



# Transport for London

## PERS AUDITS 08/09 Phase Four

South – Lewisham, Greenwich,  
Bexley  
A205 Forest Hill Station to  
Catford Gyratory

CPR 064

### Final Report

Date: July 2008

Produced by: TRL PERS Audit Team  
Lead Reporter: Anne Binsted







TRANSPORT FOR LONDON PROJECT REPORT CPR 064

PERS AUDITS 08/09 PHASE FOUR

TfL: South – Lewisham, Greenwich, Bexley  
A205 Forest Hill Station to Catford Gyratory

Version: Final Report

By the TRL PERS Audit Team

**Prepared for: Transport for London**

**Client: Spencer Clark and Bob Blunden**

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## Key Findings

The PERS audit of A205 Forest Hill Station to Catford Gyratory identified the following key findings:

### General impressions

- The dominance of vehicular traffic, primarily on the A205, results in high noise levels and significantly reduces permeability.
- Schools to the eastern end of the link are the only notable pedestrian trip attractors in the audit area, which makes the site feel relatively isolated for much of the day.
- Perceived road safety is poor.
- The presence of sometimes run down and derelict residential properties throughout the audit area has a negative impact upon safety perceptions.

### PERS audit findings

- Four parameters were identified as areas of concern for links across the audit area. These parameters are Effective Width, Obstructions, Permeability and Surface Quality.
- Pinch points have been created across the audit area by footway width not allowing for the location of obstructions that include wheelie bins, bollards, traffic signage, advertising boards, lamp posts, overhanging foliage, and street trees.
- The location of obstructions obscures sightlines in places which can make crossing movements hazardous.
- There are a relatively low number of signalised crossings in the site, which requires pedestrians to judge when it is safe to cross. This can also make Public Transport Waiting Areas more difficult to access.
- There are relatively few formal crossing points of the A205, and high vehicle flows and speeds on the A205 reduce opportunities for informal crossing movements.
- The footway surface presents many opportunities for improvements to be made by maintenance work to address unevenness, undulations, and inconsistencies.
- Ten heavily used informal crossings were identified, each of which performs poorly.
- Space ownership is reduced by the lack of demarcation of pedestrian crossing areas on the carriageway, which has a negative impact on vehicle behaviour.
- Analysis of routes identified that high levels of traffic flow and associated noise levels has a negative impact upon perceptions of road safety and quality of the environment.
- Restricted sightlines, the sometimes low quality of private frontages, and stretches of unoccupied frontages with no formal surveillance has a negative impact upon perceptions of personal safety.
- The comfort of Public Transport Waiting Areas is reduced by close proximity to the A205 and a lack of adequate seating and shelter.
- On R1 poor provision of tactile information, limited use of colour contrast and a lack of rest points could make navigation more difficult for sensory and mobility impaired pedestrians.
- Provision at IS1 is poor. Signage is inconsistent, there are no toilets or rest points, and the space is not well maintained.

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# 1 Introduction

This report aims to describe the results from the PERS (Pedestrian Environment Review System) v2 walking audit of A205 Forest Hill Station to Catford Gyratory in the area of South – Lewisham, Greenwich, Bexley.

TRL have been commissioned by TfL to undertake this audit based upon TfL engineer recommendations to focus on specific areas of high pedestrian flow or areas of concern for pedestrians. The audits will help to provide an objective basis for identifying and prioritising problems for pedestrians, so that resources can be targeted most effectively to improve the walking environment.

## 1.1 Applying PERS v2

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
- 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.

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. In a PERS audit, the auditor is required to 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.

Chapter 2 sets out the standard methodology for applying PERS to an audit area.

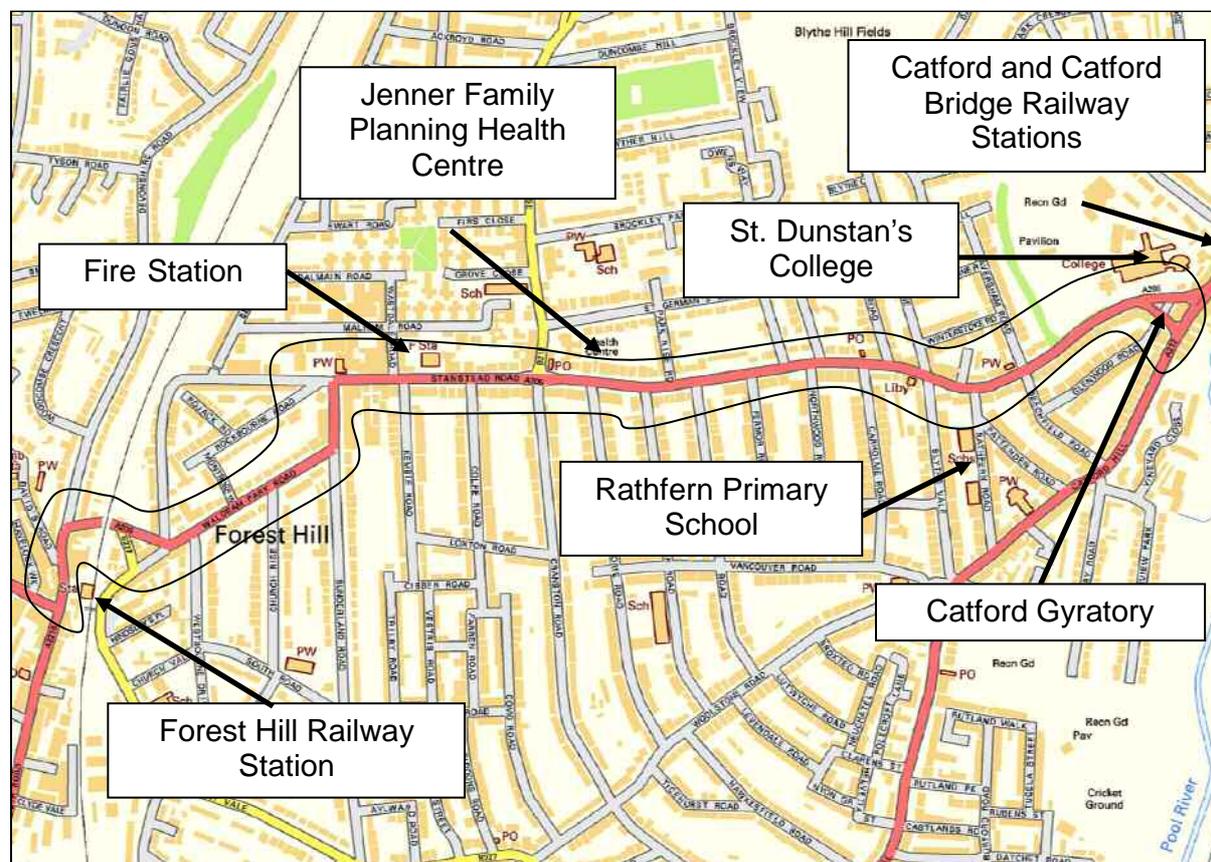
## 1.2 A205 Forest Hill Station to Catford Gyratory

The audit area is centred on the section of the A205 which runs from Forest Hill Station at the western end of the site, to the Catford Gyratory at the eastern end of the site.

The only notable trip attractor in the audit area is St. Dunstan's College, which is located by the Catford Gyratory. There is a relatively large cluster of shops, pubs and restaurants around Forest Hill station, but these are located outside of the audit area and no significant pedestrian flows to and from this area through the audit area were noted at the time of audit. The site is largely comprised of residential properties interspersed with relatively short parades of shops. The nature of the retail outlets suggest that they are primarily used by local residents. There are a small number of commercial properties on the site but the size and nature of these buildings indicate that commuters do not generate any considerable pedestrian flows. The health centre mid way along the link does also not seem to create many pedestrian journeys, and nor do the Forest Hill, Catford Bridge and Catford railway stations.

Very few pedestrians were seen using this relatively isolated site during the day, although at the beginning and end of the school day there are relatively large flows of pedestrians walking to and from St. Dunstan's College and the two schools on Rathfern Road.

A map of the PERS audit area described in this report is shown in Figure 1.1.



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Figure 1.1: A205 Forest Hill Station to Catford Gyratory Audit Area Outline

The following sections of this report outline the following:

- Overview of the PERS methodology
- Key findings from the PERS audit
- Bar charts and maps displaying audit results
- Photographs illustrating key problems
- Key conclusions and outline recommendations from the audit.

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## 2 Methodology

### 2.1 Introduction

The walking audit performed for A205 Forest Hill Station to Catford Gyratory in the area of South – Lewisham, Greenwich, Bexley applies a five stage methodology, using TRL's Pedestrian Environment Review System (PERS) v2. These five stages are as follows:

- Stage 1: Definition of the study area
- Stage 2a: Desktop identification of links, crossings, routes and spaces
- Stage 2b: Optional collation of existing information
- Stage 3: On-street evaluation
- Stage 4: Data analysis using the PERS v2 software
- Stage 5: Display and review outputs

Each stage of the PERS process will now be described in detail.

### 2.2 Stage 1: Definition of the study area

The first key step 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. TRL met with the Road Network Development Officer(s) responsible for the audit area to discuss:

- The boundary of the study area
- The specific reasons for undertaking the audit and any particular emphasis required in reviewing the pedestrian environment
- Specific routes undertaken by significant numbers of pedestrians in the audit area
- Any temporary works currently being undertaken in the audit area which may affect the survey
- Any planned developments in the area
- Any cultural or sporting events which may be of interest for the survey

### 2.3 Stage 2a: Desktop identification of links, crossings, routes and spaces

In PERS, review frameworks are applied to specific components of the pedestrian environment, namely:

- Links – Any footway, footpath or highway to be considered. These may be divided into sections, if level of service varies significantly along them, and reviewed in total or with each site reviewed separately if relevant.

- 
- Crossings – Any designated or undesignated crossing where a pedestrian desire line intersects with a carriageway. Crossings of side road junctions along links may be reviewed as crossings at the discretion of the reviewer or included within the Link Review if they are not considered unduly significant.
  - Routes – A way that links a trip origin and a trip destination, for example from a public transport interchange to a school. Routes may consist of any number of links and crossings (reviewed separately) but also have additional characteristics which designate various features as a specific route.
  - Public Transport Waiting Areas – Any designated areas where people may wait in order to use public transport. This may include bus stops, taxi ranks or tram stops. Larger public transport waiting areas, or those supporting a variety of modes or services, may be considered to be interchange spaces and reviewed accordingly.
  - Interchange Spaces – Interchange spaces are the areas around and between public transport stops or termini. Interchange spaces act as gateways to the wider area itself or to the areas they serve for those arriving or leaving by public transport. Interchange spaces also allow travellers to change between transport services or modes. It is critical to note that this review tool is primarily designed to assess the external public transport interchange space (rather than the interior of interchange buildings which are under local authority control and is their remit to make improvements).
  - Public Spaces – The purpose of a public space is primarily to allow the public to informally rest and enjoy. Such a space may or may not be an easily definable area and can range in scale from a small plaza to a city park. It is not a space specifically or solely defined to be a pedestrian thoroughfare although pedestrians may use all or part of the space as a route. It can be a space for social activities with things for people to see or do. It can be a space for social activities with things for people to see and do.

Stage 2a 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 will assist on site particularly when multiple teams are auditing an area.

## 2.4 Stage 2b: Collation of existing information

To accurately assess the walking environment and to provide a valuable foundation for the review, the following information has been collated:

- Casualty statistics for the area concerned
- Crime and disorder data
- Land use information

Such information may, if significant, affect specific PERS outputs but can also guide the auditor in focussing upon particular areas of concern.

## 2.5 Stage 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 site. Each framework consists of a number of parameters requiring evaluation. The parameters for each component of the pedestrian environment are shown in Table 2.1.

Table 2.1: Review parameters

<b>Link review</b>	<b>Crossing review</b>	<b>Route review</b>
Effective width	Crossing provision	Directness
Dropped kerbs	Deviation from desire line	Permeability
Gradient	Performance	Road safety
Obstructions	Capacity	Personal security
Permeability	Delay	Legibility
Legibility	Legibility	Rest points
Lighting	Legibility for sensory impaired people	Quality of the environment
Tactile Information	Dropped kerbs	
Colour contrast	Gradient	
Personal security	Obstructions	
Surface quality	Surface quality	
User conflict	Maintenance	
Quality of the environment		
Maintenance		
<b>Public transport waiting area review</b>	<b>Interchange Space review</b>	<b>Public Space review</b>
Information to the waiting area	Moving between modes	Moving in the space
Infrastructure to the waiting area	Identifying where to go	Interpreting the space
Boarding public transport	Personal safety	Personal safety
Information at the waiting area	Feeling comfortable	Feeling comfortable
Safety perceptions	Quality of the environment	Sense of place
Security measures	Maintenance	Opportunity for activity
Lighting		
Quality of the environment		
Maintenance and cleanliness		
Waiting area comfort		

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. Parameters should be scored from -3 to +3, where +3 is the highest score and -3 the lowest. For a parameter to score +3 it would need to be exemplary and of a standard to be identified as best practice. 0 represents the average and N is used when a parameter is considered not relevant. The scores should reflect the level of service to the user with extensive comments made to support each score provided and to highlight key issues.

The audit form also asks for key referencing information such as the name, the location, the reference code, the auditor, the time of day and the date. In addition, the auditor can indicate whether the audit area being audited should be considered as having

strategic or local importance. For example, within an audit area it may be considered appropriate to place greater strategic importance on a link or crossing on the High Street compared with a link on a residential road outside the main town centre. This will then place a higher weighting on the strategic components so that they will need to achieve a better PERS score to be performing adequately for that specific 'strategic' environment. Where no differentiation is required between strategic and local, the auditor is required to mark all forms as neutral.

Whole audit areas can be marked as strategic based upon the judgement of the TfL Road Network Development Officer responsible for the area concerned.

Having completed all audit forms for the links, crossings, routes, waiting areas and spaces for an audit area, the auditor can now enter the data into the PERS v2 software as described in Stage 4.

## 2.6 Stage 4: Data analysis using PERS v2 software

For the audit area, the scores and comments from the on-site audit are entered into the PERS v2 software for evaluation. The software automatically applies weighting factors to the scores attributed by the auditor (at a default level). The purpose of the weighting factor is to allow for differentiation between those elements that are more significant than others. 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 2.2 below shows the weighting bands for each parameter.

Table 2.2 Weight bands and default weightings for each parameter

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 provision	C	5	Directness	C	5
Dropped kerbs	H	3	Deviation from 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 Audits 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	Maintenance	B	1			
Quality of the environment	B	1						
Maintenance	B	1						
Public transport waiting areas review			Interchange space review			Public space review		
Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting	Factor	Weight Band	Default weighting
Information to the waiting area	H	3	Moving between modes	C	5	Moving in the space	C	5
Infrastructure to the waiting area	H	3	Identifying where to go	H	3	Interpreting the space	H	3
Boarding public transport	C	5	Personal safety	C	5	Personal safety	C	5
Information at the waiting area	H	3	Feeling comfortable	H	3	Feeling comfortable	H	3
Safety perceptions	C	5	Quality of the environment	B	1	Sense of place	H	3
Security measures	C	5	Maintenance	B	1	Opportunity for activity	B	1
Lighting	H	3	Link Audits and Crossing Audits	C	5	Link Audits and Crossing Audits	C	5
Quality of the environment	B	1	Route Audits	C	5	Route Audits	C	5
Maintenance and Cleanliness	B	1	PT Waiting Area Audits	C	5	PT Waiting Area Audits	C	5
Waiting area comfort	H	3						

For each audit form, the software produces an aggregate score and a percentage score ranging from -100% to +100% with an average of 25%. The software also bands the performance of a facility into red, amber and green (RAG score). At a neutral level, green represents good or very good provision, amber represents average provision and red represents poor or very poor and components receiving a red score are of most concern.

## 2.7 Stage 5: Display and review outputs

Having entered the data, the PERS v2 software enables the user to automatically generate bar graphs to demonstrate the results. These can be displayed for individual components detailing parameters scores, or display overall scores so that particular links, crossings, routes, waiting areas or spaces can be compared.

In addition, the PERS findings can be mapped on an image file to display the RAG ratings for all links, crossings, routes, waiting areas and spaces. Again, mapping outputs have been included in Chapter 4 of this report to illustrate the results from this PERS audit.

For further information on the theory behind PERS and the methodology adopted for a PERS audit please refer to the PERS v2 handbook supplied in the help file on PERS v2 software.

## 3 Background Information

### 3.1 Introduction

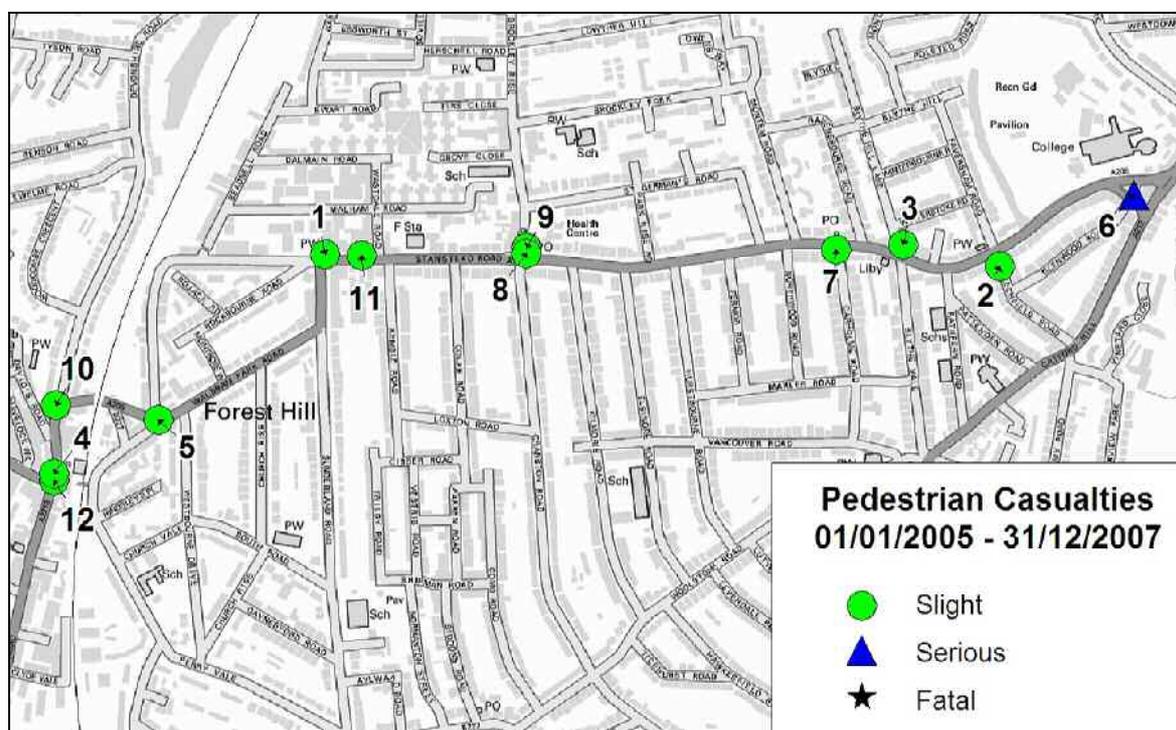
This section aims to provide a brief overview of key information associated with the A205 Forest Hill Station to Catford Gyratory audit area, namely:

- Pedestrian collision statistics
- Crime and disorder data
- Land use data

This data will inform the PERS audit results detailed in Chapter 4.

