Lee Business Area - Delivery and Servicing Plan (DSP)

Report

Prepared for

The London Borough of Lewisham

by

Transport & Travel Research Ltd

On behalf of the South London Freight Quality Partnership

Version 1.0

March 2011

Lee Business Area - Delivery and Servicing Plan (DSP)

Report

Prepared for

The London Borough of Lewisham

by

Transport & Travel Research Ltd

On behalf of the South London Freight Quality Partnership

Author(s)	Donald Chalker, Corina Negrea
Quality Control	Alan Lewis
Project Manager	Donald Chalker
Project Number	N/10/509
Version	1.0
Date	March 2011
File location	
Last edited	March 2011

CONTENTS

1 INTRODUCTION

The development of a Delivery and Servicing Plan (DSP) for the Lee Business Area has been brought about by a series of issues relating to traffic and nuisance generated by delivery and servicing activity in the vicinity and light and heavy goods vehicle movements from Burnt Ash Hill to Holme Lacey Road and Dallinger Road. These delivery and servicing activities adversely affect the quality of life of the residents living in the area of Burnt Ash Hill, Holme Lacey Road and Dallinger Road.

Fig 1.1: Map of Lee Business Area

The development of the Lee Business Area, Delivery and Servicing Plan took into account the Lee Business Area Observation Report which was based on an initial assessment of the area carried out by TTR on behalf of The London Borough of Lewisham on 28 January 2010.

Following that site visit it was identified that there are two components to the high levels of commercial vehicle traffic on Holme Lacey Road and Dallinger Road, which are generally residential streets. The first of these is through traffic accessing local businesses e.g. The Chiltonian Industrial estate and various rail related depots, as well as traffic potentially rat running along the roads to access the A205 South Circular and the A20. The second is traffic generated by both the Lee Green branch of the Travis Perkins builders merchant located opposite the junction of Holme Lacey

Road with Dallinger Road, and the Bellamys Citroën dealership on the corner of Burnt Ash Hill and Holme Lacey Road.

The Lee Business Area Observation Report ascertained that the current situation on the residential streets Holme Lacey Road and Dallinger Road is produced by the following combination of factors:

- Parking pressure on streets in the area is caused by a combination of residential demand, Travis Perkins and Lee railway station.

- The combination of Travis Perkins and the Chiltonian Industrial Estate creates commercial through traffic, primarily in the form of vans.

- There is potential for rat running along Holme Lacey Road and Manor Lane to access the A205 South Circular road at the southern end of Manor Lane, rather than using Burnt Ash Hill.

- Insufficient capacity for deliveries and servicing in the existing servicing yards at a Citroën dealership on the corner of Burnt Ash Hill and Holme Lacey Road, and Travis Perkins merchant located opposite the junction of Dallinger Road with Holme Lacey Road.

TTR, as managers of the South London Freight Quality Partnership (SLFQP), was commissioned by the London Borough of Lewisham to develop a delivery and servicing plan (DSP) for the area to mitigate the impact of freight, delivery and servicing activity. The further investigations and the DSP recommendations are set out in the body of this report.

2 LEE BUSINESS AREA DSP METHODOLOGY

The development of a DSP for Lee Business Area provides the tools to better manage delivery and servicing movements at the Travis Perkins premises and Citroën dealership, whilst improving the environment and the quality of life of the residents in and around Holme Lacey Road and Dallinger Road.

It focuses on three specific, and interlinked, issues:

1. LGV and HGV movements
2. Delivery and servicing at the Citroën Garage and Travis Perkins
3. On-street parking and loading

It would be expected that the DSP addresses the freight and servicing issues by including a series of practical, strategic and operational measures aimed at mitigating the impacts of freight movements, and delivery and servicing activity on the residential areas.

2.1 LGV and HGV Observation Survey

The initial observation study highlighted freight movements between Travis Perkins and the Chiltonian Industrial Estate and rat running between Burnt Ash Hill and the South Circular via Manor Lane as particular issues. There may also be an issue with vehicles rat running and heading North up Manor Lane to access the A20.

To further investigate these freight movements and to provide evidence for future actions a detailed observation survey was carried out to record vehicles movements. Two observation sites were chosen. One was located at the junction of Holme Lacey Road and Dallinger Road to observe freight delivery and servicing activity at the Travis Perkins site and Bellamys garage. The other site was on Manor Lane between the Junction of Holme Lacey Road and the Railway Bridge. These observations provided evidence of the level of rat running to the A20 and A205 South Circular, and the potential number of freight vehicle movements between Burnt Ash Hill / Travis Perkins and the Chiltonian Industrial estate.

This evidence was integrated in DSP recommendations on vehicle restrictions and access between the Chiltonian Industrial Estate and Travis Perkins.

2.2 Delivery and Servicing at the Citroën Garage and Travis Perkins

TTR has met separately with the managers at Travis Perkins and the Citroën Garage to investigate and discuss their delivery and servicing requirements. As well as setting out the rationale behind DSPs in general, and for this specific location, topics to be covered at the meetings are:

- Frequency and volume of deliveries and collections
- Who controls deliveries (company or supplier)

- Current delivery and servicing practice
- Out of hours deliveries
- Customer / supplier vehicle routing
- Managed delivery times
- Travis Perkins site access to the Chiltonian Industrial estate.

These discussions informed recommendations on management of delivery and servicing activity in the area.

2.3 On-street Parking and Loading

A Freight Environmental Review System (FERS) audit was carried out on Holme Lacey Road between the junction with Burnt Ash Hill and a point 10m west of the entrance to the Travis Perkins Yard. The audit also encompassed the first 10m of Dallinger Road. This, along with the vehicle movement observations provided evidence regarding the nature of on-street delivery and servicing of the Travis Perkins / Bellamys Citroën sites and informed DSP recommendations.

Discussions also took place with the Parking and Highways teams at LB Lewisham picking up on issues regarding parking, loading and unloading in the study area. Topics covered included:

- Complaints from local residents
- Enforcement issues in the area
- PCN issuing for loading and unloading activity
- Pay and Display parking
- Residents Controlled Parking Zone

These discussions informed DSP recommendations with regard to the provision of parking, loading and unloading facilities.

Once the observations and interviews had been completed and analysed, TTR drafted the Lee Business Area DSP. It contains measures and recommendations for some, or all of the London Borough of Lewisham, Travis Perkins and Bellamys Citroën Dealership.

