

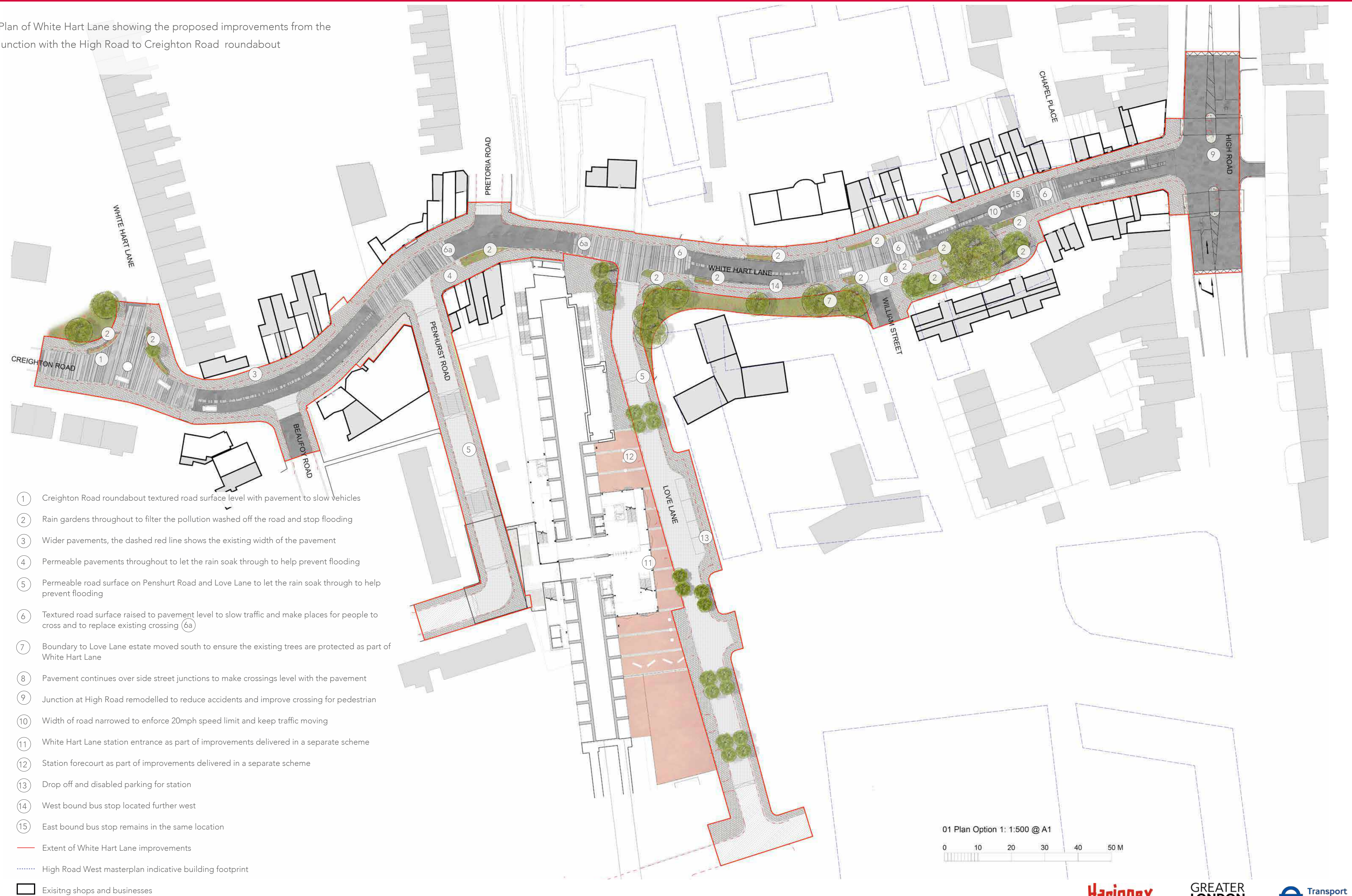
APPENDICES

Appendix A

White Hart Lane Local Implementation Plan Scheme

White Hart Lane - Proposed Improvements

Plan of White Hart Lane showing the proposed improvements from the junction with the High Road to Creighton Road roundabout



White Hart Lane - Environmental Improvements to Reduce the Impact of Traffic

White Hart Lane now

White Hart Lane is well served by public transport with the overground station and an extensive district network of bus routes that converge in the area. In addition, the Cycle Super Highway 1 is situated 800m south of the station, connected to the site via the local cycle network.

However, although traffic numbers on White Hart Lane are relatively low outside peak hours, the road is a hostile environment for pedestrians, people accessing public transport and cyclists. Traffic regularly exceeds the 20mph speed limit and the road is congested due to the complicated interdependent traffic lights at the High Road junction. This results in an increased risk of collisions and high levels of pollution. In a Ward where many people don't own cars this disproportionately impacts the people who actually live here, as much of the traffic is passing through east to west.