### 3.2 Pedestrian Collision Statistics

Figure 3.1 shows the collision statistics involving pedestrians from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2007 (36 months) for A205 Forest Hill Station to Catford Gyratory.



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Figure 3.1: A205 Forest Hill Station to Catford Gyratory Pedestrian Collision Statistics

The results show in the period reviewed there were:

- 11 slight collisions
- 1 serious collisions
- 0 fatal collisions

Of these findings, four collisions took place at pedestrian crossings, whilst seven took place across roads at other points. Of the latter, three were within 50 metres of a crossing. One collision occurred on a footpath verge.

In total, eleven cars and one motorcycle were involved in the collisions. Three collisions (25%) occurred in the dark and two collisions (17%) occurred in wet conditions. Finally, four collisions involved pedestrians under the age of 16.

Only one serious collision (No. 6) was recorded during the time period. The collision occurred at Catford Gyratory, where a vehicle hit a pedestrian who was using a zebra crossing.

Two other slight collisions also involved a vehicle hitting a pedestrian using a crossing facility. These were located on the A205 near the junction with Carholme Road (No. 7) and on Perry Vale at the junction with the A205 (No. 5).

### 3.3 Crime Data

Figure 3.2 shows the mapped crime data (Indices of Multiple Deprivation 2007) available via the National Statistics website ([www.statistics.gov.uk](http://www.statistics.gov.uk)) for the A205 Forest Hill Station to Catford Gyratory. This measures the rate of recorded crime for four major crime themes, representing the risk of personal and material victimisation at a small area level. These are:

- Burglary (4 recorded crime offence types, Police Force data for April 2004-March 2005, constrained to Crime and Disorder Reduction Partnership (CDRP) level)
- Theft (5 recorded crime offence types, Police Force data for April 2004-March 2005, constrained to CDRP level)
- Criminal damage (10 recorded crime offence types, Police Force data for April 2004-March 2005, constrained to CDRP level)
- Violence (14 recorded crime offence types, Police Force data for April 2004-March 2005, constrained to CDRP level).

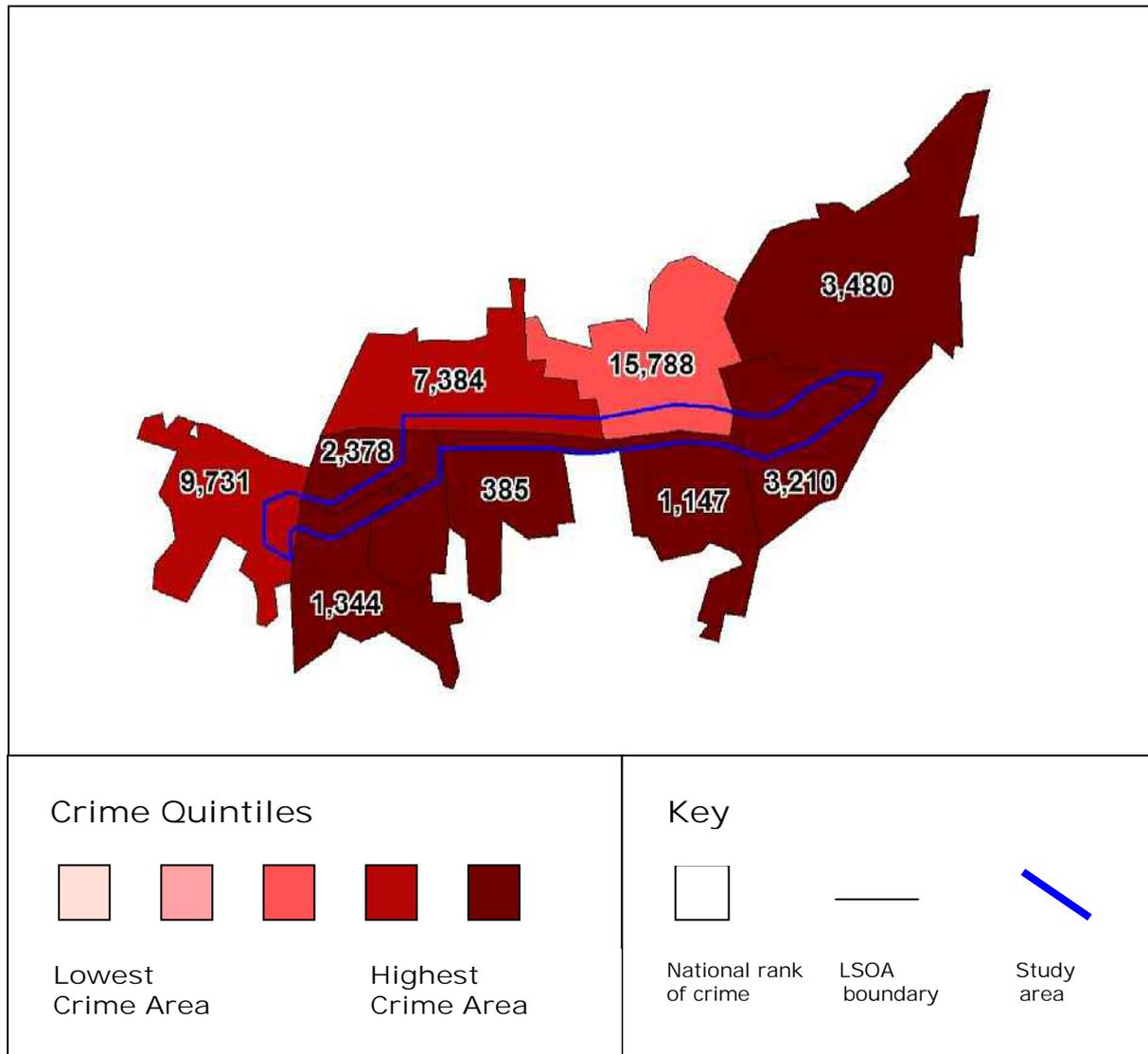


Figure 3.2: Crime ranking by Lower Super Output Area for A205 Forest Hill Station to Catford Gyratory

The ranking of crime for the audit site is based on Lower Super Output Areas (LSOAs), a hierarchical tool which facilitates the reporting of local level statistics. England is formed of 32,482 such areas; nine of which border the audit site. The respective national ranks of crime are shown above, where a rank of 1 shows the worst crime ranking for England. The 32,482 crime rankings have been divided equally into five quintiles and a standardised colour scheme has been applied, where darker colours indicate progressively worse crime rankings.

Figure 3.2 shows that in general this area can be considered as a medium to high risk crime area. Crime levels are particularly high within the LSOAs to the south of the A205. The LSOA located to the east of the junction with Sunderland Road, is ranked as the 385th worst LSOA for crime in England. Throughout the audit area, residential frontages and retail and food outlets were of relatively low quality with varying levels of maintenance. There is little formal surveillance in the area.

Crime levels are lower within the LSOAs to the north of the A205 in the central section of the audit area and also near Forest Hill Station in the west.

### 3.4 Land Use Data

To provide an overview of the types of land uses in the area, Figure 3.3 shows an approximation of the distribution of uses across the audit area. This information has been collated from notes taken by the auditors on site.



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Figure 3.3: Audit Area Land Uses for A205 Forest Hill Station to Catford Gyratory

The audit area is largely comprised of a mix of retail and residential land uses. There are a small number of commercial properties dispersed across the site, but none of them appear to generate notable pedestrian commuter flows. The schools to the eastern end of the site result in significantly higher pedestrian flows around this section at both the beginning and end of the school day, but for much of the day, including during school lunch time periods, pedestrian flows across the site are minimal.

There are no notable trip attractors located on this site, with the exception of the aforementioned schools, and the nature of the retail outlets make it probable that they will be frequented only by people living locally. Most of the pedestrian activity on the site generally occurs around the Forest Hill station area to the western end of the site, although little of this movement appears to filter across in an eastern direction into the audit area.

## 4 PERS v2 Audit

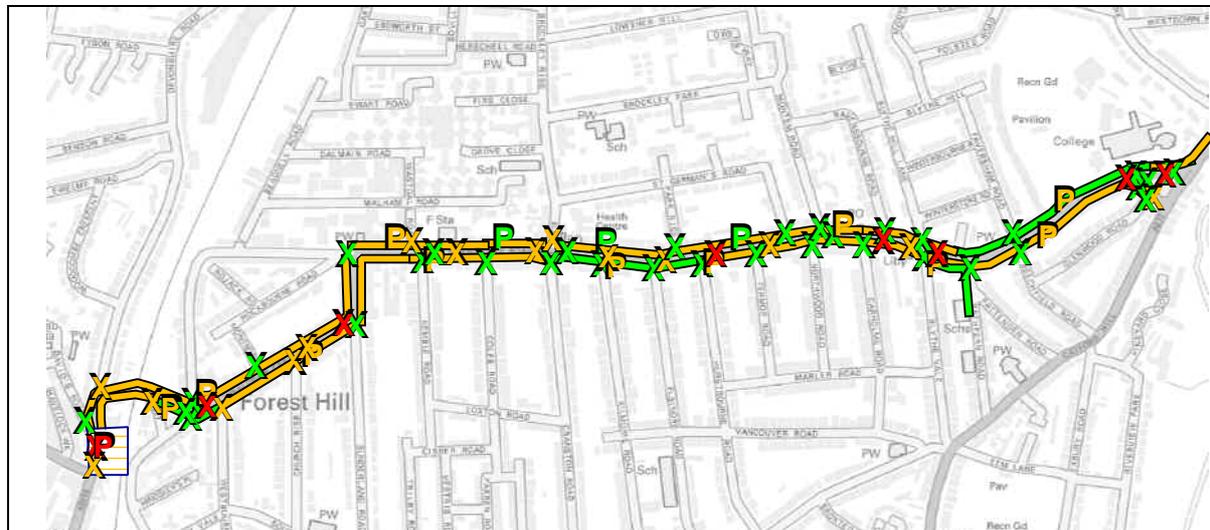
### 4.1 Introduction

The audit for A205 Forest Hill Station to Catford Gyratory was undertaken on 13 June 2008 between the times of 09:00 and 15:20. The weather was dry and sunny.

This section aims to present the key findings from the audit of A205 Forest Hill Station to Catford Gyratory, particularly focussing upon those parts of the pedestrian environment which scored negatively and were identified to be in need of improvement. The results are divided into the components of the pedestrian environment:

- Links (L)
- Crossings (both formal and informal) (C)
- Public Transport Waiting Areas (PT)
- Routes (R)
- Public Spaces (PS)
- Interchange Spaces (IS)

Figure 4.1 shows the audit area with the components of the pedestrian environment audited. The map shows the RAG scores for all audit components audited. A larger version is provided in Appendix A of this report.



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Figure 4.1: All Audit Components with RAG Output

## 4.2 General observations

Before providing a detailed account of the audit findings, the audit team have identified the following key observations noted across the audit area of relevance to the accessibility and attractiveness of the pedestrian environment:

- There are very high traffic flows along the A205, and some of the vehicles travel at speed.
- The dominance of vehicular traffic in the audit area results in high noise levels.
- There are no notable trip attractors in the audit area, which contributes to the low pedestrian flows experienced throughout most of the day.
- Pedestrian flows increase significantly at the beginning and end of the school day owing to schools located along the link. Schools appear to be the only notable generators of pedestrian activity.
- The effective width of pavements is such that user conflict appears likely to occur rarely, despite the lack of dedicated cycle paths.
- The site is relatively impermeable owing to high traffic flows. Sensory and mobility impaired pedestrians would find it difficult to cross informally.
- The quality of private frontages across the audit area is highly variable, with properties ranging from being derelict to well maintained.

## 4.3 Links

This section describes the findings from an assessment of the pedestrian links in the audit area. Reference codes are used in this report – a full list of the codes can be found in Appendix B.

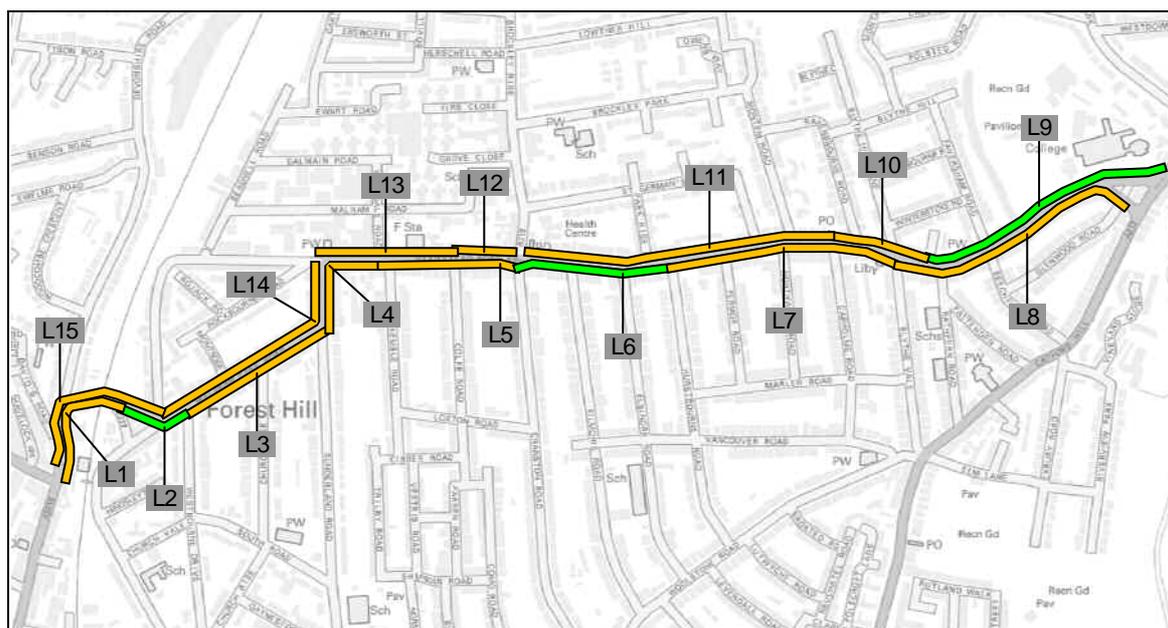
### 4.3.1 Overall Scores

Fifteen links were audited in the A205 Forest Hill Station to Catford Gyratory audit area. Table 4.1 shows the number of links which were classified as red, amber or green within the PERS software. Figure 4.2 shows a map of the total RAG scores for all links audited at A205 Forest Hill Station to Catford Gyratory with the link reference codes.

As shown in Table 4.1 the majority of the links scored amber.

Table 4.1: Total RAG scores for links

RAG Rating	No. of Links (percentage of total)
RED	0 (0%)
AMBER	12 (80%)
GREEN	3 (20%)



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Figure 4.2: Map output of link RAG Total scores

Table 4.2 below shows the key findings for links along this section, focussing primarily upon the most problematic links.

