Clean Air Villages 4

Air Quality Grant 2020/21

Bravo Ref: 31/5410
Defra Air Quality Grant Scheme 2020/21 Summary Report
August 2022

Prepared for

Contents

1. Glossary

AQ	Air Quality
BID	Business Improvement District
CALL	Clean Air Logistics for London
CAV	Clean Air Villages
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CAV3	Clean Air Villages 3
CAV4	Clean Air Villages 4
CEVA	CEVA Logistics
CO2	Carbon Dioxide
CRP	Cross River Partnership
DIFT	Dartford International Ferry Terminal
GLA	Greater London Authority
GSTT	Guy's and St Thomas' Trust
LAEI	London Atmospheric Emissions Inventory
NO2	Nitrogen Dioxide
NOx	Nitrogen Oxides
PM	Particulate Matter
ULEZ	Ultra-Low Emission Zone

2. Executive Summary

Clean Air Villages 4 (CAV4) is a Defra-funded Air Quality Grant project. This project builds on the work undertaken during three previous Clean Air Villages (CAV) projects. These are all aimed at **reducing vehicle emissions from road transport, particularly freight transport**. The CAV4 project has worked with **26 project partners to deliver ambitious Freight Solutions for a clean air business recovery from COVID-19**, working with project partners in Greater London Authority *air quality focus areas* ('villages').

The project was delivered by **Cross River Partnership (CRP) from April 2021 to June 2022** on behalf of project lead City of Westminster and partners: London Boroughs of Barnet, Brent, Hammersmith & Fulham, Islington, Lambeth, Merton, Richmond upon Thames, Wandsworth, Kent, the Royal Borough of Kensington & Chelsea, as well as Business Improvement Districts (BIDs), angel.london, Better Bankside, Camden Town Unlimited, Central District Alliance, The Fitzrovia Partnership, Hammersmith, Northbank, South Bank, Team London Bridge, Victoria and Victoria Westminster, plus Landowner Cadogan Estates and Strategic Partner the Port of London Authority (PLA).

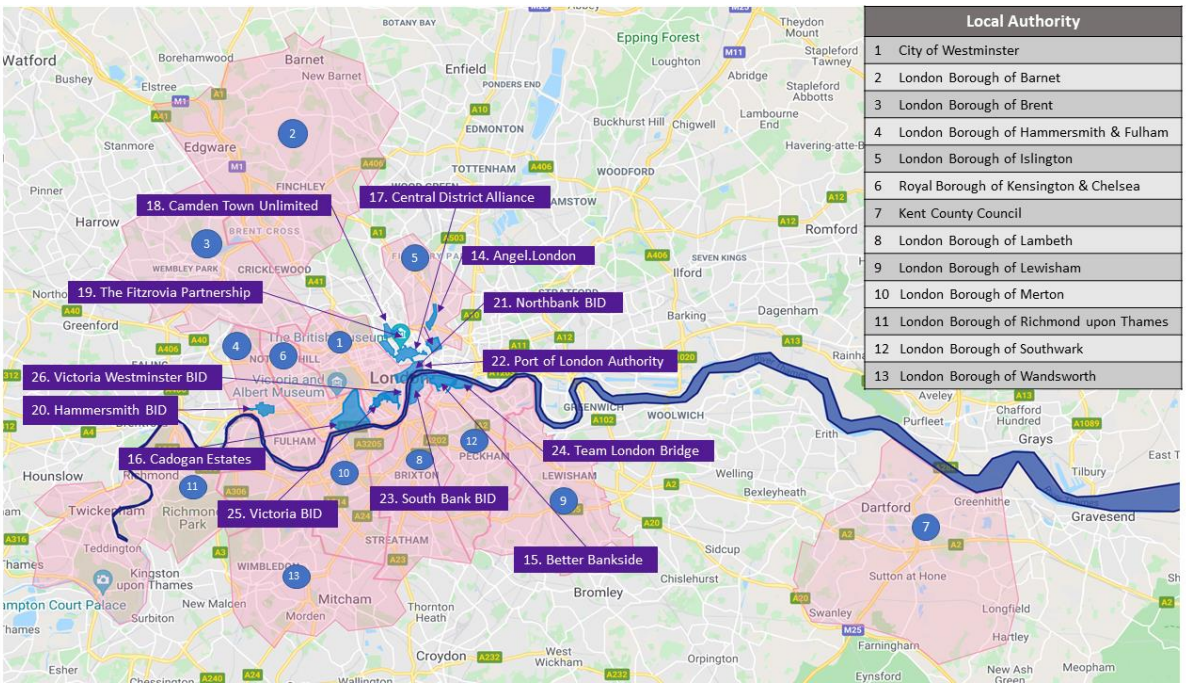


Figure 1: Map showing the 26 CAV4 project partners

The CRP team **completed: 288 1-2-1 in-depth meetings**, with **15 online events** being delivered (online workshops bringing together industry professionals to discuss and present about air quality issues and solutions); **one last-mile consolidation centre trial; a river freight pilot; four cargo bike schemes;** use of **21 EV switch dongles; three freight feasibility studies; one river monitoring study; 15 case studies, toolkits and guidance documents; three online tools; two tools updated or expanded;** and **CRP presented about CAV4 at 21 external events**. Further promotion of and development of air quality interventions took place on a wide scale. More information can be found in the Project Outcomes section.

CAV4 has delivered 23 Freight Interventions under five **Freight Solutions: Consolidation, Distribution, Mode, Technology and Policy**. The CRP team worked with the 26 project partners on the intervention most suitable for their area. Some of the interventions were cross-cutting and impacted on the wider focus areas and beyond.

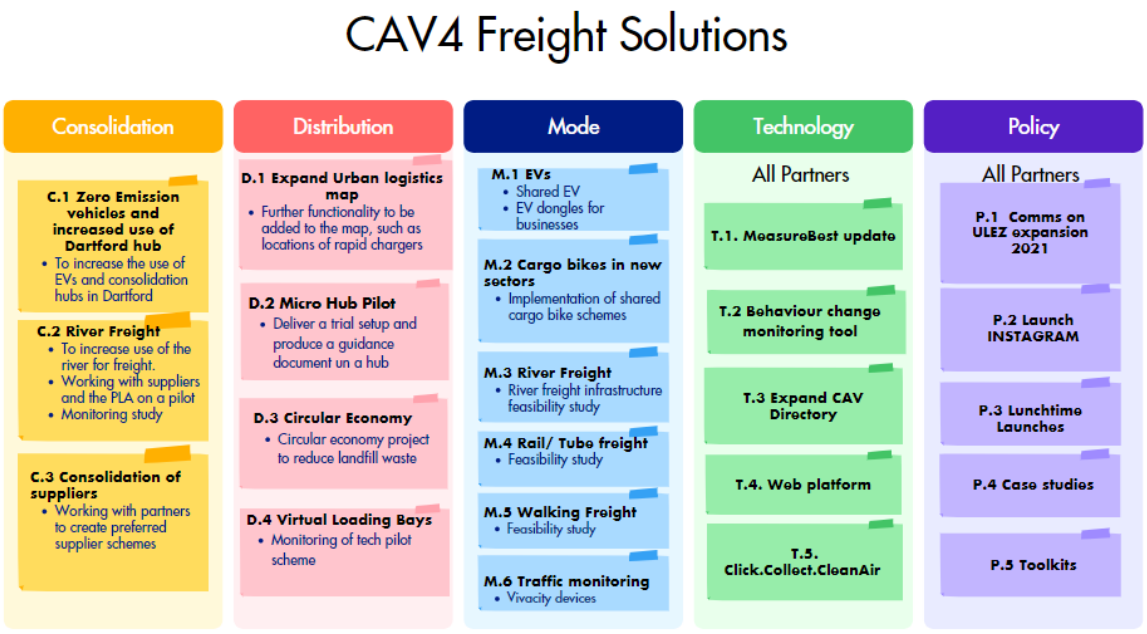


Table 1: A breakdown of the CAV4 Freight Solutions and their associated Freight Interventions

Table 2 provides an **overview of the annual emissions savings** estimated for the year following the project (July 2022 to June 2023) from the Freight Interventions that were developed and implemented. Not all of the Interventions had associated emissions savings. This section shows how these were calculated.

Projected emissions savings 2022-2023				
	NOX (kg)	**PM2.5 (kg)**	**PM10 (kg)**	**CO2 (kg)**
Consolidation				
Zero emission vehicles and increased use of Dartford hub	1.56	0.02	0.02	682.52
River freight trial	3.22	0.26	0.48	3,618.38
Consolidation of suppliers	1.34	0.06	0.04	604.8
Distribution				
Micro hub trial - example 1	1.09	0.06	0.12	495.51
Micro hub trial - example 2	0.41	0.02	0.04	213.16
Mode				
Brent Cargo Bike Delivery Service	0.28	0.01	0.02	113.57
Camden Shared Cargo Bike	4.48	0.24	0.42	2,358.46
Lewisham Staff Cargo Bike	2.42	0.19	0.11	1,024.87
Merton Cargo Bike Delivery Service	0.82	0.04	0.06	335.91
Wandsworth Cargo Bike Delivery Service	0	0	0	172.38

Technology				
Transport emissions calculator	8.02	0.14	0.23	3,333.84
Sustainable Steps (Behaviour change monitoring tool)	53.24	1.78	2.85	27,479.95
Expand Clean Air Villages Directory	16.4	0.47	0.75	7,121.54
The Business Cargo Bike Guide (Web platform)	22.95	1.61	2.76	15,574.07
Click Collect tool	0.65	0.03	0.06	341.05
AQ monitoring				
Dongles	42.34	3.71	2.13	15,543.36
Richmond environmental audits	1.44	0.02	0.03	658.32
CAV4 TOTAL	160.65	8.66	10.11	79,671.70

Table 2: Potential annual emissions savings from the Clean Air Villages 4 project in 2022/23.

Impact of the Covid-19 pandemic

CAV4 launched in April 2021, whilst England was still experiencing Covid-19 restrictions. Lockdown eased from 21 June 2021, but the ongoing impact of the pandemic is still being felt now. The CRP team continued to work remotely until January 2022. From that point onwards, the team were able to go to in-person meetings, as required. Given the ability to deliver projects in a highly efficient and successful manner, much remained online. **Engaging with businesses in-person, on a local level, took place when it was felt that this would be more effective**.

Targets

As shown above, **the air quality benefits achieved and predicted by the project well exceeded the objectives set at project start**. The CAV4 project aimed to deliver 95.30 kg of NOx, 3,662 g of Particulate Matter and 26,559 kg of CO2 and actually delivered an estimated 160.65 kg of NOx savings, 10,110 g of PM10 and 8,660 PM2.5 (a total of 18,770 g of PM) and 79,671.7 kg of CO2. Using the Clean Air Tool developed as part of CAV3, **this shows a saving in NOx of emissions of the equivalent of 431 football pitch-sized forest fires.**

All other CAV4 targets were met with the exception of the following:

- Delivering a shared EV scheme. Extensive work went into delivering a scheme in Twickenham, but the London Borough of Richmond upon Thames decided against going ahead with this due to uncertainty around a parking space for the vehicle.
- Delivering a circular economy scheme. Extensive work went into delivering a scheme with the London Borough of Islington and Angel.london BID. This was unable to take place due to lack of office worker demand.
- Virtual loading bays. The AQ and noise monitoring of virtual loading bay trials with London Boroughs of Southwark and Westminster was unable to take place due to delays or postponement of these schemes by the boroughs themselves.

The learnings from the tangible Freight Interventions will provide **benchmarks and guidance long beyond CAV4 ending**. Equally, the feasibility studies enable the **sharing of expertise**, along with recommendations for next steps that governing organisations can and should be taking to increase the potential of walking, rail and river freight. The CAV4 online events, case studies and guidance documents also continue to be of great value to support further CRP projects and delivery, but also for the public and private sector partners, individual businesses and decision makers across multiple sectors.

Changes to the original proposal

As per the Risk Register submitted as part of the original proposal for funding, CRP anticipated that changes to partners could take place once funding had been confirmed.

Three additional Local Authorities requested to join the CAV4 project following the successful grant application. CRP sought approval from Defra which was granted.

- The **London Borough of Lewisham** and the **Royal Borough of Kensington & Chelsea** (approval confirmed by Defra on 22/3/21)
- The **London Borough of Southwark** (approval confirmed by Defra on 29/4/21)

This brought the total number of partners up to 26, form the original 23 in the proposal.

During CAV4, Midtown BID changed its name to the Central District Alliance.

CRP confirmed approval to change Euston Town BID to Camden Town Unlimited BID, due to a change of direction being agreed with the Euston team. The same team works across both BIDs. This had no impact on project delivery or match-funding. This was formally agreed in Q4, but Defra were given advance warning of this in Q2.

CRP agreed with Defra that the river freight pilot would be part-funded and part-delivered as part of CAV4 *and* the Clean Air Logistics for London project.

Additionally, details that show the impact of the above changes on match-funding can be found here

3. Background

The London Boroughs of Barnet, Brent, Hammersmith & Fulham, Islington, Lambeth, Merton, Richmond upon Thames, Wandsworth, the Royal Borough of Kensington & Chelsea and Westminster City Council and areas of Kent **continue to exceed European and UK limits for air pollution**. Angel.london sits in the London Borough of Islington, Better Bankside and Team London Bridge sit in Southwark, the Camden Town Unlimited and The Fitzrovia Partnership sit in Camden, the Central District Alliance sits in Camden and Islington, Hammersmith BID sits in Hammersmith & Fulham, Northbank, Victoria and Victoria Westminster sit in Westminster, South Bank in Lambeth. Plus, Cadogan sits in Kensington & Chelsea. Despite Air Quality Management Areas in place, these boroughs continue to **remain in exceedance of the UK's legal limits for NO2**.

The 26 CAV4 'village' areas were chosen, largely, to reflect **GLA Air Quality Focus Areas** (AQFAs). AQFAs represent locations of **high human exposure** where national air quality objectives are exceeded. The 'hotspots' indicate the areas in London the GLA believe Air Quality issues are most acute. In the case of Kent County Council and some of the Business Improvement Districts and the landowner, their areas are Air Quality Management Areas, are surrounded by AQFAs, or intersect with AQFAs. Strategic agency, the Port of London Authority (PLA) is also a CAV4 project partner. Covering 95 miles of the River Thames, the PLA's remit weaves through central London and the CAV4 partner areas. The PLA's Air Quality Strategy, aims to reduce emissions of carbon and air pollutants, and to use greener fuels, aligning well with the aims of CAV4.

The CAV4 project focuses on specific 'Freight Interventions', spreading across five main 'Freight Solutions'. This is in contrast to previous CAV projects which have focused on partner 'village' areas. CAV4 is a **behaviour change project** that will work in a diverse range of areas of London and Kent on five Freight Solutions. These solutions are a **mixture of local and cross-borough activities**:

Consolidation Solutions (CS): Previous CAV work has highlighted interest in consolidation centres, but a lack of understanding on how to roll these out. CRP used its expertise to work with existing centres and hubs, to expand services via cleaner freight modes, this included river freight.

Distribution Solutions (DS): Previous CAV work has also highlighted a keen interest from BIDs and local authorities in setting up and better understanding micro-distribution centres. CAV4 expanded an existing micro-distribution hub and conducted a feasibility study into clean last-mile deliveries, combined with post-Covid river and rail freight increased possibilities.

Mode Solutions (MS): CAV4 continued to build on the extensive work done already by CAV 2-3 in implementing cargo bike schemes and shared EVs. There is huge appetite for such schemes from CRP partners and businesses and the associated behaviour change that results in their implementation, especially in the context of clean business recovery from coronavirus.

Policy Solutions (PS): The CAV programme has educated businesses about the ULEZ and its expansion and offered solutions. With the ULEZ zone expanding in October 2021 it is vital that further work is done in this area. CAV4 supported and educated businesses on their options, combining environmental and economic benefits.

Technology Solutions (TS): AQ tools and monitoring which complement and promote behaviour change as part of the CAV programme have been integral to the offering to

businesses. CAV4 continued to develop and update such tools and to conduct monitoring as an intrinsic part of all CAV4 Freight Solutions.

The CAV4 project focussed on Freight Interventions, some of which were **highly ambitious** and to be delivered within a short time frame. The **importance of relationships** that have been built over the course of the previous CAV projects is intrinsic to the success of CAV and the ability to 'hit the ground running'. Business engagement can be a very slow process - businesses are time poor. Additionally, businesses have experienced a very difficult few years, with the pandemic, if they have even survived. This economic backdrop must all be taken into consideration when engaging with businesses about air quality. The CRP team approached businesses cautiously and with empathy, aiming to bring them **tangible interventions or support**. **Working closely with the project partners** was also essential to **ensure a cohesive approach**.

During project delivery, the context of the on-going pandemic meant it was tumultuous times. CRP continued to work remotely for the most part, with in-person engagement becoming more of a feature of delivery, where applicable, as time went on. The emerging in-person engagement provided the opportunity to promote some interventions in a much more personal way. This **flexibility of delivery** was of benefit to the project.

CAV4 consisted of 26 project partners - this was a huge leap from the 16 CAV3 partners. 13 out of the 16 CAV3 partners were part of CAV4, resulting in an easier transition for launching the project. However, with staff changes with our partners, this did, on occasion, lead to a challenging environment, where there was no lead contact for the project. Overall, momentum from contacts from CAV3, for businesses, suppliers, consultants and partners, all enabled a great deal of benefit to the delivery of CAV4.

With the exception of Camden BIDs, the 12 BIDs who joined CAV4 were all located within local authority areas that were also part of the project. This enabled joined up conversations and made collaborative action faster.

CAV4 supported businesses in the AQFA and operating within and across London, to reduce emissions from deliveries and services and by promoting and encouraging take up of collaborative interventions which would improve AQ.

Partner	Clean Air Village
City of Westminster	Oxford Street District
Angel.london	BID Area
London Borough of Barnet	Ballards Road
Better Bankside	BID Area
London Borough of Brent	Willesden Green
Cadogan	Landowner Area
Camden Town Unlimited	BID Area
Central District Alliance	BID Area
The Fitzrovia Partnership	BID Are
Hammersmith BID	BID Area
London Borough of Hammersmith & Fulham	Hammersmith Town Centre
London Borough of Islington	Angel Town Centre
Kent County Council	Dartford
London Borough of Lambeth	Brixton Town Centre

London Borough of Lewisham	Lewisham Town Centre
London Borough of Merton	Wimbledon Town Centre
The Northbank BID	BID Area
London Borough of Richmond upon Thames	Richmond Town Centre
Royal Borough of Kensington & Chelsea	South Kensington/Exhibition Road
South Bank BID	BID Area
London Borough of Southwark	Walworth Low Emission Neighbourhood
Team London Bridge	BID Area
Victoria BID	BID Area
Victoria Westminster BID	BID Area
London Borough of Wandsworth	Putney High Street

Table 3: CAV4 partners and their associated air quality focus area

4. Changes to partners and match-funding

The following changes were approved by Defra throughout the delivery of CAV4:

In Q1, **CRP adjusted the length of the project from 21 months to 15 months**. The compressed delivery period was requested for the following reasons:

- Having a shorter, more intense delivery period
- Keeping the full momentum going built up during CAV3
- Focussing intense business engagement in the summer months of 2021, when the most sectors would likely to be operational

Three project partners joined CAV4 following the successful grant application, increasing the number from 23 to 26:

- London Borough of Lewisham
- Royal Borough of Kensington & Chelsea
- London Borough of Southwark

The Q1 adjustments led to the following **changes to the project targets**:

- Original delivery target of 230 1-2-1 meetings increased to 260 (to account for the three new project partners)
- Five Quarterly Steering Group meetings, instead of seven
- Five Quarterly reports, instead of seven

The increase in the number of partners resulted in an **increase in the match-funding total from £460,000, to £520,000**. This increased the **match-funding rate from 66% to 74%** (continuing to be well above the minimum of 10% required by the grant scheme).

There was also a change to the cash-match, compared with in-kind match-funding, as follows:

- Original delivery was of £162,000 cash-match and £298,000 in-kind (total £460,000)
- Amended delivery was of £192,000 cash-match and £328,000 in-kind (total £520,000)

CRP also rolled £2,166 from CAV3 into CAV4. This was funding that had been allocated for a cargo bike scheme for the Northbank BID area.

In Q2, CAV4 delivery continued apace.

In Q3, the following changes were made to match-funding contributions:

- London Borough of Merton changed from in-kind match to cash match-funding
- London Borough of Richmond upon Thames changed from cash to in-kind match-funding
- Victoria BID and Victoria Westminster BID reduced their match-funding contribution from £20,000 to £12,000 each. The staff team is the same across the two BIDs, and the original contribution would have been unobtainable.

In Q4, Defra approved CRP's request to change CAV4 partner, Euston BID to Camden Town Unlimited. CRP was working closely with Euston Town BID during Q1-3. Original ideas for waste consolidation were explored but it was decided that uptake from businesses was going to be

challenging and would not lead to a big change. A subsequent idea for a cargo bike that would operate from a container and be free for businesses started moving forwards. The staff team at Euston Town BID work across two BID areas, the other one being Camden Town Unlimited. Their knowledge of the BID areas and members led to a specific road in the Camden Town BID area being targeted for the cargo bike scheme. The new BID was in the same AQFA LAEI number 31.

Additional changes to match-funding were also agreed:

- London Borough of Richmond upon Thames: originally £20k cash match, would be split as £5k cash and £15k in-kind.
- Central District Alliance: originally £10k cash and £10k in-kind, would be £15k in-kind and £5k cash.

In Q5, CRP updated Defra that two interventions would not be delivered as part of CAV4 and also to request that one intervention form part of CAV4 and also be delivered as part of the newly funded Clean Air Logistics for London (CALL) project, from the latest round of Defra Air Quality Grant funding. Defra confirmed the acceptance of this approach, and a summary can be found below.

The monitoring of virtual loading bays would not be taking place as part of CAV4 (as reported in the Q4 monitoring report). Unfortunately, CRP was unable to conduct this due to one partner (City of Westminster) deciding not to go ahead with the trial in January 2022 and one partner (London Borough of Southwark) still not having started the trial, so there was not time to complete the monitoring.

Despite a huge amount of time going into setting up the circular economy intervention, with Angel BID and the London Borough of Islington, it was not able to go ahead due to lack of businesses (with their staff) using the scheme. A case study of learnings was produced that will provide support to other organisations wanting to set up something similar.

The river freight pilot, forming part of the Consolidation Freight Solution, took longer to launch than first anticipated. There were issues with stolen propellers, emergency welding of a pier, as examples. The launch date kept slipping and as its final, scheduled launch date was for July 2022, just after project end, CRP sought approval for this pilot to continue on as part of the CALL project. The engagement, planning and funding of the pilot took place as part of CAV4 and the delivery, analysis and evaluation of delivery will take place as part of CALL – **seamless service to external partners enabled by ongoing Defra funding.**

5. Engagement

Following CAV3, where all engagement took place remotely due to the pandemic, CAV4 engagement continued to take place remotely for the first three quarters of the programme. As it began to feel safer for the team to go out and about and where it was deemed to be useful, engagement began to take place in-person from January 2022 onwards.

CRP's CAV4 engagement took place far beyond the 1-2-1 meetings; with social media, BID newsletters, presentations at events and roundtables, and surveys all taking place, in addition to the meetings and calls.

A total of **288 1-2-1 meetings** took place across CAV4. This figure does not include repeat meetings with the same organisation, of which there were many, many more. The output far exceeded the target.

1. 27[1] meetings with CAV4 partners
2. 150 Advice & Guidance meetings
3. 110 Project Support meetings

Business engagement targets	Output
Online events (no specific target)	15 online events • 9 Lunchtime Launches • 6 Connect 4 Webinars
260 1-2-1s	288 1-2-1s

Table 4: Summary of CAV4 targets and outputs

Table 5 shows how many 1-2-1 meetings took place per Freight Solution. In reality, a 1-2-1 meeting would often cover a range of Freight Solutions and Interventions, so these numbers are spurious.

Freight Solution	Number of 1-2-1s per Freight Solution
Consolidation	47
Distribution	95
Mode	124
Policy	11
Technology	11
Grand Total	**288**

Table 5: Distribution of 1-2-1 meetings across the five Freight Solutions

Following the success of the CAV3 LiveShares (an online event series that discussed a range of topics to help **facilitate knowledge sharing, highlighting best practice** examples in relation to AQ), CRP launched a Lunchtime Launch online event series for CAV4.

