



# The London Borough Lane Rental Scheme 2024

An Overview of the Pan-London Approach



Document Reference: LBLRS24

Document Version: 0.1

Document Status: DRAFT

Date of Issue: October 2024

London Borough Lane Rental Scheme. Reducing disruption on the borough road network



## The London Borough Lane Rental Scheme

Reducing disruption on the borough road network

# CONTENTS

|    |   |    |
|----|---|----|
| 1. | Introduction.....                                   | 4  |
| 2. | Pan-London Borough Approach .....                   | 7  |
| 3. | London Borough Lane Rental Network Definition ..... | 8  |
|    | Carriageway & Cycle Track Coverage.....             | 8  |
|    | Footway Coverage .....                              | 10 |
| 4. | Charge Bands.....                                   | 12 |
| 5. | Chargeable Hours .....                              | 14 |
| 6. | DfT Lane rental cost-benefit analysis form.....     | 15 |

# 1. Introduction

## The London Borough of Enfield

- 1.1 The London borough of Enfield, hereinafter referred to as **“the relevant London Borough”**, is situated in the North of London, covering an area of 31.7 square miles. Consisting of 25 wards, Enfield borders the London Boroughs of Barnet, Haringey and Waltham Forest, and beyond Greater London, Hertfordshire County Council and Epping Forest District Council in Essex.



*Image 1: Enfield is situated in the most northern extent of London.*

- 1.2 A population of circa. 330,000, the borough has 585km of roads with varying in classification, 4 London underground tube stations, 6 London overground train stations and around 570 bus stops serving 47 bus routes (45 day and 2 night). Enfield has good links to the M25 and A406 (London’s North Circular Road).
- 1.3 London’s roads are vital in supporting our city and allowing it to function. They connect our communities, opening opportunities and creating the conditions for London’s global economy to flourish. But they are also some of the most congested streets in the world. The London Road network is shared between Transport for London (TfL), National Highways, 32 London boroughs and the City of London.
- 1.4. Roadworks are inevitable in a growing and prospering city like London. Utilities and highways infrastructure needs maintaining and modernising; new housing and commercial developments need connections to services; and the Mayor continues to invest in transforming London’s streets to make them easier and safer to walk and cycle. The resulting road works inevitably cause congestion, delays to commuters within the borough such as bus passengers and are an inconvenience to people walking and cycling.

- 1.5. Since 2012, TfL has been operating a successful Lane Rental scheme on the Transport for London Road Network, which has delivered significant disruption related benefits. In May 2024, the London Mayor published his election manifesto, which included a pledge to “drastically reduce disruption on our roads by working with TfL and councils to extend the lane rental scheme to borough roads. This will mean that utility companies and others will have to pay when they dig up borough roads, incentivising them to co-ordinate and finish roadworks much more quickly. All the revenue raised will be reinvested to fix potholes and reduce road congestion. This will be done in partnership with TfL, boroughs and my Infrastructure Coordination Service”.
- 1.6. The DfT produced Lane Rental guidance<sup>1</sup> for highway authorities in England to support their applications to bid for approval to operate lane rental, setting out advice on developing proposals.
- 1.7. On 2 October 2023, the DfT, under the previous government, published their Plan for drivers<sup>2</sup>, in support of smoother journeys for all road users, announcing ways of fixing roads faster and encouraging more efficient street works.
- 1.8. The plan included two measures that specifically support the wider rollout of Lane Rental, with the aim of reducing the amount of drivers’ time lost and the stress caused by works by:
- helping more highway authorities establish Lane Rental schemes, by making it easier and quicker for authorities to set them up, ensuring more parts of the country could benefit.
  - consulting on requiring authorities with Lane Rental schemes to use at least 50% of any surplus funds on pothole repair.
- 1.9. Enfield are committed to providing clean and green spaces, strong, healthy and safe communities, more and better homes and an economy that works for everyone (Council Plan 2023 – 2026<sup>3</sup>). Traffic congestion is a blight which affects economic productivity (as people cannot move efficiently around), people’s health and the environment, as well as being a frustration for those caught up in it.
- 1.10. The Borough wishes to implement a Lane Rental scheme to achieve better control of works which take place on its network, with a core objective of reducing disruption to the most sensitive parts of the Borough network, at the most sensitive times. The Borough successfully operates a Permit Scheme, however, feel that a Lane Rental Scheme will give better control of the durations of works, and provide an incentive for work to be undertaken quicker, and outside of peak times.
- 1.11. To develop a collective framework for a London Borough Lane Rental Scheme, a strategic group was convened to oversee its delivery. The group comprised of TfL, the London Boroughs of Enfield, Lambeth, and Camden, and the Royal Borough of Kensington and Chelsea.
- 1.12. The government has advised individual boroughs will still be required to consult and apply to the DfT to operate Lane Rental. Each borough must also produce a supporting cost benefit document and scheme definition that is unique for their borough, which should be predicated