Table 4.2: Key findings for links

Descriptor	A205 southside from London Road to Waldram Place
Ref	L1
RAG & Total Score	-12
Comments	<p>The <u>permeability</u> of this link is <u>poor</u> owing to <u>poor kerbs</u> and <u>high traffic flows</u> along the A205, which is three lanes wide in places. Kerb stones along much of the link are not dropped but consist of between two to three <u>steps that need to be negotiated</u>.</p> <p>The link is located on a <u>considerable gradient</u> and is comprised of a <u>number of crossfalls</u> which increase the impact of the gradient. <u>Surface quality is also poor</u> with a number of <u>raised utility covers</u> and <u>undulations</u>. There are <u>no rest points</u> which will make traversing this link more uncomfortable for mobility impaired pedestrians. <u>Tactile information provision is also limited</u> along the link, which will reduce accessibility for sensory impaired pedestrians. There is a <u>useable tapping line</u> that will enhance legibility for sensory impaired pedestrians, although legibility in general is poor as there is <u>no pedestrian signage</u> on the link. <u>Sightlines are also poor</u> owing to a bend in the carriageway. Signage that is provided for motorists is, however, <u>likely to obstruct</u> and <u>reduce effective width</u>. Temporary</p>

	<p>works under the railway bridge are also likely to obstruct pedestrian flow, although the <u>low volume of pedestrians</u> seen using this link suggests that pedestrian conflict should not be a problem.</p> <p>The <u>quality of the environment is poor</u>. This is largely the result of the impact of <u>high flows of vehicles and the associated noise and pollution</u>, but it is also caused in part by a number of <u>rundown frontages</u> on the link. These vacant buildings also serve to <u>reduce security perceptions</u>, which are generally good despite the <u>absence of visible formal surveillance measures</u>.</p>
Photographs	

Descriptor	A205 southside from opposite Wastdale Road to Cranston Road
Ref	L5
RAG & Total Score	-5
Comments	<p>The <u>permeability of this link is again poor</u> owing to <u>high traffic flows and speeds</u> on the A205. A <u>lack of formal crossing points</u> and the presence of <u>pedestrian barriers</u> reduces permeability further. In addition, pedestrian movement is constrained by the <u>reduction of effective width by PT10 and associated queues</u>, and the placement of wheelie bins and sign posts. Overhanging branches also create <u>overhead obstructions</u> in places. <u>User conflict is caused</u> by the location of the bus stop on the link and by cyclists, who were witnessed using the footway at the time of audit.</p> <p>There is <u>no pedestrian signage on the link</u>, and although there is <u>good tactile provision</u> there is a serious trip hazard created by <u>uneven tactile</u> at Cranston Road. <u>Surface quality is poor</u> at a number of locations across the link with another <u>trip hazard at Kemble Road</u> and <u>undulations and inconsistencies</u> created by tree roots. Driveways create further undulations and the link is located on a <u>slight gradient</u> but <u>the only rest points are informal</u>.</p> <p><u>Street lighting is infrequent</u> with only two lamp posts focusing on the footway. <u>Personal security is generally good</u> however despite the <u>poor quality of the environment</u>, which is negatively impacted by the high traffic flows of the A205.</p>



Descriptor	A205 northside from Brockley Rise to Colfe Road
Ref	L12
RAG & Total Score	-5
Comments	<p>There are no side roads on the link and <u>only one formal crossing of the A205</u> to the western side of the link, and as is the case on other links <u>high traffic speeds and volumes</u> make informal crossing problematic even for the most able bodied pedestrians. Permeability is therefore poor and pedestrian movement is hampered further by <u>heavy obstructions in parts of the link</u> with wheelie bins, signposts and shop displays reducing effective width in places. Low pedestrian flows suggest that <u>pinch points are not likely to lead to user conflict</u>, although <u>cyclists were seen using the footway</u>, which could cause problems.</p> <p>Traffic signage may assist navigation, although there is <u>no pedestrian signage</u>. <u>Tactile information is also limited</u> with no tactile alerting sensory impaired users to the exit and entrance of the Shell garage, and <u>confusing provision</u> at the junction of the A205 with Brockley Rise where tactile for <u>C11, C13 and C47</u> almost overlap. Little use has been made of colour contrast, which may help the navigation of sensory impaired pedestrians.</p> <p>The quality of the environment is relatively poor as <u>soft landscaping measures are limited</u>, some <u>frontages appear relatively neglected</u> and have <u>low aesthetical value</u>, and the traffic from the A205 has a negative impact in terms of noise and air quality. The <u>poor quality of private frontages</u> implies neglect, and may feel <u>unsettling at night</u>. There is also <u>no CCTV or visible police presence</u>, although <u>levels of activity are high during the day</u>. The perception of neglect extends to the footway surface. A number of <u>paving slabs are severely cracked</u>, there are <u>undulations and raised utility covers</u>, and evidence of <u>some pooling of water</u>. <u>Debris has also accumulated</u> in places.</p>



### 4.3.2 Parameter findings

Table 4.3 to Table 4.5 show the parameter scores for the three negatively scoring links.

Table 4.3: Parameter scores for L1

Link Parameters							
L1 (A205 southside from London Road to Waldram Place)	Effective Width	Dropped Kerbs	Gradient	Obstructions	Permeability	Legibility	Lighting
	0	-1	-2	0	-2	-2	2
	Tactile Information	Colour Contrast	Personal Security	Surface Quality	User conflict	Quality of the environment	Maintenance
	-2	1	-1	-2	-1	-1	0

Table 4.4: Parameter scores for L5

Link Parameters							
L5 (A205 southside from opposite Wastdale Road to Cranston Road)	Effective Width	Dropped Kerbs	Gradient	Obstructions	Permeability	Legibility	Lighting
	-1	0	0	-1	-2	-1	-2
	Tactile Information	Colour Contrast	Personal Security	Surface Quality	User conflict	Quality of the environment	Maintenance
	-2	2	1	-2	0	-2	1

Table 4.5: Parameter scores for L12

Link Parameters							
L12 (A205 northside from Brockley Rise to Colfe Road)	Effective Width	Dropped Kerbs	Gradient	Obstructions	Permeability	Legibility	Lighting
	-2	0	0	-2	-2	0	2
	Tactile Information	Colour Contrast	Personal Security	Surface Quality	User conflict	Quality of the environment	Maintenance
	-1	0	0	-2	0	-2	0

Across all links audited, the parameters which performed most poorly were identified to be Effective Width, Obstructions, Permeability, and Surface Quality.

In particular the following specific issues were noted by the auditors:

- The A205 is comprised of several lanes of high volumes of vehicles travelling at speed. This has the effect of reducing both permeability and environmental quality throughout the site.
- There are few signalised crossing points of the A205 which leads to numerous potentially hazardous informal crossing movements.
- Numerous obstructions are located across the audit area. These include wheelie bins, bollards, traffic signage, advertising boards, lamp posts, overhanging foliage and street trees.
- Obstructions serve to restrict both pedestrian movement and sightlines.
- Many obstructions have not been allowed for, which has led to the creation of pinch points and a significant reduction in effective width.
- There is a very limited amount of pedestrian signage in the audit area.
- There is the potential for user conflict from both cyclists, who were witnessed cycling on the footway, and bus users queuing at a small number of Public Transport Waiting Areas.
- Surface quality is highly variable across the site. Many inconsistencies, trip and slip hazards were identified by auditors.

### Obstructions

Infrastructure and street furniture is well aligned on several of the links, although the majority of links are obstructed. The placement of wheelie bins is a problem throughout the site owing in part to the largely residential nature of the area. Overhanging foliage is also a consistent problem with most of it originating from residential properties. Shop signage and advertising boards obstruct the footway serving a number of the retail stretches in the audit area, such as:

- L7 - A205 southside from Hurstbourne Road to Blythe Road;
- L8 - A205 southside from Blythe Road to Glenwood Vale;
- L10 - A205 northside from Stanstead Grove to opposite Carholme Road;

- L12 - A205 northside from Brockley Rise to Colfe Road; and
- L13 - A205 northside from opposite Colfe Road to junction with Sunderland Road.

The alignment of transport infrastructure also obstructs in places with sign posts (see Plate 4.1 below) bollards, lamp posts, pedestrian barriers not having been allowed for in footway width. Street trees also obstruct pedestrian movement on:

- L8 - A205 southside from Blythe Road to Glenwood Vale;
- L14 - A205 northside from opposite Perry Vale to junction with Sunderland Road; and
- L15 - A205 northside from opposite Forest Hill Station to opposite Perry Vale.

The majority of street trees in the audit area are well aligned but some, such as those on L7 (A205 southside from Hurstbourne Road to Blythe Road), also obstruct, as shown in Plate 4.2 below.



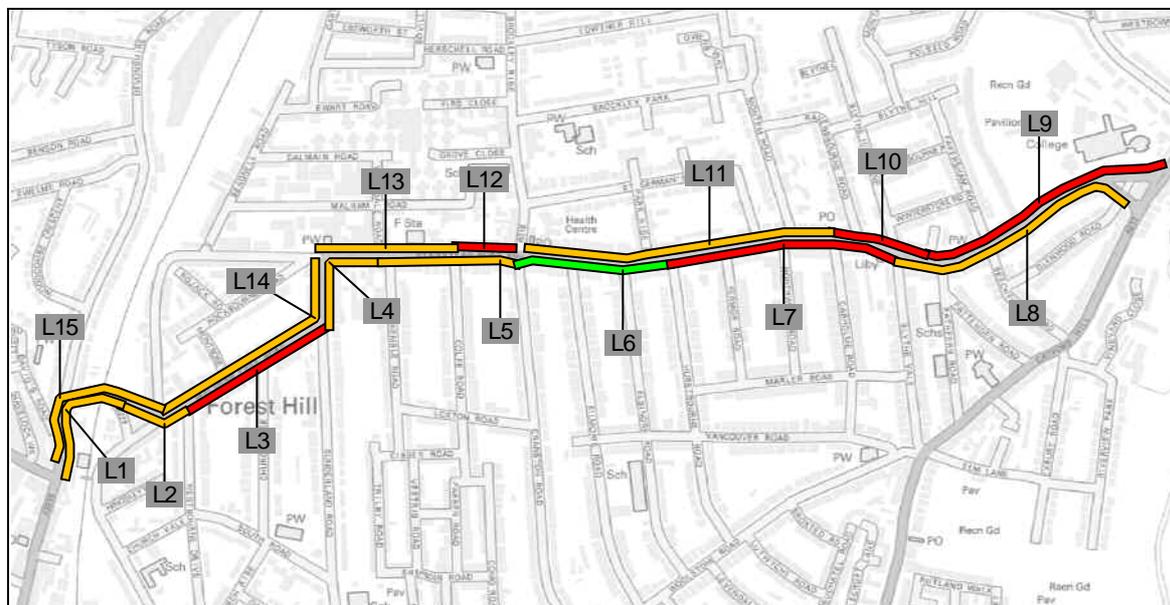
Plate 4.1: Traffic signage obstructs pedestrian movement on L15



Plate 4.2: Street trees obstruct sight lines and pedestrian flow on L7

Sightlines are also obstructed in places. Trees and traffic signage reduce sightlines on L3 (A205 southside from Westbourne Drive to Sunderland Road), whilst bends in the carriageway compromise sightlines at:

- L4 - A205 southside from Sunderland Road to opposite Wastdale Road; and
- L15 - A205 northside from opposite Forest Hill Station to opposite Perry Vale.



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Figure 4.3: Map Output of Link RAG Scores for Obstructions

### Effective Width

Pedestrian flows are relatively low across the audit area, with an exception of around the time of school closing. Pedestrian congestion is therefore rarely an issue with the only identified congestion being minor and occurring on L10 (A205 northside from Stanstead Grove to opposite Carholme Road) around retail outlets. The width of the pavement varies across the site although it should be sufficient to accommodate both wheelchair users and the levels of pedestrian flow experienced. The negative score is, however, attributed to the fact that the width is not always sufficient to allow for obstructions. This parameter is therefore linked to that previously described. Wheelie bins, street trees (as shown in Plate 4.3 overleaf), bollards, signage, advertising boards (see Plate 4.4 overleaf) and lamp posts all cause obstructions at relatively frequent intervals across the audit area. Each of these obstructions serves to reduce effective width and many of them create pinch points along the footway.

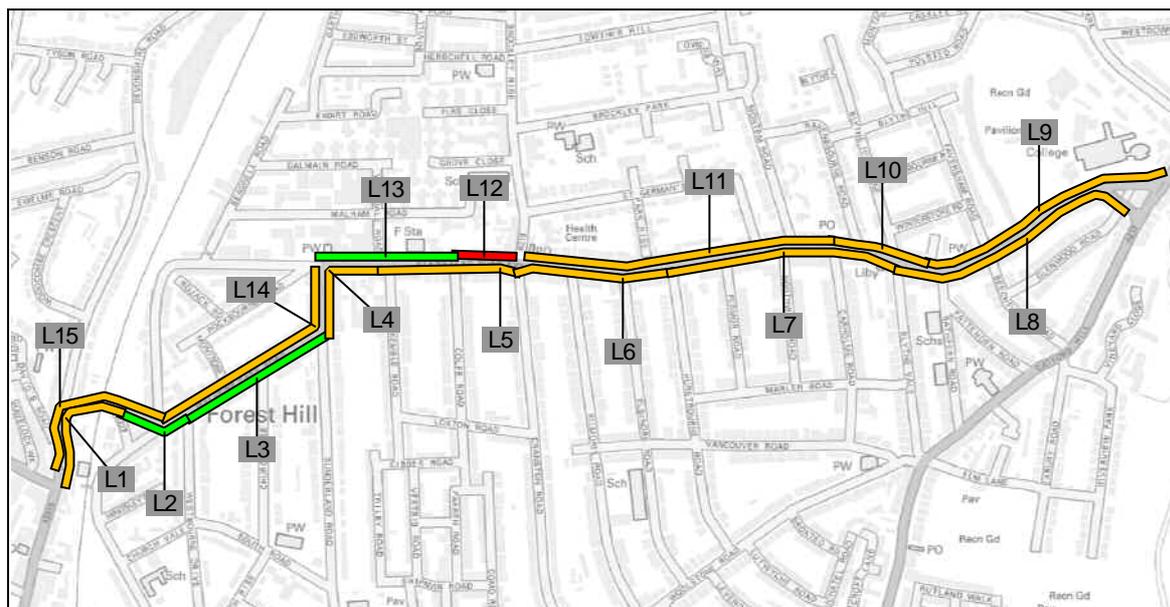


Plate 4.3: Effective width is reduced by street trees and overhanging foliage from residential properties on L5



Plate 4.4: Wheelie bins and A-boards associated with retail land reduce the effective width of L13

The relatively low pedestrian flows experienced on this site are reflected in the minimal queues evidenced at most Public Transport Waiting Areas, but in a few cases no allowance has been made for the bus infrastructure and so effective width could also be compromised at these points, such as on L5 (A205 southside from opposite Wastdale Road to Cranston Road).



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Figure 4.4: Map Output of Link RAG Scores for Effective Width

### Permeability

The A205 is a heavily trafficked carriageway with vehicles often travelling at speed. The carriageway is also fairly wide in places, which can make it difficult to cross. The nature of the site means that negative scores for permeability can largely be attributed to the lack of formal crossing points of the A205 (see Plate 4.5 below). Some links have no formal crossings of the A205 on them (L1, A205 southside from London Road to Waldram Place), and others have only one formal crossing which is not necessarily signalised:

- L2 - A205 southside from Waldram Place to Westbourne Drive;
- L4 - A205 southside from Sunderland Road to opposite Wastdale Road;
- L10 - A205 northside from Stanstead Grove to opposite Carholme Road;
- L12 - A205 northside from Brockley Rise to Colfe Road; and
- L13 - A205 northside from opposite Colfe Road to junction with Sunderland Road.

Auditors noted that others had more than one formal crossing, but that these were infrequent and often only at the far ends of each link;

- L5 - A205 southside from opposite Wastdale Road to Cranston Road
- L11 - A205 northside from opposite Carholme Road to Brockley Rise; and
- L15 - A205 northside from opposite Forest Hill Station to opposite Perry Vale.

The lack of formal crossing provision is likely to be the cause of the many informal crossing movements identified during the audit, although pedestrian barriers, notably guard railing, restrict the ability of pedestrians to cross informally on a number of links, including;

- L3 - A205 southside from Westbourne Drive to Sunderland Road;
- L5 - A205 southside from opposite Wastdale Road to Cranston Road;
- L7 - A205 southside from Hurstbourne Road to Blythe Road; and
- L13 - A205 northside from opposite Colfe Road to junction with Sunderland Road.



Plate 4.5: High levels of traffic flow reduce permeability across the site (L5)

High dropped kerbs further reduce permeability, such as on L1 (A205 southside from London Road to Waldram Place) and L4 (A205 southside from Sunderland Road to opposite Wastdale Road) (see Plate 4.6 below), although kerbs are dropped at formal crossing points and it is unlikely that pedestrians unable to negotiate the dropped kerbs would be able to cross the A205 informally. The ability of pedestrians to cross informally is further compromised by poor sightlines, which are almost all created by bends in the carriageway. This has a negative impact upon the permeability of;

L1 - A205 southside from London Road to Waldram Place;

L4 - A205 southside from Sunderland Road to opposite Wastdale Road;

L5 - A205 southside from opposite Wastdale Road to Cranston Road

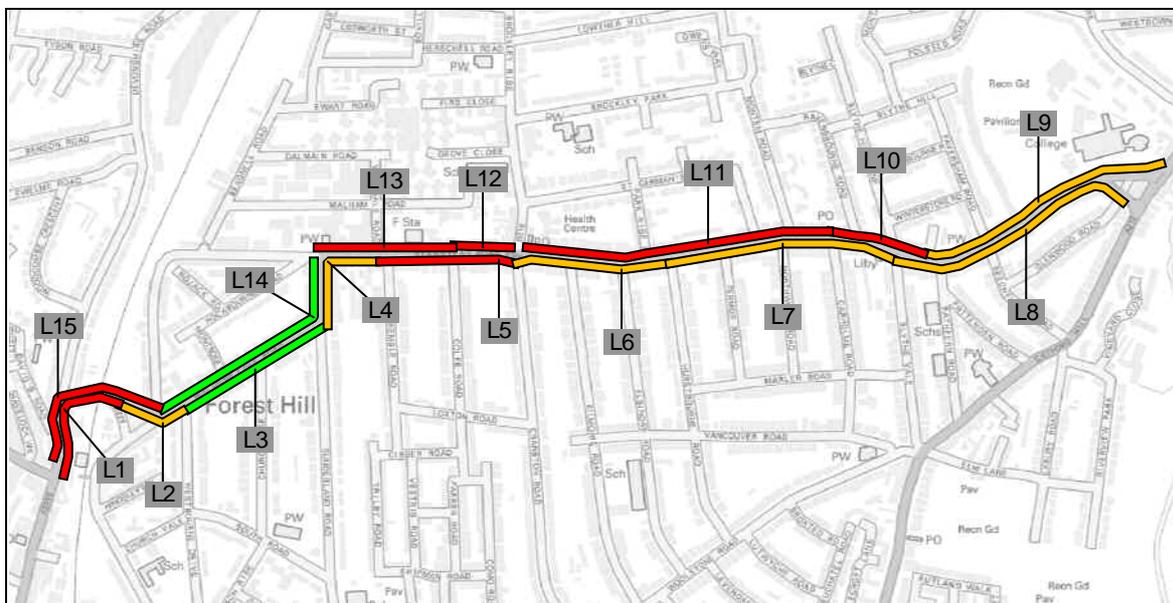
L8 - A205 southside from Blythe Road to Glenwood Vale; and

L15 - A205 northside from opposite Forest Hill Station to opposite Perry Vale.

Sightlines are also blocked by trees and signage on L3 (A205 southside from Westbourne Drive to Sunderland Road).



Plate 4.6: Stepped kerbs reduce permeability on L1



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Figure 4.5: Map Output of Link RAG Scores for Permeability

### Surface Quality

The surface quality of footways is variable across the site, although there are many inconsistencies and opportunities to make improvements through maintenance. Cracked and uneven paving slabs were identified on Links;

L4 - A205 southside from Sunderland Road to opposite Wastdale Road;

L7 - A205 southside from Hurstbourne Road to Blythe Road (see Plate 4.7 below);

L8 - A205 southside from Blythe Road to Glenwood Vale;

L12 - A205 northside from Brockley Rise to Colfe Road;

L13 - A205 northside from opposite Colfe Road to junction with Sunderland Road; and

L15 - A205 northside from opposite Forest Hill Station to opposite Perry Vale.

