesthetically pleasing. Immediately to the east of this section is the M1 underpass which while visually unappealing for users does have very wide footways. Both underpass sections will undergo improvements as part of the development.

5.4.3 The Bunns Lane rail underpass is shown in **Figure 5-4** below.



Figure 5-4: Bunns Lane Rail Underpass – Viewed westbound towards Grahame Park Way



#### 5.4.4

This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is not easy to cross as no mid-link crossing facilities are provided. However, since this section is all underpass, there is no reason to cross here until pedestrians get closer to Grahame Park Way. Improvements at the Grahame Park Way Junction would make it easier for pedestrians to cross Bunns Lane. The proposed junction improvements, as part of the Colindale Area Action Plan (CAAP), includes improving all pedestrian crossing facilities, which will make it easier and safer for pedestrians to cross.
- This section may make people feel less safe due to the lack of lighting, especially at night. Lighting could be introduced through the underpass to make it feel safer at night. Lighting and material improvements will be made to this underpass as part of the development.
- Things to see and do at this location are lacking. Landscaping, street art or amenity lighting could be added to the underpass to make it more attractive. Part of the improvements will include material and lighting improvements making this section more attractive, some art or amenity lighting could be incorporated into these improvements.
- There is nowhere to stop and rest at this location, however a nice grassed area exists immediately west of the underpass, on the corner with Grahame Park Way. People could rest here on the grass, or a bench could be implemented as part of the junction improvements here.





- People may not feel relaxed here due to the close proximity to the carriageway, and the lack of lighting at night. Again, enhanced lighting, and the removal of debris and litter here may help people feel more relaxed, especially at night. Widening the footway here would improve safety for pedestrians however this would require further study into how to reconfigure the road layout.
- This area is too noisy due to the volume of traffic on the M1 and passing trains above. Not much can be done to reduce noise here unfortunately. However, the addition of new materials and potential landscaping may help reduce the impact of noise at this location.
- The air here is poor quality due to traffic volumes. New landscaping in this location will help absorb nitrogen dioxide particles and improve air quality through this section.
- This area does provide good shade and shelter due to the underpass. No improvements needed here, although by improving lighting and the aesthetics of this location people may feel more comfortable taking shelter from rain at night in this location.

5.4.5 The recommendation here is to improve the aesthetics of underpass but also work in conjunction with LBB to look at ways in which the area could be improved overall, which would likely include a study. Improvements should be dictated by the study but could include one wider footway on one side only, and improvements to the crossing facility at Grahame Park Way.

## 5.5 ROUTE 4

5.5.1 Route 4 branches off Bunns Lane along Flower Lane. There are two sections to this route, Woodland Way to Mill Hill Broadway Rail Station, and the extent of Flower Lane to Mill Hill Town Centre, Mill Hill Park, multiple places of worship and a health centre.

5.5.2 Mill Hill is classed in the London Plan as a District town centre with medium growth potential. This indicates a town centre with moderate levels of demand for retail, leisure or office floorspace and with the physical and public transport capacity to accommodate it. This indicates the potential for future growth within Mill Hill. Currently Mill Hill town centre offers a range of facilities including multiple small supermarkets, shops, cafes, restaurants and access a range of services such as gyms, pharmacies, dry cleaners, dentists, and opticians.

5.5.3 The nearest Major Town Centre is Edgware, where residents may travel to less frequently to do things that aren't available at Mill Hill, such as a larger grocery shop, or to go to the cinema. However, due to the nature of these activities it is anticipated that trips to Edgware are more likely to be by public transport or private car and that Mill Hill town centre is much more likely to generate demand for localised pedestrian and cycle trips.

5.5.4 Overall, the pedestrian and cycle environment along both sections of this route is pleasant and it was difficult to identify the worst section of this journey. However, when approaching Mill Hill Town Centre on the eastern footway there is currently no provision for crossing the road here for pedestrians. This link provides access to the Health centre and Library on the northern side of Harley Avenue and to shops and cafes on the southern side of The Broadway. Currently, all pedestrian infrastructure leads pedestrians to the western end of The Broadway where the majority of the shops are.

5.5.5 The Hartley Road junction with Flower Lane is shown in **Figure 5-5**.





Figure 5-5: Missing pedestrian crossing across Hartley Road, viewed from Flower lane looking north



#### 5.5.6

This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is not easy to cross by all pedestrians as there are no dropped kerbs or tactile information. Providing dropped kerbs and tactile pavers here would improve this crossing for all pedestrians.
- This section may make people feel less safe due to the lack of dedicated provision for pedestrians and the nature of the junction and location of the litter bin makes it difficult for pedestrians to recognise where a safe place to cross is. Again, dropped kerbs and tactile pavers supplied here would make it safer to cross, as well as relocation of the litter bin.
- Regarding things to see and do, there are multiple activities in this location with Anytime Fitness on this corner, and landscaping on the opposite corner with access to the town centre shops. No improvements are required here.
- Similarly, there are places to stop and rest at this location, with planters on the opposite corner providing informal seating. Again, dropped kerbs the relocation of the litter bin will make the areas to stop and rest more accessible for all.
- People may not feel relaxed here due to the confusion about where to cross the road, or by forcing them to cross to the other side of Flower Lane instead. Supplying a crossing point here will make people feel more relaxed about crossing this section of road.



- This area is a little bit noisy due to the presence of traffic, however, due to the town centre speeds are low here and therefore traffic noise is less obtrusive.
- The air quality here is just over the annual mean objective for Nitrogen Dioxide levels. Improving the crossing here will help reduce exposure to poorer air quality by reducing exposure to vehicles queuing on Flower Lane.
- This area provides some level of shade and shelter due to the presence of street trees and the Anytime Fitness building has a canopy where people could shelter. No improvements needed here, although by improving this crossing will help people get to sheltered areas safely and easily.

5.5.7 The recommendation for this area / journey is to look at town centre wide improvements to improve the safe crossing for pedestrians and cyclists who are visiting Mill Hill town centre. In particular, improving the Broadway / Flower Lane / Henley Avenue junction. Further improvements to increase safety for all pedestrians could be made to crossings along The Broadway as the vast majority do not have tactile pavers.

## 5.6 ROUTE 5

5.6.1 This journey takes people from the new pedestrian / cycle connection created by the development onto Bunns Lane to the east along Bunns Lane and Pursley Road to Copthall School and Dollis Junior School. This journey also leads people to Chase Lodge playing fields, and nurseries.

5.6.2 The worst section of this journey is currently the section leading up to and under the A1, immediately east of the development site. There is an existing pedestrian crossing with central median island here which is in a relatively poor condition, and the footway is narrow with vegetation encroaching onto the footway along the southern side of the road.



Figure 5-6: Existing pedestrian crossing and the Bunns Lane A1 overbridge, looking to the east





Figure 5-7: Bunns Lane A1 overbridge, looking to the east



### 5.6.3

This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is not easy to cross as the current pedestrian refuge island is in poor condition and traffic volumes are high, with pedestrians waiting in a narrow island to cross in two stages. As part of the development proposal the existing pedestrian refuge island will be realigned and upgraded to provide direct access from the site to the relocated bus stops right outside the site. The refuge island will be widened to provide more waiting space and allow pedestrians to cross more safely. Improvements will also be made to the tactile paving.
- This section may make people feel less safe due to the volume of traffic, speeds, and minimal lighting, especially at night. The speed limit could be reduced through this section of Bunns Lane and improved lighting and material changes could be introduced through the underpass to make it feel more attractive and safer at night. Lighting and material improvements will be made to this underpass as part of the development.
- Things to see and do at this location are lacking. Street art or amenity lighting could be added to the underpass to make it more attractive. The development will introduce new landscaping through this section along the front of the site, which will vastly improve the aesthetics of the area. Improvements to the underpass will also be made to make it more attractive.
- There is nowhere to stop and rest at this location, however as part of the development the bus stops further to the east will be relocated to be within this section, outside the site. The new bus shelters will include seating.



- People may not feel relaxed here due to traffic volumes and vehicle speeds. Again, improvements to the lighting, and the removal of debris here may help people feel more relaxed, especially at night. Traffic speeds could also be reduced.
- This area is too noisy due to the volume of traffic on Bunns lane and the passing traffic on the A1 overbridge. Not much can be done to reduce noise here unfortunately. However, the addition of landscaping may help reduce the impact of noise at this location. Further improving the pedestrian crossing, and relocating the bus shelters may reduce peoples exposure to noise in this location.
- The air here is poor quality due to traffic volumes. New landscaping in this location will help absorb nitrogen dioxide particles and improve air quality through this section. Further improving the pedestrian crossing, and relocating the bus shelters may reduce peoples exposure to poor air quality in this location.
- This area does provide good shade and shelter due to the underpass but not immediately outside the site. By improving lighting and the aesthetics of this location people may feel more comfortable taking shelter from rain at night in this location. New trees will be planted along the edge of the site and the relocated bus shelters will also provide shade and shelter.

## 5.7 ROUTE 6

- 5.7.1 This begins from the southern end of the site and crosses the A1 on the journey to bus stops, Hasmonean High Girls School, and Barnet Copthall Leisure Centre.
- 5.7.2 The worst section of this journey is the section of shared pedestrian / cyclist path on the eastern side of the A1. Currently cars are parked along it so pedestrians and cyclists must use the carriageway. Whilst, this is a low volume cul-de-sac road, walking in the carriageway is less comfortable for the user, with the possibility of interacting with vehicles.
- 5.7.3 This section of the journey is shown in **Figure 5-8**.



Figure 5-8: Vehicles parked on the footway, looking south towards the Tithe Road junction with the A1



#### 5.7.4

This area of the journey has been assessed against the eight healthy street criteria below:

- This section of the route is not easy to cross as vehicles are parked all along the path. Parking should be restricted here to ensure the path is free.
- This section may make people feel less safe due to being required to walk / cycle in the carriageway and interact with vehicles. Again, restricting parking here would make this section of the journey safer by separating pedestrians and cyclists from vehicles.
- Things to see and do at this location are lacking. The brick wall along this section is less aesthetically pleasing and is currently graffitied. This could be tidied up or landscaping introduced to make the area more attractive.
- There is nowhere to stop and rest at this location, however there are bus stops on the A1 on either side of this location, both of which provide seating.
- People may not feel relaxed here due to being required to walk / cycle in the carriageway and interact with vehicles. Again, restricting parking here would make this section of the journey safer by separating pedestrians and cyclists from vehicles.
- This area is too noisy due to the volume of traffic on the A1. Not much can be done to reduce noise here unfortunately. But landscaping improvements might help buffer noise from the A1.
- The air here is poor quality due to the location next to the A1. Again, not much can be done about the air quality locally but over time reducing car use through encouraging mode shift and electric vehicles will improve the air quality overall.



- This area doesn't provide shade and shelter. However, there are bus stops on the A1 on either side of this location, both of which provide shelter.