The DSP is a concise document, and effectively forms a DSP outline action plan which includes short term, medium term and long term actions and measures. The DSP also includes actions for maintaining an ongoing communications channel between L.B. Lewisham, Bellamys and Travis Perkins and for monitoring the DSP.

3 OBSERVATION SURVEY – KEY FINDINGS

3.1 Introduction

In order to assist with the DSP development for the Lee Business Area, an observation survey was completed on the 20 October 2010. The observations of freight delivery and servicing activity started at 7.00 a.m., 30 minutes before the Travis Perkins branch opened and lasted until 5:30 p.m., 30 minutes after the Travis Perkins branch closed.

The survey recorded the freight movements taking place at Travis Perkins branch and Bellamys Citroën Garage. This constituted the first observation site and will be referred to as such further in this report. At this location, both freight movements and through traffic movements were recorded and have been included in the data analysis. The through traffic recorded came from Burnt Ash Hill, Holme Lacey Road and Dallinger Road and exited by the same roads.

A second observation point, referred to throughout this report as site number two, was located at the junction of Holme Lacey Road and Manor Lane. This recorded traffic entering and exiting the area from Manor Road Northern end (under the railway bridge), Manor Lane Southern end, Chiltonian Industrial Estate and Milborough Crescent. The observations monitored the freight vehicles coming from Manor Lane North and South entering or exiting Holme Lacey Road. These freight movements provided further indirect evidence of the level of rat running to the A20 and A205 South Circular.

A total of 432 freight vehicles were recorded at Location number 1; these included vehicles carrying out delivery and servicing activity at Travis Perkins and Bellamys Citroën garage and the through freight traffic coming and from Burnt Ash Hill to Dallinger and Holme Lacey Road. At the second location, the junction between Holme Lacey Road and Manor Lane, 338 freight vehicles were observed entering or exiting Holme Lacey Road from Manor Lane North or South and from the Chiltonian Industrial Estate.

3.2 Key Survey Findings at Location 1: Travis Perkins and Citroën Garage

As mentioned above, a total of 432 commercial vehicles were recorded at the first location. (The figures in this report pertain just to commercial vehicle activity and not private motoring). These include Travis Perkins' own vehicles that are used to deliver to their customers; deliveries to the Travis Perkins branch or customers that collected supplies from Travis Perkins; the commercial vehicles that carried out delivery and servicing activity at Bellamys Citroën garage; and through traffic.

The full results of the observation survey at this location can be found in Annex C of the report. The key findings are as follows:

1. There is a steady level of commercial vehicle movements throughout the day, ranging from 31 to 53 vehicle movements per hour. Traffic levels are consistent during the day, with slight peaks in the morning and afternoon.
2. 83% of commercial vehicle movements consisted of vans or car derived vans, and 15% were rigid commercial vehicles. Only 1% of commercial vehicle movements involved articulated vehicles.
3. The main commercial vehicle entry and exit points were Burnt Ash Hill and along Holme Lacey Road.
4. Other than Travis Perkins (4%) and Network Rail (3%), no single business operated a significant volume of commercial vehicles.
5. 75% of vehicle movements were through traffic, 25% related to delivery and servicing activity.
6. 62% of delivery and servicing activity was completed in under 20 minutes.

At the first survey site, it was observed that freight delivery vehicles park on the residential streets of Holme Lacey Road or Dallinger Road in two circumstances.

In the first instance, this occurs when car carriers delivering to the Bellamys Citroën garage park on Holme Lacey Road North side, adjacent to the Citroën dealership as shown in figures 2.1(a) and (b).

Figures 2.1(a) and 2.1(b): Car carrier delivering to Citroën

During the delivery activities both car carriers obstructed the traffic flow due to private cars being parked on double yellow lines, next to the entrance of the residential flats' car park, on Holme Lacey Road south side. This had a bottleneck effect on the traffic flow to / from Burnt Ash Hill causing temporary congestion.

In terms of exiting the area both car carriers entered via Burnt Ash Hill and exited via Holme Lacey Road. They were recorded at the second observation site continuing driving on Manor Lane South towards the A205, presumably to complete a circuit of the block and head north along Burnt Ash Hill.

The second instance when lorries park on the residential streets is triggered by the insufficient level of capacity for freight vehicles in the Travis Perkins yard. This manifests itself when the service yard is full with Travis Perkins' customers' vehicles, Travis Perkins' own vehicles and delivery vehicles. An example of the second situation was when a PF Whitehead lorry arrived at Travis Perkins at 13:48, but had

to park on Dallinger Road for 30 minutes before accessing Travis Perkins yard to make its delivery.

Figure 2.2: PF Whitehead vehicle waiting on Dallinger Road to access the Travis Perkins yard

In the case of articulated lorries, reversing manoeuvres into / out of the Travis Perkins yard obstruct the traffic flow (figures 2.3(a) and 2.3(b). In order to facilitate a delivery inside the yard, the driver had to reverse out of the yard which impeded the traffic flow on Holme Lacey Road and Dallinger Road. This operation was assisted by a member of Travis Perkins' staff acting as banksman, who guided both the HGV driver and the other road users. This ensured that the manoeuvre was completed safely, in a location where the traffic was coming from all directions.

Figures 2.3(a) and 2.3(b): Articulated lorry reversing manoeuvres at Travis Perkins yard

3.3 Key Survey findings at Location 2: Manor Lane junction with Holme Lacey Road

As would be expected, survey location 2 yielded similar results to survey location 1 in terms of activity and vehicle types. Observations include:

1. 18% more traffic entered Holme Lacey Road than exited it.
2. There was no appreciable morning peak. Commercial vehicle movements peaked in the afternoon between 15.01 and 16.00.

3. Fewer articulated vehicles were observed as only the car carriers used this junction. All Travis Perkins deliveries on articulated vehicles exited via Burnt Ash Hill.
4. The majority of vehicle movements (61%) involved vehicles arriving or departing via Manor Lane North.
5. Only 15% of vehicle movements involved vehicles travelling to or from the Chiltonian Industrial estate.

