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CENTRE FOR LONDON

Changing Spaces: How to solve London's shared e-bike parking challenge

Report

May 2024



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Foreword

In London, air pollution is estimated to have caused 4,000 premature deaths a year. Micromobility vehicles like shared e-bikes are a vital part of the effort to improve our air quality, allowing for fast, convenient and sustainable active travel. Even without the climate change imperative, active travel brings crucial co-benefits to health and wellbeing, and can vastly improve the lives of Londoners.

Despite these positive impacts, according to our research poor e-bike parking can cause issues with street clutter in London. This has important implications for the accessibility of our capital city. Centre for London welcomes this report into tackling this issue, and mapping out alternative e-bike parking solutions for London.

Shared e-bikes have become an extremely popular transport mode over the past few years, with >1.5 million Londoners and visitors having taken a Lime e-bike trip since the start of its service here in late 2018. As is often the case with the development of new technologies, regulation has struggled to keep up with this boom. Across borough boundaries, parking legislation remains inconsistent, provisions of parking for e-bikes are generally poor and vary substantially, and even the language used to refer to 'parking bays' changes from borough to borough.

Inconsistency and lack of adequate parking options has a direct impact on how vehicles are parked. Our research has highlighted that when users are not given proper or clear instructions on parking, bikes can be left obstructively on pavements, creating issues for pedestrians, including those with access needs.

Equally, inadequate parking provision impacts e-bike use. Steer estimates more than 10 million cycle rides a year are missed in London as a consequence of a lack of parking bays, with the majority of boroughs unable to provide the necessary parking capacity and density needed to meet demand. People value convenience and creating barriers to accessing e-bikes dissuades Londoners from utilising the sustainable active travel options available to them.

Lime has an important role in the establishment of best practice within micromobility operators, being one of the leading providers of shared e-bikes in London. It has been fantastic to see this report evolve from Centre for London's work on street clutter. While taking ownership over what they can control, such as requiring users to park safely, Lime and Steer's work with local authorities to create tangible policy changes represents the industry-led progress needed to build safer and more sustainable streets. It's testament to the ways in which think tanks, policymakers and private companies can work hand in hand to benefit Londoners.



Antonia Jennings
CEO, Centre for London



Executive Summary

Introduction

Lime is the world's largest and most experienced micromobility provider. Founded in 2017, its mission is to build a future where transportation is shared, affordable and carbon free. It operates shared e-scooter and e-bike services in over 230 cities across 35 countries globally.

Lime has commissioned the consultancy Steer to undertake an independent analysis of shared e-bike parking in London. This follows Lime's 2023 study which explored the benefits of shared e-bike services and recommendations for future regulation in London, notably that 25 parking locations are needed per sq. km to ensure strong usage and parking compliance.

This report builds on the 2023 study, examining the shared e-bike parking challenge in London. In 2024, while trips by shared e-bike have continued to grow, the increase in shared e-bike parking provided by boroughs has been slower. The lack of parking locations and capacity both fails to address user demand and also fails to support wider mode shift and active travel targets. Additional parking infrastructure also improves the experience for non-users by providing orderly and safe parking solutions.

This report outlines the opportunity for more shared e-bike parking to increase cycle trips and improve the experience of non-users. It considers good practice for parking implementation and explores how to increase parking provision at an individual borough level.

Parking in London

The Challenge

There are insufficient levels of parking provision and inconsistent parking requirements for shared e-bikes by borough across London. The overarching impact of different levels of parking provision and parking rules across London is that it creates a confusing and inconsistent approach for users and contributes to poor parking which can impact other people. The patchwork approach to parking requirements combined with a lack of parking locations make it hard for operators to communicate parking rules, and for users to understand them. The report identifies four key challenges:

- **Inconsistency in parking rules leads to confusion for users;**
- **Insufficient bay density across Mandatory Parking Zone boroughs limits usage;**
- **Insufficient bay density and capacity across Mandatory Parking Zone boroughs results in abandoned vehicles and overcrowded parking locations; and**
- **Allowing bikes to be parked anywhere can lead to street clutter.**

The Opportunity

Having established the challenge, the report explores the opportunity for increasing cycle trips in London through improving parking for shared e-bikes. Analysis undertaken by Lime shows that demand for shared e-bikes is rising. This increase in demand supports Mayoral policy goals to increase the levels of cycling in London. A key challenge to support an increase in shared e-bike trips is availability of parking. According to Lime's recent analysis: the number of parking bays in central London that exceed their capacity on weekdays has increased by 21% in the last 6 months. Lime has recently increased the size of its London-wide patrol team by 40% to address this.

Using the Lime app data, specifically where a user opens the app to look for a Lime e-bike but cannot locate one nearby, a proxy for unmet demand can be calculated. This analysis demonstrates geographic variance of unmet cycle demand indicating insufficient availability of bays and bikes. Across London, analysis indicates there is potential for >10 million additional cycle trips per year, given greater density and capacity of parking locations for shared e-bikes.

The Way Forward

Increasing Parking Provision

To unlock shared e-bike unmet demand and reduce poor parking, it is important to increase the provision of parking for users to end their trips. A higher density of parking bays should therefore be available in areas with key trip destinations such as commercial centres, transport hubs and high streets compared to more residential areas.

To support the identification of additional parking provision, an audit of potential parking locations across 11 inner London boroughs was undertaken by Steer in April/May 2024. The audit included a review of:

- 575 existing cycle stand locations (to understand current utilisation, potential to reallocate and/or expand capacity for shared e-bikes); and
- 600 potential new locations (including on pavements, on carriageway and other open spaces).

The key findings are:

- Across 11 boroughs audited, 750+ parking locations were identified which can provide an additional parking capacity for up to 10,500 shared e-bikes.
- Average occupancy of cycle stands across audited locations was 33% during daytime and 28% in the evenings.
- 1 in 12 locations audited had occupancy over 80% during daytime or evenings.

Parking Implementation Good Practice

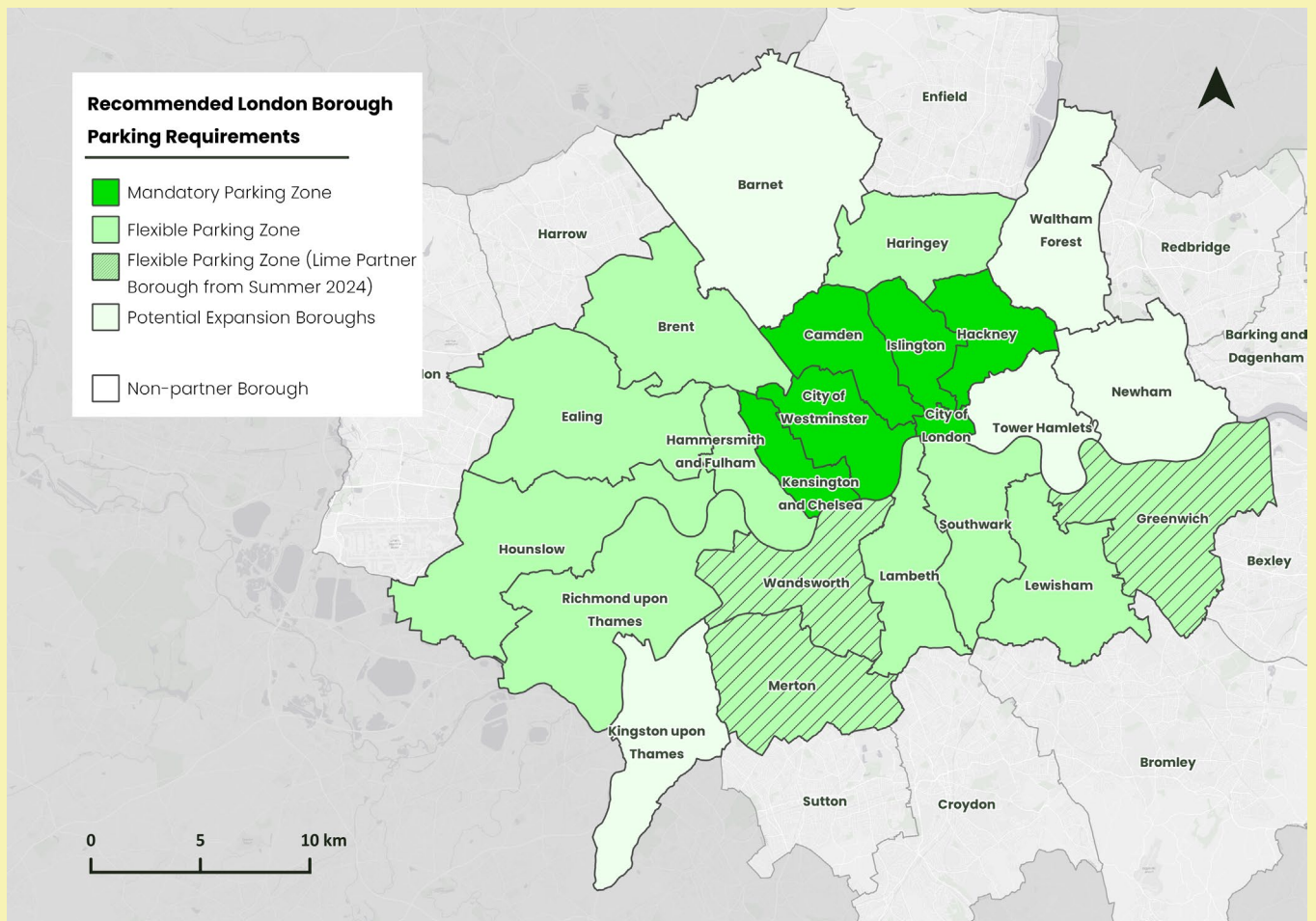
When considering new or expanded locations for shared e-bike parking, location selection, planning and implementation are important to ensure that parking locations chosen are accessible for users, and do not inconvenience or introduce a hazard for other people.

Across parking location types (carriageway bays, pavement bays, virtual bays, and cycle stands), key considerations and benefits are examined including but not limited to: size of bays, servicing requirements, safety, security and co-location with existing transport services/links. Implementation and cost considerations are also explored, for example, recognising that carriageway bays, whilst offering positives for users and boroughs alike, are more expensive and take longer to implement.


Recommendations

To address the challenges associated with shared e-bike parking provision and further support the growth of e-bike share and overall cycling in London, the following recommendations have been developed:

Recommendation 2 and 3: Two Parking Zones across London | Source: Steer



Recommendation**Detail**

 **Recommendation 1: Establish clear parking terminology**

Shared e-bike operators to define clear, unambiguous parking terminology in all rider communications. Specifically, this includes:

- Consult on how information can be presented more clearly and consistently by boroughs and by operators (including in-app).
- Recommended definitions include:
 - A single **Mandatory Parking Zone** across more central London boroughs
 - A single **Flexible Parking Zone** across less central London boroughs
- Stop using the term Preferred Parking, which is unintuitive.
- To provide clarity and consistency for users, non-users, operators, TfL, Boroughs and Operators it is recommended that a consistent map database of Mandatory Parking Locations is developed and maintained to be used by all stakeholders.

Recommendation**Detail**

Recommendation 2: A single Mandatory Parking Zone for more central boroughs

A consistent approach to shared e-bike parking density and capacity to be adopted by all more central boroughs reflecting high densities of destinations and volumes of trips. Boroughs to form a single **Mandatory Parking Zone** with **Mandatory Parking locations** (which can include parking bays, cycle stands and virtual locations) enforced with the following recommended parking densities:

- Highest demand zones: 50 bays/sq. km.
- Other high streets: 35 bays/sq. km.
- Residential: 25 bays/sq. km.

