

December 2025

WATERLOO FREIGHT HUB ROAD-FED TRIAL: EVALUATION REPORT

Intellectual property of Cross River Partnership



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Executive Summary

Cross River Partnership has delivered an innovative, sustainable and transformative trial of low-emission deliveries from the Waterloo Freight Hub underneath Waterloo Station, supporting residents and businesses across London. From 25th March 2025 – 23rd July 2025, a sustainable last-mile logistics courier, Delivery Mates, has received, sorted and sent by electrically assisted cargo bikes from the hub, located in Arch 242A, across London.

The trial has seen Delivery Mates’ **cargo bikes travel over 4,600 km**, delivering **over 20,000 parcels**. The Waterloo Freight Hub has delivered over **2,500 kg of CO2 savings**, supported **job creation, community benefits, reduced congestion**, and supported the **creative use and retrofitting** of an existing Network Rail and Department for Transport asset. This has improved air quality across London by shifting freight journeys from polluting vans to electrically assisted cargo bikes, supporting communities to receive more sustainable deliveries at no extra cost.

The trial also demonstrated the long-term potential of the space, which can be used to create a **Multi-Modal Waterloo Freight Hub**, with inbound deliveries by rail, river and road and outbound deliveries made by a range of low emission vehicles.

The report will outline the positive impact of the trial, before outlining and exploring the extensive delivery, processes and sign-offs required, alongside learnings that CRP had experienced from the project conception in 2022 to its delivery in 2025. A **strong coordinating presence** is needed to ensure there are no missed opportunities for the delivery of the next phase of the project, to ensure that economic, community and environmental benefits are delivered to their greatest potential impact.

CRP has worked closely with partners from Network Rail, the London Borough of Lambeth, the Department for Transport (DfT) and London and Continental Railways (LCR) to deliver the trial. **However, to fully realise the potential of the space, CRP encourages DfT to consider the following recommended actions:**

Considerations for DfT

- 1 Lead a flexible **Programme of Delivery** for the next phase of the Waterloo Freight Hub.
- 2 Provide co-ordination funding to CRP to facilitate the development of **More Space** in the arches of the Waterloo undercroft on behalf of DfT.
- 3 Commission CRP to achieve the development of **Rail Freight** into Waterloo Station.



Introduction

Cross River Partnership (CRP), an impartial partnership organisation, has delivered an **innovative, sustainable and transformative trial** of low emission deliveries from the Waterloo Freight Hub underneath Waterloo Station, supporting residents and businesses across London. The Waterloo Freight Hub Trial has **improved air quality across London** by shifting freight journeys from polluting vans to electrically assisted cargo bikes, **supporting communities to receive more sustainable deliveries** at no extra cost.

CRP has been working closely with partners from Network Rail, the London Borough of Lambeth, the Department for Transport, London and Continental Railways, and Waterloo Station, to unlock the potential of underutilised space at Waterloo Station for a Freight Hub. The trial has been funded through the Defra air quality grant programme, Smarter Greener Logistics.

From 25th March 2025 – 23rd July 2025, a sustainable last-mile logistics courier, Delivery Mates, has **received, sorted and sent deliveries across London** by electrically assisted **cargo bikes** from the hub, located in Arch 242A underneath Waterloo Station.

This has ensured more Londoners receive deliveries by low emission vehicles, helping to **reduce congestion, improve productivity, air quality and the health of Londoners** moving around the city.

This report will outline the **positive impact** of the trial, before outlining and exploring the extensive delivery, processes and sign-offs required, alongside **learnings** that CRP had gained from the project conception in 2022 to its delivery in 2025. The report then outlines practical next steps that can help the project achieve its' potential through creating a **Multi-Modal Waterloo Freight Hub**, with inbound deliveries by rail, river and road and outbound deliveries made by a range of low emission vehicles.

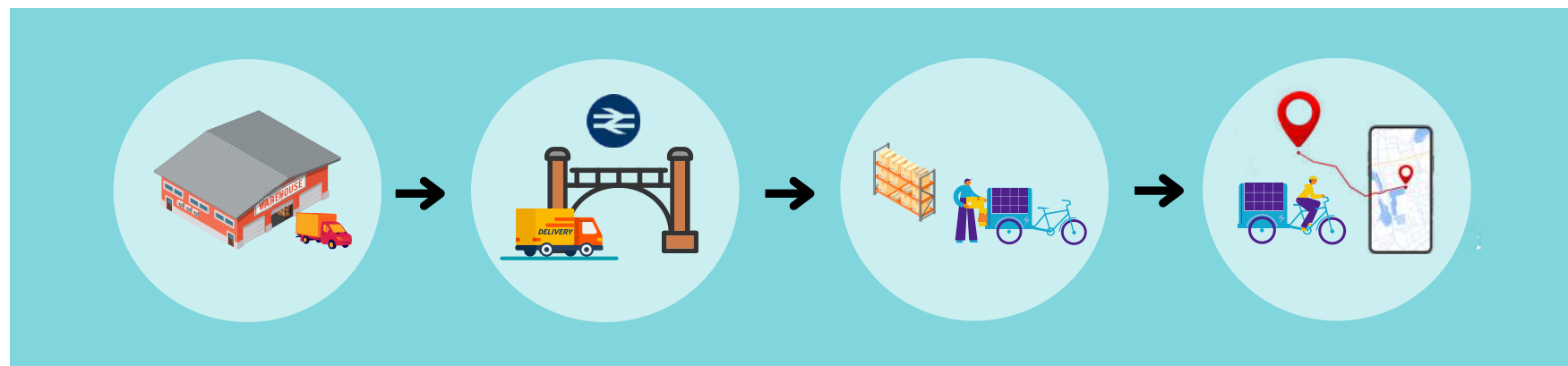
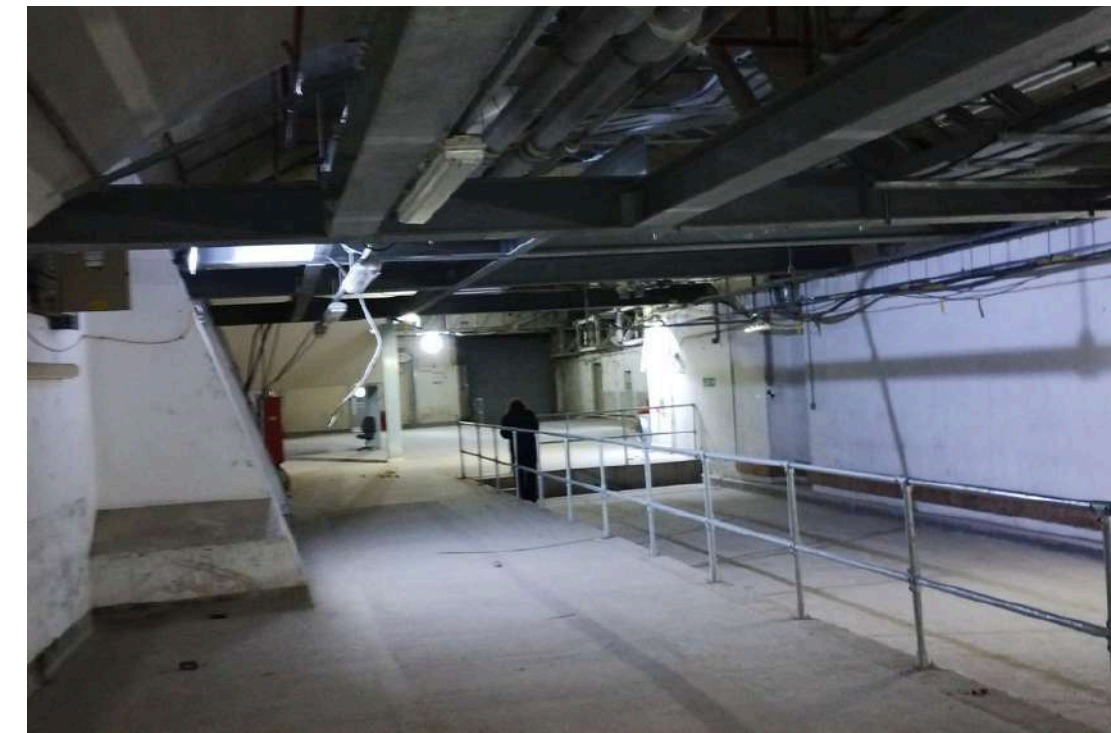


Figure 1. Graphic showing the process of the Waterloo Freight Hub Trial. Parcels were received at an arch space, sized approximately 1,800 sq. ft, in the undercroft of Waterloo Station, by van. Parcels were then sorted and sent across London to residents and businesses by electrically assisted cargo bikes.



Figure 2. Images from the undercroft of Waterloo station, where approximately 100,000 sq ft. could be utilised for Multi-Modal freight and logistics space.



Insights & Impacts

Environmental, Economic & Community Impact

This section provides an overview of the impact of the trial, including parcel numbers and locations, parcel delivery density, and associated environmental, economic and community benefits. Existing baseline noise and traffic data in the local area is also outlined.

The Waterloo Freight Hub trial has delivered **environmental, economic and community** benefits including:

- **Cleaner Air and Healthier Communities:** Road freight is the single biggest contributor to London’s air pollution, causing around 4,000 premature deaths annually [3]. This trial has replaced polluting van journeys with cargo bikes for parcel deliveries across London, saving over 2,500 kg of CO2 (see Figure 3) and improving the health of local residents and workers.