4 FREIGHT ENVIRONMENTAL REVIEW SYSTEM (FERS) AUDIT

4.1 Introduction to the Freight Environmental Review System (FERS)

The Freight Environmental Review System (FERS) is an analytical tool that enables a qualitative assessment of the impacts of freight upon its surrounding environment. The FERS guidance document states that:

> *'The aim of the Freight Environmental Review System is to record and analyse information relating to freight activity in any given area with a view to harmonising freight activity with other street uses'.*

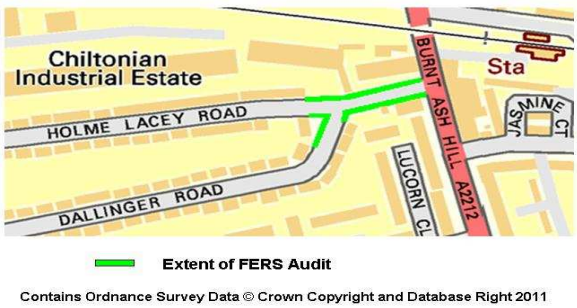
The FERS audit is based upon the following two key principles:

1. That the quality of the freight environment may be evaluated according to the degree to which it meets freight drivers' needs.

2. That in evaluating the degree to which freight vehicle drivers needs are met by the environment, however, the objective should be to satisfy as many people as possible, including motorised road users but also pedestrians and cyclists.

FERS audits can take place at a variety of levels depending on the complexity of the streetscape being surveyed. For the purposes of this report the aim of the FERS audit is to record and analyse information relating to freight delivery and servicing activity taking place at Travis Perkins and that part of the activity at the Citroën garage that takes place on Burnt Ash Hill / Holme Lacey Road. This is the area marked in green in figure 3.1. Full details of the FERS Audit are contained in Annex E.

Fig 3.1: Location of FERS Audit



4.2 Key Points from the FERS Audit

The stretch of Holme Lacey Road between the junction of Burnt Ash Hill and Dallinger Road is the area of focus for the FERS audit. The observations, and subsequent meetings with the managers at Travis Perkins and Bellamys Citroën, indicate that the following delivery and servicing related activity takes place in this location.

- Ad hoc parcel deliveries to both Travis Perkins and Bellamys Citroën.
- Car and van deliveries by articulated car carrier to Bellamys Citroën.
- Movement of stock or customer vehicles around the Citroën site via the public highway.
- Customers / suppliers parking and entering Travis Perkins on foot.
- Customers / suppliers waiting in their vehicles to enter Travis Perkins.

None of the delivery and servicing activity identified above is planned, although it may take place on a regular basis. Travis Perkins indicated that they do not permit their staff to undertake any loading and unloading of vehicles outside their yard as they would not be covered by insurance. No incidences of this activity were observed.

Other than the car carrier deliveries, it is clear from the observations and interviews that the main issue regarding delivery and servicing activity arising in Holme Lacey Road is parking and waiting to access the Travis Perkins site, and the congestion that this engenders. It is not clear what, if any effect, the implementation of the controlled parking zone (CPZ) will have (see section 5.1). The implementation of free short stay and pay and display bays would be expected to facilitate parking and waiting at the location, certainly for cars and vans.

The situation for larger vehicles is not expected to alter so congestion may continue to arise. The form and level of enforcement of the CPZ will be a key factor in managing delivery and servicing activity in this area. It is recommended that a section of kerbside is left free from CPZ provision for either articulated car carrier deliveries to the Citroen garage or for large commercial vehicles to wait to enter the Travis Perkins site. The preference, for ease of manoeuvring large commercial vehicles, would be for this free kerb space to be on the south side of Holme Lacey Road.

5 MEETINGS HELD WITH TRAVIS PERKINS AND CITROËN MANAGERS

As part of the study TTR met with the managers at both Travis Perkins and Bellamys Citroën garage. In addition through TTR's industry links, contact was also made with Keith Webb, the Regional Stock manager for Travis Perkins.

The pertinent points from each meeting are recorded below.

5.1 Dan Barnes, Branch Manager, Travis Perkins

The site was previously a builder's merchant. Travis Perkins has been there for approximately 13 years.

The store receives 2-3 deliveries per week on an articulated lorry from the central warehouse.

They request that these arrive after 09.00 a.m. and not during the late afternoon. These requests are not always adhered to.

External suppliers include amongst others Lafarge and various parcels firms.

Deliveries are received in a variety of ways – e.g. parcels, bag, pallets and individual large items.

All deliveries are received on site as they are not insured to operate on the public highway. The only exception is parcels companies whose drivers may park up on the road and drop off their parcels.

Articulated vehicles have to be part unloaded and then shunt around to finish unloading. All shunting is overseen by a trained banks man.

Their own vehicles are used for customer deliveries, inter-branch transfers (collection and delivery) with local branches and some recycling – mainly bags for bulk products.

Waste is collected once a week in a trade waste collection.

They have enquired about business permits for the new controlled parking zone.

5.2 Keith Webb, Regional Stock Manager, Travis Perkins

Branch ordering is automated i.e. if a product is sold then the system raised a replenishment order.

Deliveries are made to the branch from the central warehouse in Brackmills, Northamptonshire.

Certain supplies are delivered directly to the branch e.g. Dulux paint.

Travis Perkins is seeking to include more stock lines within their own supply chain to increase efficiency.

Out of hours deliveries are not particularly suitable as branches are not staffed overnight.

High weight / volume products e.g. bricks, blocks, lintels and concrete products are delivered direct by the supplier.

Travis Perkins is experimenting with consolidated deliveries for high weight / volume products in North-west England for stores within a 50 mile radius of Warrington. One benefit of this is to reduce the number of deliveries made to the branches. They now wish to trial this approach in London.

The move to increase the amount of deliveries made through Travis Perkins' own supply chain, as well as the consolidation of deliveries of high weight / volume to branches, means that over time fewer larger deliveries will be made to branches of Travis Perkins such as the one on Holme Lacy Road.

5.3 Paul Comley, Director, Bellamys Citroën Garage

Bellamys are at the end of two global supply chains. Cars arrive in the country at Sheerness and vans are landed at Bristol. Deliveries are in the hands of the appointed contractor.

They have room for 9 cars and 3 vans for display in the showroom at the site.

Due to the restricted nature of the site cars and vans for sale are called off when available. The supply chain has a three day window to deliver.

The site is operated from 08.00 – 18.00 during the week. Deliveries only take place from Monday to Friday and are usually made around lunch time. The contractor uses regular drivers to make the deliveries. Drivers phone ahead so that Bellamys are prepared to receive the vehicles. Deliveries take between 5 and 15 minutes. The vehicles are on trade plates when driven on the public highway.

On arrival the driver has to decide whether to deliver on Burnt Ash Hill (preferred if clear) or in Holme Lacey Road. The vehicles are unable to reverse, so the driver has to commit to a delivery point.