The evenness and consistency of the site is further reduced by utility panels many, although not all, of which have been poorly set, particularly on Links;

L1 - A205 southside from London Road to Waldram Place;

L2 - A205 southside from Waldram Place to Westbourne Drive;

L4 - A205 southside from Sunderland Road to opposite Wastdale Road;

L7 - A205 southside from Hurstbourne Road to Blythe Road;

L8 - A205 southside from Blythe Road to Glenwood Vale;

L9 - A205 northside from Catford Hill to Stanstead Grove;

L11 - A205 northside from opposite Carholme Road to Brockley Rise; and

L12 - A205 northside from Brockley Rise to Colfe Road (see Plate 4.8 below).

Some of these are potential trip hazards, and several could lead to localised drainage problems.



Plate 4.7: Cracked, uneven and inconsistent footway surface on L7



Plate 4.8: Poor quality reinstatement on L12

Another frequently identified concern by auditors is the presence of undulations in the footway. There is evidence of tree roots causing uplift and undulations at;

L4 - A205 southside from Sunderland Road to opposite Wastdale Road;

L5 - A205 southside from opposite Wastdale Road to Cranston Road;

L11 - A205 northside from opposite Carholme Road to Brockley Rise; and

L14 - A205 northside from opposite Perry Vale to junction with Sunderland Road.

General unevenness has also created undulations on;

L1 - A205 southside from London Road to Waldram Place;

L2 - A205 southside from Waldram Place to Westbourne Drive;

L7 - A205 southside from Hurstbourne Road to Blythe Road;

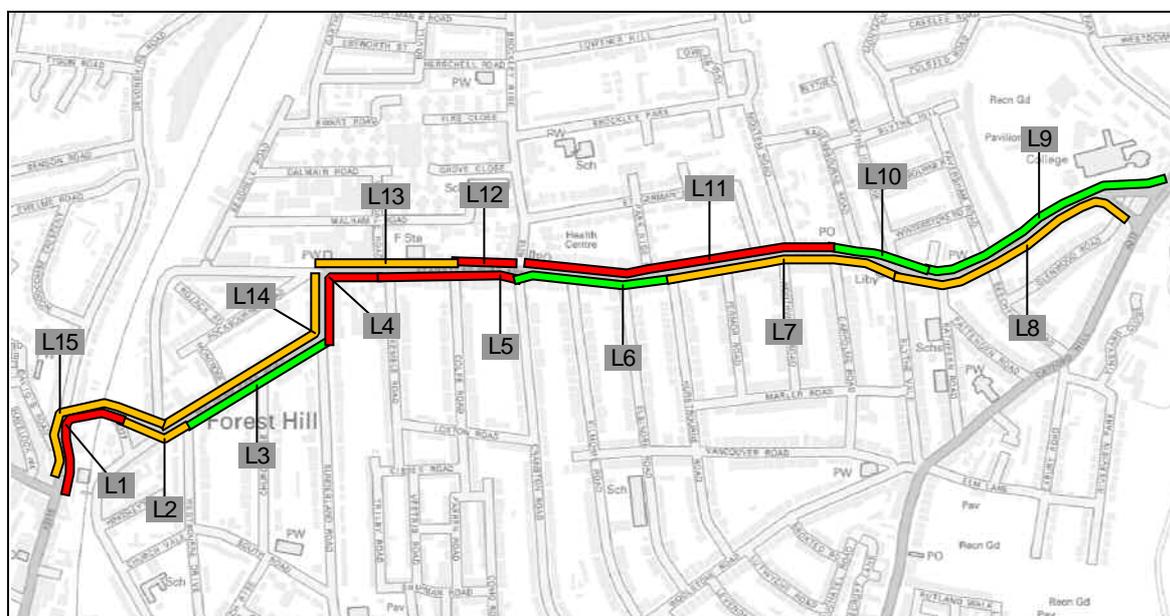
L10 - A205 northside from Stanstead Grove to opposite Carholme Road;

L12 - A205 northside from Brockley Rise to Colfe Road; and

L13 - A205 northside from opposite Colfe Road to junction with Sunderland Road.

These are not all necessarily trip hazards, but could lead to drainage problems and make navigation across the site more difficult for mobility impaired users.

Further inconsistencies were identified as having resulted from reinstatements on L10 (A205 northside from Stanstead Grove to opposite Carholme Road), and a change in surface type on L13 (A205 northside from opposite Colfe Road to junction with Sunderland Road).



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Figure 4.6: Map Output of Link RAG Scores for Surface Quality

Photographs of key problem parameters for Links are shown in Table 4.6 below:

Table 4.6: Key problem parameters for links

Photographs	Comments
	<p>The <u>poor alignment of traffic signage</u> and a <u>litter bin obstructs pedestrian movement</u> along <u>L2</u> (A205 southside from Waldram Place to Westbourne Drive) and <u>requires pedestrians to deviate</u> on the approach to <u>C5</u> (Across Westbourne Drive southside of A205).</p>
	<p><u>Poorly aligned lamp posts</u> on <u>L6</u> (A205 southside from Cranston Road to Hurstbourne Road) <u>effectively halve effective width</u>.</p>
	<p><u>Guard railing</u> on <u>L9</u> (A205 northside from Catford Hill to Stanstead Grove) severely <u>reduces the permeability</u> of the link, particularly in proximity to St. Dunstan's College.</p>



The roots of street trees on L7 (A205 southside from Hurstbourne Road to Blythe Road) create cracks and undulations in the footway surface, which results in trip hazards in places.

## 4.4 Crossings

This section describes the findings from an assessment of the pedestrian crossings in the audit area. Reference codes are used in this report – a full list of the codes can be found in Appendix B.

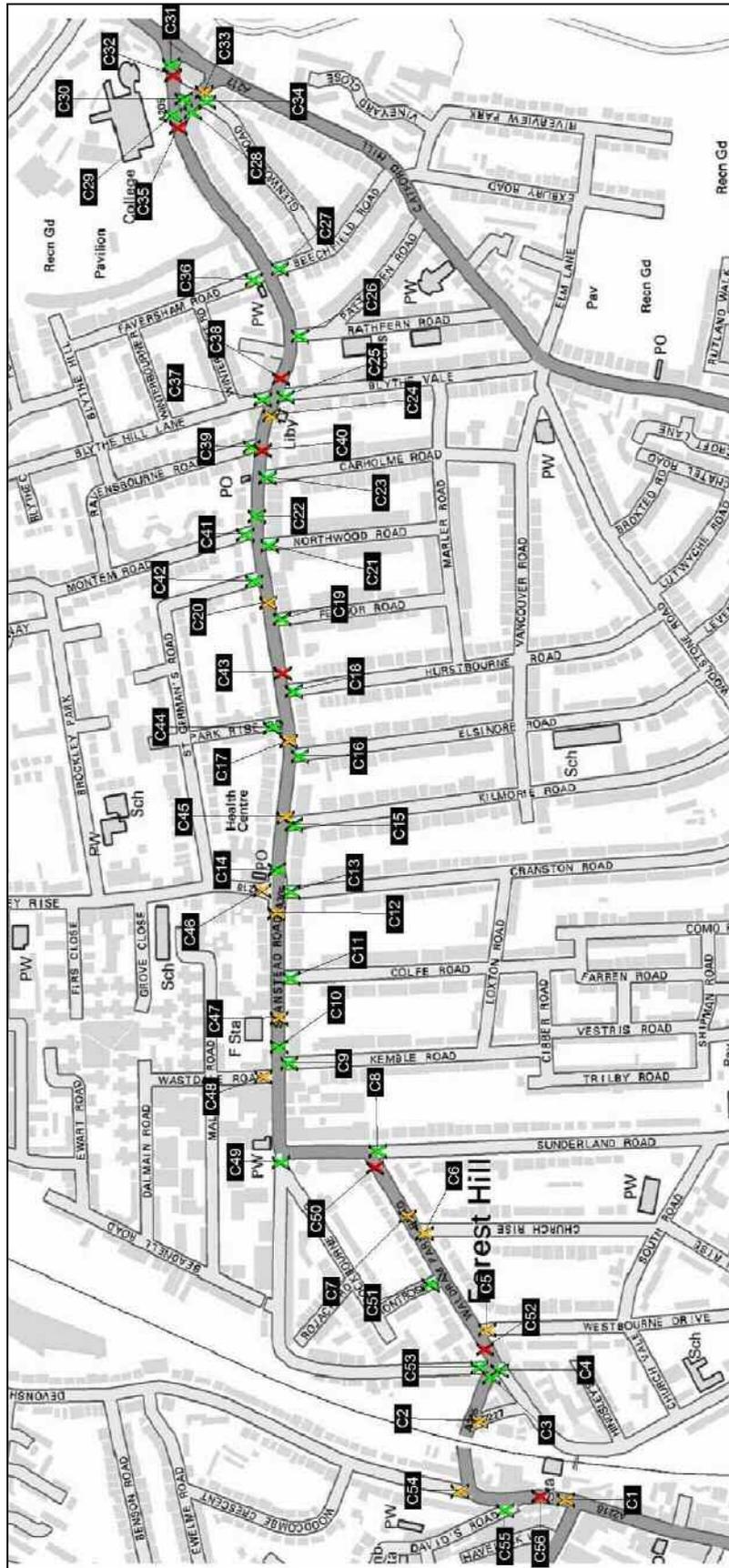
### 4.4.1 Overall Scores

Fifty-six crossings were audited in the A205 Forest Hill Station to Catford Gyratory audit area. Table 4.7 shows the number of crossings which were classified as red, amber or green within the PERS software. Figure 4.7 shows a map of the total RAG scores for all crossings audited at A205 Forest Hill Station to Catford Gyratory with the crossing reference codes.

As shown in Table 4.7 the majority of the crossings scored green.

Table 4.7: Total RAG scores for crossings

RAG Rating	No. of Crossings (percentage of total)
RED	8 (14%)
AMBER	15 (27%)
GREEN	33 (59%)



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Figure 4.7: Map output of Crossing RAG Total scores

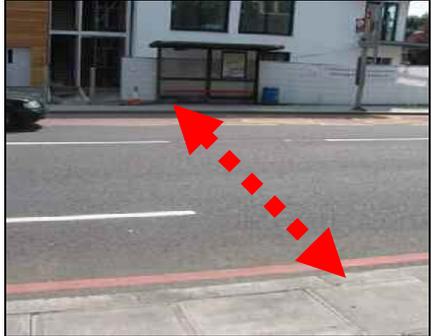
Table 4.8 below shows the key findings for crossings along this section, focussing primarily upon the most problematic crossings.

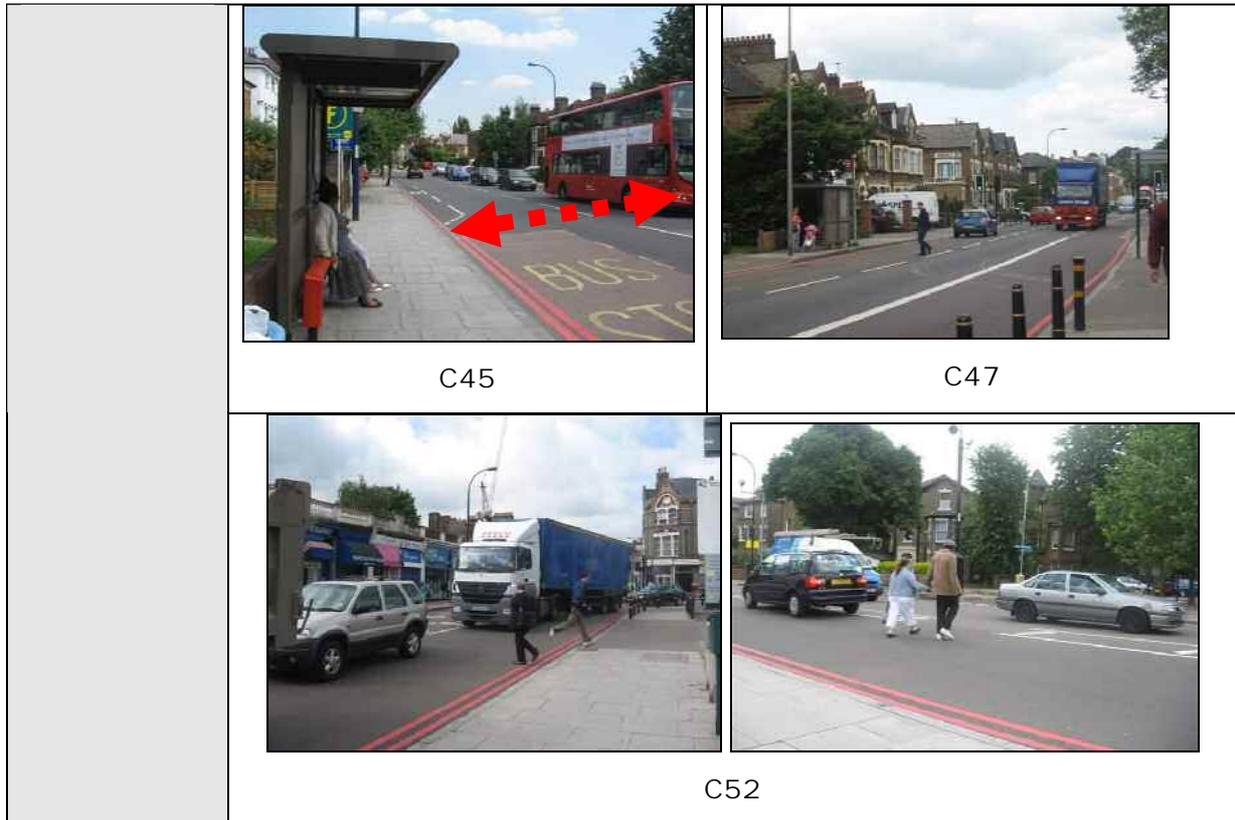
Table 4.8: Key findings for crossings

Descriptor	Three informal crossings in the vicinity of Catford Gyratory: <ul style="list-style-type: none"> <li>• Informal across A205 outside St. Dunstan's College C32</li> <li>• Informal across A205 south of Glenwood Road C33</li> <li>• Informal across A205 west of the Catford Gyratory C35</li> </ul>		
Ref	C32	C33	C35
RAG & Total Score	-68	-21	-34
Comments	<p>C32 is an informal crossing of the A205 that is frequently used by pedestrians, particularly <u>students from St. Dunstan's College</u>. It is located on the general desire line, although there is <u>minimal scope for deviation</u> owing to <u>extensive guard railing</u> on the northern side of the crossing. <u>Pedestrian delay</u> is caused either by <u>traffic queuing across the crossing area</u>, or by <u>high volumes of fast moving traffic</u>. The crossing is on a <u>fairly steep slope</u>, but it <u>would not be suitable for sensory or mobility impaired pedestrians</u> regardless owing to the lack of provision. The surface of both the footway and carriageway are well maintained.</p> <p>C33 experiences <u>moderate pedestrian and vehicle flows</u>. <u>Vehicle speeds are generally low</u> as they tend to <u>queue across the crossing area</u> to enter the A217. There are <u>no dropped kerbs or provision for sensory impaired pedestrians</u> and so the ability of some pedestrians to use this crossing is compromised. The general lack of provision and good vehicle behaviour witnessed means that whilst pedestrians may experience delays to crossing <u>the informal crossing performs relatively well</u>.</p> <p>C35 the only form of provision is a <u>traffic island which can serve as a refuge</u>, although the <u>capacity of the traffic island is limited</u>, particularly with <u>bollards and a traffic light reducing its effective width</u>. <u>Pedestrians do not have priority</u> at the crossing, which experiences <u>heavy traffic flows</u>. This can lead to <u>delays and potentially hazardous crossing conditions</u> which are exacerbated by <u>sightlines being restricted</u> to the west by a bend in the road traffic. The <u>lack of dropped kerbs and tactile information</u> means that the crossing would be difficult for sensory and mobility impaired pedestrians to use even if they were able to negotiate the high traffic flows.</p>		

<p>Photographs</p>	 <p style="text-align: center;">C32</p>	
	 <p style="text-align: center;">C33</p>	 <p style="text-align: center;">C35</p>

<p>Descriptor</p>	<p>Five informal crossings to, from and between bus stops:</p> <ul style="list-style-type: none"> <li>• Informal across A205 from PT7 to parade of shops opposite C38</li> <li>• Informal across A205 from PT6 C43</li> <li>• Informal across A205 between PT5 and PT12 C45</li> <li>• Informal across A205 from PT4 to the garage and PT13 C47</li> <li>• Informal across A205 from PT15 to Westbourne Drive C52</li> </ul>				
<p>Ref</p>	<p>C38</p>	<p>C43</p>	<p>C45</p>	<p>C47</p>	<p>C52</p>
<p>RAG &amp; Total Score</p>	<p style="background-color: red; color: white; text-align: center;">-31</p>	<p style="background-color: red; color: white; text-align: center;">-49</p>	<p style="background-color: yellow; text-align: center;">-18</p>	<p style="background-color: yellow; text-align: center;">-28</p>	<p style="background-color: red; color: white; text-align: center;">-33</p>
<p>Comments</p>	<p>C38 has <u>no provision for pedestrians</u> despite being located on a desire line created by PT7 and the parade of shops opposite. There is <u>no demarcation for pedestrians in the crossing area</u> and those using the crossing are likely to be subject to <u>delay as a result of vehicle behaviour and high traffic flows</u>. The A205 is <u>relatively wide at this point</u> causing pedestrians to wait between lanes leaving them <u>vulnerable to traffic</u>. There is <u>good lighting provision</u> but <u>no dropped kerbs or tactile paving</u> to assist mobility and sensory impaired pedestrians.</p> <p>C43, which is located on a desire line between PT6 and PT11, suffers from the same problems as C38. The only notable difference is that a</p>				