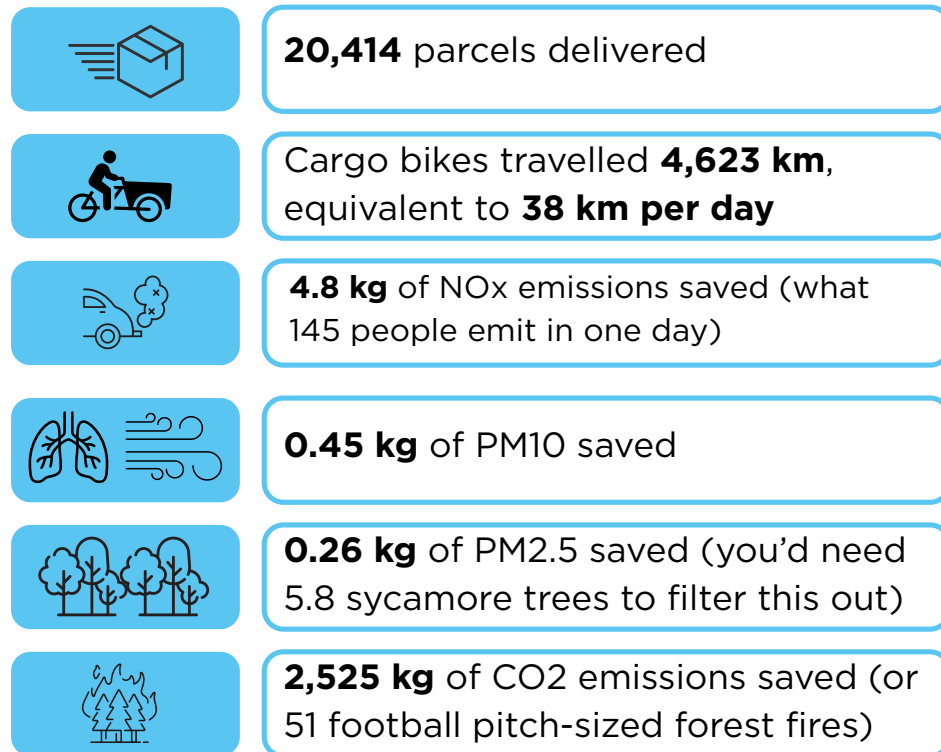


Figure 3. Insights from the trial calculated using data provided by Delivery Mates. Air quality calculations have been made using CRP’s internal Transport Emissions Calculator. Translated into more tangible examples using the CRP Clean Air Tool. More information on specific pollutants is available [here](#).

- **Safer Streets:** Road danger has been reduced by shifting freight trips from vans to cargo bikes on congested streets, promoting active travel and supporting healthier lifestyles [4].
- **Sustainable and Efficient Deliveries:** Over 20,000 parcels were delivered through the trial, supporting residents and businesses in high-density, high-population central London areas (see Figures 6 and 7) to receive more efficient and sustainable deliveries by cargo bike.
- **Economic Impact & Job Creation:** Delivery Mates have hired 3 new riders to manage the extra demand from the project, providing new routes to green jobs for an ever-expanding low emission freight sector. Over £500,000 has been spent to develop the project (more seen in *Financial Contributions*) with LCR framework contractors, CRP commissioned studies, CRP staff time, and many other means to deliver the project successfully.
- **New Potential Income Sources:** The hub showcases how existing infrastructure and underutilised space can be retrofitted into high-impact infrastructure, without the high financial and environmental cost of new development, and providing potential new sources of income for the leaseholder (DfT) and superior landlord (Network Rail).
- **Community Learning & Future Innovation:** Delivery Mates have upskilled the logistics sector through the Delivery Mates Academy, a free and in-person training resource for anyone that wants to learn more about the logistics industry [5]. During weekly classes, the Academy will teach a variety of modules to equip participants with the skills they need to take advantage of a constantly evolving market. These modules range from Google Sheets and AI, to Fleet Compliance, Software for the Last Mile, Customer Service, and more. This helps to deliver greater social and community impact through more knowledge and awareness of the Waterloo Freight Hub trial, enabling greater uptake and replicability in the future.



Figure 4. Map highlighting the ‘Middle Mile’ (from Bedford to London) journey via van and ‘Last Mile’ delivery via cargo bikes during trial. For more information on the middle and last mile click [here](#).

Insights & Impacts

Parcel Numbers & Network Map

From 24th March 2025 - 23rd July 2025, over **20,000 parcels** were delivered during the trial. March had the fewest number of parcels, due to the limited operation during the first week of the trial, as seen in Table 1.

June saw the second lowest number of parcels delivered during the month. In the week of 2nd June, Delivery Mates **transferred scanning operations to the SE1 5SS site**, which is about a 15-minute bike ride away. This involved collecting parcels at Waterloo, moving them to their SE1 Bermondsey site, and scanning them there. While this improved productivity to approximately 40%, it was still insufficient for ramping up operations at the Waterloo Hub itself.

Given the increasing pressure to scale deliveries and the two-month delay, Delivery Mates **increased volume starting from July 14th**, following the same process. This explains why July saw the highest number of parcels, despite the challenges they had in scaling up and shorter month (see *Lessons Learnt* for more information).

The trial focussed densely on areas just south of the River Thames; seen in Figure's 6 & 7, in addition to areas north of the river around Victoria, Pimlico and Westminster, and east towards the City of London. The deliveries are supporting a number of **populous residential areas** and many **dense business districts** across the city, helping directly to address traffic and congestion challenges across London.

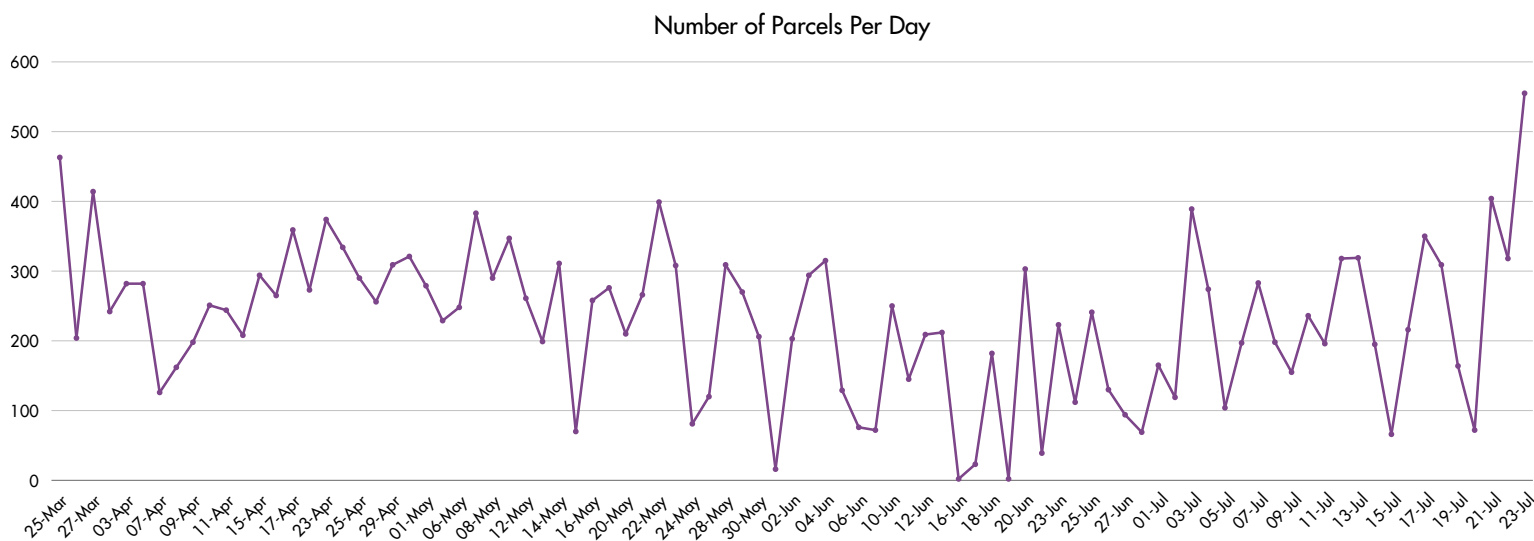


Figure 5. Number of parcels delivered throughout the trial (24th March - 23rd July)

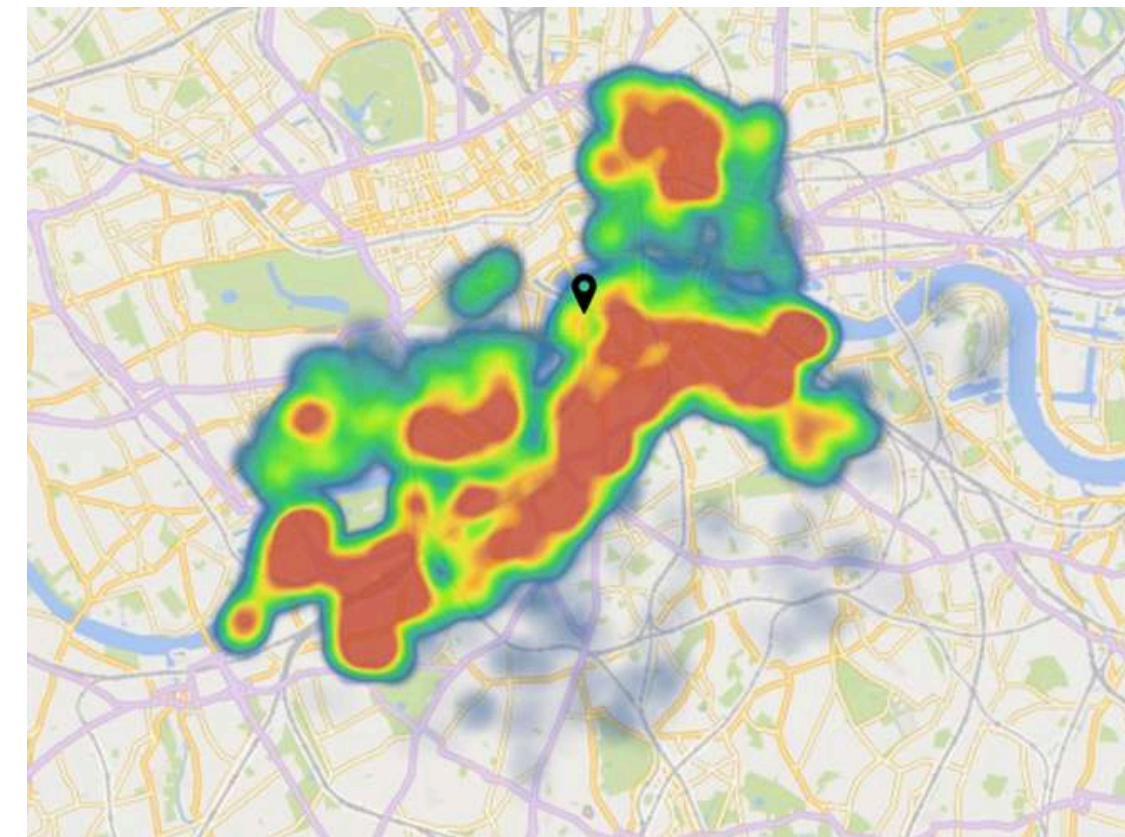


Figure 6. Network heat map showing frequency and density of parcel deliveries across London. Waterloo Station is shown as a black location marker. The trial's highest density of parcels were delivered just south of the River Thames, in addition to areas north of the river in Westminster and the City of London. Inner London has a catchment of up to 3.5 million people, with these deliveries supporting high-density parcel deliveries in London.