Whilst they could take a full load, the vast majority of deliveries are multi-drop.

They run a tight ship in March and September when sales volumes are high.

Customer collection times drive delivery arrangements. Collections can be made on any day each week. There is no weekly trend to collections.

All parts are delivered overnight (Tuesday a.m. to Saturday a.m.) into a locked cage on site.

Other deliveries include bulk oil, stationary, advertising materials, laundry, office mats and parcels.

Trade waste is disposed of ‘as and when’.

The following are recycled: - Batteries, oil filters, brake fluid, used antifreeze and waste oil.

6 CONSULTATION WITH LOCAL AUTHORITY OFFICERS

6.1 Parking Services

The London Borough of Lewisham has recently consulted with residents regarding the provision of a controlled parking zone (CPZ) for the area. This would encompass Holme Lacey Road and Dallinger Road. This is partially in response to the number of commuters who park in these roads during the day and then make their way to Lee Station to commute into London.

In the consultation documentation it is envisaged that parking provision will be provided on the kerbside in Holme Lacey Road between Burnt Ash Hill and the Travis Perkins entrance / junction with Dallinger Road. This will consist of a mixture of shared use bays, permit/pay and display just outside of the garage on Holme Lacey Road and Dallinger Road and free maximum stay 30 minutes bays.

There were no freight related comments arising from the CPZ consultation. Two representatives from the Citroën garage attended the CPZ exhibition as they have concerns regarding staff and visitor parking. Under the proposed new arrangements employees can park with Business Permits or on Pay and Display. Visitors can park in the Pay and Display bays or in the free 30 minutes stop and shop bays.

6.2 Environmental Health – Noise Protection

Chris Howard, Environmental Protection Officer at Lewisham Council confirmed that they have not received any complaints from residents in the Lee area relating to noise generated by freight vehicles.

However, he noted that this does not mean that the freight traffic in Lee area does not disturb the residents or that it is not a problem. He thought that there may be reasons why someone wouldn't complain, even if disturbed, as people don't think anything can be done about it anyway, so feel that it is pointless complaining.

7 LEE BUSINESS AREA OUTLINE DELIVERY AND SERVICING PLAN

This outline Delivery and Servicing plan builds on the findings of the observations and the interviews set out in the report. The report highlighted that approximately 25% of all vehicle activity in the area is delivery and servicing activity. Therefore, to facilitate delivery and servicing activity and to mitigate its' adverse effects, the implementation of a variety of delivery and servicing plan best practice measures is required.

No recommendations are made with regard to the high volumes of through traffic.

These actions are set out in the table below which forms the outline of a delivery and servicing action plan.

Action	By Whom	By When
Write to Travis Perkins suggesting the implementation of a delivery booking system to mitigate delivery congestion at the site.	TTR	Completed 31 March 2011
Travis Perkins to continue to review their supply chain to minimise the number of external deliveries to their branches	Travis Perkins	Ongoing, as per their business plan.
Travis Perkins to investigate consolidation of bulky (High weight / Volume) products in London and the South-East.	Travis Perkins	Ongoing, as per their business plan.
Set up communications channel between L.B. Lewisham, Travis Perkins and Bellamys for ongoing DSP management.	TTR	Completed 31 March 2011
L.B. Lewisham to initiate discussions with Travis Perkins and Bellamys every three months to ensure the effectiveness of the DSP.	L.B. Lewisham	Ongoing
Ensure that the new CPZ arrangements best meet the requirements of all users of the area.	L.B. Lewisham	By implementation of CPZ.
Consider leaving a section of kerbside free from CPZ provision for either	L.B. Lewisham	By implementation of CPZ.

articulated car carrier deliveries to the Citroen garage or for large commercial vehicles to wait to enter the Travis Perkins site.		
Sympathetic enforcement of delivery and servicing plan loading and unloading activity under the new CPZ arrangements.	L.B. Lewisham	Ongoing
Consider implementation of an 'intelligent' bookable loading bay as demonstrated by the CVIS project (http://www.cvisproject.org/).	L.B. Lewisham	At a later stage when funding has been identified.

ANNEX A

SURVEY TEMPLATES: TRAVIS PERKINS AND MANOR LANE

Survey template - Travis Perkins

Lee Business Area DSP, 20 October 2010 - Travis Perkins / Citroen Survey Area																Sheet No.	
Time of arrival	Vehicle type	Registration number	Name of supplier/deliveries/livery	Came from Burnt Ash Hill	Came from Dallinger Road	Came from Holme Lacey Road	Went into TP	Went into Citroen	Did not stop	Delivery / collection / servicing?	Parked on road (D/H)	Kiss and ride	Time of departure	Exit via Burnt Ash Hill	Exit via Dallinger Road	Exit via Holme Lacey Road	Comments e.g. Loading, safety, traffic impacts

Survey template - Manor Lane

Lee Business Area DSP, 20 October 2010 - Manor Lane Survey Area											Sheet No.	
				Vehicles entering Holme Lacey Road				Vehicles exiting Holme Lacey Road				
Time of movement	Vehicle Type	Registration number	Name of Supplier/Deliverer/Livery	Came from Manor Lane - North	Came from Manor Lane - South	Came from Chillonian Industrial Estate	Came from Millborough Crescent	Exit via Manor Lane - North	Exit via Manor Lane - South	Turned into Chillonian Industrial Estate	Exit via Millborough Crescent	Comments e.g. Loading, safety, traffic impacts

ANNEX B

VEHICLE CLASSIFICATION

GOODS VEHICLE CLASSIFICATION

(With or without trailer/semi-trailer)

CV - CAR-DERIVED VAN

V - VAN (UP TO 3.5t)

2R - TWO-AXLE RIGID GOODS VEHICLE (OVER 3.5t)

