

CLFQP Kerbside Conflicts Project

Kentish Town Road Observation Survey

Final Report

On behalf of Central London Freight Quality Partnership



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Executive Summary

Study scope

Peter Brett Associates LLP (PBA) was commissioned by the Central London Freight Quality Partnership (CLFQP) to complete a study entitled the *Kerbside Conflicts Project*. The aim of the study was to examine the interactions that occur when kerbside freight deliveries and collections take place on London streets. The survey work was carried out during March and April 2014.

The aim of the study was to complete a detailed observational survey that focused on assessing the interactions between freight vehicles stopped to make kerbside deliveries and collections with all modes of transport sharing a "London Road". As the London Borough of Camden is a partner in the CLFQP, it was agreed that the survey would take place on *Kentish Town Road*. The survey was to firstly observe, and secondly analyse, all the activity taking place on the road and understand how the space is perceived, utilised and regulated.

The study area was a section of *Kentish Town Road* between Leighton Road and Caversham Road, and included the side roads of Frideswide Place and Wolsey Road.

Three surveys were completed as part of the study, an information gathering and perception interview survey of 51 businesses, an information gathering and perception interview survey of 159 pedestrians and 38 cyclists, and a seven day, 24 hour camera survey of activity on *Kentish Town Road* and the side streets. Background information on the composition and flow of traffic recorded by automatic traffic counters, and street furniture and assets was also examined to provide a context.

Analysis of the data gathered through interview surveys involved collating the responses and presenting the results using graphs and table with relevant commentary. For the camera footage two analysis approaches were used: i) a count and classification of activity and interactions over 24 hours for four of the days; ii) a detailed analysis of three 15 minute samples covering three separate days. An analysis framework was developed that enabled a consistent approach to categorising the interactions between kerbside freight activity and other street users.

Background information

From the traffic flow data, which covered March 2013, it was found that commercial vehicles and buses formed approximately 10 per cent of all traffic. However, by applying the proportional breakdown types of vehicles from screen-line traffic data for Kentish Town Road from 2011 (and assuming that it is still representative) it is found that on a week day about 4 per cent of traffic comprises OGV1 and OGV2 (3.9% and 0.4% respectively) and 21 per cent is attributed to light goods vehicles (LGVs).

The parking regulations within the study area generally state *No Parking or No Loading Mon - Fri,* 07:00-10:00 & 16:00-19:00 Pay and Display 10:00-16:00, and at certain locations near junctions or pedestrian crossings *No Parking or No Loading at Any Time*.

On the pavements there is a mixture of street furniture including bollards, bus shelters, cycle stands, lighting, newspaper stands, a salt bin, seating, signposts, a speed camera, a statue, telephone boxes and waste bins.

Interview surveys

Businesses

Fifty one businesses were surveyed on Kentish Town Road on 9th April 2014, of which 31 provided answers to the questions, a response rate of around 61 per cent. The types of business comprised 11x Café / Restaurant, 11x Shop, 5 x Service and 4 x Supermarket / Food shop.

Twenty of the businesses received, on average, about 7 deliveries per week, while 10 had 1 to 4 every month. The highest number of deliveries was related to food and drink, and the most common methods of moving the foods from the vehicle to the premises was by hand or using a trolley or roll cage. Sixty eight per cent of businesses stated that delivery took less than 15 minutes while two said that they took over 40 minutes. Eleven businesses received deliveries throughout the day, while nine were in the morning and seven after 8pm.

Pedestrian and cyclists

Thirty eight cyclists and 159 pedestrians were surveyed on 11th and 14th of April 2014. The main reason for both cyclists and pedestrians to be on Kentish Town Road when surveyed was 'passing through' (53%, 45% respectively). Of the remainder, 25 per cent of pedestrians were visiting the road compared to 29 per cent of cyclists.

Just over a third (34%) of cyclists surveyed visited or went through the road 1-2 days a week, with 26% visiting both 5 and 6-7 days. Almost half (47%) of pedestrians visited the road 6-7 days a week, with 21% visiting 1-2 days and 17% visiting five days a week.

The most common time of day for both cyclists and pedestrians to visit the road was between 9am and 12.30pm with 32% and 39% respectively indicating they visit during this time. Another quarter of both groups (25% and 24%, respectively) visited between 12:30pm and 4pm.

Thirty nine per cent of both cyclists and pedestrians encountered delivery vehicles on the day they were surveyed, and 97% had encountered them previously. The usual action taken by cyclists (61%) was to keep moving and if needed go around the vehicle; 26% of pedestrians used this method, and another 36% said no action was necessary.

The cyclists and pedestrians were asked about their thoughts regarding vehicles making kerbside deliveries and collections. A large proportion of both cyclists and pedestrians thought that the delivery vehicles were 'just doing their job', although around 41 people did not have a view on this question. Overall, 65% of cyclists and pedestrians did not have a complaint about goods vehicles being stopped at the kerbside, while 35% did make an adverse comment. However, approximately 35 per cent of cyclists and pedestrians think the best delivery time would be before 7am and after 9pm.

Camera survey

Overview of all four days

An analysis of all the roads in the study area was completed on footage related to Friday 21st, Saturday 22nd, Monday 24th and Wednesday 26th of March.

The method of analysis involved dividing the road into 11 zones. Kentish Town Road was split into Zones 1 to 7 from north to south, while the surrounding side streets were labelled as follows: Zone 8 was Frideswide Place, Zone 9 was Islip Street, Zone 10 was Holmes Road and Zone 11 Caversham Road. Each zone is broken down into boxes and each box coded with the type of road layout or regulation.

Over the days analysed, a combined total of 827 service and delivery vehicles pulled up at the kerbside in Zones 1 to 10 in and around Kentish Town Road. The busiest locations were in the vicinity of the J. Sainsbury, Co-operative and Iceland supermarkets. LGVs were the most frequent vehicle to stop (an average of 142 per day), followed by OGV1 (an average of 54 per day). By comparison OGV2 were relatively few at an average of just 4 per day.

Seventy four per cent of vehicles stopped for less than 15 minutes, while five per cent were stopped for over an hour. The most common time for vehicles to stop was between 10am and 1pm, while the least common was between 7pm and 10pm.

Forty per cent of the stops from 7am to 3pm tended to be less than 5 minutes long, with 30% between 5 and 10 minutes duration. Looking at just the vehicles that stayed for over 5 minutes, and excluding

the Saturday data, 151 vehicles pulled up at the kerb with 102 of those vehicles stopping for delivery or servicing reasons, of which 53 are OGVs.

The most common arrival times of OGVs were 9pm and midnight when they stop on double yellow lines, and 1am, 10am and 11am, when using the Pay & Display bays. However, seven vehicles pulled up on the double yellow lines during the restricted periods, of which four stopped for deliveries, including one OGV.

Goods were mainly moved by hand, with 289 deliveries handled this way. Deliveries from LGV and OGV1 were much more likely to be carried by hand, while those from OGV2 were predominantly moved using roll cages.

Kerbside interactions

Kerbside interactions are in the context of this study defined as the impact that a stopped delivery or service vehicle has on other road users - for example causing a delay or deviation from a straight forward line.

For the four days analysed, 3042 interactions were recorded. These included 1439 interactions with cyclists, 1437 with pedestrians, 141 affecting single vehicles and 99 affecting multiple vehicles. On average, there were 4 interactions per vehicle that stopped.

Zone 4 close to the Iceland supermarket had the most interactions per vehicle stopped, with 13 interactions per vehicle and the southernmost zone on Kentish Town Road had the least with 1 per vehicle.

Interactions were each given a "risk rating" from 1 to 4 with the following definitions: 1 - Actual Bodily Harm (injury or altercation occurred); 2 - Very Dangerous (could have caused serious injury); 3 - Some Danger (could have caused injury but avoided); 4 - No Danger (other road user inconvenienced but in no danger).

Seven of the interactions were categorised as "Very dangerous"; 4 of these interactions occurred with LGVs and 3 with OGVs. Three occurred in Holmes Road (Zone 10), with two in Zone 4 and one in each of Zones 3 and 5, on Kentish Town Road. Five of the interactions were recorded between 8am and 12pm, the other 2 occurred between midnight and 1am.

There were1372 interactions that involved 1695 cyclists, which included some interactions involving multiple cyclists. The interactions with cyclists occurred mostly between 9am and 4pm, there were also a high number of interactions between 9pm and 11pm. The highest number of cyclists (470) cycled around the stopped vehicle without halting.

Snap shot analysis

Fifteen minute samples were taken from the videos for 6.30am, 10.30am and 3.30pm on Tuesday 24th, Wednesday 25th and Thursday 26th March. The times were selected as they were either on the run up to loading restriction coming into force or loading restrictions ending. It was thought that these times could generate higher levels of freight vehicle activity as drivers either aimed to complete their delivery before the restriction or start once the restriction had ended.

Two locations on Kentish Town Road were selected to record the kerbside and other road user activity and gauge the variation that might exist. The Tuesday and Wednesday samples were collected from a position located at the north end of the road, close to the station. The Thursday sample was collected from a position further south on the road, in the vicinity of the Iceland and Co-operative supermarkets.

Across all three days there were a total of 3961 road users counted across all 9 samples, comprising:

- 6.30am there were 751 vehicles, cyclists and pedestrians passing the identified marker; an average of 250 road users per sample.
- 10.30am there were 1387 vehicles, cyclists and pedestrians passing the identified marker; an average of 462 per sample.

 3.30pm there were 1823 vehicles, cyclists and pedestrians passing the identified marker; an average of 608 per sample.

Thirty three per cent of all the vehicle, cyclists and pedestrians that passed during the nine 15 minute samples, did so while a delivery vehicle was stopped. During this time there was, in total, 46 road users who were affected by the presence of stopped delivery vehicles or the activity of drivers working across the pavement. The interaction typically took the form of a person on foot or cycling having to deviate from their line of travel or wait before passing the vehicle or driver.

On average, 33 per cent of road users pass a stopped delivery vehicle and 4 per cent of these experienced a specific interaction. Examples of interactions include:

- Pedestrian and delivery man Pedestrian walked into delivery man rounding corner of van loaded with goods;
- Traffic and bus Traffic delayed waiting for stopped bus as lorry parked opposite;
- Bus, car, cyclists, pedestrian Cyclist veered out around bus, car across to other lane to overtake cyclists, pedestrian stopped mid-road to wait for them both to pass;
- Pedestrian and delivery man Needed to walk around trolleys being pushed.

Comparisons between interview survey and camera analysis

Generally the responses from businesses and the visual evidence from the camera survey suggests that respondents were relatively similar in terms of perception of arrival time and length of delivery by commercial delivery vehicles.

The main disparity concerned deliveries by car and method of handling goods. For deliveries by car, seven businesses stated that they received delivery by this method, but only five instances were detected from the camera footage. However, deliveries of this type are difficult to determine on the camera survey.

For handling, businesses stated that their deliveries were predominately made by hand (13 businesses) or by roller cage/trolley (13 businesses). However, the camera survey showed that a higher percentage of deliveries were made by hand (69%), and only 20 per cent by trolley/roll cage.

Over half of cyclists (57%) and a higher proportion of pedestrians (63%) surveyed said that they visited Kentish Town Road mostly between 9am to 12.30pm and 12.30pm to 4pm. The camera survey showed that 46% of the cyclists recorded were on the road during these times.

Sixty one per cent of cyclists and 62 per cent of pedestrians said that they either went around stopped delivery vehicles or were unaffected by them. The camera surveyed agreed with these statements showing 87% of cyclists continued moving and went around the stopped vehicle. The snapshot camera surveyed identified several interactions where pedestrians had to stop to avoid roll cages being handled by drivers or shop staff.

Planning of street space

The northern end of the study area is a particularly complex piece of street space, with the presence of a railway station, bus stop, Pay and Display parking bay, fruit and vegetable stall and a busy supermarket, which are all close to a traffic signalled junction. In addition there is a high level of street furniture and assets. Combined, this mix of land and street uses generates a high level of activity from a broad range of street users.

However, the difficulty for the area and a factor that is possibly contributing to the interactions that are occurring is the overall design and layout of the road space and fixtures and fittings in place. The proximity of a bus stop, Pay and Display parking bay, the number of pavement fixtures and fittings and the loading requirement of the supermarket are probably in conflict and would benefit from a review. The lessons learned could then be applied to similar high street roads.