Table 1. Parcels delivered each month.

Month	Number of Parcels
March	1,081
April	5,070
May	5,336
June	3,325
July	5,602
Total	20,414

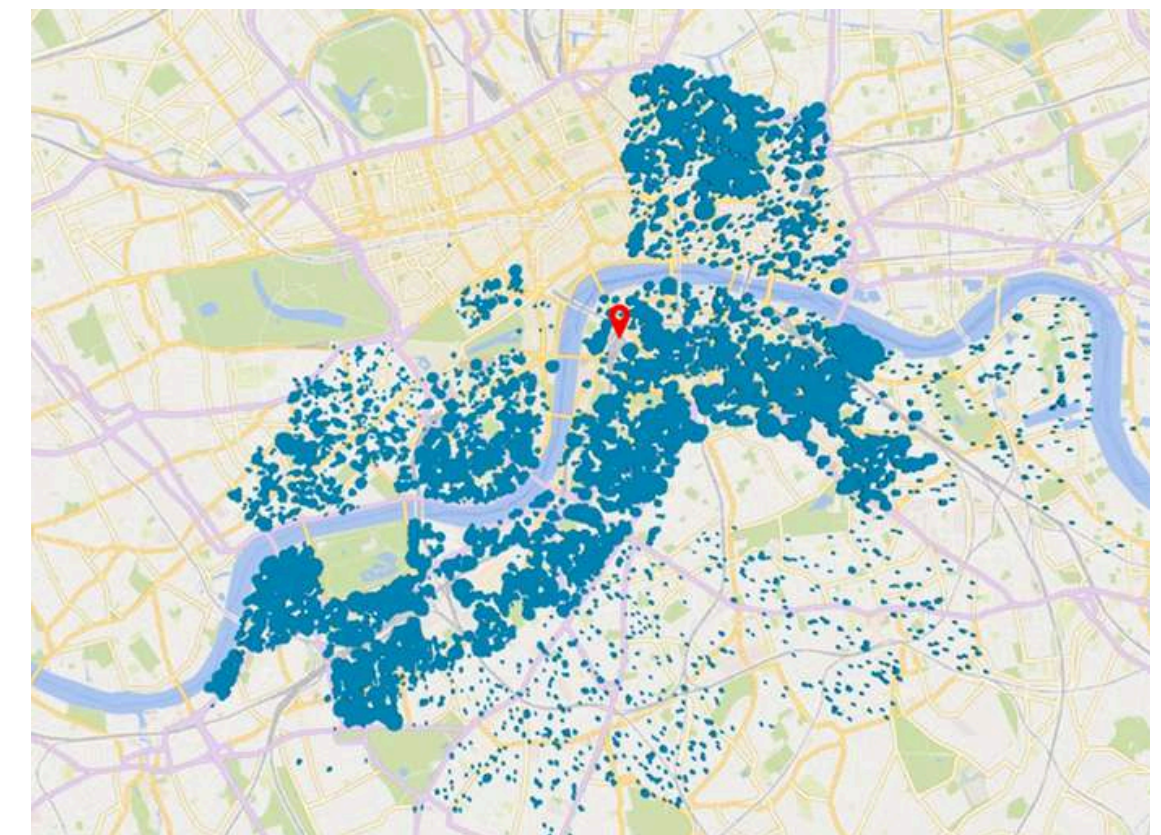


Figure 7: Network map of deliveries - 1 post code is represented by 1 point on the map. Waterloo Station is shown as a red location marker.

Insights & Impact

Trial Context & Baseline Data

Baseline data from CRP and drawn from secondary sources has shown that the area is home to high levels of traffic on Waterloo Road, and high pedestrian footfall on Lower Marsh and Leake Street. **In 2011, there were 28,912 motor vehicles seen on Waterloo Road [1],** and with TfL's existing data suggesting an estimated **4% traffic reduction since 2011** across the city [2], we would still expect a cautious estimate of over **20,000 motor vehicles on Waterloo Road each day**, incorporating road layout changes that have taken place locally.

The Waterloo Freight Hub Trial will add just 1 van to the local area on a daily basis, taking up a maximum of 0.01% of estimated traffic.

The existing area is also home to **high levels of acute and background baseline noise levels**. CRP data collection shows that noise levels regularly spike throughout the day and week from existing road traffic, trains, people, and other sources, seen in Figures 9 and 10.

Maximum noise levels in the local area prior to the trial launching showed inconsistent peaks throughout the week. The **quietest days for acute noise exposure** were on Thursday and Friday, whilst the remainder of the week appeared to have loud peaks at all locations (see Figure 9).

All locations around Waterloo Road experience **high levels of acute noise** on all days of the week, inferring that the trial is going to have **minimal impacts** running throughout the week.

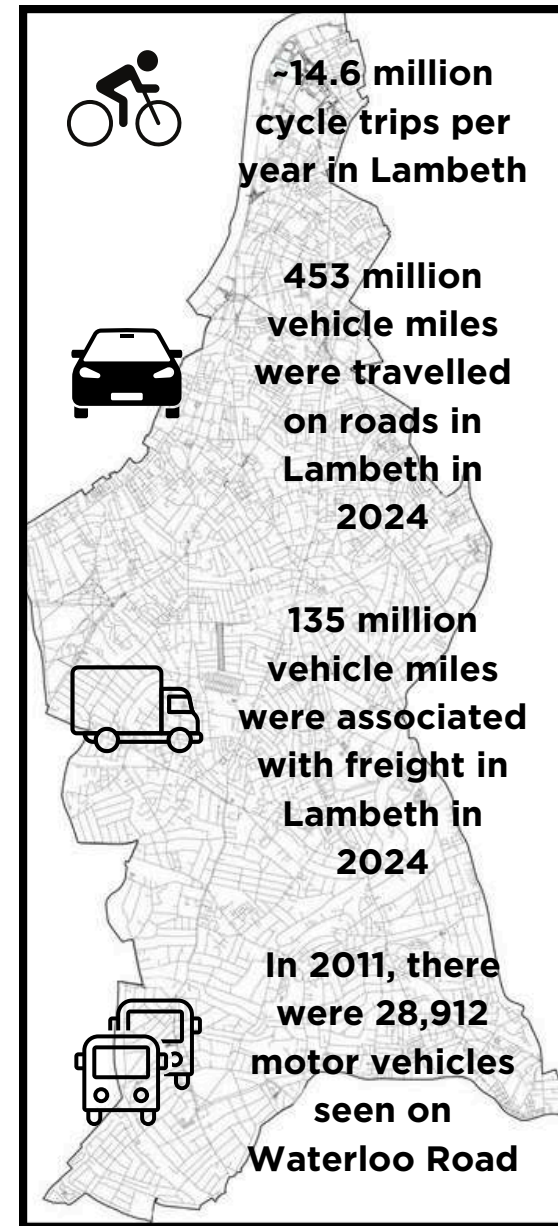


Figure 8. Local Context. Source: Lambeth Transport Strategy

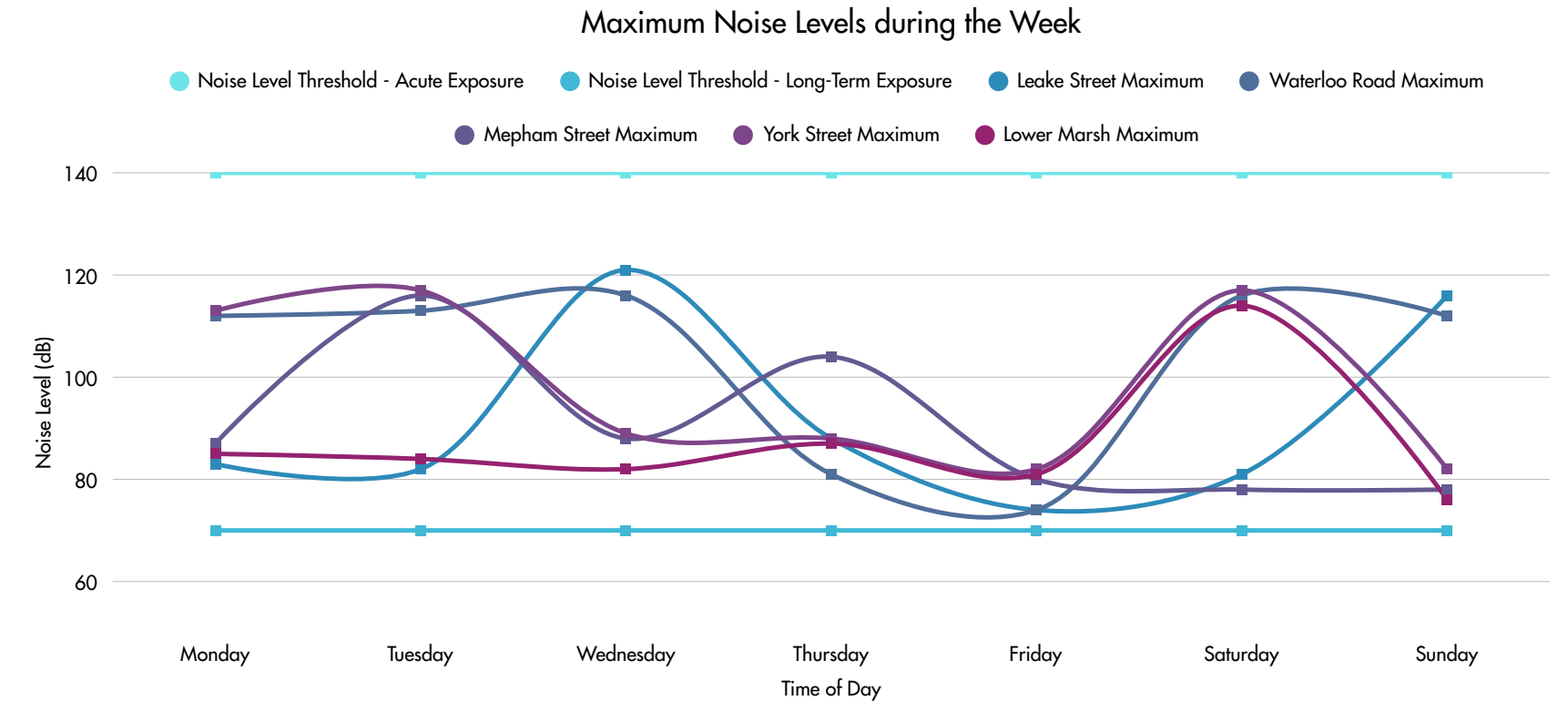


Figure 9: Data collected by CRP showing maximum Noise Levels recorded on each weekday during the monitoring period.

