### Stanley Sidings Ltd Hawley Primary School

### **Transport Statement**

002

Issue | 8 April 2014

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 232890-00

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Hawley Road Crossing Feasibility Study

### 1 Introduction

Arup has been appointed by Stanley Sidings Limited (SSL) to prepare a Transport Statement to support a Reserved Matters planning application for the relocation of Hawley Infants School.

In January 2013 planning consent was granted for the redevelopment of the Hawley Wharf area (planning application reference number 2012/4628/P). This included the proposal to relocate Hawley Infants School from its existing site on Buck Street to Hawley Road, approximately 800m north of its current location in order to expand the existing school and create a new Hawley Primary School.

For the January 2013 consent a Transport Assessment (TA) was prepared by Arup and a package of mitigation measures agreed to support the development. As the development principles for the Primary School have therefore been agreed this document essentially provides a summary of the transport related aspects of the development and any changes since the 2013 submission.

### 2 **Proposed Development**

The proposed development lies within the planning authority area of the London Borough of Camden (LBC) and involves the relocation and expansion of Hawley Infants School from its current position on Buck Street to Hawley Road. The new site forms part of the wider Hawley Wharf development which will see the existing Canal Market redeveloped to retain and expand its existing retail provision whilst also providing more residential, commercial and leisure space.

The School is anticipated to accommodate 236 pupils and 25 full time staff. Based on the mode share information applied in the 2013 TA, Table 1 presents the number of trips that are forecast to arrive in the morning peak hour and depart in the afternoon. The pupil mode share information was derived from a hands-up travel survey of pupils and the staff trips were calculated by applying the employment mode share projections for the area.

|             | Pupils     |       | St         | Total |       |
|-------------|------------|-------|------------|-------|-------|
| Mode        | Mode Share | Trips | Mode Share | Trips | Trips |
| Underground | 0%         | 0     | 22%        | 6     | 6     |
| Bus         | 5%         | 12    | 17%        | 4     | 16    |
| Walk        | 48%        | 113   | 20%        | 5     | 118   |
| Car         | 14%        | 33    | 5%         | 1     | 34    |
| Train       | 3%         | 7     | 24%        | 6     | 13    |
| Cycle       | 23%        | 54    | 8%         | 2     | 56    |
| Other       | 7%         | 17    | 4%         | 1     | 18    |
| Total       | 100%       | 236   | 100%       | 25    | 261   |

#### **Table 1: Estimated Trip Generation**

### **3 Existing Transport Provision**

### 3.1 Public Transport

The site is bound by Hawley Road to the north, Torbay Street to the west, Kentish Town Road to the east and to south by the railway viaduct and the Regent's Canal.

There are a wide range of transport links within ten minutes' walk of the site including National Rail services, London Underground services, buses, taxis as well as walking and cycling facilities. Consequently, the site has a Public Transport Accessibility Level (PTAL) rating of 6b (with 1a being the lowest accessibility and 6b being the highest). The PTAL rating of 6b equates to an 'excellent' level of public transport accessibility. The excellent accessibility of the site can be attributed to the location of numerous bus stops within 640m walking distance of the site. On the northern side of Hawley Road there is a bus stop and bus stand. The stop serves four bus routes (24/27/31/168) resulting in a bus every minute or so. In addition, there are London Underground stations nearby (Camden Town and Chalk Farm) and a London Overground station located approximately 450m from the site (Camden Road).

### 3.2 Walking and Cycling

The site is well connected to existing residential areas and community facilities. The existing footways on Hawley Road are appropriately wide (over 2m) and would be adequate to accommodate any increase in pedestrian movement associated with the Primary School.

A Pedestrian Environment Review System (PERS) audit was undertaken as part of the outline planning submission and subsequently updated in October 2013 to focus on the immediate routes to and from the new Primary School site. The report is attached in Appendix A and the key audit findings were:

- In general, the audit area provides an acceptable quality environment and well maintained infrastructure for pedestrians;
- The audit area is quiet compared with the main road on Camden High Street with less pedestrian and vehicle activity in the area, which can give a sense of insecurity to pedestrians. However adequate street lighting in the audit area increases the sense of security, especially at night time;
- There is generally adequate width on all footways, although the pedestrian connection through to Hartland Road (from Hawley Road / Castlehaven Road) scored poorly due to the presence of obstructions such as trees and street furniture which reduces its effective width at some sections. Kentish Town Road also has a reduced effective width for part of its length due to the presence of obstructions associated with the retail premises along the eastern footpath. Other obstructions on the western footway include overgrown vegetation from private front gardens and street furniture;
- Signage is provided at the key junctions either side of Hawley Road which provide way-finding signs that are helpful to pedestrians;

- The pedestrian crossing at the junction of Hawley Road and Kentish Town Road consists of one stage for the four pedestrian crossing points. Pedestrian delay is kept to a minimum which is adequate for the location of this pedestrian crossing. The crossing is within the pedestrian desire lines towards the School;
- Tactile paving is satisfactory at each crossing point but there is a lack of maintenance shown through wear and tear and loss of contrasting colour;
- Dropped kerbs are located at the appropriate places and are generally aligned with the pedestrian desire lines;
- Permeability is satisfactory in the area, although there are some areas where pedestrian barriers and poorly maintained dropped kerbs have reduced the permeability of a link; and
- Hawley Road is a three lane carriageway which inhibits informal crossing due to the width of the road, and there is no formal crossing between the junctions on either end of Hawley Road. A school crossing, delivered as part of the Primary School development on Hawley Road, would therefore increase its permeability score by providing a crossing near to the centre of the link.

#### 3.3 Highway

The site fronts onto Hawley Road which is one-way west to east, forming the northern side of the Camden Gyratory. The road has two lanes, widening to three lanes and a segregated cycle lane on the approach to the signalised Kentish Town Road junction to the east of the proposed Hawley Primary School site.

On the northern side of Hawley Road there are 'no waiting at anytime' restrictions and the road is designated as a clearway between 08:30 and 18:30, with no loading in the peak hours.

On the south side of Hawley Road there are parking bays and those areas that are not designated for parking are subject to waiting and loading restrictions.

Residential properties bound both sides of Hawley Road for most of its length with some commercial land-uses towards the Kentish Town Road junction to east. Kentish Town Road forms part of the Strategic Road Network (SRN). This is the responsibility of LBC although Transport for London (TfL) must be consulted on any proposed alterations along this route.

To the south of the site an unnamed private road provides access from Kentish Town Road into the area north of the viaduct. Access along the western boundary of the site is currently permitted via Leybourne Road which turns into Torbay Street and forms a junction with Hawley Road. Torbay Street north the viaduct will be closed to facilitate the School development.

Baseline traffic flows were presented in the TA from Automatic Traffic Counts collected in October 2010. The peak hour flows for the roads that provide access to the site are contained in Table 2. Traffic speeds were also obtained from the 2010 surveys and show that the average speeds on Hawley Road are in the order of 22mph, with 85th percentile speeds averaging 26mph. LBC has indicated that

Hawley Road may be subject to a 20mph speed limit in the future as part of a borough wide strategy.

| Road Name                         | AM Peak<br>(08:00 – 09:00) | Inter Peak<br>(12:00 – 13:00) | PM Peak<br>(18:00 – 19:00) | 24 Hour |
|-----------------------------------|----------------------------|-------------------------------|----------------------------|---------|
| Castlehaven Road                  | 582                        | 671                           | 770                        | 12,120  |
| Hawley Road                       | 648                        | 683                           | 710                        | 11,964  |
| Leybourne Road<br>(Torbay Street) | 22                         | 35                            | 26                         | 506     |
| Kentish Town Road                 | 726                        | 811                           | 844                        | 14,714  |

 Table 2: Baseline Traffic Flows (October 2010)

Parking bays are available on routes around the site, some are residents' parking bays but others provide pay and display parking for up to two hours. This includes 15 pay and display bays on Leybourne Road and a further seven on Castlehaven Road. Resident permit bays are also currently provided on Hawley Road, the majority of which will be retained as part of the Hawley Wharf development.

### 4 Development Access Proposals and Parking

#### 4.1 Pedestrian Access

The main visitor entrance to the Primary School will be located on Hawley Road and the entrance is set back 5m from the highway. It is envisaged that road safety measures will be implemented outside the School gates to prevent vehicles parking across the main pedestrian access point.

The pupil entrance is located on the western boundary of the building and the extent of the development will require the stopping up of Torbay Street. Leybourne Road to the south of railway viaduct will remain public highway during the first phase of the development.