Conclusions and recommendations

Conclusions

Overall the study has shown that while a substantial level of kerbside freight activity takes place on the Kentish Town Road, dangerous interactions with other street users are relatively few. This may be because people living and working in a high density urban environment factor this into their behaviour and therefore discount the possible risks associated with some the actions they take when faced with interactions from kerbside freight activity. As a result interactions are generally ignored by individuals, which might indicate why so few dangerous interactions occur.

Recommendations

It is important to maintain a free flow of traffic and minimise the interaction conflicts. Therefore, in locations where significant opportunity for conflict exists between road users, there should be a full review of road space use and regulation, the positioning of signage and the siting of pavement based street furniture. The review should aim to optimise road space use and reduce street clutter to ensure all road users are at minimal risk of conflict.

As a minimum, high streets of this type should be better planned so that freight and public transport stopping facilities are not located opposite one another. Where there is little prospect to change the prevailing street conditions, planning officers should engage with retailers to explore the opportunities for deliveries to take place outside of normal working hours (e.g. out of hours) thus removing the potential conflict.

Invariably roads such as Kentish Town Road have side roads joining them at regular intervals. It is thought that more consideration should be given to making better use of side roads for deliveries that arrive in smaller vehicles, where suitable routes permits re-entry onto the high street. With loading bays located close to the junction, this would permit drivers to make deliveries in the proximity of the junctions, while potentially reducing high street stopping.

Examine how local consolidated deliveries might be introduced for relatively small drops, for example water, stationery, etc.

An enormous amount of information was captured by the use of a camera survey. This study has only performed a relatively high level analysis and there is an opportunity to obtain a more in depth insight to the workings of a high street environment. Therefore, it is thought that the extracted data and camera footage should be further analysed so a better understanding of the types of deliveries being made is obtained.

The camera survey has shown one side of the picture, but it is thought that engaging with the delivery and servicing companies and drivers that visit the street would be a valuable exercise to gain their views of what and does not work on a street of this type.

1 Introduction

1.1.1 Peter Brett Associates LLP (PBA) was commissioned by the Central London Freight Quality Partnership (CLFQP) to complete a study entitled the *Kerbside Conflicts Project*. The aim of the study was to examine the interactions that occur when kerbside freight deliveries and collections take place on London streets. The work was carried out over March and April 2014. A copy of the project brief is provided in **Appendix A**.

1.2 Background

- 1.2.1 In July 2013, Transport for London (TfL) published the Roads Task Force's (RTF) report '*The vision and direction for London's streets and roads'*, which sets out future plans and ideas to improve the way London's Road network is designed, managed and developed. The vision proposes the reallocation of road space to encourage and safely accommodate the growing number of cyclists and pedestrians, and increase the capacity and quality of public transport. However, such a strategy also has the potential to significantly impact on the way goods are delivered and servicing activities are completed, including loading/unloading.
- 1.2.2 Following the RTF report, The Freight Forum ⁽¹⁾, published a report in September 2013 entitled, '*Delivering a road freight legacy: Working together for safer, greener and more efficient deliveries in London*' which considers freight in detail and in the context of the RTF. The report sets out a range of actions that should be taken in order to integrate freight and servicing activity into future design and planning to London's road network.
- 1.2.3 A stated action which drives the need for this project is Kerbside Access, which seeks to *"look at new approaches to better balance the requirements of different road users, while ensuring efficient freight transport."* Listed as part of the Kerbside Access programme is the need to pilot a freight survey for a typical London high street.
- 1.2.4 The CLFQP was in a position to commission a study that would support understanding Kerbside Access, which resulted in the work documented in this report.

1.3 Scope of the study

- 1.3.1 The aim of the study was to complete a detailed observational survey that focused on assessing the interactions between freight vehicles stopped to make kerbside deliveries and collections with all modes of transport sharing a "London Road". As the London Borough of Camden is a partner in the CLFQP, it was agreed that the survey would take place on *Kentish Town Road*. The survey was to firstly observe, and secondly analyse, all the activity taking place on the road and understand how the space is perceived, utilised and regulated.
- 1.3.2 The purpose of the survey was to identify the behaviours and perceptions impacting the movement of freight vehicles, with a focus on:
 - Kerbside access and compliance
 - Range of freight activity taking place
 - Interaction between freight vehicles and other 'street' users and vice versa
- 1.3.3 To provide a context in which the kerbside activity takes place, information on the parking regulations and in situ street furniture and other physical features was to be taken into account.

¹ The Freight Forum was established to improve communication with the industry and help coordinate planning and preparations for the London 2012 Olympic and Paralympic Games

1.4 Use of terms

- 1.4.1 Within the report certain terms are used to describe a specific activity or event. To remove any ambiguity the following clarifies the meaning of these terms in the context of this study:
 - Parked: Vehicle is brought to a halt at the kerbside and either left unoccupied or remains occupied and stationary for a period of time, but no loading or unloading is carried involving the vehicle.
 - **Stopped:** Vehicle is brought to a halt at the kerbside where it remains stationary for a period of time, while loading or unloading is carried involving the vehicle.
 - Interaction: The impact stopped vehicles have with other road users.
 - Incident: An occurrence of an action that potentially places a road user in varying degrees of harm.

1.5 Structure of report

- 1.5.1 The remainder of this report is structured as follows:
 - Section 2 provides details of the study approach
 - Section 3 provides an overview of the Kentish Town Road survey area
 - Section 4 reports the survey analysis
 - Section 5 discusses aspects of road user behaviour
 - Section 6 provides a summary, conclusions and recommendation of the study

2 Study Approach

2.1 Proposal development

- 2.1.1 The initial proposal for the study, which was in line with the brief, was to undertake a study in two parts:
 - i. Complete a pilot survey which included:
 - a. an observation survey of Kentish Town Road using digital video cameras over 4 consecutive days, with analysis covering 1 day;
 - b. carrying out a perceptions survey of businesses in the survey area;
 - c. carrying out on-street interview surveys with pedestrians and cyclist, where possible delivery/service drivers who are stopped in the survey area, and car drivers if they are parking;
 - d. The survey area was to extend on a 100m section of Kentish Town Road between Patshul Road and Prince of Wales Road; and
 - e. Review the survey methodology and refine/amend if necessary for the full survey.
 - ii. Complete a full survey which included:
 - a. an observation survey of Kentish Town Road using digital video cameras over 7 consecutive days;
 - carrying out on-street interview surveys with pedestrians and cyclist, where possible delivery/service drivers who are parked in the survey area, and car drivers if they are parking.
 - c. The survey area was to extend on a 500m section of Kentish Town Road between Leighton Road and Church Avenue
- 2.1.2 The general approach offered was accepted by the CLFQP working group, but revisions to the proposal were requested due to a modification of study scope. Consequently, the proposal was revised to meet this altered scope:
 - i. Complete Phase 1 surveys which included:
 - a. an observation survey of Kentish Town Road using digital video cameras over 7 consecutive days, with analysis covering 1 day of activity;
 - b. carrying out a perceptions survey of businesses in the survey area;
 - c. carrying out on-street interview surveys with pedestrians and cyclist, where possible delivery/service drivers who are stopped in the survey area, and car drivers if they are parking; and
 - d. The survey area was altered to an approximate 200m section of Kentish Town Road Station between Caversham Road and also to include the side roads, Frideswide Place and Wolsey Mews.
 - ii. Complete Phase 2 work which included:
 - a. Carrying out analysis of three further days camera footage, and
 - b. Undertaking two focus group sessions with pedestrians, cyclists and commercial drivers.
 - iii. The steering group also requested additional information regarding the camera footage analysis methodology rather than waiting to discuss this at the Inception Meeting.
- 2.1.3 The steering group at this stage amended the scope to include a total four days of analysis, which was taken into account for the agreed proposal.

2.2 Agreed study approach

- 2.2.1 The agreed approach for the study was finalised at the Inception Meeting and comprised:
 - i. carrying out a perceptions survey of businesses in the survey area; and
 - ii. an observation survey of Kentish Town Road using digital video cameras over seven consecutive days, with analysis covering four days of activity;
 - iii. carrying out on-street interview survey with pedestrians and cyclist;
 - iv. a survey area that was altered to an approximate 200m section of Kentish Town Road Station between Caversham Road and included the side roads, Frideswide Place and Wolsey Mews;
 - v. analysis background information comprising traffic flow data and street assets in order to provide a context of the general traffic activity on Kentish Town Road and to appreciate where physical obstructions existed that could impact upon kerbside freight activity.
- 2.2.2 The analysis framework for the video footage was agreed (discussed in Section 4)

Survey area

- 2.2.3 During the proposal development discussions with the project steering group, it was requested that the survey area be amended such that it focused on the more active section of Kentish Town Road. It was agreed that the section Leighton Road and Caversham Road, was generally busier and consequently selected for the study. A map showing the survey area is provided in **Appendix B**.
- 2.2.4 All interview surveys were to take place only on Kentish Town Road, while the camera survey included the side road marked on the map.

Survey of businesses

2.2.5 On the section of Kentish Town Road included in the survey, there are 51 business premises, most of which have residential properties above them. In addition, there are two fruit and vegetable stalls, one outside Kentish Town Station and the other at the top of Islip Street. These businesses were to be surveyed by an interviewer using a common questionnaire, but residential properties were not included. A copy of the questionnaire is provided in **Appendix C**.

Pedestrian and cyclist surveys

- 2.2.6 It was agreed to complete an on-street survey within the survey area that included 100 pedestrians and 35 cyclists. The aim of the survey was to obtain an indication of these groups' perceptions of conflicts that could occur from kerbside freight activity.
- 2.2.7 The sample of the pedestrian surveys was to reflect the general age distribution in LB Camden, while the cyclist sample was to be based on a general gender split between male and female cyclist in London. Each group was interviewed using their own specific questionnaire, copies of which are provided in **Appendix D**.

Camera survey

2.2.8 It was agreed that the camera survey would use a total of 32 digital cameras that were to be high mounted on poles strapped to existing lamp columns. The high density of the coverage was to ensure that all activity was recorded from two or more angles in order to capture any the conflicts that could occur. The survey was carried out by Transport Survey Partners on behalf of PBA. A diagram showing the locations of the camera is available in **Appendix E.**

Background information

2.2.9 The aim of having this information was to provide a context of the general traffic activity on Kentish Town Road and to appreciate where physical obstructions existed that could impact upon kerbside freight activity. It was agreed that LB Camden would provide information comprising traffic count data recorded during 2013 and street asset data. It was not known how the traffic count data or street asset information would be presented until the files were provided to the study team, but it was the aim to analyse the traffic information in MS Excel and map the assets either through GIS (geographic information system) or onto an Ordnance Survey base map in a CAD (computer aided design) system. The map is available in **Appendix F.**

Analysis of the data

- 2.2.10 The approach to analysing the information from the surveys has been completed in a number ways, although for each of the survey streams, analysis has involved counting and grouping data using spreadsheets.
- 2.2.11 For the interview surveys the responses have been coded and grouped such that tables and charts are used to interpret and display the results.
- 2.2.12 In the case of the video recordings information two approaches have been used:
 - The first method involves collecting information on activity for a whole day based on four separate days. From observations of the activity, a record was made using series of categories such as time, type of vehicle, type of activity and the reaction of other road users to the obstruction a stopped delivery or collection vehicle has on them.
 - The second method involves completing a detailed analysis of 15 minutes of activity which focus on different sections of the road. Three 15 minute periods per day from three separate consecutive days are used. The 15 minute periods are set at 06.30, 10.30 and 15.30. As part of this analysis a high level of detail is captured such as the number of vehicles stopping, pedestrians and cyclists passing, the interactions between road users and stopped delivery or collection vehicles.

Analysing road user interactions

2.2.13 For the video analysis, interactions have been categorised and counts made of the number occurring between vehicles stopped to collect/deliver goods and other road users. The proposed categories for this part of the analysis are shown in the tables below. Table 2-1 indicates which interactions are recorded between the classes of delivery/service vehicle on the left and the other road user along the top.

Analysis interaction between	Pedes- trians	Cyc- lists	Motorcycles/sc ooters	Buses	Taxis	Cars	HGV >3.5T	Light commercial
Light commercial vehs<7.5T	√	~	~	~	~	~	~	~
Delivery veh >7.5T<26T (OGV1)	✓	~	~	~	✓	~	~	~
Delivery veh >26T (OGV2)	✓	~	~	~	✓	~	~	~
OGV = Other Good Vehicles								

Table 2-1: Interactions between delivery/collection vehicles and other road users

Table 2-2 indicates the type of interactions between the road user and the delivery/collection vehicle which have been recorded.