## 5.8 SUMMARY

- 5.8.1 The improvements proposed by the development address the majority of the issues picked up by the Neighbourhood Assessment. Improvements to underpasses could include artistic features to provide more things to see and do along the key journeys. The speed limit on Bunns Lane could also be reduced to make the journeys on Bunns Lane even safer and more comfortable for all road users. It is recommended that a study is carried out for the area of Bunns Lane under the railway line to the Grahame Park Way junction in order to produce options for improvement.
- 5.8.2 Further improvements that could be made include an upgrade to the Royal Air Force Museum access to make it safer and accessible for all pedestrians, and parking restrictions near Tithe Road. Improvements for pedestrians at Mill Hill Town Centre could be made, especially at Hartley Avenue.



# APPENDIX B

STAGE 1 RSA AUDIT BRIEF





# PENTAVIA, MIL HILL

## TECHNICAL NOTE: STAGE 1 ROAD SAFETY AUDIT BRIEF

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019

### INTRODUCTION

A Stage 1 Road Safety Audit has been requested to be undertaken in relation specific design elements of a planning application for the redevelopment of Pentavia Retail Park, in the Mill Hill ward, to the north of London Borough of Barnet (LBB).

The site consists of a former out-of-town retail park with associated parking. The retail development comprised 9,717sqm of A1 / A3 floor space (9,053sqm A1, 644sqm A3). Since 2015 the site has been occupied by Kosher Outlet Store. A TGI Friday Restaurant has more recently ceased trading from the site also.

The proposed development comprises the demolition of all existing buildings and construction of 844 new Class C3 residential dwellings and ancillary Class C3 Build to Rent facilities; 405sqm Gross Internal Area (GIA) Class A1 Retail; 326sqm (GIA) Class A3 and A4 food; and 297sqm (GIA) Class D1 Community; new pedestrian access to Bunns Lane; open space, landscaping; car parking; and highway/pedestrian improvements.

The existing A1 access and egress will be retained as part of the development and will be for use of vehicles associated with commercial uses and residents also. A new pedestrian and cycle connection will be made between the site, the A1 and Bunns Lane.

### RELOCATION OF BUS STOPS

To further enhance the accessibility of public transport services to the site, and rationalise existing spacing of bus stops on Bunns Lane, it is proposed to relocate existing east and westbound bus stops currently located to the west of the A1's bridge over Bunns Lane.

Bus Stops are currently located to the eastern extents of Bunns Lane, near its junction with Page Street. These are approximately 320m east of the bus stops located to the east of the A1 bridge over Bunns lane. The next pair of bus stops on route 221 are located approximately 600m further north-west on Flower Lane. As a result there is scope to rationalise the spacing of these stops such that the space between all stops is more consistent; approximately 450m.

The proposed relocation would reduce the connection to the bus stops by approximately 165m (2 minute walking time), and offers the opportunity to integrate the bus stop infrastructure directly with the developments connection to Bunns Lane. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.

The image overleaf shows a high-level plan associated with the relocation which demonstrates the rationalisation of bus stop spacing and opportunity to create a closer connection to the site.

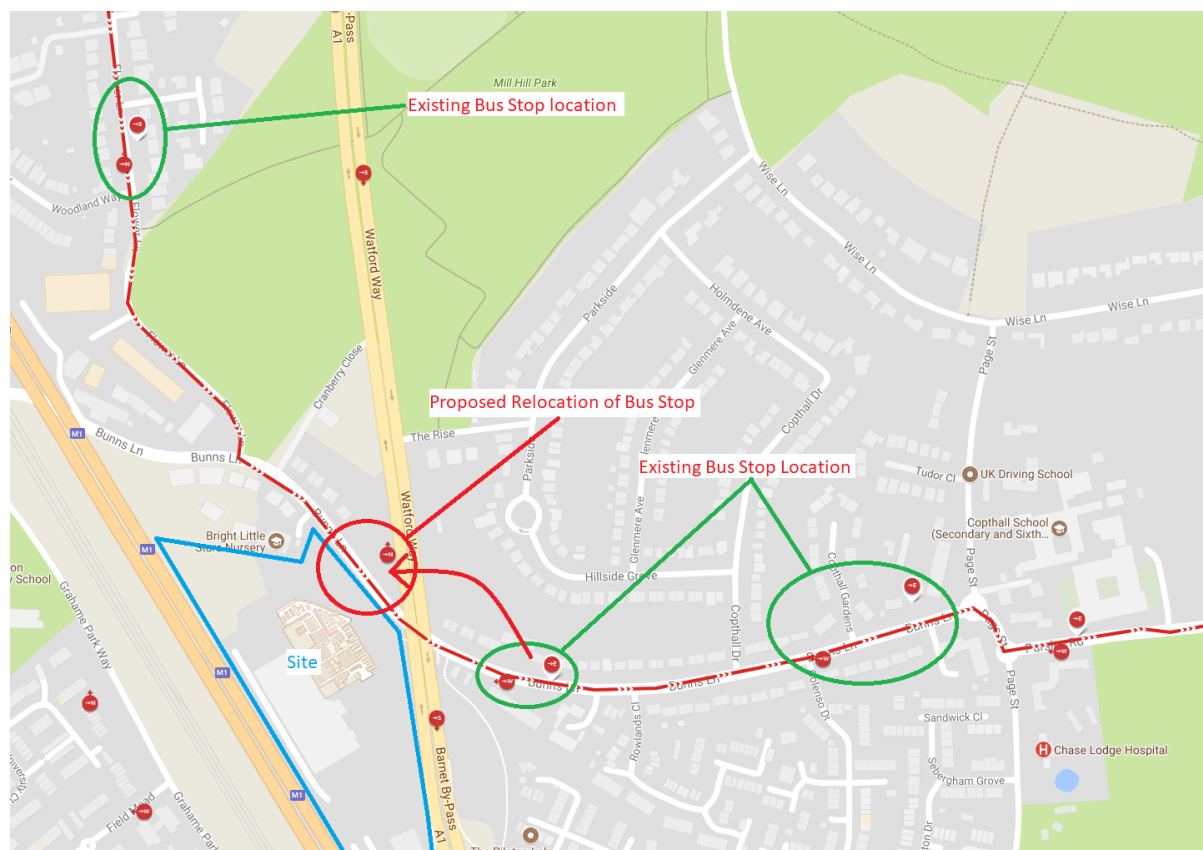


# PENTAVIA, MIL HILL

## TECHNICAL NOTE: STAGE 1 ROAD SAFETY AUDIT BRIEF

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019



### Proposed relocation of Route 221 Bus Stops on Bunns Lane

In response to a request from TfL, the development will commit funding of £95k per year for a period of 5 years (a total of £475k) to add a return journey to bus route 221. It is recognised that the increased frequency in conjunction with the relocation and a new direct connection to Bunns Lane from the development offers an excellent and convenient connection to the public transport network.

As a further enhancement to public transport infrastructure and connectivity it is proposed to relocate the existing bus stop of route 113, currently located just north of the A1's bridge over Bunns Lane, to a position immediately adjacent the site.

The image overleaf shows a high-level plan associated with the relocation.

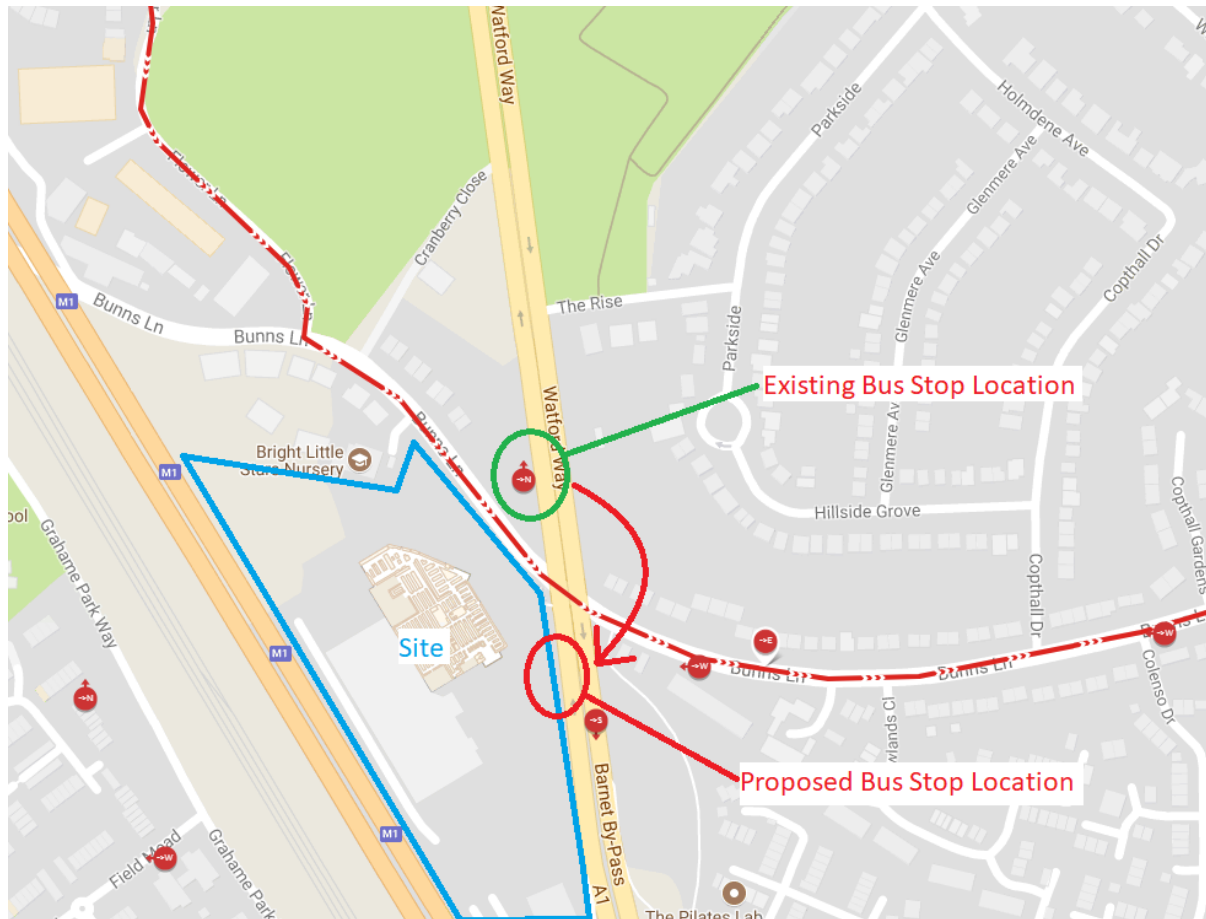


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## TECHNICAL NOTE: STAGE 1 ROAD SAFETY AUDIT BRIEF

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

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**Proposed relocation of 113 Bus Stop on A1**

The relocation of the bus stop is considered appropriate for the following reasons:

- The current bus stop location does not serve any immediate properties / origin / destination in its immediate vicinity (refer to Figure 19-3 which indicates the bus stops existing position);
- The existing bus stop is located to connect to a public footpath which leads to Bunns Lane. However the footpath is narrow, constrained by vegetation, and is also an uncomfortable gradient whether traveling down or uphill. The proposed relocation will tie-in to the proposed access of the site to Bunns Lane which provides both a more direct stepped route as well as a more comfortable ramped route at 1:21;



# PENTAVIA, MIL HILL

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- In conjunction with the relocation linking to an improved route to Bunns Lane, the proposed relocation of route 221 bus stops to this location improves the interconnectivity of the routes. This is a considerable benefit given that the 113 and 221 serve north-south and east west connections respectively;
- In conjunction with the proposed core accesses and relocation / concierge / reception and route through to access the A1, the relocation of the 113 bus stop can be accessed from the development in approximately 110m less distance (1.5 minute walk time);
- The proposed relocation of the bus stop in conjunction with and proposed developments frontage to the A1 and Concierge / reception will offer natural surveillance of the bus stop and improve the boarding and alighting experience (particularly alighting of an evening where the current bus stop location would not be as attractive); and
- The proposed relocation of the 113 bus stop offers the opportunity to integrate the bus stop infrastructure directly into the landscape strategy of the sites boundary with the A1. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.