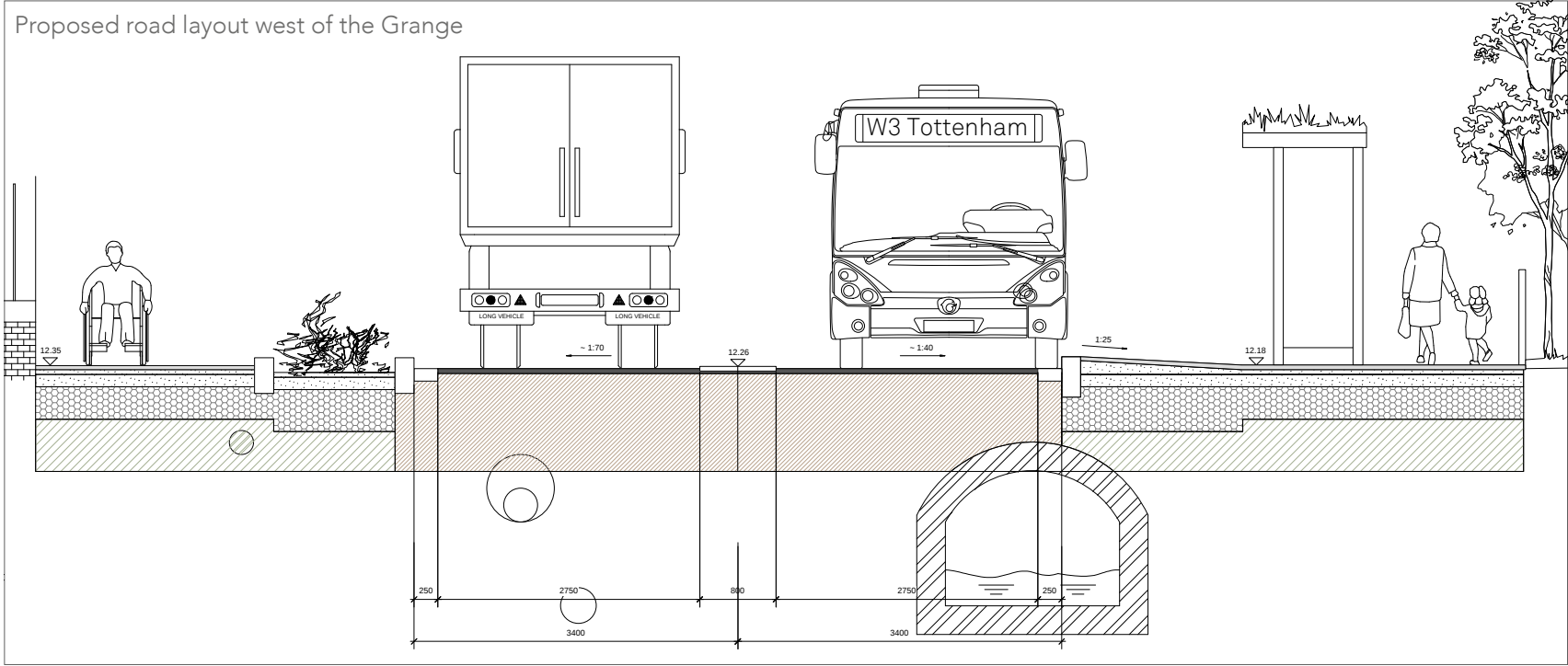
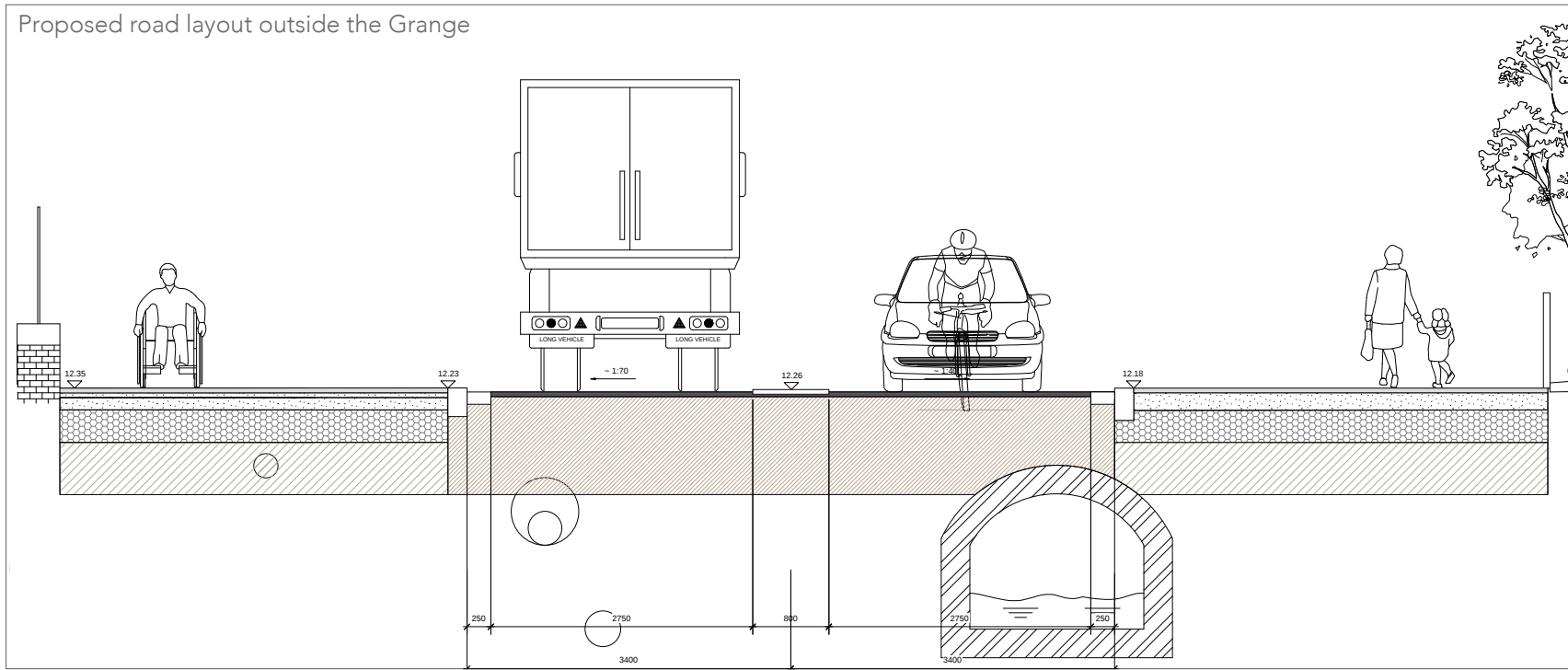