Recommendation 3: A single Flexible Parking Zone for less central boroughs

A consistent approach to shared e-bike parking to be adopted by all less central boroughs. Boroughs to form a single **Flexible Parking Zone** with parking locations implemented in high demand areas like high streets and transport hubs to help prevent street clutter. Outside of these high demand areas users will be required to park considerately. This will be enforced using mandatory end trip photos.

Recommendation**Detail**

Recommendation 4: Lime to support increasing density and capacity of cycle parking

Lime to support London Boroughs in the planning and implementation of parking locations to meet demand, reallocate roadspace from the private car and establish a consistent density of parking locations.

Lime has committed £1 million to a London parking fund, sharing data to help plan and add new on carriageway parking bays and cycle stands improving parking density across London.

Recommendation**Detail**

Recommendation 5: Mandatory parking locations to include agreed cycle stands

All boroughs with **Mandatory Parking Locations** to allow their existing parking bay network to be supplemented by allowing parking at agreed cycle stands where users can park, as implemented already in Westminster and Kensington and Chelsea. These locations should be selected on existing usage/capacity and should include both:

- repurposed cycle stands; and
- expanded cycle stands.

Designated cycle stands will be marked in the providers' apps to make clear which locations are designated for dual use. All flexible parking boroughs already allow for user parking at cycle stands and should continue to do so.

Lime understands the importance of not taking cycle stand parking spaces away from private cyclists. As part of its new parking fund it will fund twice the number of cycle stands its fleet uses in boroughs that permit cycle stand parking. This can include adding cycle stands to re-purposed carriageway spaces.

1. Introduction

Overview

Lime has operated a shared e-bike scheme in London since late 2018. In this time usage has grown exponentially.

Lime has >1.5 million users London-wide and in busy central boroughs like Camden it delivers approximately 200,000 trips per month. Almost half (49%) of Londoners aged 18–34 say they use a rental e-bike at least once a week.¹

Lime currently has operating agreements with 15 London boroughs: Brent, Camden, City of London, Ealing, Hackney, Hammersmith and Fulham, Haringey, Hounslow, Islington, Lambeth, Lewisham, Kensington and Chelsea, Richmond-upon-Thames, Southwark, and Westminster.

These agreements are made with individual boroughs and are based on different operational and parking requirements including Mandatory Parking Zones (Camden, City of London, Ealing, Hackney, Lambeth, Lewisham, Hammersmith and Fulham, Hounslow, Kensington and Chelsea, and Westminster) where users are required to leave their bikes in designated parking locations, Preferred Parking (Haringey, Richmond upon Thames and Southwark) where users must park in designated parking locations when in close proximity to high demand areas (<100m) but can park freely in other locations so long as in a non-obstructive manner. Finally, there is free floating parking (Brent and Islington), where limited dedicated parking is currently provided.

Lime e-bikes can also be ridden into and parked in some London boroughs where there aren't yet formal agreements in place, including Barnet and Tower Hamlets. Lime are in the process of making further agreements this summer including with Wandsworth, Merton and Greenwich.

¹ A survey of 500 Londoners from April 2024 conducted by Opinion for Lime

In 2023 Lime commissioned Steer to undertake an independent analysis of shared e-bike parking in London, which identified gaps in the shared e-bike parking network and developed recommendations for operators, the boroughs and Transport for London.

In 2024, while trips by shared e-bike have continued to grow, the increase in shared e-bike parking provided by boroughs has been slower. The speed of parking implementation fails to address growing user demand and undermines wider mode shift and active travel targets. Additional parking infrastructure can also improve the experience of the service for non-users by providing orderly and safe parking solutions.

This report assesses how to solve the parking problem (caused by a lack of parking provision and increasing demand) and identifies recommendations that can deliver meaningful improvements delivered either on a borough-by-borough basis or as part of any future London-wide regulation.

Lime In London Report (July 2023)

In July 2023, Steer and Lime published a report assessing the benefits of shared e-bike services and recommendations for future regulation in London. Within the report, it included the following recommendations regarding shared e-bike parking provision:

"To improve user parking whilst maintaining the convenience and usage levels of these services, a dense, city-wide network of designated parking locations is required [...] Based on Lime trip and user survey data 25 parking locations are needed per sq. km."

The report also recognised the need to optimise existing infrastructure to provide suitable parking locations across London and therefore recommended that:

"Operators must work with local authorities and Transport for London to provide trip data to identify suitable parking locations across the city [...] Use of existing bike racks for shared e-bikes should be considered as a way to limit costs and provide an immediate increase to parking density and availability."

Scope of this report

This report builds on the recommendations from our 2023 Lime in London report, notably, to improve parking provision and support shared e-bike growth in London.

This report provides insights to London boroughs and key policy makers on identifying the gaps and inconsistencies in current shared e-bike parking provision, and recommendations on how to select, fund and implement suitable additional parking locations, including support from Lime and other shared e-bike operators.

The recommendations can be used directly by boroughs or to support potential London-wide regulation, ensuring a progressive and proportionate future approach to managing and developing shared e-bike operations in London, which delivers for local authorities, transport partners, residents and providers.

This report uses a combination of desktop research, Lime trip and app use data and an on-street audit of parking locations to develop key findings and recommendations.





2. Parking in London: The Challenge

What are the different ways of parking shared e-bikes in London?

Borough parking requirements

Lime currently has operating agreements with 15 boroughs which have a range of different operational and parking requirements. Lime e-bikes can also be ridden into and parked in some London boroughs where there aren't yet formal agreements. Different parking requirements across London are currently broadly defined as follows:



- **Mandatory Parking Zones (MPZs):** Users are required to leave their bikes at parking locations to end their ride. This is enforced by GPS and mandatory end trip photos.
- **Preferred Parking:** Users leave their bikes at parking bays (where provided) in areas of high demand (e.g. high footfall locations such as high streets and transport hubs). In less busy locations where bays are not provided, users must park non-obstructively. These rules are enforced by GPS and mandatory end trip photos.
- **Free floating:** No parking location network. Users must park non-obstructively. This is enforced via mandatory end trip photos.

There are benefits and challenges with the different parking requirements as outlined in table 2.1.

"Knowing where to park can be really confusing. It's not clear when you have entered or left an area with different parking rules and it takes time to find somewhere you can end your trip. The rules should be more simple and easy to follow."

Rosie, Hammersmith and Fulham

Table 2.1: Parking Requirements – Benefits and Challenges

Parking Rule	Benefits	Challenges
Mandatory Parking Zones	<ul style="list-style-type: none"> • Grouped parking across the borough • Popular choice for boroughs characterised by high footfall and with limited space (i.e. central London) • Easily identifiable user pick-up points 	<ul style="list-style-type: none"> • Cost and time to implement per bay (up to £3000 per bay and up to 12-18 months to build a parking network) • Benefits only realised if sufficient density is provided • Low density of bays leads to very poor user experience and overcrowding hotspots (e.g. users unable to parking in designated bays if full and forced to park outside of bays) • Poorly implemented marked parking bays can cause obstruction on footpaths and affect pedestrians, especially those with visual impairments
Preferred Parking	<ul style="list-style-type: none"> • Grouped parking in high footfall areas and non-obstructive parking elsewhere • Fraction of cost/time to implement a Mandatory Parking Zone • Provides an effective borough-wide parking solution in less central boroughs • User provided more flexibility as to where they can park (compared to borough-wide Mandatory Parking Zone) • Allows free floating benefits with more control in high demand locations 	<ul style="list-style-type: none"> • There remain potential time and cost elements to implement preferred parking locations (depending on the parking infrastructure implemented) • Relies on user to park in an orderly way (outside of high demand areas) • Needs to be clearly communicated to users
Free Floating	<ul style="list-style-type: none"> • Maximum flexibility for the user • With sufficient vehicle density provides the best user experience (compared to Mandatory Parking Zones and Preferred Parking) • Fast to implement • No infrastructure costs • Ability to expand/retract scheme with limited warning 	<ul style="list-style-type: none"> • Reliant on good user behaviour • Potentially higher instances of pavement obstructions which can negatively impact other people, especially those with access needs or visual impairments

Parking infrastructure options

Within the different parking models identified above, there are four primary parking solutions deployed by boroughs and used by Lime:

Table 2.2: Parking Infrastructure Options

Parking Option	Description	Example
Physical Bay - Carriageway	Typically, a painted bay, sometimes supported with a rack/corral or other light touch infrastructure. Bays are located on the carriageway.	
Physical Bay - Pavement	Typically, a painted bay, sometimes supported with a rack/corral or other light touch infrastructure. Bays are located on the pavement/footway.	
Designated cycle stands	Cycle stands designated as parking locations with bikes required to park in line with the stand. These can be added on footway or carriageway.	
Virtual Bay	An identified location in the public realm for parking that does not have any physical marking or infrastructure but is visible on providers' apps as a virtual parking location.	

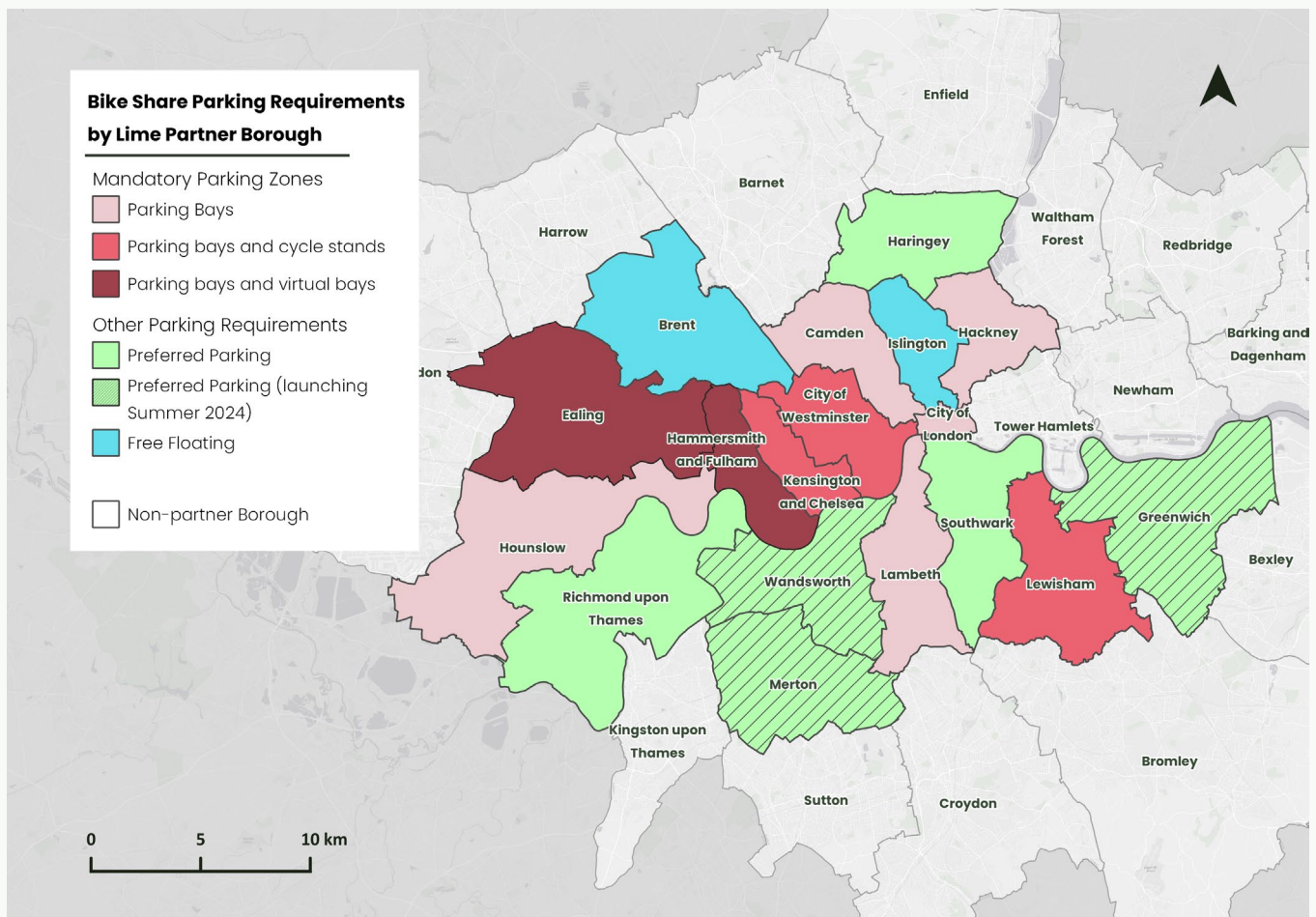
London boroughs currently deploy a combination of the parking solutions above (see Figure 2.1). Different parking rules and different combinations of approved infrastructure solutions creates user confusion, particularly for cross-borough journeys where requirements may change. It is worth noting, Islington has installed some parking bays as it looks to move from free floating to MPZ and Brent is also adding preferred parking locations.