There is limited opportunity close to the School entrance for parents to park. Onstreet parking bays are provided to the west of the Primary School on the south side of Hawley Road but these are frequently occupied. If vehicles stop on the north side of Hawley Road the masterplan submission raised a safety concern that this could encourage children to cross Hawley Road at unmarked locations. A signalised crossing is provided at the Hawley Road / Kentish Town junction to the east of the site but if parking were to occur frequently on the north side of Hawley Road, it was agreed that a further controlled crossing on Hawley Road is likely to be required.

A Feasibility Study was undertaken by Arup in 2013 to identify the location, design and specification of a new pedestrian crossing on Hawley Road. The findings from the study are attached in Appendix B.

Based on the initial site assessment and data review, the Feasibility Study recommended a zebra crossing as the current pedestrian flows are moderate and whilst the School would increase these flows at start and finish times, it would not result in such a significant volume of crossings that it would result in vehicle delay. The existing footways are adequately wide (over 2m) to accommodate the pedestrian flows associated with the crossing and no alterations to the footway, other than installing a dropped crossing and tactile paving, would be required to accommodate a zebra crossing. Belisha beacons would be required to highlight the presence of the crossing.

The Feasibility Study also looked at two locations for the crossing, with a crossing to the south of the main School entrance put forward as the preferred option. This option would maintain adequate distance and visibility from the two junctions to the east and west whilst providing sufficient space for a bay and access to the disabled bays. The location would retain the existing bus stop although the bus stand would need to be relocated; this would be subject to agreement from TfL.

The preferred crossing location is situated on the main pedestrian desire line to the School entrance if approaching the School from the north-west. Visitors from the north-east are likely to use the existing signalised crossing the Hawley Road / Kentish Town Road junction. The location is however a sufficient distance away from the School entrance to discourage children from exiting the School and entering the crossing, without first stopping to ensure it is safe to do so.

The crossing would be supported by signage indicating the presence of school children and it is anticipated that Hawley Road could be subject to a 20mph speed limit when the crossing is introduced.

#### 4.2 Cycling Facilities

Cycle parking is provided at three different locations within the site, including the provision of cycle stands for visitors close to the main entrance. A total of 34 spaces will be available and this exceeds London Plan standards for primary schools (one space per ten staff (three spaces) and one space per ten students (24 spaces).

#### 4.3 Vehicle Access

As part of the wider Hawley Wharf development, an off-street loading bay will be provided to the west of the School. This will serve both the School and a new residential development. However, until the adjacent site comes forward there are proposals to accommodate servicing associated with the School on-street by providing a loading bay on Hawley Road. This temporary servicing strategy has been agreed in principle with LBC. This will enable the streetscape on Hawley Road to the west of the School to be retained until the neighbouring site is developed (the provision of an off-street loading bay would require the demolition of neighbouring buildings).

The School refuse store has been located on the western façade of the building which will facilitate refuse collection from the on-street loading bay and the future off-street loading area to the west.

Removing the need for an additional vehicular crossing to serve the site temporarily will minimise the potential for conflict between vehicles and pedestrians as the footways outside the School will be retained (although dropped kerbs will be required to access the disabled parking bays). An on-street loading bay can also be delivered whilst minimising the impact on parking provision. The provision of an on-street loading bay will allow for the up to eight on-street parking spaces to be provided (there are nine currently). The provision of eight spaces is on the basis that that it will be acceptable to extend the on-street parking bays westwards as proposed for the wider Hawley Wharf masterplan.

The needs of the disabled are considered through the provision of two disabled parking bays accessed from Hawley Road. Standard private car parking will not be provided for staff or visitors; all parking demand will need to be accommodated within existing public provision. Existing on-street parking (and residential properties) on Torbay Street will be removed by the development and the requirement for school 'keep clear' markings are estimated to result in the reduction of parking provision on Hawley Road by one space.

### 5 Summary and Conclusions

In summary, the proposed development represents a high quality proposal within a highly sustainable location. Key points to note are as follows:

- The application site is in an area of excellent public transport accessibility with a wide range of public transport facilities and excellent pedestrian and cycle links;
- A Feasibility Study has identified a suitable location for a pedestrian crossing on Hawley Road to facilitate safe pedestrian access to and from the School;
- On-site cycle parking is provided for pupils and employees; and
- Service and delivery vehicle trips can be accommodated through the provision of a loading bay on Hawley Road which minimises any adverse impact on the wider Hawley Road streetscape.

The review therefore concludes that the detailed design proposals for the Primary School are in accordance with the principles previously agreed and the School will be a positive contribution to the Hawley Wharf development. **Appendix A** PERS Audit Stanley Sidings Ltd Hawley School PERS Audit

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### 1 Introduction

Arup has been appointed by Stanley Sidings Limited (SSL) to undertake a Feasibility Study into the location of a pedestrian crossing to serve Hawley Primary School when it is relocated to Hawley Road. In January 2013 planning consent was granted the redevelopment of the Camden Lock area (planning application reference number 2012/4628/P) which included the proposal to relocate Hawley Infants School from its existing site on Buck Street to Hawley Road, approximately 800m north of its current location.

As part of the outline planning consent (2012/4628/P) a feasibility study into the location of an additional suitable crossing on Hawley Road was requested. A formalised crossing facility would support children travelling from the north and north-west and reduce the likelihood of children crossing Hawley Road at unmarked locations to access the new Primary School.

Arup contacted transport officers from the London Borough of Camden (LBC) prior to undertaking the feasibility study to agree the scope of the study and to confirm any factors that needed to be considered as part of the assessment. It was suggested that a Pedestrian Environment Review System (PERS) audit be undertaken to understand the existing and proposed pedestrian desire lines around the site where the school would be located.

A PERS audit was undertaken and submitted to LBC as part of the Camden Lock Village development Transport Assessment (TA) in 2012. This report builds upon the initial findings but focusses on the immediate routes to and from the Primary School site. This audit was undertaken on 29 October 2013. This assessment establishes the baseline pedestrian environment conditions and identifies key issues for pedestrians in the local area.

The report examines the following:

- The site context;
- PERS Audit which includes graphical displays of the audit results and key findings of the PERS audit;
- Key conclusions; and
- Outline recommendations from the audit.

### 2 Site Context

The site is located approximately 350m north of Camden Town London Underground (LU) station and is bound to the north and east by Castlehaven Road/Hawley Road, to the west by Chalk Farm Road and to south by the Regent's Canal.

There are a wide range of transport links within ten minutes' walk of the site including National Rail services, London Underground (LU) services, buses, taxis as well as walking and cycling facilities.

The TA for the consented planning permission 2012/4628/P provides a detailed description of the local transport facilities within the area.

### **3 PERS** Audit

### 3.1 **PERS Audit Overview**

PERS or 'Pedestrian Environment Review System' is a walking audit tool which is widely used by transport professionals and local communities in order to assess the quality of a range of pedestrian environments.

The PERS audit tool consists of two parts:

- An on-site audit process which involves the use of a set of assessment forms to score and comment on the reviewed environment; and
- A software package (PERS v2) for a rapid analysis of information collected from the on-site audit.

PERS evaluates the quality of a pedestrian environment based on the degree to which it meets pedestrians' needs such as convenience, connectivity, conviviality and coherence.

### 3.2 Hawley School PERS Audit

An extended PERS audit of the pedestrian environment in the vicinity of the proposed Hawley School site was carried out on Tuesday 29 October between the hours of 14:00 and 16:00. The weather conditions on the day of the audit were dry and cloudy.

This section of the report presents the key findings of the PERS audit with a focus on specific areas of the pedestrian environment that scored poorly and require improvement. The section is broken down into the following sub-sections:

- Study area;
- Pedestrian links;
- Pedestrian crossings;
- Public transport waiting areas; and
- Public spaces.

### 3.3 PERS Study Area

The first stage of the review process involves a map-based study to define the boundaries of the review. The existing and extended PERS audit area is shown in **Figure 1**.



#### Figure 1: PERS Audit Area (Scope)

#### 3.4 Link Assessment

This section assesses the pedestrian links in the extended PERS audit area based on the standard assessment forms and PERS scoring guidance.

The scores collected during the site audit are input into the PERS software (v2) where different parameters are weighted so that each parameter can be valued differently based on their relative importance.

The links within the audit area have been labelled from L1 to L16. The location of each of the links are listed in **Table 1** and shown in **Figure 2**.