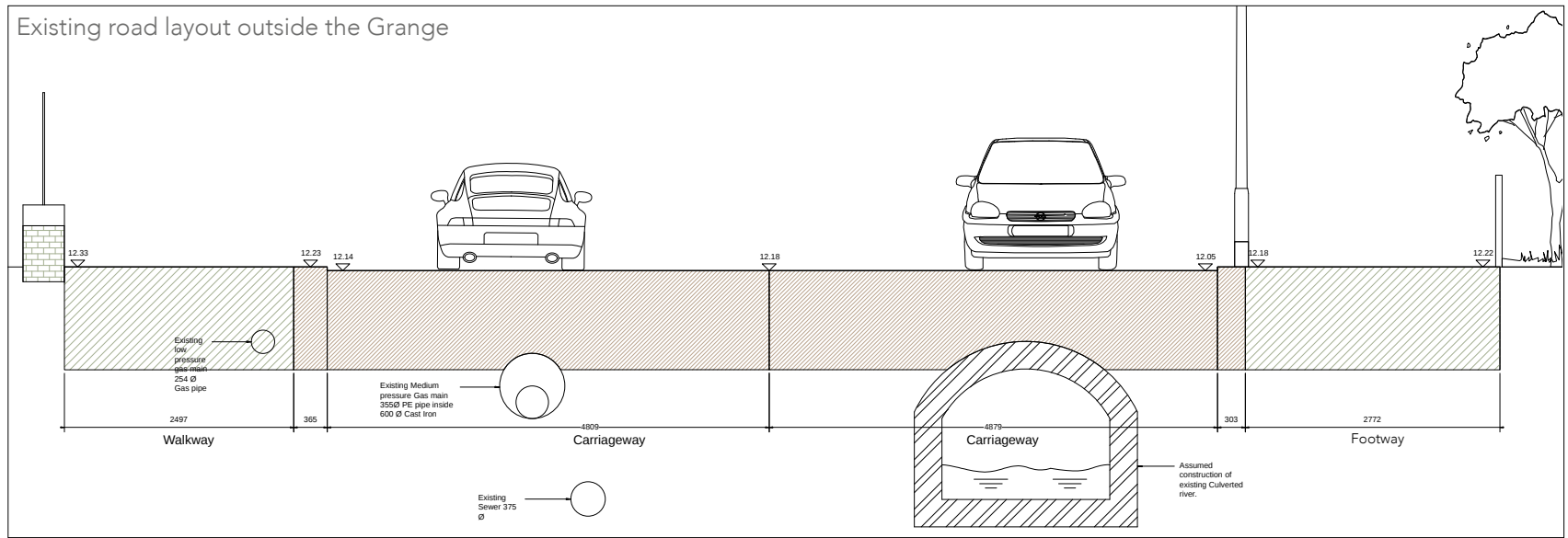
How Can White Hart Lane Become a Better Environment for People?