**See Recommendation 1:
Establish clear parking terminology**

**See Recommendation 2:
A single Mandatory Parking Zone for more central boroughs**

**See Recommendation 3
A single Flexible Parking Zone for less central boroughs**

Figure 2.1: Bike Share Parking Requirements | Source: Steer



Wandsworth has announced plans for the introduction of 141 parking bays for hire of e-bikes and e-scooters. Subject to consultation, the plan is to implement bays, in phases, from summer 2024.

"Why can't I park at bike racks in certain boroughs? They are a safe place to leave bikes and don't block pavements. Please can you change your rules!"
Callum, Wandsworth

Parking Density

Parking density varies across MPZ boroughs ranging from 1 to 17 bays per square kilometre. Our previous report on Lime's London service recommended 25 parking locations are needed per sq. km. to ensure strong usage and parking compliance – this equates to a user walking no more than two minutes to pick up/drop off a bike.

Despite some good progress, no Mandatory Parking borough has been able to achieve this density yet. However, there are pockets within boroughs where density is high (e.g. around Euston Road in Camden, density is 23 bays per square kilometre compared to the borough wide average of 10).



In preferred parking boroughs there is less need to provide dense parking networks as outside of high demand areas users can end trips in a non-obstructive manner without a need to provide dedicated parking bays. This means that the service is still convenient to use in areas with low parking density.

Over 1 in 10 (12%) admit they would cycle more if there were more designated parking spaces and bike racks near where they live and work.²

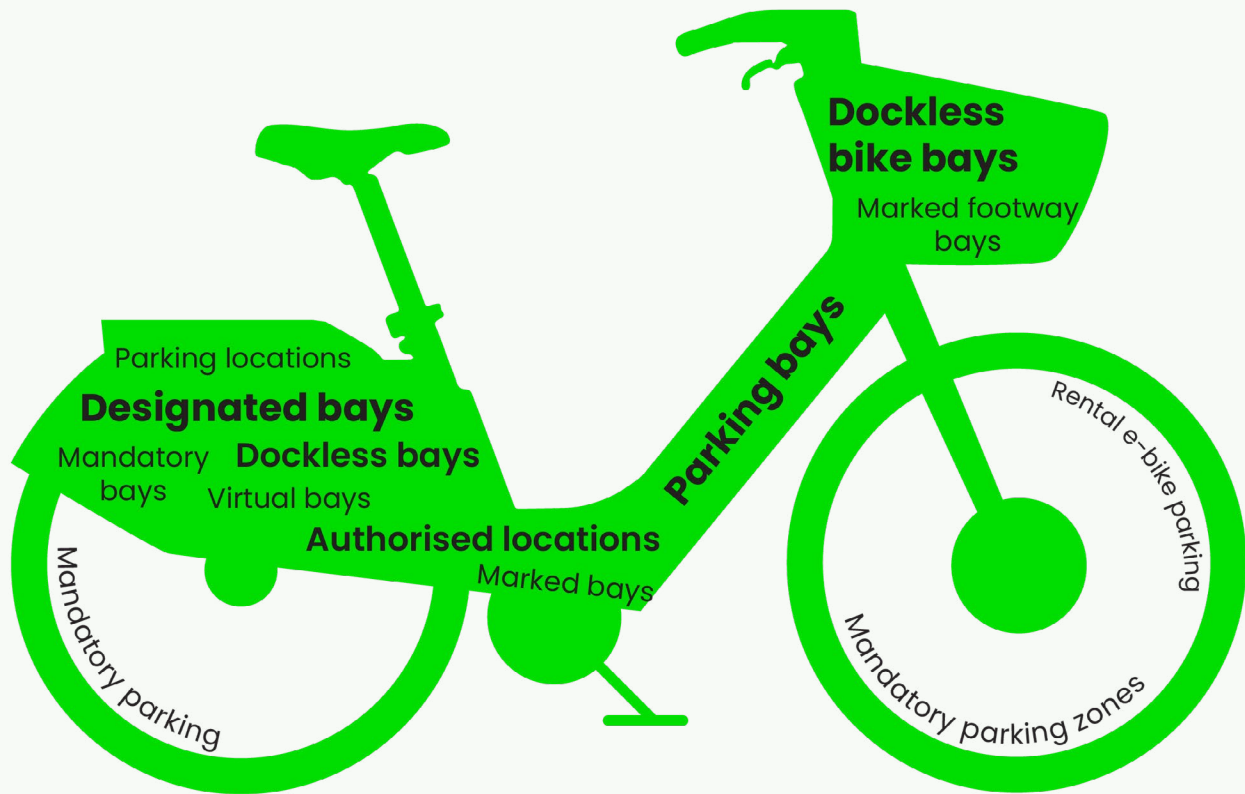
**See Recommendation 4:
Lime to support increasing density and capacity of cycle parking**

A summary across boroughs of different parking provision, rules and terminology can be found in Appendix B.

² A survey of 500 Londoners from April 2024 conducted by Opinium for Lime

Parking Terminology

Parking terminology and customer information provided by boroughs and operators is inconsistent. Terms currently used to describe parking options include:



Similarly, how boroughs provide parking information varies – some provide maps (with different levels of detail), others provide information on their website, some a combination and some little to no information.

**See Recommendation 1:
Establish clear parking terminology**

Even within boroughs there is inconsistency. For example, one borough refers to parking locations as ‘mandatory parking bays’ and ‘designated bays’ on their website but within their map use ‘physical bays’. Whilst relatively minor variances, to support responsible London-wide usage of e-bikes, consistent and clear terminology between operators, boroughs and Transport for London is vital for users.

What is Lime doing to manage parking?

In response to surging usage Lime has invested a significant amount of resources in managing its e-bike fleet and improving user parking across London. This includes:



- An out of warehouse team of more than 200 people – including foot patrollers, cyclists and drivers – to deploy, tidy and charge its vehicles across London. This increased team is responsible for collecting obstructive vehicles and removing bikes from overcrowded bays.
- Improving GPS accuracy to deliver parking compliance of 90% across mandatory parking boroughs.
- An in-house AI photo review model to assess end trip photos and automatically issue warnings and fines to offending users. Fines increase per offence and result in a ban if behaviour does not change. Switching to AI has increased review capacity and improved accuracy.
- New operational tools to create and prioritise automatic retrieval tasks when too many bikes are left in one location, helping to respond to overcrowding proactively. This data is also used to inform Lime’s daily patrol routes in each borough (in addition to specific borough requests/priorities)
- Enhanced rider education campaigns and engagement on improving parking behaviour, including paid, earned, owned and social channels. Content based on feedback from London rider focus groups.
- Temporary event parking locations and signage to manage high volumes of trips and parking. Temporary event parking locations are staffed by Lime team members to ensure they are responsibly managed.



3. Parking in London: The Opportunity

Introduction

This chapter explores the Opportunity for increasing cycle trips and reducing pavement obstructions in London through improving parking density and capacity for shared e-bikes.

To consider the Opportunity for increasing cycle trips, this chapter considers both:

- Shifting the balance of space in the urban environment allocated to more sustainable modes, over private car use
- Quantifying unmet cycle demand, which can be unlocked through these changes

Shifting the balance of space to more sustainable modes

Analysis undertaken by Lime shows that demand for shared e-bikes is rising. This increase in demand supports Mayoral policy goals to increase the levels of cycling in London. A key challenge to support an increase in shared e-bike trips is availability of parking. According to Lime's analysis, the last six months has seen a:

21% increase in central London parking locations that exceed their capacity on weekdays.

A lack of parking capacity can result in:

- Pavement obstructions due to overcrowded parking bays
- Poor user experience with riders unable to end their trips near their chosen destination
- Vehicles abandoned outside of parking bays where they are not convenient to use

In addition, a lack of parking capacity and density can limit cycle trips (see unmet cycle demand analysis below).

Currently across London the use of kerbspace across London is dominated by private car parking. **In Lambeth 70% of kerbspace is allocated for private cars (including 46% for parking, 15% for single yellow lines and 9% for driveways)³.**

Easy availability of on-street car parking influences how people travel, Lime research with Londoners reveals that:

Over a third of drivers admit to using a car for short trips (less than 1 mile).⁴

³ Kerbside Strategy, Lambeth Council, January 2023

⁴ A survey of 500 Londoners from April 2024 conducted by Opinium for Lime

Reallocating space from private car parking to shared e-bike parking can be an important way to influence this required shift.

Creation of new shared e-bike parking locations, including on the carriageway, can help borough to balance the use of public space from a dominance of private car parking, facilitating fewer private car trips and more cycle trips. The general public are supportive shifting the balance away from private car parking, based on Lime research:

Less than a quarter of Londoners (24%) would oppose the creation of more bike parking in shared spaces.⁵

Due to the smaller footprint of bikes, compared to cars, and high utilisation (in a central London borough like Camden, shared e-bikes are used around six times per day), reallocating spaces from private cars to shared e-bikes is a very efficient use of space. Given the significant proportion of kerbspace which is currently allocated to car parking across London, a limited proportion of space needs to be reallocated to facilitate both tidier parking of shared e-bikes and more cycle trips.

⁵ A survey of 500 Londoners from April 2024 conducted by Opinium for Lime

Unmet cycle demand analysis

Using data from Lime, it is possible to understand at a detailed geographic level where Lime e-bike trips start and end. This data shows across London where existing Lime users are travelling and is an important source for understanding where more parking is needed.

In addition to e-bike trips Lime users make successfully, the Lime app captures where a user opens the app to look for a Lime e-bike, but isn't able to locate one nearby.