#### Table 1: Pedestrian links

| Link ID | Link Locations                               |
|---------|--|
| L1      | Castlehaven Road                             |
| L2      | Hawley Road (east)                           |
| L3      | Hawley Road (west)                           |
| L4      | A400 Kentish Town Road (north)               |
| L5      | A400 Kentish Town Road (south)               |
| L6      | Hawley Road (south west of Castlehaven Road) |

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#### **Figure 2: Pedestrian link locations**

**Figure 3** shows the total parameters scores for each of the links in the audit and shows that the majority of links scored a positive mark positive (above +10). However Link 6 (Hawley Road to the south west of Castlehaven Road) scored lower than other link sites with a total negative score of -35 which falls below the average score band (-10 to +10). This link scored poorly due to obstructions caused by overgrown trees and overhanging vegetation which reduces the width of the footpath and increases user conflict affecting pedestrian desire lines. The layout and location of the parked cars along the western end of the link reduces the permeability for pedestrians. Furthermore, the tactile paving and dropped kerb shows wear and tear which is an indication of poor maintenance.



#### Figure 3: Total link scores (link 1-6)

**Figure 4** shows the parameter scores for each of the links. The majority of links scored an average or a positive score for the study area. Those links that scored negatively had scored poorly due to obstructions of street furniture and on street retail furniture, or poor effective width which increases the likelihood of user conflict.

#### Figure 4: Parameter link scores (link 1-6)





The links that scored poorly are shown at **Photograph 1** to **Photograph 3 Photograph 1: Link 6 (Hawley Road, west of Castlehaven Road)** 



Photograph 2: Link 6 (Hawley Road, west of Castlehaven Road)





#### Photograph 3: Link 4 (A400 Kentish Town Road North)

### 3.5 Crossing Assessment

The section addresses the assessment of the four pedestrian crossings in the audit area. The crossing references and locations are shown in **Table 2** and **Figure 5**. All of the crossings are signalised pelican crossings.

| Table | 2: | Crossing | Inform | ation |
|-------|----|----------|--------|-------|
| Labic |    | CIUSSING | morm   | auton |

| Crossing<br>ID | Crossing Location  |
|----------------|--|
| C1             |  |
| C2             | Junction of Hawley Road/Kentish Town/Jeffery Street/Camden |
| C3             | Street   |
| C4             |  |

#### **Figure 5: Crossing Locations**



Figure 6 and Figure 7 show the total and parameter scores for each pedestrian crossing.









**Figure 6** and **Figure 7** show the total and parameters scores for each of the crossings in the audit area and show that all crossings scored positively with all crossing scoring +10. The lowest scoring crossing, although still having a positive score, is crossing 1 which is located on Hawley Road to the west of the junction. This is mainly due to deviation from the desire line and the potential capacity issues at the waiting points. There is not much space between the tactile paving and back of the footpath; therefore if the crossing is busy there is likely to be user conflict between those wanting to pass through and those pedestrians waiting at the crossing.

However all crossings at the four arms of the junction scored an overall positive score. The key reasons for this is the ability to serve the likely pedestrian desire lines, their legibility to sensory impaired people and the quality of the surfacing. Dropped kerbs are provided at each crossing and include appropriate tactile information such as tactile paving and audible information, which also contributed to the high score.

The four pedestrian crossings are shown in **Photograph 4** to **Photograph 7**.

#### Photograph 4: Crossing 1, Hawley Road



Photograph 5: Crossing 2, A400 Kentish Town Road (south)





#### Photograph 6: Crossing 3, Camden Street

Photograph 7: Crossing 4, A400 Kentish Town Road (north)



### 3.6 Public Transport Waiting Assessment

There are two public transport waiting areas within the audit area. The locations of these waiting areas are listed in **Table 3** and **Figure 8**.

**Table 3: Public Transport Location ID** 

| Public Transport ID | Public Transport Locations    |
|---------------------|-------------------------------|
| PT1                 | Bus Stop on Hawley Road       |
| PT2                 | Bus Stop on Kentish Town Road |

#### **Figure 8: Public Transport Locations**



Figure 9 and Figure 10 show the total and parameter scores for each public transport waiting area.



Figure 9: Public transport waiting area total scores



#### Figure 10: Public transport waiting area parameter scores

The two public transport waiting areas scored positive total scores due to the visibility, timetable information provided and the quality of the infrastructure which is generally very good. Both waiting area areas are sheltered which improves the user's level of comfort.

All parameters for the public transport waiting areas generally scored a positive score, although Bus Stop 1 on Hawley Road (PT1) scored negatively (-5) on infrastructure for the waiting area and security measures. This waiting area is only accessible from the northern footpath of Hawley Road. The only existing formal crossing on Hawley Road is located to the eastern end of Hawley Road and is accessible from the footpaths to the west. The bus stop is quite isolated due its location; however it is located near to residential housing.

The quality of the environment and cleanliness at Bus Stop 2 (PT2) on Kentish Town Road scored lower than the other bus stop. There was clear evidence of litter and poor cleanliness on the day of the audit.

**Photograph 8** and **Photograph 9** show the two public transport waiting areas in the audit area.

#### Photograph 8:PT1, Hawley Road



Photograph 9:PT2, A400 Kentish Town Road



### **3.7 Public Space Assessment**

There are two public spaces which fall within the defined audit area. Castlehaven Open Space to the west and Camden Gardens to the east of the site. At the time of the site visit PS2 Camden Gardens was closed to the public. A list and location of the public spaces is shown in **Table 4** and **Figure 11**.

Table 4: Public space location ID

| Public Space ID | Public Space Locations |
|-----------------|------------------------|
| PS1             | Castlehaven Open Space |
| PS2             | Camden Gardens         |

#### Figure 11: Public space locations



Figure 12 and Figure 13 show the total and parameter scores for Castlehaven Open Space.

#### Figure 12: Public space total score







**Figure 12** and **Figure 13** show that Castlehaven Open Space generally scored positively. The detailed parameter scores show a negative score for personal security, feeling comfortable and the link reviews. The open space has no rest points or visible CCTV surveillance which reduces the pedestrian sense of security and would make pedestrians feel uncomfortable. The link reviews discussed earlier also reduce the overall score of the open space due to the overhanging vegetation causing obstructions and affecting pedestrian desire lines. Castlehaven Open Space is shown in **Photograph 11** to **Photograph 12**.



Photograph 10: Castlehaven Public Space (looking south west)

Photograph 11: Castlehaven Public Space (looking west)



## Photograph 12: Castlehaven Public Space, tree and overhanging vegetation blocking the footpath



### 4 Conclusions and Recommendations

#### 4.1 Summary

This report describes the findings of the extended PERS audit of the site in the vicinity of Hawley Road. It was commissioned to inform the Feasibility Study into the location of a pedestrian crossing on Hawley Road to serve Hawley Primary School when it is relocated from its existing site on Buck Street to Hawley Road.

The main land use within the audit area is retail with some commercial and residential premises. The review framework included six links, four crossings, two public transport waiting areas and two public spaces.

Having completed the PERS audit the key findings are summarised as follows:

- In general, the audit area provides an acceptable quality environment and well maintained infrastructure for pedestrians;
- The extended audit area is quiet compared to the main road on Camden High Street with less pedestrian and vehicle activity in the area, which can give a sense of insecurity to pedestrians. However adequate street lighting in the audit area increases the sense of security, especially at night time;
- There is generally adequate width on all footways, although the pedestrian connection through to Hartland Road scored poorly due to the presence of obstructions such as trees and street furniture which reduces its effective width at some sections. Link 4 on Kentish Town Road has a reduced effective width due to the presence of obstructions associated with the retail premises along the eastern footpath of the link. Other obstructions on the western footway include overgrown vegetation from private front gardens and street furniture;
- Signage is provided at the key junctions either side of Hawley road which provide way-finding signs that are helpful to pedestrians;
- The pedestrian crossing at the junction of Hawley Road and Kentish Town Road consists of one stage for the four pedestrian crossing points. Pedestrian delay is kept to a minimum which is adequate for the location of this pedestrian crossing. The crossing is within the pedestrian desire lines;
- Tactile paving is satisfactory at each crossing point but there is a lack of maintenance shown through wear and tear and loss of contrasting colour;
- Dropped kerbs are located at the appropriate places and are generally aligned with the pedestrian desire lines;
- Permeability is satisfactory in the area, although there are some areas where pedestrian barriers and poorly maintained dropped kerbs have reduced the permeability of a link; and
- Hawley Road is a three lane carriageway which inhibits informal crossing due to the width of the road, and there is no formal crossing between the junctions on either end of Hawley Road. The proposed crossing on Hawley Road would therefore increase its permeability score by providing a crossing near to the centre of the link.