[1] 27 rather than 26 due to project partner change from Euston BID to Camden Town Unlimited BID

Following the success of these, CRP created a series of hybrid events for calendar year 2022, to continue from the success of the Lunchtime Launches – **CRP's Connect 4 Series**. These 45-minute-long events take place at 4pm on the last Thursday of each month, connecting speakers with an engaged audience. These sessions were interactive online discussions, showcasing the innovative projects that CRP is delivering to drive positive change for London's residents, businesses and visitors.

Nine Lunchtime Launch events took place and six Connect 4 events took place as part of CAV4, with a total number of **1,473 attendees**.

Figure 2: The Lunchtime Launch of Parks for London's Good Parks for London report: September 2021

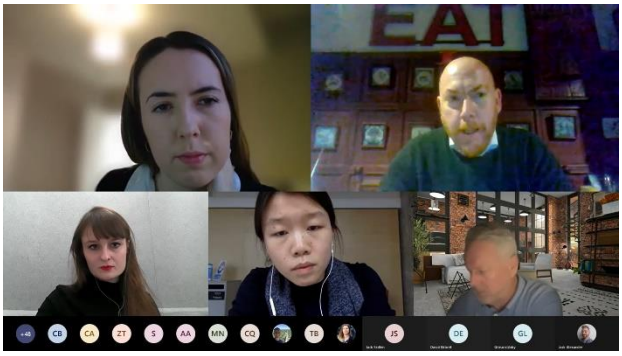


Figure 3: Session 1 of CRP's Connect 4: January 2022

All 15 sessions are available to view online for free, please see here for the full collection of Lunchtime Launch and Connect 4 sessions.

For further information, please see the Dissemination section and the Policy section of this report.

5.1 1-2-1s

288 1-2-1 business engagement meetings took place as part of CAV4. This **exceeds the overall target** of 260.

CAV4 engagement (1-2-1s) were divided into three areas, for reporting purposes:

1. **A meeting with a CAV4 partner**
2. A meeting with a business/group/organisation, where AQ **advice and guidance** (A&G) was offered, or a CAV4 intervention was being promoted
3. A meeting with a business/group/organisation that does not fall under advice & guidance for example, a meeting with an AQ monitoring supplier, a meeting with an EV supplier (**Project Support**)

A&G meetings mostly took place later in the project, with CAV4 partner meetings and Project Support meetings taking place in the earlier quarters. **Regular meetings with the CAV4 partners** (in addition to the steering group meetings) **were essential to continue the coordinated operation of the range of freight interventions that were being delivered and to share and shape progress**.

Project Support meetings were vital to ensure that CRP was in close contact with the relevant organisations and consultancies in the realm of AQ, as this would inform and shape who we worked with and the direction that was taken for the interventions. The A&G meetings were a vital component of CAV4; for involving local businesses in interventions and for shaping the direction of interventions relevant to them. CRP also kept a record of which meetings were related to which Freight Solutions/Interventions, however, the team were working closely on these component parts and one meeting with a business was very likely to have covered a number of CAV4 intervention topics.

CRP sought to discuss a range of AQ-related topics during 1-2-1 meetings, subject to it being relevant within the context. Topics/resources covered included:

- Details about the CAV Directory
- Information about the EV dongles
- Clean Air Tool
- The sharing of relevant case studies and toolkits from CAV3
- deliverBEST
- Details about relevant CRP events
- Details about the relevant Freight Intervention (river freight pilot, Brixton last mile hub trial, cargo bike schemes, ULEZ resources, for example)
- Introductions to relevant businesses/resources/contacts
- Details about CRP's LinkedIn AQ Group

5.2 Additional engagement

In addition to the 1-2-1 engagement, **CRP attended and presented about CAV4 at 22 events, to ensure knowledge sharing and promotion of the project**. These included partner events, partners committee and AGM meetings, industry events, hyperlocal or London-wide events, roundtables and fora. CRP is also well connected with a range of industry specific groups, such as Logistics UK, the Brewery Logistics Group and the Thames Estuary Growth Board. Further details can be found here.

6. Project Outcomes

The CAV4 programme has led to actions being taken by businesses in the 26 'villages' and beyond that has resulted in an **increased number of journeys being completed by zero or ultra-low emission vehicles**, in place of more polluting equivalents, has **set up and delivered collaborative pilots and trials of river freight and last mile logistics centres** and has **increased awareness of the advantages and availability of EVs in response to government incentives**. This has all resulted in **lower local NO2 and PM concentrations**.

Feasibility and case studies from CAV4 will all result in long term education and behaviour change far beyond the scope of the programme. Lessons learnt within each Freight Solution and village have been and are being shared amongst the project partners and beyond, for maximum medium- and long-term Air Quality impact achievements stimulated by the original Defra CAV4 investment.

Key outcomes of the five Freight Solutions, their interventions and associated AQ benefits are showcased below in detail.

6.1 - Freight Solution: Consolidation

Summary

The CAV4 consolidation solution aimed to **promote zero emission vehicles, consolidation centres and river freight**. It aimed to deliver trials of river freight and to **raise knowledge** of how to do so. Consolidation also aimed to deliver **consolidation of supplier schemes**.

Consolidating deliveries and/or suppliers leads to reduced vehicle journeys and consequently reduces harmful pollutants. It can also reduce business costs.

Main achievement

The main achievements for consolidation are:

- **Promotion of consolidation centres** (this included promotion of the **EV dongles** **and** **Kent County Council Try Before You Buy EV scheme** (KCCTBYB)
- **Promotion of river freight**, and the **setting up of a unique and collaborative river freight pilot**
- Exploration of **preferred supplier schemes**, with one set up for Cadogan.

6.1.1 - Zero emission vehicles and increased use of Dartford hub

Summary of aims

Dartford, in Kent, is host to a number of large consolidation and distribution centres and also contains Dartford International Ferry Terminal (DIFT). Guy's & St Thomas' Trust (GSTT) have been using a facility in Dartford (operated by CEVA Logistics) to consolidate goods that are then delivered by van or boat into hospitals in central London.

For CAV4, CRP aimed to **promote the GSTT/CEVA consolidation centre**, to encourage use of its services, as it had capacity to support further organisations. The aims were for more businesses to use the consolidation centre, **resulting in a reduction in vehicle movements for the onward journey**. This tied in with the aims for the river freight trial and engagement took place at the same time to **maximise resources**.

CRP also aimed to expand knowledge of consolidation centres and how to set these up. Please see section 6.2.2 for details of the CAV4 last mile logistics hub.

Engagement/process

CRP worked with Kent County Council (KCC) and Dartford Borough Council (DBC) so that business engagement with Dartford businesses involved the combined promotion of consolidation services, promotion of the EV dongles, and promotion of the Kent County Council Try Before You Buy EV scheme. The conversation with businesses was adapted based on the needs of the business. CRP also spoke with businesses about river freight if it was deemed relevant.

Figure 4: A sample of the flyer used for the KCCTBBYB EV scheme

Flyers were created that were **tailored for Dartford** and CAV3 case studies were also shared. The KCCTBYB offered businesses in Kent the **free use of an electric van for two months**. CRP spent three months contacting businesses in a range of ways, by phone, email and social media. CRP contacted 19 businesses in relation to river freight and 50 businesses in relation to the dongles and EV scheme.

Figure 5: Map of Dartford showing CAV4 engagement

CRP also met with **Borough Market, one of Better Bankside BID's members**, to discuss the Dartford consolidation centre. The market were interested to find out whether the consolidation centre could work for their deliveries. Borough Market is located next to London Bridge train station and is a congested area with small, cobbled streets. There is not enough space for all the vans that make deliveries there. Unfortunately, the market was understaffed and despite there being interest in CAV case studies and their need to reduce congestion, it was not the right time for them to pursue a consolidation solution with CRP. **50% of deliveries to the market required refrigeration which also provided a challenge**.

Delivery/achievements

CRP did the following in Dartford and beyond:

- **Encouraged businesses in Dartford to use the Dartford consolidation centre and GSTT/CEVA river freight boat**
- **Engaged with Dartford businesses to promote both the CAV4 telematics dongles** and the **Kent Try Before You Buy EV Scheme**
- CRP also worked with Better Bankside (BID) who launched their own consolidation centre (the Green Logistics Centre/GLC) in 2021 to promote the service to businesses. This included an introduction to an office supplies business called Lyreco. Lyreco were keen to learn about the GLC to see if they could use it to consolidate their own deliveries to the area. They were also interested in river freight.

CRP worked with the **DBC communications and climate change teams** to conduct targeted promotion in Dartford. This was a huge **awareness raising exercise, about air quality and freight**. Most businesses had not heard of the KCCTBYB EV scheme and whilst there was no uptake of the

free dongles and free trial of EVs, businesses gained from an increase in knowledge that would be helpful in the future.

STSL, a security system supplier, said that they would procure an EV after speaking with a member of the CRP team and reading CAV case studies.

Challenges

The engagement in Dartford included a range of support to businesses. Challenges the team faced included:

- It was difficult to find the right person within a business to speak with
- Many businesses had closed down due to the pandemic and Brexit
- Some concepts were difficult to summarise easily
- Most businesses had not heard of the KCC TBYB EV scheme (this also provided an opportunity and businesses appreciated the direct engagement)

Local communications

Promotion of the Dartford consolidation centre, river freight, CAV4 dongles and the KCC TBYB EV scheme took place using direct phone calls and emails, along with the use of tailored flyers, and the sharing of case studies. A comms campaign also took place using social media.

Figure 6: Twitter post promoting the KCC EV scheme

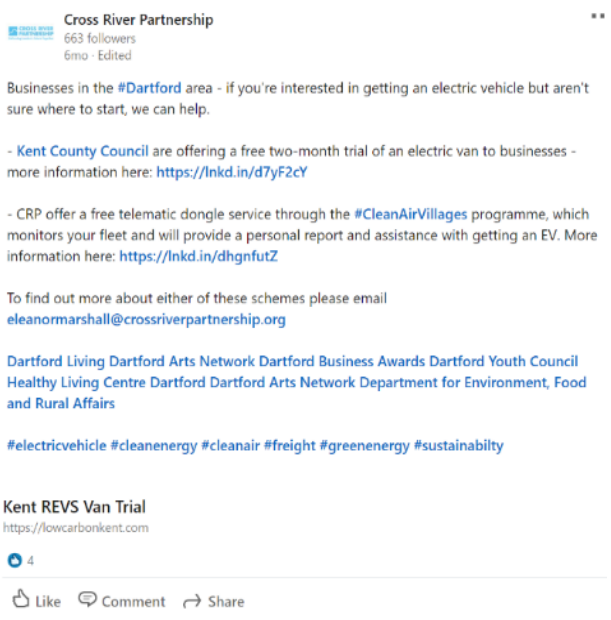


Figure 7: LinkedIn post promoting the KCC EV scheme

Impact (emissions savings)

Based on just one business in Dartford switching from diesel to EV and based on 50 miles of journeys per week, over one year, the emissions savings would be as follows:

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
1,555	15	15	682.52

Table 6: Zero emission vehicles and increased use of Dartford hub projected emissions saving 2022-2023.

6.1.2 - River freight trial

Summary of aims

CRP aimed to promote river freight, with the key aim to **deliver a river freight trial that consolidated goods**. This ties in with the promotion of the GSTT/CEVA river freight trial highlighted above.

It has been proven **that bringing goods into central London via the Thames emits less than half of the carbon of road transport**, improving local air quality. Meanwhile, the River Thames is an under-utilised resource and there is a lack of awareness about the river's potential and how to set up river freight. CRP therefore set out to **disseminate knowledge** about river freight.

Engagement/process

CRP worked with the Port of London Authority (PLA) to produce a **guidance document** about river freight. CRP used this and a flyer to target businesses to promote river freight. CRP used its networks to promote and discuss river freight, **aiming to find a partner to deliver a pilot with**. Extensive promotion took place in Dartford due to its strong location by the river and with extensive existing logistics companies in the area. CRP also worked with **Putney BID, in Wandsworth** to find contacts with businesses that used the area as a route into central London. CRP also contacted businesses in Lewisham that were located close to the river.

CRP found the following leads in relation to river freight:

- Better Bankside BID introduced CRP to **Great Portland Estates** (interested in bringing construction materials along the river)
- The **Brewery Logistics Group** (BLG) promoted river freight amongst their networks and two suppliers were interested
- The BLG also introduced CRP to **Asahi** (brewery)
- **Lyreco** (an office supplies business based in Dartford) were keen to be part of a pilot
- **Complete** (an office supplies business) were also keen to be part of a pilot

It was a big ask for businesses to explore river freight because there were many unknown variables, in particular a lack of understanding about the costs.

Great Portland Estates were keen to find out more about river freight in relation to construction that would take place in 2025-27. They highlighted that they would like to bring goods into London Bridge by boat and would like to take spoil away from sites too. They said it was **hard to find out information about river freight and welcomed the feasibility study** and anything else that would help guide them.

CRP setup a meeting with **the BLG, two of their suppliers that were interested in river freight and the PLA**. It was agreed that the potential for use of the river would be explored. The key challenge was that the two interested suppliers were based in different areas of London. These conversations did not lead to a trial. CRP also met with Asahi, who were located along the river. **Asahi were keen to find out if the river was a viable option for their operations**.

Lyreco had joined CRP's LinkedIn Air Quality group (that was setup as part of the CAV3 programme) and met with CRP for a wider discussion about air quality and sustainability. **Lyreco were interested in working with GSTT and CRP on a river freight trial.** A meeting took place, with support from the PLA and by Q3, a pilot was looking promising. Unfortunately, from an operational perspective, Lyreco decided in January 2022 (Q4) that the timing was not right for their business and would no longer be able to take part in a trial at that time. They were, however, interested in participating in one in the future.

Figure 8: Tailored flyer to promote river freight to Brewery Logistics Group members

Time was running out to deliver a river freight pilot. Meanwhile, CRP had met with Complete, a business that worked with a number of suppliers to consolidate goods to bring them into London. **Complete agreed to work with CRP on a river freight pilot**.

CRP introduced Complete to the PLA for **preliminary conversations about river operations**. It was necessary to understand where the **pickup and drop off locations were going to be and which piers/wharves** could be used. It was also necessary to work out what **volume of goods** would be moved. In the meantime, **CRP and Northbank BID were discussing river freight and privately owned, Woods Quay**, which was located in their BID area and had come up as a potential drop off location for deliveries. **Complete brought iRecycle (waste collectors), Mayflower and Antalis into the conversation**. **CRP setup fortnightly meetings to steer the pilot**.

The regular steering group (SG) meetings covered the following items:

- **Loading locations:**
    - Dartford International Ferry Terminal (DIFT) was chosen as a pickup location for Complete and Antalis office supplies. DIFT was bought by the PLA during the planning stage of the pilot, which was helpful.
    - A Woolwich pier was required for the pickup of Mayflower's cleaning supplies. Woolwich Ferry, owned by TfL was chosen.
- **Unloading locations:** Woods Quay was a new quay owned by Silver Fleet. With Northbank BID keen to be part of the pilot, Woods Quay was the ideal location to unload the goods. CRP had met Silver Fleet during CAV3 and the PLA had a strong relationship with the family who owned the quay. Silver Fleet were very open to being involved in a pilot.
- The **'last mile' of the journey** would be completed by **zero emission cargo bike/trike**.
- The SG agreed to **limit the items that could be purchased**. A **shortlist of items was agreed** on which covered best sellers and items deemed most suitable for river freight.
- **Timings and frequency**
    - The SG agreed to operate one day per week, for six weeks (with one additional soft launch week to test the process).
    - The PLA worked on timings, based on **tidal movements**. The aim was to bring the vessel in as the tide came in and for the vessel to return east as the tide went out. This would **reduce journey times and emissions**.
    - An original launch time of May 2022 was the aim, but the date kept being pushed back until the pilot would be launching as CAV4 was finishing.
- **Businesses:** customers / buyers of the goods were essential in order for the pilot to be truly tested.
    - Northbank BID promoted the pilot amongst their business network
        - The BID also agreed to place the first order for the soft launch, bringing boxes of paper into Woods Quay which would be distributed amongst their members

Figure 9: A photo showing boxes of paper in the rubble containers, about to be lifted off the boat

    - Complete, Mayflower and iRecycle engaged with their existing customers and enquired with their own contacts
    - CRP promoted the pilot amongst their networks too

- The original idea was for the pilot to operate **reverse logistics**, which would bring office and cleaning supplies into London, with waste being collected and taken back out on the same vessel. Woods Quay was not a suitable location for waste collection and it was also found that waste collection was more complicated than goods-in. **Waste required stringent certification** and businesses were **unable to switch their providers on a temporary basis due to contractual obligations**. Waste was already being collected from Walbrook Wharf in the City of London (a short journey from the Northbank BID area). **iRecycle** worked with businesses to collect waste and take it by boat. They developed the pilot to work with **London Bridge City Pier and the Courtauld Gallery.**
- **Site visits** to the potential piers/quays were necessary, with the owners and suppliers. These would assess
    - Overall suitability of the space and its viability for use for the pilot
    - How/where to unload vehicles and load the vessel
    - What kind of contraptions would be best suited to transport the goods e.g. roll cages
    - A look at any restrictions on access, (un)loading at sites due to the tide
    - A look at storage facility potential on site, as well as parking and EV charging potential
    - Access times
    - Health and safety issues

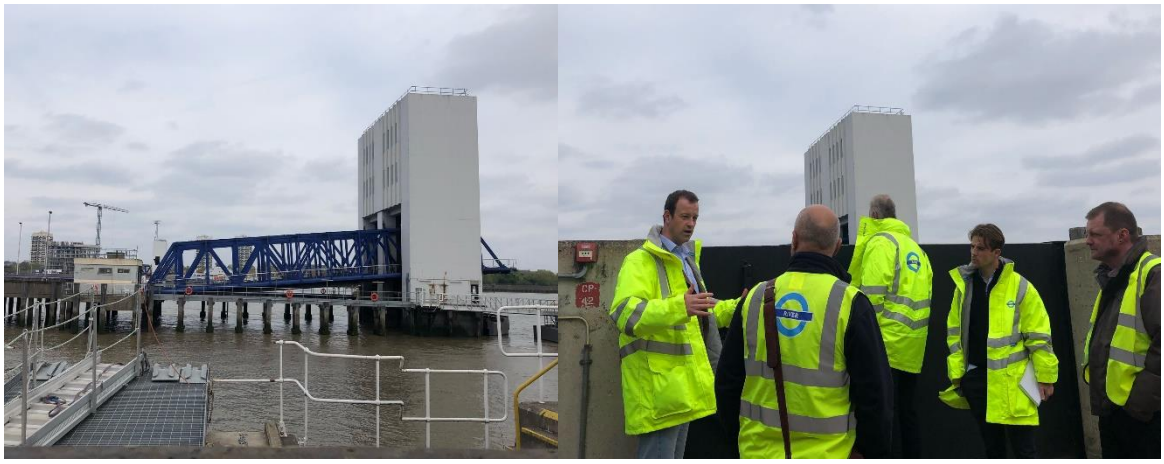


Figure 10: Photos taken during a site visit to Woolwich Ferry (pier)

Comms:

- Before the launch, promotion of the pilot to potential customers/users of the scheme was extremely important,
- Additionally, further promotion of the pilot once it had launched was vital to its success. The steering group coordinated a press release and a launch event took place at Woods Quay.

Additionally:

- The PLA worked with **GPS Marine who owned a fleet of vessels**. GPS Marine were keen to be involved for the river operation
- The PLA worked on a **passage plan** for the operation
- The suppliers worked with the pier/quay owners to produce the **Risk Assessment and Method Statement (RAMS)**, for sign-off
- CRP approached **cargo bike operators** to agree on a provider for the last mile service

Only once all of the above had been agreed could the pilot launch.

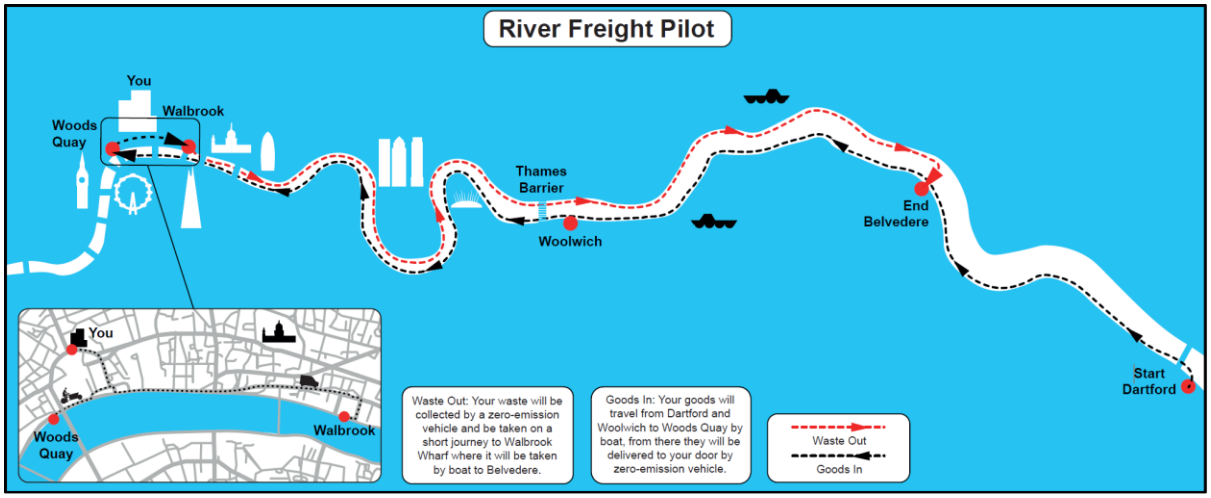


Figure 11: Diagram explaining the aims of the river freight pilot

Delivery/achievements

A river freight pilot was setup and launched. Due to the delays in its launch, with agreement from Defra, the pilot now also forms part of the Defra Air Quality Grant funded Clean Air Logistics for London (CALL) project. This will ensure a seamless transition of delivery of the pilot and its analysis.

Extensive promotion of river freight to encourage uptake of a pilot took place as part of CAV4. This took a long time to progress and coordinate with so many stakeholders involved and the challenges along the way.

The river freight pilot was the first multi-pick-up scheme to be delivered along the Thames.

Key stakeholders	
Absolutely Couriers	Antalis
Complete	Cross River Partnership
GPS Marine	iRecycle
Mayflower	Northbank Business Improvement District
Port of London Authority	Silver Fleet
Transport for London	

Table 7: All parties involved in the operation of the river freight pilot

The next steps are that as part of the Defra-funded CALL project, the river freight pilot will be written up into a detailed case study. This will include **analysis of the true costs and a comparison of the road versus river journey in relation to pollutants**.

Figure 12: GPS Marine's vessel bringing the goods into Woods Quay

Figure 13: Key goods-in stakeholders for the river freight pilot

Figure 14: One of the zero-emission vehicles used by Absolutely Couriers to transport the shipment from Woods Quay to the business customers

Figure 15: The Leader of Westminster City Council, Councillor Adam Hug on the launch day

Challenges

CRP knew that it would be challenging to find a supplier to take part in a river freight pilot because there were a lot of **unknowns about using the river** (understanding costs, tides, pier ownership, health & safety, and more). Setting up a river freight pilot would also take time, even once an interested party was found. Despite this, a river freight pilot was delivered.

Even once a business or supplier was found to be interested in river freight, there were **challenges in moving this forward**. This could be due to a business changing its mind, or to finding it difficult to find out more about potential sites for operation.

Moving waste by river was found to have more challenges than other industries. In particular contractual obligations of businesses meant that switching was generally not possible. This also

impacted on some larger businesses not being able to be involved in the goods-in side of the pilot too.

The **number of stakeholders** that were involved in making the pilot happen was high, this meant that coordinating meetings and moving things forwards was challenging. The reason that this pilot got off the ground was because everyone involved had the **commitment and energy** to want to make it work.

Many of the smaller details to the operation needed refining: choosing a device for transporting the goods, deciding whether any goods could be stored at any of the piers/quays, understanding the operating hours of the customers receiving goods, who would physically move the goods from the boat to the cargo bike.

Additional challenges were faced along the way, including the theft of a one tonne propeller from the vessel that was going to be used and some emergency welding that needed to be scheduled at DIFT.

The impact of the tide and therefore the timings of the vessel were restricted. This impacted on final delivery times to businesses.

A lot of communication on the journey days was necessary, with calling ahead to share more accurate arrival times. In practice, the vessel arrived much earlier than was scheduled.

Local communications

Promotion of river freight pilots in general took place throughout CAV4, as CRP searched for suppliers to work with.

Huge promotion of the river freight pilot took place in the build up to the launch, most of which, was highly targeted, using the networks of the pilot's stakeholders.

Promotion also took place during the pilot, to bring more customers on board and to share about the scheme more generally. The press release can be found here.