Phase 1 Analysis Type of Interaction	Single vehicle	Multiple vehicles	Other factors [†]			
Passing	\checkmark	\checkmark	\checkmark			
Delayed passing	\checkmark	\checkmark	\checkmark			
Deviation	\checkmark	\checkmark	\checkmark			
Delayed deviation	\checkmark	\checkmark	\checkmark			
Explanation of classifications						
Passing = passing a relevant vehicle that is one of others stopped at the kerbside						
Delayed passing = passing a relevant vehicle that is one of others stopped at the kerbside, but includes having to stop in the passing traffic						
Deviation = having to change straight line course to pass relevant kerbside vehicle						
Delayed deviation = having to change straight line course to pass relevant kerbside vehicle, but includes having to stop before proceeding						
Note: [†] Indirect interactions such as a bus stopping/leaving a stop which compounds the kerbside event, or pedestrian crossing from opposite side of road in the vicinity of kerbside event.						

2.2.14 The information for all the analysis is recorded in spreadsheets so that tables and charts can be produced to show the results.

3 Kentish Town Road

3.1.1 The kerbside conflict survey is based on a section of Kentish Town Road extending between Kentish Town Station and Caversham Road and includes the side roads, Frideswide Place and Wolsey Mews. This section is approximately 215m in length.

3.2 Street space

Overview

- 3.2.1 As the main focus of the surveys, Kentish Town Road can be described as a typical urban linear 'high road', lined by a range of businesses, above which there is a mix of residential and studio/office premises.
- 3.2.2 The road itself comprises two single lanes running north/south that are on average about 4m wide. There are pavements on either side which are approximately 3.5m in width. At and approaching its junction with Leighton Road, the carriageway is wider to accommodate two lanes running into and out of the junction.
- 3.2.3 The kerbside markings on carriageway includes *No Parking or No Loading Mon Fri, 07:00-*10:00 & 16:00-19:00 Pay and Display 10:00-16:00 along most of the road and *No Parking or Loading at Any Time* on the west and east lanes in the proximity of the Leighton Road junction. There is a large Pay and Display box opposite and Bus Stop adjacent Kentish Town Road Station. Other features such as Pelican Crossings and pedestrian refuges are present within this section of road.
- 3.2.4 On the pavements there is a mixture of street furniture including bollards, bus shelters, cycle stands, lighting, newspaper stands, a salt bin, seating, signposts, a speed camera, a statue, telephone boxes and waste bins. The numbers of larger items of street furniture, excluding lamp columns and sign posts, are shown in Table 3-1. These are ordered in size impact on street

	Item	Number
Larger	Stall trader pitch	1
Û	Bus shelter	2
Û	Recycling bin	7
Û	Telephone box	3
Û	Cycle stands	6
Û	Waste Bin	9
Smaller	Newspaper stand	4

Table 3-1: Larger items of street furniture in Kentish Town Road survey area

- 3.2.5 Other items that were present on the pavement include tables of a café, flower planters and goods displayed by shops.
- 3.2.6 Outside Kentish Road Station there is a fruit and vegetable stall that occupies a length of the pavement approximately 7m long by 1m wide.

Side roads

3.2.7 Within the survey area there are three side roads and a mews. On the east side Islip Street only permits one-way from Kentish Town Road, while Caversham Road is one-way access on Kentish Town Road. On the west side, Holmes Road is unrestricted and York Mews is a single lane access.

- 3.2.8 Both Islip Street and Caversham Road have narrowed carriageways at their junctions with Kentish Town Road. Close to the junction on the south side of Islip Street there is a fruit and vegetable stall, which occupies an area about 7m long by 1m wide.
- 3.2.9 Wolsey Mews is a single lane, one-way street (north to south) that links Islip Street and Caversham Road and runs parallel to Kentish Town Road. It provides access to some of the premises facing onto Kentish Town Road, as well as service businesses that face onto the mews itself.
- 3.2.10 Frideswide Place lies behind Kentish Town Station and is a cul-de-sac. It provides access to businesses facing onto Kentish Town Road and the railway station and tracks.

3.3 Premises

- 3.3.1 The road is lined by a variety of businesses ranging from small cafés to medium sized supermarkets, the numbers of which are provided in Section 4.2. In addition to these premises, there is Kentish Town railway and underground station and a library. Above the businesses there is some residential property and the occasional studio/office premises. Information from LB Camden indicates that there are 22 residential units above the businesses' premises.
- 3.3.2 The largest block of residential properties appears to be above the Library on the east side of Kentish Town Road (KTR). The entrance is on KTR next to that for the library.

3.4 Waste collections

Household waste

3.4.1 Household waste collections currently take place on Thursdays and comprise one for general refuse and another for recycling. Both the general and recycling waste are collected in plastic bags which are placed on the kerbside by residents. There are no set locations for the refuse and therefore on the collection day bags are placed, generally, opposite the residents' door, although some could be placed at points where the rubbish is collected. Household waste collections are made by LB Camden.

Businesses waste

3.4.2 Waste from businesses is organised on a commercial contract basis, meaning waste is collected at different frequencies, times and companies from the kerbside. The method of readying the waste for collection differs between premises. It was observed that some waste is placed at the kerbside in either in bags or bundles in the case of card/packaging, while other businesses would bring out waste bins when the collection vehicle arrived.

Street bin collections

3.4.3 Within the survey area on Kentish Town Road there are nine waste bins, five on the west side and four on the east. These are emptied by the street cleaners who use wheeled collection carts.

3.5 Traffic count data

- 3.5.1 The traffic count data was collected by LB Camden in March 2013 as part of their *Monitoring of Borough-Wide 20mph Speed Limit Project.* The data was recorded using automatic traffic count (ATC) equipment, which can identify the type of vehicle passing and the speed at which it is travelling. The original survey was completed for a week from the 24th March 2013.
- 3.5.2 The count data is segregated into Monday to Friday and the weekend. From this data four tables have been produced that indicate the number and types of vehicles using Kentish Town Road by time bands covering 24 hours. Since the focus of the original survey was speed, it

does not record data regarding the number of cyclist that might be using the road. In Table 3-2 to Table 3-5, the recorded data are summarised.

					Bus - Lorry			Articulated			
Week day	TOTAL	Motor- cycle	Light vehicle	LV towing	2 axle	3 axle	4 axle	3 axle	4 axle	5 axle	6 axle
Early/late hours	1,879	101	1,583	10	111	51	11	3	2	2	5
AM peak: 7.00-9.45	1,431	69	1,245	10	67	18	12	2	3	1	4
Inter-peak: 10.00-15.45	3,053	156	2,587	23	195	40	26	8	8	5	7
PM peak: 16.00-18.45	1,791	203	1,438	20	54	24	27	5	6	4	9
Evening: 19.00-22.00	1,622	160	1,342	16	43	26	19	4	4	2	6
TOTAL	9,776	689	8,196	79	470	159	95	21	23	13	31
Percentage		7%	84%	1%	5%	2%	1%	0.2%	0.2%	0.1%	0.3%

Table 3-2: Kentish Road traffic count - Week day northbound average (March 2013)

Table 3-3: Kentish Road traffic count - Week day southbound average (March 2013)

O south harmond as some set					Bus - Lorry			Articulated			
Southbound average: Week day	TOTAL	Motor- cycle	Light vehicle	LV towing	2 axle	3 axle	4 axle	3 axle	4 axle	5 axle	6 axle
Early/late hours	1,896	49	1,592	10	166	61	6	2	2	3	6
AM peak: 7.00-9.45	2,301	107	1,858	23	202	60	21	7	5	5	14
Inter-peak: 10.00-15.45	3,886	133	3,245	29	320	96	26	10	5	8	15
PM peak: 16.00-18.45	1,859	49	1,665	14	79	35	5	2	1	2	6
Evening: 19.00-22.00	1,525	45	1,378	14	48	26	6	1	1	1	4
TOTAL	11,467	383	9,738	90	815	279	64	22	15	18	44
Percentage		3%	85%	1%	7%	2%	1%	0.2%	0.1%	0.2%	0.4%

Table 3-4: Kentish Road traffic count - Weekend Northbound average (March 2013)

N - oth har so all as so and as					E	Bus - Lorr	У	Articulated			
Weekend day	TOTAL	Motor- cycle	Light vehicle	LV towing	2 axle	3 axle	4 axle	3 axle	4 axle	5 axle	6 axle
Early/late hours	1,890	69	1,664	12	90	36	9	2	2	1	5
AM peak: 7.00-9.45	656	32	545	3	53	13	6	2	1	1	1
Inter-peak: 10.00-15.45	1,950	97	1,731	14	75	10	11	5	3	2	3
PM peak: 16.00-18.45	893	47	794	6	30	6	5	2	1	1	3
Evening: 19.00-22.00	797	40	706	6	32	5	5	1	1	1	2
TOTAL	6,185	285	5,440	40	280	70	36	11	8	5	13
Percentage		5%	88%	1%	5%	1%	1%	0.2%	0.1%	0.1%	0.2%

Table 3-5: Kentish Road traffic count - Weekend southbound average (March 2013)

					Bus - Lorry			Articulated			
Weekend day	TOTAL	Motor- cycle	Light vehicle	LV towing	2 axle	3 axle	4 axle	3 axle	4 axle	5 axle	6 axle
Early/late hours	1,794	29	1,588	10	118	40	3	1	0	2	4
AM peak: 7.00-9.45	1,016	29	855	7	83	29	8	2	0	1	3
Inter-peak: 10.00-15.45	2,644	82	2,357	24	121	33	14	4	5	3	4
PM peak: 16.00-18.45	918	26	844	3	32	7	1	1	2	1	2
Evening: 19.00-22.00	823	24	760	3	30	2	1	1	0	1	1
TOTAL	7,195	190	6,403	47	384	110	27	8	7	7	14
Percentage		3%	89%	1%	5%	2%	0.4%	0.1%	0.1%	0.1%	0.2%

3.5.3 From this data it is found that during the weekdays, commercial vehicles (including buses) represent 10 per cent of all motorised traffic, while at the weekend this drops to 7 per cent. Table 3-6 shows the percentage split between 'Other motorised vehicles and cycles' and 'Commercial vehicles including buses'. Unfortunately, the bus count data cannot be separated out of the commercial vehicle numbers.

Table 3-6: Kentish Road traffic count - Percentage split between

Northbound: Average week day	Vehicle numbers	Percentage
Other motorised vehicles and cycles	8,964	92%
Commercial vehicles including buses	812	8%
Southbound: Average week day		
Other motorised vehicles and cycles	10,210	89%
Commercial vehicles including buses	1,256	11%
Northbound: Average weekend day		
Other motorised vehicles and cycles	5,764	93%
Commercial vehicles including buses	421	7%
Southbound: Average weekend day		
Other motorised vehicles and cycles	6,639	92%
Commercial vehicles including buses	556	8%

- 3.5.4 It is evident from this data that commercial vehicles and buses represent the minority of the traffic using Kentish Town Road, and interestingly the proportion of these vehicles does not radically change between the week days and weekend.
- 3.5.5 At the weekend, the level of 'Other motorised vehicles and cycles' decreases by 35 per cent, while 'Commercial vehicles including buses' drops by 53 per cent.
- 3.5.6 Other screen line traffic data recorded at a point south of Caversham Road in 2011 does provides a breakdown of vehicle types on Kentish Town Road.

	With B	icycles	Without	Bicycles
Mode	Total Count	Total %	Total Count	Total %
Bicycle	2,774	17.6		
Motorcycle	1,165	7.4	1,165	9.0
Car	7,269	46.2	7,269	56.0
Тахі	429	2.7	429	3.3
Lgv	2,723	17.3	2,723	21.0
OGV1	511	3.2	511	3.9
OGV2	35	0.2	35	0.3
Bus/coach	837	5.3	837	6.5
Total	15,744	100.0	15,744	100.0

- 3.5.7 This data indicates that commercial vehicles (OGV1 and OGV2) and buses represent about 9 per cent of traffic if bicycles are include and about 11 per cent when bicycles are not included, which in both cases is not dissimilar to the ATC data.
- 3.5.8 Therefore, if the proportions of screen line traffic are applied to the ATC data, it is found that on a week day about 4 per cent of traffic comprises OGV1 and OGV2 (3.9% and 0.4% respectively) and 21 per cent can be attributed to light goods vehicles (LGVs).