---

<sup>1</sup> <https://www.gov.uk/government/publications/street-works-lane-rental/lane-rental-schemes-guidance-for-english-highway-authorities#evaluation>

<sup>2</sup> <https://www.gov.uk/government/publications/plan-for-drivers>

<sup>3</sup> <https://www.enfield.gov.uk/news-and-events/2023/06/investing-in-enfield-a-new-council-plan>

on the outputs from the pan-London analytical work TfL has undertaken to support each LBLRS.

- 1.13. This document is specific to the relevant borough and should also be read in conjunction with TfL's Overview of the Pan-London Data Analysis Approach for the pan-London Borough Lane Rental Scheme (LBLRS) model, which outlines the theory and a common set of analytical rules applied across all London Boroughs on a pan-London basis to define the above elements consistently and outlines the principles of a pan-London approach.
- 1.14. This report sets out the data-led evidence-based approach taken to justify the following principal elements of the relevant Borough's Lane Rental scheme:
- Road Network Coverage
  - Charge Categories
  - Chargeable Hours
  - Estimated Charges
- 1.15 This report will also discuss the DfT's cost-benefit analysis form and appends a completed version of the form to this report, which is populated specifically for the relevant borough.
- 1.16 TfL became the first authority in the country to introduce a Lane Rental scheme (TLRS), which covers 69 per cent of TfL's Road Network (TLRN). In 2021 the TLRS was modified to account for the latest changes to the DfT's guidance at the time, but also to reflect the way London's road network had evolved. The way people travel on London's highways necessitated significant reconfiguration of road space to accommodate more active travelers, such as cyclists and walkers, and for that reason the original algorithm used to define the TfL Lane Rental network was updated to reflect the utilisation of limited capacity, by all travel modes, so that the scheme delivered the most efficient movement of people. In 2021 the DfT approved TfL's application to modernise its scheme.
- 1.17 The equivalent principles, approach and methodology adopted for TfL's updated scheme application are being refreshed for the purposes of defining the LBLRS and the relevant borough's Lane Rental network, with the key objective to reduce overall disruption caused by roadworks remaining the same, which is achieved by:
- Treating all works covered by the scheme and works promoters on an equal basis,
  - Minimising the duration of occupation of the street at the busiest locations on the network,
  - Minimising the number of works taking place during traffic sensitive times; and
  - Effectively managing roads disruption from both unplanned and planned works.
- 1.18 The purpose of this document is to present the data-led proposal for the relevant borough, including defining the applicable Lane Rental locations on the London Borough Road Network (LBRN), together with suggested charging bands and applicable timings for each location.
- 1.19 This analysis was undertaken in August 2024 using data from 2022/23.