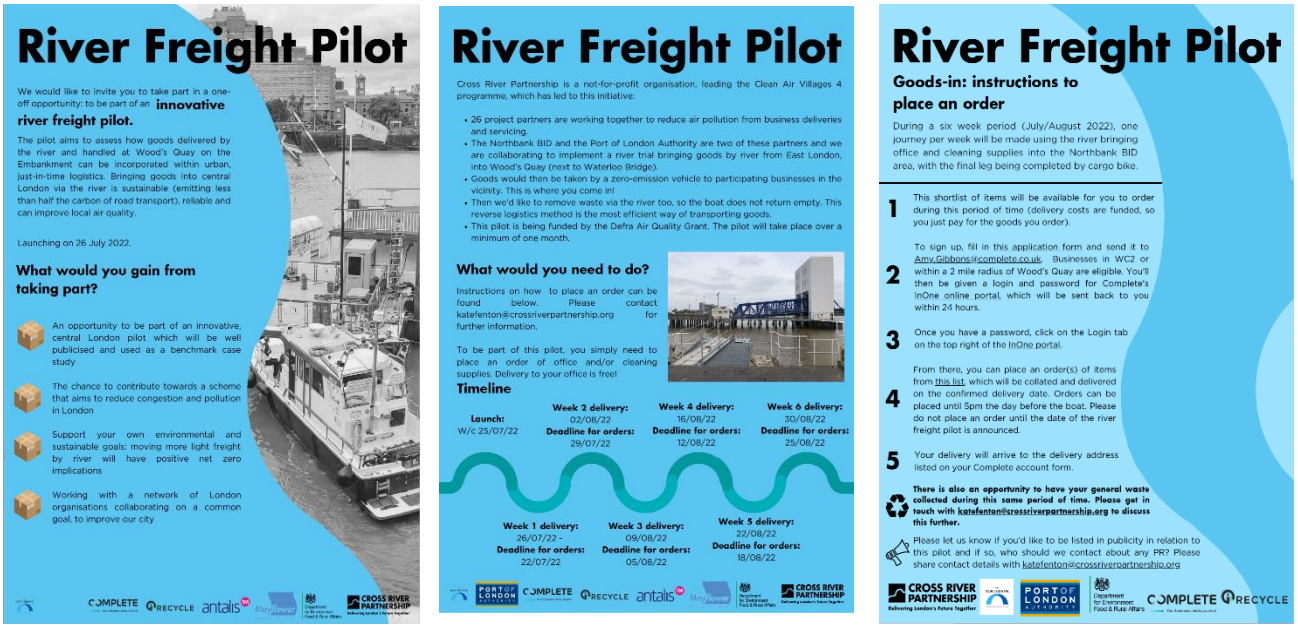


Figure 16: River freight pilot flyer explaining about the scheme, detailing how to sign up and when the journeys would take place

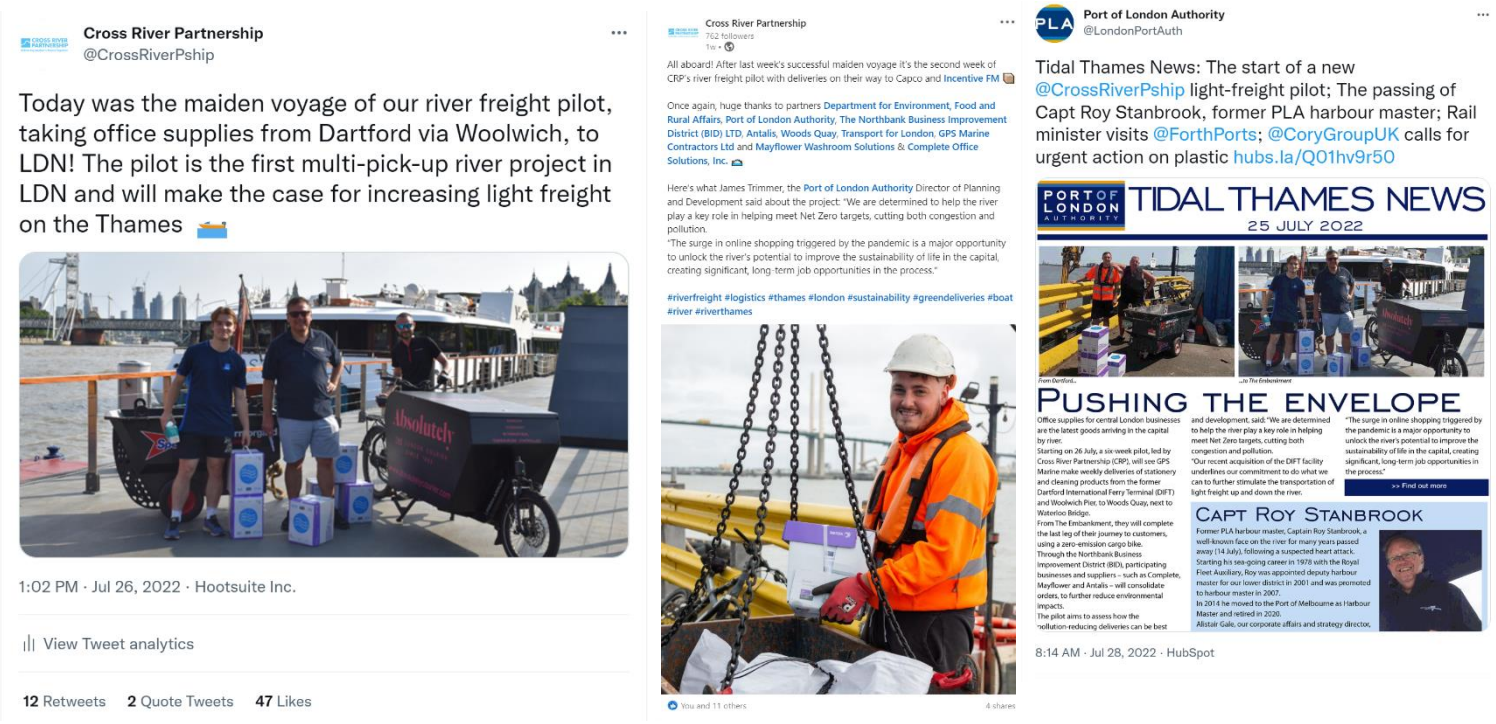


Figure 17: Social media promoting the river freight pilot (left and centre) and promotion in the PLA's newsletter

Quote from business/partner/consultants etc.

'At Complete our purpose is to make the procurement of business services sustainable and our mission is to help organisations accelerate their evolution to a consolidated, sustainable procurement process. Sustainability is at the heart of everything we do. It is therefore only natural that we would work with, support and promote Cross River Partnership and the River Freight Pilot scheme.

We are always looking at ways to innovate and collaborate in order to reduce negative environmental impacts and this looked to be a perfect opportunity to do this.

With our network of supply partners and customers we were able to introduce CRP to businesses that were able to join and support the scheme, all with the aim of seeing if this could become a viable way of delivering goods into and transporting waste out of Central London.

We are extremely proud to be involved and are looking forward to contributing towards the next steps as the river is an ideal mode of transporting heavy, bulky items.'

Russell Hodson, CSR Director, Complete

Impact (emissions savings)

These calculations have been produced by comparing the actual road journey made by Antalis, Complete and Mayflower if they were to deliver to Somerset House, with the journey made for the river freight pilot. The river freight pilot journeys include road journeys to the piers, the river vessel, then the cargo bike and back to source. The suppliers use a mixture of diesel and electric vans. The emissions savings have been calculated based on the pilot continuing for one year.

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
3,220	260	480	3,618.38

Table 8: River freight trial projected emissions saving 2022-2023.

6.1.3- Consolidation of suppliers

Summary of aims

In the proposal for funding, CRP identified that project activities for the CAV4 strand, Consolidation, could include retiming, consolidation and preferred supplier schemes. As part of CAV4**, CRP therefore explored preferred supplier schemes with four project partners (Better Bankside, Cadogan, the Central District Alliance and the London Borough of Richmond upon Thames).**

A preferred supplier scheme has been proven to be a **successful method of reducing the number of vehicle movements to an area, resulting in improved air quality**[2]. Through a stringent process, a range of suppliers/providers for goods/services are assessed based on their operations (including fleet), cost and customer services. This takes place on behalf of a group of businesses, for example,

[2] bondstreetcasestudynew.pdf (tfl.gov.uk)

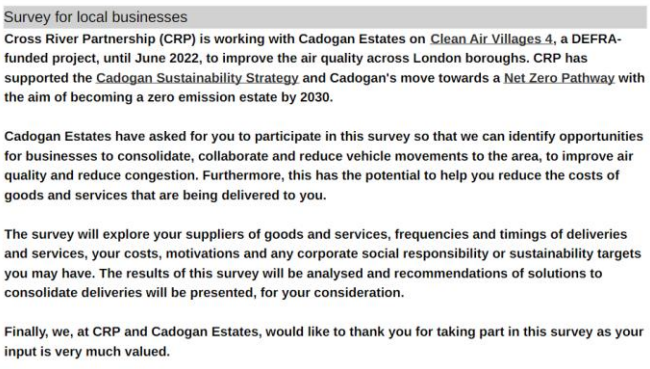
for a business improvement district area, for one road, or for a multi-tenanted building. Discounts are often included due to bulk-buying, **delivery days and times are agreed** in order to reduce vehicle movements in the local area.

CRP's aims were to coordinate and produce a preferred supplier scheme or schemes that would reduce congestion and pollution.

Engagement/process

CRP discussed with Better Bankside (BB) the idea of having a preferred office supplier for their BID members. This would be used in conjunction with their last mile logistics centre, known as the Green Logistics Centre (GLC). CRP introduced BB to an office supplies business that operated in their area and a meeting took place in Q3. Due to staff changes at the BID and other timescale factors, this did not move forward within the CAV4 project.

Cadogan had identified Duke of York Square (DOYS), a multi-tenanted building, which their own office was situated in, as the location to produce a preferred supplier scheme for. The long-term aim was to expand this scheme, throughout their estate, should it prove to be successful. Prior to the launch of CAV4, Cadogan had conducted some preliminary work, gathering data from the DOYS tenants. This captured information about their interest in being part of the scheme and who their current suppliers were. CRP required more detailed information and produced **a survey that gathered details on when and how frequently suppliers were making deliveries/collections**. The survey also enquired as to what was important to the tenants when choosing a supplier (cost, convenience, sustainability etc.), as well as whether any discounts were included. Understanding the degree to which deliveries were urgent or not was also important in understanding what types of goods or services would be the most relevant for the scheme.



Survey for local businesses

Cross River Partnership (CRP) is working with Cadogan Estates on Clean Air Villages 4, a DEFRA-funded project, until June 2022, to improve the air quality across London boroughs. CRP has supported the Cadogan Sustainability Strategy and Cadogan's move towards a Net Zero Pathway with the aim of becoming a zero emission estate by 2030.

Cadogan Estates have asked for you to participate in this survey so that we can identify opportunities for businesses to consolidate, collaborate and reduce vehicle movements to the area, to improve air quality and reduce congestion. Furthermore, this has the potential to help you reduce the costs of goods and services that are being delivered to you.

The survey will explore your suppliers of goods and services, frequencies and timings of deliveries and services, your costs, motivations and any corporate social responsibility or sustainability targets you may have. The results of this survey will be analysed and recommendations of solutions to consolidate deliveries will be presented, for your consideration.

Finally, we, at CRP and Cadogan Estates, would like to thank you for taking part in this survey as your input is very much valued.

Figure 18: Introductory text from the DOYS survey

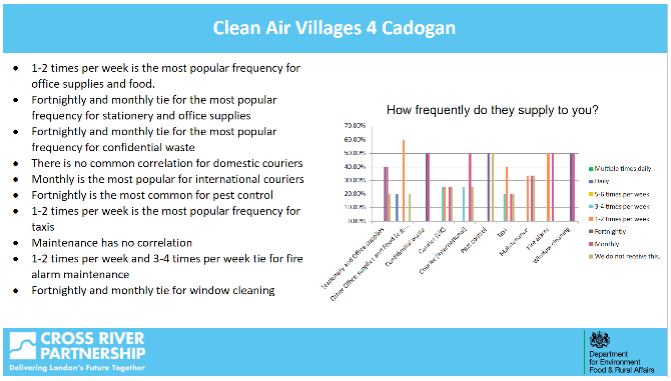


Figure 19: Analysis of the survey data

Following the **detailed analysis of the survey data**, CRP presented the findings to Cadogan. Office supplies, groceries and confidential waste collection were identified as areas that could be focused on. Taking into account delivery frequency and reduced loyalty to a supplier, office supplies was the category of products chosen for the preferred supplier scheme.

Next, CRP produced **a detailed list of criteria-based questions** (see Appendix IV) to ask suppliers of office supplies. Weighting of answers was also agreed with Cadogan as part of the assessment process. CRP researched suppliers of office supplies who operated in London and a list of 20 was

created. CRP contacted all 20 suppliers, by phone and email, to encourage completion of the form. By the agreed deadline, four suppliers had completed the form. Three CRP team members assessed the applications and scored the responses. CRP presented the findings to Cadogan. Lyreco scored the highest, with BPR and Complete being very close behind. Following a discussion about the responses and results, it was decided that CRP would introduce Cadogan to Lyreco in order to discuss how the preferred supplier scheme could be delivered. CRP, Cadogan and Lyreco then met in person.

The Central District Alliance (CDA) were also interested in a preferred supplier scheme for either office supplies or waste collection. At project launch, CRP and CDA agreed to conduct a survey with the BID members in order to gather information about the number of suppliers/providers being used and how frequently deliveries/collections were taking place. This would enable CRP to work with CDA to decide on a focus area and to come up with tailored assessment criteria in order to produce a preferred supplier scheme. CRP designed the survey and CDA sent this out on three occasions, in September and November 2021 and in January 2022. Unfortunately, due to a low response rate (two survey completions), it was not possible to analyse the data. Without a substantial response rate, it would not be possible to produce a fair preferred supplier scheme for the business improvement district area.

Following the exploration of a shared EV for the London Borough of Richmond upon Thames (LBRuT), as part of the Mode Freight Solution, which did not take place, CRP worked with LBRuT to explore the idea to consolidate waste with businesses in Twickenham. Despite a very positive initial meeting with the LBRuT waste team, and the identification of Church Street as an area to focus on, this was not able to progress. The street enforcement team were opposed to shared bins being used, as in their experience it led to poor behaviour from traders (contaminated waste, for example). Without space for shared bins the waste consolidation idea could not move forwards.

Delivery/achievements

The facilitation of a preferred supplier scheme for Cadogan took place. As part of CAV4, CRP narrowed down the area of focus, to office supplies, CRP conducted a detailed survey of the tenants of DOYS and produced, sent out and analysed a form for office supplies suppliers to complete in order to assess their suitability to be the chosen preferred supplier and **an introduction to the supplier took place**. Cadogan were hiring a new member of their team towards the end of CAV4 and it was agreed that CRP would handover the implementation of the scheme to the new person. It is therefore anticipated that the preferred supplier scheme will be in place a few months after the end of CAV4.

Challenges

Comparing the work that took place in Cadogan with the CDA, Cadogan had already identified a multi-tenanted building and had **preliminary buy-in** from the tenants. With CDA, a BID-wide survey may have been too wide a focus. **Identifying either one particular street, or large building may have produced a better response** and CRP would advise this approach in future.

For Cadogan, CRP sent the assessment criteria to 20 suppliers who operated in London. Four responded, which was lower than anticipated. The form itself was long and detailed. CRP and Cadogan discussed whether to send out the assessment form again, in order to encourage further suppliers to respond. CRP looked into the sustainability agendas of the targeted list and concluded that those that had responded were likely suppliers who felt they had the best chance at being

successful in being chosen. The form assessment was therefore not sent out again. CRP had called and chased all suppliers, to give them multiple opportunities to respond.

Some of the challenges faced for consolidation of suppliers involved pursuing schemes which did not deliver an outcome. There needs to be interest from businesses in such schemes and there is not always the will.

Local communications

Promotion of the preferred supplier scheme did not take place. This air quality intervention involved internal processes and the analysis of business information privately. Once the scheme launches, promotion will then take place. Cadogan then wish to roll out the scheme wider should it prove to be successful. **The success of the preferred supplier scheme relies on the tenants of DOYS all using the supplier and agreeing on a delivery day**.

Quote from business/partner/consultants etc.

'Cadogan was delighted to partner with Cross River Partnership on the Clean Air Villages 4 programme, in which our focus was supporting occupiers with supplier consolidation. With the aim of reducing traffic and improving local air quality, CRP engaged with our office occupiers in Duke of York Square to understand their supplier delivery patterns. An opportunity was identified to consolidate stationery, so CRP led a tender exercise to identify the most suitable, sustainable stationery provider. Negotiation continues to finalise the most appropriate solution, which will involve consolidated deliveries made to Chelsea office occupiers in zero-emission vehicles.'

Kate Neale, Head of Sustainability, Cadogan

Impact (emissions savings)

Based on three businesses sharing the same supplier, CRP has compared a before scenario of one business receiving one delivery by EV per week, plus one business receiving two deliveries per week by diesel, plus one business receiving a monthly diesel delivery, with one journey per week to the same building for all tenants, by EV, plus three ad hoc urgent deliveries per month. Extrapolated from 1st September 2022 for nine months, the potential emissions savings are as follows:

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
1,335	60	37.5	604.8

Table 9: Consolidation of suppliers projected emissions saving 2022-2023.

6.1.4 Additional Consolidation

CRP worked closely with CAV4 partners on some interventions which did not move forwards, those linked most with the Consolidation Solution can be found below. **Not all efforts are rewarded with successful delivery and not all initiatives are able to get off the ground within the Defra-funded live project window.**

A range of interventions were discussed and pursued with Victoria BID and Victoria Westminster BID:

- Working with Whitehall buildings (Government Property Association) on freight consolidation
- Promotion of the ULEZ expansion was important to the BIDs as they would be joining the zone
- Promotion of the EV dongles took place
- Delivery & Servicing Plans, for example, with Westminster Cathedral or Verde (which has a service yard for six businesses)
- Meetings with the BID, freight consultants and local landowners took place and there was interest in a communications piece working with Grosvenor tenants to prohibit personal deliveries
- Landsec were interested in a shared EV to bring consolidated goods into the area
- There was also interest in a preferred supplier scheme

CRP explored a range of interventions with Hammersmith BID:

- Initially there was interest from Hammersmith BID in river freight. CRP was introduced to some BID members to promote river freight but interest was low. Meanwhile, CRP was exploring river freight with businesses of all sizes across London. The BID were exploring the feasibility for use of an old pier on the Barnes side of the river. During the scoping work for the pier infrastructure study, it became apparent that Dove Pier (the pier closest to and most relevant to the BID) was not open for additional use. Additionally, due to water depths and the number of rowers upstream of Putney Bridge, piers beyond this point were not being explored for river freight.
- CRP attended the BID's Transport Forum on 14th July 2021 to promote the EV dongles. There was also potential interest from a business that consolidated waste pallets from nearby Charing Cross Hospital.
- The shared EV in Shepherds Bush (the result of CAV3 delivery) was being used by a zero emissions market in Hammersmith. CRP suggested promoting the free use of the EV to BID members.
- A BID member had recently purchased a bio-composter and there was potential to expand use of this in order to reduce waste collections.

CRP originally explored river freight for the London Borough of Wandsworth, however, despite promotion of the intervention and working with Putney BID to gather information about suppliers that travelled through the area, no leads were discovered that were directly relevant to the area. CRP went on to pursue a cargo bike scheme with Putney BID.

6.2 - Freight Solution: Distribution

Summary

Aim to make wholesale, significant change to London's distribution and delivery network that will improve air quality and reduce congestion in specific, targeted villages and across the city. Previous

Defra-funded Clean Air Villages work has also highlighted a keen interest from BIDs and local authorities in setting up and better understanding micro-distribution centres.

Main achievement

The main achievements for distribution are:

- **The addition of three micro hubs and over 200 rapid chargers to the urban logistics map**
- **The delivery of a micro-consolidation hub that services Brixton, that is being used by five businesses.**

6.2.1 – Micro hub maps

Summary of aims

In May 2021, CRP's urban logistics hub map was launched to show underutilised and unused spaces across London, which could be used as logistics hubs or micro logistics hubs by zero emission couriers. This had been derived from a study and associated report that CRP has worked with transport consultants, Steer, on through the Central London Sub-Regional Transport Partnership. This initial report was launched at the end of 2020, before the CAV4 programme began.

In CAV4, CRP's aim was to expand the use of the urban logistics hub map by **adding more sites, creating introductions from landowners to logistics providers about specific sites, and support this tool to be as user-friendly and accessible as possible.** This would be a valuable map for zero emission couriers and landowners to interact and collaborate so that they could realise the full potential of micro logistics and urban logistics hubs and spaces across London.

Engagement/Process

Following the launch of the map, CRP focussed on adding sites to the map and reaching out to sites that were detailed on the report delivered by Steer. One site was added to the map from this initial approach, near Westminster's Park Lane.

CRP began proactively contacting organisations to add spaces to the map, particularly focussed on our local authority and BID partners, after finding challenges in reaching out to initial sites identified in Steer's report. In March 2022, this was expanded to contact **more than 150 new and existing organisations, particularly landowners across London, housing associations, strategic agencies, and any other organisations that may own any land across London.**

CRP also ran a paid social media campaign from 25th – 29th January 2022 on LinkedIn **to encourage landowners to add more sites to the hub map website**. This showed the advertisement to an estimated 8,301 relevant people in London who may own land or work with landowners. This generated 77 clicks, but unfortunately no new leads were generated.

Figure 20: CRP's paid advertising campaign (left)

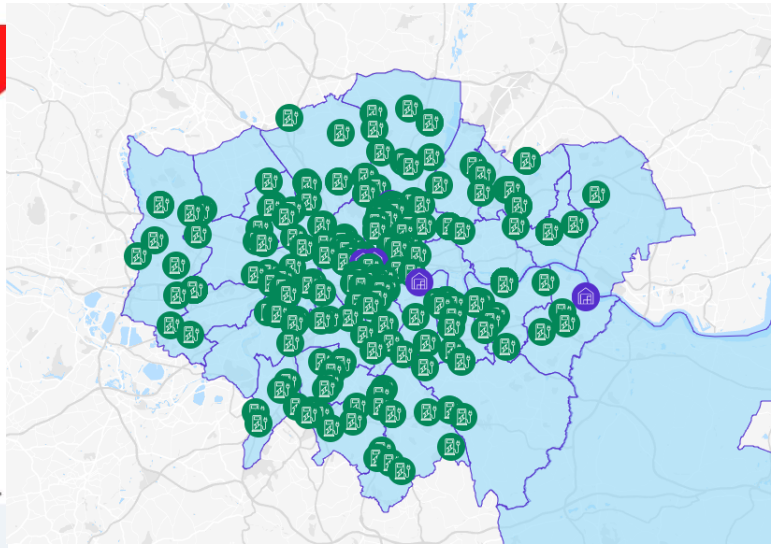


Figure 21: CRP's rapid charging hubs shown on the map (below)

Following challenges engaging with landowners through the social media campaign to add their underutilised sites to the map, CRP prioritised the layout and functionality of the map. **CRP simplified the text on the site to remove some of the overly technical logistics terms, moved the map nearer the top to focus on this, and added more clear details on the financial benefits for landowners**. An example of these changes is shown on the header of the website, seen below.

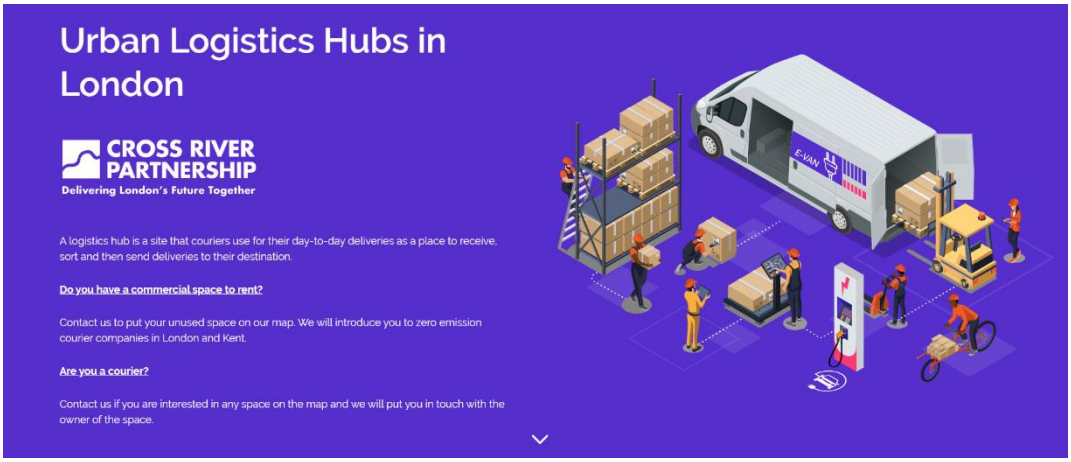


Figure 22: New version of our urban logistics hub map, with less technical logistics language, more focused on landowners and easier process

To compliment the changes to the layout and functionality of the map, **CRP added over 200 rapid charging hubs to the urban logistics hub sites**. This was based on feedback from couriers who were interested to know the public rapid charging infrastructure located near the sites. The data was

derived from the GLA's charging map, which can be found here. The sites added were for public use and available 24 hours per day.