3R - THREE-AXLE RIGID GOODS VEHICLE

4R - FOUR-AXLE RIGID GOODS VEHICLE

6A - ARTICULATED VEHICLE

ANNEX C

SURVEY FINDINGS AT LOCATION 1: TRAVIS PERKINS AND BELLAMYS CITROËN GARAGE

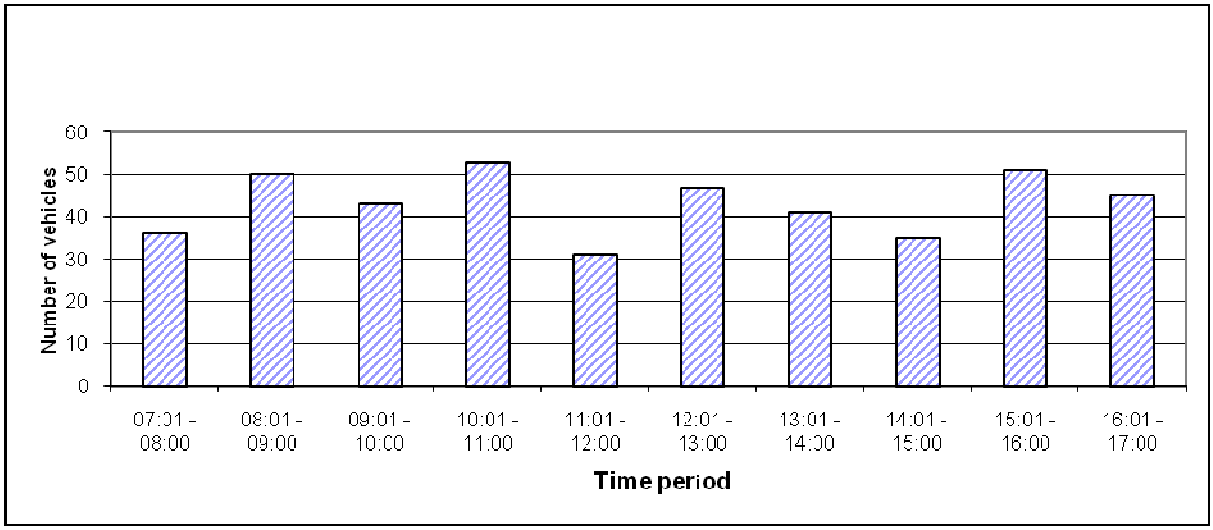
Hourly freight movements

As illustrated by Table C.1 and Figure C.1, at this surveying site there is a steady flow of vehicles during the day with slight peaks twice in the morning between 08:01 and 09:00 and between 10:01 and 11:00, and in the afternoon between 15:01and 16:00.

Table C.1: Hourly freight movement at location 1

Number of vehicles arriving at location 1	Number of vehicles	%
07:01 - 08:00	36	8%
08:01 - 09:00	50	12%
09:01 - 10:00	43	10%
10:01 - 11:00	53	12%
11:01 - 12:00	31	7%
12:01 - 13:00	47	11%
13:01 - 14:00	41	9%
14:01 - 15:00	35	8%
15:01 - 16:00	51	12%
16:01 - 17:00	45	10%
Total	**432**	**100%**

Figure C.1: Hourly freight movement at location 1



It was noted that vans arrive at Travis Perkins before 7:30 in the morning, when the branch opens and park on the double yellow lines opposite the Citroën garage.

Type of freight vehicles

Table C.2 shows that 83% of the total vehicles recorded at the first site observation were classified as car derived vans or vans, 14% of vehicles were rigid commercial vehicles and 2% were articulated commercial vehicles, as shown by Table and Figure 2.

Table C.2: Type of freight vehicle

Type of Commercial Vehicle	Number of vehicles	Percent
Car Derived Van	131	30%
Van	231	53%
2 axle rigid, up to 7.5 tonnes	43	10%
2 axle rigid, 7.5 to 18 tonnes	17	4%
3 axle rigid, 18 - 26 tonnes	4	1%
6 axle articulated vehicle	5	1%
Car / 4X4	1	0%
Total	**432**	**100%**

Figure C.2: Type of freight vehicle

Freight movements and through traffic

As illustrated by table C.3, 25% of the total number of vehicles recorded at the first observation site was carrying out freight, delivery or servicing activity. Of all vehicles observed, 22% were going to Travis Perkins, 2% of vehicles going to Citroën and 1% of vehicles noted coming out of Travis Perkins branch with no time recorded going in i.e. their own vehicles based at the site.

75% of the vehicles recorded at the first location constituted through traffic. One Connaught vehicle that parked in the residential/private car park of the flats located opposite Citroën was considered through traffic as it did not deliver or collect from either Travis Perkins or Citroën Garage.

Table C.3: Freight movements and through traffic at location 1

Freight movement	Number of vehicles	%
Entered Travis Perkins	97	22%
Entered Citroën garage	9	2%
Exited Travis Perkins	4	1%
Total freight movements recorded at Location 1	**110**	**25%**
Connaught vehicle parked in residential parking	1	0%
Through traffic	321	74%
Total through traffic	**322**	**75%**
Total	**432**	**100%**

Vehicle entry points

As illustrated by Table C.4, 49% of the total vehicles recorded at location 1 entered the area via Holme Lacey Road, which is a residential area, whilst 44% entered via Burnt Ash Hill. Only 6% of the vehicles observed entered via Dallinger Road.

Table C.4: Vehicle entry points

Vehicle entry point	Number of vehicles	%
Burnt Ash Hill	184	43%
Holme Lacey Road	215	49%
Dallinger Road	24	6%
Travis Perkins vehicles exiting the yard	4	1%
Unknown entry or exit	5	1%
Total	**432**	**100%**

Liveried vehicles

The majority of freight vehicles at the first survey location did not have a livery. Amongst those vehicles that had a livery the most frequent encountered were Travis Perkins with 4% of the freight movements and Network Rail, who have a depot in Manor Road, with 3%. A number of organisations, including a number of businesses that have outlets in the Chiltonian Industrial Estate, each constituted 1% of the freight movements.

Table C.5: Liveried vehicles

Livery names	No. of vehicle movements	%
No livery	203	47%
Travis Perkins	18	4%
Network Rail	12	3%
Lewisham Homes	5	1%
Weston Electrical Services	4	1%
Royal Mail	5	1%
Balfour Beatty	6	1%
Unique Seafood	4	1%
DHL	5	1%
T Brown	3	1%
BT	3	1%
Libra	3	1%
Other	161	37%
Total	**432**	**100%**

Vehicles' entry, through traffic, and freight movements

The majority of vehicles that access Travis Perkins and Citroën have an itinerary that includes Burnt Ash Hill; while vehicles that potentially rat run from the A20 and A205 prefer Holme Lacey Road as a shortcut route to Dallinger Road.

As illustrated by Table C.6, of the total number of vehicle movements at location 1, 13% of vehicles that entered Travis Perkins and Citroën accessed the survey area via Burnt Ash Hill, 9% of the vehicles used Holme Lacey Road for access and 1% of the vehicles arrived or departed via Dallinger Road.