### 4.2 **Recommendations**

Following the PERS audit, the following headline recommendations can be made to improve the pedestrian environment in the vicinity of the proposed development:

- Introducing a pedestrian crossing near the centre area of Hawley Road would improve permeability and general pedestrian connectivity between the site and the area to the north and north west of the site;
- Cutting back the vegetation on the pedestrian link from Hawley Road through to Hartland Road, through Castlehaven Open Space (link 6), would result in improvements for pedestrians travelling through the Castlehaven Open Space; and
- It is recommended that the existing dropped kerbs in the vicinity are reviewed to identify general maintenance improvements.

## **Appendix B**

Hawley Road Crossing Feasibility Study Stanley Sidings Limited **Hawley School** 

Hawley Road Pedestrian Crossing Feasibility Study

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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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#### Appendix A Road Safety Assessm

Road Safety Assessment

### 1 Introduction

### 1.1 Context

Arup has been appointed by Stanley Sidings Limited (SSL) to undertake a Feasibility Study into the location of a pedestrian crossing to serve Hawley Primary School when it is relocated to Hawley Road. In January 2013 planning consent was granted for the redevelopment of the Camden Lock area (planning application reference number 2012/4628/P) which included the proposal to relocate Hawley Infants School from its existing site on Buck Street to Hawley Road, approximately 800m north of its current location.

The entrance to the new Primary School will be located on the south side of Hawley Road. Hawley Road is a one-way road and the only existing formal crossing facility across Hawley Road is located to the east of the school site at the junction of Hawley Road with Kentish Town Road.

As part of the outline planning consent for the school it was therefore requested that a feasibility study into the location of an additional suitable crossing on Hawley Road be carried out. A formalised crossing facility would facilitate the walking route for children travelling from the north and north-west and reduce the likelihood of children crossing Hawley Road at unmarked locations to access the new Primary School.

The requirements of the feasibility study are set out in Part 9 'Environmental Improvements and Highway Works' of the Section 106 Agreement for the outline consent. The requirements are defined as follows:

"Hawley Road Crossing Feasibility Study" means a feasibility study to be undertaken by the Owner (at the Owner's expense) into the location, design, specification and delivery of a new pedestrian crossing on Hawley Road to the east of the junction with Torbay Street.

The Section 106 Agreement also includes the "Zebra Crossing Contribution" which is the sum of £35,000 to be paid to the Council to be applied (subject to the outcome of the Hawley Road Crossing Feasibility Study) towards the delivery of a new pedestrian crossing on Hawley Road to the east of the junction with Torbay Street.

This report considers all available information and puts forward what is considered to be the most suitable type and location for a new pedestrian crossing facility on Hawley Road.

### **1.2 Scoping Discussions**

Arup contacted transport officers from the London Borough of Camden (LBC) prior to undertaking the feasibility study to agree the scope of the study and to confirm any factors to be considered as part of the assessment. The following items were agreed:

- No new traffic surveys would be necessary to inform the study as traffic and pedestrian survey data collected for the outline planning application can still be used to inform the baseline conditions;
- A Pedestrian Environment Review System (PERS) Audit should be undertaken as part of the feasibility study to understand the existing and proposed pedestrian desire lines and conditions for pedestrians;
- The relevant Department for Transport (DfT) guidance documents to be consulted are *LTN 1/95 The Assessment of Pedestrian Crossings* and *LTN 2/95 The Design of Pedestrian Crossings*;
- LBC is currently progressing a borough wide 20mph scheme which will include streets in the vicinity of the site, including Castlehaven Road and Hawley Road. Accordingly, a 20mph speed limit should be considered as part of the assessment and crossing design; and
- LBC has aspirations to remove the one-way system that currently operates around Camden Lock, including those sections on Castlehaven Road and Hawley Road, and therefore the assessment should consider that the crossing may be subject to two-way traffic in the future design scenario.

### 2 Best Practice Guidance

This section reviews the current Department for Transport (DfT) guidance on the different types of pedestrian crossings and the factors to be considered when determining what type of crossing would be most suitable for Hawley Road.

# 2.1 Local Transport Note 1/95 - The Assessment of Pedestrian Crossings

*Local Transport Note (LTN) 1/95* was published by the DfT in 1995 and provides advice on the assessment method to be used when considering the provision and type of 'stand-alone' at-grade pedestrian crossing.

It recommends that the first stage in the decision process be a site assessment whereby a site survey of all relevant factors is completed. In this example, where the crossing is to accommodate a future development, the information can be estimated and the basis for the estimates noted. The Hawley Road site assessment is summarised in Section 3 of this report.

There is recognition within the guidance that there are a number of options that should be reviewed when considering the provision of a crossing:

- 1. Do nothing;
- 2. Provide traffic management (including refuge island);
- 3. Provide a zebra crossing; and
- 4. Provide a signal-controlled crossing.

Given that the purpose of the crossing being considered is to provide a safe route to school, the study will focus on options three and four only, as there is a recognised need to provide a crossing that gives priority to child pedestrians. With this in mind, the guidance suggests that the following factors are those that are most likely to have a bearing on the choice of pedestrian crossing type:

- Difficulty in crossing the average time that a person normally has to wait for an acceptable gap before crossing;
- Vehicle delays during peak periods an estimate of the number of stops each minute, and the average duration of each stop that the crossing flows would create;
- Carriageway capacity this is only a factor if problems are already experienced and the crossing would increase vehicle delays;
- Local representations as local correspondence may provide detailed local knowledge of the problem;
- Cost (including maintenance); and
- Vehicle speeds.

With regards to zebra crossings, the guidance suggests that these are more appropriate where crossing flows are relatively low and traffic flows are no more than moderate. Typical vehicle delay is five seconds but it can be more if irregular streams of people cross over extended periods. It also notes that care should be taken on one-way streets as this can cause uncertainty and, in some situations, a signal-controlled crossing may be more suitable.

A signal controlled crossing is advised where vehicle speeds are high and other options are thought unsuitable. They are also preferred where pedestrian flows are high (as delays to vehicular traffic using a zebra would be excessive) and where there is a greater than average proportion of elderly or disabled pedestrians.

## 2.2 Local Transport Note 2/95 - The Design of Pedestrian Crossings

This *LTN*, also published by the DfT in 1995, considers the practical elements of designing pedestrian crossings. This has informed the option assessment in Section 4. The guidance covers the general requirements of the site, including:

- Approach to a side road crossings should be located away from conflict points at uncontrolled junctions and whilst the 'safe' distance depends on the geometry of the junction and type of side road, a minimum distance of 20m is suggested for a signal controlled crossing and an absolute minimum of 5m for a zebra crossing;
- The guidance advises that pedestrians must be able to see and be seen by approaching traffic. If it is not possible to site the crossing in such a location, consideration must be given to either removing / resiting the obstacle or if the carriageway is sufficiently wide, building out the kerb-line to provide enhanced sight lines;
- The minimum width for a zebra, Pelican or Puffin crossing is 2.4m. Toucan crossings should ideally be 4m wide;
- High skid resistance surfaces should be provided on the carriageway approaches to the crossing; and
- When providing a new crossing consideration should also be given to signing and lighting.

### **3** Site Assessment

This section presents the findings of the site assessment for Hawley Road.

#### **3.1** Site and Surroundings

Hawley Road is one-way west to east, forming the northern side of the Camden Gyratory. The road has two lanes, widening to three lanes and a segregated cycle lane on the approach to the signalised Kentish Town Road junction to the east of the proposed Hawley Primary School site.

Residential properties bound both sides of Hawley Road for most of its length with some commercial land-uses towards the Kentish Town Road junction to east.

#### **3.2 Carriageway and Footway Width**

At the location of the proposed Primary School the carriageway is 11.5m wide. The northern footway is 2.5m and the southern footway is 2.2m wide. The footways therefore exceed the recommended minimum width in *LTN 1/95* (2m) to accommodate pedestrians waiting to cross and pedestrians walking along the footway. At 11.5m wide the carriageway is just over the recommended width of 11m. Over 11m, *LTN 2/95* recommends that a staggered layout should be considered but only if the road is more than 15m should a staggered layout be provided.

Street lighting is present on both sides of the carriageway.

### **3.3 Restrictions**

On the northern side of Hawley Road there are 'no waiting at anytime' restrictions and the road is designated as a clearway between 08:30 and 18:30, with no loading in the peak hours.

On the south side of Hawley Road there are parking bays and those areas that are not designated for parking are subject to waiting and loading restrictions.

Drawing number 232890-00-01 shows the existing on-street parking and road marking restrictions. As part of the outline planning consent, Torbay Street will be stopped up and some of the residential properties on the south side of Hawley Road will be replaced by the school and new residential properties (see section 4).

### **3.4 Bus stops**

On the northern side of Hawley Road there is a bus stop and bus stand. The stop serves four bus routes (24 / 27 / 31 / 168) resulting in a bus every minute or so.