Delivery/achievements

CRP have contacted over 200 organisations about the urban logistics hub map. Since the beginning of CAV4**,** CRP has **added three sites** to the urban logistics hub map, with an additional three sites being listed prior to its launch through the CLSRTP programme. CRP has **created six introductions for landowners to couriers**, for three couriers and four landowners. Six couriers are also signed up to our mailing list for when a new site is added to the hub map.

Challenges

The key challenges CRP has encountered are both related to the project and the external factors with challenges of space in London.

CRP has found that there is a real challenge to find space in London that landowners are happy to use as space for zero emission couriers. There may be space available but there is limited understanding of who owns what land in London. There is also a need to make this space affordable, and much more flexible. **Leases tend to be long, which does not suit zero emission couriers, some landowners do not want additional traffic, and space is not prioritised for logistics**. This lack of space has been identified in various CRP CAV4 outputs.

CRP has also found challenges in encouraging landowners we have engaged with and met with to fill out our site information template. This template may need shortening and making more accessible and attractive to use for landowners in the future, to ensure that we list as many sites on the map that we know about as possible, instead of this administrative task being a burden for landowners.

Awareness is also critical. Many landowners do not know what may work as an urban logistics hub and are traditionally thinking about a warehouse or railway arch. What we have found is that zero emission couriers are extremely flexible on what space would work for them. CRP has used this feedback to create useful, tailored resources, such as specifications on micro logistics hubs and urban logistics hubs.

Local communications

CRP has generated several resources to support the urban logistics hub map. Feedback from landowners, BIDs, local authorities and other associated partners have found that they are unsure about what a micro hub or urban logistics hub even is. CRP therefore created resources that support this, which are shown below. Additionally, CRP also created resources to encourage landowners to list sites on the map, and operators to get in touch to discuss available spaces, which are also shown below.

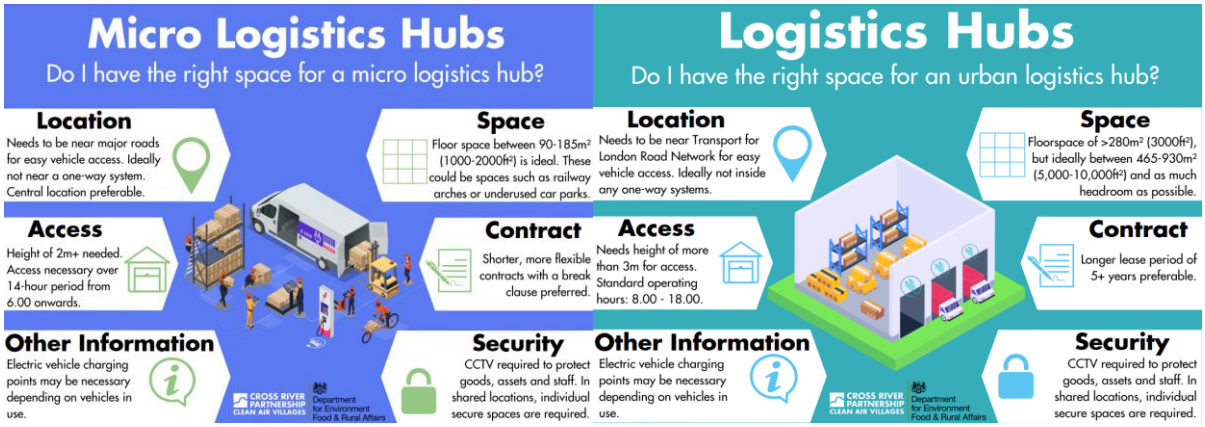


Figure 23: Resources created by CRP to support landowners with understanding of a logistics hub

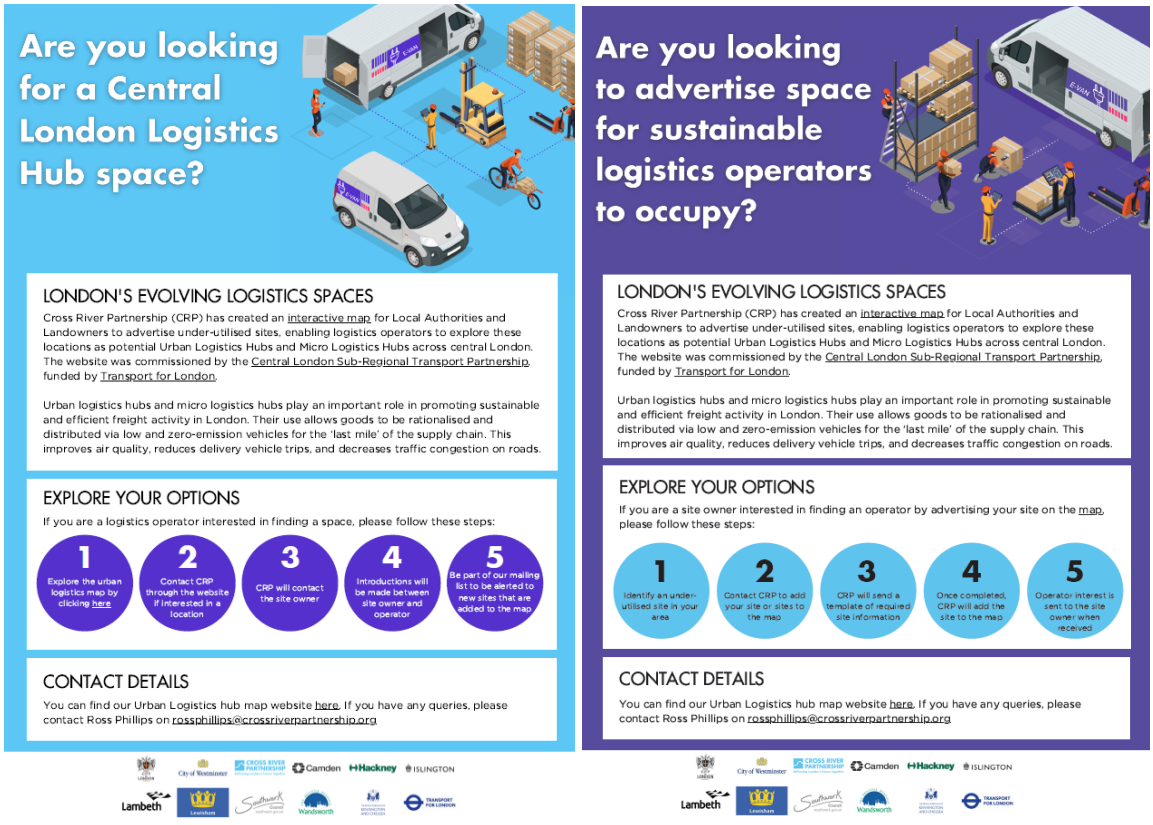


Figure 24: CRP resources to encourage landowners and operators to list or enquire about sites

6.2.2 – Micro hub trial

Summary of aims

In the CAV4 proposal, CRP detailed the need for a micro-consolidation hub trial to understand the **efficiencies and costs of using these in urban locations to service a particular area**. CRP worked with the London Borough of Lambeth and Royal Borough of Kensington & Chelsea (RBKC) to implement a micro-consolidation hub for businesses at their agreed "village" location. The micro-

consolidation hub or consolidation centre would be **serviced by zero tailpipe emission last mile deliveries** (e.g. cargo bikes, electric vans).

The London Borough of Lambeth chose to focus on **Brixton**, whilst RBKC chose to build on the work from Clean Air Villages 3 (CAV3) and continued to work with the **museums of South Kensington**. The museums of South Kensington are the Natural History Museum, the Victoria & Albert Museum and the Science Museum, and in CAV3, CRP conducted a delivery and servicing audit, with associated recommendations, for the museums.

Engagement/Process

To begin with, CRP continued to engage with the museums and established **quarterly meetings** with a sustainability representative from each museum, and a representative from RBKC. This provided a useful forum for CRP to allow the museums to collaborate and work more closely together on sustainability, procurement, deliveries and servicing and much more. These meetings became a regular occurrence in CRP's CAV3 programme and were continued in CAV4.

To set up a consolidation hub, CRP began to **explore locations where a micro logistics hub trial could take place** and researched how these projects have been undertaken in the past. CRP engaged with larger couriers to understand what their potential requirements could be for the project. CRP approached commercial real estate agents and networks (e.g. the Arch Co), traditional industrial logistics sites and their owners, and key players in this market across London e.g. industrial units, warehouses, railway arches, to understand whether sites could be used for a trial. CRP found challenges in realising the potential of this due to location, **long and inflexible lease agreements** (e.g. 1 year minimum, normal being 2-3 years), it was **difficult to contact commercial estate agents,** and there was a **booming commercial real estate market for warehousing, railway arches and industrial units**. These are detailed below in the *Challenges* section.

Due to these challenges, CRP switched its approach and decided to explore storage solutions and sites that allowed for flexible, weekly or monthly contracts, and focus specifically on two key locations: **Park Royal** (for South Kensington) and **Streatham or West Norwood** (for Brixton) that were more **flexible**. These locations were in suitable locations as they would add **minimal additional vehicle miles** in congested areas. CRP explored self-storage options around these locations e.g. Access, Shurgard, Big Yellow, to understand whether they could be feasible.

CRP found a suitable location at *Big Yellow West Norwood* that could service Brixton in February 2022, however CRP could not find a suitable location near Park Royal that a zero emission courier would be interested in working from as it would be too far by bike and not in a high-density drop zone. With a space found, in February 2022, CRP requested proposals from zero tailpipe emission couriers to run the delivery of a micro-logistics hub from the West Norwood location. This would entail receiving, sorting, and delivering parcels by zero tailpipe emission into Brixton.

Cargo bike couriers, Pedal Me, were successful in the tender and the proposal detailed that they would want to run the micro logistics hub from their existing hub in London SE1, to reduce operational costs and until we knew where all the suppliers were coming from across the UK. A location in SE1 could well be more serviceable for those coming from certain distribution centres and depots across London. **CRP would rent 200 sq. ft of space from Pedal Me's hub** and proceeded on these grounds.

The project officially kicked off on Monday 11th April 2022. The first deliveries were made through the hub on Tuesday 19th April, by Stems Wilder, a florist in Brixton Village. **Five businesses used the**

micro hub after a combination of email, phone call and in-person engagement efforts. Over **100 businesses have been contacted by the CRP team**.

Throughout the projects in South Kensington and Brixton, CRP has engaged with significant organisations including:

- Department heads at each of the museums, including fleet and estate managers
- Benugo – who have a café at each museum
- Hard and soft services suppliers e.g. CBRE, TSS
- Major national and international couriers e.g. DHL, UPS, CitySprint
- Zero emission couriers
- Small, independent businesses providing a plethora of goods and services
- Local networks and groups e.g. Brixton BID, Exhibition Road Cultural Group (Discover South Kensington)

As CRP was unable to set up a micro-logistics hub servicing the museums of South Kensington, for RBKC, there was an attempt to set up an urgent delivery service, run by cargo bikes, for the museums across London, to avoid unnecessary courier journeys across London by the museums. This was deduced from data from the delivery and service audit in CAV3 that showed that the museums made occasional, ad-hoc courier journeys, with the likes of Addison Lee.

After conversations with City Sprint, and a site visit, unfortunately this was determined to not be viable as there were not the required volumes to begin this project that would see it used extensively enough.

Delivery/achievements

CRP officially launched the micro-logistics hub that services Brixton on Monday 11th April 2022. The first deliveries were made through the hub on Tuesday 19th April, by Stems Wilder, a florist in Brixton Village. Five businesses were using the micro hub, with over 100 businesses contacted by CRP's team. The table below details their deliveries:

Organisation	Organisation type	Deliveries to Brixton	Deliveries to hub	Schedule	Join Month
Stems Wilder	Florist	Flowers and homeware	Reusable boxes – reverse logistics	2 times per week, regular schedule	April 2022
3Space International House	Office block	Cleaning Supplies	n/a	Ad-hoc deliveries, when items run out	April 2022
Friendship Adventure	Brewery	Crisps, soft drinks	Beer cans – sent on to customers in London	Ad-hoc deliveries when items run out	May 2022
Brixton BID	BID	Newsletters	n/a	1 time per month	June 2022
Federation Coffee	Café	Coffee	n/a	1 time per week, regular schedule	June 2022

Table 10: Details of the users of the Brixton micro-logistics hub, and how they are using the service

CRP is also pleased to see that **reverse logistics** are being used by Stems Wilder. An initiative by Hoek, Stems Wilder's supplier, has meant that flowers and homeware are now delivered in reusable

containers. These are unpacked by Stems Wilder, collected on a return or the next journey to Brixton for Pedal Me, and stored at the hub until they are collected by Hoek's drivers. These are then re-used for packaging in a **circular system** by Hoek. This adds further emission savings for the project as it avoids empty vans clogging up London's roads, whilst the reusable packaging has further emissions savings around reduced packaging and less raw materials needed by Hoek.

The project has been a huge **source of support for the businesses** using the hub, not just for air quality and emissions savings. For example, Stems Wilder were unable to receive deliveries overnight due to changes in Brixton Village's overnight security, so this project allowed them to **receive their deliveries at the times that the shop is open**. Federation Coffee had challenges with deliveries of coffee coming later in the day when they were not open (after 3pm), so the hub could receive the deliveries and send them the next morning. This project acted as a valuable source of storage for Friendship, who had **onboarded a new customer with multiple sites** in central and east London and allowed them to avoid unnecessary van journeys across London.

Challenges

CRP found challenges around the commercial real estate market that were not conducive to trialling and piloting projects. CRP was trying to find space when the **commercial real estate market was extremely competitive**, therefore commercial estate agents were extremely busy and therefore, less likely interested in trials. CRP was also told that landlords of industrial space (e.g., warehouses, railway arches) were looking for **leases of at least one year**, with more common being two years minimum. **Long lead times** (e.g. for legal queries) were often a challenge too, with most taking four to eight weeks once a site has been signed for. These findings also correlate to the CRP and Steer report that highlighted a shortage of potential logistics space in London, and these challenges led to CRP exploring more flexible options.

> *"I think the shortest term on any industrial buildings at the moment would be 3 years, ideally 5 years. There may be flex space in the market, but not with the landlords that I work with as most of them are institutional funds."*
>
> Commercial real estate agent, email

The location of spaces was also a challenge. CRP did not want to add additional van journeys to other, busy and polluted areas of London, where it could be avoided. This meant that the site servicing South Kensington became challenging. The most suitable location would have been located near the industrial and logistics hub of Park Royal. However, after prior conversations with zero emissions couriers, it was found that more than half an hour would be deemed too far for cargo bike journeys. **The 45-minute journey by bicycle to Park Royal did not make this viable**, so it was decided that the hub would not be suitable.

Local communications

For Brixton, CRP created **flyers and promoted the use** of the micro-logistics hub in various newsletters, e.g. Brixton BID. CRP complemented this with **in-person engagement** in Brixton, once per month at least since April, to drum up interest and speak to businesses directly about the project. CRP also promoted the use of the hub on **social media** and promoted when members of the CRP team were in Brixton across social media channels. Graphics were also used in social media and over emails to help businesses to understand how they could use the micro logistics hub for inbound and outbound deliveries.

CRP also presented and spoke at **events organised by Brixton BID** e.g. Brixton BID Enhanced Environment Group. CRP also found users of the hub, particularly Brixton BID, 3Space International House and Stems Wilder, were a massive source of support in promoting locally to businesses by sharing flyers and giving **word-of-mouth referrals**.


BRIXTON BID

June 2022

NEWSLETTER

REDUCING BRIXTON'S POLLUTION

We have partnered with **Cross River Partnership** (CRP), cargo bike couriers **PedalMe** and **Lambeth Council** to pilot an innovative project to reduce pollution in Brixton.

During this pilot you have the chance to redirect your deliveries to a microconsolidation site, with the last mile of the journey made to you on an **electric cargo bike.**

This project has been made possible through CRP's **Clean Air Villages 4 project**, funded by Defra, which aims to reduce pollution in busy areas across London. It is **quick, free and easy** to take part, this initiative can help to solve your storage problems; help you avoid missed deliveries and have more flexibility over when deliveries can come to you. By using the cargo bike micro distribution hub, you will also be helping to improve Brixton's air.

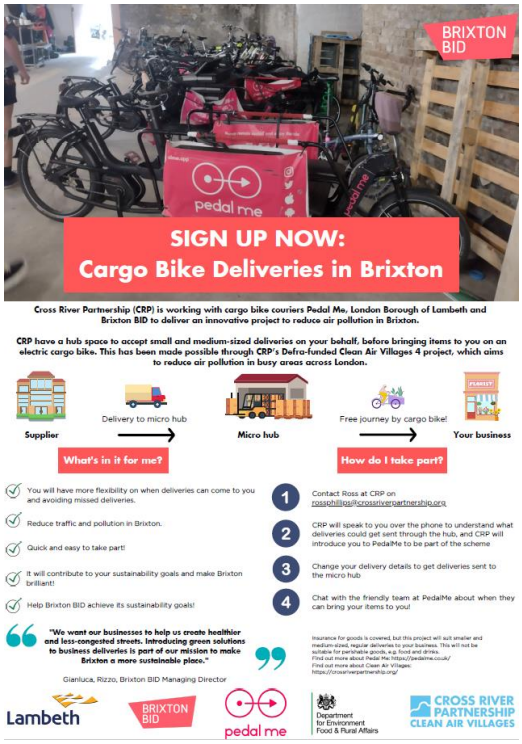
The deliveries will suit regular and frequent deliveries of **non-perishable items.** These could include anything from dried flowers and homeware, coffee beans, or cans of beer to cleaning supplies, printed newsletters and stationery.

There are **less than 10 spaces left,** so to take part in the pilot project, To sign up contact **Isidora** at **isidorariveravollmer@crossriverpartnership.org** and **Ross** at **rossphillips@crossriverpartnership.org.**

CRP will speak to you over the phone to understand which of your deliveries you could get sent through the hub, and CRP will introduce you to PedalMe to be part of the scheme. You will simply need to change your delivery details to get deliveries sent to the micro hub and then chat with the friendly team at PedalMe about when they can bring your items to you!

Brixton BID

Figure 25 – June 2022 Brixton BID newsletter


BRIXTON BID

SIGN UP NOW:
Cargo Bike Deliveries in Brixton

Cross River Partnership (CRP) is working with cargo bike couriers Pedal Me, London Borough of Lambeth and Brixton BID to deliver an innovative project to reduce air pollution in Brixton.

CRP have a hub space to accept small and medium-sized deliveries on your behalf, before bringing items to you on an electric cargo bike. This has been made possible through CRP's Defra-funded Clean Air Villages 4 project, which aims to reduce air pollution in busy areas across London.

Supplier → Delivery to micro hub → Micro hub → Free journey by cargo bike! → Your business

What's in it for me?

- You will have more flexibility on when deliveries can come to you and avoiding missed deliveries.
- Reduce traffic and pollution in Brixton.
- Quick and easy to take part!
- It will contribute to your sustainability goals and make Brixton brilliant!
- Help Brixton BID achieve its sustainability goals!

How do I take part?

1. Contact Ross at CRP on rossphillips@crossriverpartnership.org
2. CRP will speak to you over the phone to understand what deliveries could get sent through the hub, and CRP will introduce you to PedalMe to be part of the scheme
3. Change your delivery details to get deliveries sent to the micro hub
4. Chat with the friendly team at PedalMe about when they can bring your items to you!

"We want our businesses to help us create healthier and less-congested streets. Introducing green solutions to business deliveries is part of our mission to make Brixton a more sustainable place."

Gianluca, Rizzo, Brixton BID Managing Director

Insurance for goods is covered, but this project will suit smaller and medium-sized, regular deliveries to your business. This will not be suitable for perishable goods, e.g. food and drinks.
Find out more about Pedal Me: https://pedalme.co.uk/
Find out more about Clean Air Villages: https://crossriverpartnership.org/

Lambeth · BRIXTON BID · pedal me · Department for Environment Food & Rural Affairs · CROSS RIVER PARTNERSHIP CLEAN AIR VILLAGES


Cross River Partnership
@CrossRiverPship

Businesses of Brixton 📢

Want to make your deliveries greener, more convenient and cheaper? 🚲

CRP staff are dropping into businesses in Brixton to speak about our last-mile delivery hub. Drop us a message to find out more and arrange a visit! 💬

2:30 PM · Jul 6, 2022 · Hootsuite Inc.

Figure 26 – Tweet promoting use of Brixton micro hub and our in-person engagement

Figure 27 – Flyer promoting use of micro hub

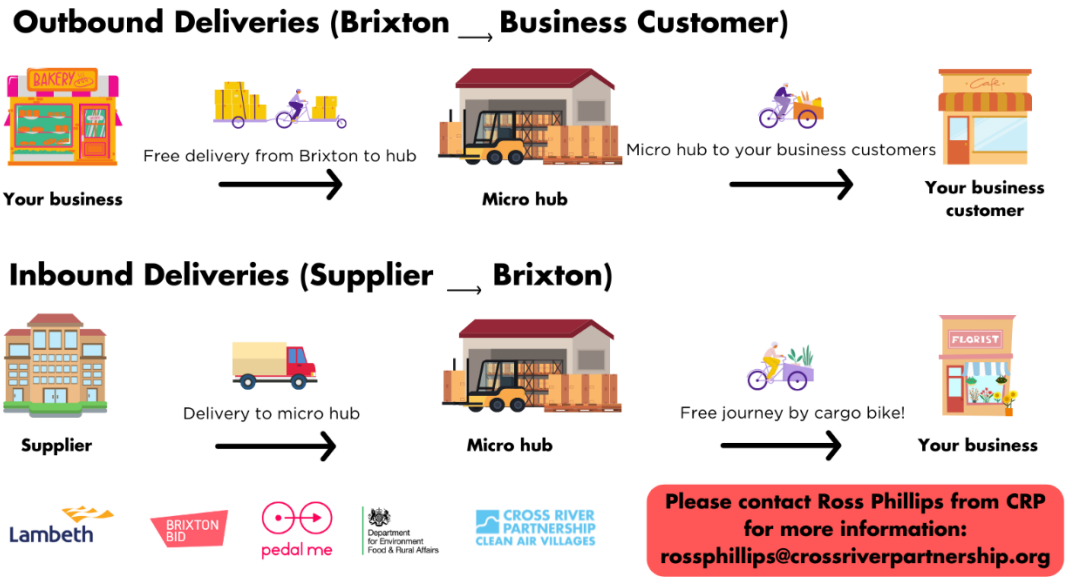


Figure 28 – Graphic promoting ways that businesses can use micro hub

Quote from business/partner/consultants etc.

""We want our businesses to help us create healthier and less-congested streets. Introducing green solutions to business deliveries is part of our mission to make Brixton a more sustainable place."

Gianluca Rizzo, Managing Director, Brixton BID

"The initiative from Lambeth helped my business work seamlessly over the past 3 months. Being situated in an indoor market makes it very difficult for my regular deliveries, especially those happening at night from the Hoek flower supplier. Recently Brixton Village decided to not allow anyone on site between the opening hours and this caused a huge problem for my business because I wasn't able to arrange for flowers to arrive at any other address in Brixton or during the daytime. My only option was to deliver flowers to my home address in Streatham Hill and book a taxi (2-3 times a week) to help transport the flowers to the shop. This would cause more pollution in the area and also added an extra cost which I can't afford as a small business. PedalMe has been very helpful and delivers flowers straight to the shop front without causing any disruption to other tenants and on the road. I couldn't be happier about the initiative from Lambeth and I hope many other businesses will find it just as useful!"