	<p><u>tree on the northern side of the crossing may impede sightlines.</u> Whilst the street tree is unlikely to obstruct users its <u>roots have created severe undulations in the footway.</u> The <u>quality of the footway on the southern side of the crossing is also uneven,</u> which creates a number of possible <u>trip hazards.</u></p> <p>C45 lies on a desire line between PT5 and PT12 and is again very similar to C38. The main difference is that <u>dropped kerbs are accessible</u> at this crossing point, although they have not been provided for the purpose of crossing. It remains <u>unlikely, however, that mobility impaired users would be able to traverse this crossing.</u></p> <p>C47 is on the desire line between the garage, PT13 and PT4 and again experiences the same problems as C38. Like C45, however, <u>dropped kerb provision here is good</u> created by the garage and a private driveway. The <u>footway surface is adequate</u> although uneven in parts, and the presence of <u>a utility panel could potentially be a trip hazard.</u></p> <p>C52 experiences <u>high pedestrian flows</u> to and from the Co-op and PT15. <u>High volumes of traffic</u> are experienced at this informal crossing which is made particularly <u>hazardous owing to the proximity to several junctions.</u> <u>Vehicle behaviour is variable</u> and <u>traffic flows can block sightlines,</u> which makes the <u>lack of provision for pedestrians</u> and <u>poor space ownership</u> a concern. <u>Delay for pedestrians can be significant,</u> and pedestrians have been seen waiting in the middle of the wide stretch of carriageway to cross, leaving them <u>vulnerable to high traffic flows</u> on both sides. There are <u>some pedestrian barriers to the southside of the crossing area,</u> and these obstruct pedestrian flow. <u>Bollards on both sides of the crossing also obstruct.</u> <u>Vehicles queuing across the crossing area</u> are often the main cause of obstructions however, with <u>pedestrians seen weaving between stationary vehicles.</u></p> <p>There are <u>no dropped kerbs on the southern side,</u> but the entrance to the Co-op provides informal dropped kerb access to the northern side. This crossing is <u>not suitable for mobility or sensory impaired users</u> however.</p>
<p>Photographs</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>C38</p> </div> <div style="text-align: center;">  <p>C43</p> </div> </div>



Descriptor	Informal across A205 from between the library and Carholme Road to parade of shops opposite	
Ref	C40	
RAG & Total Score	-41	
Comments	<p>A <u>high volume of vehicles</u> travel through this informal crossing area, which is on the desire line to the parade of shops around Ravensbourne Road, at speed. There are <u>no traffic control or pedestrian protection measures</u> despite the large deviation required to cross the A205 at formal crossing points. <u>Delay</u> experienced will vary with traffic flow, but it is likely to be considerable, particularly as <u>few vehicles were witnessed slowing for pedestrians</u>. The lack of provision for sensory and mobility impaired users mean that this crossing point is <u>only adequate for able bodied pedestrians</u>. <u>Parked vehicles can obstruct both sightlines and crossing</u>, and pedestrians may deviate around a <u>potential trip hazard on the northern side</u> of the crossing. Surface quality is otherwise generally good.</p>	
Photographs		

Descriptor	Informal across A205 west of the junction with Sunderland Road
Ref	C50
RAG & Total Score	-42
Comments	This stretch of carriageway experiences <u>high volumes of traffic travelling at speed</u> . There is a general <u>lack of provision</u> owing to its informal status, although the <u>traffic island affords a small degree of protection</u> to pedestrians crossing at this point. The crossing is located on a desire line, <u>although bollards and a street tree to the eastern side of the crossing area could obstruct the path of some pedestrians</u> . <u>Parked vehicles and a bend in the carriageway</u> to the south of the crossing area makes crossing here particularly hazardous as <u>sightlines for both pedestrians and vehicles are partially blocked</u> . Both <u>crossing and wait times are likely to be long</u> . The <u>lack of provision and stepped nature of the dropped kerb</u> to the western side of the crossing make this crossing point <u>only suitable for able bodied pedestrians</u> .
Photographs	

Descriptor	Informal across A205 outside Forest Hill Station
Ref	C56
RAG & Total Score	-71
Comments	This informal crossing traverses a relatively <u>wide stretch of the A205</u> , which experiences <u>high traffic flows and vehicles travelling at speed</u> . Unlike most informal crossings pedestrians are required to negotiate <u>guard railing</u> on the northern side of the crossing, which appears to have been located to prevent pedestrians crossing to the station at this point, which is made particularly hazardous owing to the <u>curve in the carriageway</u> to the east of the crossing, which <u>blocks sightlines</u> . The guard rails afford some protection, but there are <u>no other traffic control measures</u> . The traffic flow and obstructed sightlines result in <u>considerable delay</u> . <u>High dropped kerbs</u> (at some places reaching almost half a metre) and a <u>west to east gradient</u> further reduce the suitability of this crossing for all but able bodied pedestrians.



#### 4.4.2 Parameter findings

Table 4.9 to Table 4.11 show the parameter scores for 11 of the worst scoring crossings.

Table 4.9: Parameter scores for C56

Crossing Parameters						
C56 (Informal across A205 outside Forest Hill Station)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	-2	-3	0	-3	-2
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
	-3	-3	-2	-3	-1	0

Table 4.10: Parameter scores for C32

Crossing Parameters						
C32 (Informal across A205 outside St. Dunstan's College)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	-1	-3	-3	-3	-3
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
	-3	-2	-2	-1	-1	0

Table 4.11: Parameter scores for C43

Crossing Parameters						
C43 (Informal across A205 from PT6)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	0	-2	-2	-2	-2
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-3	2	1	-1	-1	

Table 4.12: Parameter scores for C50

Crossing Parameters						
C50 (Informal across A205 west of the junction with Sunderland Road)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-2	1	-3	-2	-2	-2
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-3	-2	-1	1	1	

Table 4.13: Parameter scores for C40

Crossing Parameters						
C40 (Informal across A205 from nr Carholme Road to shops)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	2	-2	1	-1	-1
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-3	1	-2	-2	0	

Table 4.14: Parameter scores for C35

Crossing Parameters						
C35 (Informal across A205 west of the Catford Gyratory)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	0	0	-1	-1	-1
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-2	-1	-2	-1	-1	

Table 4.15: Parameter scores for C52

Crossing Parameters						
C52 (Informal across A205 from PT15 to Westbourne Drive)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	1	-3	0	-2	-2
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-1	0	-2	2	1	

Table 4.16: Parameter scores for C38

Crossing Parameters						
C38 (Informal across A205 from PT7 to parade of shops opposite)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-2	1	-2	-2	-2	N
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-3	-1	1	1	1	

Table 4.17: Parameter scores for C47

Crossing Parameters						
C47 (Informal across A205 from PT4 to the garage and PT13)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-2	-1	-3	2	-3	-2
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	2	1	1	0	0	

Table 4.18: Parameter scores for C33

Crossing Parameters						
C33 (Informal across A205 south of Glenwood Road)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-3	0	-1	0	2	-3
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-3	-3	-3	-2	2	2	

Table 4.19: Parameter scores for C45

Crossing Parameters						
C45 (Informal across A205 between PT5 and PT12)	Crossing provision	Deviation from desire line	Performance	Capacity	Delay	Legibility
	-2	-2	-2	1	-2	-1
	Legibility for sensory impaired	Dropped kerbs	Gradient	Obstructions	Surface Quality	Maintenance
-2	1	1	1	1	2	

Across all crossings audited, the parameters which performed most poorly were identified to be Crossing Provision, Crossing Performance, and Legibility for Sensory Impaired Users.

In particular the following specific issues were noted by the auditors:

- The A205 is characterised by high volumes of traffic travelling at speed although few crossings are signalised with a pedestrian element, leaving pedestrians to judge when it is safe to cross.
- There are many informal crossings in the audit area that cross corridors of high traffic flow but that have no pedestrian protection or traffic control measures.
- Vehicles have a tendency to enter and exit the A205 at speed, which makes use of side crossings more hazardous than at other locations.
- A considerable number of formal pedestrian crossing points have no demarcation of the crossing space on the carriageway, which has negative implications for pedestrian space ownership and vehicle behaviour.
- Tactile information provision is generally good at crossings throughout the audit area and appears to have been installed to a high standard.

### Crossing Provision

The 10 informal crossings audited have no provision for pedestrians, and so obtain high negative scores for this parameter. The informal crossings are located on desire lines but the level of provision makes them inappropriate places to cross. All of the informal crossings cross the A205 where vehicle flows are often high in both speed and volume. Traffic speeds are lower at peak times when high flows necessitate slower speeds, but at both times the crossings are only navigable by able bodied pedestrians. Some of the informal crossings have a traffic island in the centre of the carriageway which can be used as a refuge, such as C35 (Informal across A205 west of the Catford Gyratory) to the west of Catford Gyratory, but at most informal crossing points the width of carriageway to cross is wide with no refuge, therefore making crossing more hazardous (see Plate 4.9 below).

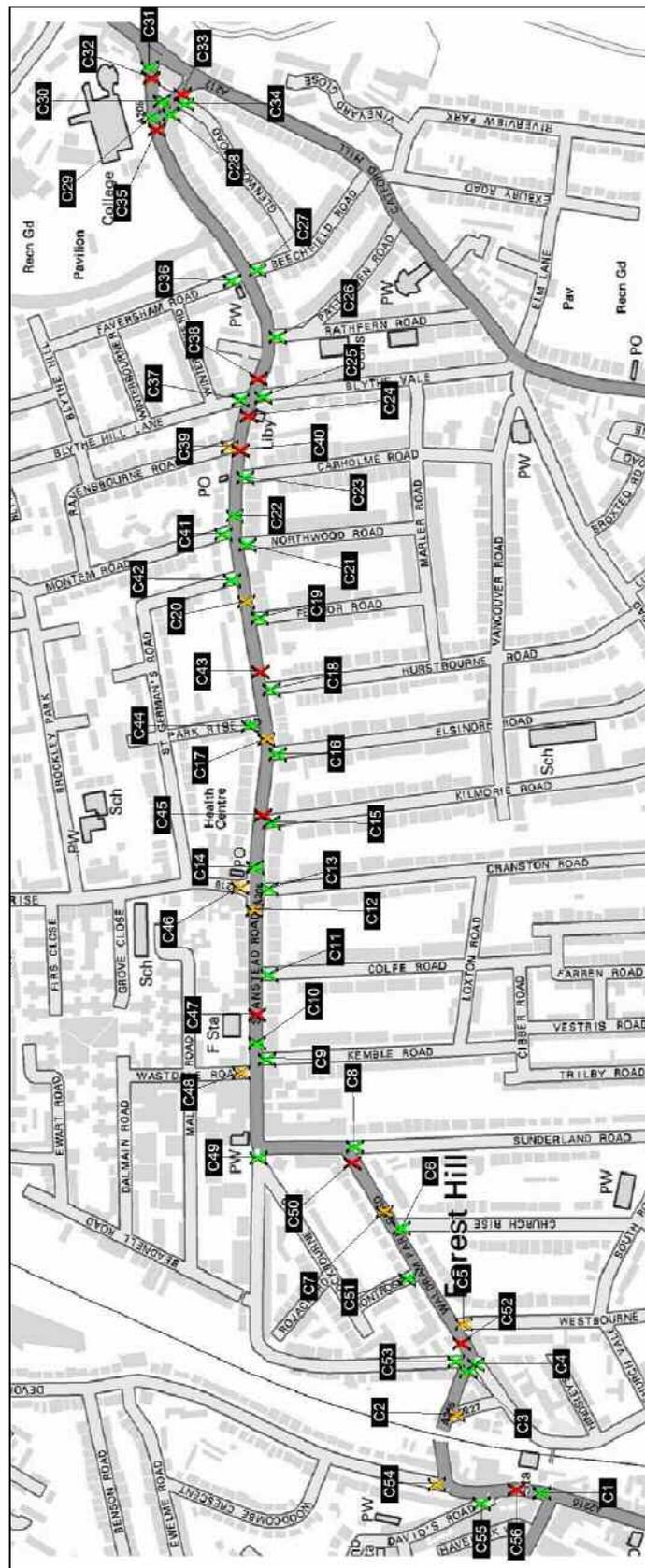


Plate 4.9: The lack of formal crossing provision at C52 leads to pedestrians weaving through traffic on a wide section of carriageway.

Seven formal crossings also obtained negative scores for this parameter. Each of these seven pedestrian crossings was unsignalised or signalised with no pedestrian element. These crossings are also across heavily trafficked stretches of the A205 and B218 making the lack of pedestrian aspect, and in the cases of C7 (Across A205 east of Church Rise), C20 (Across A205 east of Fermor Road) (see Plate 4.10 below) and C17 (Across A205 east of Elsinore Road) the absence of any demarcation on the carriageway, hazardous for pedestrians to use – particularly for sensory and mobility impaired users.



Plate 4.10: Lack of demarcation of the pedestrian crossing space on the carriageway leads to poor space ownership and vehicle behaviour at C20



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Figure 4.8: Map Output of Crossing RAG Scores for Crossing Provision

### Crossing Performance

The 10 informal crossings have no provision for pedestrians, and so obtain high negative scores for crossing performance. The informal crossings serve corridors of high traffic flow, and so the lack of space ownership, traffic control and pedestrian protection measures creates potentially hazardous crossing conditions.

As has already been discussed in relation to crossing provision the lack of pedestrian aspects to traffic signals reduces the performance of a number of crossings, such as C47 (Informal across A205 from PT4 to the garage and PT13), leaving pedestrians to guess when it is safe to cross. This is a particular problem at this site owing to the high vehicular flows and speeds on the A205, and because vehicles have a tendency to exit and enter the A205 at speed, as happens at C55 (Across Davids Road westside of A205), which puts pedestrians at risk. This context makes the lack of pedestrian protection and traffic control measures at a number of crossing points, such as C2 (Across Waldrum Crescent southside of A205 (west)) and C7 (Across A205 east of Church Rise), inadequate. It also makes the obstruction of sightlines particularly hazardous. A curve in the carriageway serves to reduce visibility to and from;

C36 - Across Faversham Road northside of A205;

C41 - Across Montem Road northside of A205;

C51 - Across Montrose Way northside of A205; and

C56 - Informal across A205 outside Forest Hill Station.

Sightlines are also blocked on C6 (Across Church Rise southside of A205) by a large street tree on one side, and a lamp post on the other, and by parked cars and a skip on C11 (Across Colfe Road southside of A205) as shown in Plate 4.11 below.



Plate 4.11: Sightlines are blocked on C11 by a skip and, at times, parked vehicles

Poor pedestrian space ownership is a problem at a number of crossings, including;

C2 - Across Waldrum Crescent southside of A205 (west);

C5 - Across Westbourne Drive southside of A205;

C7 - Across A205 east of Church Rise; and

C49 - Across Stanstead Road westside of A205.

These crossings have tactile information and dropped kerbs delineating the crossing area, but no demarcation on the carriageway, which can have a negative impact upon vehicle behaviour and leave pedestrians feeling more vulnerable. Space ownership is particularly poor at C4 (Across B277 Perry Vale southside of A205 (east)) where there is the potential for conflict between pedestrians and cyclists. Problems with vehicle behaviour are also experienced at crossings where traffic control and space ownership measures are adequate. A particular problem noted was the queuing of vehicles across crossing areas, for example at;

C2 - Across Waldrum Crescent southside of A205 (west);

C4 - Across B277 Perry Vale southside of A205 (east);

C31 - Across A205 west of junction with Catford Hill; (see Plate 4.12 below) and

C40 - Informal across A205 from between the library and Carholme Road to parade of shops opposite.

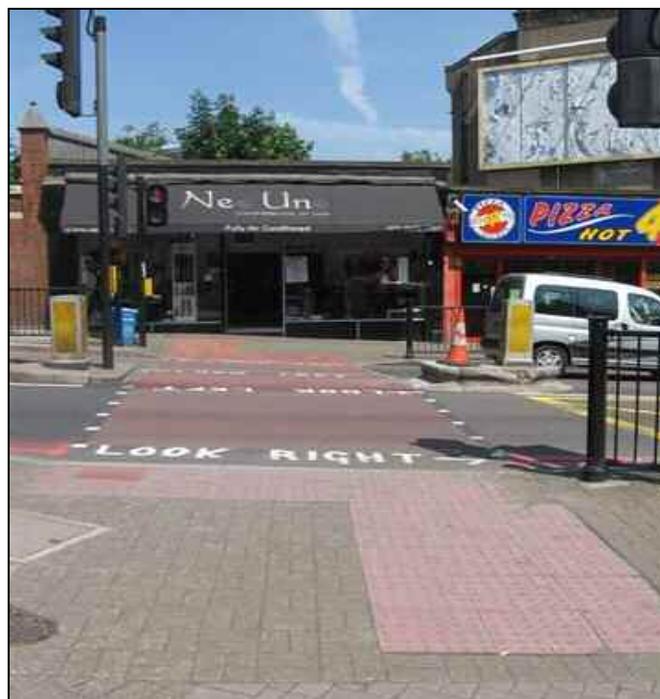
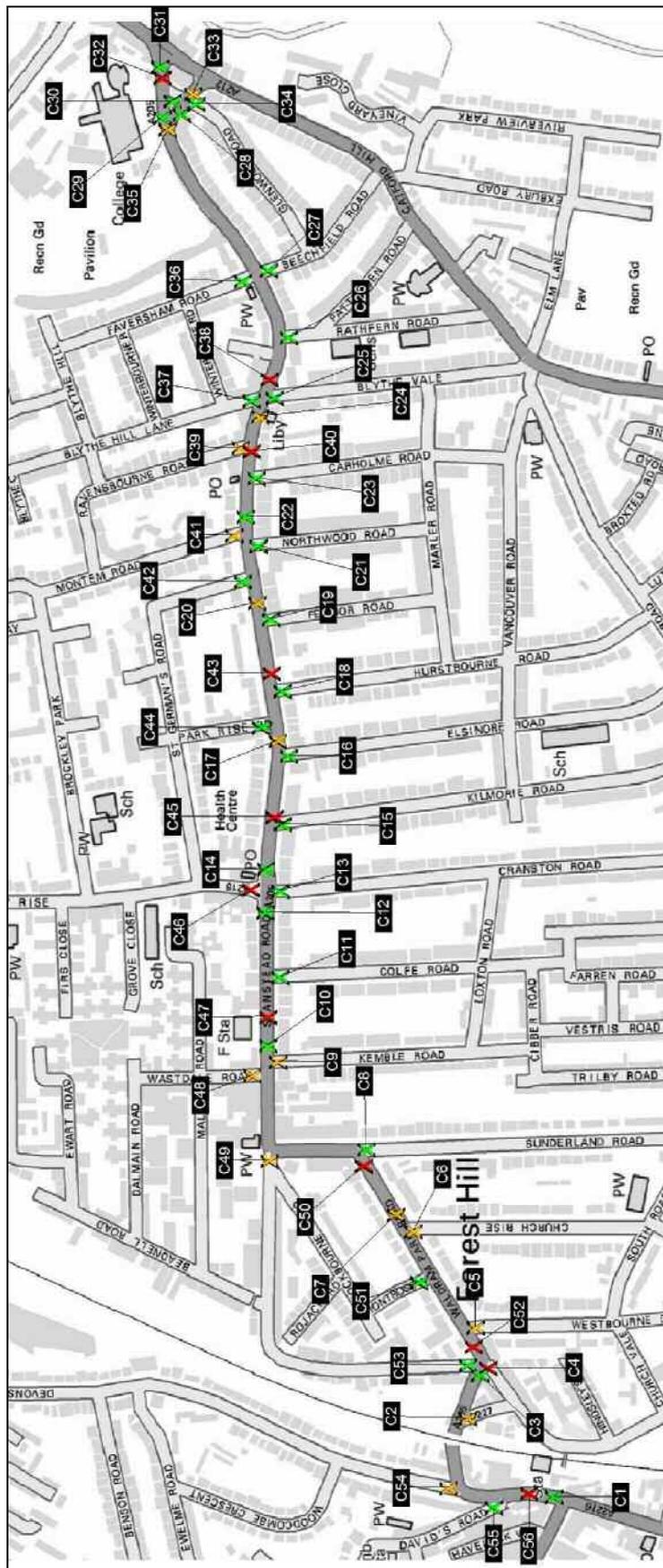


Plate 4.12: Vehicles queuing to join Catford Hill in proximity to C31



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Figure 4.9: Map Output of Crossing RAG Scores for Crossing Performance

### Legibility for Sensory Impaired Users

There is no provision for sensory impaired users at the 10 informal crossings in the audit area. Provision at the formal crossings is generally good, although some crossing points would benefit from more than tactile information to assist the crossing of sensory impaired users. These include;

- C7 - Across A205 east of Church Rise (see Plate 4.13 below);
- C12 - Across A205 west of Brockley Rise;
- C24 - Across A205 west of Blythe Hill Lane;
- C46 - Across B218 (Brockley Rise) northside of A205; and
- C54 - Across Devonshire Road northside of A205.