3.6 Parking and loading regulations

3.6.1 The section of road covered by the survey has a mix of parking and loading regulations in place. These comprise double yellow line and Pay and Display bays and are shown on the plan in **Appendix F**.

Double Yellow lines

3.6.2 Double Yellow (DY) lines are on both sides of the road and two regulations are used - lines without kerb marks and with kerb marks.

- DY lines without kerb marks this signifies that vehicles cannot park on the carriage way at any time, but loading is permitted up to a maximum of 40 minutes.
- DY lines with kerb marks: one 'blip' this signifies that vehicles cannot park on the carriage way at any time, but loading is permitted up to a maximum of 40 minutes during set periods. On Kentish Town Road no loading is permitted between 0700 and 1000, and 1600 and 1900 Monday to Friday.



 DY lines with kerb marks: two 'blips'- this signifies that vehicles cannot park or load on the carriage way at any time.



Pay and Display bays

- 3.6.3 There is only one Pay and Display bay within the survey area and this is opposite Kentish Town Station.
- 3.6.4 The charge to use the bay is active between 1000 and 1600 Monday to Friday. Loading can take place using the bay, but not between 0700 and 1000, and 1600 and 1900 Monday to Friday and then it is restricted to a maximum of 20 minutes.

4 Analysis

4.1 Introduction

4.1.1 This section of the report summaries the results of surveys as outlined in Section 2. The presentation of results is divided into two categories, those collected using interviews and those extracted from video footage; the interview surveys cover those with businesses and those with pedestrian and cyclists.

4.2 Business, Pedestrian and Cyclists Surveys

Business Surveys

- 4.2.1 Fifty one businesses were surveyed on Kentish Town Road on 9th April 2014, of which 31 provided answers to the questions, a response rate of around 61%. The interviews were completed as a face-to-face interview.
- 4.2.2 The survey reveals that on this section of road there are four different types of building use, as summarised in Figure 4-1.



Figure 4-1: Types of building use of businesses surveyed

- 4.2.3 The businesses were asked questions regarding the frequency, time and type of goods delivered and service visits.
- 4.2.4 There were two main frequencies of ordering goods as shown in Figure 4-2; eleven businesses ordered goods 6-7 times a week, these being a mix of supermarkets, newsagents, cafes and shops with mainly food goods ordered. Ten businesses only ordered goods 1-4 times a month and these included restaurants, pubs and estate agents. These businesses mostly ordered food, with the most infrequent order being stationary items to the estate agents.

Figure 4-2: Frequency of ordering goods



4.2.5 The majority of premises (22 businesses) have deliveries 3 to 7 times a week, as shown in Figure 4-3. There is minimal variation in the frequency of deliveries during busy and quiet times of year, with the exception of one florist with a range of 100 times a week during valentines to 20 times a week at quieter times.



- 4.2.6 Only 6 businesses had variation on frequency of deliveries during the week, with Monday to Thursday being named as the busiest day and Tuesday and the least busy. Sixteen businesses also had deliveries on weekends, 15 on Saturdays and 10 on Sundays.
- 4.2.7 The majority of goods delivered across those surveyed were food and drink, with 21 businesses having food and drink delivered and 18 businesses having chilled/frozen food and drink delivered. The full range of good types is shown in Figure 4-4.



4.2.8 The transfer of goods from the delivery vehicle to the shop was generally made by cage/trolley (13 businesses) or by hand (13 businesses). Only 3 businesses used pallets and 2 were unknown as shown in Figure 4-5.



Figure 4-5: Transfer method of goods from delivery vehicle to business

- 4.2.9 Seven businesses have deliveries by car. The reasons given for delivering by car include:
 - Extra goods bought elsewhere
 - If short of stock
 - Small firm so some things are cheaper to buy from wholesalers
 - In an emergency
- 4.2.10 Half of the respondents (19 businesses) were familiar with the loading restrictions. They indicated that the restrictions affected them in the following ways:
 - Nine businesses struggle to find space for the delivery vehicles to stop, which restricts when deliveries can take place, restricts which supplier they can use, causes parking fines

that are charged back to business, causes a staff member to help organise the delivery parking.

- Three businesses stated that they should be more loading bays available, the pub found the lack of dedicated loading bays nearby particularly difficult.
- Two businesses feel the restrictions result in loss of business, caused by stock running out and by vehicles obscuring the front of the shop, reducing visibility.
- 4.2.11 Figure 4-6 shows the duration of the deliveries. The duration for the majority of deliveries was from zero to 15 minutes, which is within the loading restrictions on most of the road. There are some areas that have loading bays to allow longer delivery. The businesses that have deliveries of over 30 minutes tend to be supermarkets, pubs and newsagents and have deliveries of food and drink. Those with deliveries of 5 minutes or less tend to be the smaller shops and services like estate agents, where deliveries comprise a variety of non-food goods.





- 4.2.12 The times at which deliveries arrive at premises ranges across the day, as shown in Figure 4-7. Only three businesses stated a time that they would prefer the deliveries to take place; two preferring a time before midday and one preferring any time through the day, rather than before opening.
- 4.2.13 Seven businesses have certain times when they will not accept deliveries. These times include;
 - Lunch times (1 business)
 - Delivery restriction times (2 businesses)
 - Not daytime (4 businesses)

Figure 4-7: Time of deliveries



- 4.2.14 The times of deliveries and collections are arranged by the delivery company or supplier for 19 of the businesses and by the shop for the remaining 12. Only 13 businesses are able to influence the delivery times. Goods are usually delivered through the main entrance for the majority of businesses, with 4 using a rear entrance and one a side entrance.
- 4.2.15 Servicing visits take place for cash registers, computer equipment and security/fire alarms most often. The visits vary in frequency from bi-yearly for some computer equipment servicing to weekly for coffee machine servicing. The most common time taken is 2-3 hours, with some servicing visits lasting a full day for fridge/freezer checks some, or just 1 hour for coffee machine checks.

Pedestrian and Cyclist Surveys

- 4.2.16 Thirty eight cyclists and 159 pedestrians were surveyed on 11th and 14th of April 2014. The questions included details about the reason for their journey and their interactions with servicing and delivery vehicles. The number of surveys completed was more than the target of 35 cyclists and 100 pedestrians.
- 4.2.17 The main reason for both cyclists and pedestrians to be on Kentish Town Road when surveyed was 'passing through' (53%, 45% respectively). Of the remainder, 25% of pedestrians were visiting the road compared to 29% of cyclists. A summary of the reasons for visiting Kentish Town Road is shown in Figure 4-8.



Figure 4-8: Reasons for cyclists and pedestrians to be on Kentish Town Road

4.2.18 Just over a third (34%) of cyclists surveyed visited or went through the road 1-2 days a week, with 26% visiting both 5 and 6-7 days. Almost half (47%) of pedestrians visited the road 6-7 days a week, with 21% visiting 1-2 days and 17% visiting five days a week. The different times are shown in Figure 4-9.



Figure 4-9: Frequency of visiting Kentish Town Road.

4.2.19 The most common time of day for both cyclists and pedestrians to visit the road was between 9am and 12.30pm with 32% and 39% respectively indicating they visit during this time. Another quarter of both groups (25% and 24%, respectively) visited between 12:30pm and 4pm as shown in Figure 4-10.



Figure 4-10: Times of day cyclists and pedestrians visit Kentish Town Road

4.2.20 Thirty nine per cent of both cyclists and pedestrians encountered delivery vehicles on the day they were surveyed, and 97% had encountered them previously. The usual action taken by cyclists (61%) was to keep moving and if needed go around the vehicle; 26% of pedestrians used this method, and another 36% said no action was necessary. The different actions taken when delivery vehicles are encountered is summarised in Figure 4-11.



Figure 4-11: Actions taken by pedestrians & cyclist when encountering a service or delivery vehicle

4.2.21 The cyclists and pedestrians were asked about their thoughts regarding vehicles making kerbside deliveries and collections. A large proportion of both cyclists and pedestrians thought that the delivery vehicles were 'just doing their job', although around 41 people did not have a view on this question. The thoughts on impact are summarised in Figure 4-12.



- 4.2.22 If the 'No Comment' responses are discounted from the results, and the results rebased, it is found that overall, 65% of cyclists and pedestrians did not have a complaint about goods vehicles being stopped at the kerbside, while 35% did make an adverse comment.
- 4.2.23 When asked about the most suitable time for deliveries to be made on Kentish Town Road, approximately 35 per cent think the best delivery time would be before 7am and after 9pm, however it is worth noting here that only 14% (27 people) of those surveyed live on the Kentish Town Road itself.
- 4.2.24 The demographic profiles of the respondents was, sixty per cent were male, and mainly between 20 and 50, as shown in Figure 4-13, while 80% state their ethnicity as White.



Figure 4-13: Age profiles of respondents

4.3 Full day video analysis

- 4.3.1 Recorded footage related to Friday 21st, Saturday 22nd, Monday 24th and Wednesday 26th was analysed across all areas of the road. Kentish Town Road and the surrounding roads were split into zones and boxes to detail the locations of service and delivery vehicle stopping.
- 4.3.2 Kentish Town Road was split into Zones 1 to 7 from north to south. The surrounding side streets were labelled as follows; Zone 8 was Frideswide Place, Zone 9 was Islip Street, Zone 10 was Holmes Road and Zone 11 Caversham Road. Figure 4-14 shows the detailed breakdown of the zones and boxes, on the north end of Kentish Town Road.



Figure 4-14: Box locations used in analysis on Kentish Town Road - North end

4.3.3 Each zone is broken down into boxes and each box coded with the type of road layout or regulation. A diagram showing the locations of the Zones is available in **Appendix G.**

71	
Road characteristic	Box code
Bus Stop	BS
Double Yellow Line	DY
Pay & Display	P&D
Pelican Crossing	Pel
Side passage access	Acc
Single Yellow Line	SY
Zebra Crossing Zig Zag	ZigZ

Table 4-1: Box codes to show type of road characteristic

- 4.3.4 Over the days analysed, a combined total of 827 service and delivery vehicles pulled up at the kerbside in Zones 1 to 10 in and around Kentish Town Road. The distribution of their stop locations is shown in Figure 4-15. The majority of vehicles stopped in Zones 1 and 2, and boxes 2/11 and 2/12 in particular. Boxes 2/11 and 2/12 are located outside Sainsbury's supermarket and just south of a Pay and Display box.
- 4.3.5 Box 4/7 and Box 4/8 are outside Iceland supermarket and together receive a high number of deliveries. It is also worth noting that Box 4/5 is outside the Co-operative supermarket.



Figure 4-15: Distribution of vehicle stops across boxes on Kentish Town Road

Figure 4-16 shows the different type of vehicles that stopped. Light Goods Vehicles (LGVs) represent the majority of vehicles stopped in Zone 2, while the classes of Other Goods

Vehicles (OGV1 and 2) comprise most of the remainder. Generally, the delivery method for goods was by hand.





4.3.6 The majority of vehicles stopped for less than 5 minutes, as shown in Figure 4-17. Vehicles stopping/parking in Zone 8 generally had the longest dwell times, as did those in box 9/4. The longest duration was 14 hours, which was a LGV in box 9/4. Vehicles in this box tended to park as well as deliver goods.



Figure 4-17: Duration for vehicle stops

- 4.3.7 Of the 827 vehicles recorded as drawing up at the kerbside during the 4 days, 401 stopped for delivery or collection, while 382 parked.
- 4.3.8 Looking at just the 401 vehicles delivering or collecting goods the largest single proportion stopped for less than 5 minutes. The full range of dwell times is shown in Figure 4-18.





- 4.3.9 Vehicles stopped at any time throughout 24 hours, with 565 drawing up at the kerbside from 7am to 7pm, of which 244 stopped for delivery/collections; and 261 from 7pm to 7am, of which 157 stopped for delivery/collections.
- 4.3.10 Looking at just the 401 vehicles delivering or collecting goods; the majority (105 vehicles) stopped between 10am and 1pm, and 75 vehicles from 4am to 7am. The full distribution of arrival times for vehicles delivering or collecting goods is shown in Figure 4-19.