In the case of the through traffic, 30% of the total traffic movements entered via Burnt Ash Hill, while 40% accessed the Lee area via Holme Lacey Road, with only 5% entering via Dallinger Road.

Table C.6: Vehicles' entry, through traffic and freight movements

Point of vehicles' entry	Went into Travis Perkins / Citroën	% Freight vehicles	Through traffic	% through traffic	Total	%
Burnt Ash Hill	55	13%	129	30%	184	43%
Holme Lacey Road	42	10%	173	40%	215	50%
Dallinger Road	4	1%	20	5%	24	6%
Travis Perkins - vehicles exiting the yard	4	1%	0	0%	4	1%
Unknown entry or exit	5	1%	0	0%	5	1%
Total	**110**	**25%**	**322**	**75%**	**432**	**100%**

Exit routes

As shown in table C.7, 56% of the vehicles recorded at location 1 exited via Burnt Ash Hill, 29% exited via Holme Lacey Road, 11% exited via Dallinger Road whilst 4% had an unknown exit.

Table C.7: Exit routes

Vehicles' exit	Number of vehicles	%
Burnt Ash Hill	242	56%
Holme Lacey Road	125	29%
Dallinger Road	48	11%
Unknown entry or exit	17	4%
Total	**432**	**100%**

Route of through traffic

As shown in table C.8, 54% of the through traffic that came from Burnt Ash Hill, Holme Lacey Road and Dallinger Road exited via Burnt Ash Hill, 31% of the through traffic exited via Holme Lacey Road while 12% exited via Dallinger Road.

Table C.8: Route of through traffic

	Exit via Burnt Ash Hill	%	Exit Via Holme Lacey Road	%	Exit Via Dallinger Road	%	Unknown Exit	%	Total	%
Came from Burnt Ash Hill	1	0%	94	29%	29	9%	5	2%	**129**	40%
Came from Dallinger Road	14	4%	6	2%	0	0%	0	0%	**20**	6%
Came from Holme Lacey Road	159	49%	0	0%	10	3%	4	1%	**173**	54%
Total through traffic	**174**	**54%**	**100**	**31%**	**39**	**12%**	**9**	**3%**	**322**	**100%**

Routes of vehicles serving Travis Perkins and Citroën

As illustrated by Table C.9, 62% of the total vehicles that served Travis Perkins exited via Burnt Ash Hill, 23% exited via Holme Lacey Road whilst 5% of the vehicles exited via Dallinger Road.

Table C.9: Vehicles that served Travis Perkins

	Exit via Burnt Ash Hill	%	Exit Via Holme Lacey Road	%	Exit Via Dallinger Road	%	Unknown Exit	%	Total	%
Came from Burnt Ash Hill	34	35%	11	11%	4	4%	1	1%	**50**	**52%**
Came from Dallinger Road	3	3%	0	0%	0	0%	1	1%	**4**	**4%**
Came from Holme Lacey Road	23	24%	11	11%	1	1%	3	3%	**38**	**39%**
Unknown exit	0	0%	0	0%	0	0%	5	5%	**5**	**5%**
Total	**60**	**62%**	**22**	**23%**	**5**	**5%**	**10**	**10%**	**97**	**100%**

Table C.10 shows that 5 vehicles that served Citroën exited via Burnt Ash Hill and another 4 freight vehicles exited via Holme Lacey Road.

Table C.10: Vehicles that served the Citroën garage

	Exit via Burnt Ash Hill/turned around	%	Exit Via Holme Lacey Road	%	Exit Via Dallinger Road	%	Unknown Exit	%	Total	%
Came from Burnt Ash Hill	2	22%	2	22%	0	0	1	11%	**5**	**56%**
Came from Dallinger Road	0	0%	0	0%	0	0	0	0%	**0**	**0%**
Came from Holme Lacey Road	3	33%	1	11%	0	0	0	0%	**4**	**44%**
Total	**5**	**56%**	**3**	**33%**	**0**	**0**	**1**	**11%**	**9**	**100%**

Type of freight activity

As illustrated by table C.11, 16% of total vehicle movements into Travis Perkins or the Citroën garage were customers and it wasn't possible to ascertain if they delivered, collected or placed an order, therefore it was coded as unknown customer activity, with either of these activities taking place. 5% of the freight vehicles carried out collections, 3% of the vehicles were Travis Perkins's own whilst 1% of the freight vehicles made a delivery.

Table C.11: Type of Activity

Type of activity	Number of vehicles	%
Unknown customer activity	67	16%
Collection	23	5%
Travis Perkins Vehicle	14	3%
Delivery	5	1%
Servicing	1	0%
Through traffic	322	75%
Total	**432**	**100%**

Completion of activity at Travis Perkins and Citroën

Travis Perkins yard was a busy freight area and it wasn't always possible to monitor vehicles' entry and exit, particularly at one time when six lorries were waiting to access the yard. However, the data that was collected in table C.12 shows that the majority of the activities at Travis Perkins and Citroën were completed in less than 10 minutes.

Table C.12: Completion of activity

Completion of activity	Number of vehicles	Percent
Less than 10 minutes	42	38%
10 to 20 minutes	26	24%
20 to 30 minutes	9	8%
30 to 40 minutes	5	5%
40 to 50 minutes	4	4%
50 to 60 minutes	3	3%
More than 60 minutes	3	3%
Total	**92**	**84%**
Out of Travis Perkins	4	4%
Unknown	14	13%
Total	**110**	**100%**

Observation

As observed at the beginning of this section, some vehicles caused obstruction of the traffic, others parked on the residential roads or on the double yellow lines in Holme Lacey Road whilst waiting to access Travis Perkins yard. These observations are recorded in table C.13.

Table C.13: Observations regarding recorded vehicles

Observations	Number of vehicles	%
No comments	421	97%
Cars parked on both sides of Holme Lacey Road, HGV partly obstructing the traffic	3	1%
Illegal parking on Holme Lacey Road on double yellow lines	2	0%
Parked in the residential parking Holme Lacey Road	2	0%
Had to reverse into Travis Perkins' yard	1	0%
Had problems passing by the car carrier	1	0%
Yard at Travis Perkins full, parked on Dallinger Road for 30 minutes whilst awaiting entry	1	0%
Parked on Dallinger Road, resident	1	0%
Total	**432**	**100%**

ANNEX D

SURVEY FINDINGS AT LOCATION 2: MANOR LANE JUNCTION WITH HOLME LACEY ROAD

Vehicle movements at observation site

As illustrated by table D.1 a total of 338 freight vehicles were observed at the Manor Lane / Holme Lacey Road junction. Of these, 58% entered Holme Lacey Road while 40% exited Holme Lacey Road, 2% of manoeuvres are unknown.