The key aim is to accommodate the traffic but not to let it dominate. This will be achieved by two principle design moves:

- 1.Reduction of the width of the carriageway so cars have less room and pedestrians have more room.
- 2. Inclusion of features which the motorist has to negotiate in stages, so they pay attention to what is immediately in front of them and are less likely to speed.

The carriageway width is reduced from 4800mm to 3400mm, the difference is shown in the drawings below, in addition a central pattern runs along the centre of the road giving the impression the road is narrower than it is. This width was agreed with Transport for London who run the buses, the emergency services, to ensure ambulances have room to pass, and Haringey 14%, the local access group. Reducing the carriageway will increase the width of the pavement all along White Hart Lane.

At intervals along the road we will raise the road up to the same level as the pavement. In these sections the road is treated with a contrasting material. The combination of the ramp up and down and the visual patterning reduces the tendency to speed and keeps traffic within the 20mph limit.



Central patterned strip to give the impression the road is narrower than it is

Raised table with a ramp up and down and a pattern surface to break of the linearity of the road

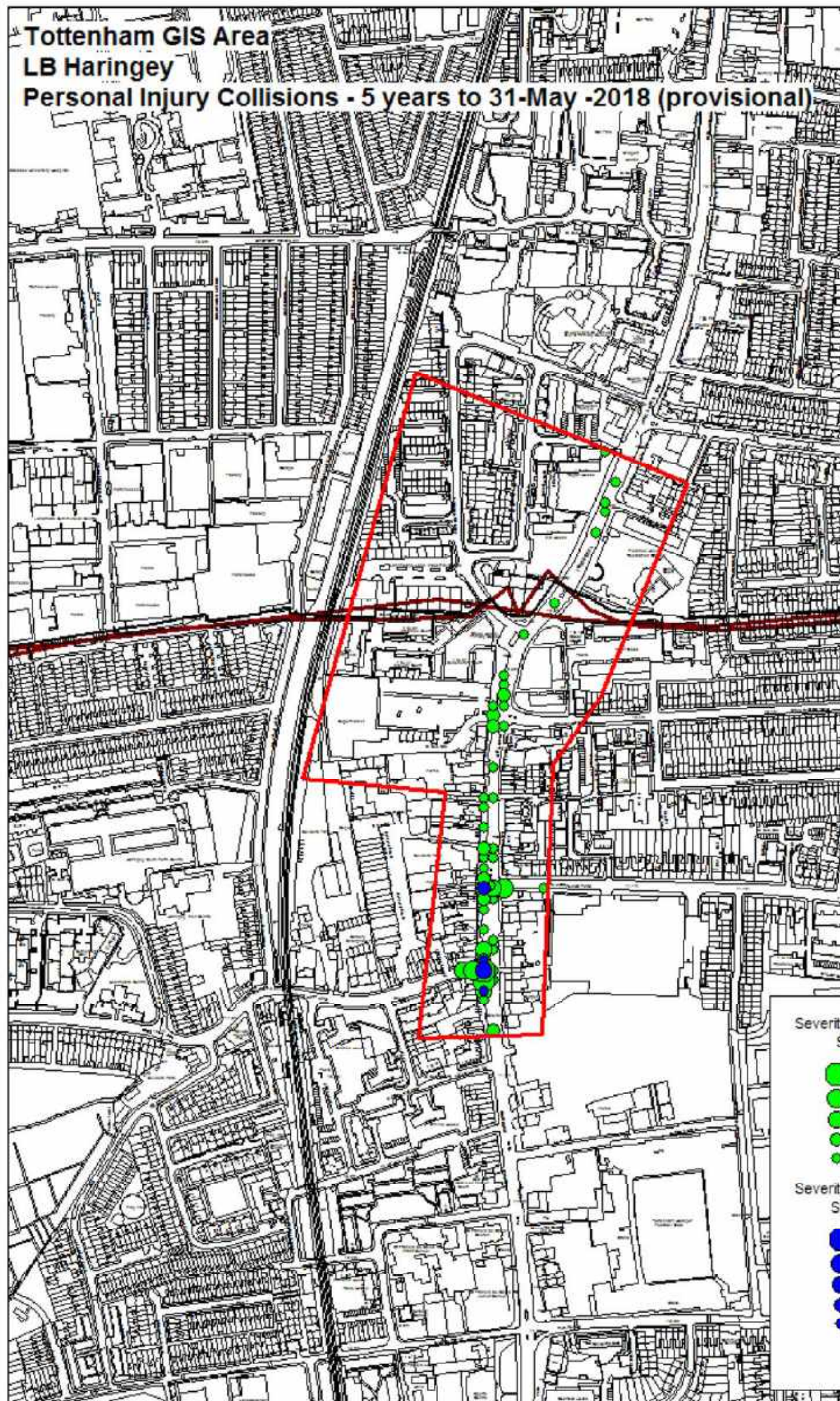
Pavement continues over side streets to make level crossings

Narrower carriageway results in wider pavements

Appendix B

Accident Data Plot

Tottenham GIS Area
LB Haringey
Personal Injury Collisions - 5 years to 31-May -2018 (provisional)



Appendix C

PERS Audit Extract



PROJECT REPORT CPR2111

Tottenham Hotspur Stadium Development

PERS Assessment

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Prepared for: Tottenham Hotspur Football Club

Project Ref: 11199208-36

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1 Introduction

1.1 Background

Transport Research Laboratory (TRL) was commissioned by Tottenham Hotspur Football Club (THFC) to undertake a PERS audit within the London Borough of Haringey (and a small section within London Borough of Enfield) in May and June 2015 to assist with the Northumberland Development Project. The project achieved planning consent in September 2010.

The existing stadium has a capacity of 36,300 and will remain fully operational until May 2017. The future stadium capacity is expected to have a capacity of up to 61,000. Since achieving planning approval, a number of land ownership issues have been resolved to secure the land and a Sainsbury's store and Tottenham University Technical College (UTC) has been built and opened within the northern section of the site. The remainder of the site is in the process of being cleared and hoarded up.

TRL undertook a previous PERS assessment in April 2010 to assist with the stadium development project. Since then, there have been various improvements to the local area which include:

- Highway / junction works locally.
- The Tottenham Hale gyratory has been removed by TfL along with a new bus / rail / pedestrian interchange.
- White Hart Lane has recently become a London Overground Station and is now incorporated into the Transport for London network.
- Tottenham Hale has a new Bus Station and there are also planned improvements to the Rail Station at Tottenham Hale.

This 2015 PERS audit has been undertaken to assess the current level of service for pedestrians around the football stadium and the surrounding area. This will feed into the design proposals and highlight those areas or components that require the most improvement and at the same time act as a baseline score for future PERS assessments to ascertain the benefits realisation of the proposed stadium development plans.

The PERS audits were undertaken on Tuesday 26th, Wednesday 27th and Thursday 28th May 2015 and on Wednesday 3rd and Thursday 4th June 2015. The audit area was centred along key walking routes within the vicinity of the football stadium.

1.2 Objectives

The objectives for the assessment were to:

- Undertake a comprehensive on-site audit of all pedestrian and environment components within the study area.
- Prepare a summary report which presents the findings of the audit and assesses the baseline situation.

1.3 Document purpose

The purpose of this document is to report the key findings from the PERS assessment and to provide a baseline of how pedestrians are currently catered for within the study area, focusing on the areas and components identified by the audit as being critical for the safe and efficient movement of all types of pedestrians. This report highlights the key issues and considers the potential areas for improvement.

1.4 Document outline

This document is structured as follows.