## 2. Pan-London Borough Approach

- 2.1 To deliver a consistent approach across London by maintaining alignment with TfL's established Lane Rental scheme, it is logical to adopt a similar data analytical approach to the one established by TfL for each London borough. As a result, the basis of the algorithm used to calculate the TLRS locations has been retained to calculate the LBLRS network extent and charge band distribution.
- 2.2 Applying this concept across the entirety of a pan-London borough road network ensures that Lane Rental is only applied to the most problematic sections of London's streets when capacity is constrained at the highest level. This wholistic methodology means only the most truly sensitive streets in London are identified regardless of the proportion of the network that exists in each individual borough.
- 2.3 TfL's Common Operational Road Network (CORN) is an aggregated road network created from the OS Mastermap Highways Network. The CORN covers the strategic road network in London, including the Borough Priority Road Network (BPRN) and Strategic Road Network (SRN). It includes many top end minor roads and all roads on which buses travel. TfL holds many datasets for the entire road network across London which have been mapped to the CORN. This allows data analysis to be carried out for all boroughs, either individually or on a pan-London basis.

### 3. London Borough Lane Rental Network Definition

#### Carriageway & Cycle Track Coverage

- 3.1 The algorithm applied to the pan-London borough road network and used to determine the most sensitive carriageway locations, and therefore where the Lane Rental should be located on the relevant boroughs' road network, calculates the sensitivity to capacity, the number of people affected and how likely works are to take place in that location as detailed in the following equation:

|  |  |   |
|--|--|---|
| <b>Sensitivity (to capacity)</b>                         | <b>People movement rate</b>                                      | <b>How necessary it is</b>              |
| $[\text{PCU flow} / (\text{carriageway width} - 0.5)]^2$ | $\times \text{flow} \times \text{occupancy} \times \text{minkm}$ | $\times (\text{unplanned works})^{1/2}$ |

**Equation 1:** Algorithm used to determine Lane Rental coverage on carriageways and cycle tracks.

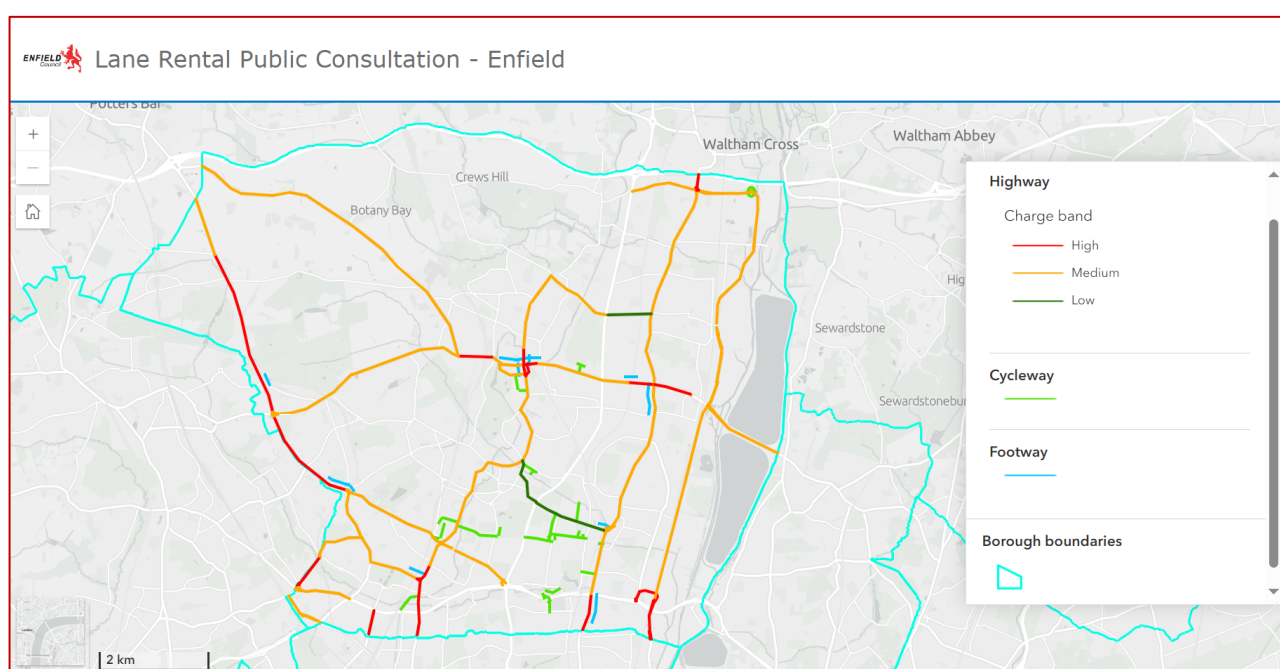
- 3.2 The algorithm combines vehicle movements (PCU flows) and vehicle occupancy to account for areas with reduced physical capacity and those with high number of people travelling through them. Unplanned works are also included to incorporate the likelihood of works taking place in each location.
- 3.3 The algorithm has been updated to that used to identify traffic sensitive roads for the LBLRS. It has several differences to the algorithm that was originally designed for the TLRs. A change in definition of CORN network to include all major nodes meant it was not necessary to include the number of signals on a road section because all signals occur at node ends. The factor to adjust carriageway width for Borough roads was changed to be lower because Borough roads are narrower in aggregate. Also, the people movement function was amended to take account of the efficiency of moving people by car and buses separately, by expressing this as a people movement rate. On Borough roads buses account for a much larger portion of customer trips overall. This enables the algorithm to provide a higher traffic sensitivity overall rating to those road sections in Boroughs that move more people by buses.
- 3.4 Applying the outputs from the above algorithm to the relevant borough's Lane Rental network would provide an overall coverage of 9.3 per cent. This is in keeping with the 15% coverage identified for the entire LBRN, safeguarding the most sensitive parts of both networks are maintained thus ensuring resilience.
- 3.5 If capacity is reduced further at these key carriageway locations, such as the introduction of roadworks, then the resulting disruption impact contributes to a greater than expected increase in road congestion.
- 3.6 Sustainable modes are a key focus of the scheme, and the protection of these modes is paramount. Therefore, all Cycle Highways (CSs) located in the Borough form part of the overall network extent.