For the first time, analysis in this report assesses unmet cycle demand for Lime e-bike trips across London.

Unmet cycle demand = total app opens by users – Lime trips made



Using this unmet cycle demand analysis, the potential opportunity for additional e-bike share trips in London can be quantified. This highlights the potential unmet cycle demand and therefore the scope for increasing cycle trips across the capital to support sustainable mode share and contribute towards Mayoral policy goals.

Analysing app opening data helps understand where users are attempting to hire a Lime e-bike. Whilst users will open the app for different reasons, it is most likely in search of an e-bike or to begin the process of hiring one.

When a user closes the app without hiring a vehicle, this would likely indicate the user has been unable to meet their journey requirements. Using this metric as a proxy for unmet cycle demand, we have mapped instances where this occurs across London (see Figure 3.1).

The darker the shade of green in the hexcells reflects the greater unmet demand. The map shows demand is more likely to be met in the less central boroughs. This includes boroughs like Haringey, Brent and Richmond which operate with flexible parking rules. In contrast, there are higher levels of unmet demand in the more central boroughs of Westminster, Camden and Hackney where bikes are required to be parked in specific locations.

The geographic variance of unmet cycle demand suggests:

- A need to improve the density of parking bays in Mandatory Parking Zones in more central boroughs to unlock demand and improve poor parking
- A need to maintain the flexibility of parking available in less central boroughs (outside of high demand areas) to encourage demand

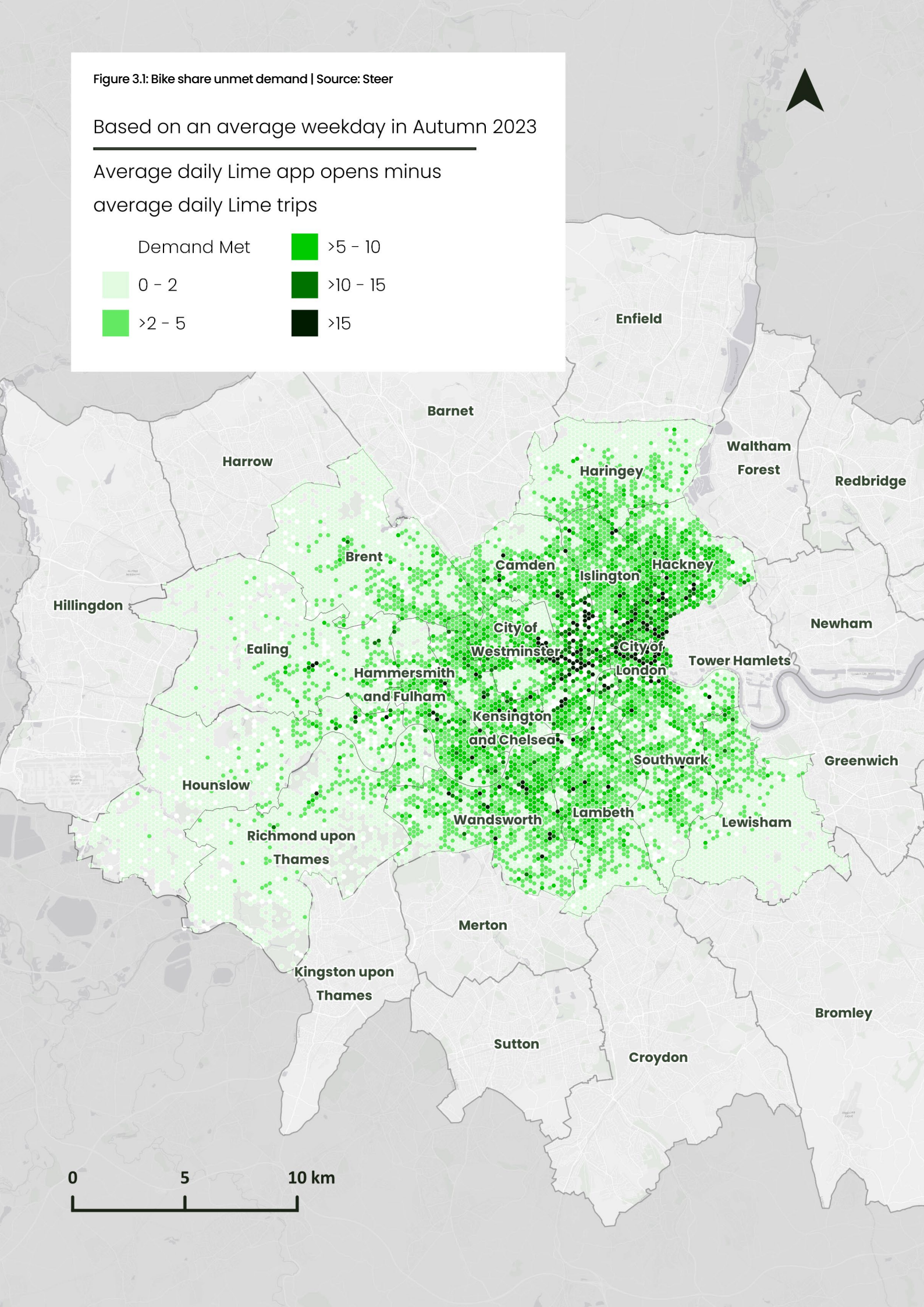
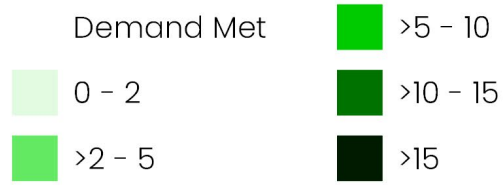
**See Recommendation 2:
A single Mandatory Parking Zone for more central boroughs**

**See Recommendation 3:
A single Flexible Parking Zone for less central boroughs**

Figure 3.1: Bike share unmet demand | Source: Steer

Based on an average weekday in Autumn 2023

Average daily Lime app opens minus
average daily Lime trips

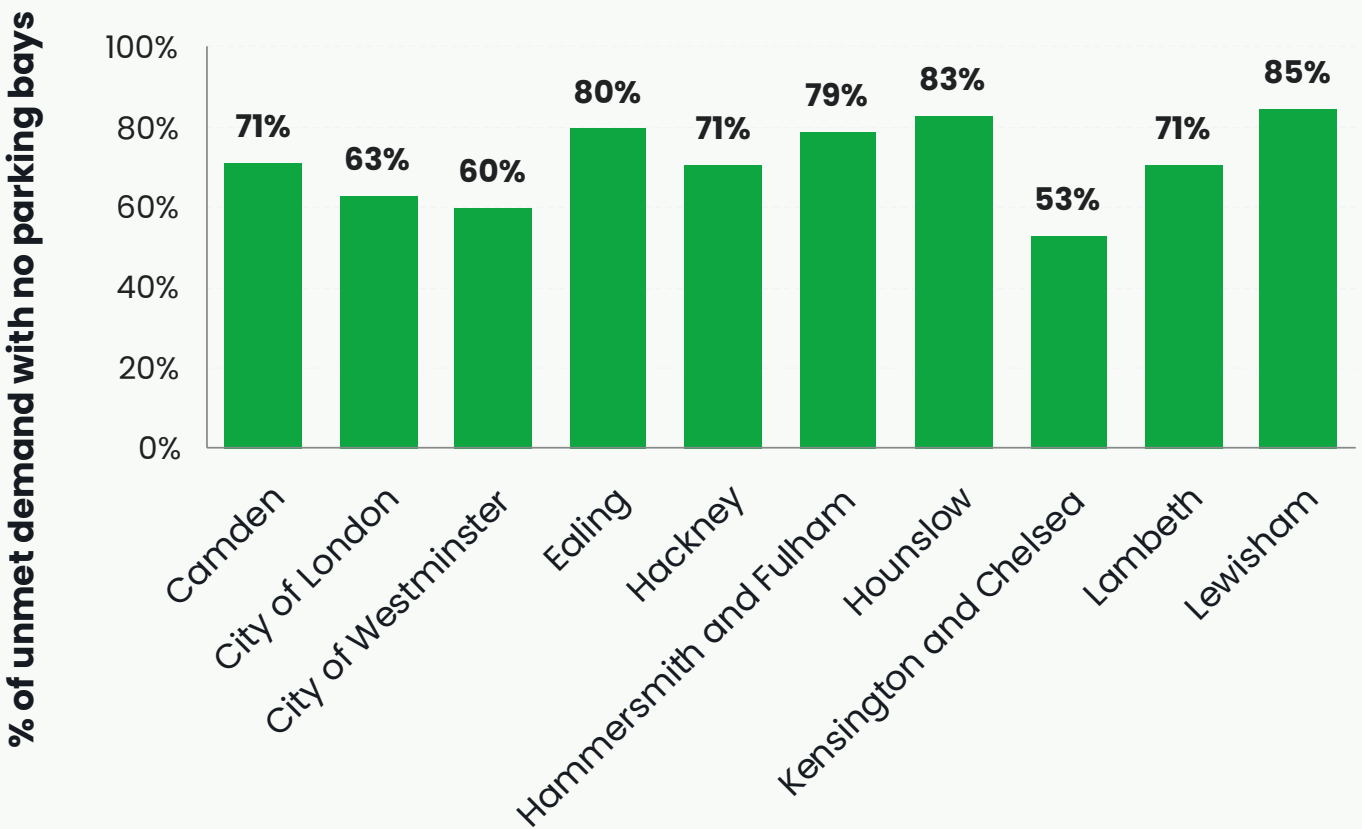


Across the London boroughs analysed, daily unmet is estimated to be 30,000 trips per day, this is equivalent to annual unmet demand of over 10 million trips. This excludes potential unmet demand for other operators and demand from people who are not current Lime e-bike users.

Adding additional parking locations can help unlock more than 10 million additional cycle trips each year

Figure 3.2 shows for Mandatory Parking Zone boroughs the proportion of unmet demand which is seen in locations more than a 2 minute walk from a parking location. Providing additional parking locations in these boroughs can both reduce instances of poor parking, which can impact other people, and unlock additional cycle trips, as described above.

Figure 3.2: Unmet cycle demand by hexcell and availability of parking





4. The Way Forward – Increasing Parking Provision

Introduction

Chapter 3 has established the need for improving shared e-bike user parking behaviour and meeting the high levels of underlying cycle demand.

The level of parking required depends on trip demand/destinations (i.e. where users like to go/end a trip). A high density of parking bays should therefore be available in areas with more trip destinations such as transport hubs and high streets compared to more residential areas within an operating area. Also, these high demand areas are typically busy streets so parking needs to be planned with consideration of the high numbers of pedestrians and other road users.



Shared E-bikes Parking Audit

To support the identification of additional parking provision, to improve both bike availability and reduce poor parking, an audit of 1,175 potential parking locations across London boroughs was undertaken by Steer in April/May 2024.⁶ The audit included a review of two types of parking locations as follows:

- **Existing cycle stands** – to understand utilisation of existing cycle infrastructure, and if there is potential to reallocate and/or expand capacity for shared e-bikes without significantly changing the streetscape and within shorter timescales; and
- **Potential new bays** – to understand whether there is capacity and space for implementing new shared e-bike parking bays, including on carriageways, wide pavements and/or other open spaces, to support unmet demand and encourage higher number of trips.