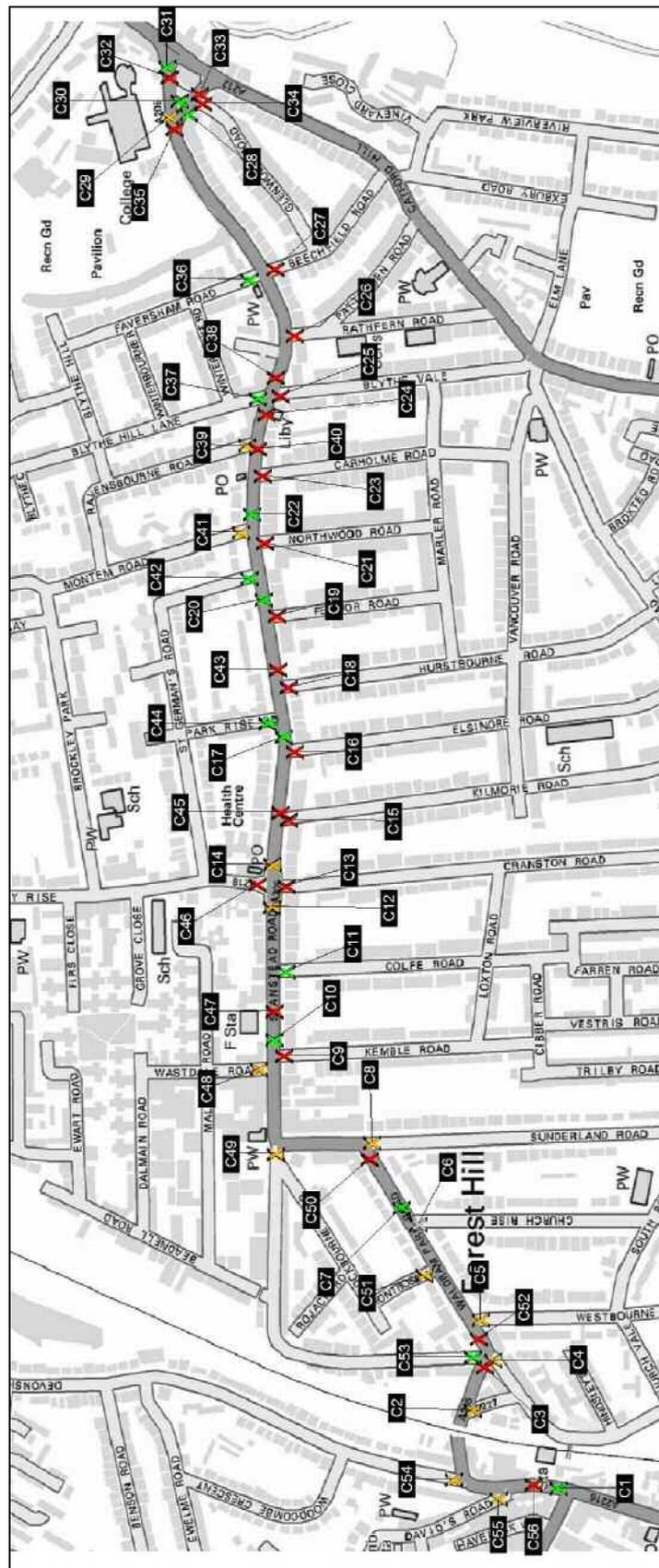
Plate 4.13: C7 traverses the A205 where traffic flows are high at a point where traffic speeds are also often high. Tactile provision could be considered to be inadequate as users are left to judge when it is safe to cross.

Auditors noted that the rotating cones were not operational at C30 (Across A205 west of central reservation (3 part crossing)), although the rest of the negative scores assigned were a result of tactile information provision. Tactile information has generally been installed to a high standard, although the merging of tactile information for two crossings at C46 (Across B218 (Brockley Rise) northside of A205) and C12 (Across A205 west of Brockley Rise) could be confusing for some visually impaired users. An example of such provision is shown in Plate 4.14 below. The provision of tactile information at C4 (Across B277 Perry Vale southside of A205 (east)) could also cause confusion as although the tactile paving area is extensive, it is dissected by a cycle path. Maintenance of tactile information appears to be good, although it was noted that in a number of places parts of the tactile information are cracked and uneven, which could potentially cause a trip hazard. This problem was noted at;

- C2 - Across Waldrum Crescent southside of A205 (west);
- C4 - Across B277 Perry Vale southside of A205 (east);
- C6 - Across Church Rise southside of A205; and
- C8 - Across Sunderland Road southside of A205.



Plate 4.14: Tactile information for C12 and C46 merges, which could lead to confusion for some sensory impaired users.



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Figure 4.10: Map Output of Crossing RAG Scores for Legibility for Sensory Impaired Users

Photographs of key problem parameters for Crossings are shown in Table 4.20 below:

Table 4.20: Key problem parameters for crossings

Photographs	Comments
	<p><u>Crossing provision</u> was considered to be inadequate at <u>C46</u> (Across B218 (Brockley Rise) northside of A205) as the <u>lack of pedestrian signals</u> makes it very <u>difficult to know when it is safe</u> to cross. The crossing is located at a <u>heavily trafficked junction</u> and has vehicles from three directions turning into the crossing area, but it is left to pedestrians to judge when to cross.</p>
	<p><u>Space ownership</u> is <u>poor</u> at <u>C2</u> (Across Waldrum Crescent southside of A205 (west)) owing to the <u>lack of demarcation</u> on the carriageway. The <u>absence of a driver stop line and clearly marked pedestrian area</u> can lead to vehicles queuing across the pedestrian crossing area thereby considerably <u>reducing the performance</u> of the crossing.</p>
	<p>Tactile information provision is good at <u>C4</u> (Across B277 Perry Vale southside of A205 (east)) but <u>may be difficult to detect and confusing to use</u> when approaching from the west owing to a cycle path dissectioning the exit of the crossing area. There is <u>no tactile warning to the presence of the cycle path</u>, which <u>could lead to conflict</u>.</p>



Cracked and uneven tactile information at C5 (Across Westbourne Drive southside of A205).

## 4.5 Routes

This section describes the findings from an assessment of the pedestrian routes in the audit area. Reference codes are used in this report – a full list of the codes can be found in Appendix B.

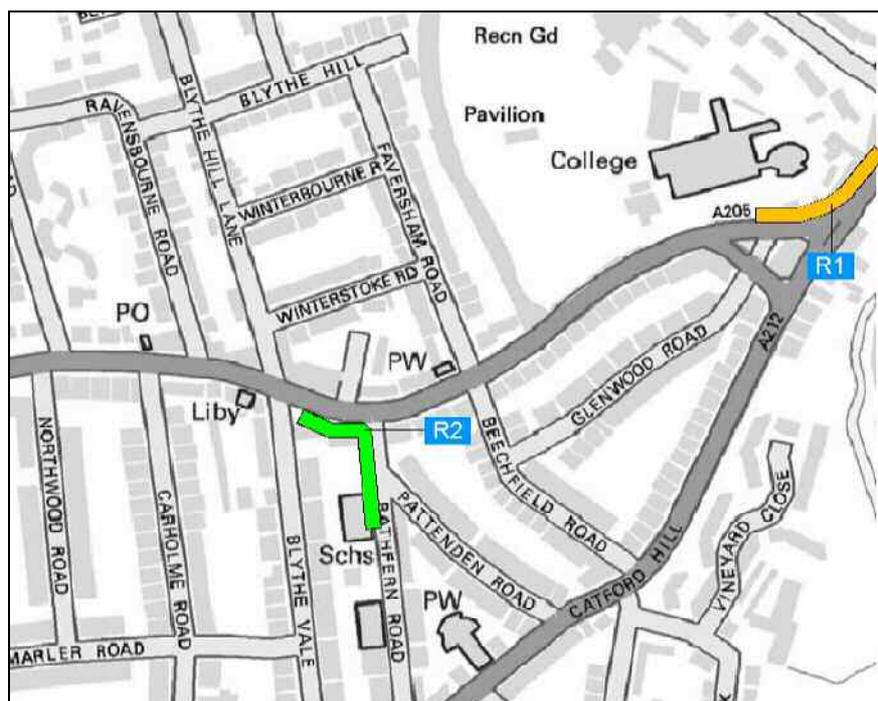
### 4.5.1 Overall and Parameter Scores

Two routes were audited in the A205 Forest Hill Station to Catford Gyratory audit area. Table 4.21 shows the number of routes which were classified as red, amber or green within the PERS software. Figure 4.7 shows a map of the total RAG scores for all routes audited at A205 Forest Hill Station to Catford Gyratory with the route reference codes.

As shown in Table 4.21 one of the routes scored amber, and the other green.

Table 4.21: Total RAG scores for routes

RAG Rating	No. of Routes (percentage of total)
RED	0 (0%)
AMBER	1 (50%)
GREEN	1 (50%)



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Figure 4.11: Map output of Route RAG Total scores

Table 4.22 below shows the key findings for the only negatively scoring route in the audit area.

Table 4.22: Key findings for routes

Descriptor	St. Dunstan's College to Catford Bridge Station
Ref	R1
RAG & Total Score	<b>-26</b>
Comments	<p>The only parameter for which the route obtained a positive score was directness. <u>Permeability was deemed to be poor</u> owing to the <u>lack of opportunities to cross the A205 and A217</u>, <u>poor sightlines</u>, and the generally <u>poor condition of dropped kerbs</u>. <u>Tactile information provision was also thought to be poor</u>, which, combined with the <u>limited use of colour contrast</u>, has resulted in relatively <u>poor legibility</u>. The <u>lack of rest points</u> along the route could further <u>restrict the ease of use</u> by certain groups of pedestrians.</p> <p><u>Safety from vehicles was deemed to be poor</u>, which was contributed to by <u>high levels of vehicle noise</u> and the <u>potential for conflict at crossings</u>. There were also <u>concerns raised over personal security</u> as <u>sightlines and visibility are restricted in places</u>, and the <u>quality of frontages was considered to be poor</u>. The <u>absence of occupied frontages</u> also contributed to the assignment of a negative score for personal security,</p>

	and was also felt to <u>reduce the quality of the environment</u> , which is very much <u>dominated by vehicles</u> .	
Photographs		

## 4.6 Public Transport Waiting Areas

This section describes the findings from an assessment of the public transport waiting areas in the audit area. Reference codes are used in this report – a full list of the codes can be found in Appendix B.

### 4.6.1 Overall Scores

Fifteen waiting areas were audited in the A205 Forest Hill Station to Catford Gyratory. Table 4.23 shows the number of waiting areas which were classified as red, amber or green within the PERS software. Figure 4.12 shows a map of the total RAG scores for all waiting areas audited at A205 Forest Hill Station to Catford Gyratory with the waiting area reference codes.

As shown in Table 4.23 the majority of the waiting areas scored amber.

Table 4.23: Total RAG scores for waiting areas

RAG Rating	No. of Waiting Areas (percentage of total)
RED	1 (7%)
AMBER	11 (73%)
GREEN	3 (20%)





Descriptor	Bus stop J A205 southside, east of Church Rise
Ref	PT3
RAG & Total Score	-28
Comments	<p>The waiting area is situated on a footway with a wall behind and numerous trees providing <u>places for concealment</u>. These obstructions also <u>reduce sightlines</u> significantly so people waiting can't see others approaching. In addition there is <u>no CCTV or any telephones</u> to report incidents so <u>waiting passengers may feel vulnerable</u>. There is <u>some vandalism to the shelter</u> in the form of etching in to the Perspex sides. This also reduces the perceptions of safety here.</p> <p><u>Access to the waiting area is poor</u> as there are <u>no designated crossings</u> in the vicinity and therefore <u>no dropped kerbs or tactile to aid visually or mobility impaired users</u>. The surface of the footway is of good quality.</p> <p>The location of the shelter next to the busy A205 means <u>high levels of noise and air pollution</u> will degrade the environment for waiting passengers.</p>



Descriptor	Bus Stop L A205 northside, east of Stanstead Road
Ref	PT15
RAG & Total Score	-25
Comments	<p>At the time of the audit PT15 had been partly destroyed in a collision. It is assumed that this was a vehicle collision. The waiting area subsequently has <u>no seating and parts of the shelter sides are missing</u>. Currently therefore there is nowhere to sit and little protection from the weather. In addition the <u>occurrence of the collision will be of concern to waiting passengers as it gives the impression it could happen again</u>.</p> <p>The quality of the environment is poor as the A205 is busy with high levels of noise and air pollution. There are <u>run down office buildings behind the stop which add to the poor quality of the environment</u>. <u>The stop is also in need of some maintenance and cleaning</u>.</p> <p>There is lighting around the stop although none specifically for the shelter and <u>many of the street lamps are obscured by trees</u>. <u>The waiting area could therefore be gloomy at night</u>.</p> <p><u>Infrastructure to the waiting area is poor with no formal crossings in the vicinity</u>. It could be dangerous to informally cross to the stop.</p>
Photographs	

Descriptor	Bus stop K A205 southside, east of Blythe Vale
Ref	PT7
RAG & Total Score	-11
Comments	<p>This waiting area is accessed by a formal crossing 40m to the north. There is <u>no visible formal crossing to the south</u>. This leads to <u>instances of informal crossing over the busy A205 due to the desire for a direct route</u>.</p> <p>The <u>shelter itself has signs of vandalism</u> in the form of <u>graffiti and etching to the shelter sides</u>. This gives the impression of <u>antisocial behaviour and reduces the safety perceptions score</u>. A <u>lack of lighting</u> also reduces the safety perceptions score. There is <u>no lighting for the shelter itself and the street lighting is obscured by trees</u>. In addition there are <u>places for concealment behind the shelter and no phone or obvious place to report incidents</u>.</p> <p>The shelter is beside the busy A205 and so suffers from <u>high levels of noise and air pollution</u>, the quality of the environment is further reduced by <u>poorly kept private frontages and broken paving slabs surrounding the shelter</u>.</p>
Photographs	

## 4.6.2 Parameter findings

Table 4.25 to Table 4.28 show the parameter scores for four of the worst scoring waiting areas.

Table 4.25: Parameter scores for PT1

PTWA Parameters					
PT1 (Bus stop F A205 southside)	Information to the waiting area	Infrastructure to the waiting area	Boarding public transport	Information at the waiting area	Safety perceptions
	1	-2	-3	1	-2
	Security measures	Lighting	Quality of the environment	Maintenance and Cleanliness	Waiting area comfort
-2	-1	-2	1	-3	

Table 4.26: Parameter scores for PT3

PTWA Parameters					
PT3 (Bus stop J A205 southside, east of Church Rise)	Information to the waiting area	Infrastructure to the waiting area	Boarding public transport	Information at the waiting area	Safety perceptions
	2	-2	-2	2	-1
	Security measures	Lighting	Quality of the environment	Maintenance and Cleanliness	Waiting area comfort
-3	-2	-2	3	-2	

Table 4.27: Parameter scores for PT15

PTWA Parameters					
PT15 (Bus Stop L A205 northside, east of Stanstead Road)	Information to the waiting area	Infrastructure to the waiting area	Boarding public transport	Information at the waiting area	Safety perceptions
	0	-2	-1	-2	-2
	Security measures	Lighting	Quality of the environment	Maintenance and Cleanliness	Waiting area comfort
1	-2	-2	2	-2	

Table 4.28: Parameter scores for PT7

PTWA Parameters					
PT7 (Bus stop K A205 southside, east of Blythe Vale)	Information to the waiting area	Infrastructure to the waiting area	Boarding public transport	Information at the waiting area	Safety perceptions
	-1	-1	0	1	-2
	Security measures	Lighting	Quality of the environment	Maintenance and Cleanliness	Waiting area comfort
	-1	-1	-2	-2	1

Across all waiting areas audited, the parameters which performed most poorly were identified to be Quality of the environment, Waiting area comfort and infrastructure to the waiting area.