- Chapter 2 – Sets out the approach of PERS
- Chapter 3 – Describes the audit area
- Chapter 4 - Outlines the key findings of the PERS audit
- Chapter 5 – Provides a summary of the audit findings
- Chapter 6 – Concludes the findings of the assessment and makes recommendations

2 Approach

2.1 PERS Audit methodology

PERS is a street audit methodology, combining on-street assessments conducted by trained auditors with a software data analysis and graphical tool for presenting results. The PERS methodology provides a holistic and cost-effective way for reviewing all types of pedestrian space and identifying where improvements are most needed. A PERS review is based upon the following two key principles:

- That the quality of the pedestrian environment may be evaluated according to the degree to which it meets pedestrians' needs; and
- That in evaluating the degree to which pedestrians' needs are met by the environment, the objective should be to satisfy as many people as possible, with the 'standard' pedestrian being considered to be towards the vulnerable end of the spectrum such as pedestrians with mobility problems or sensory impairments.

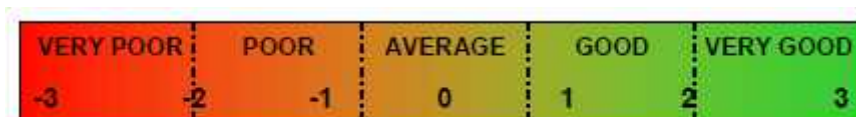
PERS recognises the needs of pedestrians in both undertaking a journey on foot and as people using spaces in the public realm for leisure and non-transport based activities. PERS auditors consider the extent to which the environment under consideration provides easy, convenient and pleasant conditions for all users. The overall aim in applying PERS is to seek to provide an optimal pedestrian environment for all users.

More specifically, a PERS audit identifies various components that make up the pedestrian environment, which include:

- *Links* – sections of footways and paths;
- *Crossings* – both those formally provided and along points where people are seen to cross informally;
- *Routes* - A way that links a trip origin and a trip destination, for example from a public transport interchange to a tourist attraction;
- *Public Transport Waiting Areas (PTWAs)*– such as bus stops and taxi ranks;
- *Interchange Spaces* – outdoor spaces where pedestrians move between different transport modes.

Auditors assess and grade components within the pedestrian environment within each component type based on a standardised, evidence-based methodology. For each component there a number of parameters which are individually assessed and scored accordingly. This provides a score for each parameter and an overall score for each component.

The scores for each parameter are weighted and aggregated to give an overall RAG (Red, Amber, Green) rating for the component. The scoring scale is set out below. Each characteristic is scored on a range from -3 (the lowest score) to +3 (the highest score). For a parameter to warrant a score of +3, it would need to be exemplary and of a standard to be identified as best practice. The scores are therefore allocated on a range from very poor to optimum with 0 representing the average.



The RAG Rating scores and accompanying scores can be used to highlight the worst scoring components and sites (those with the poorest level of pedestrian provision) and develop a list of sites for proposed improvements. Additionally, comments and photographs of the relevant components are recorded for inclusion within the report.

2.1.1 Definition of the study area

The first key stage in a PERS audit is to ensure that the boundary of the study area is clearly defined with any key objectives for the review of the study area established.

The extent of the audit area was determined based on the previous audit which was undertaken in 2010, as the same area to be covered. The area therefore includes the full site boundary (marked as the Northumberland Development Project previously) and follows the A1010 High Road, extending out to the A406 North Circular Road, White Hart Lane Station, Northumberland Park Station, Bruce Grove Station, Tottenham Hale Station and Seven Sisters Station.

2.1.2 Desktop identification of components

The second stage of the audit process is to use mapping to initially indicate the likely links, crossings, routes, public transport waiting areas, interchange spaces and public spaces in the audit area. This assists with referencing the site pre-audit and to evaluate the resources required for the audit. Such subdivision may need to be adapted and amended during the audit; however this initial preparation as a mapping exercise assists on site particularly when multiple teams are auditing an area.

The previous 2010 PERS assessment identified 71 links, 137 crossings, six routes and 28 Public Transport Waiting Areas (PTWAs) within the study area. The number of components identified for the 2015 PERS assessment included 71 links, 132 crossings, six routes, 30 PTWAs and one Interchange. However, one Link was removed as it was assessed as part of the Tottenham Hale Interchange assessment instead, and one PTWA and five of the crossings were closed due to on-site works and therefore could not be assessed. The total number of components that were assessed therefore comprised 70 links, 127 crossings, six routes, 29 PTWAs and one Interchange.

2.1.3 On-street evaluation

Having undertaken the necessary preparatory work in stages 1 and 2, the on-street audit can be undertaken. For each review framework, a review form is available for manual entry on-street. Each framework consists of a number of parameters requiring evaluation and each review form requires the auditor to score and comment on each parameter which is summed to create an overall score for each link, crossing, route, waiting area or space.

2.2 Parameter weightings

The PERS parameter weightings were developed on the basis of extensive research and as such are designed to best reflect pedestrian priorities within the streetscape environment. However, the methodology allows for the weighting factors applied to each parameter to be adjusted to allow for a more targeted assessment, in order to place emphasis on specific elements that are of relevance to a particular study or type of pedestrian environment. Default weightings have been used in the analysis of the PERS

audit data collected on site. The default weightings are banded into the following categories:

Baseline: of general importance to all pedestrians (B)

High Significance: of particular importance to some pedestrians (H)

Critical: of major significance to a majority of pedestrians (C)

In the default settings, these groups are weighted at 1, 3 and 5 respectively, the weighting factor acting as a multiplier. Table 2.1 shows the weighting bands for each parameter.