Table D.1: Number of vehicles entering and exiting Holme Lacey Road

	No. of vehicles	**%**
Entered Holme Lacey Road	197	58%
Exited Holme Lacey Road	135	40%
Unknown	5	2%
Vehicle made a U turn	1	0%
Total	**338**	**100%**

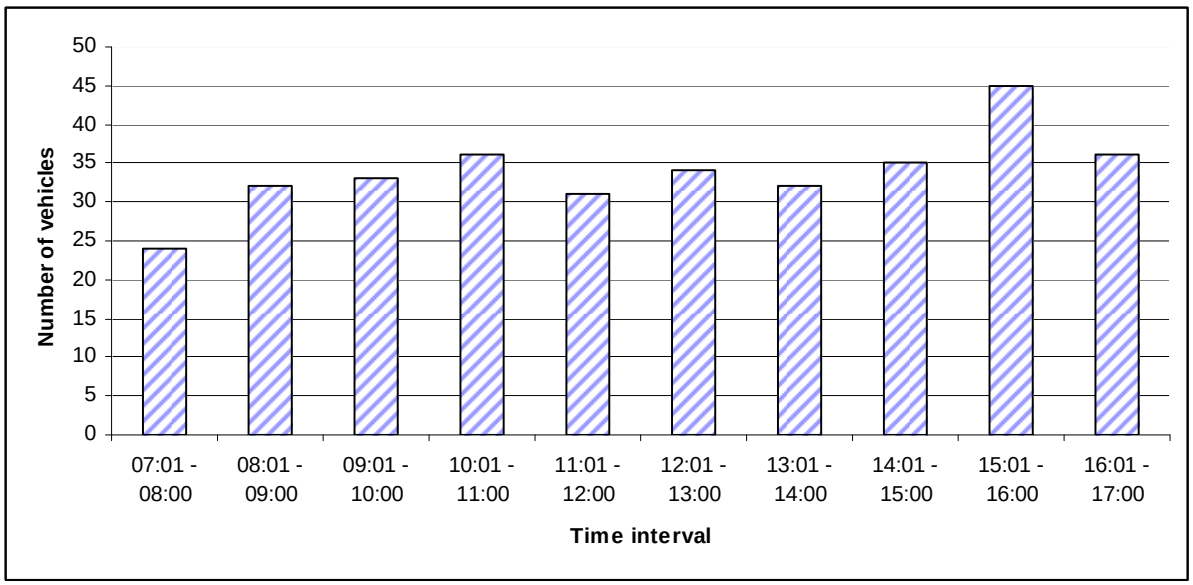
Hourly freight movements

As shown in table D.2 and figure D.1 the number of vehicle movements peaked between 10:01 and 11:00 in the morning and between 15:01 and 16:00 in the afternoon.

Table D.2: Hourly freight movements at location 2

Time of the recording	**Number of vehicles**	**%**
07:01 - 08:00	24	7%
08:01 - 09:00	32	9%
09:01 - 10:00	33	10%
10:01 - 11:00	36	11%
11:01 - 12:00	31	9%
12:01 - 13:00	34	10%
13:01 - 14:00	32	9%
14:01 - 15:00	35	10%
15:01 - 16:00	45	13%
16:01 - 17:00	36	11%
Total	**338**	**100%**

Figure D.1: Hourly freight movements at location 2



Vehicle Type

Table D.3 shows that 54% of the total vehicles recorded at the second location site were light goods vehicles, 35% were car derived vans and 6% were 2 axle rigid vehicles.

Table D.3: Vehicle Type

Vehicle Type	Number of vehicles	%
Van	182	54%
Car Derived Van	119	35%
2 Ra, 2 axle rigid, <7.5 tonnes	21	6%
2Rb, 2 axle rigid, 7.5 - 18 tonnes	11	3%
6R, articulated lorry	3	1%
3R, 3axle rigid, 18 - 26 tonnes	1	0%
Car	1	0%
Total	**338**	**100%**

Origin of freight vehicles entering Holme Lacey Road

Table D.4 shows that of all vehicle movements at the location, 42% of the total vehicles that entered Holme Lacey Road came from Manor Lane North, 10% came via Manor Lane South and 7% of vehicles came from the Chiltonian Industrial Estate.

Table D.4: Origin of freight vehicles entering Holme Lacey Road

	Number of vehicles	**%**
Came from Manor Lane North	141	42%
Came Manor lane South	33	10%
Came from Chiltonian Industrial Estate	22	7%
Came from Milborough Crescent	0	0%
Total	**197**	**58%**

Destination of freight vehicles exiting Holme Lacey Road

Table D.5 shows the destinations of freight vehicles exiting Holme Lacey Road. Of all vehicle movements in the area, 19% of these exited via Manor Lane North, 13% exited via Manor Lane South, 7% of vehicles turned into the Chiltonian Industrial Estate and 1% turned into Milborough Crescent.

Table D.5: Freight Vehicles exiting Holme Lacey Road

	Number of vehicles	**%**
Exit via Manor Lane North	64	19%
Exit via Manor Lane South	43	13%
Turned into Chiltonian Industrial Estate	26	8%
Exit via Milborough Crescent	2	1%
Total	**135**	**40%**

ANNEX E

FREIGHT ENVIRONMENT REVIEW SYSTEM (FERS) AUDIT

Burnt Ash Hill / Holme Lacey Road Junction

Lines

The kerbside at the junction between Burnt Ash Hill and Holme Lacey Road is marked with double yellow lines and double pips, which are worn out as shown in figures E.1 (a) and E.1 (b). Generally, double yellow pips are used to indicate that loading is not allowed at any time for as far as the pips extend, and in this case they are provided around the corner of the junction.

Figures E.1 (a) and E.1 (b): Double yellow lines and pips at the corner of the junction

As illustrated by Figures E.2 (a) and E.2 (b), the road markings indicated that vehicles have to stop when accessing Burnt Ash Hill on which a 30 miles per hour speed limit is imposed. However, the road markings at the junction despite being slightly worn are readable and conspicuous.