The images below show the existing 113 bus stop and the connection between it and Bunns Lane.



Existing 113 Bus Stop





# PENTAVIA, MIL HILL

## TECHNICAL NOTE: STAGE 1 ROAD SAFETY AUDIT BRIEF

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019



Existing connection to Bunns Lane from 113 Bus Stop

### AUDIT SCOPE

Two specific areas have been requested to be audited. These relate to:

- Proposed location and design of bus route 221 bus stops; and
- Proposed location and design of bus route 113 northbound bus stop .

The two images overleaf indicate the layout and extent of the Stage 1 Road Safety Audit.

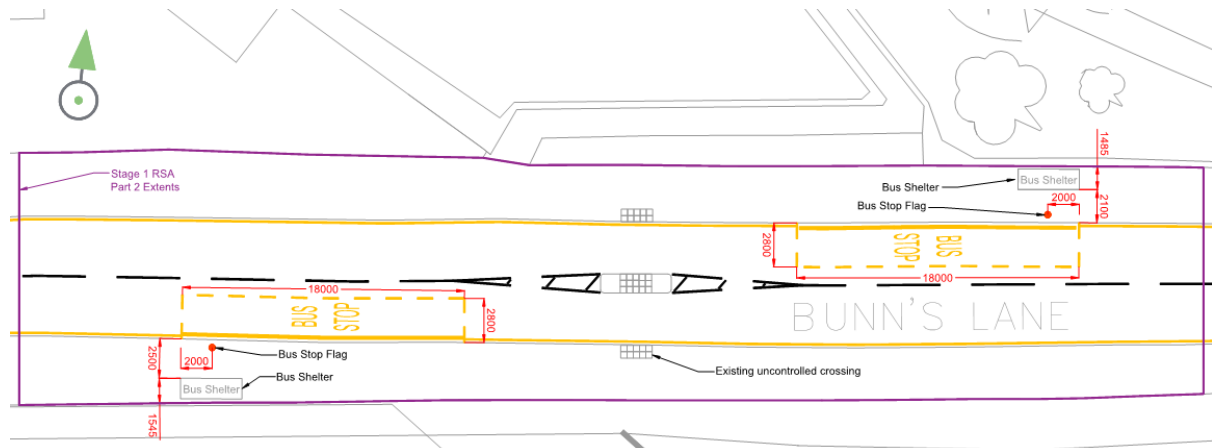


# PENTAVIA, MIL HILL

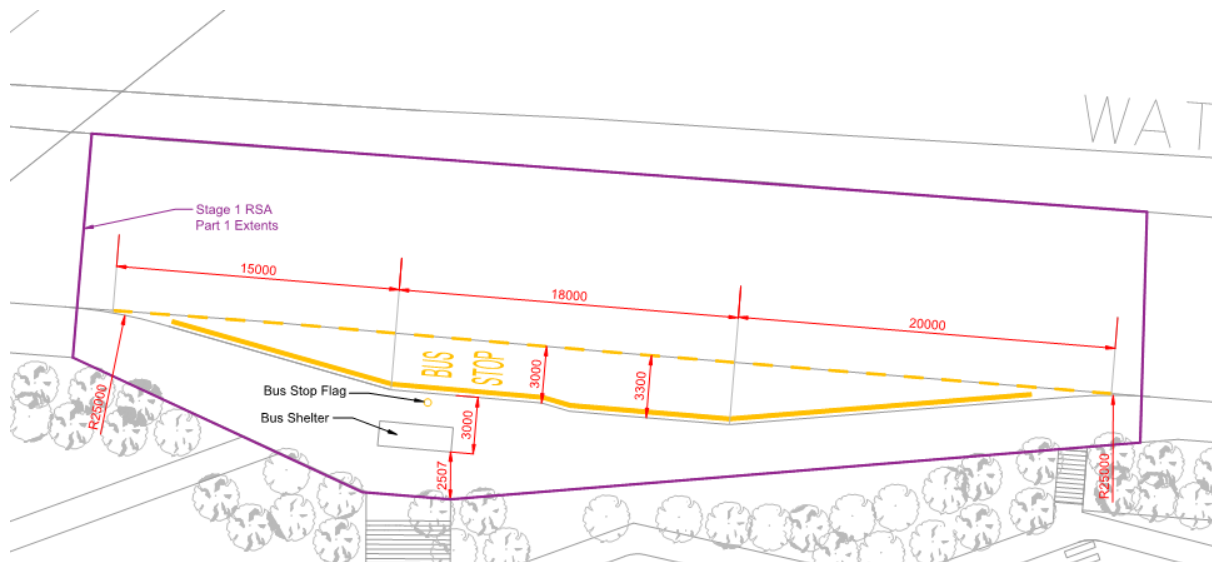
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Proposed 221 Bus Stops



Proposed 113 Bus Stop



# PENTAVIA, MIL HILL

## TECHNICAL NOTE: STAGE 1 ROAD SAFETY AUDIT BRIEF

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019

### SUPPLEMENTARY INFORMATION

Enclosed as part of this Audit Brief are the following documents:

- Proposed Ground / Site Plan – A\_44032\_MH - Sheet - A01-00-03 - SITE PLAN;
- Proposed Bus Stop Location, Route 221 – 2110\_1130\_T\_116 A; and
- Proposed Bus Stop Location, Route 113 – 2110\_1130\_T\_115 A.



# APPENDIX C

PARKING STRATEGY TECHNICAL NOTE





# PENTAVIA, MILL HILL

## TECHNICAL NOTE: RESIDENTIAL PARKING STRATEGY

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019

### INTRODUCTION

1. The purpose of this Technical Note (TN) is to respond to the following reason for refusal made by London Borough of Barnet (LBB) in regard of the proposed redevelopment of Pentavia Retail Park insofar as they relate to transport matters. LBB's reason for refusal states:

*"The proposed development would provide inadequate levels of residential parking provision to serve the development, resulting in likelihood of additional parking stress within the surrounding area parking to the detriment of highway and pedestrian safety and the free-flow of traffic, contrary to Policies CS9 and CS15 of the Local Plan Core Strategy (adopted September 2012), and Policy DM17 of the Local Plan Development Management Policies DPD (adopted September 2012)."*

2. It should be noted that the proposed level of residential parking has been made following consultation with TfL, who have expressed support for the site to promote lower levels of residential car parking throughout previous formal comments made on the proposed development.
3. This TN therefore addresses the following:
  - ⦿ Policy in respect to parking management
  - ⦿ Parking capacity in the vicinity of the site and parking stress
  - ⦿ Benefits of reducing parking ratios



### 1. POLICY

#### *Policy DM17: Travel impact and parking standards*

1. LBB Policy DM17 sets out the parking standards for the borough, and are a continuation of the Unitary Development Plan (UDP) standards originally adopted in 2006. All parking is required to be in accordance with the London Plan, with the only departure being for residential car parking. The departure allows for a greater level of car parking to be provided.
2. Paragraph 18.8.2 of DM17 states that parking restraint is accepted, and confirms that the intention of the more onerous car parking standard is to allow for flexibility to cater for local sensitivities; stating:

*“Our approach to parking provision accepts the need for restraint, but intends to apply it with sensitivity to local circumstances”*

3. LBB Policy DM17 states within (g) part 2 (i):

*“Residential development may be acceptable with limited or no parking outside a Controlled Parking Zone (CPZ), but only where it can be demonstrated through a survey that there is sufficient on street parking capacity”*

Therefore, it is understood that a residential development where appropriate could be car free and remain compliant with DM17. This is further clarified by paragraph 18.8.5 of the policy which states:

*“Development proposals will need to demonstrate through a parking survey that sufficient on- street capacity is available to justify limited or no on-site parking.”*

4. The above is pertinent given that the submitted Transport Assessment (TA) and this TN demonstrates by surveys, the scope of which was agreed with LBB, that there is sufficient on-street capacity to justify the proposed provision of parking to residents.
5. In the London Plan the Mayor expects to see an appropriate balance struck between promoting new development and preventing excessive car parking provision that can undermine the use of other modes. The London Plan recognises that London is a diverse city that requires a flexible approach to identifying the appropriate levels of car parking.
6. TfL doesn't support minimum parking standards for residential, except for Blue Badge. The emerging London Plan and Mayors Transport Strategy (MTS) is the Mayor's position that sets maximum standards, and has more weight in the planning decision. Policy T6 part B of the draft New London Plan states:

*“Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('carlite')”*



*Policy CS9: Providing safe, effective and efficient travel*

7. Having reviewed in full, it is clear that the proposed development accords with CS9 rather than being contrary to it as stated by LBB's reason for refusal.
8. The site will supply quality, safe access to parking spaces, Blue Badge spaces, car club spaces, and electric vehicle charging points. This accords with this Policy of providing safe, effective and efficient travel.
9. Ensuring that the proposed level of residential car parking is the minimum necessary (in accordance with Policy T6 part B) will encourage mode shift away from the private car trips and therefore contribute towards safer and more efficient travel for all users by reducing the number of vehicles within the site and the surrounding road network.
10. The proposed development is also contributing significantly to the improvement and access to existing public transport services. The development will rationalise existing spacing of bus stops on Bunns Lane that are served by bus route 221, and is committing funding of £95k per year for a period of 5 years (a total of £475k) to add a return journey to bus route 221.
11. The proposed relocation would reduce the connection to the bus stops by approximately 165m (2 minute walking time), and offers the opportunity to integrate the bus stop infrastructure directly with the developments connection to Bunns Lane. It is anticipated that the design and treatment of this area will promote the use of the bus service due to both its actual and perceived ease of access.
12. As a further enhancement to public transport infrastructure and connectivity it is proposed to relocate the existing bus stop of route 113, currently located just north of the A1's bridge over Bunns Lane, to a position immediately adjacent the site.
13. The current bus stop location does not serve any immediate properties / origin / destination in its immediate vicinity and connects to Bunns Lane via a footpath that is narrow, constrained by vegetation, and is also an uncomfortable gradient whether traveling down or uphill. The proposed relocation will tie-in to the proposed access of the site to Bunns Lane which provides both a more direct stepped route as well as a more comfortable ramped route at 1:21.
14. In conjunction with the relocation linking to an improved route to Bunns Lane, the proposed relocation of route 221 bus stops to this location improves the interconnectivity of the routes. This is a considerable benefit given that the 113 and 221 serve north-south and east west connections respectively.
15. In conjunction with the proposed dual-core accesses adjacent the A1, the relocation of the 113 bus stop can be accessed from the development in approximately 110m less distance (1.5 minute walk time).
16. The proposed relocation of the bus stop in conjunction with and proposed developments frontage to the A1 and Concierge / reception will offer natural surveillance of the bus stop and improve the



boarding and alighting experience (particularly alighting of an evening where the current bus stop location would not be as attractive).