In particular the following specific issues were noted by the auditors:

- Close proximity to the A205 means many shelters suffer from high levels of noise and air pollution, significantly reducing the quality of the environment.
- A lack of adequate shelter and seating at a number of the waiting areas reduces the comfort of the waiting areas
- The A205 is a busy fast flowing road which has few conveniently placed crossings leading to bus stop waiting areas for people to cross safely to.

### Quality of the Environment

Seven out of fifteen public transport waiting areas achieved a red RAG score for this parameter. The main reason for this is the heavily trafficked A205. High levels of noise and air pollution from this road degrade the quality of the environment for people waiting at bus stops (see Plate 4.15 below).

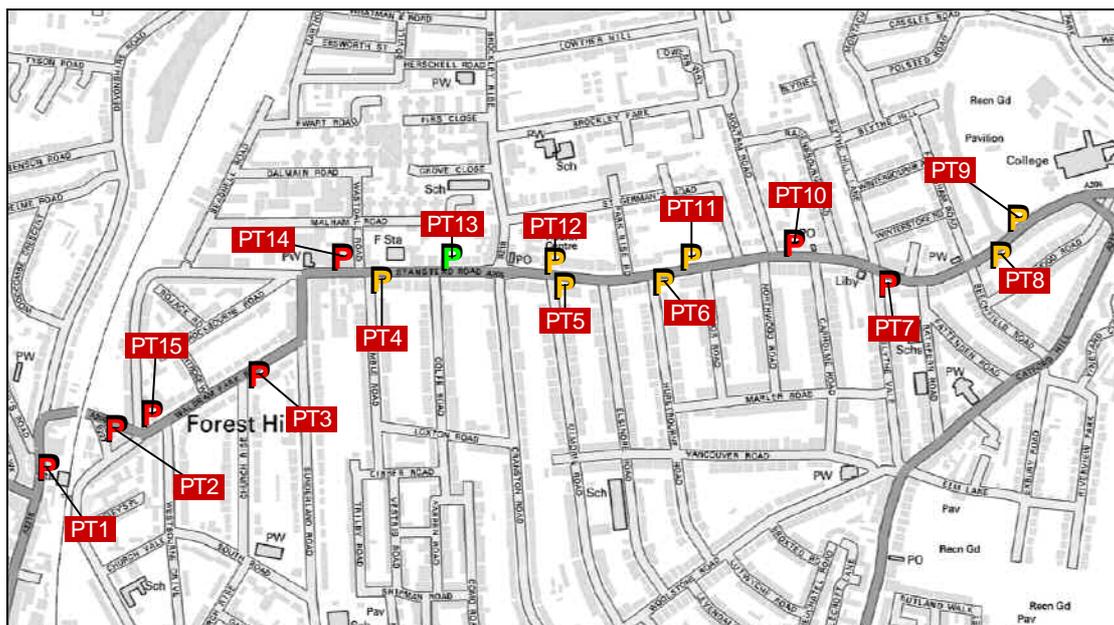
In addition the area around the bus stops is referred to as being run down and insalubrious. Offices and shops at PT15 (Bus Stop L A205 northside, east of Stanstead Road), PT14 (Request bus stop A205 northside, Forest Hill Firestation) and PT10 (Bus stop G A205 northside, east of Montem Road) appear run down and give the area a neglected feel (see Plate 4.16 below). At PT14 (Request bus stop A205 northside, Forest Hill Firestation) especially, graffiti covers the shop frontages which are shut reduce the quality of the environment further. Supporting the feel of the area being run down are some neglected private frontages near PT7 (Bus stop K A205 southside, east of Blythe Vale).



Plate 4.15: Queuing traffic at PT13 is very noisy and creates a high level of air pollution.



Plate 4.16: Closed shops behind PT10 reduce the quality of the environment at the bus stop and give the area a run down feel.



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Figure 4.13: Map Output of Waiting Area RAG Scores for Quality of the Environment

### Waiting Area Comfort

Six out of the fifteen waiting areas audited received a red RAG score for this parameter.

There is no shelter or seating at:

PT1 - Bus stop F A205 southside;

PT8 - Bus stop J A205 southside, east of Beechfield Road (see Plate 4.17 below);

PT10 - Bus stop G A205 northside, east of Montem Road; and

PT14 - Request bus stop A205 northside, Forest Hill Firestation.

This lack of provision leaves users waiting with no protection from the weather and no opportunity to sit whilst they wait. With a lack of provisions such as seating the waiting areas are inhospitable for mobility impaired users.

At PT12 (Bus stop E A205 northside, east of Brockley Rise) although seating is provided the heavy usage of the shelter means demand exceeds supply. Many pedestrians are observed using the wall behind the shelter as informal seating which could cause user conflict. Other users are observed standing which could be unsuitable for mobility impaired people.

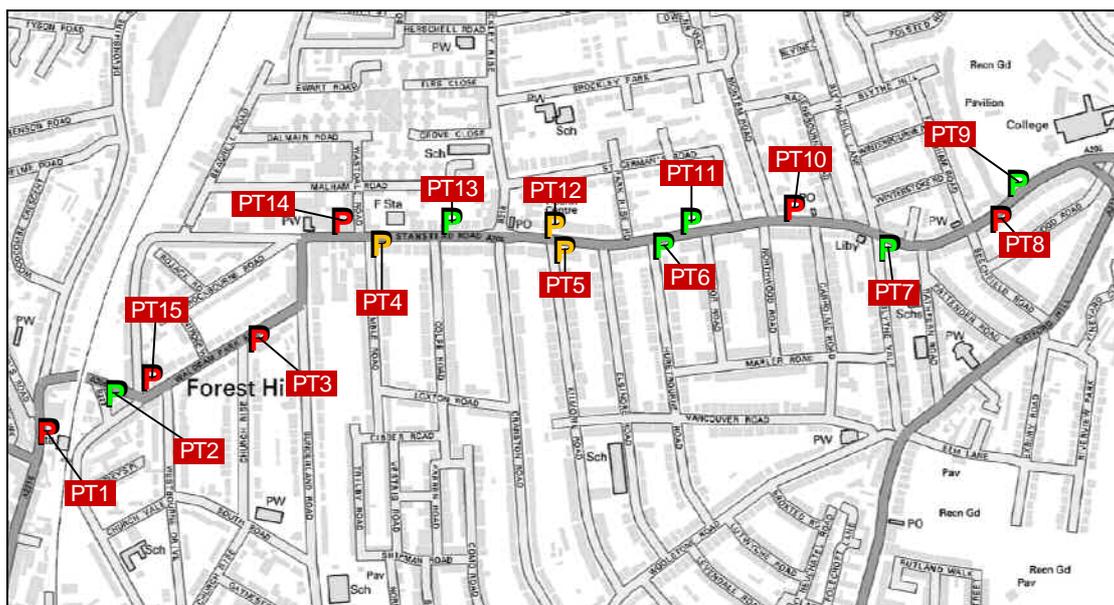
PT15 (Bus Stop L A205 northside, east of Stanstead Road) has been damaged severely, as a result the seating is missing and the shelter is taped off. The damage to the stop, as shown in Plate 4.18, may make users feel uncomfortable as it is not clear how the damage occurred or whether it could happen again.



Plate 4.17: No shelter only a bus flag at PT8 have reduced the overall scores for waiting area comfort



Plate 4.18: Damage to PT15 has left the shelter without a seat and gives the impression of an unsafe place to wait.



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Figure 4.14: Map Output of Waiting Area RAG Scores for Waiting Area Comfort

#### Infrastructure to the waiting area

Five of the fifteen public transport waiting areas received a red RAG score for this parameter.

This can be explained by the lack of suitable crossing points to waiting areas (see Plate 4.19 below). Significant deviation would be required to access the bus stops which may lead to some instances of informal crossing. Mobility or sensory impaired users would be required to undertake the deviations as the lack of formal crossing means no dropped kerbs or tactile paving near to the waiting areas.

User conflict on approaches to waiting areas has also been flagged up as an issue at:

PT1 – Bus stop F A205 southside;

PT3 – Bus stop J A205 southside, east of Church Rise;

PT4 - Bus stop N A205 southside, east of Kemble Road;

PT9 - Bus stop H A205 northside, east of Faversham Road;

PT11 - Bus stop F A205 northside, between Park Rise Road and St Germans Road; and

PT14 - Request bus stop A205 northside, Forest Hill Firestation.

The user conflict identified is due to high usage of waiting areas and high footfall along the links coupled with narrow links. At peak times the situation is likely to be poor.

Surface quality to the waiting areas is in general good however there are some trip hazards and surface is uneven at;

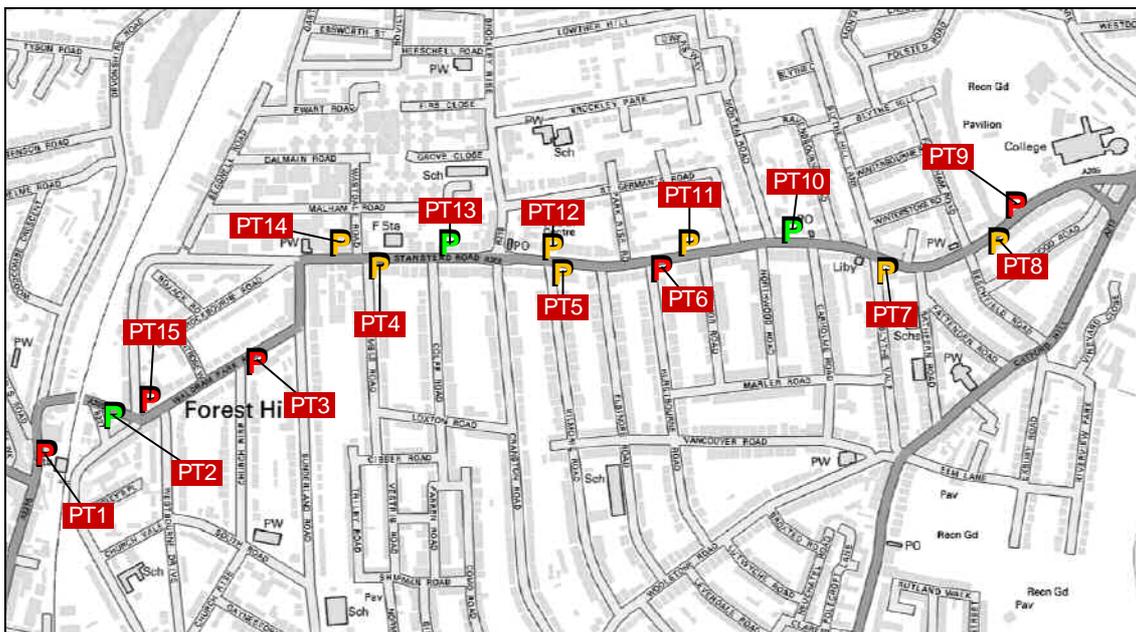
PT4 – Bus stop N A205 southside, east of Kemble Road;

PT5 - Bus stop M A205 southside, east of Kilmorrie Road; and

PT6 - Bus Stop L A205 southside, east of Hurstbourne Road.



Plate 4.19: No crossing facilities in sight at PT5



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Figure 4.15: Map Output of Waiting Area RAG Scores for Infrastructure to the Waiting Area

Photographs of key problem parameters for waiting areas are shown in Table 4.29 below:

Table 4.29: Key problem parameters for waiting areas

Photographs	Comments
 <p>A photograph showing a bus stop area on a sidewalk. Several people are walking, and a white van is partially visible on the right. The scene illustrates user conflict on approaches to waiting areas.</p>	<p>User conflict on approaches to waiting areas at PT4 (Bus stop N A205 southside, east of Kemble Road).</p>
 <p>A photograph showing a bus stop area on a sidewalk. The road is busy with fast-flowing traffic, including a large blue truck. The scene illustrates the impact of fast-flowing traffic on the environment at waiting areas.</p>	<p>Fast flowing traffic on the A205 causes poor air quality and noise pollution, reducing the quality of the environment at waiting areas such as PT12 (Bus stop E A205 northside, east of Brockley Rise).</p>

## 4.7 Interchange space

This section describes the findings from an assessment of the interchange space in the audit area. Reference codes are used in this report – a full list of the codes can be found in Appendix B.

### 4.7.1 Overall and Parameter Scores

One interchange space was audited in the A205 Forest Hill Station to Catford Gyrotory audit area. Figure 4.16 shows a map of the total RAG score and reference code for the interchange space audited at A205 Forest Hill Station to Catford Gyrotory.

As shown in table 4.42 the one interchange space scored amber.

Table 4.42: Total RAG scores for spaces

RAG Rating	No. of Interchange spaces (percentage of total)
RED	0 (0%)
AMBER	1 (100%)
GREEN	0 (0%)



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Figure 4.16: Map output of interchange and public space RAG Total scores

Table 4.30 below shows the key findings for interchange spaces along this section, focussing primarily upon the most problematic routes.

Table 4.30: Key findings for interchange spaces

Descriptor	Forest Hill Station to nearby bus stops.	
Ref	IS1	
RAG & Total Score	-25	
Comments	<p>This interchange Space allows people to continue their journey from the train to buses. <u>The space is busy and has some signage however it is inconsistent and lacking for those people exiting from the western side of the station. At this exit there is no map showing the location of bus stops and their destinations. Users of the interchange space are not helped to feel comfortable with no seating available at the station or at bus stop 'F' although there are toilets at the station. The space is not well maintained and has a run down feel. There is an abundance of litter around and although there are planters for some landscaping, many are neglected and no longer enhance the area. Users wanting to access bus stop 'H' are directed towards a subway which although has CCTV is likely to feel unsafe at night.</u></p>	
Photographs		

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## 4.8 Summary

The following points highlight the key issues which have been drawn out from this analysis of the PERS results for A205 Forest Hill Station to Catford Gyrotory.

### Links

- L1 was the only link to obtain a score below -10. No links received a red RAG score.
- Obstructions including street furniture, street trees, wheelie bins and advertising boards reduce the effective width of the footway of the majority of links. Shop signage and advertising boards are located on L7, L8, L10, L12 and L13 and require pedestrians to deviate. These obstructions also have an impact upon a number of crossings, such as C49 and C54.
- The permeability of a number of links is poor. This is largely owing to the A205 experiencing high volumes of vehicles travelling at speed, and the general lack of formal crossing points over the carriageway. High stepped dropped kerbs also reduce the permeability of certain links to the west of the audit area, including L1 and L4.
- Surface quality is compromised in a number of locations owing to inconsistencies, undulations, and a small amount of cracked and uneven paving slabs.
- There is a very limited amount of pedestrian signage in the audit area.

### Crossings

- Eight crossings obtained a red RAG score, although each of these crossings is informal.
- There are few signalised crossings of the A205, which leaves pedestrians to judge when it is safe to cross and leads to numerous informal crossing movements where pedestrians are unprotected and the behaviour of vehicles uncontrolled.
- Vehicles have a tendency to enter and exit the A205 at speed, which makes enhanced pedestrian protection measures at side crossings preferable.
- Numerous formal crossings have no demarcation of the crossing area on the carriageway, which has a negative impact on pedestrian space ownership and vehicle behaviour.

### Routes

- R1 was the only crossing to obtain a negative score, although neither route has a red RAG score.
- The directness of R1 was the only parameter not to receive a negative score, with permeability, road safety, personal security, legibility, rest points and quality of the environment all obtaining high negative scores.

### Public transport waiting areas

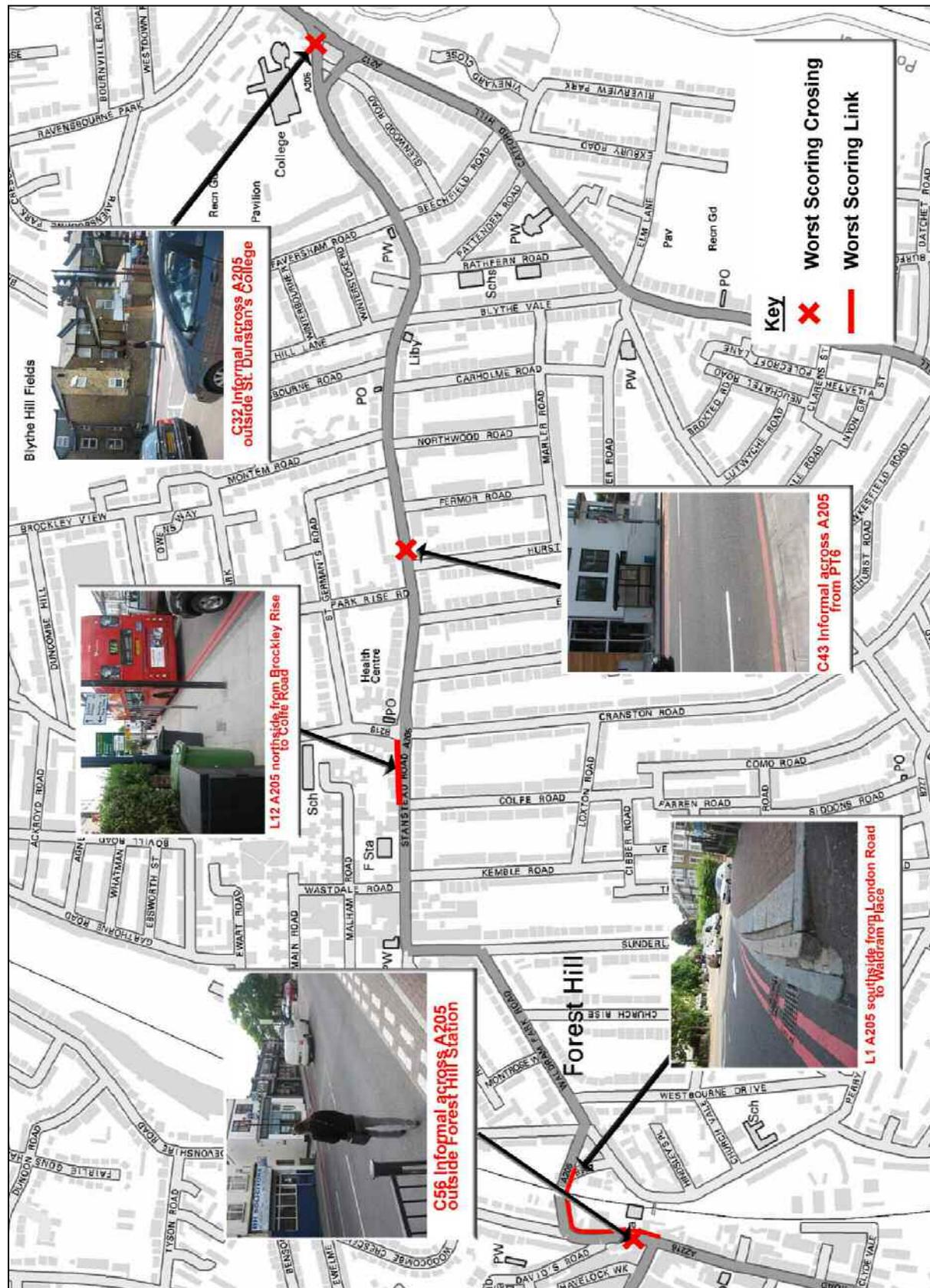
- PT1 was the only waiting area to obtain a red RAG rating, although close proximity to the A205 has resulted in many waiting areas receiving negative scores for quality of the environment and infrastructure to the waiting area.