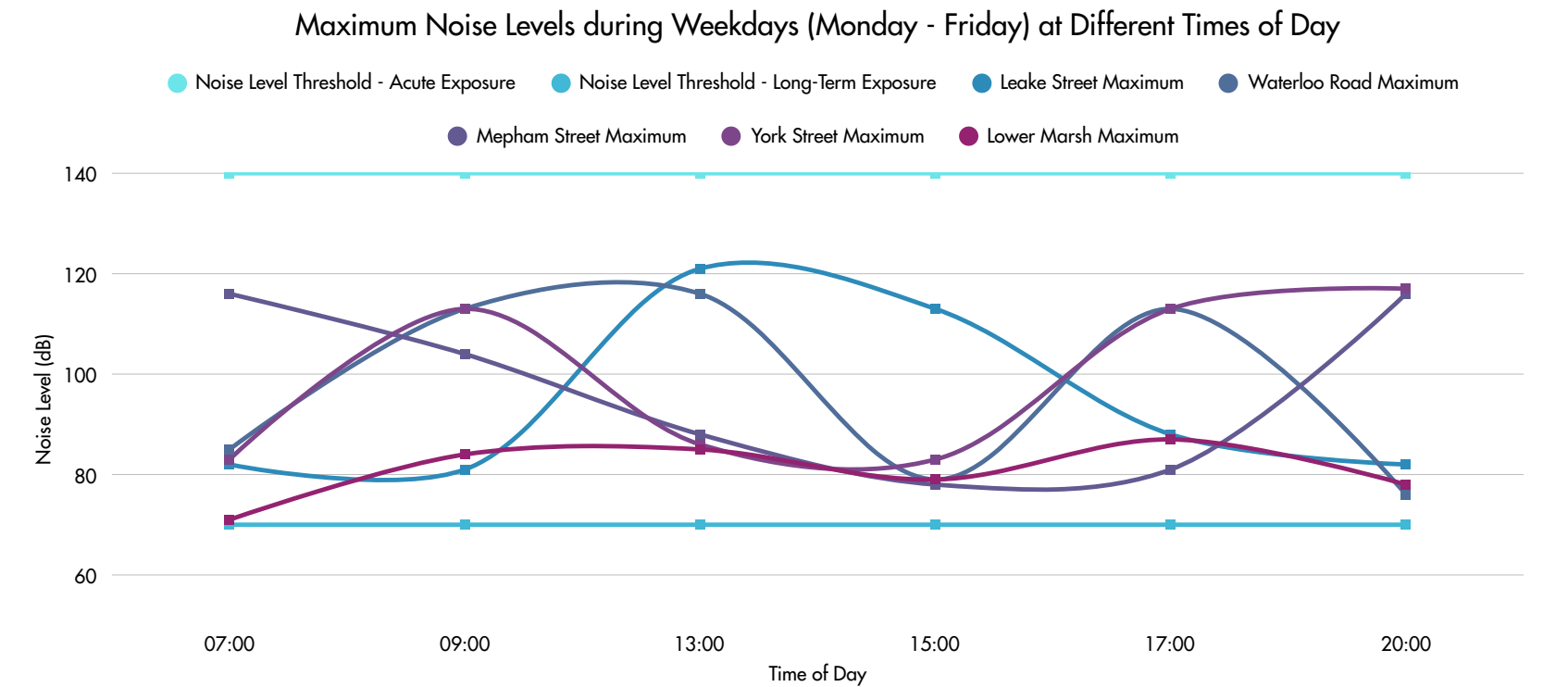


Figure 10: Data collected by CRP showing maximum Noise Levels recorded at each time during the monitoring period.

Insights & Impact

Baseline Average Noise Levels during Weekdays (Monday - Friday) at Different Times of Day

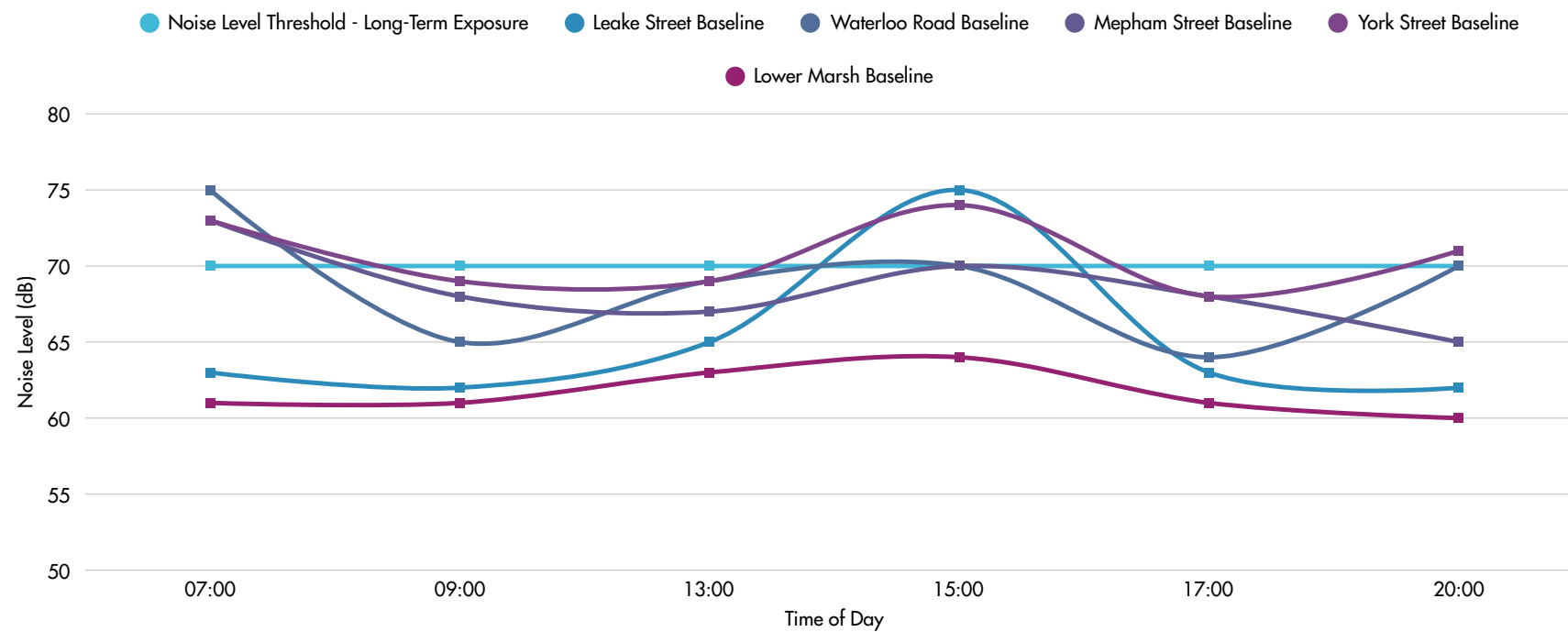


Figure 11. Data collected by CRP showing average baseline Noise Levels during weekdays throughout the day.

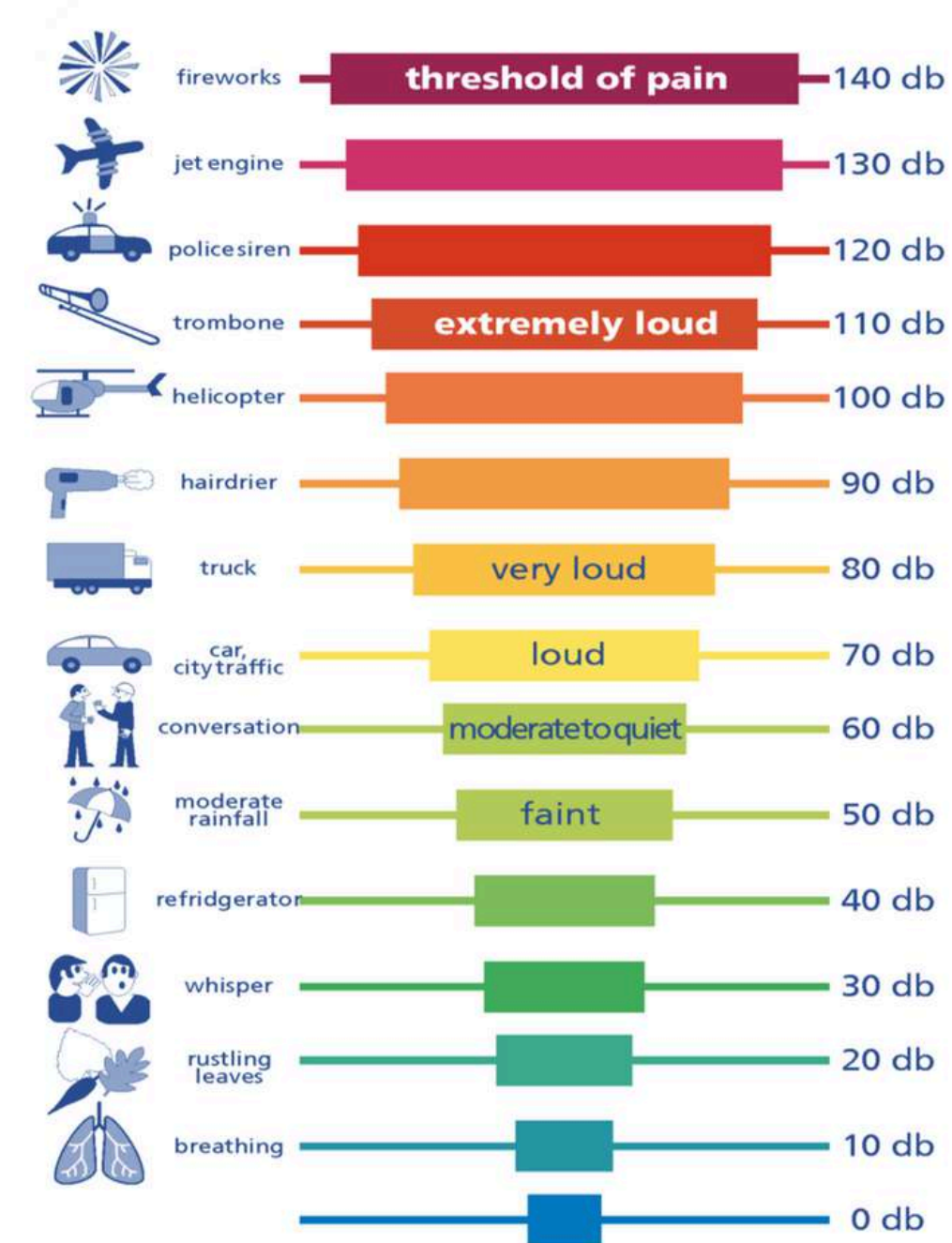
Throughout the day (see Figure 11), Lower Marsh had noise levels **lower than the noise level threshold for long-term exposure** (e.g. background noise), an important consideration for trial operations.