17. Whilst some of the benefits of the improvements to public transport infrastructure are not quantifiable via PTAL scoring, the development will increase the sites PTAL from being predominantly PTAL 1b, to a score of 3 in the northern area closest to Bunns Lane and predominantly 2 across the site. There will also no longer be any part of the site that scores PTAL 1a.
18. The proposed development also makes significant contributions to improving cycling connectivity by introduction of new routes between the A1 and Bunns Lane which currently do not exist, as well as widening and improving the environment of the existing shared cycle footpath on the A1. The improvements to both pedestrian and cycle connectivity / environment will further contribute towards providing safe, effective and efficient travel.

*Policy CS15: Delivering the Core Strategy*

19. CS15 is a high-level policy which sets out how LBB will deliver the Core Strategy and does not relate specifically to development proposal, and or parking. It is therefore assumed that its inclusion within the reason for refusal can only be on the basis that LBB consider the residential parking levels to be contrary to other policies, DM17 and CS9). This TN has demonstrated that the proposal is compliant with policies DM17 and CS9, and therefore is also in compliance with CS15.





### 2. PARKING SURVEYS

1. This section of the TN evidences that current parking capacity that exists in the vicinity of the site and how, even based on historic trend of car ownership in LBB the development would not result in the creation of 'parking stress' on local streets.

#### *Parking Survey*

2. As set out in the submitted TA an overnight parking beat survey was undertaken on two weekdays, Tuesday 20th and Wednesday 21st September 2016, to understand the level of existing parking demand generated by residents within the area surrounding the site.
3. A site inventory was undertaken, and single parking beat was undertaken on each night. The area surveyed is defined in Figure 1 and the inventory can be found in Appendix B of the TA.

**Figure 1: Parking Survey Area**



4. The capacity, occupancy, and residual capacity that was identified in the area is shown in the table below.

**Table 1: Parking occupancy and residual capacity**

|                     | 20 <sup>th</sup> September 2016 | 21 <sup>st</sup> September 2016 | Average |
|---------------------|---------------------------------|---------------------------------|---------|
| Capacity            | 673                             |                                 |         |
| Occupancy           | 188                             | 186                             | 187     |
| Residual Capacity   | 485                             | 487                             | 486     |
| % Residual Capacity | 72.1%                           | 72.4%                           | 72.2%   |

5. **Table 1** shows that there is ample residual capacity of 72.2%, or 486 parking spaces, in the area overnight and no parking stress currently occurs.

### *Development Demand*

6. The nature of car ownership among rented flats / apartments has been investigated further with specific consideration of average ownership within both LBB, Outer London, and London wide. This assessment is contained within Appendix V of the submitted TA.
7. Based on 2011 Census data for LBB, the proposed development could be expected to generate demand for ownership of approximately 588 vehicles. Data from Outer London indicates demand for ownership of 514 vehicles could be expected, whilst London wide data indicates 423 vehicles could be owned.
8. It is recognised that whilst useful, the car ownership information is from 2011 and only really indicates historic ownership trends without reflecting upon current and future trends which are expected to have decreased, and continue to decrease given the themes of emerging planning policy that have been developed to meet challenging targets associated with tackling pollution and wider health issues.
9. Within the 2011 Census data for car ownership there is an indication that the parking demand is likely to be in excess of the proposed number of residential parking spaces. As such, there is a recognition that the development is contributing towards a change of car ownership behaviour within the area by reducing access to parking below typical levels of demand.
10. Whilst a small minority of people who may wish to own a car and not have access to parking could seek to park in the wider area, the practicalities of doing so will make it unattractive to live at the proposed development, and therefore the development will predominantly attract people who are not reliant on ownership of a vehicle, and who will make use of proposals to improve public transport, pedestrian and cycle links, supplemented by subsidised access to shared vehicles via a proposed car club.
11. The influences of limiting car parking, and more specific factors relating to the proposed development are discussed later within this section. However, to ensure robust assessment none of the influences have been considered within **Table 2**, which assesses the potential for parking stress based on the LBB 2011 Census car ownership demand of the development.

**Table 2: Parking Stress Assessment**



|                              | 20 <sup>th</sup> September 2016 | 21 <sup>st</sup> September 2016 | Average |
|------------------------------|---------------------------------|---------------------------------|---------|
| Development Capacity         | 366                             |                                 |         |
| Development Demand           | 588                             |                                 |         |
| On-street Capacity           | 673                             |                                 |         |
| Existing On-street Occupancy | 188                             | 186                             | 187     |
| Additional Demand            | 222                             |                                 |         |
| Residual Capacity            | 263                             | 265                             | 264     |
| % Residual Capacity          | 39.1%                           | 39.3%                           | 39.2%   |

12. In accordance with DM17 **Table 2** demonstrates “*through a parking survey that sufficient on- street capacity is available to justify limited or no on-site parking.*” With more specific reference to LBB’s reason for refusal; the assessment demonstrates that parking stress will not occur (assume to be when residual capacity is less than 15%).
13. Furthermore, in order to provide additional safeguards to the potential for overspill parking, it is proposed that by legal agreement residents and visitors of the development will be prevented from any rights to obtain parking permits for any future implementation of a Controlled Parking Zone.
14. It is also proposed that the developer will fund two Controlled Parking Zone consultations, one prior to occupation of the development, and the second between 12-18 months post occupation of the development to determine whether residents would like such measures implemented.

### *Other specific influences on car ownership*

15. As mentioned above, the use of Census 2011 whilst useful, only really indicates historic ownership trends based on the type of residential development / products that have been historically provided in the borough. The following paragraphs and information contained within section 3 of this TN are provided for further context on why the ability to influence lower car ownership than the borough average is prevalent.
16. The development will provide 844 residential units in a mix of one, two, and three bedroom units, of which:
  - ⊙ 458 units are proposed to be Build to Rent (54% of all units), of which 188 units will be offered as affordable housing, comprising 30% London Living Rent (LLR) and 70% Discounted Market Rent (DMR).
  - ⊙ 386 units will be conventional residential (46% of all units), of which 157 will be offered as affordable housing, comprising 60% London Affordable Rent and 40% shared ownership.



17. Built to Rent means that the development:

- ⦿ is purpose built for the rental market with a higher quality longer lasting specification;
- ⦿ secures longer tenancy terms with capped rent rises during tenancies;
- ⦿ is professionally managed over the long term by a single institution;
- ⦿ provides a range of on-site services (i.e. concierge and maintenance support); and
- ⦿ provides shared residential amenities.

18. The benefits of Build to Rent accommodation are:

- ⦿ housing to meet the growing demand for rental properties in Mill Hill;
- ⦿ secure tenancies for young professionals and families;
- ⦿ good quality, secure accommodation for the squeezed middle (no equity deposit or mortgage required); and
- ⦿ employment opportunities linked to building management and maintenance.

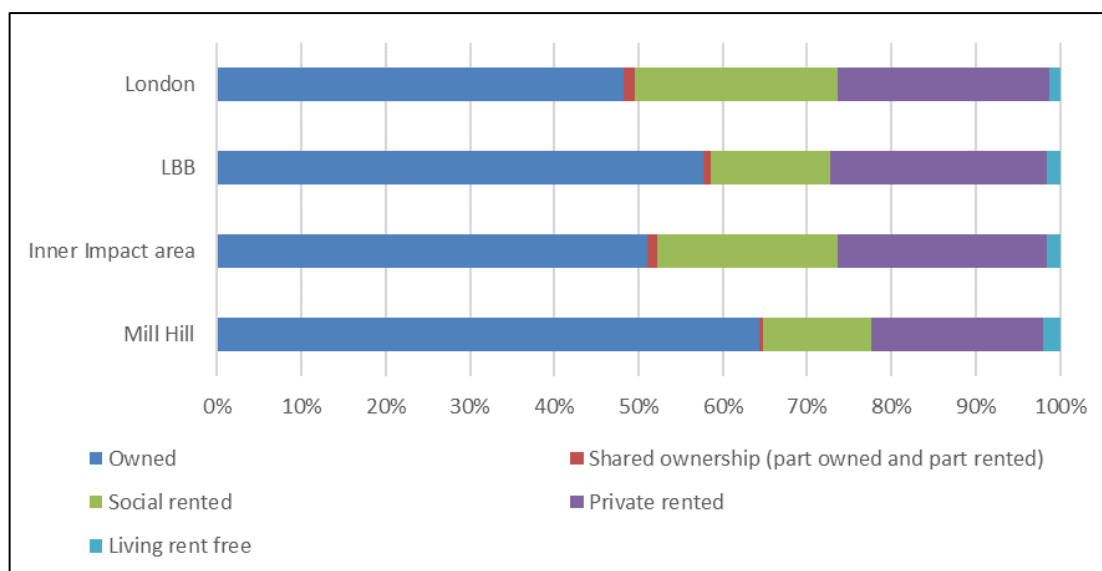
19. Other ancillary uses will also be provided inclusive of a resident's post office, meeting space, and a fitness centre for build to rent residents to use exclusively. It is recognised that this also acts to mitigate against vehicle trips that might otherwise be generated for the purposes of accessing these uses, and supports those who are unable to afford car ownership, and influences choice against car ownership.

20. The nature of the residential as Build to Rent means that dedicated space is provided for the ongoing management facility, inclusive of a concierge service that will have a 24-hour presence within the site.

21. It is recognised that the proposed residential accommodation offered is not typical in its nature, and in particular it is different by comparison to housing stock and tenure that currently exists in Mill Hill and more widely in Barnet. The figure below indicates the proportion of residential dwellings within defined areas by tenure type.

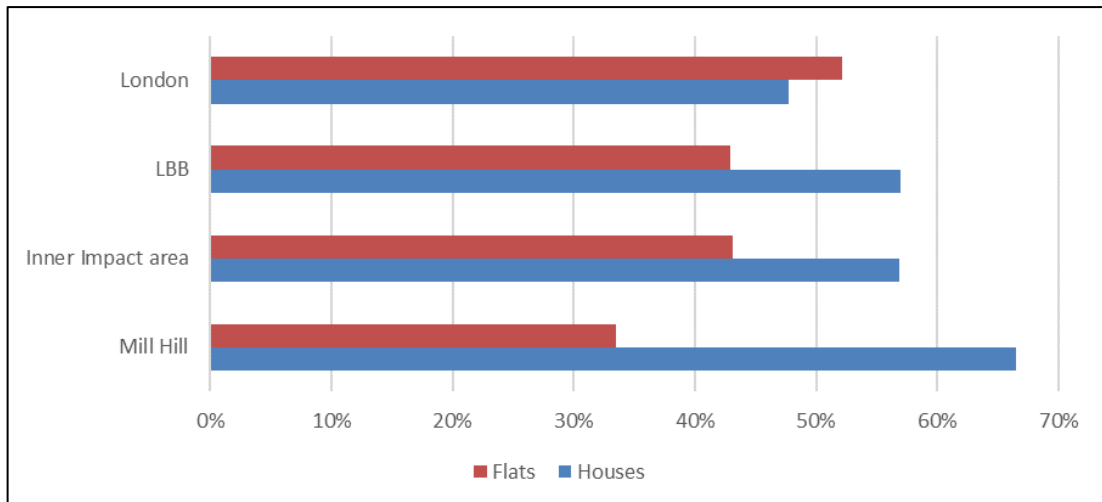


**Figure 2: Contextual Tenure Profile**



22. The area described as the Inner Impact Area (IIA) consist of Burnt Oak, Colindale, Hale, Hendon and Mill Hill Wards combined.
23. As depicted in **Figure 2** the proportion of houses that are owned in Mill Hill (64%) is much higher than the other neighbouring wards combined (51%), and across London. LBB in general (58%) has more home ownership than London as a whole (48%).
24. The proportion of residents living in social rented accommodation lower in Mill Hill ward (13%) and Barnet (14%), and highest in London (48%) and the IIA (21%). Also, the proportion of residents living in private rented accommodation is lower in Mill Hill ward (20%) when compared to the IIA (25%), LBB (26%) and London as a whole (25%).
25. Further, in Mill Hill the majority (67%) live in houses compared to flats, whereas for London the majority (52%) live in flats rather than houses. This is shown in **Figure 3** below.