- 3.7 It is worth commenting on Lane Rental segments that are congested at some point every day because queuing takes place, upstream from a congested junction. Beyond these queues, the traffic can be freer flowing and there is capacity to accommodate road works more readily. What matters is not the total volume of traffic on each road link but its distribution at the end of the link where the traffic must enter a junction. The framework can allow the mid link section to be less traffic sensitive, and the junction to have high traffic sensitivity. The goal of the Lane Rental Scheme is to prevent works from impacting the throughput at the junction as any impedance here has the largest overall impact on road network performance. Lane Rental would apply at the most critical junctions, in the road network
- 3.8 The proposed Lane Rental scheme network resulting from all these considerations can be seen in Table 1 and Map 1. An interactive online version of the map can also be viewed by accessing [this link](#).

| Geographical Network Type | Carriageway<br>(incl. Cycle Highway & Footway) | Cycle Highway only | Total Extent |
|---------------------------|--|--------------------|--------------|
| Pan-London                | 15%  |                    | 15%          |
| Enfield                   | 8.6%   | 0.7%               | 9.3%         |

**Table 1:** Data-led extent of the relevant borough's Lane Rental network



**Map 1:** Proposed Lane Rental Scheme network extent

- 3.9 The data driven network outputs are sense-checked to identify any data anomalies, and from a network knowledge perspective, suggest any sections of the Lane Rental network that ought to be removed or added, including for continuity purposes. The Lane Rental network is subsequently finalised and serves as a basis for deriving the Lane Rental schedule of locations and additional street data designations.
- 3.10 The result of this network knowledge-based sense-checking exercise is set out in table 2 below.

| London Borough | Data-led Extent | Finalised Extent (sense-checked) | Variance |
|----------------|-----------------|----------------------------------|----------|
| Enfield        | 12.9%           | 9.3%                             | -3.6%    |

**Table 2:** Variance between data-led outputs and network knowledge-based sense-checking

## Footway Coverage

- 3.11 To compliment the Mayor's Healthy Streets policy by promoting active travel, in addition to the proposed core Lane Rental network detailed above, a small number of footways have also been designated as chargeable.
- 3.12 In 2021 TfL became the first Lane Rental authority to introduce footway charging in pedestrian sensitive locations and at peak period travelling times only. In total 20 suitable locations were identified using Pedestrian Comfort Levels (PCL), the majority of which are adjacent to major transport hubs. The PCL classifies the level of comfort based on the level of crowding a pedestrian experience on the street and is measured in pedestrians per metre of clear footway width per minute. This was calculated from data on pedestrian activity and the street environment using the algorithm shown in Equation 2.