- 4.3.11 Forty per cent of the stops from 7am to 3pm tended to be less than 5 minutes long, with 30% between 5 and 10 minutes duration.
- 4.3.12 Looking at just the vehicles that stayed for over 5 minutes, and excluding the Saturday data, there are 151 vehicles that pull up, with 102 vehicles that stop for service or delivery reasons, of which 53 are OGVs.
- 4.3.13 The most common arrival times of OGVs are 9pm and midnight when they stop on double yellow lines, and 1am, 10am and 11am, when using the Pay & Display bays. It is worth noting

that the loading restrictions on the double yellow lines prevent loading/unloading between 7am to 10am and 4pm to 7pm. The vehicles stopping on double yellow lines during the restricted times is shown in Figure 4-20, along with the numbers in the Pay & Display bays.



Figure 4-20: Arrival times of all vehicles stopping on double yellow lines and Pay & Display bays during the restricted times on Monday to Friday

- 4.3.14 During the evening restriction, seven vehicles pulled up on the double yellow lines, of which four stopped for deliveries, including one OGV. During the morning restriction, 21 vehicles pulled up, of which 12 stopped for deliveries, including seven OGVs.
- 4.3.15 Goods were mainly moved by hand, with 289 deliveries handled this way. Deliveries from LGV and OGV1 were much more likely to be carried by hand, while those from OGV2 were predominantly moved using roll cages.⁽²⁾ Figure 4-21 shows the different methods that drivers used when handling goods from the vehicle to the premises.



Figure 4-21: Handling methods for delivery vehicles

4.3.16 From Figure 4-21 it can be seen goods delivered by larger vehicles (OGV2), typically involve using heavier handling equipment such as roll cages or pallets.

² OGV1 = vehicles up to 26 tonnes gross vehicle weight; OGV2 = vehicles heavier than 26 tonnes gross vehicle weight
Kerbside interactions

- 4.3.17 The classification of interactions used in the context of the study is provided in sections 1.4 and 2. They are applied to the four day analysis of video recordings and the shorter 15 minute analysis cover nine periods over three days.
- 4.3.18 For the four days analysed, 3042 interactions were recorded. These included 1439 interactions with cyclists, 1437 with pedestrians, 141 affecting single vehicles and 99 affecting multiple vehicles.
- 4.3.19 On average, there were 4 interactions per vehicle that stopped. Zone 4 had the most interactions per vehicle stopped, with 13 interactions per vehicle and Zone 7 had the least with 1 per vehicle. Figure 4-22 shows the number of interactions in the different zones.



Figure 4-22: Distribution of interactions across all zones

4.3.20 Interactions were each given a "risk rating" from 1 to 4 with the following definitions:

- 1 Actual Bodily Harm (injury or altercation occurred) ,
- 2 Very Dangerous (could have caused serious injury).
- 3 Some Danger (could have caused injury but avoided)
- 4 No Danger (other road user inconvenienced but in no danger).
- 4.3.21 Seven of the interactions were categorised as "Very dangerous"; 4 of these interactions occurred with LGVs and 3 with OGVs. Three occurred in Zone 10, with two in Zone 4 and one in each of Zones 3 and 5. Five of the interactions were recorded between 8am and 12pm, the other 2 occurred between midnight and 1am. Snap shots of each very dangerous interaction are shown in Figure 4-23 below along with the details.



Figure 4-23: Snapshots of dangerous interactions



4.3.22 Five per cent (149) were categorised as some danger, these occurred in all zones, with the most (63) in Zone 4. Figure 4-24 shows the interactions categorised as "some danger" for the different zones and vehicle types.



Figure 4-24: Interactions categorised as "some danger" and the delivery vehicle involved

- 4.3.23 There were 1372 interactions that involved 1695 cyclists, which included some interactions involving multiple cyclists. The interactions with cyclists occurred mostly between 9am and 4pm, there were also a high number of interactions between 9pm and 11pm. The highest number of cyclists (470) cycled around the stopped vehicle without halting (S1). The different approaches that the cyclists took to avoid or pass a stopped vehicle or obstruction are shown in **Appendix H**.
- 4.3.24 A summary of the type of actions that cyclists take when they interact with a stopped/parked vehicle is shown in Figure 4-25.



Figure 4-25: Number of cyclists and their actions of cyclists across the day

4.4 Snap shot video analysis

- 4.4.1 Fifteen minute samples were taken from the videos for 6.30am, 10.30am and 3.30pm on Tuesday 24th, Wednesday 25th and Thursday 26th March. The times were selected as they were either on the run up to loading restriction coming into force or loading restrictions ending. It was thought that these times could generate higher levels of freight vehicle activity as drivers either aimed to complete their delivery before the restriction or start once the restriction had ended.
- 4.4.2 Two locations on Kentish Town Road were selected to record the kerbside and other road user activity and gauge the variation that might exist. The Tuesday and Wednesday samples were collected from a position located at the north end of the road, close to the station. The Thursday sample was collected from a position further south on the road, in the vicinity of the Iceland and Co-operative supermarkets. The yellow lines in Figure 4-26 show the locations of the sampling points.



Figure 4-26: Location of snapshot samples

4.4.3 The locations were selected as they represented points on Kentish Town Road that experienced higher levels of vehicles stopping, as depicted in Figure 4-15. The presence of supermarkets at both locations is the reason for higher levels of kerbside activity.

4.4.4 The green lines on the west pavement by the yellow count lines indicated the part of the footpath at which pedestrians were counted.

Overview

- 4.4.5 In total, across all three days at:
 - 6.30am there were 751 vehicles, cyclists and pedestrians passing the identified marker; an average of 250 road users per sample.
 - 10.30am there were 1387 vehicles, cyclists and pedestrians passing the identified marker; an average of 462 per sample.
 - 3.30pm there were 1823 vehicles, cyclists and pedestrians passing the identified marker; an average of 608 per sample.
- 4.4.6 Thirty three per cent of all the vehicle, cyclists and pedestrians that passed during the nine 15 minute samples, did so while a delivery vehicle was stopped. During this time there was, in total, 46 road users who were affected by the presence of stopped delivery vehicles or the activity of drivers working across the pavement. The interaction typically took the form of a person on foot or cycling having to deviate from their line of travel or wait before passing the vehicle or driver. Further details of these are presented under the analysis for the three days.
- 4.4.7 There was a total of 3961 road users counted across all 9 samples and the breakdown of road users is shown in Figure 4-27. Road users were grouped into Pedestrians, Cyclists, Buses, Motorbikes/Scooters and Vehicles, which included cars, taxis, vans, and lorries. The group most affected was vehicles, mainly due to the delay caused by the carriageway being partially obstructed by the stopped delivery vehicles.



Figure 4-27: Number of different types of road users across all 9 samples

4.4.8 On average, 33% of road users pass a stopped delivery vehicle and 4% of these experienced a specific interaction. The average numbers of the different road users is shown in Figure 4-28.





Tuesday

- 4.4.9 On Tuesday 25th March, 1248 road users were counted during the three 15 minute samples. The most road users at 597 were counted in the 3:30pm sample, 412 in the 10:30am sample and the least at 239 in the 6:30am sample. Across all three samples, 651 (52%) were counted while a service or delivery vehicle was parked.
- 4.4.10 There were 8 recorded interactions over the three samples; 1 during the 6:30am sample, 6 during the 10:30am sample and 1 during the 3.30pm sample. Of these, 22 were recorded as, *inconvenient causing delay to road users*.
- 4.4.11 Figure 4-29 shows the numbers of the different types of road users across the 3 samples on Wednesday.



Figure 4-29: Number of different types of road user on Tuesday 25th March

4.4.12 The start views are shown in Figure 4-30, with the road users counted and not-counted indicated.





4.4.13 Figure 4-31 shows the number of each road users that passed by or interacted with stopped service or delivery (S/D) vehicles, and the number of those that passed when no S/D vehicles were stopped.





4.4.14 The interactions recorded across the three samples are shown in Table 4-2, Table 4-3 and Table 4-4.

Table 4-2: Interactions recorded during 6:30am sample

Time occurred	Parties Involved	Notes
06:33:42	Pedestrian and Roller Trolley	Pedestrian walked around the delivery of goods

Table 4-3: Interactions recorded during 10:30am sample

Time occurred	Parties Involved	Notes
10:33:02	LGV and traffic	Traffic held up from north by LGV waiting to cross to west side of road
10:34:15	Pedestrian and delivery man	Almost walked into delivery man rounding corner of van loaded with goods
10:35:15	OGV and bus	OGV delayed waiting for stopped bus as lorry parked opposite
10:36:41	Pedestrian and delivery man	Almost walked into delivery man loaded with goods
10:38:47	Traffic and bus	Traffic delayed waiting for stopped bus as lorry parked opposite
10:43:04	Traffic and bus	Traffic delayed waiting for stopped bus as lorry parked opposite

Table 4-4: Interactions recorded during 10:30am sample

Time occurred	Parties Involved	Notes
15:35:25	Car and traffic	Car left pay & display bay and pulled across lane to go south

4.4.15 The vehicles that stopped during the three samples are shown in Table 4-5, Table 4-6and Table 4-7.

Time Parked	Duration	Vehicle Type	Purpose
from start	-	LGV	Delivery - pilled goods onto pavement - no inconvenience
06:31:31	00:06:16	OGV1	Delivery - roller trolley - Box 2/10
06:38:59	00:04:01	LGV	Delivery - no inconvenience - Box 2/11

Table 4-5: Details of stopped vehicles during 6:30am sample on Tuesday 25th

Table 4-6: Details of stopped vehicles during 10:30am sample on Tuesday 25th

Time Parked	Duration	Vehicle Type	Purpose
From start	-	LGV	Delivery - BOX 2/11
10:33:16	00:11:42	LGV	Delivering goods by hand - Box 2/9
10:43:49	-	LGV	Stopped in Box 1/18

Table 4-7: Details of stopped vehicles during 3:30pm sample on Tuesday 25th

Time Parked	Duration	Vehicle Type	Purpose
NONE			

Wednesday

- 4.4.16 During the three 15 minute samples for Wednesday 26th March, 1191 road users were counted. The highest numbers of road users were counted in the 3:30pm and 10:30am samples, with 489 and 462 counted respectively. The 6:30am sample had almost half the number of road users at 243. Across all three samples, 368 (31%) were counted while a service or delivery vehicle was stopped.
- 4.4.17 There were 19 recorded interactions over the three samples; 4 during the 6:30am sample, 11 during the 10:30am sample and 4 during the 3.30pm sample. Of these interactions, 12 were recorded as *inconvenient causing delay to road users*, and 1 was recorded as *slightly dangerous*.
- 4.4.18 Figure 4-32 shows the numbers of the different types of road users across the 3 samples on Wednesday.





4.4.19 The start views are shown in Figure 4-33, with the road users counted and not-counted indicated.

Figure 4-33: Count lines for including and not including road users in snap shot analysis





4.4.20 Figure 4-34 shows the number of each road user that passed by or interacted with stopped service or delivery (S/D) vehicles, and the number of those that passed when no S/D vehicles were stopped on Wednesday 26th.

Figure 4-34: Number of road users passing by when Service and Delivery Vehicle stopped or not present on Wednesday



4.4.21 The interactions recorded across the three samples on Wednesday 26th are shown in Table 4-8 to Table 4-10.

Time occurred	Parties Involved	Notes
06:32:23	Bus and pedestrian	Bus passenger walked out behind bus and waited in road for traffic to pass - not caused by bus
06:35:41	LGV	Pulled over from north lane to stop on west side of road - road clear at the time
06:36:58	Bus and LGV	Bus had to wait to let van cross back into N lane
06:40:53	Bus, car, cyclists, pedestrian	Cyclist veered out around bus, car across to other lane to overtake cyclists, pedestrian stopped mid road to wait for them both to pass.