**Figure 3: Dwelling Type**



26. Overall, the above highlights the fact that the proposed development is not typical of existing housing stock or tenure type in LBB and more specifically Mill Hill. This is considered to be an important distinction in determining appropriate measures to cater for the developments specific needs, and is fundamental in determining an appropriate parking strategy for the site which is included in Section 12 of the TA and summarised again in the section below.

### 3. BENEFITS OF SUPPLYING REDUCED PARKING RATIOS

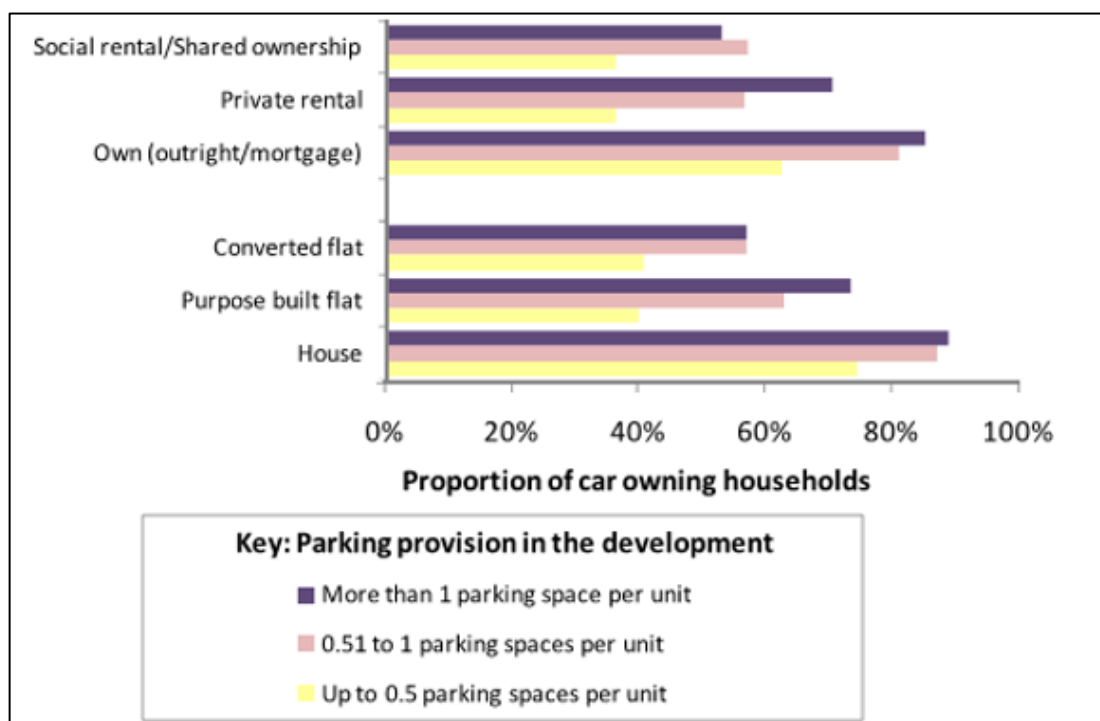
1. This section sets out the benefits of supplying restricted parking at new developments to encourage more sustainable travel modes, and draws on evidence from a variety of different sources.

*TfL's Residential Parking Provision in New Developments (2011)*

2. TfL's research report "Residential Parking Provision in New Developments" provides further evidence into the suitability of parking provision proposed.
3. The report presents the findings of survey fieldwork carried out to better understand the relationship between parking, car ownership and use amongst residents of new developments in Greater London.
4. To better understand the relationship between parking, car ownership and use, TfL undertook a large-scale postal survey in November 2011 with residents of developments (with 10 or more units) built between 2004 and 2009. In total, around 3,000 responses were received from more than 800 developments across London. Two thirds of respondents were residents of Outer London, many living in areas with low access to public transport; one third were residents of Inner London and typically lived in areas with better public transport provision.
5. The key findings as summarised within report, and that are of relevance were:
  - ⊙ For all groups, and in all areas, people living in developments with more parking available had higher levels of car ownership than people living in developments with less parking;
  - ⊙ People choose a home that meets their needs; there is a close relationship between the importance attached to parking and satisfaction with the quality of parking;
  - ⊙ Overall, developments with more parking contain more car owners and generate more car journeys than developments with less parking provided;
  - ⊙ Home owners are more likely to own a car than those renting their home;
  - ⊙ Households living in developments with up to 0.5 parking spaces per unit are significantly less likely to own a car than those living in developments with more than 0.5 spaces per unit; and
  - ⊙ A regression analysis identified key factors influencing car ownership to be tenure, housing type, household structure, working status, area and access to public transport, level of parking provision, and car club membership.
6. Of all respondents, 20% lived in developments with less than 0.5 parking spaces per unit; a clear indication that such provision is widely acceptable both by residents and London Planning Authorities.
7. The graph below is an extract from TfL's research report which summarises the proportion of car owning households in London within different tenure and dwelling types.

**Figure 4: Car ownership by parking provision and other factors**





8. **Figure 4** indicates that within purpose-built flats with up to 0.5 parking spaces only 40% of households are car owners. With parking provision of between 0.5 and 1 space per household ownership is approximately 60%. Therefore, it is expected that the proposed development will demonstrate similar ownership levels for purpose-built flats with up to 0.5 parking spaces per unit, around 40% car ownership rather than the average car ownership for Barnet.

*TfL's Residential Car Parking, London Plan Evidence Base (2017)*

9. This paper outlines some of the evidence supporting the new residential car parking standards contained in the draft London Plan, demonstrating their role in meeting the Mayor's aims for London.
10. The key findings of the report are:
- ⦿ **Car use in London has a host of negative impacts for all Londoners**, including increasing risk of disease from physical inactivity, poorer air quality, more road danger and greater levels of congestion
  - ⦿ For much of London, particularly inner London and the better connected parts of outer London, **it is feasible for many people to live without a car**. For many, walking, cycling and public transport would be sufficient, while alternatives such as deliveries from online retailers, taxis, private hire vehicles or car clubs can replace the need for infrequent car trips. Higher density and mixed used development – which are promoted by the draft London Plan, especially near stations and town centres – will reduce the need to own a car further



- ⦿ There is a clear link between providing parking and resulting car use. This relationship can be used to indicate what travel patterns are likely as a result of the proposed standards, which shows **the proposed standards are supportive of the Mayor's ambitions** particularly when combined with complementary measures including those set out in the draft Mayor's Transport Strategy
- ⦿ **The proposed standards will require supporting measures to deliver**, including improvements to walking and cycling conditions, better public transport and the use of Controlled Parking Zones to prevent overspill parking

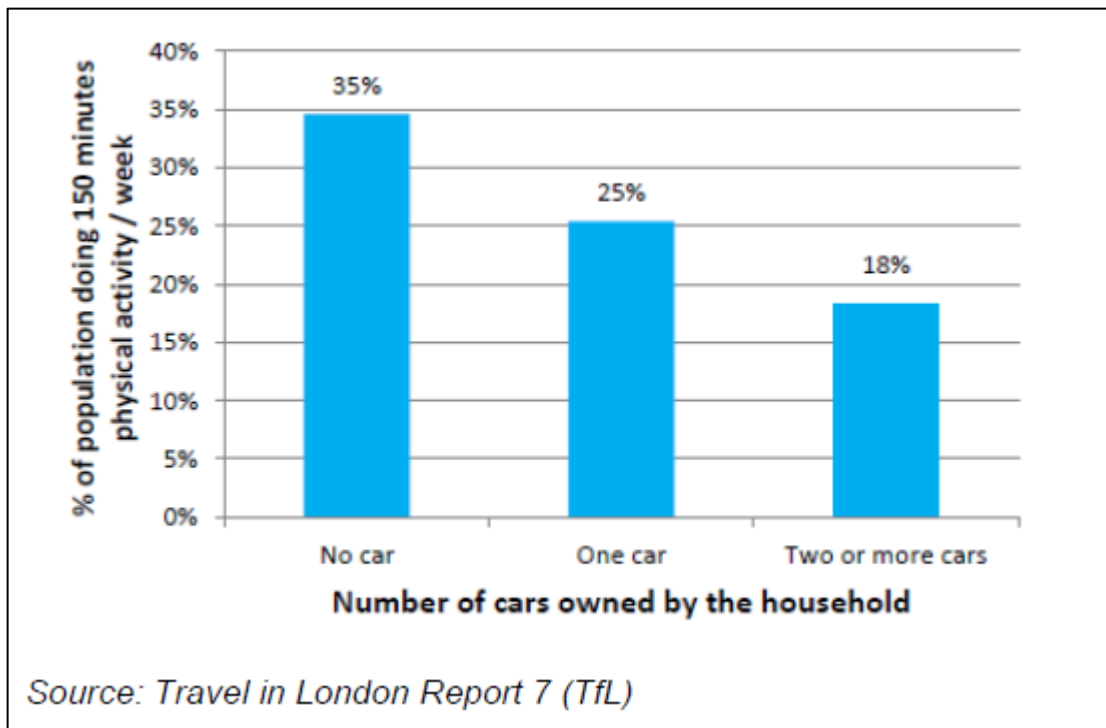
11. Some of the key research that is described in this report is set out in the following sections.

### *Physical Activity*

12. One of the key findings is that those who own cars are much more likely to be inactive, 70% of people without a car do some active travel in a day, compared to 40 – 50% of car owners. The graph below indicates how the more cars a household owns the less likely they are to meet the recommended 150 minutes per week of physical activity.



**Figure 5: Percentage of the population meeting the 150-minutes per week physical activity requirement through active travel, by household car ownership, 2013/14**



13. Therefore, providing less parking in new developments can encourage less car ownership and encourage more active trips.