⁶ The existing cycle stand locations were audited twice: a) during the workday (Mon-Fri between 10am and 4pm) and b) outside of workday (Mon-Fri between 6pm and 7am) to confirm they are not being utilised differently at different times of the day (e.g. residential stands may be full at night). The potential new bay locations were audited during the workday only (Mon-Fri between 10am and 4pm).

Audit location identification

The locations for audits were selected considering data on current trip destinations (i.e. where users like to end their trips), Lime app opening data, and gaps in existing shared e-bike parking provision. A higher number of audits were planned in areas with high density of employment, services and pedestrian footfall such as the West End, High Streets and other employment centres compared to more residential or lower demand areas.

Each borough was classified into three zones based on current land use using the Town Centre Boundaries data developed by the Greater London Authority. The three zones included:

- Highest demand (e.g. West End);
- High Streets (e.g. Camden High Street); and
- Residential areas (all other areas).

The process of identifying audit locations for each zone within a borough was based on:

- Area size (sq. km.)
- Existing parking locations
- Number of trip endings/destinations
- Number of Lime app opens
- Availability of existing cycle parking/cycle stands.

For boroughs with Preferred Parking such as Southwark and Haringey, where shared e-bikes can also be parked outside Mandatory Parking locations, audit locations were focussed largely on the Highest Demand and High Street zones.

Audit recommendations

An existing cycle stand location is **recommended for reallocation** to shared e-bikes if both the day and evening time occupancy for the location is less than 40%.

An existing cycle stand location is **recommended for expansion and reallocation** to shared e-bikes if either the day or evening occupancy is more than 40% but less than 80% and there is capacity to expand/add new cycle stands.

Lime is able to fund the expansion of suitable cycle stands across London – including on pavement and carriageway.

An existing cycle stand location is **not recommended for either expansion or reallocation to shared e-bikes** if either or both the day and evening occupancy is more than 80%.

Potential **new bay locations** were identified for additional capacity based on the good practice guidance detailed in Chapter 5.

Across the 11 boroughs audited, a total of 782 potential locations were identified including existing cycle stand locations and new bay locations. The implementation of these parking locations can add parking capacity for up to 10,578 additional shared e-bikes.⁷

A summary of audit findings from existing cycle stand locations and new bay locations are presented in Table 4.1 and Table 4.2 respectively.

'Across 11 boroughs audited, >750 parking locations were identified which can provide an additional parking capacity for up to >10,500 shared e-bikes.'

Table 4.1: Summary of findings – Audit of Existing cycle stands

Borough	Number of audits undertaken	Number of recommended locations		Potential additional capacity
		Cycle stands – reallocated	Cycle stands – expanded and reallocated	
Camden	85	42	8	814
City of Westminster	90	32	12	784
Hackney	90	34	10	1,058
Hammersmith and Fulham	40	18	2	254
Islington	50	23	10	698
Kensington and Chelsea	50	17	5	406
Lambeth	50	27	6	748
Southwark	50	24	13	462
Tower Hamlets	40	25	12	490
Wandsworth	40	22	3	384
Total	575	264	81	6,098

⁷ One cycle stand is assumed to have capacity for parking two shared e-bikes. For new bays, a bay size of 12 sqm (approx. size of a car parking space) is assumed to have capacity for parking up to eight shared e-bikes.

Table 4.2: Summary of findings – Audit of Potential New Bays

Borough	Number of audits undertaken	Number of recommended locations			Potential additional capacity
		New bays – carriageway	New bays – pavement	New bays – other open spaces	
Camden	90	16	25	2	516
City of London	50	0	45	0	368
City of Westminster	90	5	44	1	464
Hackney	90	19	24	0	568
Hammersmith and Fulham	60	4	26	18	504
Kensington and Chelsea	60	25	26	6	604
Lambeth	85	25	27	16	888
Southwark	50	0	33	1	168
Tower Hamlets	50	23	24	2	400
Total	625	117	274	46	4,480

**See Recommendation 4:
Lime to support increasing density and capacity of cycle parking**

**See Recommendation 5:
Mandatory parking locations to include agreed cycle stands**

Borough Case Studies

The following section presents case studies on three boroughs demonstrating how they can improve parking provision to reduce poor parking and unlock more shared e-bike trips in each borough. The boroughs are as follows:



Hammersmith and Fulham and Lambeth

Maximising parking provision in a Mandatory Parking Zone

Both Hammersmith and Fulham and Lambeth currently operate as Mandatory Parking Zones. Lambeth uses physical bays only and Hammersmith and Fulham use physical and virtual bays. With a density of less than 10 parking locations per sq. km., both boroughs have a relatively low density of parking which does not support implementation of Mandatory Parking rules efficiently. A low density of bays is likely to contribute to overcrowded existing parking locations and abandoned bikes (where bays are not available in the nearby area). Low bay density can also constrain the number of trips made by shared e-bike, by increasing the time it takes to walk to access bays.

The case studies on Hammersmith and Fulham and Lambeth present how the parking network can be improved in a borough with different types of parking and at varied density, utilising underutilised existing cycle infrastructure as well as through deployment of new bay locations based on unmet demand.



Tower Hamlets

Transitioning from Free Floating to a Flexible Parking Zone

Tower Hamlets do not yet have formal bike-share agreements with Lime or other shared e-bike operators, but shared e-bikes are currently used and parked within the Borough. There is no current parking bay provision to help manage parked bikes efficiently and bike availability varies across the borough based on usage patterns.

There are high levels of demand for using the shared e-bike service in the borough, and the case study on Tower Hamlets presents how a borough planning to introduce a bike-share service agreement as a Flexible Parking Zone can facilitate managing parking through the introduction of parking locations in high demand areas.



1. Hammersmith and Fulham

Maximising parking provision in a Mandatory Parking Zone

An audit was undertaken in Hammersmith and Fulham including:

- 40 existing cycle stand locations that could be reallocated or expanded for use by shared e-bikes if underutilised.
- 60 potential new bay locations which can be implemented on carriageway, wide pavements, or other publicly accessible open spaces.

Unmet shared e-bikes parking demand and existing parking network

Figure 4.3 shows unmet cycle demand overlaid with existing parking bays across Hammersmith and Fulham. The unmet demand map highlights where there are high volumes of users opening the Lime app but not making a trip. This indicates that users are trying to make a trip but are not able to due to a lack of bikes parked nearby. The areas where parking provision is needed the most include:

- Shepherd's Bush
- Hammersmith
- Fulham Imperial Wharf

Existing cycle stands can be reallocated/expanded for shared e-bike parking

The audit of existing cycle stand locations showed that:

- Average occupancy of cycle stands was 30% during a weekday and only 22% in the evenings.

- Almost half (45%) of cycle stand locations audited had occupancy of less than 40% during the day and the evening.
- Only 10% of cycle stand locations audited were more than 80% occupied in either the day or the evenings.

Additional shared e-bike parking provision

To improve the density of shared e-bike parking in Hammersmith and Fulham, the audit identified cycle stands and new bay locations which can support:

- Reallocation of 18 cycle Stand locations with <40% utilisation to shared e-bike parking.
- Expansion of two cycle stand locations with 40–80% utilisation for shared e-bike parking.
- 48 new bay locations including 26 on wide pavements, 4 on carriageway, and 18 in other open spaces.
- Up to 750 additional e-bike parking spaces from reallocated cycle stands and new bays.
- A 67% increase in shared e-bikes parking capacity.

Figure 4.4 maps the existing parking locations both physical and virtual, and recommended cycle stand and new bay locations for shared e-bike parking to help reduce poor parking and maximise cycle trips.

Figure 4.3: Hammersmith and Fulham - Unmet demand and existing parking locations | Source: Steer

Unmet demand and existing parking locations - Hammersmith and Fulham

- Shared Micromobility Parking Bay
 - ⊖ London Underground Station
 - 🚉 Railway Station
- Average daily Lime app opens minus
Average daily Lime trips
- | | |
|-----------|------------|
| ■ >0 - 2 | ■ >10 - 15 |
| ■ >2 - 5 | ■ >15 |
| ■ >5 - 10 | |

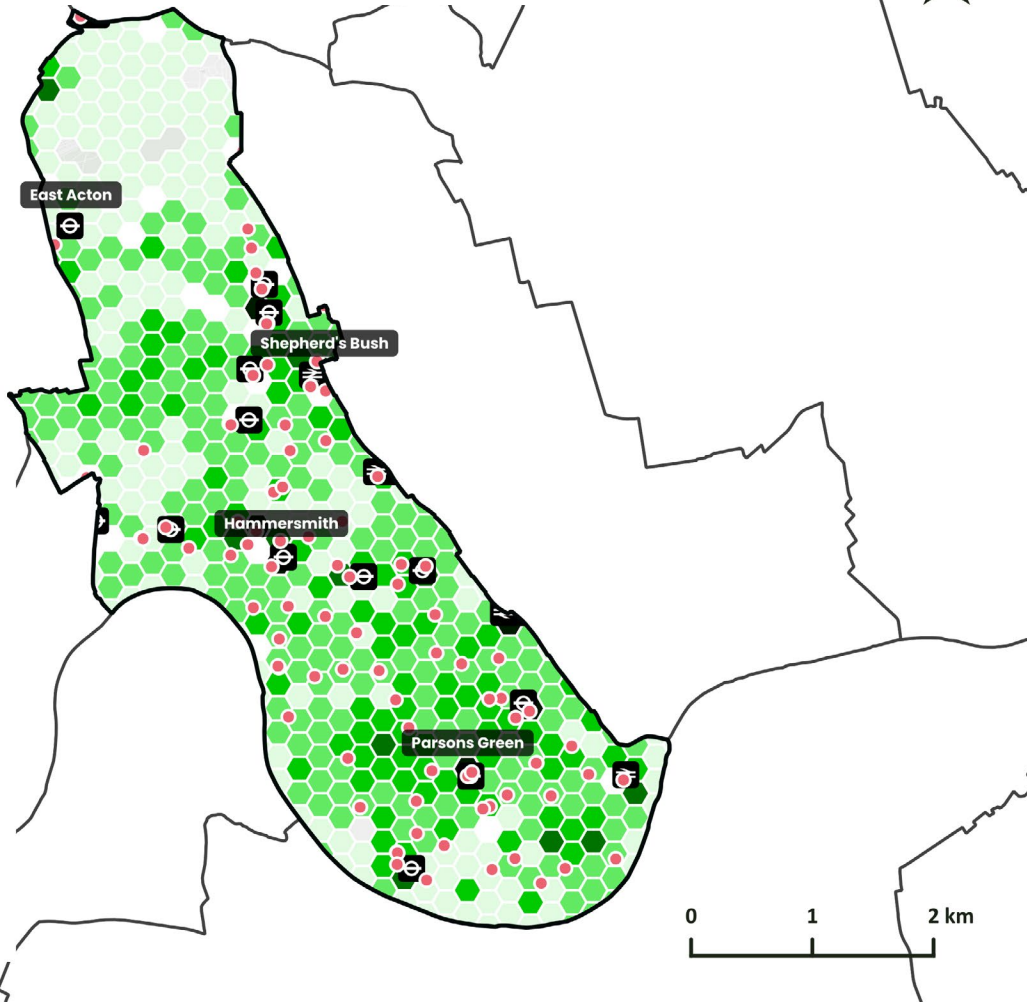
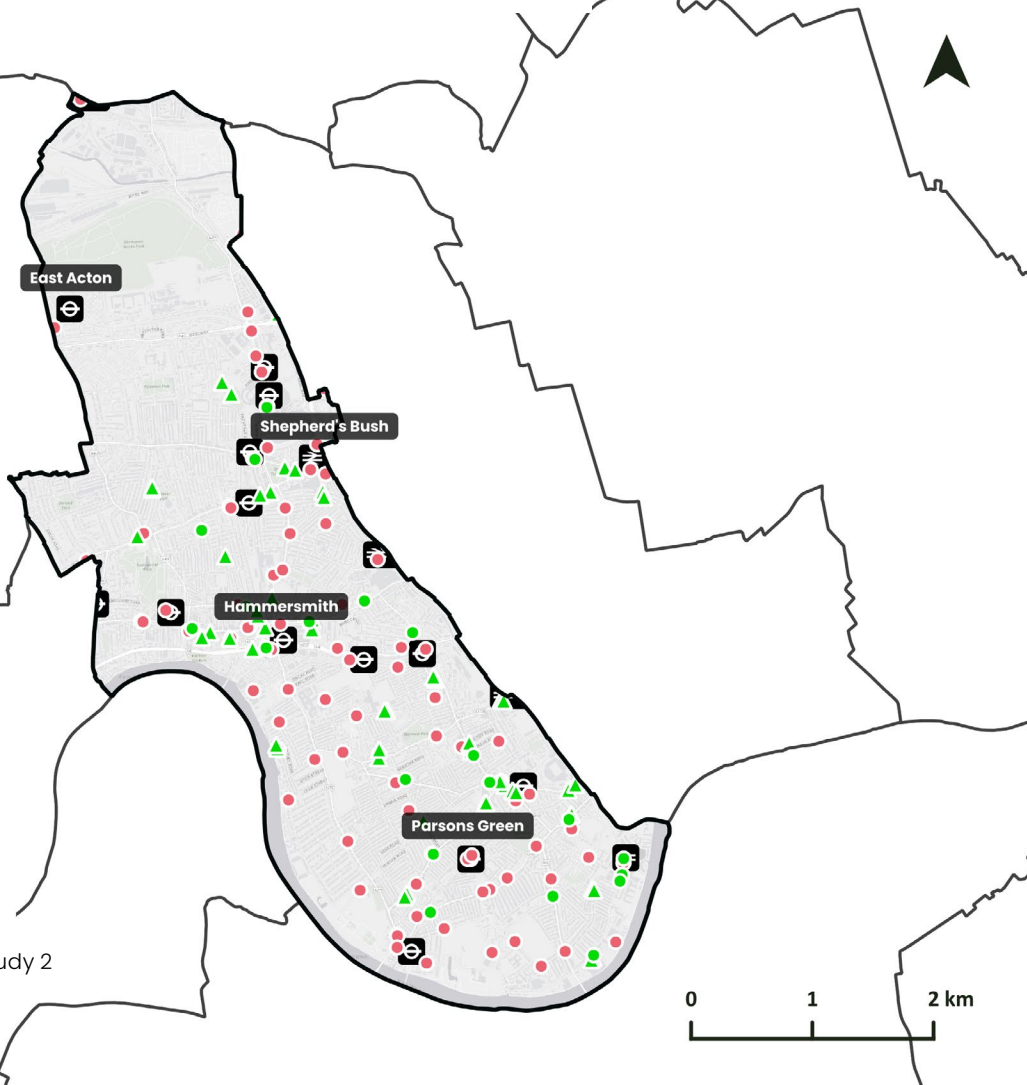