Table 7-5. Interactions recorded during 10.50am sample on weathesday 20	Table 4-9: Interactions	recorded during	10:30am	sample on	Wednesday	y 26 th
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Time occurred	Parties Involved	Notes	
10:30:40	Van and cars	Van from north pulls up behind lorry - cars waiting	
10:31:18	Refuse Lorry and pedestrians	Pedestrian had to run around person moving the refuse bags	
10:31:53	Lorry, bus, cars	Cars waiting behind bus from north as bus from south goes passed the parked lorry	
10:33:34	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:34:53	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:36:08	Van and cars	Traffic delayed as white van leaves	
10:36:38	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:39:12	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:40:05	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:41:06	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	
10:41:54	Lorry, bus, cars	Traffic queued waiting for bus as lorry parked opposite	

Table 4-10: Interactions recorded during 3:30pm sample on Wednesday 26th

Time occurred	Parties Involved	Notes
NONE		

4.4.22 The vehicles that stopped during the three samples on Wednesday 26th are shown in Table 4-11 to Table 4-13.

Time Parked	Duration	Vehicle Type	Purpose
06:30:29	00:00:13	LGV	Picking up passenger
06:35:41	00:01:17	OGV1	Person got out of van and went into shop - no obvious goods
06:36:22	00:00:16	LGV	Parked further north of van- picked up passenger
06:41:56	00:03:04	LGV	Driver returns with 1 small bag of goods

Table 4-11: Details of stopped vehicles during 6:30am sample on Wednesday 26th

Table 4-12: Details of stopped vehicles during 10:30am sample on Wednesday 26th

Time Parked	Duration	Vehicle Type	Purpose
10:30:40	00:05:28	Van	Van from north pulls up behind lorry
from start	-	Refuse lorry	Collecting refuse bags
from start	-	OGV1	Sainsbury's delivery

Table 4-13: Details of stopped vehicles during 3:30pm sample on Wednesday 26th

Time Parked	Duration	Vehicle Type	Purpose
NONE			

Thursday

- 4.4.23 During the three 15 minute samples on Thursday 27th March, 1522 road users were counted. The highest number of road users (740) were counted in the 3:30pm sample, 513 in the 10:30am sample and the least at 269 in the 6:30am sample. Across all three samples, 269 (18%) were counted while a service or delivery vehicle was stopped.
- 4.4.24 There were 5 recorded interactions over the three samples; all during the 6:30am sample, as there were no delivery vehicles stopped during the 10:30am or 3:30pm samples. Of these interactions, all 5 were recorded as *inconvenient causing delay to road users*.
- 4.4.25 Figure 4-35 shows the numbers of the different types of road users across the 3 samples on Thursday.



Figure 4-35: Number of different types of road user on Thursday 27th

4.4.26 The start views are shown in Figure 4-36, with the road users counted and not-counted indicated.

Figure 4-36: Count lines for including and not including road users in snap shot analysis



4.4.27 Figure 4-37 shows the number of each road user that passed by or interacted with stopped service or delivery (S/D) vehicles, and the number of those that passed when no S/D vehicles were stopped on Thursday 27th.





4.4.28 The interactions recorded across the three samples are shown in Table 4-14.

Table 4-14: Interactions recorded during 6:30am sample on Thursday 27th

Time occurred	Parties Involved	Notes	
06:39:50	Pedestrian	Needed to walk around trolleys being pushed	
06:41:44	Pedestrian	Needed to walk around trolleys on pavement	
06:42:36	Pedestrian	Wait to get past trolleys and other pedestrians	
06:43:35	Pedestrian	Walk around trolley being pushed	
06:44:55	Pedestrian	Walked around waiting trolleys	

4.4.29 The vehicles that stopped during the three samples are shown in Table 4-15.

Time Parked	Time Left	Vehicle Type	Purpose
from start	06:41:46	OGV	Delivering to Iceland
from start	still parked	OGV	Delivering to Iceland
from start	still parked	OGV	Delivering to Iceland
from start	06:31:50	Car	Parked
06:40:10	06:40:33	LGV	Parked

Table 4-15: Details of stopped vehicles during 6:30am sample on Thursday 27th

4.5 Comparisons between Business Survey and Camera Analysis

4.5.1 The businesses surveyed on Kentish Town Road said that deliveries occurred throughout the day, with a slightly higher number having deliveries during the morning and after 8pm. The

camera survey analysis supports these observations with the highest number of deliveries being made during the day, in particular 25% were made in the morning from 10am to 1pm and 18% were made after 8pm - between 4am and 7am.

- 4.5.2 Sixteen of businesses surveyed stated that their deliveries normally took between 5 and 20 minutes to complete. The camera survey supports this showing that 82 per cent take less than 20 minutes, and 45 per cent being less than 5 minutes. The only exceptions to length of time taken for deliveries were those made by OGV2 vehicles (13 across all 4 days), which tend to take over 20 minutes and could last up to several hours.
- 4.5.3 Seven businesses indicated that they received deliveries by car, but these are difficult to determine on the camera survey; however, 5 instances were picked up of car deliveries across all four days.
- 4.5.4 The businesses stated that their deliveries were predominately made by hand (13 businesses) or by roll cage/trolley (13 businesses). The camera survey shown that a higher percentage of deliveries were made by hand (69%), and only 20% by trolley/roll cage.
- 4.5.5 In the business survey 14 respondents expressed a dislike of the current loading restrictions and suggested changes. The current restrictions prevent vehicles stopping on the double yellow lines between 7am to 10am and 4pm to 7pm. The camera surveyed showed a small percentage of vehicles (13%) ignored these restrictions and continuing to deliver during the morning restriction.

4.6 Comparisons between Street Survey and Camera Analysis

- 4.6.1 Over half of cyclists (57%) and a higher proportion of pedestrians (63%) surveyed said that they visited Kentish Town Road mostly between 9am to 12.30pm and 12.30pm to 4pm. The camera survey showed that 46% of the cyclists recorded were on the road during these times. It was also recorded by the cameras that 27 per cent of road movements between 7pm and 11pm could be attributed cyclists. However, none of the cyclists surveyed indicated that they used the road during this evening period.
- 4.6.2 Sixty one per cent of cyclists and 62 per cent of pedestrians said that they either went around stopped delivery vehicles or were unaffected by them. The camera surveyed agreed with these statements showing 87% of cyclists continued moving and went around the stopped vehicle. The snapshot camera surveyed identified several interactions where pedestrians had to stop to avoid roll cages being handled by drivers or shop staff.

5 Other observations

5.1.1 From the footage some other interesting observations have been made. These related to the fruit and vegetable stall outside Kentish Town Station, stopping by cash in transit vehicles and adversely planned use of street space.

5.2 Fruit and vegetable stall

- 5.2.1 Deliveries to this stall are made on an almost daily basis between 8am and 10.30am, but it should be recognised that the stall is in a less than ideal position for receiving deliveries, as the on-road bus stopping area is adjacent the stall, there is a railing opposite the entrance to the station and it is close to the Kentish Town Road / Leighton Road junction. This means that the stallholder's vehicle cannot be parked immediately adjacent to the stall.
- 5.2.2 To overcome this difficulty, the stallholder will deliver a pallet of goods to the kerbside by the stall using a pallet truck. The method of approach is varied, sometimes from across the road where the van is parked in the Pay and Display parking/loading bay, and other times from Leighton Road. Because the stallholder is forced to park his van elsewhere, he is also forced to move the full pallet truck along with or across the traffic. Once at the bus stop, the pallet is left at the kerbside and gradually unloaded. The pallet truck also remains in the road next to the kerb in the bus stop area.
- 5.2.3 The two pictures in Figure 5-1 illustrate the situation quite clearly. The left photograph shows the van parked in the load bay (top left corner) and the man with the pallet truck in the foreground. The right photograph shows the pallet at the side of the road (large circle) and the pallet truck next to the car (small circle), as the bus stops by the pallet. This unloading activity took place at 10.25am, on the 21st March.



Figure 5-1: Stallholder making a delivery to stall at Kentish Town Station

5.3 Cash in transit vehicles

- 5.3.1 It was noted that cash-in-transit deliveries tend to ignore loading restriction, presumable for security reasons.
- 5.3.2 Within the proximity of the bus stop at the Kentish Road Station, cash-in-transit deliveries are is made to the station, which in turn can cause a certain amount to congestion when the traffic lights change.
- 5.3.3 A similar situation exists further down the road by Old Dairy Mews, where another bus stop is located. In this case the buses have to manoeuvre out into the traffic to pass the stopped vehicle (see Figure 5-2 and Figure 5-3).

Figure 5-2: Cash-in-transit delivery is made to Kentish Town Station





5.4 Planning of street space

- 5.4.1 The area around Kentish Road Station illustrates the risks that can be created for other road users if the use of street space is not considered holistically. There are number of significant contributory factors that make the location at the north end of Kentish Town Road particularly problematic. Within the proximity of 1,000m² there is an entrance to a railway station, a large bus stop, railings on along the kerb, a fruit and vegetable stall on the pavement, traffic signals, a supermarket, a Pay and Display parking bay and numerous items of street furniture.
- 5.4.2 For deliveries to the supermarket it was observed that the drivers would have to make a number of small movements to park in the best position for moving roll cages directly into the shop entrance. This was because other vehicles were parked (legitimately) in the Pay and Display parking bay, which meant the drivers could not draw up into a correct position when they first arrived as various items of street furniture (telephone box, post box, waste bin, lamp column and parking notice plate) were present at the same location and within the proximity of the shop entrance.
- 5.4.3 The presence of these obstructions on the pavement and the fact that a Pay and Display parking bay also exists at this point on the road, means that vehicles cannot easily approach from the south. It was observed that on an occasion when a lorry did arrive from the south, the driver could not position the vehicle correctly, which resulted in the vehicle driving off to return from the north and having to cross the northbound lane to park.
- 5.4.4 Once parked, drivers set out cones to indicate they are working in the space around the back of the vehicle on the road and footpath. However, as Figure 5-4 illustrates, pedestrians do not necessarily heed such warnings and enter the area to cross the road with 2m of the vehicle.
- 5.4.5 Unfortunately, it is not possible to understand why a person would ignore warnings cones or cross in the proximity of a large vehicle that obscures their view. Another piece of work might interview people involved in such events and obtain a reason of why they crossed where they did and to gain an idea of their perception of risk.
- 5.4.6 The general location of the bus stop and the Pay and Display parking/loading bay in the vicinity of the station, highlights how the street space requires to be considered in its entirety.

Figure 5-4: Vehicle making a delivery with cones to indication working area, but pedestrian ignores this warning



- 5.4.7 The accumulation of kerbside furniture is a potential problem for deliver and collection drivers, especially if they need to move roll cages or pallet trucks. The map in Appendix F illustrates the amount of street furniture and other items that exist. In addition, some business set up display, or table and chairs within their premises curtilage which constrain the overall available 'free' pavement.
- 5.4.8 To some extent, the number of items on the pavement is potentially more of a hindrance to delivery/service drivers and pedestrians than the delivery activity itself. The presence of street furniture can certainly contribute to potential conflicts since everyone has to avoid these at the same time, which impact upon both pedestrians and delivery/service workers.
- 5.4.9 Generally most of the deliveries took place from Kentish Town Road to businesses on facing the street. It was observed that where access to premises is difficult, drivers would use a side street in which to park and carry or trolley deliveries to the business. This was seen to happen in Islip Street from the Pay and Display bay.
- 5.4.10 Overall the side streets did not experience a significant amount of stopping for unloading purposes.
- 5.4.11 The impact of refuse collection vehicles was almost unnoticed. Their dwell times are very short normally compared with delivery vehicles stop times. It was noted that prior to the refuse vehicle arriving, one of the vehicles crew would move all the waste from different locations to one position. Once the vehicle arrived at the collected waste, one or two of the crew would load the vehicle rapidly and it would quickly move off, making the collection process fairly efficient.

6 Summary, Conclusions and Recommendations

6.1 Summary

- 6.1.1 This study has comprised three surveys, one that involved interviewing respondents in businesses facing onto Kentish Town Road, a second that interviewed people walking or cycling along Kentish Town Road, and a third recorded activity using cameras mounted at interval along Kentish Town Road and the side roads joining it with the survey area. All surveys were completed within the same 200m stretch of road between Kentish Town Station and Caversham Road.
- 6.1.2 The interview surveys were straight forward and either achieved a good response rate (75% of businesses responded) or exceeded their targeted number of interviews.
- 6.1.3 The camera survey captured all activity on the streets for the time they were in place and comprehensive analysis has been completed within the resource of the study. However, that said, the quantity of potential data and information available obtained through a camera survey of this type is vast, and it is the view of the study team that much more could be learnt if greater resources were available.
- 6.1.4 For example, a larger series of the 15 minute analyses would permit a closer scrutiny of street activity and a broader range of impact classes could be used e.g. is there a noticeable impact on different age groups, how male and female cyclists react to obstructions, which gender take the biggest risk crossing the road in the proximity of a parked goods vehicle
- 6.1.5 Copies of the camera recordings and survey results will be provided with this report and therefore offers the opportunity for further in-depth analysis to be carried out. One approach could be to show focus groups of pedestrian and cyclists exerts of situations that took place and ask what they might do if faced with something similar. From this valuable information on perceptions could be gathered, this perceptions and risk are subjective and specific to individuals.