The local area around Waterloo Station was **noisiest** throughout the **early morning and mid-afternoon**, where noise levels appeared to be **above long-term exposure thresholds**. This can lead to long-term consequences including higher levels of stress, anxiety and blood pressure for those living and working in the area.

Maximum noise levels throughout the day didn't reach acute exposure thresholds, although this is extremely unlikely (an ambulance siren is approx. 120 dB - see Figure 12). Noise levels were very high throughout the day for all locations, apart from Lower Marsh, which remained below 90 dB through every observation on the day (see Figure 10).

Freight activity must therefore give careful consideration to local traffic and noise levels to ensure it is not too intrusive and disruptive to the local area.

Figure 12. Range of Noise Levels and Associated Comparisons. Source: [Commodious.com](https://www.commodious.com)

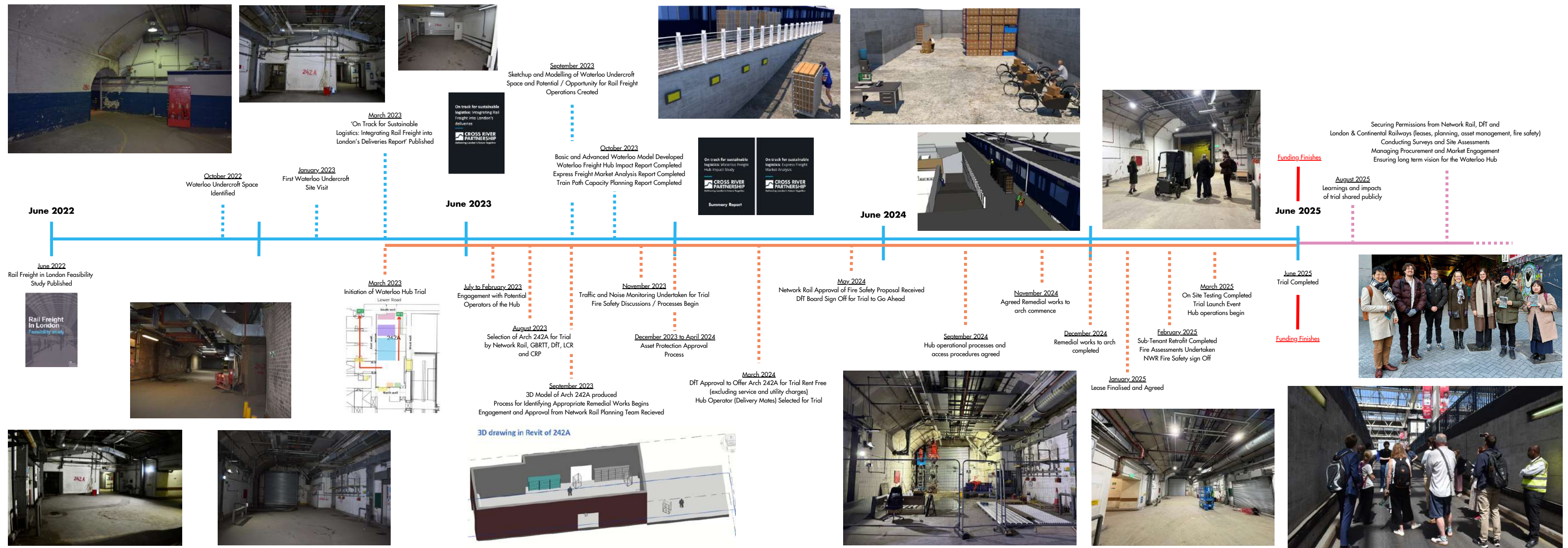


Lessons Learnt

The Waterloo Freight Hub has been led and developed by CRP since 2022. The process has also involved **collaboration** with a number of partners and has been **funded through multiple sources**, with support from various strategic agencies. The overall process of the hub's development can be seen in Figure 13 below.

The following section highlights the **challenges and learnings** involved in setting up a road-fed trial at the Waterloo Freight Hub. All of the learnings throughout the project have emphasised the need for a coordinating organisation to deliver the work, that has a strong local understanding in and out of the station footprint, aware of the decarbonisation and strategic potential of the project, and a track record of delivery.

Figure 13. Waterloo Freight Hub Development since 2022.



Lessons Learnt

Utilising Expertise & Developing An Evidence Base

Several reports were developed by CRP in 2022 and 2023 to influence the Waterloo Freight Hub Road-Fed Trial. These were funded through [Clean Air Villages 4](#), [Clean Air Logistics for London](#) and [Clean Air Freight](#). This includes:

- An initial **Rail Freight feasibility study** with [Momentum Transport Consultancy](#) under CRP's Defra-funded [Clean Air Villages 4](#), to examine opportunities for rail freight in London.
- A [report](#) from [Steer](#) to build on initial findings and analyse the **capacity of Waterloo Station and London Bridge Station to receive rail freight**.
- The **Waterloo Freight Hub Impact report** by [Intermodality](#) quantifies the environmental, economic and social benefits to the area around Waterloo Station, confirming Waterloo Station as a strategic location for a Freight Hub.
- The **Express Freight Market Analysis report** by [Steer](#) explores how a Freight Hub at Waterloo Station can support the ever-growing Courier, Express and Parcel market.
- CRP also worked with Network Rail on complete a study on **Train Path Capacity** and **Advanced Timetable Planning**, to show pathways that rail freight could come into Waterloo Station.

The trial, including all staff time, development work, stakeholder engagement and coordination, revenue and capital delivery costs, at the Waterloo Freight Hub has been funded by [Defra](#), through the **Smarter Greener Logistics (SGL) programme**. This programme ran from 1st July 2023 – 31st March 2025 to minimise the impact of freight on noise, air quality, traffic and pavement space by making improvements across 14 London boroughs and three London Business Improvement Districts (BIDs).

CRP also undertook a range of **baseline assessments and monitoring** to ensure that the local area would not be impacted from an increase in freight and delivery movements associated with the hub. This also included assessing and reducing any intermodal conflicts with pedestrians and other cyclists. From September 2023 – February 2024, CRP conducted **traffic monitoring** for 6 months using [VivaCity's](#) AI traffic sensors on Launcelot Street and Leake Street.

CRP team members also collected 3 months of **baseline noise level data** around Waterloo Station (see Figure 14) from November 2023 – March 2024 by using a remote, mobile noise sensor and in-person visits. This was conducted through a weekly walk-around at different points throughout the week, with all CRP team members being involved in the visits. Monitoring took place across a range of times, including early in the mornings, late in the evenings and at weekends.

Findings from the monitoring influenced operational design for the trial, including the recommendation to avoid Leake Street and the Launcelot Street exit, in order to minimise any pedestrian, cyclist and cargo bike modal conflicts from the timed pedestrianised and market space on Lower Marsh.



Learning 1: Data-Driven Decisions

CRP recognised the need for strong technical expertise to support the delivery of the Waterloo Freight Hub trial. Findings from feasibility work, baseline assessments and monitoring helped to answer queries from stakeholders and influenced operational design for the trial (such as avoiding Launcelot Street Hub Exit due to the Lower Marsh market).



Figure 14. Members of the CRP Team collecting noise monitoring data around Waterloo Station.

Lessons Learnt

Clarifying Responsibilities, Processes & Sign-Offs

Arch Selection

To ensure that the project progressed to the required timescales, monthly **steering groups** were initially established by CRP throughout 2023 and 2024, with more frequent weekly meetings in place throughout much of 2024 for those involved in key elements of the process. Through this, **Arch 242A was selected** to deliver the 6-Month Road-Fed trial. A number of procurement, health and safety, planning, asset protection and management, fire risk and legal processes were identified and needed to be addressed for the trial to take place.

Operator Selection

By March 2024, CRP had engaged with 5 logistics companies and **selected Delivery Mates as the trial's single operator**. While the trial is fully road-fed, working with Delivery Mates has benefitted the development of a long-term rail-fed freight hub due to their acquisition of XeroE (XeroE had already worked on a **rail freight trial** with Varamis, involving electrified rail freight deliveries from the Midlands to Scotland). **Rail freight considerations** were made to ensure a smooth transition to the long-term development of the space, where the most significant decarbonisation and contributions to local, city and national level objectives could be reported by transitioning the middle mile journeys.

Identifying Processes & Approvals

Given the **secure location of the Hub**, under the UK's second busiest station, CRP worked closely with Network Rail (landowner), the Department for Transport (DfT, leaseholder), London & Continental Railways (asset management for the DfT) and Cushman & Wakefield (on-site facilities management) to obtain all **approvals and sign offs** required for the trial.

Planning Permission & Asset Protection

CRP worked collaboratively with Network Rail's Planning Director to ensure that **no planning permissions were required** for the duration of the trial (this was due to the nature and small scale of the trial). This permission was secured in March 2024 after various meetings and engagement to reassure Network Rail's Planning Director. Similarly Network Rail's Asset Protection team confirmed that **no asset protection approval was needed**, with no structural changes made to the arch space, and only superficial changes to the space being made to ensure improved lighting, fire safety and other health and safety improvements. This confirmation was secured in April 2024 after several on-site and inline meetings to address any queries.