Milena Mackowiak, Owner, Stems Wilder

Impact (emissions savings)

The impact of implementing a micro-logistics hub is potentially a complex emission saving to calculate, as there are many direct and indirect savings from the hub and associated behaviour change that comes from this. CRP has therefore provided a detailed calculation of emissions savings for two businesses that use the micro-logistics hub – Stems Wilder and Friendship Adventure. There

are general assumptions that apply across both organisations, listed below, when calculating emissions savings:

- Journeys have been estimated using Google Maps to provide two routes; route A (most direct route) and route B (back-up route) based on the journeys that Google Maps suggest.
- Journey distance for the SE1 micro hub to the business in Brixton is derived from real data collected by Pedal Me's booking app.
- Project data collection is for 12 weeks, from Monday 11th April to Sunday 4th July 2022.

Stems Wilder

Emissions savings have been calculated based on the following assumptions, projected for one year beyond the project end:

- Direct journey savings: Hoek have informed us that their distribution centre is based in Swanley, Kent.
    - A proxy location of Park Road Industrial Estate, Park Rd, Swanley, BR8 8AH as a starting point. Deliveries are made to Stems Wilder at Unit 80, Brixton Village Market, 1 Coldharbour Ln, London, SW9 8PR.
    - Direct journey distance savings are calculated by comparing this distance with the journey from Swanley to the micro hub on Ewers Street, SE1. This has directly replaced van journeys, in a Diesel Euro 6 vehicle.
- Indirect journey savings:
    - Stems Wilder began the project receiving three deliveries per week. This has been reduced to two per week, as Stems Wilder have chosen to close the shop one day per week now, instead of being open all seven days. This means they can bulk-buy more in the deliveries they receive from their supplier, Hoek, as there is a minimum spend to achieve.
    - The projection is therefore based off Stems Wilder receiving two deliveries per week, saving one delivery per week. This journey could still happen, but we are assuming it is not coming to Brixton.
    - Indirect journey savings are therefore calculated by one journey per week saved from Swanley to Stems Wilder's Brixton Village location.

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
1087.77	64.86	115.55	495.51

Table 11: Micro hub trial (Stems Wilder) projected emissions saving 2022-2023.

Friendship Adventure

Friendship Adventure are using the hub for outbound delivery journeys, to their customers across London, where beer cans are held at the micro hub until they are needed by their customers. Onward journeys are not paid for by the project. Emissions savings have been calculated based on the following assumptions, projected for one year beyond the project end:

- Friendship Adventure have delivered one tonne of beer cans to the micro hub, across 3 cargo bike journeys in the week commencing Monday 30th May.

- Deliveries were made from Friendship Adventure Brewery & Taproom, Unit G1, Coldharbour Works, 245a Coldharbour Ln, London SW9 8RR, to the micro hub on Ewer Street, SE1. The data from Pedal Me shows this was shown as a distance of 5.4km from our data from Pedal Me.
- Friendship Adventure have informed us of their onward delivery locations to the customers across London. Boxes of beer cans are sent to just one of their sites once per week.
- These have directly replaced van journeys. Previously, Friendship Adventure would use vans to deliver across London to any of their customers that request high bulk orders.
- A direct journey from Friendship Adventure to their customers, sent once per week, was calculated and a proxy average created to consider an average distance they may send once per week. This proxy distance from Friendship Adventure to the customer was 8.85 km.
- Deliveries from the SE1 micro hub to the customers, as an average distance, was 4.9 km.

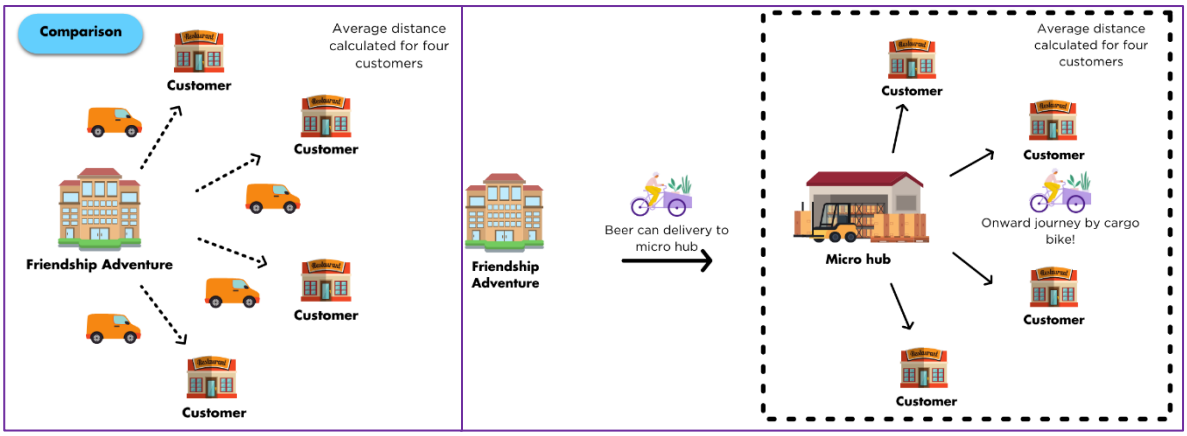


Figure 29 – Diagram of difference in delivery distances for Friendship Adventure

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
405.15	21.78	38.17	213.16

Table 12: Micro hub trial (Friendship Adventure) projected emissions saving 2022-2023.

6.2.3 - Circular economy/reverse logistics trial

Summary of aims

CRP worked with the London Borough of Islington and angel.london to implement a reusable container scheme for local offices to use by working with food vendors, restaurants and cafes in **Chapel Market** to provide takeaway lunches in reusable containers. This would have substantial benefits for sustainability, through reduced single-use packaging and moving towards angel.london and London Borough of Islington's zero plastic objectives, whilst improving air quality by fewer deliveries, fewer waste collections and reduced congestion.

Engagement/Process

CRP conducted market research to find suitable providers of reusable container schemes in London, and that would be willing to provide a scheme for a **three-month trial** in Chapel Market, in the heart of Angel. CRP also researched other circular economy and reusable container schemes across the UK and internationally.

CRP then had extensive conversations with reusable container scheme provider, CauliBox, about delivering the project for local offices, working with food vendors in Chapel Market. CauliBox were selected ahead of two other providers that CRP met with that provided similar services. Unfortunately, due to a change in strategy by CauliBox, CRP were informed in November 2021 that they would be unable to fulfil the project.

In December 2021 and January 2022, CRP continued to conduct market research, reaching out to other businesses and groups who have supported implemented schemes such as this to ascertain advice (e.g. Shrewsbury Cup, The Ellen McArthur Foundation). These conversations were helpful to understand the key considerations in setting up a reusable container scheme.

CRP also explored the potential of implementing a scheme specifically tailored to angel.london and the London Borough of Islington through a more sustainable, but reusable container or single use packing scheme. This was not deemed feasible due to the risk that it would not be used by local food vendors, restaurants, and office workers in the long-term, which could therefore create more waste, deliveries, waste collections and congestion for the local area. Long lead times in the delivery of reusable containers could also be a challenge too.

In January 2022, CRP met with reusable container providers Junee. Junee provide a reusable lunchbox for office employees at a monthly cost per employee, and a small cost per container for participating local food vendors, cafes and restaurants. Junee provide **clearly signposted bins** to dispose of the reusable containers; containers are then **collected, cleaned and returned to the participating food businesses by electric vehicle**, where they will be reused, creating a circular system. Junee were then selected by angel.london and Islington Council to deliver the trial for Chapel Market in February 2022.

CRP explored an office in the local area that could participate in the trial. CRP had extensive conversations with Ticketmaster about their Angel office participating in the scheme. In March 2022, CRP were informed by Ticketmaster that they were not able to participate in the trial as they were **not confident that office numbers had returned to pre-pandemic substantial levels to make the scheme worthwhile.**

In April 2022, CRP and angel.london reached out to multiple local shared office spaces and businesses including Expedia, Islington Council's Islington Town Hall, Business Design Centre, Co-Work and Spaces in order to find a new office to participate in the scheme. Very similar feedback was received as to Ticketmaster. It appears in Angel that the return to office working has been extremely slow and much lower in numbers than other parts of London. This was confirmed by site visits to the area in March 2022 that demonstrated that office numbers were much lower than thought.

At the end of April 2022, it was confirmed that it sadly meant that CRP, angel.london and London Borough of Islington could not provide a reusable container scheme as there were not enough employees in the local offices to participate in the scheme that have returned to on-site working.

Challenges

COVID-19 brought challenges to the project that could have foreseen some of the problems that arose later. CRP were delivering the project virtually and **site visits and in-person visits were only fully implemented from early 2022**, to avoid the spread of coronavirus. Site visits and conversations with local offices confirmed that the return to office, in-person working had not been prevalent in Angel. Had this been found out earlier, a new solution could have been identified.

Another challenge arose from how new the circular economy is. Many start-ups are operating in different areas across London, meaning there is plenty of innovation, but strategies and plans change quickly. Many of these organisations are run by sustainability enthusiasts with less than five staff, therefore **expansion may not have been suitable for these organisations**, especially when not deemed permanent as the length of the trial was three months.

Learnings

The London Borough of Islington and angel.london are still keen to introduce a reusable container scheme to the local area when office workers return in higher numbers. Junee are continuing to expand across London and **have recently been given grant funding by the London Borough of Islington to implement a reusable container scheme in the borough**.

CRP would ensure in future projects to conduct site visits as soon as possible to understand the local area (assuming it is safe for staff to do so). This would have avoided any further time wasted from a slow return to work.

Understanding your market is critical. The London Borough of Islington and angel.london were extremely useful in identifying sustainability enthused businesses that would potentially be interested in a trial. CRP's project partner, Junee, supplemented this with additional franchises of businesses they already worked with. This created a clear pool of potentially interested organisations before an office or group of individuals was even identified.

This project has enabled the partners to be aware of the challenges of implementing a reusable containers scheme and have been introduced to some useful providers across London. The partners are aware of the impact that this could have on air quality, congestion, deliveries and their wider packaging, single-use packaging and sustainability objectives.

Due to the challenges and subsequent learnings that CRP had found when implementing a reusable container in Angel, it was important to share findings and these learnings. Therefore, CRP has produced a case study, *How to implement a reusable lunchbox scheme – from those that tried and failed!*, to show the importance of five key learnings from the process.

Quote from business/partner/consultants etc.

"The circular economy pilot project, as originally conceived, would have pioneered a reusable food container scheme within the Angel BID area resulting in sustainability benefits to office-based employees, local food providers and the wider Angel community, primarily through reduced waste of single use items.

Whilst the dramatic effect of the COVID-19 pandemic on working practices (i.e. working from home etc.) meant that the pilot project did not come to fruition within the given timescale, many learnings were made in the development of the pilot and we very much hope to revisit it in the future should funding become available."

Mark Turner, Environmental Manager, angel.london

6.2.4- Virtual loading bays

Summary of aims

Prior to the CAV4 project, the **London Borough of Southwark** and the **City of Westminster** had appointed virtual loading bay technology providers Grid, to install virtual loading bay technology, Kerb, on loading bays located within their boroughs. These were selected to be in Soho or Fitzrovia (Westminster) and Walworth (Southwark), both areas of high pollution and a high number of delivery vehicles for the local businesses.

CRP were tasked with **monitoring the air and noise pollution** from this innovative technology, and engage with local businesses and couriers to use this loading bay as much as possible, where appropriate.

Virtual Loading Bay Technology

The bookable loading bay technology would enable freight operators to prioritise space for deliveries in London and ensures the safety and efficiency of freight movements. The bays are bookable via an app, and if the space is illegally occupied, there will be a further safe space to deliver to, pre-agreed by the local authority. This is a new technology that could support freight operators and local authorities with the enforcement of safe and efficient deliveries, reducing congestion and improving air quality.

Engagement/Process

In June 2021, CRP tendered for the delivery of air quality and noise monitoring to understand the impact of virtual loading bay technology. **CRP appointed air quality and noise monitoring consultants, EMSOL, in July 2021**.

CRP's role was to support and fund the implementation of monitoring devices at an appropriate location near the site of the digital loading bay, to engage with businesses to encourage them to use the new technology, and to deduce the impact of loading bay technology on air quality and noise for the local area.

Monitoring of air quality and noise was intended to be for three months, using EMSOL's monitoring devices. Digital loading bay technology was likely to be implemented as part of an experimental Traffic Management Order (TMO) and thus installed for 18 months.

CRP was awaiting the implementation of the experimental TMO in both the London Borough of Southwark and the City of Westminster before it could install and procure any air quality and noise monitors. These were subject to delays, detailed in the challenges section.

CRP introduced a deadline for 1st March 2022, for when the Experimental TMO needed to be delivered by and the digital loading bay technology needed to be installed and in place by for both

the London Borough of Southwark and the City of Westminster. The deadline was chosen as this would require three months of air quality and noise monitoring, and one month to enable EMSOL and CRP to analyse the data. Experimental TMOs can take weeks or months to process, so CRP needed to know by mid-January 2022 if the project was going to be delivered in this timeframe.

Unfortunately, the experimental TMO could not be processed in time for both boroughs, so the monitoring of the virtual loading bay technology could not take place during CAV4.

Challenges

The delays in installing the experimental TMO were the biggest challenge through this intervention. These have been detailed below for each borough.

The London Borough of Southwark

The London Borough of Southwark agreed on Thursday 20th January 2022 that the monitoring of the scheme would not take place, as this would not fit within the timescales of the project. Southwark are still set to implement a digital loading bay on Walworth Road, however, **a delay in the Experimental TMO process meant that the project** would not be installed earlier than the dedicated cut-off for CRP and would likely be delivered in summer 2022. This sadly meant that, with agreement with Southwark, that the project will not be monitored in time and could not be included as a CAV4 solution.

City of Westminster

The City of Westminster agreed on Friday 7th January 2022 that the monitoring of the scheme would not take place, as this will not fit within the timescales of the project. **Westminster had paused projects in the local authority**, including the Oxford Street District, as they are re-adjusting their strategy and ensuring that sign off and delivery of projects goes through a new decision-making process. This has meant that the project will not be installed earlier than the dedicated deadline for CRP whilst the City of Westminster decide whether to proceed with Digital Loading Bay monitoring. This sadly meant that, with agreement with Westminster, that the project will not be monitored in time and could not be included as a CAV4 solution.

Learnings

CRP is interested to see the impact that virtual loading bay technology could have on London and cities across the world. Air quality and noise monitoring, prior to the installation of the bay that acts as a control, followed by extensive air quality and noise monitoring, would be interesting to understand the environmental impacts of the technology. CRP would also be interested to understand the impact on traffic counts on the local area of implementing this technology.

The London Borough of Southwark and the City of Westminster are still actively exploring implementing digital loading bay technology across their boroughs as a test.

6.3 - Freight Solution: Mode

Summary

The CAV4 mode solution incorporated several elements relating to Electric Vehicles (EV's), Cargo Bikes, River Freight, Rail Freight and Walking Freight.

This included using some of the above modes **to enable more sustainable transfers of supplies**, as well as the **promotion of sustainable and clean freight journeys through several feasibility studies and the use of telematic dongles**. Consequently, this has helped to provide the **proof of concept** and business case for organisations, businesses, and logistics providers to switch to low emission modes.

Main achievement

The main achievements associated with the mode solution are as follows:

- **3 Cargo Bike Delivery schemes were delivered**
- **1 shared Cargo Bike scheme was launched** for businesses and residents in Camden (this will be available to use until June 2023)
- **1 Cargo Bike was procured and training provided** for use by London Borough of Lewisham's staff
- **Publication of "Light Freight - Design Solutions for Thames Freight Infrastructure"**
- **Publication of "Rail Freight In London Feasibility study"**
- **Publication of "Walking Freight Feasibility Study"**
- **Over 120 businesses engaged with** as part of the CAV4 mode solution.

6.3.1 – Shared EVs (Richmond)

Summary of aims

In the proposal for Defra funding, CRP identified that project activities for the CAV4 Mode strand could include implementing shared Electric Vehicle (EV) schemes. Consequently, **CRP explored a shared EV scheme with the London Borough of Richmond Upon Thames** (LBRuT).

Initial conversations with LBRuT indicated that a shared EV scheme would be suitable for traders in Twickenham Town Centre. This was emphasised through conversations with Twickenham Business Improvement District (BID) who agreed that there was a need for the service and that it could potentially support LBRuT's MyTown initiative and their plans for a micro hub.

Additionally, the scheme would help to **increase the mode share of clean freight journeys** and provide a sustainable solution for businesses that occasionally require deliveries of larger goods that cannot be made by cargo bike (an issue that Twickenham BID raised). The scheme would also help to **increase awareness of the advantages and availability of (shared) Electric Vehicles**.

Consequently, CRP's aims were to procure and coordinate a Shared EV trial in Twickenham.

Engagement/process

CRP had conversations with **nine suppliers and organisations** to facilitate a shared EV in Twickenham. This included:

Organisation	Sector
Arrival	Electric Van Provider
Arval	Electric Van Provider / Leasing
Enterprise Car Club	Electric Van Provider / Leasing
Just Park	Parking Provider

Pod Point	Charge Point Provider
Source London	Charge Point Provider
Twickenham BID	Business Improvement District
Ubeeqo	Electric Van Provider / Leasing
Zipcar	Electric Van Provider / Leasing

Through these conversations, CRP did **identify a process to procure a shared EV scheme**, but it was not taken forward by the Council. This has been detailed in the challenges section.

Delivery/achievements

Although the scheme did not come to fruition, CRP did identify a novel and efficient way to procure a shared EV scheme. This included the following achievements:

- **Finding an appropriate shared EV provider**
- **Finding a solution to limited car parking space**
- **Identifying a quick and cheap solution for EV charging infrastructure**

These achievements were made despite several challenges described in the section below.

Challenges

The first challenge CRP faced when trying to facilitate the shared EV scheme was with regards to the procurement of the EV itself. This was due to **several supply chain issues** affecting the EV market meaning that EVs (in particular, vans) were in short supply. Additionally, the **high costs of renting / purchasing an EV** were a barrier due to the limited match funding available and the requirement on LBRuT 's end for the scheme to last for a minimum of one year. Despite these challenges, CRP spoke with over five EV providers and found a suitable solution using Enterprise that was within budget and offered the support / sharing technology required.

The second challenge was in relation to **the location for the shared EV**. Initially, CRP had suggested using one of the existing EV charging bays in Twickenham Town Centre, however LBRuT felt strongly that they did not want to reduce their public EV charging network. Similarly, this issue was raised when looking at car club bays that could potentially house the shared EV. The third option discussed was then in relation to council car parks and creating a dedicated bay in one of these. Again, this presented several barriers – **one issue was regarding access requirements** (ideally we wanted 24 hour access for businesses to use the van), whilst the other issue was related to **the time it would take to install an EV Charge Point** on council property. Additionally, there was resistance from the council to use any car parks that were considered too far away from Twickenham Town Centre.

Nevertheless, CRP persisted and through several conversations with various charge point and parking providers, CRP learned of JustParks FleetCharge scheme. This involved JustPark agreeing to source a suitable parking space within a five-minute walk of Twickenham Town centre (this would also be located at a non-residential location and have 24-hour access). The FleetCharge solution also included JustPark installing the necessary EV charging hardware[3] within seven weeks of identifying the parking location. All of this was within a suitable budget meaning that the overall trial would cost approximately £15,700 minus electricity costs.

[3] Beyond the scope of the project, these EV chargers would remain installed for the Just Park network users

Despite this, LBRuT decided they did not want to proceed with the scheme as they were hesitant for the parking pay to be located on private land and wanted to know the exact location of the parking bay before making any firm commitments. Sadly, JustPark were not able to facilitate this as sourcing the parking bay would have been too resource intensive without receiving any financial commitment.

Nevertheless, the learnings from the process have highlighted another way to facilitate a shared EV solution, particularly where space and charging infrastructure is limited. Please see a previous CAV case study detailing how to setup a shared EV scheme, for an alternative way.

6.3.2.1- Cargo bikes in new sectors – Brent Cargo Bike Delivery Service

Summary of aims

The CAV4 project aimed to reduce emissions from the transport sector through the **increased use of cargo bikes**. This included working with cargo bike providers to **offer a zero-emission alternative for business to consumer deliveries**, helping to reduce last-mile deliveries by van.

CRP worked with the London Borough of Brent (LBB) to provide a **cargo bike delivery service for local businesses in Willesden Green**. The main aims of the scheme were to:

- Build on the momentum for cargo bikes as part of LBB's **Climate Action Strategy**
- **Build on the previous cargo bike trial** that was available for businesses in Harlesden to use for two weeks
- Act as a **short-term solution** whilst LBB procures their own cargo bike for businesses to use
- Have **5 businesses** use the scheme
- **Raise awareness** of cargo bike delivery models in the Willesden Green and wider Brent area

Engagement/process

The area of Willesden Green was selected for the trial as it has a lot of **small independent businesses** which could benefit from using the scheme both environmentally and economically.

A brief was then created and sent out to several cargo bike providers inviting them to tender for the service. The winning provider **was E-Street Services, which was also a local business in Willesden Green**.

Once the provider had been onboarded, CRP and LBB put together an **engagement strategy** – this involved **identifying 50 businesses** in the Willesden Green area that we felt were suitable for the scheme. However, little engagement had been done with many of the businesses CRP targeted. It was also found that some businesses lacked technical skills and did not have English as a first language.

As a result, it was decided to tweak the E-Street Services platform to make it more **user friendly,** and create **several demonstration videos** to help businesses book the service. It was also agreed that **in-person engagement would be beneficial** to help businesses sign up and book deliveries.

Once the platform was ready and the demos and promotional flyers had been created, it was agreed to setup a '**soft launch**' of the service. This would help identify any teething problems and allow us time to amend these before promoting the service more widely. The soft launch occurred on **19th**

April 2022 and lasted for one month – an initial email was sent out to **five of the 50 target businesses**, describing the scheme, and in-person engagement was undertaken over the subsequent days and weeks. Consequently, the soft launch resulted in **one business booking two deliveries** using the service.

Following some feedback, some minor updates were made to the booking system and the service **launched officially on 24th April 2022**. This involved a launch event at the business that had been using the service (Lily King) attended by Councillor Krupa Sheth, Cabinet Member for Environment, Infrastructure and Climate Action at LBB.

The delivery service then ran to **3rd May 2022** which was when all the 121 hours available for the service had been used up.

Delivery/achievements

Although we did not manage to get five businesses to use the service, the following achievements were realised:

- **50 businesses were engaged with**
- **Four businesses signed up** to use the service
- **71 deliveries were carried out**
- **90.3 km were covered** by cargo bike

CRP also achieved the aims to **build momentum** from the previous cargo bike trial, to provide an **interim cargo bike solution** whilst LBB procured their own bike, **raise awareness** of cargo bikes in the Willesden Green area, and **support LBB's** Climate Emergency Strategy.

Challenges

There were three main challenges when delivering the Brent cargo bike delivery service.

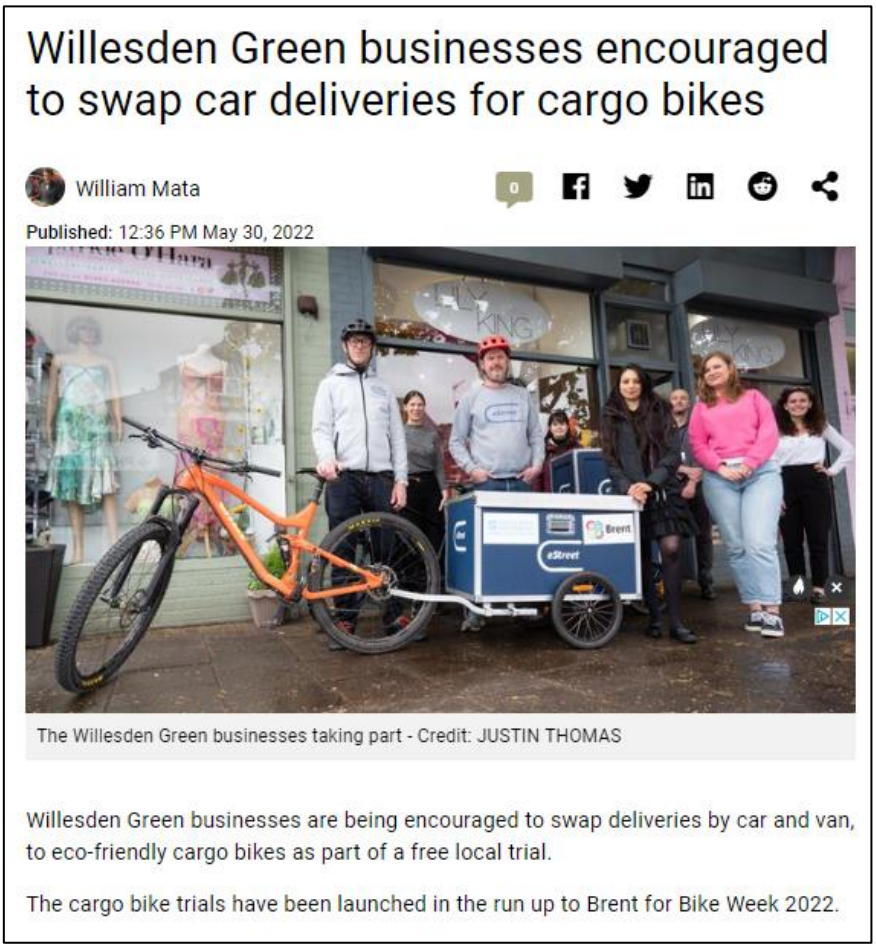
1. **Procuring a Provider**: although the service provided by E-Street Services was very good, CRP found that several other providers stated that **the outer London borough location was a barrier** to them offering a cargo bike delivery service. Consequently, E-Street Services was the only provider that put forward a proposal. Due to the comparatively small and local nature of E-Street Services, this meant that they had to make quite a few **adjustments to their booking platform** to make it fit for purpose.