Image 1 shows the existing bus stop and parking bays.



Image 1 Hawley Road, looking east towards Kentish Town Road

### 3.5 Castlehaven Road / Hawley Road Junction

The junction with Castlehaven Road is located approximately 85m west of the school site. As shown in Image 2, the junction is located on the outside of a bend.

Image 2 Castlehaven Road / Hawley Road junction looking east



### **3.6 Hawley Road / Torbay Street Junction**

Torbay Street is to be stopped up as part of the development and therefore this junction will not form a consideration in the option assessment.

#### 3.7 Hawley Road / Kentish Town Road / Camden Street Junction

The Hawley Road / Kentish Town Road / Camden Street junction is a signalised junction with a three lane approach on Hawley Road, in addition to a cycle lane and advance cycle stop line. There are pedestrian crossing phases on each arm of the junction.

#### **3.8 Traffic Flows**

#### **3.8.1** Automatic Traffic Count Data

The latest available traffic flow data for Hawley Road and adjoining streets was obtained in October 2010 to inform the Transport Assessment for the outline planning application. A seven day Automatic Traffic Count (ATC) collected average flows across a week and this data is presented in Table 1. It has been agreed with LBC transport officers that the traffic data collected in 2010 can continue to be used as a valid baseline for the assessment as there have been no local changes that would affect the traffic flow and the feasibility study is focused more on future conditions, with the school in place, rather than existing conditions.

| Road Name         | AM Peak<br>(08:00 – 09:00) | Inter Peak<br>(12:00 – 13:00) | PM Peak<br>(18:00 – 19:00) | 24<br>Hour |
|-------------------|----------------------------|-------------------------------|----------------------------|------------|
| Chalk Farm Road   | 802                        | 849                           | 854                        | 17,116     |
| Castlehaven Road  | 582                        | 671                           | 770                        | 12,120     |
| Hawley Road       | 648                        | 683                           | 710                        | 11,964     |
| Leybourne Road    | 22                         | 35                            | 26                         | 506        |
| Kentish Town Road | 726                        | 811                           | 844                        | 14,714     |

Table 1ATC Data October 2010

It can be seen that traffic during the peak hours is relatively static with an average flow of approximately 700 vehicles on Hawley Road during each of the standard peak hours.

Figure 1 provides a daily summary of the current pattern of traffic flow on Hawley Road and Table 2 provides details of the actual existing peak hours on Hawley Road rather than the standard morning and evening peak periods.



Figure 1 24 Hour Traffic Flow – Hawley Road

| Table 2 | Hawley | 7 Road | Peak | Hours |
|---------|--------|--------|------|-------|

| Day       | AM Peak    |       | PM Peak    |       |
|-----------|------------|-------|------------|-------|
|           | Time Begin | Count | Time Begin | Count |
| Monday    | 07:45      | 696   | 17:30      | 715   |
| Tuesday   | 07:45      | 770   | 18:00      | 732   |
| Wednesday | 08:15      | 837   | 18:00      | 716   |
| Thursday  | 08:00      | 819   | 15:00      | 757   |
| Friday    | 08:15      | 811   | 18:15      | 781   |
| Saturday  | 11:00      | 590   | 12:30      | 714   |
| Sunday    | 00:45      | 554   | 18:15      | 673   |

Table 2 and Figure 1 show that generally traffic peaks on a weekday morning around 08:00 and again between 17:15 and 18:15.

#### **3.8.2** Junction Counts

Junction turning counts (JTC) were undertaken between 07:00 and 19:00 on Wednesday 20th October and Saturday 23rd October 2010 to inform the TA for the outline planning application. The following sections outline the baseline statistics for each of the local junctions.

#### **Castlehaven Road / Hawley Road Junction**

During the Wednesday count, 1624 vehicles (and 126 cycles) travelled from Castlehaven Road in the north and turned left into Hawley Road. On Saturday 1262 vehicles (44 cycles) made the same movement. The busiest period on

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Wednesday was between 08:00 and 09:00 (200 vehicles) whereas on Saturday movements peaked between 12:30 - 13:30 (153 vehicles).

Of the 7645 vehicles approaching the junction from the south,1250 vehicles (16.4%) during the Wednesday count turned left (14.4% on Saturday) at the junction to travel northbound on Castlehaven Road with the majority continuing on Hawley Road towards the junction with Kentish Town Road.

With the flows from Castlehaven Road to the north and west there were a total of 8019 vehicles recorded on Hawley Road after the Castlehaven Road junction on Wednesday and 7450 on Saturday. The Wednesday classified counts on Hawley Road are shown in Table 3.

| TIME      | CYC | M/C  | CAR   | LGV   | MGV  | HGV  | PSV  | TOTAL | %     |
|-----------|-----|------|-------|-------|------|------|------|-------|-------|
|           |     |      |       |       |      |      |      |       | HEAVY |
| 0700-0800 | 36  | 50   | 309   | 103   | 20   | 20   | 40   | 542   | 14.8% |
| 0800-0900 | 75  | 60   | 469   | 149   | 21   | 6    | 40   | 745   | 9.0%  |
| 0900-1000 | 61  | 51   | 456   | 178   | 17   | 16   | 51   | 769   | 10.9% |
| 1000-1100 | 50  | 26   | 423   | 125   | 17   | 17   | 41   | 649   | 11.6% |
| 1100-1200 | 19  | 31   | 376   | 165   | 10   | 15   | 40   | 637   | 10.2% |
| 1200-1300 | 31  | 20   | 389   | 194   | 21   | 28   | 41   | 693   | 13.0% |
| 1300-1400 | 7   | 19   | 351   | 168   | 30   | 18   | 32   | 618   | 12.9% |
| 1400-1500 | 9   | 18   | 383   | 180   | 22   | 15   | 33   | 651   | 10.8% |
| 1500-1600 | 13  | 21   | 425   | 157   | 14   | 8    | 32   | 657   | 8.2%  |
| 1600-1700 | 17  | 30   | 462   | 140   | 16   | 11   | 34   | 693   | 8.8%  |
| 1700-1800 | 22  | 30   | 434   | 72    | 12   | 1    | 49   | 598   | 10.4% |
| 1800-1900 | 30  | 27   | 597   | 92    | 21   | 0    | 30   | 767   | 6.6%  |
| Total     | 370 | 383  | 5,074 | 1,723 | 221  | 155  | 463  | 8,019 |       |
| %         |     | 4.8% | 63.3% | 21.5% | 2.8% | 1.9% | 5.8% |       |       |

Table 3 Weekday hourly classified flows travelling along Hawley Road

#### Hawley Road / Kentish Town Road / Camden Street Junction

The weekday survey counted 7799 vehicles approaching the Kentish Town Road junction from Hawley Road. Of these 6855 (88%) turned right into Camden Street. The busiest hour was between 07:45 and 08:45 when 656 vehicles made this movement.

A total of 2978 vehicles exited onto Kentish Town Road travelling southbound from Hawley Road and Kentish Town Road to the north. This averages approximately 248 per hour.

On Saturday 7374 vehicles approached the junction from Hawley Road. Again the majority of traffic (86.3%) turned right into Camden Street.

#### Hawley Road / Torbay Street Junction

As part of the wider development proposals, Torbay Street will be stopped up and the junction will be removed. However for reference, it is useful to note that only

26 vehicles turned right into Torbay Street from Hawley Road during the Wednesday count in 2010. The majority (16) were cars and LGVs (7). The busiest hours were 11:00 - 12:00 and 15:15 - 16:15 when eight vehicles in both hours were counted turning into Torbay Street.

During the Wednesday count 37 vehicles exited Torbay Street onto Hawley Road with cars (27) and LGVs (7) again comprising the majority of trips. The peak hours were also 11:00 - 12:00 and 15:00 - 16:00.

During the Saturday the counts turning into Torbay Street increased to 89 and out of Torbay Street to 86. The peak hourly vehicle flow was 15 vehicles between 12:45 to 13:45 entering Torbay Street and 12:30 to 13:30 seeing the greatest number of vehicles (15) turning right out of Torbay Street into Hawley Road.

#### **3.8.3 Future Traffic Flows**

The redevelopment of the Camden Lock area will alter the baseline traffic flows. The TA for the outline planning application forecast that the overall number of private car trips to the area will decrease during the weekday morning peak hour period as a result of the redevelopment. This is due to the reduction in car parking provision and the reduction in general industrial floor space, which typically has higher vehicle trip rates.