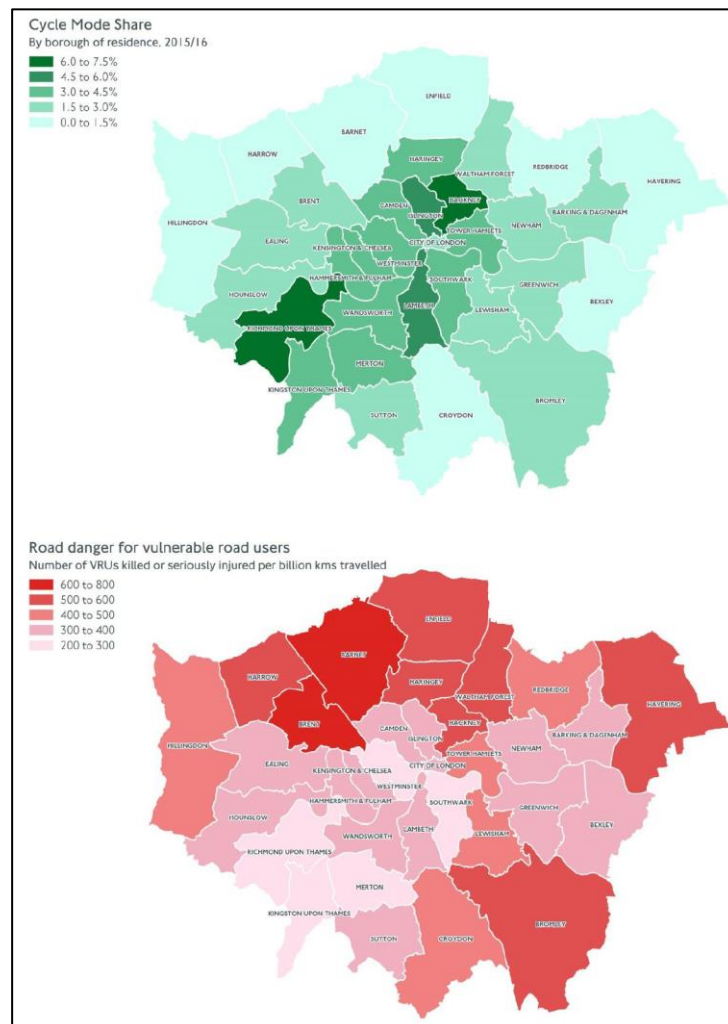
### Air Pollution

14. Air pollution has a significant impact on the health of all Londoners. The adverse effects range from worsening respiratory symptoms and poorer quality of life, to premature deaths from cardiovascular and respiratory diseases. Transport is the biggest source of emissions damaging to health in London - around half of emissions (nitrogen oxides and particulate matter) come from road transport. These pollutants are collectively estimated to cause around 9,400 equivalent deaths every year in Greater London and impose an economic cost somewhere between £1.4bn and £3.7bn a year.

### Road Danger and Severance

15. A key finding of the report is that 'Most collisions in London involve a car and fear of road danger deters people from cycling'. Every car on London's roads presents a risk of collision and resulting injury and death. Road danger also has indirect negative effects: fear of road traffic injury is the primary reason people give for not cycling and that parents give for limiting their children's independence. Fear of road danger from cars and other motorised vehicles is a key factor in preventing Londoners from being more active.
16. Londoners' attitudes towards cycling and road danger may also be reflected in part by the tendency for higher cycling levels in boroughs with lower risk for vulnerable road users, as shown by the figure below.

**Figure 6: Cycle mode share by borough (top) and KSI risk for vulnerable road users by borough (April 2011 to March 2015) (bottom)**



17. **Figure 6** shows that Barnet is one of the boroughs with very low cycle mode share (0 – 1.5%) and also one of only two boroughs with the highest road danger for vulnerable road users (600 – 800 KSI per billion kilometres travelled).
18. This could indicate that the high car use in Barnet and the high exposure to KSIs may also contribute to a fear of cycling and be contributing to the low level of cycle mode share. By encouraging less car ownership and car trips in general may influence people's behaviour in regards to cycling in the long term.

### *Encouraging a Car-Free Lifestyle*

19. Another key finding of this report is that 'reducing the maximum provision of parking could encourage those who could consider a car-free lifestyle to adopt one'. The report makes the following points from the research that was carried out:
- ⊙ The ability to own and park a car can be a major influence for some Londoners when deciding where to live. To some extent at least, the availability of parking attracts existing car owners, which in turn increases the car use generated by the development.
  - ⊙ However, there are also Londoners who will find the decision to own a car more marginal, such as those who use their car infrequently or those who do not own one but would consider buying one. When surveyed in 2011, only a quarter of residents of new development in inner London said their lifestyle depended on owning a car, while a fifth of those who said they were not dependent on a car still owned one. Car parking did not influence the decision of where to live for over half of inner London residents, and while parking does have more of an influence among outer London residents, a majority said access to public transport, work and local services was a major influence.
  - ⊙ Combined with measures to make alternatives to private car ownership more attractive, lower levels of parking provision in new development can encourage more Londoners to adopt car-free lifestyles, particularly among those who do not need a car but may or may not decide to own one in future.
20. The proposed development supports the findings of this report by restricting parking but also encouraging the use of other modes of travel with the implementation of car clubs onsite, new cycle connections / parking, and better access to public transport.

### *Health Impacts of Cars in London (2015)*

21. This document sets out an evidence base for private car use and the impacts of cars on health in the city. It outlines the background to car travel in London including car ownership, the types of journey made by cars, the reasons given for car use and the health impacts of car use.
22. The key points are:
- ⊙ Car Ownership in London



- Household car ownership in Greater London is significantly lower than the average in England.
- Household car ownership increases with household income. However, car ownership remains static at around 80% for households with an income over £75,000.
- Household car ownership tends to be lower in areas with better access to public transport.
- People choose to own a car for a combination of practical and emotional reasons.

### ◉ Car Use in London

- Most journeys by Londoners are not by car, only a third of journey stages in London are by private transport.
- Car use increases as the level of household car ownership by borough increases.
- Over one third of all the car trips made by London residents are less than 2km and could be walked in up to 25 minutes.
- Habit strongly influences choice of travel mode.

### ◉ Health Impacts of Car Use in London

- Most people in London do not use cars regularly but car use impacts on everybody's health.
- Car use impacts on the health of car users through:
  1. Physical Inactivity
    - i. Car ownership is linked to how much walking and cycling Londoners do. Walking levels decrease significantly as household car ownership increases.
    - ii. In London children living in households without access to a vehicle are 2.3 times more likely to walk to school than children living in households with vehicle access.
    - iii. Car use is associated with an increased risk of obesity while walking and public transport use are associated with not being overweight or obese.
    - iv. Walking is a universal activity in London.
    - v. In London half of all walking is carried out as part of trips by public transport.
  2. Air Pollution
    - i. Car drivers can be exposed to higher levels of air pollution than cyclists.

### ◉ Reducing Car Use in London



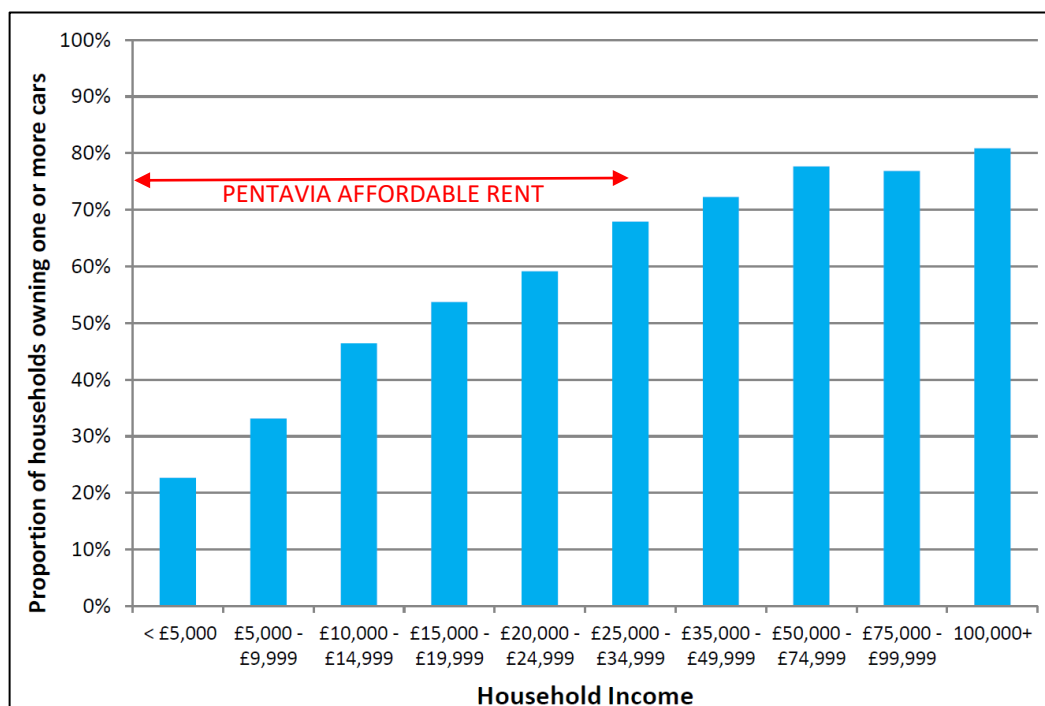
- There are many short car journeys made by London residents which could easily be switched to walking or cycling:
  - i. 1.6 million car trips per day could potentially be walked.
  - ii. 2.7 million car trips per day could potentially be cycled.
- Reducing car use in London would bring health benefits to all Londoners.
- If Londoners swapped motorised trips that could reasonably be walked and cycled, 60% of them would meet the recommended 150 minutes of physical activity per week through active travel alone. The population of London would gain over 60,000 years of healthy life every year which would deliver an economic health benefit of over £2 billion annually.

### *Household car ownership by household income*

23. This paper looked at household income in relation to car ownership. It was found that the proportion of households owning a car increases as household income increases, from 23% in London households earning less than £50,000 per year to 78% in households with incomes of £50,000 - £74,999 per year.

**Figure 7** shows the proportion of London car ownership by household income.

**Figure 7: Proportion of households owning one or more cars by household income**





24. The nature of the proposed development is that it will be more affordable for lower incomes, with 41% affordable homes. For the affordable houses, £29,000 annual household income is required for a 1 bedroom, £32,500 for a 2-bedroom, and £35,500 for a three bedroom. Therefore, within this income bracket (shown in red on **Figure 7**), car ownership varies from 23% to 68%, and as such it is expected that car ownership for those who choose to live in the development will be much lower than the average (Barnet car ownership is 65% on average).
25. **Figure 7** gives a similar finding to **Figure 4** which indicated that car ownership in developments with up to 0.5 parking spaces per unit was also lower (at approximately 40%). Therefore, by considering both pieces of evidence together, it is anticipated that the level of car ownership that will be encouraged at the proposed development will be much lower than the average for Barnet. As such, the lower parking provision combined with the type of tenure will naturally encourage a higher proportion of people who are not car dependant to live at Pentavia.