6.2 Conclusions

- 6.2.1 Deliveries take place throughout the day with the majority of vehicles sticking to the loading restrictions and not delivering between 7am to 10am and 4pm to 6pm; however there are a few drivers that ignore these times.
- 6.2.2 Around half the businesses surveyed disliked the current loading restrictions. However, it was also noted that most are satisfied with the delivery times at which their deliveries arrive.
- 6.2.3 Delivery drivers do not appear to have difficulty finding a stopping place within the proximity of the premises to which they are delivering. Only the Sainsbury vehicles needed to sometimes wait for a suitable position to become available.
- 6.2.4 The highest numbers of deliveries take place in Zones 1 and 2 at the north end of Kentish Town Road near to Sainsbury's.
- 6.2.5 The majority of deliveries are less than 5 minutes in duration and have minimal effect on traffic flow.
- 6.2.6 Deliveries by OGV2 mainly last over 20 minutes and could be up to several hours, and as a result these have the highest number of interactions due to the length of time they are stopped.
- 6.2.7 The majority of dangerous interactions took place in Zone 4 (boxes 4/5 and 4/8) where Iceland and the Co-operative are located. They involved mainly cyclists or pedestrians.

- 6.2.8 Cyclists tend to be mostly unaffected by the stopped delivery vehicles with 61% continuing around the vehicles without being impeded. Pedestrians are similarly unaffected with 62% moving around the vehicles or delivery staff.
- 6.2.9 The view of both cyclists and pedestrians are that the delivery vehicles are a necessity with 22% saying the vehicles drivers are "just doing their jobs" and 31% saying they were unaffected.
- 6.2.10 The general flow of traffic is not overly affected by the majority of delivery vehicles. The area most affected is Zone 2 when an OGV is parked opposite the bus stop and a bus is waiting. This reduces the width of the road allowing traffic flows in only one direction.
- 6.2.11 Zone 4 is also narrowed when an OGV makes a delivery; however, this has less effect on the flow of traffic as there is no bus stop in the vicinity. If another delivery vehicle stops on the opposite side of the road however, this does cause a bottle neck.
- 6.2.12 Street space needs to be considered holistically to prevent it becoming cluttered with too many physical objects and creating conflicting stopping areas for different road users. For example, the placement of a control box or cycle securing point on the pavement might result in delivery vehicles having to make extra manoeuvres when stopping or parking at a more unsuitable location which can increase the impact they have on other road users.
- 6.2.13 Overall the study has shown that while a substantial level of kerbside freight activity takes place on the Kentish Town Road, dangerous interactions with other street users are relatively few. This may be because people living and working in a high density urban environment factor this into their behaviour and therefore discount the possible risks associated with some of the actions they take when faced with interactions from kerbside freight activity. As a result interactions are generally ignored by individuals, which might indicate why so few dangerous interactions occur.
- 6.2.14 However, road space use should be designed to lessen potential conflicts and consequently there are a number of recommendations that could be applied to kerbside activity.

6.3 Recommendations

- 6.3.1 It is important to maintain a free flow of traffic and minimise the interaction conflicts. Therefore, in locations where significant opportunity for conflict exists between road users, there should be a full review of road space use and regulation, the positioning of signage and the siting of pavement based street furniture. The review should aim to optimise road space use and reduce street clutter to ensure all road users are at minimal risk of conflict.
- 6.3.2 As a minimum, high streets of this type should be better planned so that freight and public transport stopping facilities are not located opposite one another. Where there is little prospect to change the prevailing street conditions, planning officers should engage with retailers to explore the opportunities for deliveries to take place outside of normal working hours (e.g. out of hours) thus removing the potential conflict.
- 6.3.3 Invariably roads such as Kentish Town Road have a side road joining them at regular intervals. It is thought that more consideration should be given to making better use of side roads for deliveries that arrive in smaller vehicles, where suitable routes permits re-entry onto the high street. With loading bays located close to the junction, this would permit drivers to make deliveries in the proximity of the junctions, while potentially reducing high street stopping.
- 6.3.4 Examine how local consolidated deliveries might be introduced for relatively small drops, for example water, stationery, etc.
- 6.3.5 An enormous amount of information was captured by the use of a camera survey. This study has only performed a relatively high level analysis and there is an opportunity to obtain a more in depth insight to the workings of a high street environment. Therefore, it is thought that the

extracted data and camera footage should be further analysed so a better understanding of the types of deliveries being made is obtained.

6.3.6 The camera survey has shown one side of the picture, but it is thought that engaging with the delivery and servicing companies and drivers that visit the street would be a valuable exercise to gain their views of what and does not work on a street of this type.

Appendix A Project brief

DRAFT

CLFQP Kerbside Space and Road User Conflicts Survey Project

Study Brief

Introduction

The Central London Freight Quality Partnership (CLFQP) has been set up to provide a common understanding of freight transport issues and develop and create innovative solutions for the delivery and movement of goods relating to Central London.

The partnership brings together the following organisations:-

1. London Boroughs of Camden, Islington, City of London, Lambeth, Southwark, Westminster, and the Royal Borough of Kensington and Chelsea.

- 2. Transport for London
- 3. Freight transport operators
- 4. Freight industry associations
- 5. Local businesses and employers

6. Other organisations and individuals that have an interest in freight and servicing in Central London

Part of the CLFQP work programme for the 2013/14 financial year involves investigating how Kerbside Space can be used most effectively and safely, in particular to minimise the risk of conflict between freight vehicles and all other road users. The study will take the form of a piece of consultancy work commissioned by the CLFQP, to be completed by..... (to be Agreed)

Background

The CLFQP recognises that a wide agenda of complex issues affects the movement of London's freight vehicles. The London Freight Plan sets out a vision for sustainable freight distribution in London. This vision sets out the following objectives for freight in London:

- Improve the sustainability of freight where sustainability is defined as:
 - Reduced congestion on London's roads achieved through effective planning to improve road network efficiency.
 - Increased compliance with standards
 - Reducing the social impact of freight on the environment
 - Improve air quality through reduced CO2 and NOx emissions
- Safety reduced collisions particularly involving construction vehicles and vulnerable road users (pedestrians and cyclists).
- Accommodate the forecast growth, changing demand patterns and intermodal balance.

In July 2013, the publication of the Roads Task Force (RTF) vision for London's streets and roads set out a bold and ambitious plan to improve the way London's Road network

is planned, managed and developed. The vision proposes the reallocation of road space to encourage and safely accommodate the growing number of cyclists and pedestrians but also has the potential to radically alter the way goods are delivered and servicing activities completed, including Loading/Unloading.

To raise awareness of the potential impact that the planned changes could have on road freight activity, there is a need to increase our understanding of the challenges, behaviours and potential conflicts currently facing London's road freight operators. This increased understanding will be developed by carrying out a survey of a London road.

Study Requirements and Objectives

The aim of the study is to:-

Scope and complete a detailed observational survey that will focus on assessing the interactions between all modes of transport sharing a "London Road". The survey will firstly observe, and secondly analyse, all the activity taking place on the road and understand how the space is perceived, utilised and regulated.

The survey will seek to identify the behaviours and perceptions impacting the movement of freight vehicles, and will focus on:

- Kerbside access and compliance
 - Key issue: The rising demand for home delivery is increasing the number of delivery vehicles on London's roads; contributing to rising congestion and emission levels, and increasing the demand for kerbside space. Heightened demand for limited kerbside space may require improved management of kerbside access in-order to better balance the demand for space with the regulation of kerbside activity.
- Range of freight activity taking place
 - Key issue: It is possible to argue that freight requirements for kerbside access are underrepresented because there is a lack of awareness of the volume and range of delivery and serving activity being undertaken on London's roads. There is a need to develop a body of evidence to demonstrate the type and amount of freight activity being undertaken.
- Interaction between freight vehicles and vulnerable road users
 - Key issue: The relationship between road freight vehicles and cyclists continues to be a priority issue for Transport for London. The expansion of the Cycling Cycle Super (CS) Highway network and cycling generally is a significant concern for business & fleet operators as there is little information, and no recognised evidence, about the extent of the impact of CS Highways or cycling has on kerbside access for freight activity.

Considerations/Constraints

All of the following must be considered as part of the project

1. Throughout the project, the survey team will be required to maintain a close liaison with CLFQP members, including: businesses, operators, operator representative bodies, Central London Boroughs Officers and Transport for

London. This liaison will include working collaboratively with CLFQP members to generate a perceived picture of the activity, challenges and conflicts affecting the identified street.

- 2. CLFQP project manager for this work will be Dennis Lynch.
- 3. The survey will be undertaken in two parts (phases).
 - a. Firstly a pilot survey will be undertaken and analysed, to establish if the data collected and methodology will provide the results to meet the objectives. These results will be discussed and agreed with the CLFQP before starting phase 2.
 - b. Secondly, after the pilot and agreement with CLFQP, the full survey will be undertaken to meet the stated objectives, including any changes from the experience and testing gained from the pilot.
- 4. The tender document must contain the following minimum breakdown;

Detailed total costs separated for the two phases.

A full and detailed statement of methodology, for both phases including staffing numbers, timetable of the survey with running period.

A risk statement.

A timetable for the whole project separated for each phase.

- 5. "Road Users" (modes of Transport) will be the following:-Buses, coaches, taxis, cyclists, waste vehicles, motorcycles, all HGVs and LGVs, cars and pedestrians.
- 6. The target survey date for phase one should be no later than mid-November 2013. The target survey date for phase two, if undertaken, will be during the early part of 2014, no later than end of February.
- 7. The tender return date to CLFQP is 14 October 2013.
- 8. The "London Road" will be Kentish Town Road in the London Borough of Camden. The selection of road length to be surveyed along with observation time and schedule should be part of the methodology statement. The study must include the main part of the town centre between Prince of Wales Road and Kentish Town station.

Results

A report will be required with findings/results and should be completed by.... (to be Agreed) During the study regular updates on progress will be made to the CLFQP.

Appendix B Survey Area



Appendix C Businesses Survey Questionnaire



"Kentish Town Road" Goods Delivery/ Collection Business Survey

The Central London Freight Quality Partnership (CLFQP) is an organisation supported by a number of London boroughs including LB Camden. It works with a range of partners to improve the manner of freight activity so that businesses and operators can maintain efficient collections/deliveries.

This survey is part of a project that is examining the interaction between delivery/collection vehicles and other street users when vehicles stop at the kerbside to service premises on Kentish Town Road. It is important that businesses are able to achieve timely and safe collections/deliveries and understanding how this activity works is fundamental in providing street space that supports this goal.

Therefore, the aim of this survey is to gain a better understanding of the collection/delivery activity at premises that face onto Kentish Town Road and to inform the CLFQP about the level of and how this activity takes place, and to appreciate the interactions this has with other street users.

This Goods Delivery/ Collection Survey is, therefore, intended to provide that information, but to be successful requires your support and input. Your responses will permit us to build a picture of what, when and how things happen and provide valuable information that will support better designed street space for all users.

Therefore, we very much hope that you will help and participate in this survey and assure you that all information in treated anonymously and not divulged on an individual basis.