Table 2.1 - Weighting bands and default weightings for each parameter used

Link review			Crossing review			Route review		
Factor	Weight Band	Default Weighting	Factor	Weight Band	Default Weighting	Factor	Weight Band	Default Weighting
Effective Width	C	5	Crossing provisions	C	5	Directness	C	5
Dropped kerbs	H	3	Deviation from the desire line	H	3	Permeability	H	3
Gradient	B	1	Performance	C	5	Road Safety	C	5
Obstructions	H	3	Capacity	B	1	Personal Security	C	5
Permeability	H	3	Delay	H	3	Legibility	H	3
Legibility	B	1	Legibility	B	1	Rest points	B	1
Lighting	H	3	Legibility for sensory impaired people	H	3	Quality of the environment	B	1
Tactile information	H	3	Dropped kerbs	H	3	Link and crossing audits	C	5
Colour contrast	H	3	Gradient	B	1			
Personal security	C	5	Obstructions	B	1			
Surface quality	H	3	Surface quality	H	3			
User Conflict	C	5						
Quality of the environment	B	1						
Maintenance	B	1						
Public Transport Waiting areas review			Interchange space review					
Factor	Weight Band	Default Weighting	Factor	Weight Band	Default Weighting			
Information to the waiting area	H	3	Moving between modes	C	5			
Infrastructure to the waiting area	H	3	Identifying where to go	H	3			
Boarding public transport	C	5	Personal safety	C	5			
Information at the waiting area	H	3	Feeling comfortable	H	3			
Safety perceptions	C	5	Quality of the environment	B	1			
Security measures	C	5	Maintenance	B	1			
Lighting	H	3	Link and crossing audits	C	5			
Quality of the environment	B	1	Route audits	C	5			
Maintenance and cleanliness	B	1	PT waiting area audits	C	5			
Waiting area comfort	H	3						

3 Audit Area

3.1 Introduction

The PERS audit area covers a fairly large area which comprises mainly of a mix of retail, commercial and residential units. Figure 3.1 shows the area that was considered.

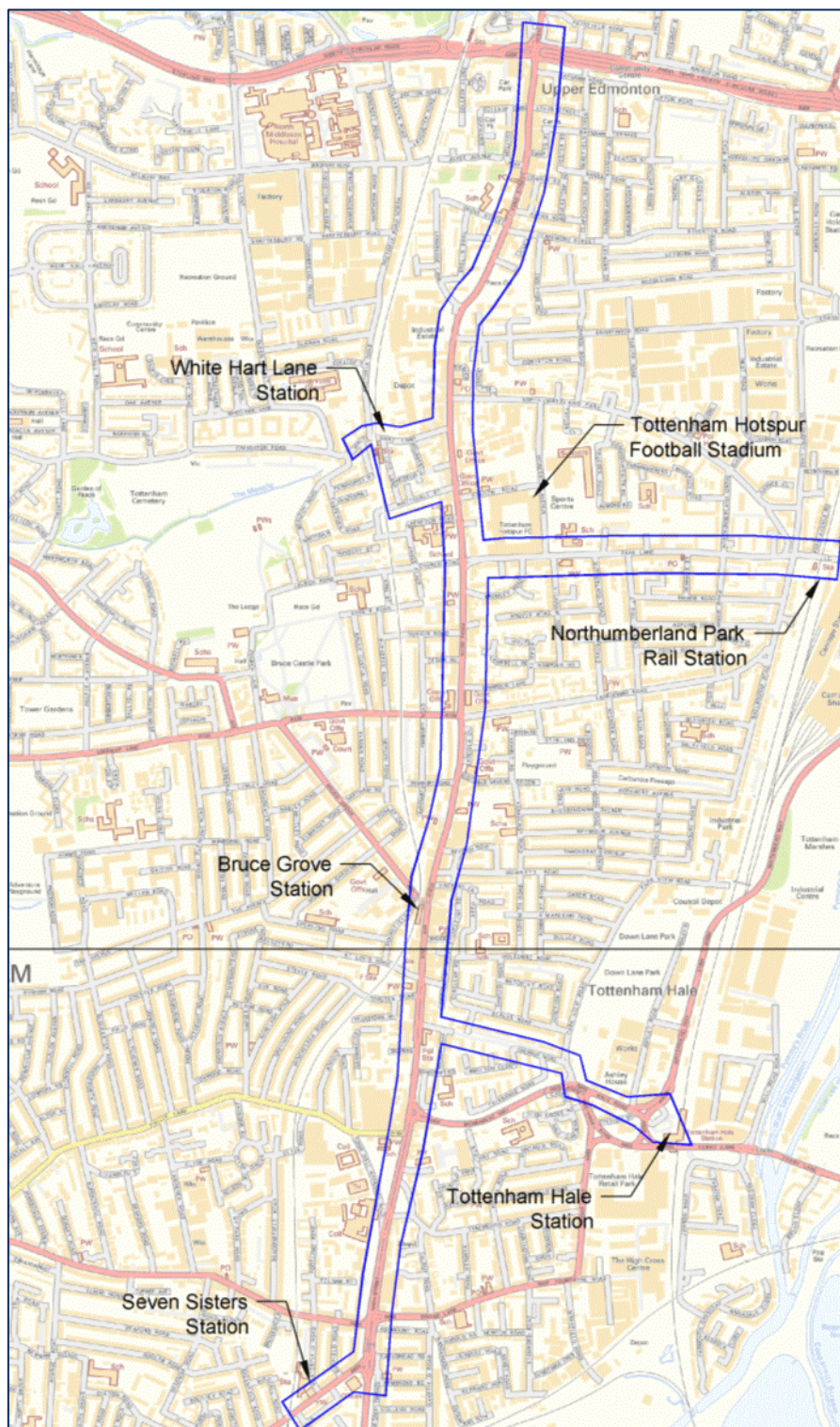


Figure 3.1 - Extent of PERS audit area

The audit area covers all the links, crossings and public transport waiting areas (PTWAs) along the six key routes.