2. **Getting bookings**: like the dongle challenges, we would often be told during engagement that the information would be passed on to a manager or a business's owner and it would be unclear if this actually happened. Additionally, despite several businesses showing interest in the scheme, they often stated that they would investigate the service but **never actually booked an order**.

3. **Technical barriers**: several businesses were not tech-savvy (some did not own a computer or smartphone) and some did not have English as a first language. This made **engagement very difficult**. Additionally, some businesses felt that the cargo bike box was not appropriate to accommodate certain deliveries. For example, a cake shop showed interest but was put off due to concerns about the cakes getting damaged during delivery.

Local communications

As well as the engagement materials and launch event that was detailed above, a press release was sent out along with several social media assets that promoted the scheme. A news article about the service was also published by The Brent and Kilburn Times. You can see a screenshot of this below.



Willesden Green businesses encouraged to swap car deliveries for cargo bikes

William Mata

Published: 12:36 PM May 30, 2022

The Willesden Green businesses taking part - Credit: JUSTIN THOMAS

Willesden Green businesses are being encouraged to swap deliveries by car and van, to eco-friendly cargo bikes as part of a free local trial.

The cargo bike trials have been launched in the run up to Brent for Bike Week 2022.

Figure 30: News Article from The Brent and Kilburn Times

Quote from business/partner/consultants etc.

"E-Street is a fantastic service for independent businesses. Graham is absolutely lovely and we can now offer same day / next day local deliveries and can relax knowing as soon as we hand over the parcel at the door, our customers will receive their order speedily and safely. A big thumbs up from us!"

Lilybeth King, Owner, Lily King Boutique

Impact (emissions savings)

Based on the distances covered in the trial (90.3 km were covered between 19/04/22 and 30/06/22) and the fact that businesses were using the cargo bike scheme over deliveries by petrol / diesel van, the trial equated to the following emission savings: 53.27g Nox, 4.06g PM10, 2.4g PM2.5, 21.84kg CO2.

Based on the assumption that a similar scheme was delivered for a year, or that the cargo bike that Brent is procuring was available for businesses who took part in the trial to use, this would result in the following projected emission savings (these have been calculated based on upscaling the emissions from the initial trial of 10 weeks to reflect a year i.e. 52 weeks):

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
277.00	12.48	21.11	113.57

Table 13: Brent cargo bike projected emissions saving 2022-2023.

6.3.2.2 - Cargo bikes in new sectors – Camden Shared Cargo Bike

Summary of aims

The CAV4 project aimed to reduce emissions from the transport sector through the **increased use of cargo bikes**. This included encouraging businesses to undertake **zero-emission deliveries**, helping to reduce the reliance on deliveries by van.

CRP worked with Camden Town Unlimited Business Improvement District (CTU) to provide a **shared cargo bike scheme for local businesses in Camden Town**. The main aims of the scheme were to:

- **Encourage businesses to use cargo bikes** for their deliveries and business activities
- **Raise awareness** of cargo bike delivery models in the Camden Town area

Engagement/process

Following discussions with CTU, CRP became aware of a proposal by the London Borough of Camden (LBC) to **implement a shared cargo-bike**. The idea was still in its early stages, so CRP organised a meeting with CTU and London Borough of Camden to see if there were **opportunities to collaborate**.

Although a brief for the service had been created and a provider selected, it became apparent during the meeting that there were still some **queries around funding**. Consequently, it was agreed that CRP would **contribute £6k** of funding as part of the CAV4 programme, enabling the scheme to go ahead.

Following this, CRP, CTU and LBC met with the chosen provider (**Pedal My Wheels**) to discuss their proposal. During this meeting, the following requirements were agreed:

- The shared cargo bike would be primarily **aimed at businesses**
- The cargo bike would be in Camden Town close to the market to **support local traders**
- The type of cargo bike would be **lockable** (i.e. have a closable lid) to allow businesses to leave goods safely in the bike whilst carrying out **multi-drop deliveries**
- The cargo bike will be **bookable online and by app**
- The **first two hours of use per business per day would be free** and thereafter the cost would be £3 per hour.

Based on these requirements, a three-wheeled, front loaded **Christiana cargo bike** was identified as being the most suitable option (see below).

Figure 31: Camden Cargo Bike

Additionally, several businesses in the Camden Town area were **approached about hosting the bike** - the scheme is an Our Bike scheme (delivered by Pedal My Wheels) and requires a business to maintain the bike and provide a space where it can be rented from and stored. **True Romance Pizza were then selected as a suitable host business** and steps were taken to arrange this.

Once everything was in place, the bike was delivered to True Romance and a soft launch of the service took place. This was then followed by a **bigger launch event on Clean Air Day** (16th June 2022) in conjunction with a Somers Town Future Neighbourhood engagement event. This included promotion of other sustainable initiatives such as a new segregated cycle lane, greening proposals, plans that focussed on the development of a green mobility hub.

Following the launch, the scheme would be **available for a period of one year** for use by local businesses and residents.

Delivery/achievements

The scheme resulted in the following achievements:

- The delivery of a **bookable shared cargo bike for businesses** and residents to use in Camden Town
- The identification of a **host business**
- **10 members signed up** in the first month of launching the scheme

- **8 trips** carried out within the first month of launching the scheme
- **17km** of trips carried out within the first month of launching the scheme

Challenges

The only challenge that CRP experienced as part of the project was with regards to the storage location of the bike. After agreeing to host the bike, the parking location associated with True Romance Pizza was altered making it unusable. This meant that the bike could **no longer be hosted in this location**.

However, it became clear that the LBC was planning to **install cycle parking** within the vicinity of True Romance Pizza meaning that it would still be an option once this had taken place. Additionally, the owner of True Romance had another Pizza Restaurant called **Lost Boys Pizza that was located further down the road** nearer to Mornington Crescent. They were also happy for this to be used to host the bike. Therefore, it was decided that the bike would be **hosted at Lost Boys Pizza until the cycle parking was installed.** It would then be moved to True Romance as originally planned (making it closer to Camden Market and the intended target users).

A map indicating the two pizza restaurants can be seen below.

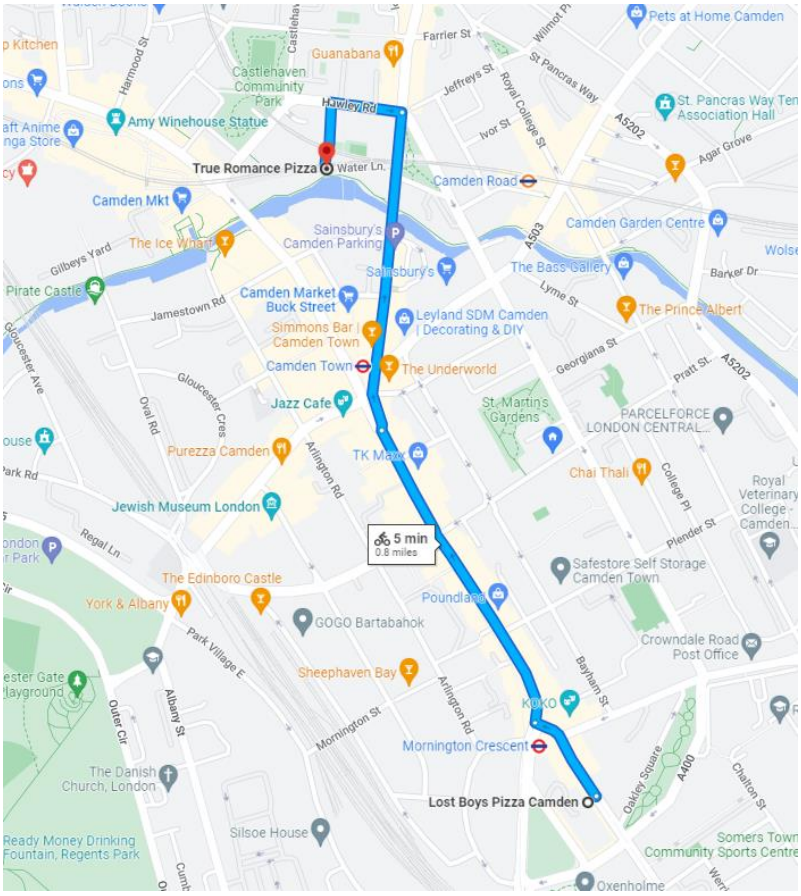


Figure 32: True Romance and Lost Boys Pizza locations

Local communications

Several social media assets were created and used across channels to help with promotion of the scheme. This was also promoted by Peddle My Wheels (see below). Additionally, a launch event for the service occurred **on Clean Air Day** (16th June 2022) in conjunction with a Somers Town Future Neighbourhood engagement event. Photos can be seen below.

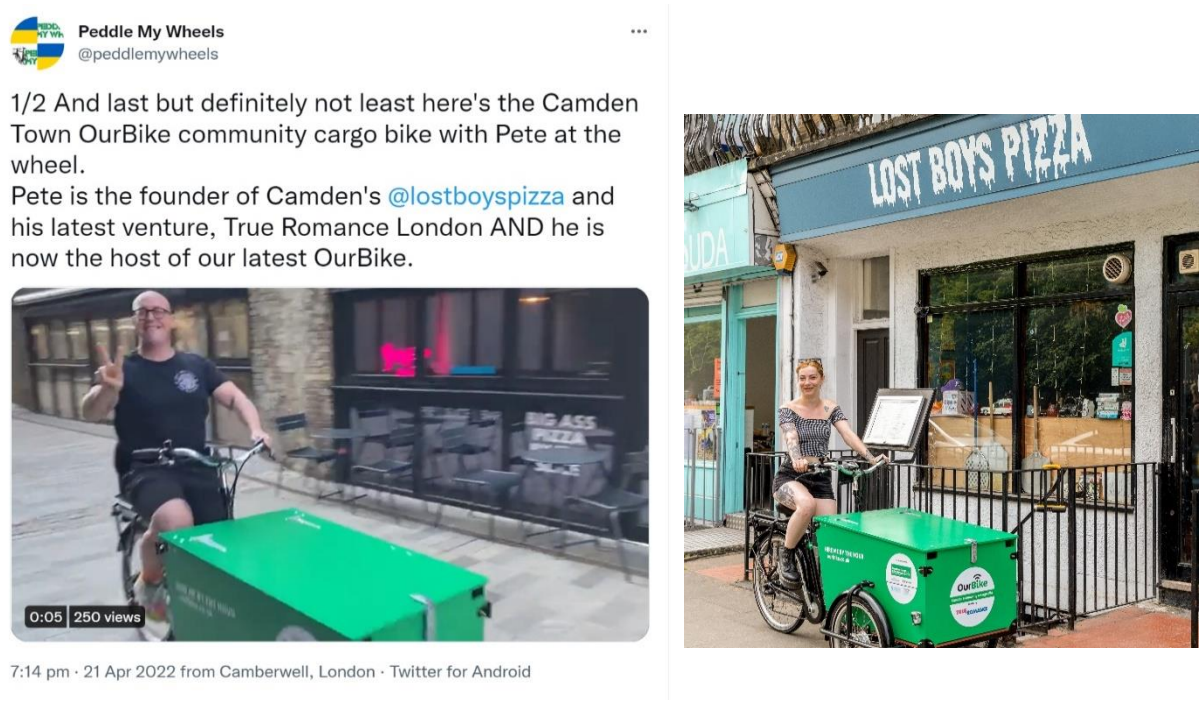


Figure 33: Camden Cargo Bike launch event and promotion

Quote from business/partner/consultants etc.

"Thank you to Camden Council, Camden Town Unlimited and Cross River Partnership for helping to provide sustainable transport options for businesses and residents."

Alper Muduroglu, Founder, Peddle My Wheels

Impact (emissions savings)

Based on the distances covered during the first month of the trial (17km) and that businesses were using the cargo bike scheme over deliveries by petrol / diesel van, the trial equated to the following emission savings: 7.78g NOx, 0.73g PM10, 0.42g PM2.5 and 4.09kg CO2.

Assuming that there was an increase in journeys over time and that users of the cargo bike increased throughout the year, the following projected emission savings have been calculated. (The calculations assume an increase in journeys of 60% and an increase in users to 15. Currently the scheme has 10 members but only one has used the bike).

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
4,482.76	241.00	422.37	2,358.46

Table 14: Camden cargo bike projected emissions saving 2022-2023.

6.3.2.3 - Cargo bikes in new sectors – Lewisham Staff Cargo Bike

Summary of aims

The CAV4 project aimed to reduce emissions from the transport sector through the **increased use of cargo bikes**. This included encouraging businesses to undertake **zero-emission deliveries**, and to carry out more **work trips using zero-emission modes**.

CRP worked with the London Borough of Lewisham (LBL) to procure a **shared cargo bike for LBL and Lewisham Homes (LH) staff.** The main aims of the scheme were to:

- **Build on the momentum for cargo bikes** as part of LBL's air quality and active travel strategy
- Encourage LBL staff to **undertake more journeys and carry out deliveries by cargo bike**
- **Train LBL staff** to become proficient at using a cargo bike
- **Raise awareness** of cargo bikes across Lewisham

Engagement/process

The project idea initially came about following an **enquiry from Lewisham Homes** (LHs) (a subdivision of LBL). LH reached out to CRP to understand a bit more about cargo bikes given our experience in cargo bike delivery schemes. Following discussions, it became apparent that they were looking to **procure a cargo bike for their staff** to use when making deliveries associated with their network of food banks.

As LBL were a CAV4 partner, CRP raised this idea with the project contacts. LBL liked the idea and CRP proceeded to get everyone together to discuss the best way forward. Once everyone was happy with the aims of the project, CRP did some research on the **potential cargo bike options** for the council based on agreed criteria: the bike needed to be able to **carry fairly heavy goods** (it would also be used for maintenance trips), **easy to ride**, **electric assist**, have a **lockable storage box**, and **good value for money**.

We then all assessed each option based on the criteria and the **3-wheeled Christiana Cargo bike was selected as the preferred model** (front load, with electric assist, plus lockable lid for the box). We were also able to include branding as part of the procurement of the bike and included all the relevant partner logos. A picture of the bike can be seen below.

Figure 34: Lewisham Cargo Bike

The next step was to then **train Lewisham staff** to use the bike and **create a booking system** to enable staff to book out and use the cargo bike. In terms of the booking system, LH were able to create a **calendar style booking system** using Microsoft Outlook as they were already using something similar. This was also available to LBL staff, meaning that **the cargo bike could be booked out easily across the council**.

With regards to the training, it was agreed that this should be provided for a range of abilities and should cover **Bikeability Level 2 as a minimum**. CRP approached several providers to understand the different options available considering the budget and following proposals from two providers. BikeWorks was selected to carry out the training.

The training occurred on the 26th and 28th of July 2022 with **ten staff members attending the training, including Councillor Louise Krupski**, Cabinet Member for Environment and Climate at LBL. The training was very well received and was promoted on LBL's social media.

A **case study about the training** was also created as part of the CAV4 communications strand.

Figure 35: Councillor Louise Krupski on the Lewisham Cargo Bike

Delivery/achievements

The project achieved the following outcomes:

- **A bike was procured for use by Lewisham Homes and London Borough of Lewisham staff**
- **Cargo bike training was provided for 10 LH / LBL staff including Bikeability Level 2**
- **A booking platform was created for staff to book the bike**

Challenges

The main challenge associated with the project was the lack of **staff resources from Lewisham Council.** It was clear that staff were over resourced due to other pressures and consequently it was hard for them to dedicate as much time as they would have liked to the project.

For example, it initially took **a while to find the correct contact at the London Borough of Lewisham** who would be leading on CAV4. This led to delays despite having a fairly clear solution following discussions with Lewisham Homes.

It also took a while for a decision to be made about the type of bike to procure due to the involvement of **several council departments, making the sign off process more complicated.** Similarly, due to staff availability, it took several months **to find a suitable date for the cargo bike training**.

Nevertheless, the scheme and training were successful, and the bike is now available for use at the Council.

Local communications

A newsletter article was created and promoted internally at the council to encourage staff to sign up to the training. Additionally, **several social media assets** were created to promote the training once it had taken place. This included posts by LBL that can be seen below. Additionally, a **case study was created** detailing the cargo bike training and provides hints and tips for those looking to undertake cargo bike training in the future.

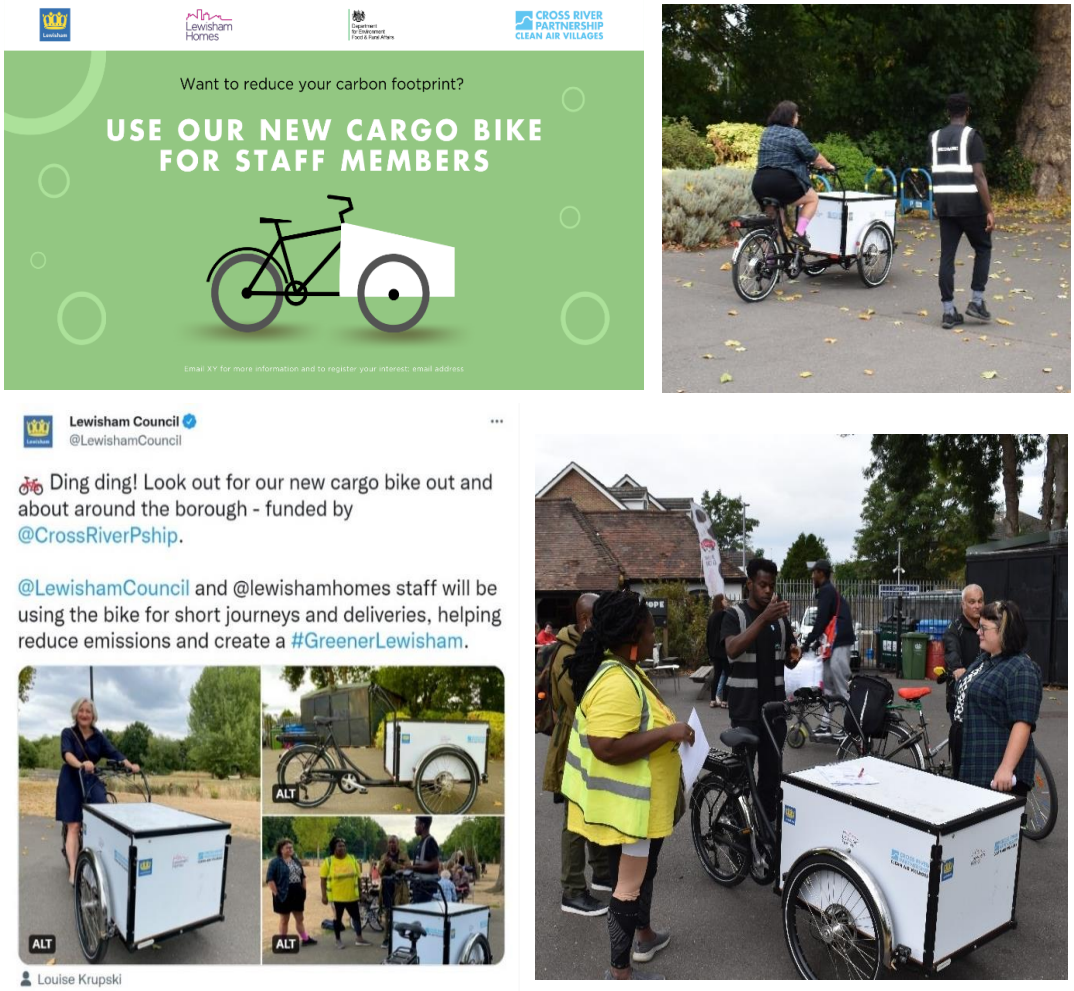


Figure 36: Lewisham Cargo Bike training and promotion

Quote from business/partner/consultants etc.

"I was hoping that when residents get to see this, they can see that the staff are taking on this active travel method and maybe will call for something similar that they can rent in the borough".

Jenny Chaplin, Sustainability Manager, Lewisham Homes

Impact (emissions savings)

Based on the cargo bikes predicted usage for maintenance trips and deliveries associated with Lewisham Homes food bank network, the following projected emissions savings have been calculated. This assumes an average of 4 round trips a week and is based on the distance from Lewisham Homes office to the Evelyn Community Centre (their main food bank which would be a 6.6 mile/10.62km round trip).

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
2423.94	189.71	111.02	1024.87

Table 15: Lewisham staff cargo bike projected emissions saving 2022-2023.

6.3.2.4 - Cargo bikes in new sectors – Merton Cargo Bike Delivery Service

Summary of aims

The CAV4 project aimed to reduce emissions from the transport sector through the **increased use of cargo bikes**. This included working with cargo bike providers to **offer a zero-emission alternative for business to consumer deliveries**, helping to reduce last-mile deliveries by van.

CRP worked with the London Borough of Merton (LBM) to provide a **cargo bike delivery service for local businesses in Wimbledon**. The main aims of the scheme were to:

- **Build on the momentum for cargo bikes** as part of LBM's Air Quality Action Plan
- **Raise awareness** of cargo bike delivery models in the Wimbledon area

Engagement/process

From initial meetings with LBM, it became clear that they would like to explore a **cargo bike delivery service for businesses in Wimbledon Town Centre**. It was also clear that this was something **Love Wimbledon** (the local BID) was interested in so CRP approached them and invited them to get involved in CAV4.

The first step was to create a brief for the service and send this to several cargo bike providers inviting them to tender. These were then assessed, and the provider was selected. This was **Xero-E**.

Once Xero-E was onboarded, the **cargo bike for the scheme was procured,** and **a booking platform created** to enable businesses in Wimbledon to book deliveries using the bike for free. An **engagement plan was also established** and social media / promotional assets were created to advertise the service to businesses in Wimbledon Town Centre.

The engagement plan initially focussed on a **launch event to kick off the service**. Prior to the launch, Love Wimbledon BID **sent targeted emails** to many businesses in the area to alert them of the scheme. This sparked further conversations via email and phone to let interested organisations

know about the day. This in turn **attracted multiple businesses to the event**. Information about the launch day was also included in the BID's newsletter and on the BID's website.

The **launch event then occurred on 9th May 2022 at Wimbledon Piazza**. On the day, staff from the London Borough of Merton, Love Wimbledon BID, Xero-E and CRP all gathered at the Piazza with promotional materials and information about the service. There was even an appearance from a special guest from The Wombles! As well as providing information about the service, the **cargo bike was also put on display** in the middle of the Piazza, allowing businesses to **understand the cargo bike dimensions** and encourage them to sign up to use the scheme. Whilst the cargo bike was in the square, the CRP team **engaged directly with businesses on the high street**, going in to speak to owners, handing out flyers and directing them to the bike. To end the launch event, the service carried out its first delivery taking goods to Love Wimbledon's offices.

Figure 37: CRP Team, Love Wimbledon, Merton Council and XeroE team members at the Wimbledon Cargo Bike Launch Event

Following the launch event, **CRP and Love Wimbledon continued to engage with businesses** who had shown interest in the scheme by email and telephone. This continued until the 120 cargo bike hours associated with the scheme had been used up on 24th June 2022.

Once the trial was completed, a **feedback form** was sent to participating businesses to understand how the service could be improved in the future and to understand any outcomes following the scheme. **Two businesses provided their feedback**; a selection of their responses have been quoted in Appendix V.

Delivery/achievements

The cargo bike delivery services achieved the following outcomes:

- **Successful launch** event attended by the Wimbledon Wombles
- **31 businesses engaged with**
- **5 businesses signed up** to use the bike
- **129 successful deliveries** were carried out
- **120 cargo bike hours were used**
- **570.2 km were covered** as part of the cargo bike deliveries
- Following the trial, **Elys (a business who used the scheme) went on to procure their own cargo bike service** for local deliveries. You can see this in the comms section below.