The travel survey of existing market visitors found that between 5% and 6% of visitors travel to the market by car which will result in a peak in car trips during the lunchtime period when the redeveloped Camden Lock market is at its busiest. However, the overall net change in private car trips during this period is considered to be minimal and no more than the typical variation in daily traffic flows. This data is presented in Table 4.

|            | 08:00 - 0900 |         | 13:00 - 1400 |         | 18:00 - 1900 |         |
|------------|--------------|---------|--------------|---------|--------------|---------|
|            | Weekday      | Weekend | Weekday      | Weekend | Weekday      | Weekend |
| Car        | 117          | 42      | 447          | 744     | 123          | 530     |
| Net change | -42          | -33     | 11           | 112     | 18           | 97      |

Table 4 Private Car Trip Generation compared with the Baseline (taken from TA)

The main impact on the highway network will be a result of the increased level of delivery and servicing trips to the market area. The net increase in service trips is forecast to be 87 trips per day, 18 of which will be HGV trips. During the peak morning period, there is forecast to be 16 service vehicle trips per hour.

Given the reduction in car trips forecast during the morning peak hour (a decrease of 42), the additional service trips will be imperceptible to current users of the local road network.

Future traffic flows may also be affected by LBC's aspirations to revert Hawley Road to two-way operation. Whilst making the road two-way would add westbound traffic onto Hawley Road, some traffic would also be removed as it would no longer have to travel around the gyratory. Therefore, the overall impact on traffic flows should be balanced and it is unlikely to alter the total flow to a large extent.

### 3.9 Vehicle Speeds

Hawley Road is currently subject to a 30mph speed limit. The traffic speeds obtained from the 2010 traffic surveys are shown in Table 5.

| Day       | 85 %ile speed (mph) | Mean speed (mph) |
|-----------|---------------------|------------------|
| Monday    | 25.8                | 21.7             |
| Tuesday   | 25.6                | 21.4             |
| Wednesday | 25.7                | 21.6             |
| Thursday  | 25.9                | 21.8             |
| Friday    | 25.9                | 21.8             |
| Saturday  | 25.7                | 21.9             |
| Sunday    | 26.0                | 22.3             |

Table 5 24 Hour Speeds on Hawley Road (2010)

Table 5 shows that the average speeds are in the order of 22mph, with 85<sup>th</sup> percentile speeds averaging 26mph. LBC have indicated that Hawley Road may be subject to a 20mph speed limit in the future as part of a borough wide strategy. The average speeds suggest that traffic is currently travelling above 20mph and additional measures may be required to reduce speeds prior to introducing a 20mph speed limit.

### **3.10 Pedestrian Counts**

#### 3.10.1 Existing

A survey of pedestrian and cyclist activity was carried out in the local area by Space Syntax in October 2010. Movement levels were recorded at locations throughout the market retail area in Camden and the results analysed to obtain hourly average movement rates across the day. The pedestrian data was categorised based on categories used by Space Syntax to determine the different types of pedestrian. The data for the north side of Hawley Road on a weekday is shown in Table 6 and Table 7 presents the data for the south side of Hawley Road.

| TIME      | Suits | Tourists | Locals | Total Pedestrian | Cyclists |
|-----------|-------|----------|--------|------------------|----------|
| 0800-0900 | 0     | 30       | 108    | 138              | 114      |
| 0900-1000 | 48    | 0        | 36     | 84               | 42       |
| 1030-1130 | 0     | 0        | 72     | 72               | 24       |
| 1200-1300 | 0     | 0        | 72     | 72               | 0        |
| 1300-1400 | 0     | 0        | 66     | 66               | 0        |
| 1430-1530 | 24    | 0        | 54     | 78               | 0        |
| 1600-1700 | 6     | 0        | 66     | 72               | 30       |
| 1700-1800 | 102   | 0        | 120    | 222              | 60       |
| 1830-1930 | 186   | 0        | 96     | 282              | 102      |
| Total     | 366   | 30       | 690    | 1086             | 372      |

 Table 6 Weekday Pedestrian Count Data (Hawley Road north side)

| TIME      | Suits | Tourists | Locals | Total Pedestrian | Cyclists |
|-----------|-------|----------|--------|------------------|----------|
| 0800-0900 | 12    | 0        | 48     | 60               | 18       |
| 0900-1000 | 12    | 0        | 42     | 54               | 19       |
| 1030-1130 | 0     | 0        | 12     | 12               | 0        |
| 1200-1300 | 0     | 0        | 30     | 30               | 0        |
| 1300-1400 | 60    | 0        | 126    | 186              | 0        |
| 1430-1530 | 12    | 0        | 36     | 48               | 0        |
| 1600-1700 | 24    | 0        | 54     | 78               | 18       |
| 1700-1800 | 72    | 0        | 48     | 120              | 0        |
| 1830-1930 | 84    | 0        | 108    | 192              | 0        |
| Total     | 276   | 0        | 504    | 780              | 55       |

 Table 7 Weekday Pedestrian Count Data (Hawley Road south side)

The data shows that more people walk and cycle on the north side of Hawley Road, with the difference being largely attributed to more 'suits' using the north side of Hawley Road, particularly in the evening. This could be due to the location of the bus stop on the north side of Hawley Road which results in passengers travelling to and from work accessing and alighting bus services on the north side of Hawley Road. Given the number of retail, leisure and commercial amenities south of Hawley Road it can be assumed that the crossing will cater for this existing demand as a new crossing will provide the facility for those travelling on the north side of the road to cross at the new crossing rather than at the existing signalised junction of Hawley Road / Kentish Town Road.

#### 3.10.2 Forecast

The redeveloped school is anticipated to accommodate approximately 220 primary school pupils and 26 nursery pupils. Future staff numbers are unknown but based on current levels; an estimate of up to 40 staff has been considered for the purpose of assessing transport impact.

Pupil mode share information has been derived from a hands-up travel survey undertaken in July 2011. Staff trips have been calculated by applying the employment mode share projections for the area. Table 8 presents the Primary School trip estimates and mode share values. These trips are forecast to arrive in the morning peak hour and depart in the afternoon.

|             | Pupils     |       | Sta        | Total |       |
|-------------|------------|-------|------------|-------|-------|
| Mode        | Mode Share | Trips | Mode Share | Trips | Trips |
| Underground | 0%         | 0     | 22%        | 10    | 10    |
| Bus         | 5%         | 13    | 17%        | 7     | 20    |
| Walk        | 48%        | 118   | 20%        | 7     | 125   |
| Car         | 14%        | 34    | 5%         | 2     | 36    |
| Train       | 3%         | 7     | 24%        | 9     | 16    |
| Cycle       | 23%        | 57    | 8%         | 3     | 60    |
| Other       | 7%         | 17    | 4%         | 2     | 18    |
| Total       | 100%       | 246   | 100%       | 39    | 285   |

#### Table 8 Primary School Trips

Table 8 shows that there will approximately 285 daily trips to and from the school and all will travel some part of the journey on foot.

Figure 2, provided by LBC, shows the home locations of pupils who were based at the school in 2011. Although a couple of years old, it can be seen that the majority of pupils are located to the south and east of the school but there are some children who travel from areas to the north of the school who will be required to cross Hawley Road.





In addition to the Primary School trips, the redevelopment of the Camden Lock area is forecast to generate additional pedestrian trips. The additional weekday trips that will be added to the network as a result of the development are shown in Table 9.

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| Main Mode   | 08:00 - 09:00 | 13:00 - 14:00 | 18:00 - 19:00 |
|-------------|---------------|---------------|---------------|
| Underground | 233           | 1,085         | 530           |
| Bus         | 69            | 358           | 102           |
| Train       | 65            | 181           | 142           |
| Walk        | 147           | 121           | 175           |
| Total       | 514           | 1,745         | 949           |

| Table 9 | Additional  | Weekday  | Pedestrian | Trips |
|---------|-------------|----------|------------|-------|
| I doite | riaditional | " conduy | 1 cucoului | TTPP  |

It can be seen that the wider development attracts an additional 514 walking trips to the local streets during the morning peak hour. Market retail is the largest trip generator in the development and trips to the market peak in the afternoon with an additional 1745 walking trips on local streets. The majority of the trips to the market are unlikely to use Hawley Road, with the main pedestrian desire lines expected to be focussed on Camden High Street and Kentish Town Road.

There will however be some additional pedestrian trips generated by the development. This includes residents of the new properties who will cross Hawley Road to access the bus stops to the north and people travelling from the north wishing to access the new retail and commercial facilities in the Camden Lock area.

### **3.11 Pedestrian Conditions**

A Pedestrian Environment Review System (PERS) audit of the immediate routes to and from the Primary School site was undertaken in October 2013. This assessment reviewed the baseline condition of the pedestrian environment and identified key issues for pedestrians travelling to and from the site.