The six routes are outlined as follows:

- R1A: Stadium to White Hart Lane Rail Station (via White Hart Lane), 385m walking distance
- R1B: Stadium to White Hart Lane Rail Station (via Love Lane), 380m walking distance
- R2: Stadium to Northumberland Park Rail Station, 1,145m walking distance
- R3: Stadium to Tottenham Hale Underground Station, 2,140m walking distance
- R4: Stadium to Seven Sisters Rail Station, 2,545m walking distance
- R5: Stadium to A406 North Circular Road, 1,250m walking distance

3.2 Site accessibility

Based on TfL information for 2011, the TfL WebCAT graphic (see Figure 3.2) shows that the Public Transport Accessibility Level (PTAL) ranges between PTAL 3 and PTAL 5 for the local area within the vicinity of the stadium.



Figure 3.2 - WebCAT Graphic for local area

According to TfL's Planning Information Database, the PTAL ratings vary across the PERS audit area from a PTAL 3 at Northumberland Park Station through to a PTAL 6b at Seven Sisters Rail Station. The stadium development site is shown to achieve a PTAL 5 along its western boundary on High Road and a PTAL of 4 along its eastern boundary on Worcester Avenue. This shows that the area has between an 'average' (PTAL 3) and the 'best' (PTAL 6a/6b) level of accessibility to public transport services.

On match-days, there are additional rail services provided which operate and/or stop locally to improve accessibility to the site on these occasions. There is also a match-day Event Management Plan in place, which involves temporary road closures, parking suspensions and the deployment of large numbers of THFC stewards and assistance from Metropolitan Police Officers.

4.4.2 Worst scoring Links review

Table 4.5 - Worst scoring Links review

Descriptor	Ref	RAG	Comments	Photographs
N-Side of White Hart Lane, between opp. Love Lane and A1010	L4	-67	This link runs along the northern side of White Hart Lane between (opposite) Love Lane and the A1010. It scored particularly poorly for the parameters: effective width, user conflict, surface quality, obstructions, tactile information and colour contrast. The link is very narrow in places (particularly due to the location of the on-street bus stop) with a reasonable pedestrian flow, and therefore the effective width is substandard. Due to the narrowness of the footway and the need for queuing bus passengers to stand within the footway itself, there is potential for user conflict. The footway surface quality along the link is poor, uneven and broken up in places which looks unsightly and can also result in trip hazards. Street furniture obstructions along the link include Bus Stop B and a Sheffield cycle stand which (particularly if a bicycle was parked there) act to considerably narrow the effective width of the footway. Other obstructions along the link included a stack of shopping baskets and fruit/veg crates on the footway outside a small retail store. There is a lack of tactile paving provision and colour or tonal contrast along the link which can be hazardous for sensory impaired and partially sighted pedestrians. Tactile paving is required to improve legibility for sensory impaired pedestrians. The above issues would need to be addressed in order for this link to achieve a better overall score.	 