- The comfort of many waiting areas is reduced by the lack of any shelter or seating provision. These include PT1, PT8, PT10, and PT14.

#### Interchange space

- IS1 obtained a negative score, but it was not low enough to receive a red RAG score. Inconsistent and inadequate signage, a lack of seating and an intimidating subway all contribute to the negative score. Levels of maintenance were also deemed to be poor. This is in part owing to an abundance of litter, poorly maintained landscaping features, and a general sense of neglect. This can have a negative impact upon safety perceptions.

Table 4.31 and Figure 4.17 summarises the key audit components within the A205 Forest Hill Station to Catford Gyratory which require the most attention in terms of pedestrian provision.



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Figure 4.17: Summary map of components that are of key concern

Table 4.31: Low scoring audit components

Links	Crossings	Routes	Public Transport Waiting Areas	Interchange Spaces
L1 A205 southside from London Road to Waldram Place	C32 Informal across A205 outside St. Dunstan's College	R1 From St. Dunstan's College to Catford Bridge Station	PT1 Bus stop F A205 southside	IS1 Forest Hill Station to nearby bus stops
L5 A205 southside from opposite Wastdale Road to Cranston Road	C35 Informal across A205 west of the Catford Gyratory		PT3 Bus stop J A205 east of Church Rise southside	
L12 A205 northside from Brockley Rise to Colfe Road	C38 Informal across A205 from PT7 to parade of shops opposite		PT7 Bus stop K A205 east of Blythe Vale southside	
	C40 Informal across A205 from between the library and Carholme Road to parade of shops opposite		PT15 Bus Stop L A205 east of Stanstead Road northside	
	C43 Informal across A205 from PT6			
	C50 Informal across A205 west of the junction with Sunderland Road			
	C52 Informal across A205 from PT15 to Westbourne Drive			
	C56 Informal across A205 outside Forest Hill Station			

Chapter 5 concludes the findings from this report and outlines headline and specific recommendations.

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## 5 Conclusions

This report has described the findings from a PERS audit of A205 Forest Hill Station to Catford Gyratory.

This audit area is centred on the section of the A205 running from Forest Hill Station to the Catford Gyratory. Vehicle flows are high throughout the site, although pedestrian flows are low. This could be owing to the lack of trip attractors in the audit area with schools appearing to be the only notable generator of pedestrian movement. Land use is primarily residential interspersed with short stretches of retail, which is likely to generate only local trade.

Local level statistics show that levels of crime and disorder experienced vary considerably across the site. The highest levels of crime are experienced to the south and far east of the audit area, although perceptions of crime vary little across the audit area. There have been 11 slight collisions and 1 serious collision in the audit area from 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2007. Only four of these collisions occurred on a formal crossing, which suggests that there is a need for additional crossing facilities, particularly over the A205.

The A205 is characterised by high volumes of traffic travelling at speed, although there are few crossings that are signalised with a pedestrian element, leaving pedestrians to judge when it is safe to cross. This contributes to the low permeability scores allocated to many links within the site, the poor road safety perceptions of routes, and poor scores for crossing provision and performance. There are also many informal crossings in the audit area, which have no pedestrian protection or traffic control measures. This is of particular concern at this site as vehicles have a tendency to enter and exit the A205 at speed. Many crossings also do not have any demarcation on the crossing area, which can make crossing particularly hazardous.

Links in the audit area scored well in general, although numerous obstructions located across the audit area serve to reduce effective width. Wheelie bins, bollards, traffic signage, advertising boards, lamp posts, street trees and overhanging foliage restrict both pedestrian movement and sightlines, although sightlines of pedestrian crossings remain largely unaffected. Many of these obstructions have not been allowed for, perhaps because many of them have no fixed location, which has led to the creation of pinch points that it may be difficult for mobility impaired pedestrians to navigate around.

Low levels of pedestrian flow mean that even when reduced by obstructions effective width does not lead to user conflict. Some cyclists were witnessed cycling on the footway, which could lead to conflict. At the time of audit there were a small number of queues at Public Transport Waiting Areas, although it is considered unlikely that these will significantly encroach upon the footway.

Surface quality is variable across the audit area, but significant scope for enhanced maintenance was identified. Numerous slip and trip hazards were recorded by auditors, and inconsistencies reduce the quality of the environment. The quality of the environment is very much negatively impacted by traffic on the A205, and this is reflected in the scores of public transport waiting areas, links, routes and the interchange space.

Overall Public Transport Waiting Areas and Interchange Spaces scored reasonably well with only one waiting area achieving a red RAG score. Areas of particular concern were the infrastructure to waiting areas and a lack of crossing provision over the busy A205.

At a number of waiting areas no shelter or seating was provided which reduced the scores for feeling comfortable at the stop. Waiting passengers have no protection from the weather and are also in constant conflict with other users of the footway.

The interchange Space would benefit greatly from improved signage and mapping to help users with wayfinding.

## 5.1 Overview of recommendations

As a result of this audit, the following headline recommendations can be made to improve the pedestrian environment around A205 Forest Hill Station to Catford Gyratory:

- Consider adding a pedestrian element to signalised crossings where provision is deemed to be inadequate, such as those across the A205.
- Consider installing formal crossing points on desire lines where pedestrians are currently crossing informally.
- Install shelters and seating at public transport waiting areas where they are currently not provided.
- Widen footways along the A205 to allow for obstructions.
- Improve the alignment of the traffic signage posts that currently obstruct sections of footway.
- Ensure that all pedestrian crossings are demarcated on the carriageway.
- Enhance pedestrian protection measures at side crossings where vehicles exit the A205 at speed.
- Install additional signage (with distances) on links across the audit area, and in the interchange space, to increase legibility.
- Ensure that the footway surface throughout the site is even, consistent and well maintained.

## 5.2 Specific Recommendations

As a result of this audit, the following specific recommendations can be made to improve the pedestrian environment at A205 Forest Hill Station to Catford Gyratory:

### LINKS

SHORT TIMEFRAME			
Location	Ref	Recommendation	Priority
A205 southside from London Road to Waldram Place	L1	New tactile paving provision with correct colour and layout	HIGH
L10 and L12		A-board and litter enforcement to reduce obstructions	HIGH
L1, L3, L9, L11, and L14		Clear foliage and overhanging branches on paths and footways	HIGH
L1, L4, and L12		Improve footway surface around utility panels that are poorly set	MEDIUM

L1, L4, L5, L11, L12, and L15		Resurfacing to remove undulations caused by street trees and crossfalls.	MEDIUM
A205 southside from opposite Wastdale Road to Cranston Road	L5	Improve existing tactile paving in respect of layout	MEDIUM
A205 northside from Brockley Rise to Colfe Road	L12	Improve maintenance of footway paving	MEDIUM

### MEDIUM / LONG TIMEFRAME

Location	Ref	Recommendation	Priority	Timescale
L1, L5, L11, L12, and L13		Improve permeability and reduce severance through implementation of frequent crossing points of the A205	HIGH	MEDIUM
L3, L7, L9, L10, and L12		Remove, or increase footway width to allow for, obstructions (bins, signage, bollards, street trees, lamp post, speed camera)	MEDIUM	MEDIUM
A205 southside from opposite Wastdale Road to Cranston Road	L5	Upgrade street lighting	MEDIUM	MEDIUM
L1, L3, L4, L7, L8, and L11		Improved signage and legibility aligned to Legible London	MEDIUM	MEDIUM
L1, L9, and L15		Consider installing formal rest points on these links	MEDIUM	MEDIUM
L1, L14, and L15		Explore alternatives to the stepped raised kerbs on these links	MEDIUM	MEDIUM

## CROSSINGS

### SHORT TIMEFRAME

Location	Ref	Recommendation	Priority
Across Faversham Road northside of A205	C36	Improve the quality of reinstatements on the exit/approach to the crossing area	MEDIUM

Across Stanstead Road westside of A205	C49	Remove bin from the tactile paving of this crossing	MEDIUM
C2, C7, C17, C20, C49, C54		Mark the pedestrian crossing area on the carriageway	HIGH
Across Sunderland Road southside of A205	C8	Improve existing tactile paving to reduce the impact of a reinstatement, which interrupts the width of the tactile	HIGH

### MEDIUM / LONG TIMEFRAME

Location	Ref	Recommendation	Priority	Timescale
Across A205 east of Kemble Road	C10	Install nearby street lighting	MEDIUM	MEDIUM
Across B277 Perry Vale southside of A205 (east)	C4	Reduce the potential for pedestrian conflict with cyclists at this crossing, where the cycle path encroaches on the pedestrian space	MEDIUM	MEDIUM
		Enhance traffic control measures or space ownership to prevent vehicles from queuing across the crossing space	MEDIUM	MEDIUM
Across Stanstead Road westside of A205	C49	Try to reduce the impact that obstructions, which include a sign post, tree and bin, have on the approach to the crossing	HIGH	MEDIUM
Across Devonshire Road northside of A205	C54	Evaluate the potential for moving the lamp post that obstructs the tactile paving	HIGH	LONG
Across A205 west of central reservation (3 part crossing)	C30	Reduce pedestrian waiting time at this crossing	MEDIUM	MEDIUM
Across Sunderland Road southside of A205	C8	Consider locating this crossing to serve the desire line, which lies outside the formal crossing area.	MEDIUM	MEDIUM
Across Devonshire Road northside of A205	C54	Relocate or widen the existing refuge, which is not currently aligned with the crossing	MEDIUM	MEDIUM
C32, C33, C35, C38, C40, C43, C45, C47, C50, C52, and C56		Provide formal crossing provision on these informal crossings identified on site	HIGH	LONG

C46 and C12		Add a pedestrian element to the traffic signals at this crossing  Improve existing tactile paving layout so that the tactile for both of these crossings does not merge	HIGH	LONG
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## ROUTES

SHORT TIMEFRAME			
Location	Ref	Recommendation	Priority
St. Dunstan's College to Catford Bridge Station	R1	Ensure that dropped kerb provision is consistent	HIGH
		Improve existing tactile paving in respect of colour and layout	HIGH

MEDIUM / LONG TIMEFRAME				
Location	Ref	Recommendation	Priority	Timescale
St. Dunstan's College to Catford Bridge Station	R1	Increase the level of control over vehicle movement at crossing points	HIGH	MEDIUM
		Improve pedestrian protection measures at crossing points	MEDIUM	MEDIUM
		Consider installing formal rest points on this route	MEDIUM	MEDIUM
From schools along Ratheren Road to PT 7 and parade of shops opposite	R2	Provide, or publicise, formal surveillance measures in proximity to the schools	MEDIUM	LONG

## WAITING AREAS AND SPACES

SHORT TIMEFRAME			
Location	Ref	Recommendation	Priority
PT1, PT5 and PT9		Provide a litter bin	MEDIUM
Bus stop F A205 northside, between Park Rise Road and St Germans Road	PT1	Ensure service route timetables are up to date	HIGH
Bus stop K A205 southside, east of Blythe Vale	PT7	Ensure service route timetables are up to date	HIGH
Forest Hill Station to nearby bus stops	IS1	Improve maintenance at the interchange, in particular clear away the litter.	HIGH
Bus stop D A205 northside, west of Brockley Rise	PT13	Improve maintenance at bus stop, in particular remove graffiti and etchings from shelter.	MEDIUM
Request bus stop A205 northside, Forest Hill Firestation	PT14	Improve maintenance at the bus stop, in particular remove graffiti and gum staining, pick up litter.	MEDIUM
Bus Stop L A205 southside, east of Hurstbourne Road	PT6	Improve Maintenance at the bus stop in particular clean away cigarette butts and clean the map to improve legibility. Remove graffiti from litter bin.	MEDIUM

MEDIUM / LONG TIMEFRAME				
Location	Ref	Recommendation	Priority	Timescale
PT1, PT8, PT10, and PT14		Consider possibility of providing shelter and seating for these waiting areas	HIGH	MEDIUM
Bus stop N A205 southside, east of Kemble Road	PT4	Consider increasing the capacity of the shelter and seating so that it is adequate for peak user flows	HIGH	MEDIUM
Bus stop F A205 southside	PT1	Consider measures to reduce the user conflict on the footway on approaches to the bus stop. These could include: - increasing the effective	HIGH	LONG

		width of the footway - Improving space ownership for the bus stop		
Forest Hill Station to nearby bus stops	IS1	Improve signposting for pedestrians, in accordance with Legible London. Especially in regards to maps and directions to bus stops.  Consider installation of seating at station and bus waiting areas to improve pedestrians experience of the interchange space	HIGH  MEDIUM	MEDIUM  MEDIUM

# Appendix A All audit components RAG map



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## Appendix B Reference codes for all audit components

Links	
L1	A205 southside from London Road to Waldram Place
L2	A205 southside from Waldram Place to Westbourne Drive
L3	A205 southside from Westbourne Drive to Sunderland Road
L4	A205 southside from Sunderland Road to opposite Wastdale Road
L5	A205 southside from opposite Wastdale Road to Cranston Road
L6	A205 southside from Cranston Road to Hurstbourne Road
L7	A205 southside from Hurstbourne Road to Blythe Road
L8	A205 southside from Blythe Road to Glenwood Vale
L9	A205 northside from Catford Hill to Stanstead Grove
L10	A205 northside from Stanstead Grove to opposite Carholme Road
L11	A205 northside from opposite Carholme Road to Brockley Rise
L12	A205 northside from Brockley Rise to Colfe Road
L13	A205 northside from opposite Colfe Road to junction with Sunderland Road
L14	A205 northside from opposite Perry Vale to junction with Sunderland Road
L15	A205 northside from opposite Forest Hill Station to opposite Perry Vale
Crossings	
C1	Across A2216 Dartmouth Road at junction with London Road
C2	Across Waldrum Crescent southside of A205 (west)
C3	Across A205 near Stanstead Road
C4	Across B277 Perry Vale southside of A205 (east)
C5	Across Westbourne Drive southside of A205
C6	Across Church Rise southside of A205
C7	Across A205 east of Church Rise
C8	Across Sunderland Road southside of A205
C9	Across Kemble Road southside of A205
C10	Across A205 east of Kemble Road
C11	Across Colfe Road southside of A205
C12	Across A205 west of Brockley Rise
C13	Across Cranston Road southside of A205
C14	Across A205 east of Brockley Rise
C15	Across Kilmorrie Road southside of A205
C16	Across Elsinore Road southside of A205
C17	Across A205 east of Elsinore Road
C18	Across Hurstbourne Road southside of A205
C19	Across Fermor Road southside of A205
C20	Across A205 east of Fermor Road
C21	Across Northwood Road southside of A205
C22	Across A205 east of Northwood Road
C23	Across Carholme Road southside of A205
C24	Across A205 west of Blythe Hill Lane
C25	Across Blythe Vale southside of A205
C26	Across Rathfern Road southside of A205
C27	Across Beechfield Road southside of A205
C28	Across A205 east of Glenwood Road to central refuge
C29	Across A205 from outside St. Dunstan's College to central refuge

C30	Across A205 west of central reservation (3 part crossing)
C31	Across A205 west of junction with Catford Hill
C32	Informal across A205 outside St. Dunstan's College
C33	Informal across A205 south of Glenwood Road
C34	Across Glenwood Road
C35	Informal across A205 west of the Catford Gyratory
C36	Across Faversham Road northside of A205
C37	Across Blythe Hill Lane northside of A205
C38	Informal across A205 from PT7 to parade of shops opposite
C39	Across Ravensbourne Road northside of A205
C40	Informal across A205 from between the library and Carholme Road to parade of shops opposite
C41	Across Montem Road northside of A205
C42	Across St. German's Road northside of A205
C43	Informal across A205 from PT6
C44	Across Park Rise Road northside of A205
C45	Informal across A205 between PT5 and PT12
C46	Across B218 (Brockley Rise) northside of A205
C47	Informal across A205 from PT4 to the garage and PT13
C48	Across Wastdale Road northside of A205
C49	Across Stanstead Road westside of A205
C50	Informal across A205 west of the junction with Sunderland Road
C51	Across Montrose Way northside of A205
C52	Informal across A205 from PT15 to Westbourne Drive
C53	Across Stanstead Road northside of A205
C54	Across Devonshire Road northside of A205
C55	Across Davids Road westside of A205
C56	Informal across A205 outside Forest Hill Station
Public Transport Waiting Areas	
PT1	Bus stop F A205 southside
PT2	Bus stop K A205 southside
PT3	Bus stop J A205 southside, east of Church Rise
PT4	Bus stop N A205 southside, east of Kemble Road
PT5	Bus stop M A205 southside, east of Kilmorrie Road
PT6	Bus Stop L A205 southside, east of Hurstbourne Road
PT7	Bus stop K A205 southside, east of Blythe Vale
PT8	Bus stop J A205 southside, east of Beechfield Road
PT9	Bus stop H A205 northside, east of Faversham Road
PT10	Bus stop G A205 northside, east of Montem Road
PT11	Bus stop F A205 northside, between Park Rise Road and St Germans Road
PT12	Bus stop E A205 northside, east of Brockley Rise
PT13	Bus stop D A205 northside, west of Brockley Rise
PT14	Request bus stop A205 northside, Forest Hill Firestation
PT15	Bus Stop L A205 northside, east of Stanstead Road
Routes	
R1	St. Dunstan's College to Catford Bridge Station
R2	To schools-Ratheren Road PT 7 and adjacent to parade of shops

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Interchanges	
I1	Forest Hill Station to nearby bus stops