Figure 4.4: Hammersmith and Fulham - Existing and recommended parking locations | Source: Steer

Recommended Parking Locations - Hammersmith and Fulham

- Shared Micromobility Parking Bay
 - ⊖ London Underground Station
 - 🚉 Railway Station
- Recommended Locations
- Cycle Stand
 - ▲ New Bay

Case Study 2



2. Lambeth

Maximising parking provision in a Mandatory Parking Zone

Lambeth is making good progress reallocating kerbside space away from cars through its landmark Kerbside strategy. An audit was undertaken in the north of Lambeth including:

- 50 existing cycle stand locations that could be reallocated if underutilised or expanded for use by shared e-bikes.
- 85 potential new bay locations which can be implemented on carriageway, wide pavements, or other publicly accessible open spaces.

Unmet shared e-bikes parking demand and existing parking network

Figure 4.5 shows the unmet cycle demand overlaid with existing parking bays across Lambeth. The unmet demand map highlights where there is a high volume of unmet demand which implies users would like to make a trip but could not due to a lack of bikes nearby. These are the areas where an increase in parking provision to improve poor parking and maximise cycle trips is needed the most and include:

- Waterloo
- Kennington
- Clapham

Existing cycle stands can be reallocated/expanded for shared e-bike parking

The audit of existing cycle stand locations showed that:

- Average occupancy of cycle stands was only 22% during a weekday and 20% in the evenings.
- More than half (54%) of cycle stand locations audited had occupancy of less than 40% during the day and the evening.
- Less than 1 in 20 (4%) of cycle stand locations audited were more than 80% occupied either during the day or the evening.

Additional shared e-bike parking provision

To improve the density of shared e-bike parking in the north of Lambeth, the audit identifies cycle stands and new bay locations which can support:

- Reallocation of 27 cycle Stand locations with <40% utilisation to shared e-bike parking.
- Expansion of six cycle stand locations for shared e-bike parking.
- 48 new bay locations including 27 on wide pavements, 25 on carriageway, and 16 on other open spaces.
- Up to 1,640 additional e-bike parking spaces from reallocated cycle stands and new bays.
- 80% increase in shared e-bikes parking capacity.

Figure 4.6 maps the existing parking locations, recommended cycle stand locations and recommended new bay locations for shared e-bike parking.

Figure 4.5: North Lambeth - Unmet demand and existing parking bays | Source: Steer

Unmet demand and existing parking locations - Lambeth

- Shared Micromobility Parking Bay
 - ⊕ London Underground Station
 - 🚉 Railway Station
- Average daily Lime app opens minus
Average daily Lime trips
- | | |
|-----------|------------|
| ■ >0 - 2 | ■ >10 - 15 |
| ■ >2 - 5 | ■ >15 |
| ■ >5 - 10 | |

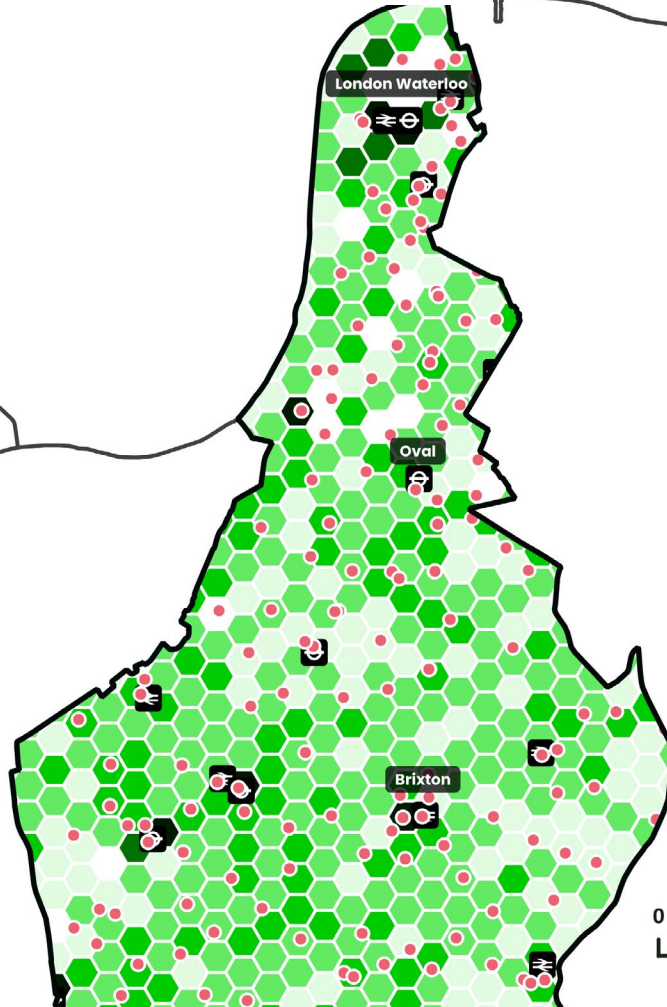
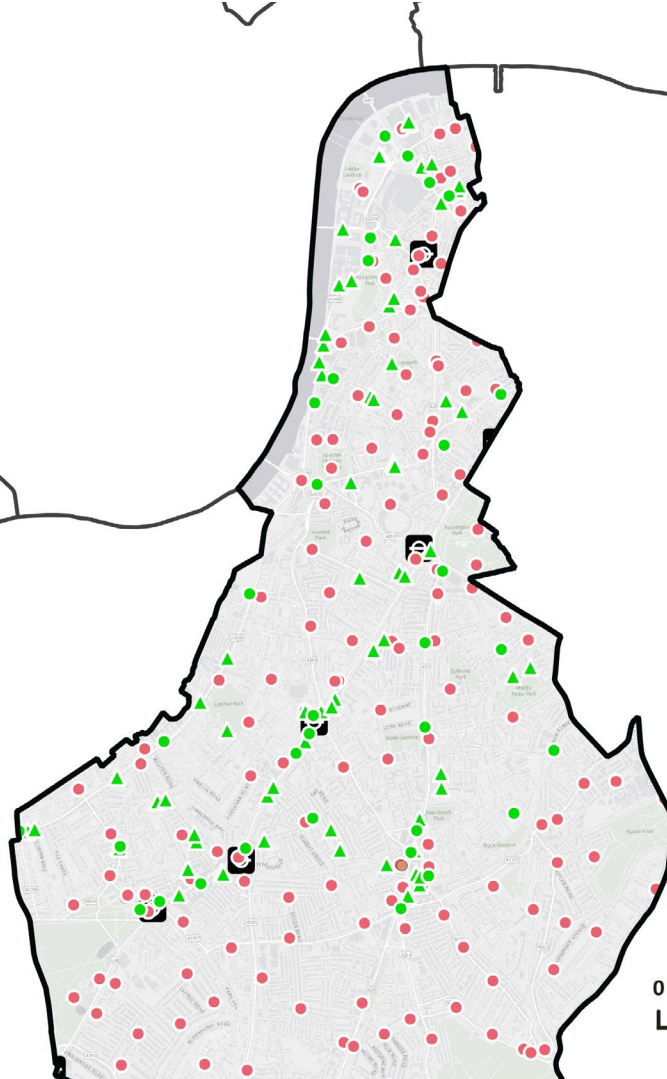


Figure 4.6: North Lambeth - Existing and recommended parking locations | Source: Steer

Recommended Parking Locations - Lambeth

- Shared Micromobility Parking Bay
 - ⊕ London Underground Station
 - 🚉 Railway Station
- Recommended Locations
- Cycle Stand
 - ▲ New Bay



3. Tower Hamlets

Transitioning from Free Floating to a Flexible Parking Zone

An audit was undertaken in Tower Hamlets including:

- 40 existing cycle stand locations that can be reallocated or expanded for use by shared e-bikes.
- 50 potential new bay locations which can be implemented on carriageway, wide pavements, or other publicly accessible open spaces.