*TRL Parking Measures and Policies Research Review (2010)*

26. This research investigated the evidence about the impact of different types of parking measures and policies on road traffic, congestion and transport safety, car ownership, on the level of carbon emissions from transport, on the activity of businesses, and on townscapes.
27. TRL identified and reviewed over 175 papers, documents and books of possible relevance to the study and entered their details into the database. The papers they cited are those in which they had confidence in the research methodology undertaken and some were included because they report innovations or interesting results that they thought may be of use.
28. The report also stresses the importance of a 'Paradigm shift' which has started to occur in the UK and in North America regarding parking planning. This is referred to as a fundamental change in how a problem is perceived and solutions are evaluated. Moving away from free and abundant parking where the aim was to maximise supply.
29. The old paradigm assumed that parking spaces should almost never fill, that parking facility costs should be incorporated into the costs of buildings or be subsidised by local government, and that every destination should satisfy its own parking needs. This conventional practice is still widely used in suburban areas.
30. The new paradigm strives to use parking facilities efficiently. It considers full car parks to be acceptable and that any spillover problems, such as congestion or carbon emissions, should be addressed. It emphasises the sharing of parking facilities between different destinations. It favours charging parking costs directly to users, and providing financial rewards to people who reduce their parking demand. The new paradigm strives to provide optimal parking supply and price accordingly. It considers too much supply as harmful as too little, and prices that are too low as harmful as those that are too high.

# PENTAVIA, MILL HILL

## TECHNICAL NOTE: RESIDENTIAL PARKING STRATEGY

CLIENT: HEALEY DEVELOPMENT SOLUTIONS (MILL HILL) LTD

DATE: APRIL 2019

31. The new paradigm recognizes that transport and land-use conditions evolve so parking planning practices need frequent adjustment. It allows new approaches to be tried until their effectiveness (or lack thereof) is proven.
32. The old paradigm results in predict and provide planning, in which past trends are extrapolated to predict future demand, which planners then try to satisfy. This often creates a self-fulfilling prophecy, since abundant parking supply tends to increase vehicle use and urban sprawl, causing parking demand and parking supply to increase further.



# APPENDIX D

RESPONSE TO BCC TECHNICAL NOTE



### INTRODUCTION

1. The purpose of this Technical Note (TN) is to respond to comments raised by Barnet Cycle Campaign (BCC) in respect of the proposed redevelopment of Pentavia Retail Park.
2. It is noted that this note seeks to respond to both comments made in regard of planning application 17/8102/FUL submitted on the 26 January 2018, and subsequent comments made following amendments to the proposed development.
3. In advance of specific responses made within this TN, it is pertinent to highlight that the National Planning Policy Framework (NPPF) states:

*“Planning obligations must only be sought where they meet all of the following tests:*

*(a) necessary to make the development acceptable in planning terms;*

*(b) directly related to the development; and*

*(c) fairly and reasonably related in scale and kind to the development.”*

4. As such, any commitments or contributions towards improvements to off-site cycle infrastructure need to be considered in the context whether they are required in planning terms, directly related to the development, and fairly and reasonable in scale and kind to the development’s specific impacts.
5. It is therefore important to consider the context of the developments demand for increased cycling within the wider area, and it’s own context when compared against other competing sustainable modes (i.e. walking and public transport).
6. The submitted Transport Assessment (TA) including a trip generation exercise that has been scoped and agreed with TfL that identifies the developments main mode trips. It identifies that only 3% of daily trips made are anticipated to be by cycling, whereas 33% of trips are made on-foot, and a further 32% by public transport modes who will also generate movements on-foot in order to access the services.
7. It is therefore appropriate to consider the appropriateness of off-site cycle infrastructure in the context of its balance and potential impacts to other more prevalent sustainable trips in order that any planning obligations can be demonstrated to meet the NPPF tests.



### 1. RESPONDING TO THE PLANNING BRIEF

1. As part of BCC's comments, reference is made to the to specific sections of the site planning brief which BCC have stated provides context for their objections. The following paragraphs summarise the relevant sentences of the planning brief and how the proposed development responds to these.

*"1.2 The objectives for the site are: improvements to existing transport infrastructure and creation of new pedestrian and cycle links to Mill Hill Town Centre, Colindale, Mill Hill Park, Copthall and local transport nodes"*

2. The proposal meets the objective of creating new cycle links between the A1 and Bunns Lane which currently do not exist. The proposal also allows for varied route choice and route choice characteristics in order to make the new connection, which widens the appeal of the cycling connection to a wider cohort of cyclists with varying degrees of experience and confidence.
3. Mill Hill Town Centre – New connections made to Bunns Lane (which currently do not exist other than via a very steep narrow / unsuitable connection on the north side of Bunns Lane), which facilitates the opening up of access to the Town Centre via Flower Lane.
4. Colindale – New 3.0m wide cycle connection to Bunns Lane adjacent the M1 / Rail Bridge facilitates access to the northern end of Grahame Park Way and associated cycle lane. This is a new and direct (as direct as possible given the site is bound by the M1 and Rail lines to the west) access towards Colindale. Direct access to the ramps associated with the M1 bridge at the southern end of the site can also be gained by cyclists via the new proposed path which would otherwise require circulation around the east side of the BP Petrol Station (and associated crossing movements with the on & off slip roads). This connects to Grahame Park Way via the rail underpass which is subject to improvements as identified as part of the proposals.
5. Mill Hill Park – As with Mill Hill Town Centre, the new cycle connections facilitate access to Flower Lane & Mill Hill Park by creation of a new cycle link between the Site / A1 and Bunns Lane.
6. Copthall – connection to Bunns Lane as described above. It is further noted that the developer has committed to make a meaningful contribution to an improvement scheme at the Bunns Lane / Page Street junction (currently configured as double min-roundabouts), and it is recommended that pedestrian and cyclists be at the forefront of any emerging changes to the junction.
7. Local Transport Nodes – new connections to Mill Hill Broadway Station created across the site as described above. Connections to Grahame Park way as described above facilitate improved connections to Colindale Station.





# PENTAVIA, MILL HILL

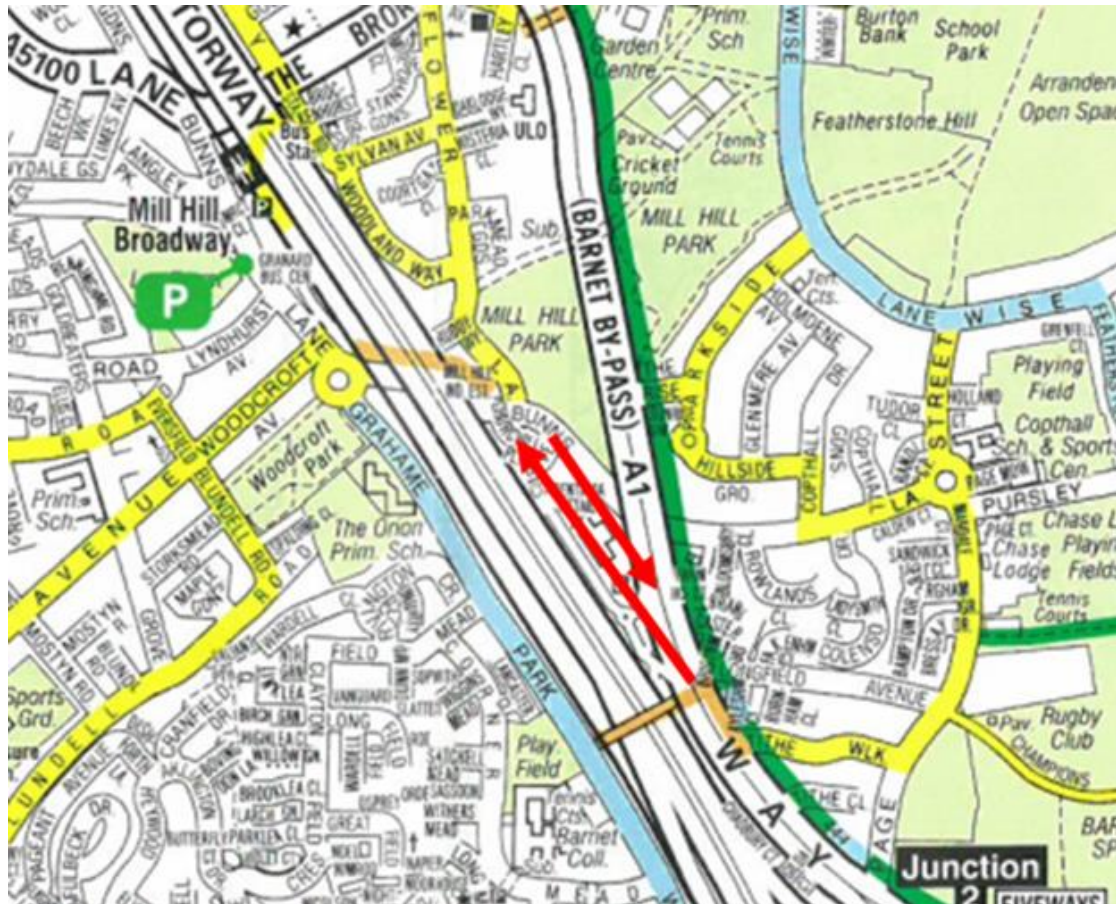
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8. At a high level view the proposed development can be seen to be creating a connection between existing cyclable routes that otherwise does not exist, stitching together two otherwise quite separate cyclable areas. This is illustrated in **Figure 1**.

**Figure 1: Creating New Cycle Links**



*“1.3 In order to deliver these objectives, the sustainable redevelopment of the Pentavia site presents a number of opportunities. These include: new pedestrian and cycle links that contribute to the re-integration of the site with Colindale and Mill Hill.”*

9. As described above, the proposed development proposes to significantly contribute to the re-integration of the site to the wider by establishing a number of varied routes and connections across the site and to Bunns Lane that currently do not exist. Further contributions are committed to being made to improve both the underpass of the A1 and M1 / railway on Bunns Lane, and the underpass to the south of the site linking to Grahame Park Way.



*“5.12 Due to the low PTAL rating combined with difficult pedestrian and cycling linkages any future development will need to both improve these access routes” with reference to Mill Hill Broadway and Grahame Park Way*

10. Improvements made towards connections to Mill Hill Broadway and Colindale have already been responded to above. It is noted that access to Bus routes 221 and 113 are proposed to be improved by bus stop relocations, as well as contributions to improve the services frequency of bus route 221.
11. The proposals to improve connectivity to public transport services has increased the sites PTAL from predominantly PTAL 1b, to a score of 3 in the northern area closest to Bunns Lane and predominantly 2 across the site. There is also no longer any part of the site that scores PTAL 1a.

*“6.6 The introduction of residential land uses would be subject to demonstrating the ability to provide suitable accessibility for future residents through the creation of new and improved vehicular and transport connections, alongside improvements to cycling and pedestrian access and choice”*

12. The site is bound by the M1 Motorway, Bunns Lane, and the A1 from which vehicle access and egress is undertaken. The possibility of providing a secondary access and egress (or only one of the aforementioned) was explored through consultation with LBB and local residents, and was met with significant resistance. Given no other additional access and egress options for vehicles exist, it is proposed to be maintained via the A1 only. Given the quantity of vehicle traffic expected to be generated by the proposed residential use in the context of the existing sites permitted use (a daily net reduction) and current traffic flows on the A1 it was considered inappropriate to consider a more significant design intervention on the A1 (i.e. new all-movement signalised junction).