Figures E.2 (a) and E.2 (b): Junction and cycle route markings on the carriageway

This junction is part of the Lewisham Borough recommended quiet cycle network being marked as such on the carriageway. However, other than this short stretch of dedicated cycle way close to the junction there are no further dedicated cycle facilities on Holme Lacey Road with all road users having to share the carriageway. During the site observation survey carried out on 20 October 2010 a low volume of cyclists were observed using this route.

Signs

After a few yards in from the junction with Burnt Ash Hill, Holme Lacy Road is signposted as a 20 mile per hour zone shown in figures E.3 (a) and E.3 (b).

Figures E.3 (a) and E.3 (b): 20 mile zone restriction signage

Footway

On the North side of Holme Lacey Road there are no physical measures such as bollards or pedestrian railings to separate pedestrians from traffic. There is a pedestrian crossing of Holme Lacey Road in place at this junction. The volume of footway users at this junction can be high particularly at peak times due to the proximity of the railway station.

The pedestrian crossing has dropped kerbs and is provided with tactile paving for ease of use for people with disabilities. As shown in figure E.4, the paving at the informal pedestrian crossing shows signs of damage caused by vehicle activity, and these undulations might present a trip hazard for pedestrians with visual impairment and other powered wheel chairs which are more susceptible to changes in the smoothness of the surface type.

Figure E.4: Tactile paving at the junction

In terms of turning vehicles, the corner of the junction has an approximate 90^{o} radius which allows vehicles to turn into Burn Ash Hill without overrunning the pavement. However, as illustrated by Figure E.1 (a) the kerbs present at the corner of the junction show signs of damage and wear caused by the vehicles turning into Burnt Ash Hill.

There is negligible interaction between cyclists, pedestrians and freight, delivery and servicing activity in the vicinity of this junction as the main freight activity occurs further away on Holme Lacey Road in the proximity of the Citroën garage side entrance and Travis Perkins.

The footway surface adjacent to the junction is uneven and patched by previous works; these defects can be a trip hazard for pedestrians and footway users with mobility problems as shown in figure E.5.

Figure E.5: Irregular footway surface

On the South side of the junction pedestrians railings are provided to separate vehicle and pedestrian movements (figure E.6). The presence of these railings means that the kerbstones at the corner of this junction are in better condition than those present on the North side of the road.

Figure E.6: Double Yellow lines and pedestrian railings on South side of the junction

Holme Lacey Road – north side

Lines

This section of the road is marked with a single white line and provides parking spaces along Holme Lacey Road North West (figure E.7 (a)).

On this side of the road, there is also the entrance to Citroën which is marked accordingly on the road. The Keep Clear sign which indicates the entrance to the Citroën premises is worn out and faded (figure E.7 (b)).

Figure E.7(a) and E.7(b): Kerbside markings on Holme Lacey Road, North side


Footway

There is a footway for pedestrian traffic on the North side of Holme Lacey Road. The pavement surface presents extensive cracks, areas of patching and undulations in the surface around the trees. The trees restrict the footway surface available to the pedestrians and could potentially present a trip hazard for pedestrians and wheelchair users which are more likely to be affected by the sudden change and imperfections of the surface type as shown in figures E.8(a) and E.8(b).

Figure E.8(a) and E.8(b): Footway surface Holme Lacey Road, North side


Carriageway

The carriageway surface on Holme Lacey Road has been patched, has some potholes and is uneven on large areas as shown in figures E.9(a) and E.9(b).

Figure E.9(a) and E.9(b): Carriageway surface on Holme Lacey Road


A speed hump (figure E.10) is provided on the carriageway in front of the Citroën garage side entrance to diminish the speed at which vehicles travel.

Figure E.10: Speed hump on Holme Lacey Road

When deliveries take place at the Citroën garage, a whole traffic lane on Holme Lacey Road is blocked by the car carrier. The unloading activity carried out at Citroën can temporally obstruct the traffic flow, restrict the size of the vehicles able to pass and can cause local congestion as shown in figure E.11.

Figure E.11: Unloading activity at Citroën, Holme Lacey Road, North side

Travis Perkins Service Yard

The next feature on the North side of Holme Lacey Road is the entrance to Travis Perkins (figure E.12). Travis Perkins has a service yard for delivery and collection of goods vehicles. Numerous freight vehicles were observed entering and exiting the yard, including those with Travis Perkins livery name. The gates open at 07:30 in the morning and close at 17:00 in the afternoon.

Figure E.12: Travis Perkins service yard entrance

The service yard is adequate for the majority of freight vehicles likely to use it including articulated goods vehicles, though these require manoeuvring in and out of the yard to enable them to be unloaded (figure E.13). It was noted that when the yard is full, articulated vehicles have to wait and park up on Dallinger Road and Holme Lacey Road until they are able to access the yard.

Figure E.13: Articulated vehicle accessing Travis Perkins service yard

There is not always sufficient manoeuvring space for articulated vehicles to carry out deliveries and reverse in the yard. Sometimes the articulated vehicles get into the yard by reversing, or exit the yard by reversing into the road, thus affecting the traffic flow on Holme Lacey Road and Dallinger Road. When this occurs, multiple forward and reversing movements are required, often accompanied by the audible and visual reversing signals, increasing the noise pollution in the nearby residential area. These vehicle manoeuvres lead to temporary delays and congestion on the adjacent roads.

The carriageway surface around the yard entrance is cracked, with potholes and damages caused by heavy freight activity.

Two timber bollards are sited on Holme Lacey Road North West by the Travis Perkins entrance to prevent the interaction between freight vehicles and the pedestrian realm. One bollard presents signs of being struck.

Holme Lacey Road, South side

Signs and lines

On Holme Lacey Road South side the signage (figure E.14) indicates no waiting between midnight and 8a.m. and between 6.30 p.m. and midnight.

Figure E.14: Signpost indicating freight vehicles restrictions

Parking spaces for car club members (figure E.15) are provided on this side of Holme Lacey Road, which also accommodates more car parking.

Figure E.15: Car club parking space

This side of the road is provided with double yellow lines, which are worn out. Despite this provision, non-compliant parking by vehicles awaiting entry or serving both Travis Perkins and the Citroën garage has been observed (figure E.16).

Figure E.16: Parking on double yellow lines

Footway

The footway surface (figure E.17) on this side of the Holme Lacey Road is overall in better condition than on the other side of the road. The footway surface is a combination of paving slabs and tarmac with visible minor cracks.

Figure E.17: Footway surface

Further along Holme Lacey Road there are signs of overrunning the kerb and damage to trees from heavy freight activity at the junction of Holme Lacey Road and Dallinger Road.