Shared e-bike parking demand

Figure 4.7 shows the relative distribution of Lime e-bike trip destinations across Tower Hamlets. The map highlights where there are high volumes of trip ends and parking provision should be prioritised in those locations. Areas where trip density is particularly high where parking locations are recommended to be introduced to better manage parking include:

- Whitechapel
- Near Tower of London
- Bethnal Green

Existing cycle stands can be reallocated/expanded for shared e-bike parking

The audit of existing cycle stand locations showed that:

- Average occupancy of cycle stands was 33% during daytime and 30% in the evenings.

- Half of all cycle stand locations audited (50%) had occupancy of less than 40% both during the days and the evenings.
- 14% of cycle stand locations audited were more than 80% occupied either during the day or the evening.

Additional shared e-bike parking provision

To support a transition to a Flexible Parking Zone in Tower Hamlets, the audit identifies cycle stands and new bay locations which can support:

- Reallocation of 25 cycle stand locations with <40% utilisation.
- Expansion of 12 cycle stand locations with 40–80% utilisation for shared e-bike parking.
- 49 new bay locations including 24 on wide pavements, 23 on carriageway, and 2 on other open spaces.
- Up to 900 additional e-bike parking spaces from reallocated cycle stands and new bays.

Figure 4.8 maps the recommended cycle stand and new bay locations for shared e-bike parking to improve parking of shared e-bikes in high demand locations.






Figure 4.7: Tower Hamlets - Parking demand | Source: Steer

Parking Demand - Tower Hamlets

 London Underground Station

 Railway Station

Average daily Lime trips

-  >0 - 5
-  >5 - 10
-  >10 - 25
-  >25 - 50
-  >50

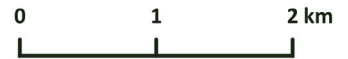


Figure 4.8: Tower Hamlets - Recommended parking locations | Source: Steer

Recommended Parking Locations - Tower Hamlets

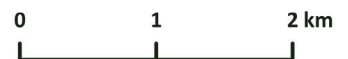
 London Underground Station

 Railway Station

Recommended Locations

 Cycle Stand

 New Bay



5. The Way Forward — Parking Implementation Good Practice

Introduction

When considering new or expanded locations for shared e-bike parking, location selection, planning and implementation are important to ensure that parking locations chosen are accessible for users, and do not inconvenience or introduce a hazard for other residents or visitors, particularly those with access needs. This is in addition to improving the density of shared e-bike parking.

This chapter explores different **parking location types** examining their benefits and key considerations for planning and implementation, including indicative timescales and costs.

Parking location types

Additional parking bays for shared e-bike can be provided in different parking location types, depending on space availability. Table 5.1 describes three different location types for shared e-bike parking including key benefits and considerations for each location type.

**See Recommendation 5:
Mandatory parking locations to include
agreed cycle stands**

Table 5.1: Parking location types

Parking location type	Key benefits	Key considerations
<p>Cycle stands</p> <p>Reallocation or/and expansion of existing cycle stands or similar for shared e-bikes</p>	<p>For users:</p> <ul style="list-style-type: none"> • Access to increased parking density and capacity • Intuitive parking option • Supports both private and shared e-bike usage <p>For boroughs:</p> <ul style="list-style-type: none"> • Lowest cost to implement • Quickest way to increase parking density and capacity 	<p>For users and boroughs:</p> <ul style="list-style-type: none"> • Need to demonstrate low use by private bikes (see audit in Chapter 4) • Operators should be willing to fund more bike racks to ensure parking spaces are not taken away from private bike users • New or expanded cycle stands can also be added on carriageway where there is not enough space on footway

Source: Lime



Parking location type	Key benefits	Key considerations
<p>Pavement bay</p> <p>Adding a new parking location on the pavement including marked bay</p>	<p>For users:</p> <ul style="list-style-type: none"> • Access to increased parking density and capacity • Increased availability of vehicles in specific locations <p>For boroughs:</p> <ul style="list-style-type: none"> • Lower cost to implement than carriageway bays • Quicker to implement than carriageway bays 	<p>For boroughs:</p> <ul style="list-style-type: none"> • Need to ensure location does not inconvenience or create hazards for users/pavement users (key considerations table below)

Source: Lime



Parking location type	Key benefits	Key considerations
<p>Carriageway bay</p> <p>Adding a new parking location on the carriageway replacing car space including marked bay and signs. Carriageway bays have been implemented in different forms, from simple lines and signs, to adding bollards and curb build-outs.</p>	<p>For users:</p> <ul style="list-style-type: none"> • Access to increased parking density and capacity • Increased availability of vehicles in specific locations <p>For boroughs:</p> <ul style="list-style-type: none"> • Demonstrates commitment to reallocation of space from private cars • Reduces likelihood of obstructive parking 	<p>For boroughs:</p> <ul style="list-style-type: none"> • Slowest to implement • Requires Traffic Management Orders • Most likely to receive objections from local stakeholders • Need to ensure location does not inconvenience or create hazards for users/non-users

Source: Lime



Key considerations for planning parking locations

Table 5.2 and Table 5.3 presents the location and key considerations that should be followed for identifying suitable shared e-bike parking locations. Guidance for parking at cycle stands is not included, as these are existing locations.

Table 5.2: Key considerations for locating shared e-bike parking

Key considerations	Description	Suitable location	Unsuitable location
Proximity to trip origins and destinations	Bays are located to maximise potential shared e-bike demand	<ul style="list-style-type: none"> Highly visible location, like outside a shopping centre 	<ul style="list-style-type: none"> Location with very low pedestrian footfall
Size and Position of Bay	Bays are of sufficient size - not too small and ideally located parallel to the kerb	<ul style="list-style-type: none"> A minimum area of 12 sqm (approx. size of a car parking space) with capacity for parking 8-10 shared e-bikes or more 	<ul style="list-style-type: none"> Location too small e.g. <5m in length which may lead to overflow and cause street clutter
Servicing	Consider how servicing vehicles will park	<ul style="list-style-type: none"> Location with space for servicing vehicle to stop to service/redistribute bikes 	<ul style="list-style-type: none"> Red route with no parking for servicing vehicles
Road Safety	Bays can be accessed safely by users and servicing staff	<ul style="list-style-type: none"> Bay located on side street, close to main road with lower speed traffic 	<ul style="list-style-type: none"> Bay located on high speed road, or close to major junction
Security	Users feel safe and secure using bay at all times of day and night	<ul style="list-style-type: none"> High footfall location with good street lighting and CCTV 	<ul style="list-style-type: none"> Secluded location with low footfall and poor street lighting
Co-location with existing transport services/links	Bays are located to encourage multi-modal travel	<ul style="list-style-type: none"> Easy access from existing transport services, e.g. rail station 	<ul style="list-style-type: none"> Close to transport services, but not visible, e.g. car park behind rail station

Table 5.3: Location considerations by infrastructure type

Description	Suitable location	Unsuitable location
<p>Pavement bays</p> <p>Bays should be located to maximise visibility for users, while not inconveniencing pavement users</p>	<ul style="list-style-type: none"> • Pavements where space is available away from pedestrian desire lines • Located close to dropped curbs to minimise encouraging pavement riding) • Pavements where space is available for cycle stands to supplement bay provision 	<ul style="list-style-type: none"> • Narrow pavements • Locations which cause an obstruction for pavement users such as traffic islands
<p>Carriageway bays</p> <p>Bays should be located to maximise visibility for users, while considering any impacts on road users and pavement users</p>	<ul style="list-style-type: none"> • First/last parking bay, which improves visibility • >5m from a junction • not too close to pedestrian crossings • not too close to where passengers wait for buses/buses stop • not too close to private residences to prevent disturbance • co-location with other facilities, e.g. car club bays, cycle hangers 	<ul style="list-style-type: none"> • Middle parking bay, with limited visibility between parked cars

Other considerations

- For ease of implementation, bays should be prioritised on public land by the council. However, private land parking can also be implemented by the operators via a licence to occupy agreement with the landowners.
- Avoid locations that are under significant tree cover as vehicles can suffer from bird droppings and leaf fall in the autumn.
- Avoid locations with significant slopes, which can cause vehicles to fall over and can be difficult for users to start/end their journey.

Parking implementation process

Table 5.4 below describes the process, timescales and costs of implementing different types of parking.

Table 5.4: Implementation process for different types of parking

Type of parking	Process to implement	Indicative timescales to implement	Costs to implement per unit
Virtual bays	<ul style="list-style-type: none"> • Geofenced by operators to control parking by users 	<1 week	N/A
Cycle stands – repurposed	<ul style="list-style-type: none"> • Identification of existing cycle stands in the borough which are not well used (<40% utilisation) • No Traffic Management Order required (when on pavement) • Geofenced by operators to control parking by users 	0-4 weeks	£0
Cycle stands – expanded and repurposed	<ul style="list-style-type: none"> • Identification of existing cycle stands with space to expand • No Traffic Management Order required (when on pavement) • Geofenced by operators to control parking by users 	2-8 weeks	Up to £100 per unit (installation costs will vary per local authority)
New bays – pavement	<ul style="list-style-type: none"> • Identification of suitable pavement locations, e.g. minimum 2 metres space available for pedestrians • Pavement markings • Signage (optional) • Geofenced by operators to control parking by users 	2-4 weeks	c.£100–£500

Type of parking	Process to implement	Indicative timescales to implement	Costs to implement per unit
New bays – carriageway	<ul style="list-style-type: none"> • Identification of suitable carriageway locations, typically replacing car parking spaces. While selecting a carriageway bay, the following hierarchy of bays should be considered: <ul style="list-style-type: none"> – Parking for private cars – Parking for taxis and drop off/pick up – Loading bays – Disabled parking • Development of Traffic Management Order (TMO) applications, this will include: <ul style="list-style-type: none"> – statement of reasons and a schedule of changes – supporting Computer-Aided Design (CAD) drawings • Road Safety Audit • TMO advertisement and TMO approvals • Resident consultations • Changes to road markings • Changes to signage • Installation of bollards (Optional) 	12-18 months for full network	c. £2,000-£3,000

6. Key Challenges and Recommendations

Key Challenges

This report has undertaken an independent analysis of shared e-bike parking in London, including identifying gaps in the shared e-bike parking network across key London boroughs within Lime's operating area, and developing recommendations for the boroughs and shared e-bike operators.

This report has highlighted there is an inconsistent and varied approach across London to shared e-bike parking.

There are insufficient parking locations in Mandatory Parking Boroughs for users to safely park their e-bike at the end of the trip. This results in overcrowded parking bays and some abandoned bikes, as well as limiting user demand.

The key challenges are as follows:

- **Inconsistency in parking rules leads to confusion for users**
 - Users do not know where borough boundaries start or end. Therefore, different parking rules by borough causes unnecessary confusion for users. For boroughs this can result in poor parked vehicles and complaints. For operators, this is challenging for operational and fleet management purposes and in creating a seamless customer experience for users.
- **Insufficient bay density across Mandatory Parking Zone boroughs limits usage**
 - Too few parking locations in Mandatory Parking Zone boroughs reduces the use of shared e-bikes. If users can't find a bike or park conveniently at the end of their trip they will cycle less.
- **Insufficient bay capacity and density across Mandatory Parking Zone boroughs results in poorly parked bikes**
 - Insufficient parking bay capacity and density in Mandatory Parking Zone boroughs, particularly in areas of high usage, results in increased parking issues due to overcrowded parking locations and frustrated users abandoning vehicles outside of bays (in areas where parking provision is low).
- **Allowing bikes to be parked anywhere in busy locations can lead to street clutter**
 - The fully free-floating model can lead to pavement obstructions when implemented in busy locations such as high streets or transport hubs. Obstructions create issues for pedestrians, particularly those with accessibility needs.