*“7.15 A full Transport Assessment (TA) will therefore be required to examine the impact of the proposed development and how such impacts will be mitigated. It will therefore need to include a detailed assessment of any new link road/s. The impact of the development on the local road network, as assessed in the TA, should include, and not be restricted to the following junctions:*

- i. A41 / Page Street / Hall Lane / A1 / A41 Great North Way (Fiveways Corner);*
- ii. A1 / A41 / The Broadway (Mill Hill Circus);*
- iii. Bunns Lane / Grahame Park Way;*
- iv. Page Street / Pursley Road / Bunns Lane;*
- v. Both ends of Flower Lane; and*
- vi. Bunns Lane / Hale Lane / The Broadway.”*

13. All the aforementioned junctions are assessed as part of the TA.



### 2. OBJECTIONS

*"The Site Plan shows paths that appear to be too narrow. Such paths should be at least 2.5m if shared, and preferably 3m and segregated"*

1. The design team has taken onboard the comment raised by BCC, and has reviewed the cycle routes and opportunities to improve and vary the cycle experience across the site further.
2. There remains a route through the central part of the site from north to south which is in excess of 3m wide. The route is treated as a shared space with vehicle activity in the central area limited to servicing and emergency vehicles. It is anticipated that this may be used by less experienced cyclists and /or those who are not looking to make expedient headway and instead enjoy the activity of the development / commercial uses on route.
3. Plans have now been amended to widen the existing shared cycle footpath on the A1 adjacent the site, with the developer offering up land for adoption by TfL in order to facilitate the works. This will increase the width to 2.5m.
4. The widened footpath on the A1 connects to the proposed ramp to Bunns Lane. The design of which has been reviewed to increase the width of the ramp to 2.5m.
5. A new proposed shared route has also been added to the plans. It runs from north to south immediately adjacent the M1 and the proposed developments access road. This route is generally flatter, with less changes in vertical alignment by comparison to the other routes available. It is also the shortest route should cyclists from north to south, and is likely to be more appealing for cyclists who are keen to make headway.
6. **Figure 2** below indicates the cycle connections that can be made across the sites, identifying three route choices.

**Figure 2: Site wide cycle connections**



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*“Cars use a 2-way street along the west side, which provides 3 entrances to underground car parking. The cycle parking is also underground, and it is not clear from the plans submitted that cyclists have separate access. BCC objects to any development proposal that does not segregate bicycles and cars at the entrances and exits to the underground parking.”*

*“It is unclear from the plans whether there are steep gradients expected to enter or exit the underground parking. BCC objects to any access to the underground parking that prevents disabled and elderly cyclists from using their bicycles. This includes lack of provision of step free access to the surface.”*

7. The access points to the car park are of sufficient width to allow the safe interaction of cycles and vehicles and or the inclusion of demarcation of a separate cycle entrance. The widths vary from 6.5m to 7.2m, with level access afforded on the most southerly ramp (which can be accessed from all cycle storage locations). The steepest ramp is at the most northerly access and is 1:13 for a distance of 6m.

*“The Travel Assessment (TA) requested in paragraph 7.15 of the planning brief has been provided as an accompanying document set to the Environmental Statement (ES), dated 30/11/2017. Both the ES and TA were performed against the MTS as set out in 2010. This strategy is currently being superseded by a new one, which was published in draft form in June 2017.*

*The new strategy places liveable neighbourhoods at the heart of any development and consequently would result in significant changes to the cycling and walking priorities of Pentavia Park. We recommend that the entire site is assessed against the Mayor’s Healthy Streets criteria, which outline 10 points to achieve better liveable neighbourhoods.*

*Given the proximity of this application to the new strategy being approved, we believe it would be prudent to revisit the TA under the context of the new strategy.”*

8. The comment relates to previous material produced. The scope of the revised TA and supplementary assessments has been discussed and agreed with TfL. As part of this process a Healthy Streets Check against indicators has been undertaken for both on-site proposals and at the Bunns Lane site frontage. An Active Travel Zone (ATZ) assessment has also been undertaken by request from TfL, and subsequent to their release of new guidance on this assessment in February 2019.

*“Given the explicit aims of the planning brief to improve cycling links, we believe that the inclusion of cycling within car figures (paragraph 7.7.10 of the TA) is not prudent. We also believe that the claim made in paragraph 7.7.34 accepts the low safety level for cyclists and is evidence of a failure to adhere to the planning brief. This is critical when it is noted that 34.4% of car trips are under 5km (paragraph 14.2.4 of the TA), which could be made by bicycle in less than 20 minutes.”*

9. It is unclear what information is referred to, as having checked back in previous reports paragraph numbers referenced do not exist. All trip generation information within multi-modal assessments include cycling as a separate mode in both old and new documents.



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*“We acknowledge that there is now cycle access to Bunns Lane, and hence point 3 of our original response is no longer pertinent.*

*However, we note that the new proposed path will place cyclists at the western end of Bunns Lane, which presents problems for cyclists wishing to go east on the road. This would mean cyclists having to cross the road to take the outlined route. There is no crossing west of the Flower Lane Junction, and one should be included near where cyclists would egress, preferably Toucan. Without this crossing, we object to the new proposals”*

10. The primary function of the cycle link further west was to provide access to Bunns Lanes with the onward journey in that direction (i.e. continuing on Bunns Lane, access to Grahame Park Way etc), whereas those wishing to access Flower Lane for Mill Hill Broadway would seek to use the new link adjacent the main pedestrian access to Bunns Lane. Both encourage left turn movements and therefore would not require a crossing to cater for the predominant demand. This was considered preferential given the significant resident and officer concerns about the operation / congestion on Bunns Lane when discussing the scheme.
11. As identified within the introduction of this TN, it is important to consider whether the request for a Toucan crossing facility would meet the three tests of planning obligations defined by NPPF. It is considered that it would fail in regard of all three tests.
12. Notwithstanding the above, it has been agreed with TfL that it would be appropriate for improvements to be made in the vicinity of the M1 / Rail bridge on Bunns Lane, particularly in regard of improving the route through the underpass for pedestrians and cyclists. It has been agreed that the development will make a final contribution towards works (to be investigated / designed in conjunction with LBB) to improve this section of highway. The details relating to this contribution will be secured via a Section 106 Agreement.





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*"We note that, under the London Cycling Design Standards (LCDS), a CLoS is not required at various stages, however it is recommended to be performed against the existing and planned layouts. The CLoS undertaken by the authors of the 2016 application's TA (Robert West) was against the current layout only, and we recommend that a CLoS is performed against the plans."*

13. Further to discussions with TfL, the CLoS assessment has not been updated, but has been replaced by an assessment of the site based on the Healthy Streets Checklist.

*"We also note that the LCDS recommends the involvement of stakeholders in assessing cycling infrastructure "at a meaningful time". BCC (and by affiliation LCC) would be considered such a stakeholder, and we note the lack of consultation by the developers during the design phases."*

14. It is regrettable that BCC feel they have not had the opportunity to contribute to the design development of the scheme from a cycle infrastructure perspective, however, significant public engagement has been undertaken in relation to this development that have offered the opportunity for BCC to engage with the design team should they have deemed it of significant importance. Specific consultations and meetings have been held with various interested local interest groups where they have expressed a desire to engage. Regardless, we are hopeful that the response and design changes made as part of reviewing BCC's comments will help in addressing the objections raised.

*"Bunns Lane would benefit from a 1.5m segregated cycle track as it is currently heavily laden with traffic and pedestrians during rush hour times. This could reasonably be achieved without removing excessive pavement space and would improve the walking environment by preventing cars from parking on the pavement."*

15. Given the significant resistance by LBB and local residents for alterations to Bunns Lane that might further increase congestion, any such interventions have not been considered. We would again refer back to the level of cycling expected to be generated by comparison to those on-foot or utilising the 221 bus service who would likely be negatively impacted. Such intervention would not justifiably be balanced in the context of other sustainable transport demands and would not meet the tests of the NPPF for planning obligations.

*"The plans make no significant alterations to the current method of entering or exiting the site beyond the single new shared path. Entry and exit will be achieved by using the slip roads to the A41/A1 to the south of the site. "*

16. The proposal includes a new route to the west of the existing BP petrol station which facilitate entry and exit movements to the south which do not require any crossing of the slip roads.

*"In order to exit the site and travel south by bicycle, a person will be forced to dismount, reverse the direction and cross both slip roads. The alternative is to proceed to Mill Hill Circus and return on the south bound side."*



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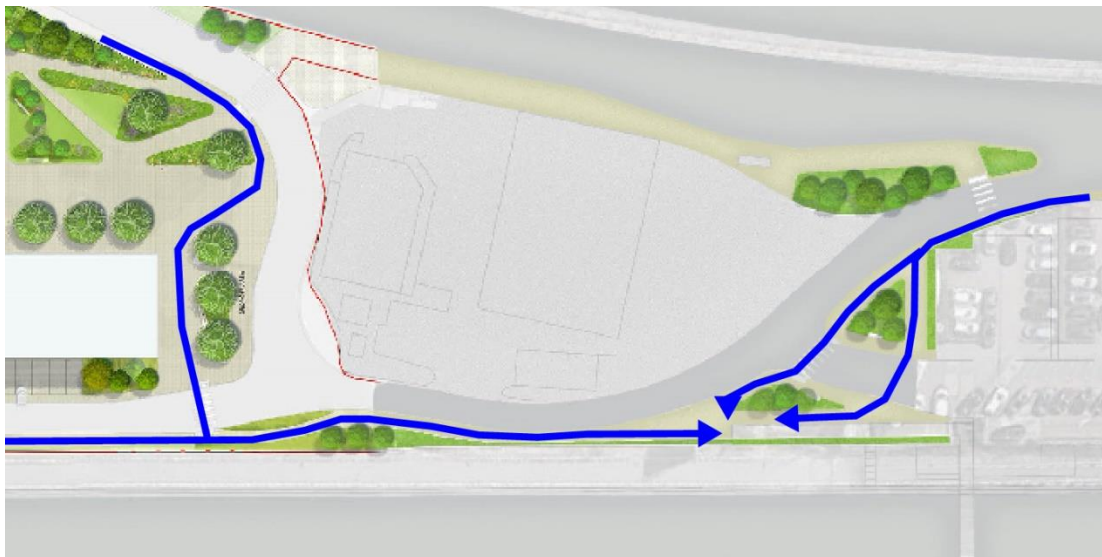
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17. As previously stated, cyclists wishing to exit the site to the south can do so without the requirement to cross either the entry or exit slip road due to the provision of a new shared route to the west of the BP petrol filling station.

*“Exiting and entering the site towards Grahame Park Way means crossing a bridge. No provision in the plans has been made for access to this bridge from the slip roads. Riders are presented with either crossing the slip road near a blind bend or exiting the entire site to the north and returning, crossing both slip roads. Additionally, access to the bridge is via the trade entrance to a car dealership.”*

18. In conjunction with the provision of the new shared route to the west of the BP petrol filling station, the revised plans have sought to improve the access arrangements at the base of the ramp. **Figure 3** indicates the proposed connections achievable by cycle.

**Figure 3: Cycle connection to the south**



*“We welcome the new proposal for funding changes to the tunnel under the train line. We would like to see it go further and be ring fenced solely for this purpose.”*

19. Funding for the proposed improvements to Grahame Park Way underpass will be secured for the specific purpose within the Section 106 Agreement.