Fire Risk, Health & Safety

An **extensive fire safety process** was required to ensure that the trial could be approved, requiring detailed knowledge of technical subject matter. CRP engaged with Network Rail's Senior Fire Safety Engineer from March 2024 - February 2025 on processes to **charge lithium-ion batteries, mitigate safety risks and improve workplace conditions**. This involved **retrofits** such as improved fire doors, new electrical wiring for improved lighting & emergency lighting and smoke detectors, and a fire risk and Dangerous Substances and Explosive Atmospheres Risk assessment. This process also highlighted that the selected operator would need to procure and use one **high-specification fire safety charging cabinet and one high-specification fire safety storage cabinet** (for when batteries are not being charged), with built in fire suppression systems, for any charging operations that took place on site. Initial **fire safety approval** was secured in May 2024, and once more following the completion of the retrofits listed in February 2025. All of these retrofits have been funded through CRP's SGL programme or directly from Delivery Mates.

Level 3 Board Sign-Off

To gain official permission for the trial to go ahead, CRP prepared several **board papers, supportive documents and briefings** that were approved at the May 2024 Level 3 Board Meeting. This included evidence of all the various sign-offs and processes listed, financial information and modelling, projections around vehicle movements, parcel numbers and key operational considerations for the trial. This drew significant CRP resource to ensure that Level 3 Board Sign-off was given in May 2024.

Learning 2: Stakeholder Mapping



It took several months for CRP to outline the processes required to deliver a successful trial, with weekly steering groups throughout 2023 - 2025. Responsibility and processes must be attributed to specific people and organisations early in the process.

Lessons Learnt

Streamlining Legal Proceedings

To ensure the project's successful delivery, three legal agreements were required:

- **A sub-tenant lease agreement** between the Department for Transport and Delivery Mates
- **A license for alteration** between Network Rail, the Department for Transport and Delivery Mates, including detailed scoping of the exact works that were taking place with LCR approved contractors.
- **A license to sublet** between Network Rail and the Department for Transport and Delivery Mates.

Legal proceedings began in July 2024 following the approval of the trial from the Department for Transport. Due to the absence of any meaningful progress between all parties involved in the legal processes by November 2024, **CRP stepped in to coordinate all three legal agreements**. This was done by the establishing weekly calls, clear minute-taking and following up on agreed actions. This came at significant cost to CRP and Delivery Mates, where costs increased to over double what was originally agreed, with CRP required to cover the costs for the Department for Transport and Network Rail's legal representatives and Delivery Mates covering their own (including some excess).

The **legal process caused months' worth of delays** which had significant impact on the cost of the project, due to increased legal costs which were not accounted for at the start of the project, and increased CRP staff resource. **CRP's support was essential** to address the lack of progress, as coordination of the various stakeholders was required as well as an effective strategy for creating accountability with actions, reducing back and forth over email, and ensuring the process moved at the required pace.

For example, through the first few months of the legal processes where there was inactivity (July- November 2024), **miscommunication was frequent** and lots of time was lost due to this.

Despite this, **approval** was given approximately 2 months after CRP took over responsibility for the signing of the legal documents, with documents signed and dated on 24th January 2025.

Learning 3: Impartial Co-ordination



Legal processes should be clearly outlined before proceedings begin with details on the requirements, roles, responsibilities and timescales provided for all stakeholders. Establishing a coordinating organisation (e.g. CRP) ensured successful delivery.

“The Waterloo Freight Hub will provide an exciting opportunity to engage further with the rail sector whilst further strengthening Delivery Mates capability to deliver sustainable logistics to customers, residents and local retailers. We look forward to playing a part in reducing congestion, removing emissions and creating a safer delivery environment for all stakeholders within Lambeth and across all of London.”

Kevin Savage, Chief Operating Officer, Delivery Mates



Figure 15. Kevin Savage, CEO of Delivery Mates speaking at the Waterloo Freight Hub Trial Launch Event.

Lessons Learnt

Maximising Trial Timescales

Ahead of the trial, CRP worked with Network Rail's asset protection team on **remedial works to resolve leak issues** in the arch. Further sub-tenant alterations commenced on 27th January 2025, where CRP coordinated and oversaw the **sub-tenant alterations** to ensure that the space was delivered to a high standard and met the requirements of the authorising officers. This included regular on-site visits to check up on process and kick things off in the space, with contractors needing to be on LCR's approved contractor framework. **Final approval** was then given from Network Rail's fire safety engineers for Delivery Mates to commence on-site operations on 21st February 2025 until 23rd July 2025.

Due to the **time pressures** associated with the trial, contractors worked to much quicker speeds than usual (cutting a 4-5 week lead in time to just 3 weeks) and still delivered the work effectively. However, these works were addressing **clear underinvestment, and unsafe and hazardous assets** that had to be **upgraded** to the latest basic health and safety regulations and standards for occupation of the arch (see transformation of the arch in Figure 16).

These **timescales for the works should not have been included as part of the 6-month trial**, as they were ensuring the space was at an acceptable level to operate from using CRP capital funding that was directly improving the space. This should have been delivered before any lease was signed as DfT's responsibility as a tenant. There were concerns about the state of existing facilities (in relation to health and safety, fire risk, lighting, flooding), with particular concern as it is underneath one of the busiest UK stations. **These challenges should be rectified as soon as possible across all arches in the undercroft.**

Due to the time needing to mobilise the operator and all the existing work taking place in the arch to retrofit, deliver the sub-tenant alterations and get the required sign-offs, the trial has only produced **4 months of data** from the 6 months available.

Learning 4: Infrastructure Improvements



DfT will hold overall responsibility for the retrofitting and delivery of basic improvements to existing infrastructure, particularly in upgrading to the latest health and safety requirements and regulations. This should be done before any lease takes effect.

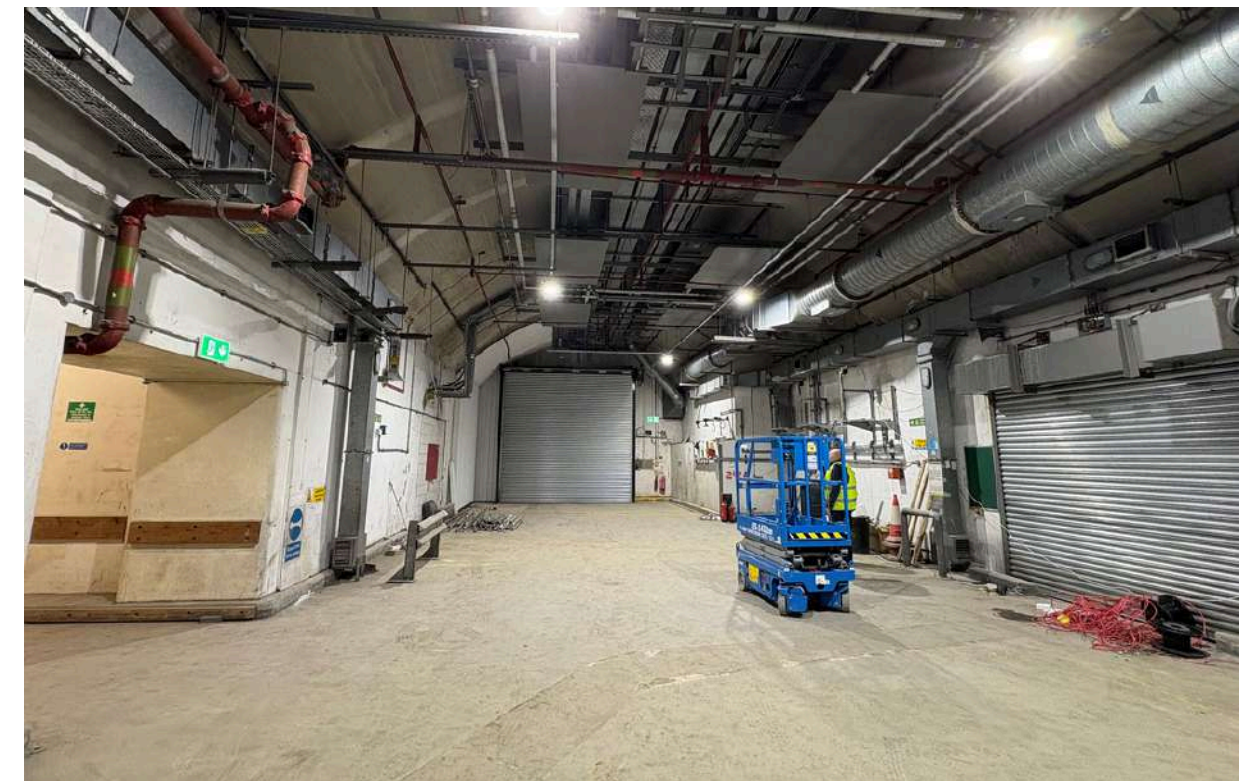


Figure 16. Before (August 2023) and after (February 2025) comparison of Arch 242A following remedial works.

Lessons Learnt

Enabling Scalability

There is **limited phone signal strength and internet connectivity** in Arch 242A, and much of the other undercroft arches. This inhibits any business, whether logistics or any other industry, to being able to operate. A key learning is about the importance of **enabling Wi-Fi connectivity in the undercroft** so that any logistics operator renting the space is able to conduct business as usual.

Although this **challenge was identified early on** and before the trial started, the impact on scaling up was significant and a more flexible approach was required. CRP and the operator tried a number of **methods** to boost the signal or establish a Wi-Fi connection, including:

- **Installing a Wi-fi connection / fibre optic cable** in the arch, but being notified that to install anything like this would require more sign-offs and processes and be approximately 3 month waiting time.
- **Liaising with local businesses** to understand if they could share their Wi-Fi connection or enable a 5G booster, but with no success.
- **Scanning parcels in the roadway** using phone signals, but the poor strength caused up to a 3-hour delay in departures and errors in route optimisation.
- **Setting up temporary phone boosters** also didn't resolve the issue.
- **Manual handling at limited quantities** (200-300 parcels), operating only at 30% productivity. This productivity change is seen in Figure 17, where from Thursday 24th July, parcels were scanned immediately at another Delivery Mates hub to show the potential increase in productivity, parcel numbers and trial impact (Delivery Mates have also shared data up until Sunday 10th August as a useful comparison).

Further complications from a lack of Wi-Fi connectivity are brought about by the **need for the battery charging and storage cabinets** to be implemented and connected using Wi-Fi and monitored using cameras to ensure the batteries are stored and charged effectively. None of this is possible without Wi-Fi. Although there have been delays not related to this in installing the cabinets, in its current format, the cabinets would not be able to go into the Arch, meaning the opportunity for trialling and testing the way that e-cargo bike batteries are stored and charged on site was lost.