### People affected

pedestrian flow per minute during busiest peak

### Sensitivity (to capacity)

$((\text{pavement width} - X) \times \text{signal factor})$

### Equation 2: Lane Rental Footway Charging Algorithm

- 3.13 Pedestrian flow data across a pan-London borough road network is currently extremely limited and is only predominantly available for Central London locations. TfL are progressing with arrangements to collect this data more widely, but it is not currently available.
- 3.14 In the interim it has been decided to include a maximum of twenty footway chargeable locations for each London borough, which should conform with the following criteria:
- 3.15 The footway location exists on a section of the proposed Lane Rental network that has been identified as carriageway chargeable.
- 3.16 The footway location forms part of a prominent High Street and/or is adjacent to the entry/exit of a significant public transport interchange or facility, such as a rail, London Underground or bus station.
- 3.17 The linear extent of the chargeable footway designation is not unreasonable, ordinarily curtail at the nearest junction either side of the specified footway location.

**Map 2: Proposed Lane Rental Footway Locations**

3.18 A total of 8 locations were identified that conform to this criterion and are shown on Map 2.



## 4. Charge Bands

- 4.1 Since 2012 it is estimated that the overall amount of delay experienced on the roads within Greater London has increased by 33%. It is well documented that TfL's Lane Rental Scheme has had a positive impact in reducing congestion overall. However, since the start of TfL's scheme this positive impact has been eroded as roads across London pre Covid carried 3% more vehicles compared to when the TLRS was introduced in 2012. If this congestion benefit had been locked away by removing the extra demand the TLRS has enabled, the congestion benefit would have remained, and we would have likely been able to report a substantial improvement in journey times or a reduction in congestion. The overall cost of congestion across all London has grown from £4.2bn in 2010/11 to circa £5.6bn in 2019/20. The underlying congestion, measured as the increase in excess delay in minutes per kilometer (a key component of the cost of congestion), continues to grow at a few per cent per annum. Part of this increase has resulted in a recovery in traffic levels post COVID, and some arises because of capacity re-allocation to promote sustainable mode movement in line with London's mayoral policy.
- 4.2 Sensitivity to works varies across the borough network, it is therefore logical to have a hierarchy of charge bands apportioned to the sensitivity of the road network. This means that works are always charged an amount smaller or equal to the cost of congestion they may cause. The principle of identifying network sensitivity has been a long-established industry-wide rule that is documented in the DfT's Code of practice for the co-ordination of street and road works, which sets criteria for designating streets that are traffic sensitive. This criteria predominantly uses traffic flow data to set qualification thresholds for these designations.
- 4.3 The pan-London approach builds on the DfT's traffic sensitive theory by applying a similar approach to Lane Rental networks, but incorporates additional sensitivity factors such as network capacity, people movement and vulnerability to works. This approach essentially means that the relevant charge band for each street is applied according to the level of disruption caused by the works taking place at a specified location, rather than simply applying a flat rate charge to all streets, regardless of sensitivity, that is arbitrarily set according to the type of traffic management proposed.
- 4.4 The daily charge therefore focuses benefits on the correct road links and junctions to provide returns for a borough that are proportionate to the cost of congestion and correspond with the level of disruption caused to people commuting within the borough.
- 4.5 To maintain alignment with the previously endorsed TLRS approach and deliver a consistent pan-London model it is proposed to replicate the TLRS charge band regime and its proportionate distribution across the LBLRS.

| Table of Charges               |              |        |        |        |
|--------------------------------|--------------|--------|--------|--------|
| Area of Occupation             | Daily Charge |        |        |        |
|                                | Single       | Low    | Medium | High   |
| Footway                        | £350         | -      | -      | -      |
| Cycle Track and/or Carriageway |              | £1,000 | £1,500 | £2,500 |