Challenges

There were two main challenges when providing the Wimbledon cargo bike delivery service.

1. **Procuring a Provider**: as with Brent, several cargo bike providers state that **the outer London borough location of Wimbledon, Merton was a barrier** to them offering a cargo bike delivery service. Consequently, **Xero-E** was the only provider that put forward a proposal.

2. **On-demand bookings**: one of the main users of the service, Elys Wimbledon (an independent department store) said that a large portion of their local deliveries **were next day or on-demand**. This was a challenge for the service as it meant that a rider had to be paid to be in the local vicinity on the off chance that a delivery would come through. Similarly, it would be a problem if they were already undertaking or booked to do another trip. As a result, we agreed that on certain days of the week **the rider would be available to service Ely's** even if they had not got any specific deliveries pre-booked.

Local communications

Several social media assets were created and used across channels to help with **promotion of the launch event** as well as the scheme more generally. This was also promoted by Love Wimbledon and information about the day was also included in the BID's newsletter and on the BID's website.

A news article about the scheme was also published as part of South London Press online and Sustainable Merton also wrote about the scheme having used it for deliveries.

Additionally, a case study was created as part of the CAV4 programme that focussed on the launch event and how this had been facilitated to engage with local businesses.

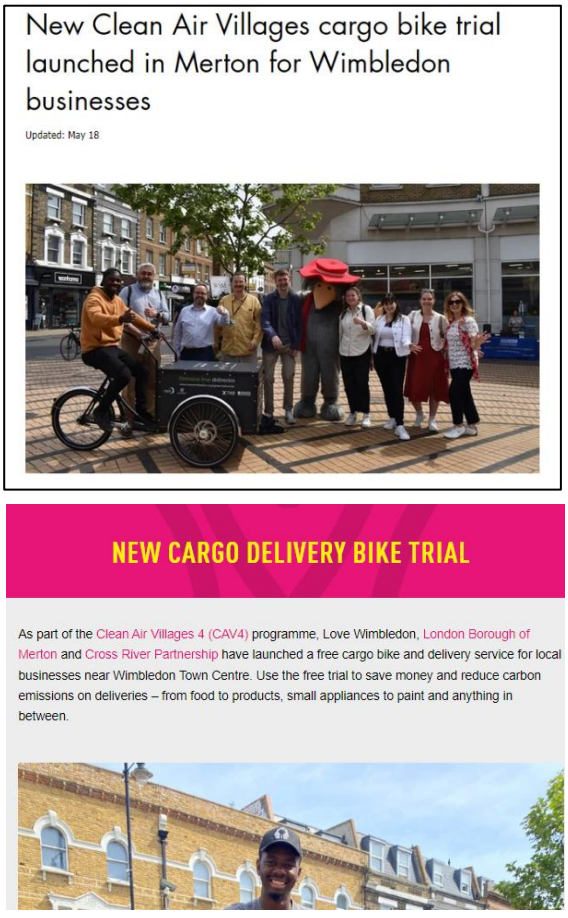


Figure 38: Merton Cargo Bike promotion and Elys new Delivery Bike

Quote from business/partner/consultants etc.

"The cargo bike trial is going really well. It is ideal for boxes and compost bags, and we made the most of the cargo space. The rider, Emmanuel is one of the nicest, friendliest, most can-do-attitude people I've met. I'm sure he'll put a smile on everyone's faces when he delivers to them."

Ramya Venkataraman, Community Activator, Sustainable Merton

Impact (emissions savings)

Based on the distances covered during the trial (570.2km between 09/05/22 and 24/06/22) and that businesses were using the cargo bike scheme over deliveries by petrol / diesel van, the trial equated to the following emission savings: 336.40g NOx, 25.65g PM10, 15.09g PM2.5 and 137.89 kg CO2.

Considering Elys have procured their own cargo bike delivery service following the trial, we have calculated projected emissions savings based on this change in behaviour. Assuming Elys carried out a similar number of deliveries to those carried out in the trial (22 out of the 129 deliveries) and that the distance was proportional to number of deliveries, this would result in the following assumptions:

- Elys 22 of 129 deliveries is equated to 81.46km covered of the trial.
- This means over 7 weeks, Elys covered on average 13.89 km per week.
- Elys deliveries were ad-hoc and varied in distance so this will be a weekly projected emissions savings.

This would result in the projected emissions savings for Elys:

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
819.47	**36.75**	62.548	335.91

Table 16: Merton cargo bike projected emissions saving 2022-2023.

6.3.2.5 - Cargo bikes in new sectors – Wandsworth Cargo Bike Delivery Service

Summary of aims

The CAV4 project aimed to reduce emissions from the transport sector through the **increased use of cargo bikes**. This included working with cargo bike providers to **offer a zero-emission alternative for business to consumer deliveries**, helping to reduce last-mile deliveries by van.

The London Borough of Wandsworth (LBW) wished for CRP to work with Positively Putney BID (PP) to explore **expanding new cargo bike schemes or launching a new one in the area**.

Engagement/process

CRP worked with the LBW and PP to gauge interest in three different cargo bike schemes. The three schemes were as follows:

1. **Cargo bike waste collection scheme**

The Putney cargo bike waste collection scheme was already successful and operational. A zero-emission cargo bike collects different types of waste and recycling from businesses in Putney. Free sacks are offered to those who join this scheme. The scheme is run by PP in collaboration with First Mile.

2. Free Cargo Bike Hire Scheme

In early 2022, LBW were in the process of setting up a scheme with Peddle My Wheels, a social initiative providing different types of bicycles for hire. A number of e-cargo bikes would be available in other areas of Wandsworth. CRP aimed to find out whether there was interest in such a scheme in Putney. If there was interest then a similar scheme could be set up there. The intention would be to set up a cargo bike hire scheme which would be free for two hours per day, and then just £5 per hour thereafter. The scheme would be open to everyone, businesses and residents alike, and face-to-face introductory sessions would be available throughout the year to ensure that the user would be comfortable riding the bike. The bike would be electrically assisted for ease of use and would have an on-street docking spot. Advance booking would be available and there would be the ability to opt into personal liability insurance and public liability insurance schemes for all riders. The cargo bike would be unlocked via an app.

3. Bike and Rider Hire

PP had a cargo bike that was not being used. The idea would be that the bike and rider could be hired to help businesses with local deliveries and collections. This scheme would be owned and managed by Positively Putney.

CRP created a flyer to **promote and explain the three schemes**. CRP also created a survey to collate feedback from business engagement.

The target for business engagement was smaller or independent businesses. This was because smaller businesses tend to be more in control of their deliveries than larger companies who tend to have a head office. It was also agreed that smaller businesses were more likely to need support from such a scheme. Engagement was conducted via phone calls and email. **42 businesses were contacted**. Of these, **five interested businesses were identified**, with two of them confirming that they were interested in PP's own cargo bike scheme idea. **Despite the creation of a survey, no business completed the survey independently. All feedback was based on informal conversations, rather than survey completes.**

CRP presented the findings to LBW and PP. It was agreed that, given the interest from businesses in the PP cargo bike scheme, **PP would advertise for a cargo bike rider and CAV4 funding would be used to fund a rider for approximately six months** (depending on the number of shifts completed each week). Businesses would be given time slots, or windows that they would be able to use the bike and rider for each week.

The Yard and Dynamo provided details of how they would use the cargo bike scheme. In addition, Putney Pantry, Ghost Whale and Putney Library were also interested in the scheme.

Delivery/achievements

CRP provided the communications materials and conducted engagement with BID members in Putney. Findings were presented to LBW and PP. By project end, PP had not hired a rider for their cargo bike. **The demand for a cargo bike with rider scheme for businesses is there**. CRP hopes that a rider will be recruited following CAV4 and businesses that expressed an interest will make the most of the **opportunity to use the zero-emission vehicle** for their operations. A job advert for a rider has since been published.

Challenges

CRP has found with many cargo bike initiatives previously that until a scheme launches, businesses are not always sure if it would be suitable for them or not. Finding five businesses with a keen appetite for a scheme was very positive. It is always a challenge: promoting an idea, rather than a tangible scheme.

There were also challenges in businesses completing the survey, but despite this, CRP was able to conduct constructive engagement.

Local communication

CRP used social media to promote the cargo bike research that was taking place. A flyer and survey were also used in the engagement.

Figure 39: Digital flyer used to promote the cargo bike options being explored

Figure 40: Twitter post promoting the cargo bike options

Impact (emissions savings)

These calculations are based on the assumption that a rider is hired and in place from 1st October 2022 and is funded for a six-month period. Based on a cargo bike being used for four hours per week for local deliveries, for a modest 20 miles per week, compared with a car.

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
0.25	0.02	0.03	172.38

Table 17: Wandsworth cargo bike projected emissions saving 2022-2023.

6.3.2.6 - Cargo bikes – Westminster Cargo Bike Delivery Service

Summary

One of the **cargo bike delivery schemes from Clean Air Village 3 (CAV3) was rolled into CAV4**. The scheme, which was associated with the Northbank Business Improvement District, **was already up and running**, however there were some remaining **cargo bike hours that were still available** for businesses to use.

As part of CAV4, CRP helped to **provide promotional materials** for the scheme and promoted the service on social media. Consequently, **all the remaining hours were used up by four businesses** (23 hours in total).

A screenshot of the promotional materials can be seen below.

Figure 41: Facebook post promoting the cargo bike scheme

6.3.3- River freight infrastructure

Summary of aims

One of CAV4's aims was to undertake **innovative feasibility studies that would enable wide-reaching, long-term behaviour change.** These learnings could then be disseminated amongst Local Authorities, BIDs, landowners, strategic partners, private sector and beyond. One of the studies taken forward as part of the mode solution **explored design opportunities for Thames freight infrastructure to enable more light freight to be delivered by river**

Engagement/process

CRP collaborated with the Port of London Authority (PLA) to commission the study. Having prepared a brief and put this out to tender, proposals were submitted by two consultancies: WSP and Beckett Rankine. Following a **thorough assessment including interview sessions** with the two

consultancies, **Beckett Rankine was chosen** to take forward the study. This was due to the technical and engineering focus of the study being more suited to Beckett Rankine's offering and experience.

The study builds and expands on the work carried out previously by WSP and Bearing Point (report here), helping to **build the momentum for river freight into central London**. It focuses on the design of the existing piers along the river Thames and how they could be **modified to accommodate the requirements of a Light Freight service** (smaller, more manoeuvrable cargo, which can be moved using a Roll On - Roll Off methodology, or via manhandling, depending on the location of the pier).

The seven preferred locations identified for light freight on the river were:

- Wandsworth Riverside Quarter Pier
- Chelsea Harbour Pier
- Battersea Power Station Pier
- Blackfriars Pier
- Bankside Pier
- Tower Bridge Quay
- Masthouse Terrace Pier

These **piers were selected based on an assessment** which is detailed in the challenges section below.

Delivery/achievements

Designs were created for each of the identified piers. The designs allow for freight integration as either **a partial or continuous service**. These were supported by a **costing exercise** which demonstrates the potential construction costs involved with each of the designs.

Consequently, the study (published in March 2022) achieved the aim to **give value to the future of Light Freight on the river**.

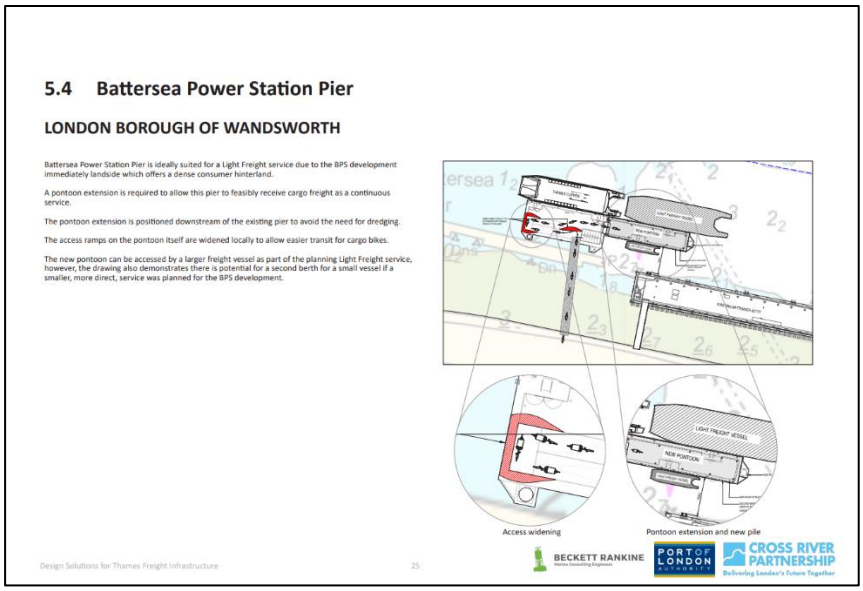


Figure 42: A design adaption identified from the study

Challenges

The only challenge that CRP faced with the study was with regards to **shortlisting the piers** for the design adaptions (we were only able to provide designs for a limited number of piers). Initially a long list of piers was identified between Hammersmith Bridge and Greenwich. These piers were selected as bounding locations due to the limited water depth above Hammersmith Bridge and the distribution of major consumer destinations. **The longlist was then shortened based on an assessment of each pier** using the following criteria:

- Road / Cycleway Access
- Proximity to residents
- Available space (pier and land)
- Operational Window
- Navigational Risk
- Relative cost
- Ability to meet continuous service / partial service
- Pedestrian / Freight Segregation
- Brow access gradient
- Ownership
- Hinterland (potential recipients within range of pier)
- Deliverability (can pier be used as existing, extended or new build to

The assessment of each pier resulted in the shortlist indicated above.

Local communications

The consultants Beckett Rankine presented the report to CAV4 partners in detail at the **Q3 CAV4 Steering Group Meeting on Thursday 20th January 2022** and a press release was sent out along with several social media assets that promoted the study. CRP also **spoke at a panel session** hosted by Logistics UK discussing the feasibility of light freight on the river Thames. Finally, a news article about the report was published by the Thames Estuary Growth Board, which promotes green growth on the Estuary through sustainable transport and energy.

You can see some related screenshots below.

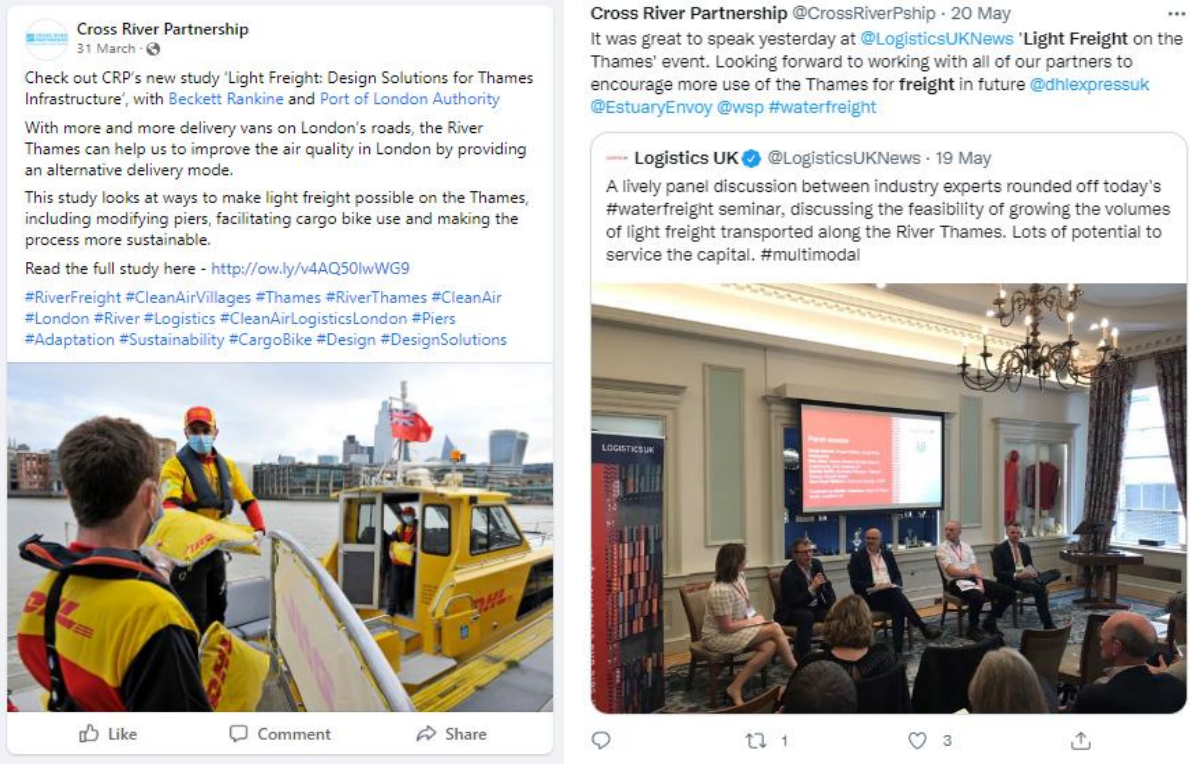


Figure 43: Social media posts promoting the study

Quote from business/partner/consultants etc.

"Light Freight has much potential for significant growth in the 21st century. This study sets out a clear plan for moving forwards for smaller freight along the Thames, with the use of specific desired pier locations and costings to provide a sense of context and value to the future of any Light Freight scheme."

James Trimmer, Director of Planning and Development, Port of London Authority

6.3.4- Rail/tube freight

Summary of aims

As mentioned, one of CAV4's aims was to undertake **innovative feasibility studies that would enable wide-reaching, long-term behaviour change.** These learnings could then be disseminated amongst Local Authorities, BIDs, landowners, strategic partners, private sector and beyond. One of the studies taken forward as part of the mode solution **explored opportunities for increased rail freight in central London**

Engagement/process

To commission the study, **CRP prepared a brief** and put this out to tender. Proposals were submitted by two consultancies: Steer and Momentum Transport Consultancy. Following a **thorough assessment involving several CRP team members, Momentum Transport Consultancy was chosen**

to take forward the study. This was due to their better understanding of the brief, experience and design ideas to make the study more engaging.

The report identified an **appetite across the stakeholder spectrum for alternative and more sustainable freight models** in central London. This was established through **interviews with six key stakeholders**, including those working in policy, freight operations and rail property.

Based on the interviews, the study identified **key barriers and opportunities for the development of a rail freight network in London**, helping to support the integration of rail freight within supply chains and logistics.

Additionally, research was undertaken to identify the **compatibility of different types of goods** with a potential rail freight supply chain, to **identify goods with the highest potential** and focus initial efforts on transferring these to rail. Four main categories of goods where assessed, perishable food, **non-perishable food, high value goods and bulk items**, with the latter three being identified as the most suitable for rail freight deliveries.

Following this, **the type of land uses where these goods are more likely to be delivered were identified and ranked**:

1. Residential: High potential for rail freight (destination for high value goods)
2. Non-food retail: Medium to high potential for rail freight (destination for non-perishable goods)
3. Offices: Medium potential for rail freight (destination for bulk items)
4. Food retail: Low potential for rail freight (destination for perishable and non-perishable goods).

Finally, an **assessment of several London Stations** was undertaken to assess their suitability and potential for rail freight based on the prevalence of the above land uses. These were Liverpool Street Station, London Euston Station, Old Oak Common Station, London Victoria Station and London Waterloo Station. **The study found that Euston, Liverpool Street and Victoria Stations were the most suitable for rail freight.**

Delivery/achievements

The report, which was published in June 2022, identified an **appetite across the stakeholder spectrum for alternative and more sustainable freight models** in central London. It also highlighted that **Euston, Liverpool Street and Victoria Stations were the most suitable for rail freight** of the London terminals.

The study also resulted in several recommendations for the implementation of rail freight that can be undertaken simultaneously, one at a time or in any combination. Their implementation will go a long way **towards securing a more significant role for rail freight as London re-builds from COVID-19**. These recommendations are highlighted in the diagram overleaf.

Figure 44: Rail Freight Report recommendations infographic

Challenges

The study highlighted some challenges with trying to establish a better rail freight network. This included:

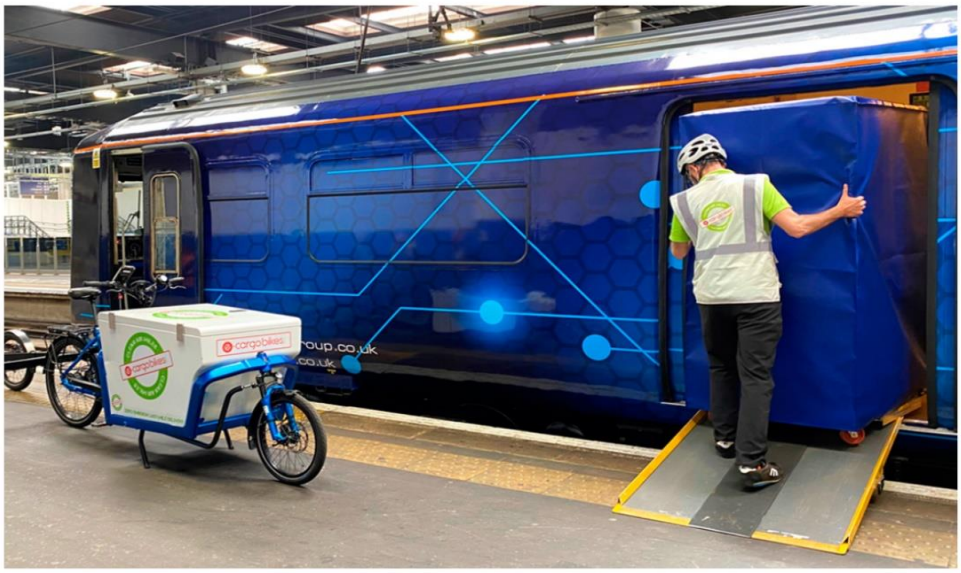
- Both **infrastructural and operational barriers** can limit the potential of rail freight. The primary barrier is low profit margins in the freight sector causing a nervousness amongst operators to fundamental changes to the supply chain.
- Similarly, whilst businesses do want a sustainable supply chain, some coordination would be beneficial as they **may not have the capacity to each research and support alternative supply chains**.

Local communications

The report was **launched as part of one of CRP's** Connect Four series in March 2022 which had over 60 attendees. **There were also several social media assets** that were used across channels to help with promotion of the report upon its publication. Additionally, a news article about the report was published in Transport Infrastructure News (see below). A summary version of the report was also created to help distil the information and provide an easy-to-read overview without all the technical detail.

Rail freight boost identified from London road pricing push

5 April 2022



Transfer of freight from converted passenger trains onto cargo bikes was trialled at Euston last year. Photograph: Network Rail

Moves to implement road user charging in London should offer a catalyst for shifting greater quantities of freight bound for the capital onto the railways, a webinar has heard.

Interim findings of a rail freight feasibility study – which is being undertaken by Momentum Transport Consultancy on behalf of the Cross River Partnership – suggest there is significant stakeholder appetite to make more use of rail for sustainable logistics in London.

Figure 45: A Transport Infrastructure News Article promoting the Rail Feasibility Study

Quote from business/partner/consultants etc.

"We are very interested in trying out different delivery methods, including rail freight. Currently, rail works best for the first and middle part of a freight journey, rather than last mile, but there is an exciting opportunity to solve the last mile challenge and get goods from rail onto cargo bikes."

A logistics operator, Senior managing position for road freight

Next steps

Following the publication of the report, CRP was awarded funding from Impact on Urban Health (a division of the Guy's & St Thomas' Foundation) to look into the feasibility of rail freight in Lambeth and Southwark.

The study would like to identify the potential for rail freight at two key London rail stations; London Bridge and Waterloo stations. This will provide the guidance needed to enable railway stations, rail operators, businesses, and logistics companies to understand if rail freight could be a viable delivery method and the requirements that would be needed.

The study, which should be completed by the new year (2023) aims to build on the findings and recommendations of the CAV4 Rail Freight Feasibility Study.

6.3.5- Walking freight

Summary of aims

In the same vein as the studies mentioned above, a '**Walking Freight Feasibility Study'** was undertaken as part of the CAV4 mode solution. This was commissioned to understand the feasibility of **different walking freight models** and to **ascertain the value** of this relatively untapped mode of logistics within London. Learnings would then be disseminated to help **encourage and facilitate walking freight** as a viable freight solution, particularly for areas such as central London.

Engagement/process

To commission the study, **CRP prepared a brief** and put this out to tender. Proposals were then submitted by five consultancies and a **thorough assessment involving several CRP team members** was undertaken to select the preferred consultancy. Following this, **Steer was chosen** to take forward the study as it was felt that they had the most relevant experience for the study and we liked their emphasis on walking freights **impacts on emissions and decongestion / health benefits**.