A full audit report is attached to the Transport Statement but to summarise, the main findings of the PERS audit were:

- In general, the audit area provides an acceptable quality environment and well maintained infrastructure for pedestrians.
- The majority of the audit area is relatively quiet compared to the level of pedestrian activity on Camden High Street but this can sometimes give a sense of insecurity to pedestrians. However, adequate street lighting in the audit area increases the sense of security, especially at night time.
- Hawley Road is a three lane carriageway which inhibits informal crossing due to the width of the road, and there is no formal crossing between the junctions on either end of Hawley Road. The permeability score of Hawley Road would be increased by providing a formal crossing near to the centre of the link.
- Permeability is generally satisfactory in the area, although there are some areas where pedestrian barriers and poorly maintained dropped kerbs have reduced the permeability of a link.
- Signage is provided at the key junctions either side of Hawley Road which provides useful wayfinding signs that are extremely helpful to pedestrians.
- There is generally adequate width on all footways, although some obstructions narrow footway width. For example, on the pedestrian

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connection between Hartland Road and Hawley Road the effective width is narrow and this link scores poorly due to the presence of obstructions such as trees and street furniture. Similarly, link 4 on Kentish Town Road has a reduced effective width due to the presence of obstructions and due to the areas in front of retail premises along the eastern footpath of the link. Other obstructions on the western footway include overgrown vegetation from private front gardens and street furniture.

- Tactile paving is satisfactory at all crossing points included in the audit but the lack of maintenance is shown through wear and tear and loss of contrasting colour. Dropped kerbs are located at the appropriate places and are generally aligned with the pedestrian desire lines.
- The pedestrian crossing at the junction of Hawley Road and Kentish Town Road consists of one stage for the four crossing points. Pedestrian delay is kept to a minimum which is adequate for the location of this crossing.
- The main recommendations from the Audit relate to the requirement to introduce a formal crossing on Hawley Road and undertake maintenance on the route between Hartland Road and Hawley Road (a key link from the west) to reduce vegetation overgrowth.

### 3.12 Accident Data

Accident data for three years to April 2011 was provided by TfL for the Camden area and the accident locations are illustrated on Figure 3.





Two accidents were recorded at the Hawley Road / Kentish Town Road junction that involved pedestrians – details as follows:

001 | Issue | 19 November 2013 \u00cdbal.arup.comlondomptgilcl.jdbs/222000/222890 Hawley School/4 Internal Project Data/4-05 arup reports/001clv Hawley Road Feasibility Study\_Final Issue without PERS Audit.docx

- Slight accident at Hawley Road / Kentish Town Road signals during the daytime which resulted in a pedestrian casualty (slight). The cause was recorded as wrong use of the pedestrian crossing facility (pedestrian failed to look / stepped out in front of vehicle).
- Fatal accident at Hawley Road / Kentish Town Road signals during dark conditions which resulted in a fatal pedestrian casualty. The cause was recorded as the pedestrian failing to look and stepping out in front of a vehicle.

At the Hawley Road / Castlehaven Road junction there were four recorded accidents, three of which involved cyclists:

- Serious accident recorded during the daytime when a car hit a cyclist at the junction. The cause was recorded as aggressive driving.
- Slight accident recorded during the daytime when a motorcycle was hit by a car when turning left at the junction. The cause was due to the motorcyclist breaking and the car behind following too close.
- Slight accident recorded during the evening, but when light, resulting from a cyclist entering the road from the pavement from between two parked cars.
- Slight accident recorded during the daytime when a pedestrian crossed into the path of a vehicle.

At the junction with Torbay Street, there were two accidents:

- Slight accident recorded during the daytime when a car failed to look properly and turned right across path of cyclist.
- Slight accident recorded during the daytime when a car turned right across the path of a motorcyclist.

The accident statistics show that accidents occur at junctions, with no accidents recorded on Hawley Road itself. The accidents tend to involve pedestrians or cyclists rather than collisions between two vehicles. None of the accidents involved a pedestrian crossing Hawley Road. The development will remove one of the junctions (Hawley Road junction with Torbay Street) and consideration will be given to ensuring the proposed crossing solution does not worsen conditions for pedestrians or cyclists.

#### **3.13** Site Assessment Summary

In summary, the following key factors have been identified as part of the site audit for Hawley Road and the review of available data:

- The carriageway is 11.5m wide and footways on both sides exceed 2m;
- There are waiting restrictions on the north side of Hawley Road and parking bays on the south side of Hawley Road. There is also a bus stop and bus stand on the north side of Hawley Road;
- Traffic flows peak at approximately 800 vehicles per hour with average traffic speeds of 22mph;

### 4 Option Assessment

### 4.1 **Development Proposals**

The wider Hawley Wharf development will provide a mix of uses including an extension to the market retail area, restaurants, employment space, residential units and the Primary School.

On the Hawley Road elevation a new residential building north of the railway viaduct will provide 42 dwellings adjacent to which will be the Primary School building. The residential units and Primary School will share an on-site loading bay accessed from Hawley Road. Image 3 illustrates the new residential building and proposed Primary School.



Image 3 Proposed Development, Hawley Road Elevation

Source: AHMM Stage C Report

The development will require Torbay Street to be stopped up. The development will also affect the on-street parking bays on Hawley Road. School 'keep clear' markings will be placed outside the school entrance and along the Hawley Road frontage the development includes a loading bay access and access to disabled parking (one bay for the residential units and two disabled bays within the school grounds).

### 4.2 Crossing Type

Based on the initial site assessment and data review, it is considered that a zebra crossing would be the most appropriate form of crossing. A zebra crossing is proposed as the current pedestrian flows are moderate and whilst the school will increase these flows at start and finish times, it is not anticipated to result in such a significant volume of crossings that it will result in vehicle delay.

The carriageway width is 11.5m. A single zebra crossing is considered to be adequate without a pedestrian refuge island. *LTN 2/95* recommends that over 11m a staggered layout should be considered but only if the road is more than 15m should a staggered layout be provided.

The existing footways are adequately wide (over 2m) to accommodate the forecast pedestrian demand and no alterations to the footway, other than installing a dropped crossing and tactile paving, would be required to accommodate a zebra crossing. Belisha beacons would however be required to highlight the presence of the crossing.

### 4.3 **Proposed Crossing Location**

Identifying a suitable location on Hawley Road is difficult given the number of constraints. The definition in the Section 106 Agreement for the outline consent for the school required the crossing to be to the east of the existing junction with Torbay Street to ensure it adequately served the school. The crossing must be located on a pedestrian desire line to encourage the use of the crossing and reduce the risk of children crossing at unmarked locations. Therefore, starting from the school entrance, Image 4 shows the initial proposed location for the zebra crossing (Option A). A detailed drawing is attached as Drawing 232890-00-02.

#### Image 4 Crossing Location (Option A)



Option A places the crossing immediately outside the school entrance on what is anticipated to be a key desire line for those accessing the school from the bus stop and other locations to the north-west. It is suitably located away from the signalised junction to the east and is within stopping sight distance of vehicles approaching from the west.

A minor access is located immediately to the south of the crossing which provides access into a residential site. The design guidance notes that the minimum distance from a side road for a zebra crossing is suggested as 5m. The close proximity of the side road would make traffic signals difficult to see, whilst a Belisha beacon provided for the zebra crossing would be visible from all angles. It is considered

that vehicles emerging from this access should therefore have sufficient visibility of pedestrians waiting to cross and given the low use of the residential access, the location should be acceptable.

The crossing location would require the removal of the bus stand which would be subject to agreement with Transport for London (TfL). It would also require the removal of street signs but would retain the existing tree on the north side of Hawley Road.

Whilst this location places the crossing directly on the pedestrian desire line, it was noted that placing the crossing immediately outside the school entrance could encourage children to cross without first stopping to ensure it is safe to do so. A number of other issues were also identified by the road safety assessment (see section 5). The proposed crossing location has therefore been moved southwards as shown in Image 5 Option B (and attached as Drawing 232890-00-03).

Option B maintains adequate distance and visibility from the two junctions to the east and west but moves the crossing away from the school entrance. The loading bay can operate as proposed and disabled bays can be accessed to the south-west of the crossing.

This option is however likely to result in the loss of the existing tree and requires the relocation of road signs. As with Option A, this location would require the relocation of the bus stand.



Image 5 Crossing Location (Option B)

The crossing would be supported by signage indicating the presence of school children and Hawley Road is likely to be subject to a 20mph speed limit when the crossing is introduced.

All options would need high friction surfacing on the approach lanes which will improve braking performance for vehicles on the approach to the crossing, reducing the risk of collisions. Keep clear road markings, as shown, would be required and a connection would need to be made to the existing power supply to light the Belisha beacons.