Recommendations

To address the challenges associated with shared e-bike parking provision and further support the growth of e-bike share and overall cycling in London, the following recommendations have been developed:

● Recommendation 1: Establish clear parking terminology

Shared e-bike operators to define clear, unambiguous parking terminology in all rider communications. Specifically, this includes:

- Consult on how information can be presented more clearly and consistently by boroughs and by operators (including in-app).
- Recommended definitions include:
 - A single **Mandatory Parking Zone** across more central London boroughs
 - A single **Flexible Parking Zone** across less central London boroughs
 - Lime to stop using the term Preferred Parking, which is unintuitive and harder for users to understand.
- To provide clarity and consistency for users, non-users, operators, TfL, Boroughs and Operators it is recommended that a consistent map database of Mandatory Parking Locations is developed and maintained to be used by all stakeholders.

Recommendation 2: A single Mandatory Parking Zone for more central boroughs

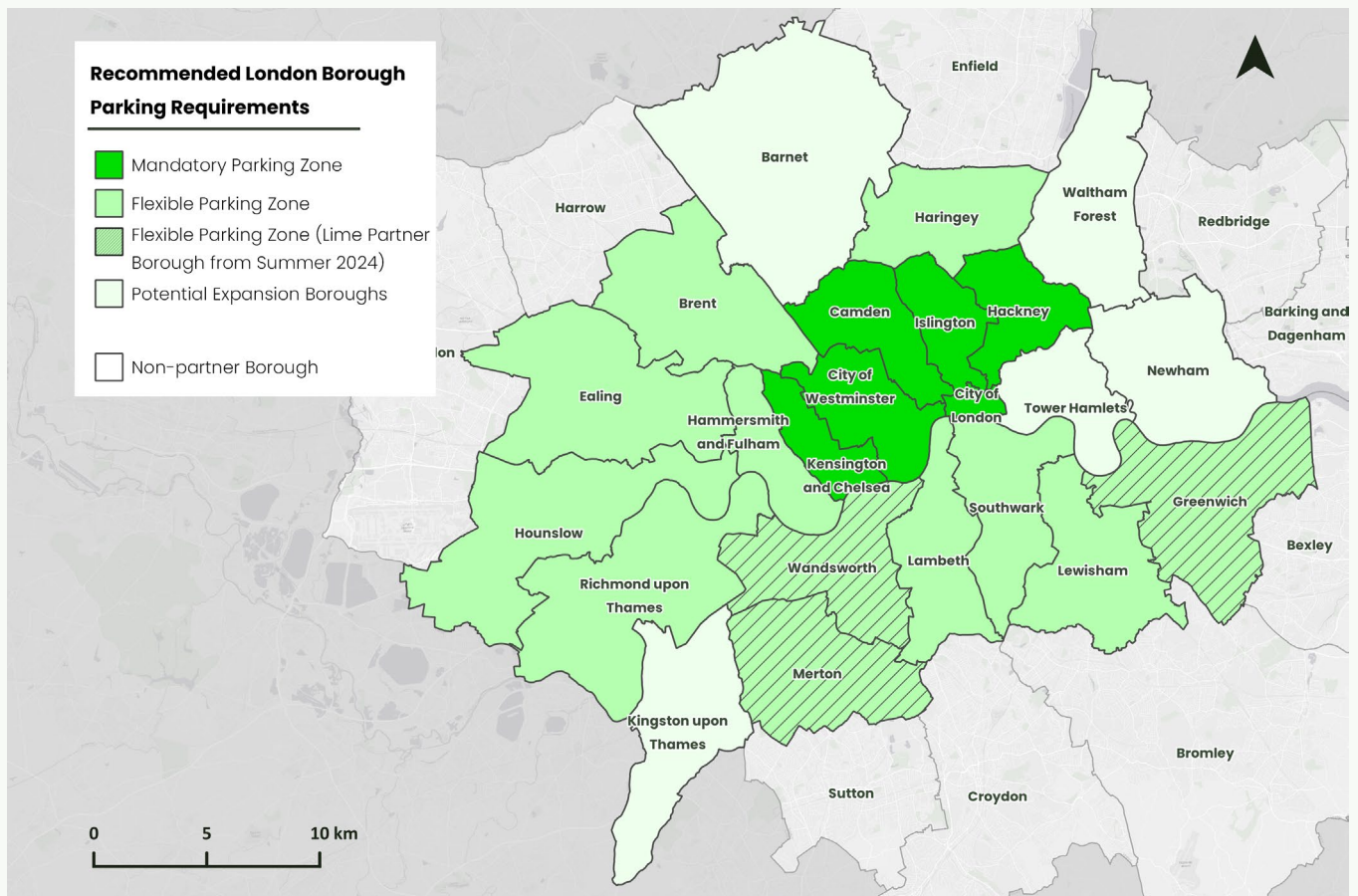
A consistent approach to shared e-bike parking density and capacity to be adopted by all more central boroughs reflecting high densities of destinations and volumes of trips. Boroughs to form a single **Mandatory Parking Zone** with **Mandatory Parking locations** (which can include parking bays, cycle stands and virtual locations) enforced with the following recommended parking densities:

- Highest demand zones: 50 bays/sq. km.
- Other high streets: 35 bays/sq. km.
- Residential: 25 bays/sq. km.

Recommendation 3: A Single Flexible Parking Zone for less central boroughs

A consistent approach to shared e-bike parking to be adopted by all less central boroughs. Boroughs to form a single **Flexible Parking Zone** with parking locations implemented in high demand areas/high streets to reduce street clutter and improve the user experience, outside of these high demand areas users will be required to park considerately (enforced by mandatory end trip photos). In less central boroughs providing a usable bay network for users (25 bays per sq. km) in low density residential areas is not practical or affordable.

Figure 6.1 Recommended London Parking Requirements | Source: Steer



Recommendation 4: Lime to support increasing density and capacity of cycle parking

Lime to support London Boroughs in the planning and implementation of **Mandatory Parking Locations** to meet demand, reallocate road space from the private car and establish a consistent density of parking locations.

Lime has committed £1 million to a London parking fund, sharing data to help plan and add new on carriageway parking bays and cycle stands improving parking density across London.

Recommendation 5: Mandatory parking locations to include agreed cycle stands

All boroughs with **Mandatory Parking Locations** to allow their existing parking bay network to be supplemented by allowing parking at agreed cycle stands where users can park, as implemented already in Westminster and Kensington and Chelsea. These locations should include both:

- repurposed cycle stands; and
- expanded cycle stands.

Agreed cycle stands will be marked in the providers' apps to make clear which locations are permitted for dual use. All flexible parking boroughs already allow for user parking at cycle stands and should continue to do so.

Lime understands the importance of not taking cycle stand parking spaces away from private cyclists. As part of its new parking fund it will fund twice the number of cycle stands its fleet uses in boroughs that permit bike rack parking. This can include adding cycle stands to re-purposed carriageway spaces.

7. Appendices

A. Audit Methodology

Audit Survey

A group of auditors visited the identified locations to review the suitability of the locations. A short survey was developed for auditors to review for each location, as summarised in the table below. The findings were supported by a number of images taken by the auditors during the audit.

Conducting the audits

The 575 existing cycle stand locations were audited twice: a) during the workday (Mon-Fri between 10am and 4pm) and b) outside of work hours (Mon-Fri between 6pm and 7am) to confirm they are not being utilised differently at different times of the day (e.g. residential stands may be full at night).

The 600 potential locations were audited during the workday (Mon-Fri between 10am and 4pm) only.

Table A.1: Audit survey questions

Existing cycle stand audit questions	Potential new location audit questions
<ul style="list-style-type: none"> • Number of stands • Number of private bikes parked at the stands • Number of shared bikes parked at/near the stands • Potential/capacity to expand • Any obstructions (e.g. bench, door, utility covers, trees, etc.) • Space for service vehicles • Proximity to other mobility services (e.g. car club, cycle hangar) • Security (e.g. street lighting, CCTV) • Other comments 	<ul style="list-style-type: none"> • Current use of space (vehicles, pedestrians, others) • Capacity/ number of vehicles that can be parked • Space for service vehicles • Any obstructions (e.g. bench, door, utility covers, trees, etc.) • Space for service vehicles • Proximity to other mobility services (e.g. car club, cycle hangar) • Security (e.g. street lighting, CCTV) • For carriageway locations: <ul style="list-style-type: none"> • Type of parking loss • Number of parking loss • For pavement/other locations: <ul style="list-style-type: none"> • Confirm footway space not reduced <2m

B. Borough Parking Summary

Parking Comparison of borough parking rules and provision

Borough	Parking Rule	Type of Bays	Number of Bays	Bay Density (MPZ Only)	Example parking terminology ⁸
Camden	MPZ	Physical Bay	200-250	6-10	<ul style="list-style-type: none"> • Designated Docking Bays • Compulsory Parking Bays
City of London	MPZ	Physical Bay	50-75	11-17	<ul style="list-style-type: none"> • Authorised Locations • Dockless Bike Bays
City of Westminster	MPZ	Physical Bay & Cycle Stand	300-350	11-17	<ul style="list-style-type: none"> • Authorised Locations • Dockless Bike Bays
Ealing	MPZ	Physical & Virtual Bays	250-300	1-5	<ul style="list-style-type: none"> • Dockless bike hire parking • Designated Bays
Hackney	MPZ	Physical Bay	125-175	6-10	<ul style="list-style-type: none"> • Designated Cycle Hire Parking Bays
Hammersmith and Fulham	MPZ	Physical & Virtual Bays	100-150	6-10	<ul style="list-style-type: none"> • Parking Locations • Parking Bays
Hounslow	MPZ	Physical Bay	250-300	1-5	<ul style="list-style-type: none"> • E-bike Bays
Kensington and Chelsea	MPZ	Physical Bay & Cycle Stand	150-200	11-17	<ul style="list-style-type: none"> • Dockless Bicycle Parking Bays
Lambeth	MPZ	Physical Bay	250-300	6-10	<ul style="list-style-type: none"> • Designated Bays

⁸ A sample of parking terminology used on borough websites. The examples listed in the table are not exhaustive and other terminology may be used by boroughs beyond those listed here.

Borough	Parking Rule	Type of Bays	Number of Bays	Bay Density (MPZ Only)	Example parking terminology⁸
Lewisham	MPZ	Physical Bay	50-100	1-5	<ul style="list-style-type: none"> • Designated Bays
Richmond upon Thames	Preferred Parking	Physical Bay & Cycle Stand	25-50	N/A	<ul style="list-style-type: none"> • Designated parking place/spaces/locations
Southwark	Preferred Parking	Physical Bay & Cycle Stand	150-200	N/A	<ul style="list-style-type: none"> • Preferred parking Bays
Haringey	Preferred Parking	Physical & Virtual bay & Cycle Stand	50-100	N/A	<ul style="list-style-type: none"> • Marked Bays • Virtual Parking Bays
Brent⁹	Free* floating	N/A	>10 (pilot bays)	N/A	<ul style="list-style-type: none"> • Pilot bays
Islington	Free floating*	N/A	>10 (pilot bays)	N/A	<ul style="list-style-type: none"> • Designated hire e-bike parking spaces





Lime

steer

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May 2024