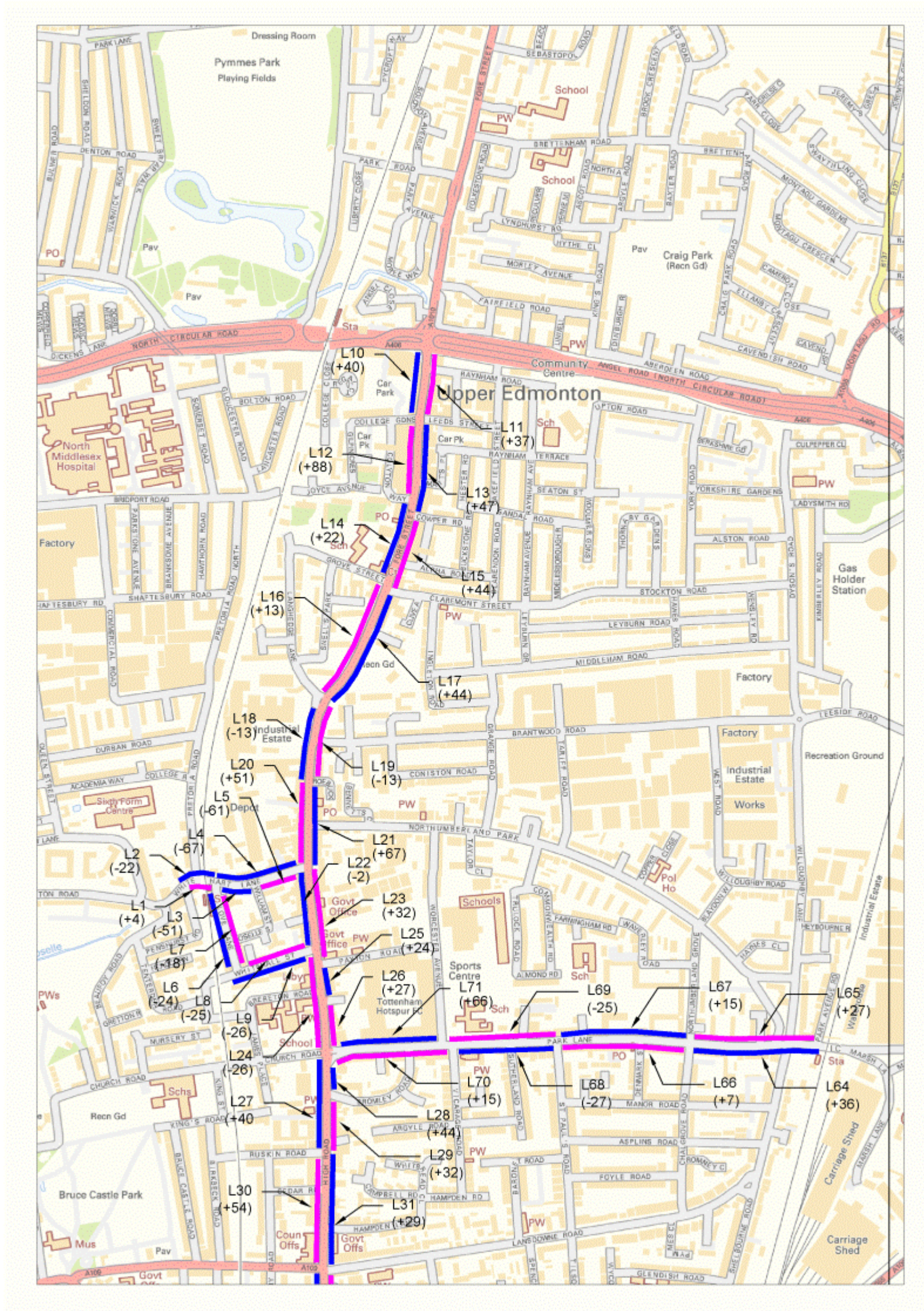
Descriptor	Ref	RAG	Comments	Photographs
				 
S-Side of White Hart Lane, between Love Lane and the A1010	L3 and L5	-51 and -61	These two links run along the southern side of White Hart Lane between Love Lane and the A1010. Both links scored particularly poorly for the parameters: effective width, user conflict, dropped kerbs, obstructions, tactile information and colour contrast. The effective width of the footway is considerably narrow in a number of places along the link due to the location of street furniture (poles, bollards, a phone box and a bus shelter), a large tree with roots and on-street rubbish. Narrow footways are more likely to become congested at peak times. There is potential for user conflict along the link due to the narrowness of the footway and street furniture obstructions around the bus shelter. Pedestrians travelling along the footway might conflict with those waiting for or alighting from a bus.	

Descriptor	Ref	RAG	Comments	Photographs
			There is a lack of dropped kerbs and a poor footway surface quality along the link which cause trip hazards and can cause difficulties for those with mobility impairments such as wheelchair users. There is also a lack of tactile paving provision and a lack of colour or tonal contrast along the link. Tactile paving is required to improve legibility for sensory impaired pedestrians. Colour contrast aids in the navigation, orientation and protection of hazards for partially sighted pedestrians. An obstruction will therefore represent a hazard rather than an inconvenience. The above issues would need to be addressed in order for these links to achieve better overall scores.	  

Descriptor	Ref	RAG	Comments	Photographs
			trip and slip hazard, particularly in conjunction with the high upstand on the kerb. Maintenance scored poorly due to the poor surface quality of the carriageway, slight ponding on the northern side and also evidence of gum staining and litter.	 
Crossing Pretoria Road, north of junction with White Hart Lane	C37	-15	This crossing scored particularly poorly in relation to surface quality, legibility and legibility for sensory impaired people. The surface quality is poor, with different materials used, a lack of consistency in surface type and undulations and uneven surfaces which represent a trip hazard. The different surface types make the crossing difficult to navigate for those with visual impairments. Legibility scored poorly because the crossing has no delineation or infrastructure to indicate its presence, or to encourage users to cross at a certain point. The lack of tactile paving provision puts those with a sensory impairment at risk, and this is compounded by the lack of colour contrast.	 

Descriptor	Ref	RAG	Comments	Photographs
Bus Stop B - White Hart Lane Station	PT7	-11	This bus stop scored particularly poorly in relation to quality of the environment and waiting area comfort. The quality of the environment is low because of significant amounts of litter, poor quality frontages and due to the adjacent road which has traffic noise and there are fumes from queuing traffic. In addition, the footway is of poor quality and is uneven in places. The waiting area comfort scored poorly since there is no provision of a shelter and the bus stop is exposed to the elements. The adjacent footway is narrow and there is a high flow of pedestrians, which acts to limit the capacity of the waiting area and increase user conflict.	 
Bus Stop J - Bruce Grove Station	PT17	+3	This bus stop scored particularly poorly in relation to infrastructure to the waiting area, quality of the environment and maintenance and cleanliness. Infrastructure to the waiting area scored poorly because of the lack of any convenient crossing provision to access the bus stop. The nearest formal crossing point is approximately 25 metres to the north of the bus stop. The footway quality is generally poor with unevenness and trip hazards. Quality of the environment is reduced by the poor aesthetics of the frontages, poor quality of materials surrounding the waiting area and the traffic noise and fumes nearby. There is also a poor level of maintenance and cleanliness as the shelters are in a poor state of repair and are dirty and scratched with graffiti. The area around the shelters also has lots of litter present, despite the bin provided.	

B2. Link locations and scores (note RAG status not shown)



B3. Public Transport Waiting Area locations and scores (note RAG status not shown)