### 5 Safety Auditors Review

A road safety based assessment of the crossing proposals was undertaken on site on Thursday 3 October by a qualified Road Safety Audit team.

The findings of the Road Safety Audit are attached in Appendix A. This section outlines the main findings of the audit and provides a designer's response to the main issues.

### 5.1 Audit Findings and Designer Response

The main issues identified, and the designer's response, are as follows:

<u>Audit Finding</u> - The drawing provided to the safety audit team does not include Belisha beacons and the zigzag markings are incorrectly drawn.

<u>Designer Response</u> – All drawings updated to indicate location of beacons and show correct extent of zigzag markings.

<u>Audit Finding</u> - The crossing is in excess of 11m. It is recommended that a refuge island with illuminated bollards and high level lighting be installed at the crossing location to reduce the crossing widths, and pedestrian exposure to traffic.

<u>Designer Response</u> – The proposed crossing is 11.5m wide, just over the generally accepted standard for a zebra crossing after which a traffic island is recommended, but not required. As the road is currently one-way it is considered that all traffic (both lanes) should be required to stop when a pedestrian is crossing rather than introduce an island which would require only one lane to stop. This could cause confusion to crossing pedestrians, particularly children.

<u>Audit Finding</u> - The crossing is adjacent to a large mature tree which will shade the north side of the crossing and potentially block visibility of the Belisha beacon and/or pedestrians waiting to cross. Similarly, there are two large cantilevered signs on either side of the road which could block visibility of the beacons.

<u>Designer Response</u> – The revised crossing location (Option B) is likely to require the removal of the existing tree and the relocation of the road signs. This will improve visibility of the crossing and pedestrians waiting to cross.

<u>Audit Finding</u> - The crossing should be moved west along Hawley Road to the frontage of the residential block. This would require the relocation of the existing bus stop, rather than the bus stand.

<u>Designer Response</u> – Relocating the crossing to this location would conflict with movements associated with the loading bay which will serve the residential development and the Primary School. If the bus stop was relocated to the location of the bus stand it would place it directly opposite the school entrance. This could encourage children travelling to the school by bus to cross immediately when alighting the bus, rather than using the crossing. The planning obligation was also to place the crossing to the east of Torbay Street to ensure it adequately served the school.

### 6 **Recommendations**

Based on the information considered as part of the site assessment and the findings of the road safety assessment, it is recommended that Option B be taken forward as the preferred solution. This option can be summarised as follows:

- The proposal is for a single zebra crossing. This is considered appropriate based on the existing and forecast traffic and pedestrian flows. The zebra crossing would also have lower maintenance costs than traffic signals;
- The location is situated on the main pedestrian desire line to the school entrance if approaching the school from the north-west. Visitors from the north-east are likely to use the existing signalised crossing the Hawley Road / Kentish Town Road junction;
- The location is however a sufficient distance away from the school entrance to discourage children from exiting the school and entering the crossing, without first stopping to ensure it is safe to do so;
- The location is on a straight section of road where visibility is generally good in both directions, although some obstacles will need to be removed / relocated;
- The location is suitably located between the two existing junctions to the east and west; and
- The location would retain the existing bus stop although the bus stand would need to be relocated; this would be subject to agreement from TfL.

Drawings





-CYCLE

STANDS



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|-------------------|-------------------------------|---------------------|-------|
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| $\sim$            | Drawing Title                 |                     |       |
|                   | Hawley Road                   | 1                   |       |
|                   | Existing Stree                | et Furniture        |       |
|                   | and Pedestria                 | an Crossing Locatic | n     |
| $\langle \rangle$ | Option A                      | -                   |       |
| $\searrow$        | Scale at A3 1:500             |                     |       |
|                   | <sup>Discipline</sup> Civil - | Transport           |       |
|                   | Drawing Status                |                     |       |
|                   | For Issue                     |                     |       |
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ARUP

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| New Architects Layout Added |          |    |      |      |  |
|-----------------------------|----------|----|------|------|--|
| А                           | 09/10/13 | JG | NH   | MR   |  |
| -                           | 30/09/13 | JG | NH   | MR   |  |
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| Job No      |         | Drawing No   |
| 23289       | 0       | 232890-00-03 |

Drawing Title Hawley Road Existing Street Furniture and Pedestrian Crossing Location Option B

#### Job Title Hawley School

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| А                           | 01/11/13 | DM | NH   | MR   |
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Appendix A

Road Safety Assessment

### **Technical Note**

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| Project title | Pedestrian Crossing Camden              | Job number     |
|---------------|---|----------------|
|               |   | 232890-00      |
| сс            | Martin Reed, Arup                       | File reference |
|               | Nicola Hill, Arup                       | -              |
| Prepared by   | Chris van Lottum, Arup                  | Date           |
|               | Tom Corke, Arup<br>Michele Samson, Arup | 8 October 2013 |
| Subject       | Road Safety Advice                      |                |

This note provides a road safety based assessment of information provided by Arup regarding the provision of a new pedestrian crossing on Hawley Road, Camden, associated with the proposed relocation of Hawley Infants School from Buck Street.

A site visit was undertaken by Chris van Lottum, Tom Corke and Michele Samson on the afternoon of Thursday 3<sup>rd</sup> October.

#### Setting

The A502 Hawley Road provides the northern side of the Camden Gyratory which includes Camden High Street and Kentish Town Road. The road is one-way west to east and has two lanes, widening to three lanes, plus a physically segregated cycle lane on the approach to the Kentish Town Road junction.

The frontage is currently residential with some commercial use towards Kentish Town Road in the east.

#### **Traffic movements**

Traffic volume and speed data were provided as part of the draft feasibility study for the scheme.

24 hour volumes of 12,000 vehicles and peak hourly flows of 800 vehicles have been observed. Average traffic speeds are in the order of 22mph with 85<sup>th</sup> percentile speeds of 26mph.

#### **Collision History**

An analysis of collision data provided by TfL was included as part of the draft feasibility study for the scheme.

All of the eight collisions reported on Hawley Road involved vulnerable users, three pedestrians, three cyclists and two motorcyclists. One of the collisions at the Kentish Town Road junction resulted in the death of the pedestrian crossing against the lights.

### **Technical Note**

232890-00 8 October 2013

#### Comments

The drawing of the proposed crossing does not include Belisha beacons. Furthermore the zigzag lines are incorrectly drawn. It is recommended that Belisha beacons should be added to the design. The zigzag road markings to TSRGD Diagram 1001.3 should extend a minimum of eight markings in both directions as prescribed in Chapter 5 of the Traffic Signs Manual.

The proposed crossing of Hawley Road is in excess of 11m. It is recommended that a refuge island with illuminated bollards and high level lighting be installed at the crossing location to reduce the crossing widths, and pedestrian exposure to traffic.

It was noted on site that the crossing is proposed adjacent to a large mature tree which will shade the north side of the crossing and potentially block visibility of the Belisha beacon and /or pedestrians waiting to cross. Similarly there are two large cantilevered direction signs on either side of Hawley Road which would also block visibility to the Belisha beacons.





IMG\_2854.jpg

In order to provide the crossing at the proposed location, the tree may require trimming or possibly removal to allow visibility of pedestrians at the crossing, and direction signs may need to be relocated so as to provide clear visibility to the Belisha beacons.

It is currently proposed to locate the crossing on Hawley Road, some 60m from the junction with Kentish Town Road. During the site visit traffic queues were observed extending past the proposed crossing location. It is therefore recommended that the crossing should be moved east along Hawley Road to the frontage of the proposed residential block. This would require the relocation of the existing bus stop, rather than the bus stand.



MG\_2856.jpg

### **Documents Provided**

| Title   | Reference    | Issue   |
|---|--------------|---------|
| Hawley Road Pedestrian Crossing Feasibility Study     | 001          | Draft 1 |
| Existing On-Street Parking and Road Markings          | 232890-00-01 | -       |
| Hawley Road – Exiting Street Furniture and Pedestrian | 232890-00-02 | -       |
| Crossing Location                                     |              |         |

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### **Technical Note**

232890-00 8 October 2013

#### References

UK Government; 2002; Traffic Signs Regulations and General Directions 2002; TSO, London. DfT, DfRD, SE, WAG; 2003; Traffic Signs manual Chapter5 – Road Markings; TSO London.

#### DOCUMENT CHECKING (not mandatory for File Note)

|           | Prepared by            | Checked by        | Approved by       |
|-----------|------------------------|-------------------|-------------------|
| Name      | Chris van Lottum, Arup | Steve Wells, Arup | Steve Wells, Arup |
| Signature | All-                   | - Helles          | - Helles          |