1.	Name of Business: Address: Nature of business:					
2.	Opening hours of premises:					
	Mon Tues Wed Thurs Fri Sat Sun					
3.	On average, how often do you place orders for goods that are sold and/or used on these premises? (Please state the frequency [e.g. daily, weekly, etc] and major item groups [e.g. clothes, accessories, food, drink, etc])					
4.	Once an order is placed, on average, how long is it before the goods are delivered?					
	Hours					
5.	Are you satisfied with the order to delivery time arrangements you have to abide by?					
	□ Yes □ No					
	If NO please state why and what could make it better:					
6.	In general, who arranges the time that deliveries and collections take place at your premises? (<i>tick one only</i>)					
	The supplier of the goods					
	The delivery/collection company					
	☐ Your premises					
	Other (please specify)					
7.	Are you able to influence the when the delivery / collection takes place.					
	If YES, how					
8.	What is the usual entrance your goods deliveries and collections made through? (tick one only)					
	Customer main entrance to street					
	□ Side entrance to street					
	Rear entrance to street					
	Entrance to private off-street yard/access					



9.	How many goods deliveries and/or collections ta	ake place at y	your premises	<u>each week</u> d	luring:
	Your busiest period of the year?				
	A typical week?				
	Your least busy period of the year?				
10.	Are there variations in the number of deliveries/ (Mon-Fri)?	collections to	o your premise	es day to day	during the week
	□ Yes □ No				
	If YES, which day do you usually receive:				
	Most deliveries/collections?				
	Least deliveries/collections?				
11.	Do you receive deliveries at the weekend? (tick t	that apply)			
	Saturday Sunday				
12.	How long does each deliverv/collection take?				
	a) Minimum time taken for a delivery		minutes	3	
	b) Maximum time taken for a delivery		minutes	3	
	c) Average time taken for a delivery		minutes	5	
13	What time of day do the majority of your deliveri	es/collection	is take place. I	out if you cou	uld influence this
10.	what time would you prefer?		io take place, k		
		Deliv	veries	Colle	ctions
		Receive	Preferred	Receive	Preferred
	Before opening				
	During the morning (up to midday)				
	During the afternoon (between 12 noon & 3pm)				
	During the afternoon (after 3pm until closing)				
	After closing but before 8pm				
	After 8pm				
	Throughout the day				
14.	Are there times during the working day that you	do not acce	pt deliveries ar	nd collection	s?
	□ Yes □ No				
	If YES please state why:				



15.	What type of goods deliveries do you receive? (tick all that apply)			
	 Furniture / furnishings Household goods / small electricals White goods / large electricals Clothing Footwear CDs, DVDs, Computer Games Books/newspapers/magazines 	 Documents Food & drink (not temperature controlled) Temperature controlled food & drink Building / DIY products Parcels Other (please specify) 		
16.	How are deliveries transferred into your premises f collections)?	rom the delivery vehicles (or <i>vice versa</i> for		
	 by hand by wheeled cage by wheeled rail by pallet truck 	 by hand trolley / sack barrow by tray trolley other (please specify) 		
17.	Do you or any employee(s) deliver / collect goods	o your premises using a private car?		
	□ Yes □ No			
	If YES please state why:			
18.	Are you familiar with the loading restrictions that a	pply to the street on which you are located?		
	□ Yes □ No			
19.	How do the current restrictions affect deliveries/co	llections at your premises?		

QUESTION 20 ON NEXT PAGE



20. Please indicate which <u>servicing visits</u> take place at your premises, the frequency these occur (e.g. daily, weekly, monthly, etc) and how long they take. (*tick all that apply*)

Servicing visit	Tick box & give frequency - daily, weekly, monthly, etc	Approx. time to complete service - mins, hours, days, etc
Computer equipment		
Photocopier		
Cash register/ tills		
Security/ fire alarms		
Lift/ escalator		
Air conditioning		
Vending machines		
Warm air hand dryers		
Window cleaning		
Telephones		
Florist/ plant care		
Ready prepared food catering		
Laundry/ dry cleaning		
Towel/ linen supplies		
Pest control		
Sales representatives		
Other (please give details)		

Appendix D Pedestrian and cyclist questionnaire


"Kentish Town Road" Kerbside Conflict Project Survey (Pedestrians)

The Central London Freight Quality Partnership (CLFQP) is an organisation supported by a number of London boroughs including LB Camden. It works with a range of partners to improve the manner of freight activity so that businesses and operators can maintain efficient collections/deliveries.

This survey is part of a project that is examining the interaction between delivery/collection vehicles and other street users when vehicles stop at the kerbside to service premises on Kentish Town Road. It is important that businesses are able to achieve timely and safe collections/deliveries and understanding how this activity works is fundamental in providing street space that supports this goal.

Therefore, the aim of this survey is to:

- gain a better understanding of the perceptions pedestrians and cyclists have of kerbside freight activity and how they react to given situations that that occur on Kentish Town Road; and
- to inform the CLFQP about the level of and how this activity takes place, and to appreciate the interactions this has with other street users.

This Street Survey is, therefore, intended to provide that information, but to be successful requires your support and input. Your responses will help us to build a picture of what, when and how things happen and provide valuable information that will support better designed street space for all users.

Therefore, we very much hope that you will help and participate in this survey and assure you that all information in treated anonymously and not divulged on an individual basis.

"Kentish Town Road" Goods Delivery/ Collection Survey (Pedestrians)



1.	What is the reason you are on Kentish Town Road today: (Tick 1 only)
	Going to/from home which is located between Caversham Road and Leighton Road
	Going to/from work which is located between Caversham Road and Leighton Road
	Visiting a shop, business or resident located between Caversham Road and Leighton Road
	On way to/from Kentish Town Station
	Passing through Kentish Town Road
2.	How many times a week do you visit Kentish Town Road? (Number)
3.	If you don't visit the street every day, what days do you visit on?: (tick that apply)
	Mon Tues Wed Thurs Fri Sat Sun
4.	What time(s) of the day do you tend to most frequently visit the street? (Tick up to max 3)
	□ 0700 - 0900
	0900 - 1230
	1 1230 - 1600
	□ 1600 - 1900
	□ 1900 - 0700
5.	When on Kentish Town Road have you encountered anyone delivering/collecting goods or collecting
•	waste on the footpath?
	Today 🗆 Yes 🗆 No
	Other times Yes No
6.	If you have, which of the following actions did you take? (to any Yes in Q5) (Tick only 1)
	□ Stop and wait for person clear from your path
	□ Stop, but then try to pass person before they have cleared from your path
	Change direction/deviate around the person/obstruction.
	Took no action - not impeded
7.	If you have stopped or changed direction/deviate, what thoughts have you had about this? (Rank any three - 1, 2, 3)
	Annoyance
	Person's doing their job
	This is dangerous
	□ Should be doing this at another time
	No thoughts

Other



8.	When crossing Kentish Town Road	do you USUALLY cross at: (Tick only 1)
	A traffic light controlled crossing po	pint (pelican or junctions lights)
	Zebra Crossing	
	□ Uncontrolled part of the road	
9.	If when you cross the road a delivery	y / waste van or lorry is parked at the kerb, do you cross: (Tick only 1)
	□ Within 2m from the front or rear of	the vehicle
	Between 2m and 5m from the front	t or rear of the vehicle
	D More than 5m from the front or rea	r of the vehicle
	D Other (please specify)	
11.	Do have any thoughts about when it	is best for kerbside deliveries / collections to be made?
12.	Could you please provide us with a f Age group □ 15 - 20 □ 20 - 35 □ 35 - 50 □ 50 - 65	few personal details? Gender Male Female



13. What is your ethnic group?

Please choose one option that best describes your ethnic group or background

White

- 1. English / Welsh / Scottish / Northern Irish / British
- 2. Irish
- **3**. Gypsy or Irish Traveller
- 4. Any other White background

Asian / Asian British

- 9. Indian
- 10. Pakistani
- 11. Bangladeshi
- 12. Chinese
- 13. Any other Asian background

Other ethnic group

- 17. Arab
- 18. Any other ethnic group

Mixed / Multiple ethnic groups

- 5. White and Black Caribbean
- 6. White and Black African
- **7**. White and Asian
- 8. Any other Mixed / Multiple ethnic background

Black / African / Caribbean / Black British

- 14. African
- 15. Caribbean
- 16. Any other Black / African / Caribbean background



"Kentish Town Road" Kerbside Conflict Project Survey (Cyclists)

The Central London Freight Quality Partnership (CLFQP) is an organisation supported by a number of London boroughs including LB Camden. It works with a range of partners to improve the manner of freight activity so that businesses and operators can maintain efficient collections/deliveries.

This survey is part of a project that is examining the interaction between delivery/collection vehicles and other street users when vehicles stop at the kerbside to service premises on Kentish Town Road. It is important that businesses are able to achieve timely and safe collections/deliveries and understanding how this activity works is fundamental in providing street space that supports this goal.

Therefore, the aim of this survey is to:

- gain a better understanding of the perceptions pedestrians and cyclists have of kerbside freight activity and how they react to given situations that that occur on Kentish Town Road; and
- to inform the CLFQP about the level of and how this activity takes place, and to appreciate the interactions this has with other street users.

This Street Survey is, therefore, intended to provide that information, but to be successful requires your support and input. Your responses will help us to build a picture of what, when and how things happen and provide valuable information that will support better designed street space for all users.

Therefore, we very much hope that you will help and participate in this survey and assure you that all information in treated anonymously and not divulged on an individual basis.



- 1. What is the reason you are cycling on Kentish Town Road today: (Tick 1 only)
 - Going to/from home which is located between Caversham Road and Leighton Road
 - Going to/from work which is located between Caversham Road and Leighton Road
 - Visiting a shop, business or resident located between Caversham Road and Leighton Road
 - □ On way to/from Kentish Town Station
 - D Passing through Kentish Town Road
- 2. How many times a week do you visit / use Kentish Town Road on a cycle? (Number)
- 4. What time(s) of the day do you tend to most frequently visit / use the street when cycling? (Tick up to max 3)
 - 0700 0900
 - 0900 1230
 - 1230 1600
 - 1600 1900
 - 1900 0700

5. When cycling along Kentish Town Road do you USUALLY: (Tick 1 only)

- Cycle next to the kerb
- Cycle in the middle of the traffic lane
- Cycle down the middle of the road on the outside of the traffic
- Use the cycle lane
- 6. When cycling on Kentish Town Road have you encountered vehicles stopped at the kerbside making deliveries/collections?

Today	Yes	No
0 (1) (1)	V	

Other times in Yes in No	Othe	er tin	nes L	J Yes	зL	l No
--------------------------	------	--------	-------	-------	----	------



7.	If you have, which course of action would you NORMALLY take? (to any Yes in Q6) (tick only ONE)				
	1. Keep moving, but I change direction from the kerbside to cycle past the delivery/collection vehicle				
	lacksquare 2. Stop and then I change direction from the kerbside to cycle past the delivery/collection				
	\square 3. Keep moving, because I cycle in the middle of the traffic lane, when traffic is slow moving or road is c	clear			
	\Box 4. Keep moving, because I cycle on the outside of all traffic, when traffic is <u>slow</u> or <u>not</u> moving				
	5. Keep moving, because I cycle between the parked vehicle and other traffic, when traffic is <u>slow</u> or <u>no</u> moving	<u>ot</u>			
	□ 6. Stop and queue with other traffic				
	7. Stop moving, when cycling in the middle of the traffic lane in a queue of traffic, but change direction t cycle on the outside of all traffic, when traffic is <u>slow</u> or <u>not</u> moving	to a			
8.	When you have encountered vehicles making kerbside deliveries / collections, what were your thoug about this? (Rank any three - 1, 2, 3)	ghts			
	□ Nuisance				
	Annoyance				
	Person's doing their job				
	□ This is dangerous				
	□ Should be doing this at another time				
	□ No thoughts				
	D Other				
9.	How do you generally perceive kerbside deliveries / collections?				
10.	Do have any thoughts about when it is best for kerbside deliveries / collections to be made?				
11.	Could you please provide us with a few personal details?				
	Age group Gender				
	□ 20 - 35 □ Female				
	<u>□</u> 35 - 50				
	□ 50 - 65				



12. What is your ethnic group?

Please choose one option that best describes your ethnic group or background

White

- 1. English / Welsh / Scottish / Northern Irish / British
- 2. Irish
- **3**. Gypsy or Irish Traveller
- 4. Any other White background

Asian / Asian British

- 9. Indian
- 10. Pakistani
- 11. Bangladeshi
- 12. Chinese
- 13. Any other Asian background

Other ethnic group

- 17. Arab
- 18. Any other ethnic group

Mixed / Multiple ethnic groups

- 5. White and Black Caribbean
- 6. White and Black African
- **7**. White and Asian
- 8. Any other Mixed / Multiple ethnic background

Black / African / Caribbean / Black British

- 14. African
- 15. Caribbean
- 16. Any other Black / African / Caribbean background

Appendix E Location of Cameras



Appendix F Street Assets Map



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	On Site Confirmation	PR	27.07.14	GS

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Appendix G Zone and Box Maps







Appendix H Cyclist Scenarios