**Table 3:** Pan-London Lane Rental charging model

- 4.6 The distribution of the charge bands across the boroughs lane rental network is shown in Map 1 above and Table 4 below, with the data-led outputs aligning with how the network operates from a network management perspective.

|            | Low Charge<br>(incl. cycle track only) | Medium Charge | High Charge |
|------------|--|---------------|-------------|
| Pan-London | 54%                                    | 30%           | 16%         |
| Enfield    | 11.3%                                  | 70.8%         | 17.9%       |

**Table 4:** Distribution of charge bands

## 5. Chargeable Hours

- 5.1 Charging hours will be simplified so that a uniform set of times are applicable across the LBLRS based on network sensitivity. The specified times are largely consistent with TfL's timing range, but because of the increased proximity of residential properties on borough roads the window of applicability has been reduced to provide an enlarged window of opportunity to undertake works at more sociable hours.
- 5.2 Again, for simplicity, weekend timings will mirror the midweek peak period chargeable times, which essentially reduces the timing permutations down to two, which are as follows:

| Area of Occupation             | Days of Applicability    | Lane Rental Chargeable Hours   |                                |                                |                                |
|--------------------------------|--------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                |                          | Footway Charge Band            | Low Charge Band                | Medium Charge Band             | High Charge Band               |
| Footway                        | Weekdays                 | 07:00 – 10:00<br>15:00 – 19:00 | -                              | -                              | -                              |
|                                | Saturdays or all weekend |                                |                                |                                |                                |
| Cycle Track and/or Carriageway | Weekdays                 | -                              | 07:00 – 10:00<br>15:00 – 19:00 | 07:00 – 10:00<br>15:00 – 19:00 | 07:00 – 19:00                  |
|                                | Saturdays or all weekend | -                              | 07:00 – 10:00<br>15:00 – 19:00 | 07:00 – 10:00<br>15:00 – 19:00 | 07:00 – 10:00<br>15:00 – 19:00 |

**Table 5:** Proposed charging hours

- 5.3 Adopting the standardised applicable timing range set-out in the pan-London approach will ensure work promoters are confident when charges will apply throughout the borough, and also within any other Lane Rental boroughs aligned with this key principle.
- 5.4 Crucially, the compact time bands provides work promoters with an increased ability to reduce their exposure to charges and also limit any noise impacts from their works on borough residents.



## 6. DfT Lane rental cost-benefit analysis form

- 6.1 The DfT have provided a Lane rental cost-benefit analysis form, which will be fully completed and submitted as part of the application pack to operate a Lane Rental scheme.
- 6.2 A primary element of the form estimates the overall lane rental charges faced by Utility Companies and the Highway Authority after behavioral changes have occurred. The calculation uses the total number of work days eligible for charges and discounts this baseline down to factor in behavioral change, which considers:
- Work days moved outside of chargeable hours to avoid lane rental charges,
  - Work days undertaken in a way that triggers a waiver, such as the use of new technology,
  - Work days undertaken in a way that triggers a discount, such as through collaborative working,
  - Increase in Emergency and Urgent work days being completed before charge periods apply,
- 6.3 The outputs from the DfT's cost benefit analysis form suggests the overall annual estimated Lane Rental charges that could be faced by Utility company works and Highway Authority works by the relevant borough is as follows:

|  |                    |
|--|--------------------|
| Lane Rental Charges faced by Utility Companies   | £ 788,980          |
| Lane Rental Charges faced by Highway Authorities | £ 909,960          |
| <b>TOTAL</b>                                     | <b>£ 1,698,940</b> |

**Table 6:** *Estimated Overall Lane Rental Charges*

- 6.4 Although the outputs factor in behavior change at a similar level to other approved Lane Rental applications, the relevant borough consider the highway authority charge exposure will reduce further due to an increase volume of works being undertaken at non-Lane Rental chargeable hours.



A better place to live and work, with fairness for all, economic growth and sustainability, and strong communities.