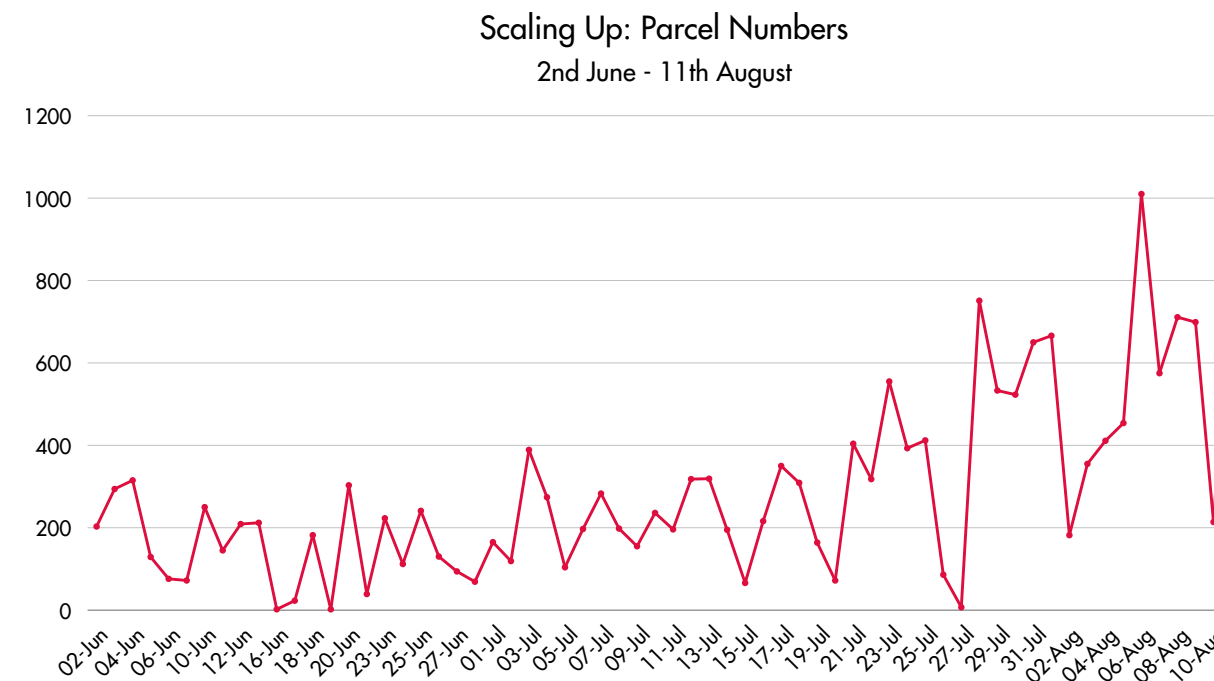


Figure 17. Daily Parcel Numbers delivered from June - August during the trial (until 23rd July from Waterloo) and after the trial (24th July - 10th August from Bermondsey), highlighting the potential to increase productivity following a change in operation from Thursday 24th July.

A 3-month extension to the lease has been discussed to provide more findings and understand greater impacts of the project, at cost to the operator. A requirement for this should be that there is Wi-Fi / internet connectivity provided so that there can be a full scaling up of operations and greater environmental, economic and community impacts felt.

Learning 5: Wi-Fi Connection



Flexibility with processes is crucial for time-sensitive trials. The Wi-Fi connectivity should have been addressed in the lease, to ensure opportunities to collect the most impactful data and outcomes.

There is potential to scale up activity beyond the data and impacts captured throughout the trial and the delivery of the trial has identified opportunities to improve future iterations of the project through processes, infrastructure developments and the need for a coordinating presence. A collaborative and coordinating approach is necessary to address many of these learnings, and ensure that any future potential of the programme is delivered to its full potential.

Communications

To celebrate the launch of the Waterloo Freight Hub Trial, CRP hosted a successful **on-site launch event** (see Figure 18) attended by 62 stakeholders from a range of organisations. Speeches were given by **Mike Putnam** (Acting Chair at Network Rail), **Cllr Rezina Chowdhury** (Deputy Leader and Cabinet Member for Sustainable Lambeth and Clean Air at the London Borough of Lambeth), and **Kevin Savage** (Chief Operating Officer at Delivery Mates).

Throughout the programme, CRP has hosted **site visits** (see Figures 18 & 20), with visitors from the UK, European, Canadian, Korean and Japanese cities, Network Rail’s Chair, councillors at the London Borough of Lambeth and Southwark, Greater London Authority and Transport for London’s leadership and elected representatives – all of which have been keen to see the trial in action and how existing space can be retrofitted to a new, creative use for logistics. Ministers at central government departments have taken an active interest in the development of the project. Additional communication tools (see Figure 19) such as press releases, social media campaigns, case studies and a trial timeline video have also supported to promote the trial more widely.

CRP has led **fundraising efforts** to try to secure additional subsidy for the Waterloo Freight Hub development. Efforts have not yet been successful, partly due to the cross-cutting, inter-departmental nature of the project.



Figure 18. Images from the Waterloo Freight Hub Launch Event (top and middle), as well as a site visit hosted with C40 Cities (bottom).

“We are making remarkable progress on our commitment to meet Net Zero by 2030 and clean up the toxic air in Lambeth. The Waterloo Freight Hub is another huge stride on that journey and one that will help drive clean economic growth and new jobs in Waterloo and beyond.”

Councillor Rezina Chowdhury, Deputy Leader and Cabinet Member for Sustainable Lambeth and Clean Air, Lambeth Council

“Network Rail are excited to be part of an innovative approach to utilising facilities at Waterloo Station and hope that it can demonstrate the potential to trial zero-tailpipe emission infrastructure and future rail freight opportunities at the Waterloo Freight Hub. These trials are crucial to supporting Network Rail in its’ commitment to achieve Net Zero by 2050. This 6-Month trial will ensure that Network Rail are taking an evidence-based approach to delivering environmental sustainability projects and ensuring that we share best-practice from this innovative project across London.”

Mike Putnam, Acting Chair at Network Rail

Smarter Greener Logistics: Express Delivery
March 2025

WS1: Waterloo Freight Hub

The First Step Towards a Multi-Modal Waterloo Freight Hub

Project Overview

Cross River Partnership has launched an innovative, sustainable and transformative 6-month Trial of zero-emission deliveries from the Waterloo Freight Hub underneath Waterloo Station, supporting residents and businesses across London. The Waterloo Freight Hub will improve air quality across London by shifting freight journeys from polluting vans to electrically assisted cargo bikes, supporting communities to receive more sustainable deliveries at no extra cost.

Waterloo Freight Hub Trial

A Transformative Sustainable Logistics Trial In the Heart of London’s Waterloo Station

Figure 19. Example communication materials developed by CRP to promote the trial.

Financial Contributions

Table 2 shows the costs associated with the development and delivery of the Waterloo Freight Hub. This includes a breakdown of the various funding sources to show investments made to enable the Waterloo Freight Hub trial. Costs highlighted in red are those not evidenced and costs in blue are unknown. Additional costs have already been outlined for the extension of the trial for 3 months by the DfT. Additionally, the costs do not include the significant time spent by LCR, DfT, Network Rail or Cushman & Wakefield staff on supporting the development of this project.

Item	Cost (ex VAT)	Funding Organisation	Additional Information
2022 Rail Freight Feasibility Studies	£73,500	CRP	Clean Air Villages 4 and Clean Air Freight. Funded through programmes by Impact on Urban Health and Defra.
CRP Staff Time 2023 – 2025	£230,000	CRP	10-Person CRP team spent 3183 hours on developing the Waterloo Freight Hub project from 2023 – 2025. Funded through programmes by Impact on Urban Health and Defra
2023 Feasibility Studies	£68,000	CRP	Clean Air Logistics for London, funded programme by Defra
Traffic & Noise Baseline Monitoring	£11,000	CRP	Clean Air Logistics for London and Smarter Greener Logistics Funded programme by Defra
Advanced Timetable Capacity Planning	£16,000	Network Rail	Network Rail used this as match funding for CRP's air quality funded programmes to identify potential gaps in the rail timetable to support parcel rail freight deliveries.
Fire Safety Charging Cabinet	£11,000	Delivery Mates	To meet requirements for Network Rail fire safety approval
Fire Safety Storage Cabinet	£7,500	Delivery Mates	To meet requirements for Network Rail fire safety approval
Fire Doors & Exit Door Servicing	£23,000	CRP	To meet requirements for Network Rail fire safety approval, using only LCR approved contractors. Funded by SGL (Defra)
Electrical Works & Lighting	£30,000	CRP	To meet requirements for Network Rail and health and safety legislation, using only LCR approved contractors. Funded by SGL (Defra).
Fire Alarms, Signage & Fire Extinguishers	£11,500	CRP	To meet requirements for Network Rail fire safety approval, using only LCR approved contractors. Funded by SGL (Defra)
Legal Fees	£25,000	CRP & Delivery Mates	Legal fees for Department for Transport, Network Rail and Delivery Mates. Funded by SGL (Defra). Funding detail - CRP (£11,336) & Delivery Mates (approx. £14,000).
Retrofitting works to address leak	Cost not disclosed	Network Rail	Retrofitting works to address leak in Arch 242A in December 2024 by asset protection team
6-Month LCR Service charge	£6,300	CRP	Service charge costs for LCR Funded by SGL (Defra)
Fire Risk Assessments & DSEAR tests	£4,000	CRP	To meet requirements for Network Rail fire safety approval, using BAFE qualified Fire Risk Assessor. Funded by SGL (Defra)
Other sub-tenant alteration costs	£50	CRP	Small miscellaneous costs. Funded through repayments made to on-site team by SGL (Defra).
Total	£516,850		

Table 2. Costs associated with development of the project from July 2023 - June 2025.

Return on Investment

CRP has conducted financial modelling to estimate the potential return on investment for basic retrofitting and enhanced retrofitting. Please see the tables below for estimates.

4 Arches

Basic Retrofitting (£22/sq. ft) - Average of £22/sq ft for 4 arches in similar condition to Arch 242. Estimate based on local market costs for industrial or logistics space within 1 mile of Waterloo Station.

Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Project Development (CRP Staff Time)	-£163,700.00	-£163,700.00	-£122,775.00	-£81,850.00	-£40,925.00
Retrofit & Maintenance	-£480,000.00	-£80,000.00	-£80,000.00	-£80,000.00	-£80,000.00
Legal costs	-£56,000.00	£0.00	£0.00	£0.00	£0.00
Rail-Fed Costs	-£150,000.00	-£70,000.00	£0.00	£0.00	£0.00
Welfare Costs (Kitchen, toilets, Wi-Fi)	-£75,000.00	-£96,399.96	-£96,399.96	-£96,399.96	-£96,399.96
Income - £22 sq. ft annually x 4 arches	£191,120.00	£200,676.00	£210,709.80	£221,245.29	£232,307.55
Balance	-£733,580.00	-£209,423.96	-£88,465.16	-£37,004.67	£14,982.59

Enhanced Retrofitting (£30/sq. ft) - Inflated value of £30/sq ft for extensive improvements and welfare facilities for 4 arches in similar condition to Arch 242. Estimate based on local market costs for industrial or logistics space within 1 mile of Waterloo Station.

Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Project Development (CRP Staff Time)	-£163,700.00	-£163,700.00	-£122,775.00	-£81,850.00	-£40,925.00
Retrofit & Maintenance	-£480,000.00	-£80,000.00	-£80,000.00	-£80,000.00	-£80,000.00
Legal costs	-£56,000.00	£0.00	£0.00	£0.00	£0.00
Rail-Fed Costs	-£150,000.00	-£70,000.00	£0.00	£0.00	£0.00
Welfare Costs	-£312,399.96	-£96,399.96	-£96,399.96	-£96,399.96	-£96,399.96
Income - £30 sq. ft annually x 4 arches	£282,000.00	£296,100.00	£310,905.00	£326,450.25	£342,772.76
Balance	-£880,099.96	-£113,999.96	£11,730.04	£68,200.29	£125,447.80

10 Arches

Basic Retrofitting (£22/sq. ft) - Average of £22/sq ft for 10 arches in similar condition to Arch 242. Estimate based on local market costs for industrial or logistics space within 1 mile of Waterloo Station.

Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Project Development (CRP Staff Time)	-£327,400.00	-£327,400.00	-£122,775.00	-£81,850.00	-£40,925.00
Retrofit & Maintenance	-£1,080,000.00	-£120,000.00	-£120,000.00	-£120,000.00	-£120,000.00
Legal costs	-£140,000.00	£0.00	£0.00	£0.00	£0.00
Rail-Fed Costs	-£300,000.00	-£140,000.00	£0.00	£0.00	£0.00
Welfare Costs (Kitchen, toilets, Wi-Fi)	-£187,500.00	-£96,399.96	-£96,399.96	-£96,399.96	-£96,399.96
Income - £22 sq. ft annually x 10 arches	£477,800.00	£501,690.00	£526,774.50	£553,113.23	£580,768.89
Balance	-£1,557,100.00	-£182,109.96	£187,599.54	£254,863.27	£323,443.93

Enhanced Retrofitting (£30/sq. ft) - Inflated value of £30/sq ft for extensive improvements and welfare facilities for 10 arches in similar condition to Arch 242. Estimate based on local market costs for industrial or logistics space within 1 mile of Waterloo Station.

Costs	Year 1	Year 2	Year 3	Year 4	Year 5
Project Development (CRP Staff Time)	-£409,250.00	-£327,400.00	-£122,775.00	-£81,850.00	-£40,925.00
Retrofit & Maintenance	-£1,280,000.00	-£120,000.00	-£120,000.00	-£120,000.00	-£120,000.00
Legal costs	-£140,000.00	£0.00	£0.00	£0.00	£0.00
Rail-Fed Costs	-£300,000.00	-£140,000.00	£0.00	£0.00	£0.00
Welfare Costs	-£780,999.90	-£144,599.94	-£144,599.94	-£144,599.94	-£144,599.94
Income - £30 sq. ft annually x 4 arches	£705,000.00	£740,250.00	£777,262.50	£816,125.63	£856,931.91
Balance	-£2,205,249.90	£8,250.06	£389,887.56	£469,675.69	£551,406.97

Future Potential

This section outlines **3 key lessons for the future development of the long-term vision**, to ensure that freight is prioritised and considered in the right way to bring positive environmental, community and economic impact. This would ensure that delivery of the project would be in line with existing strategies, action plans and targets across a variety of central government departments and local authority plans.

Integrating Rail Freight

CRP has hosted many **site visits** (see Figure 20) over the course of the programme, with visitors from European, Canadian, South Korean and Japanese cities, senior local and central government, strategic agency and political leaders- all of which have been keen to see the trial in action and how existing space can be retrofitted to a new, creative use for a burgeoning industry. Parcel numbers, and therefore volumes of freight vehicles, continue to rise and the Waterloo Hub can directly address this.

However, there is a risk that the future Waterloo Freight Hub vision misses the opportunity to address national, local and regional objectives for shifting vehicles off polluting vans and lorries, onto other means such as rail. This includes:

- **Significant “middle mile” savings** from shifting polluting van and lorry journeys onto rail or river journeys, given its strategic location in the heart of London and so close to the river and on the rail network, with direct platform access.
- **Shifting from polluting van and lorry journeys to smaller, low emission vehicles** such as cargo bikes and walking trolleys for the “last mile”, to help to improve air quality, reduce road danger and reduce congestion
- **Deliver world-class welfare facilities**, to support drivers, riders and others that work in logistics with spaces that support and improve their working conditions.

Additionally, CRP, Network Rail, Delivery Mates and external stakeholders supportive of the project have been developing **proposals and plans for trialling and testing parcel rail freight** to be delivered directly into Waterloo Station during the latter half of 2025 and early 2026. This test offers an exciting chance to demonstrate the potential of rail freight deliveries into central London, with facilities already hosting cross-docking, loading and unloading, with the **greatest potential for decarbonisation** available during the middle mile (where many 50 – 150-mile lorry journeys could be replaced, benefitting many parts of mainland Britain).

CRP is also aware of **conversations with many road-based operators** that have expressed interest in the space as a way of exploring parcel rail freight opportunities.

If the future use of the Waterloo Hub does not introduce rail freight and shift the middle mile, much of this development work will have been lost. **Lease conditions must include a requirement to trial and test rail freight** to help the DfT and Network Rail with their corporate objectives to include rail freight.

Waterloo station is unique in providing direct ramp to arch access with significant space available, making this an **opportune space for logistics**; helping to resolve one of the more significant costs and productivity challenges for the logistics industry in **reducing time and money spent cross-docking and delivering the last mile** [6]. Parcel rail freight should be prioritised in any future development of Waterloo, as **parcel numbers continue to rise to as many as 1 billion per year in 2030, just in London** [6].

Freight is a leading reason for congestion in cities, and this project has the potential to directly address this in an impactful way, with benefits felt right across the country (depending on where origin destinations could be).



Figure 20. Photos from CRP led site visits to the Waterloo Freight Hub.

Future Potential

Delivering Social Impact

The Waterloo Freight Hub long-term vision can deliver social impact by **creating a space for freight and logistics** in central London.

Cargo Bike riders in the freight and logistics sector can face challenges with working conditions, including **physically demanding** work combined with precarious employment contracts in **low paid jobs** [7]. There is a **lack of public welfare facilities** in UK cities, including London, for those operating jobs that involve site to site or those spending the day on the move with a lack of adequate toilets, water refill stations and places to stop and rest.

Combined with this, the freight and logistics sector is predominantly male and white, and this is noted of the cargo bike industry in London [7]. There are **challenges in recruiting a more diverse workforce** with the current status quo and job conditions.

The Waterloo Freight Hub has a **vision for a state-of-the-art welfare facility**. This could include toilets, a kitchen or café, spaces to stop and rest and be upgraded to encourage new demographics of workers in this industry with counselling spaces / rooms, an on or off-site creche, games rooms, bike maintenance and more. **Welfare facilities must be prioritised, as a non-negotiable, for operators working in the sector** to help improve the working conditions of cargo bike riders in London. Welfare facilities could be developed and maintained through subsidies by logistics operators as part of their lease conditions.



Creating Green Jobs

The Waterloo Freight Hub long-term vision also has the opportunity to deliver new green jobs, supporting local, city-level and national objectives to **support more workers into the green and cleantech industries. Cargo bike riders play a vital, sustainable role in moving goods around the city whilst minimising emissions from road-based transport.**

Training opportunities could be provided to support more local Lambeth residents into the sector, whilst bicycle maintenance facilities provides more opportunities for different skillsets in the sector.

The future potential of the Multi-Modal Waterloo Freight Hub would help to deliver against existing transport, freight and air quality strategies alongside co-benefits to improve economic growth, productivity, contributing to secure and safe employment, and support a rapidly growing freight and logistics sector.

Suggested DfT Priorities & Next Steps

This final section identifies 3 priority actions necessary for the DfT to develop and deliver an impactful and successful Multi-Modal Waterloo Freight Hub. Practical and clear next steps are provided to ensure that this is delivered to the highest standard, and to ensure that it delivers against current national, regional and local strategies and targets for freight and transport.

- 1 Lead a flexible **Programme of Delivery** for the next phase of the Waterloo Freight Hub. CRP is aware that there are formal procurement processes required by central government and strategic agencies. Understanding the detail of these will enable the development of an approach that simultaneously delivers the various opportunities highlighted.
- 2 Provide co-ordination funding to CRP to facilitate the development of **More Space** in the arches of the Waterloo undercroft on behalf of DfT. CRP's detailed knowledge and understanding of the undercroft has been built through numerous site visits, detailed plans and our strong network with senior level stakeholders and politicians. This puts CRP in a unique position to deliver the next stage.
- 3 Commission CRP to achieve the development of **Rail Freight** into Waterloo Station. This will ensure there is clear alignment with the development of arches space in the Waterloo undercroft.



Figure 21. Graphic outlining the long-term vision to: 'Develop a much larger Multi-Modal Waterloo Freight Hub, integrating middle-mile deliveries into Waterloo Station by road, rail and river.'

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Relevant Documents

- [On Track for Sustainable Logistics: Express Freight Market Analysis](#)
- [On Track for Sustainable Logistics: Waterloo Freight Hub Impact Study](#)
- [On track for sustainable logistics: Integrating Rail Freight into London's deliveries](#)
- [Smarter Greener Logistics](#)
- [Waterloo-Freight-Hub-6-Month-Trial-Press-Release.pdf](#)
- [Waterloo SGL Express](#)
- [Waterloo Freight Hub: Long-Term Vision](#)

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