Once Steer had been commissioned, the first step of the study involved **undertaking interviews with several logistics operators** to understand their existing trial operations involving walking freight and consolidation in urban areas. The interviews involved discussing barriers to expanding those operations, and the role new technology will play in enabling that expansion. The stakeholders interviewed were: **Amazon, Charrli, DPD, Evri (formerly Hermes), Getir, UPS and Urb-it.**

Technical analysis was then conducted to **ascertain geographies best suited to walking freight**. This highlighted that walking freight has **high potential to serve the densest areas** of the city, such as the **Central Activities Zone (CAZ), Croydon, and the Isle of Dogs.**

Analysis was then undertaken to highlight the **benefits of increasing walking freight** in these areas would provide for London. This included health, environmental and economic benefits.

Finally, **recommendations** were provided for improving the viability of walking freight in London.

Delivery/achievements

The study identified the **existing market for walking freight operations and technologies** within the UK and abroad. This included identifying three different operational approaches involving walking freight:

1. A **traditional model** where walking freight supports unconsolidated, van-based deliveries
2. Direct **business-to-consume**r deliveries
3. A **consolidation-based model**, where walking freight acts as the 'final mile' mode of delivery from a consolidation hub

Following the identification of areas that were most suitable for walking freight (**the densest areas** of the city, such as the **Central Activities Zone (CAZ), Croydon, and the Isle of Dogs**). The study

highlighted the benefits this would provide for London, mainly due to **reductions in vehicle distances travelled**. This included positive impacts on carbon emissions with the study estimating that this reduction in vehicle distance travelled would **reduce carbon emissions by 4.7 kilotonnes per year**.

Additionally, the study indicated that walking freight would generate additional health benefits for Londoners including **reduced noise pollution, reduced road danger** for pedestrians and cyclists, and **improved health from increasing walking**. It would also generate at least **£37 million in economic benefits per year.**

Finally, the study identified four key steps for improving the viability of walking freight in London:

- **Enhancing planning policy and skills** about freight planning and **increasing logistics land available**
- **Reforming electric-assist regulations** governing trolleys and electric-assisted equipment for use on the public highway
- Developing and showcasing the walking freight market, including **establishing a trial walking freight logistics hub**
- **Deliver fully accessible highways and pavements**

Challenges

The study identified several challenges in terms of implementing walking freight:

- Operators felt that **acquiring consolidation space** in London which might enable more walking freight was not commercially viable, due to the **very high rents** required.
- Operators also highlighted the challenges of **scaling up business to consumer deliveries on foot while remaining profitable**.
- Advanced **power-assisted trolley / walker technology is currently illegal** to use on the public highway (both road and pavement) in the UK. This is preventing operators to scale up consolidation-based walking freight and achieve profitability by increasing payload per worker.
- **Accessibility issues** on London's streets, such as missing dropped kerbs crossing road junctions, narrow and restricted-width pavements, and obstacles in the pavement restricting the width available to wheelchairs and prams, all impact the viability of walking freight. An accessible on-street environment is also one that increases the competitiveness of walking freight logistics.

Local communications

The walking freight report was **launched at one of CRP's Connect Four series** on 1st July 2022. Steer also attended the final CAV4 steering group meeting on 14th July 2022 to present the findings to the project partners. This was recorded so that people could refer back to the presentations and a screenshot of this can be seen below. A summary version of the report was also created to help distil the information and provide an easy-to-read overview without all the technical detail.

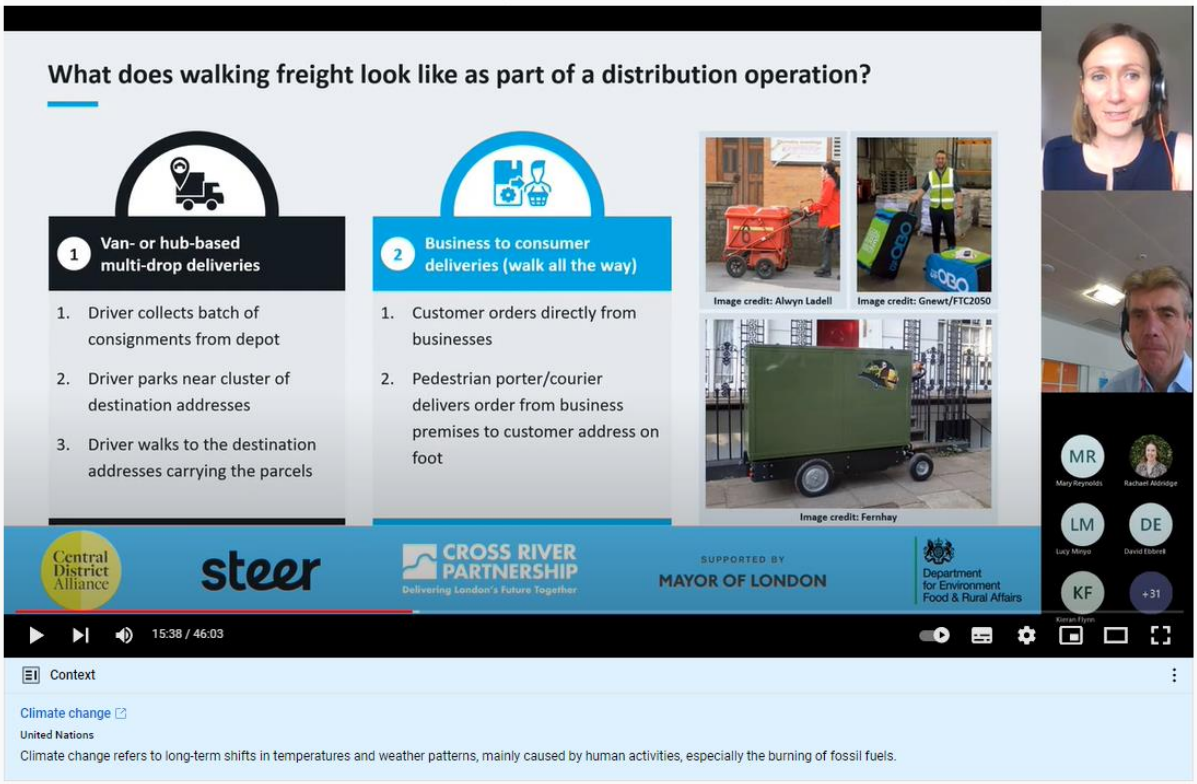


Figure 46: The launch of the Walking Freight Feasibility Study at one of CRP's Connect Four Series

Quote from business/partner/consultants etc.

"Walkers [pedestrian porters] are a really good ultra-urban solve. they don't obstruct the highway and they don't use power."

Operator that was interviewed as part of the study

Impact (emissions savings)

The study found that walking freight has the potential to generate benefits for London, mainly due to **reductions in vehicle distances travelled**. Overall kilometres travelled by light goods vehicles (LGVs) could be reduced by up to **0.4% across Greater London** (i.e. one in every 250 kilometres) if walking freight was expanded to its full potential in the CAZ. This will have positive impacts on carbon emissions with an estimated **4.7 kilotonnes of carbon being saved per year** because of the reduction in vehicle distance travelled.

6.4 - Freight Solution: Technology

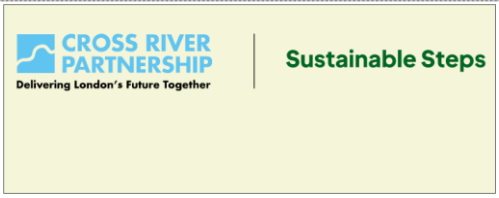
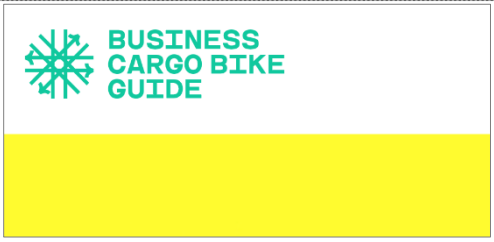
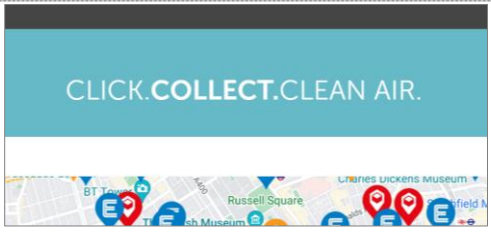
Summary

The Technology Strand of Clean Air Villages 4 aimed to help users take actions that could support their journey towards improving air quality. We **reviewed our existing tools, took feedback from**

our partners, and referred to earlier iterations of Clean Air Villages to settle on several solutions described in the following section.

Main achievement

The successful production or update of all five tools as proposed at the start of CAV4.

1. **Transport Emissions Calculator**: Originally meant to be an update of MeasureBEST, CRP's in-house emissions calculator, which we used to quantify the effectiveness of various interventions in our projects, notably our Clean Air Villages Projects. Instead, we overhauled the application resulting in a new internal calculator and a complementary web platform version for public use.	
2. **Sustainable Steps**: A new behaviour change tool using gamification to encourage business users to select, track and report on sustainable actions, some of which directly contribute to improved air quality.	
3. **Clean Air Villages Directory**: Originally developed during Clean Air Villages 2, CRP has expanded the Directory to include locations for new CAV partners. Additionally, new businesses have been added to the listings.	
4. **Business Cargo Bike Guide**: The Guide has been created to serve as a reference for SMEs considering a cargo bike for their business. The site provides businesses with essential information for procuring, using and maintaining cargo bikes.	
5. **Click. Collect. Clean Air.:** A previously existing tool to encourage users to collect their personal deliveries closer to home, rather than at the office (typically located in city centres) to reduce congestion from delivery vans. The tool has received several modifications, including a feature that allows users to see active travel times to their selected pick-up point.	

6.4.1 – Transport Emissions Calculator update

The Transport Emissions Calculator enables users to estimate how much air pollution they create within Greater London because of their road, river, and rail transport activities.

Developed specifically for Greater London, the tool estimates emissions for trips made by road, river, rail, or a combination of the three.

For road journeys, the Calculator uses Defra's Emissions Factor Toolkit (EFT) (version 11) to calculate the emissions of road trips taken within Greater London. The Calculator uses the vehicle type, trip length, and details of the trip location, time of the day to estimate the emissions for a single round trip. Using the frequency of the trips, for example twice a week, the calculator extrapolates the annual emissions the trips produce.

For rail journeys, the emissions factors are calculated using 2019 emission totals from the National Atmospheric Emissions Inventory (NAEI). These are cross-referenced with Department for Transport statistics to derive total emissions per tonne per km travelled (tkm).

River vessel emission factors have been calculated using 2019 emission totals from the NAEI. These are cross-referenced with Department for Transport domestic waterborne freight statistics: 2020 to derive total emissions per tonne per km travelled (tkm).

Summary of aims

The Transport Emissions calculator aims to allow users to estimate how much they reduced air pollutants (**NOx, $PM_{2.5}$, PM_{10}, SOx**) **and CO_2** by changing how they transport goods. It calculates the impact of the user changing their:

- **means of transport** (e.g. from a diesel van to an electric cargo bike),
- **mode of transportation** (e.g. from road to river),
- **frequency of activities** (e.g. consolidating deliveries and receiving them fortnightly instead of weekly),
- **timing of activities** (e.g. retiming deliveries from peak hours to inter-peak hours).

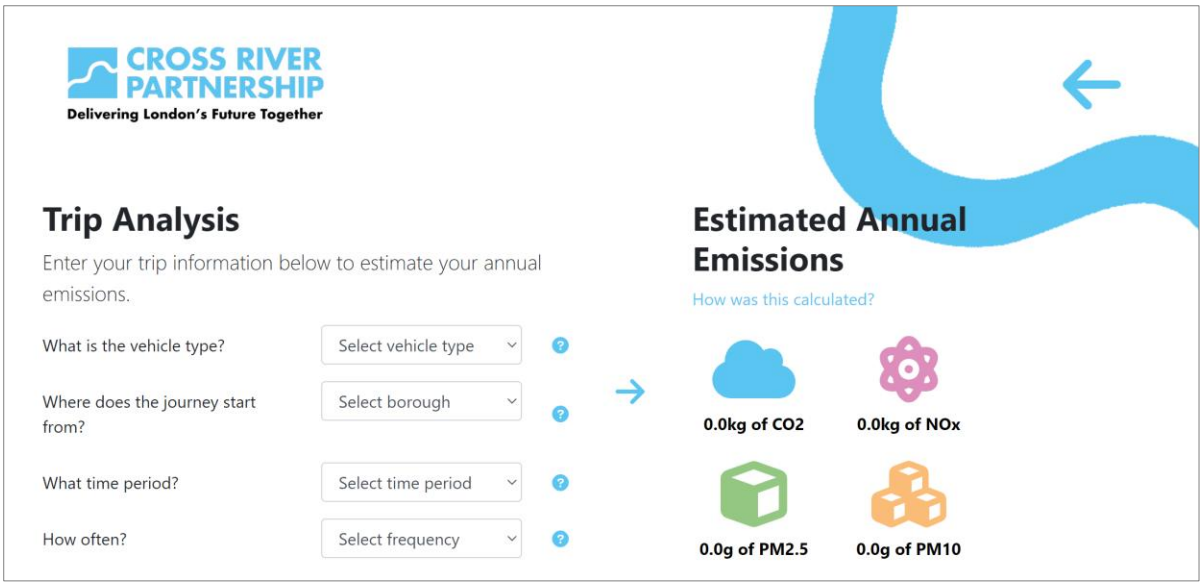


Figure 47: Single trip analysis screen from https://transportemissions.london

Additionally, the calculator can estimate emissions from a "snapshot" of travel activities at a specified location and time.

To illustrate, a local authority may want to determine the emissions savings from road traffic reduction intervention at Location X. Before carrying out the intervention, the local authority can enter the number of cars, heavy goods vehicles, buses and bikes and estimate Emissions A from their entry at a certain time of the day, e.g. morning peak hours. Following the intervention, the local authority repeats the exercise for the same time of the day for Emissions B. The improvement in air quality is quantified by calculating the difference between Emissions A and Emissions B.

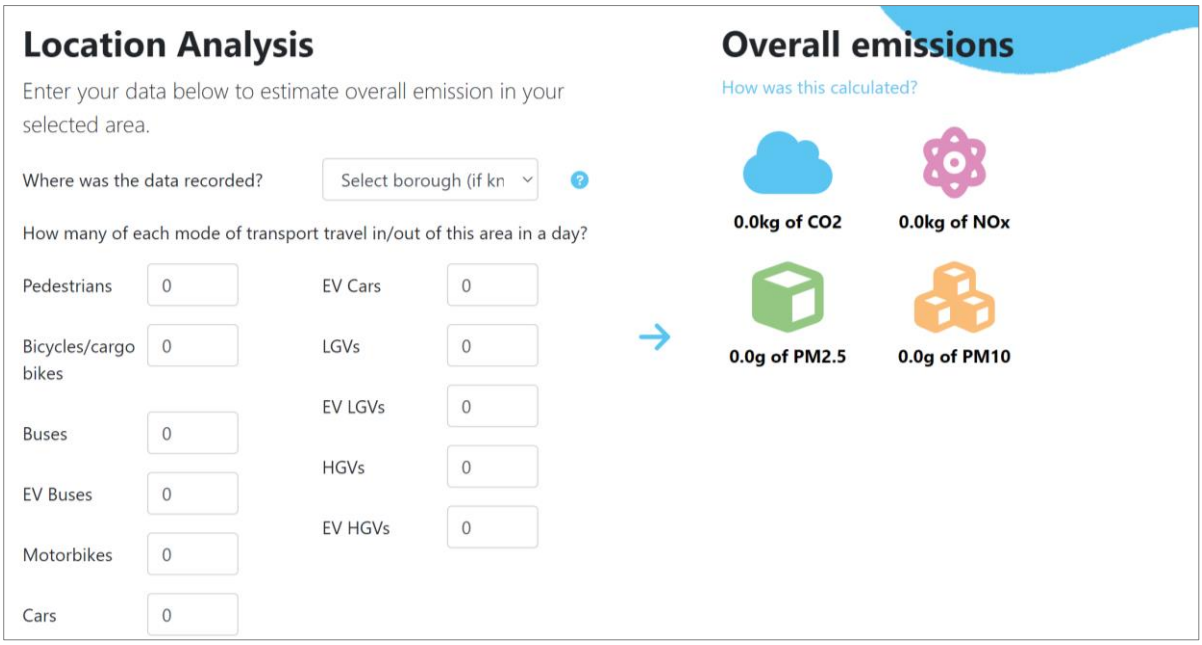


Figure 48: Location analysis screen from https://transportemissions.london

Delivery/achievements

Successful completion of an internal version and web version of the tool.

The internal version of the tool gives CRP access to underlying assumptions, allowing us to fully explore the calculations and provide partners with results tailored to their specific needs.

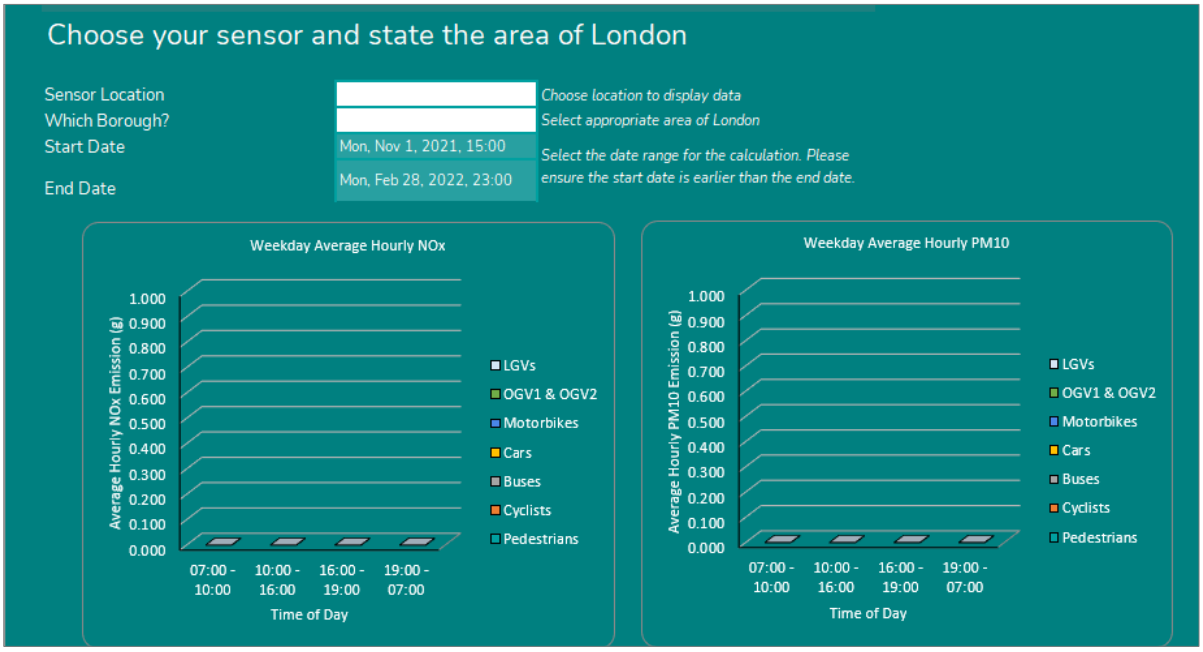


Figure 49: Section of Transport Emissions Calculator Internal Calculator

The external version of the tool, available at https://transportemissions.london, allows users to make straightforward calculations and offers tips about air quality and how to reduce transport-related air pollution.

Impact (emissions savings)

The following calculations assume that three organisations within Greater London decide to make a change based on the estimated emissions savings they have calculated, as follows:

- Org A switches from a fossil fuel van to an electric van
- Org B retimes their delivery from peak hours to inter-peak hours
- Org C decides to use the Thames for part of the delivery, instead of making the entire trip by road

Projected emissions savings 2022-2023				
	NOx (kg)	$PM_{2.5}$ (kg)	PM_{10} (kg)	CO_2 (kg)
Org A	6.03	0.05	0.05	2,148.92
Org B	0.38	0.01	0.01	367.84
Org C	1.60	0.09	0.17	817.08
Total	8.02	0.14	0.23	3,333.84

Table 18: Transport Emissions Calculator projected emissions saving 2022-2023.

6.4.2- Sustainable Steps (Behaviour change monitoring tool)

Sustainable Steps is a behaviour change tool that encourages businesses to take sustainable actions which contribute directly and indirectly to improved air quality. The tool uses gamification elements to motivate users to **make one or more pledges, act and share their progress** with stakeholders via social media and summary reports.

Summary of aims

The aim of the tool, Sustainable Steps, is to prompt SMEs to take action to reduce their impact on air quality directly or indirectly. Users can:

- Select which measures they will take,
- Select how they will track their progress,
- Share their progress with generated reports that can be adapted internally or shared on social media.

The users receive regular prompts and virtual rewards to motivate them to stay on track.

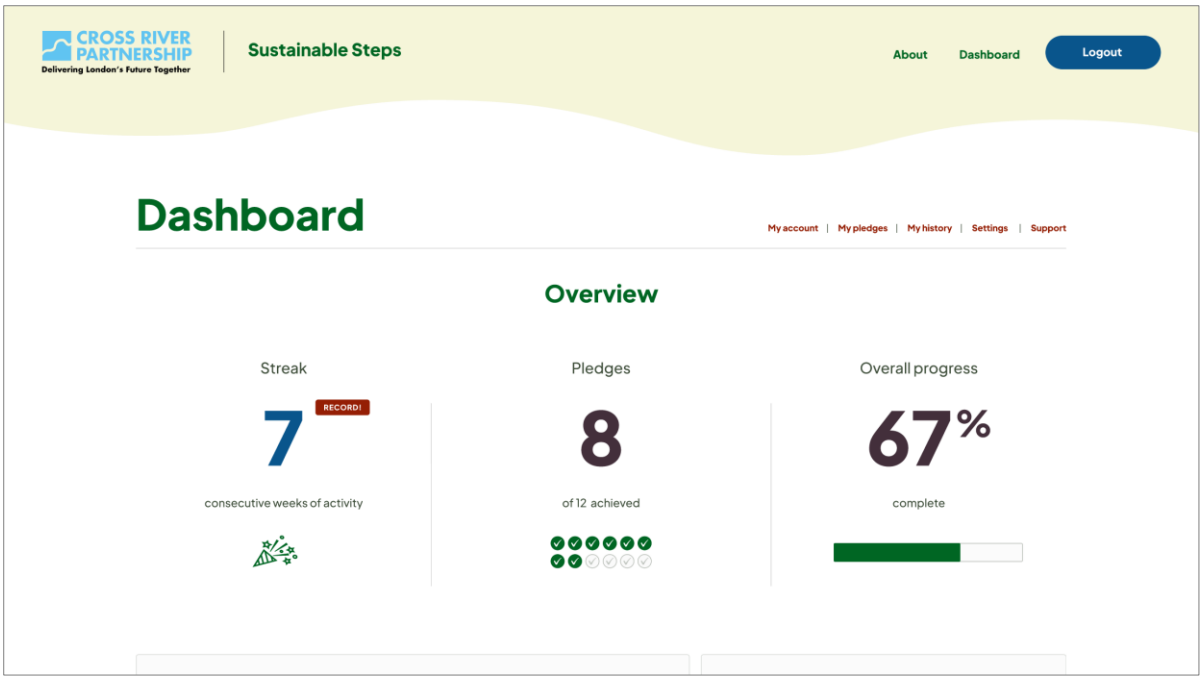


Figure 50: User dashboard on https://sustainablesteps.london

Delivery/achievements

Successful completion of https://sustainablesteps.london. The tool allows users to make one or more of pledges, with suggested actions and KPIs to allow them to track their progress as listed in the following table.

Actions	Possible steps	Outputs / KPIs
Streamline Ordering and Suppliers	Reduce frequency of orders	Number of trips reduced.
	Reduce number of suppliers	Amount/% of emissions reduced.
	Adjust procurement policies	
Choose Cleaner Suppliers	Increase number of clean miles	Amount/% of emissions reduced. Ratio of ZLEV* suppliers to petrol/fuel suppliers % of ZLEV suppliers
	Increase number of clean trips	
	Adjust procurement policies	
	Switch to green suppliers	
Neighbourhood Supplier Scheme	Partner with neighbouring businesses to select preferred suppliers	Number of trips reduced.
	Increase number of orders per trip.	Amount/% of emissions reduced.
	Increase number of trips avoided.	
Retiming deliveries	Increase number of suppliers delivering off-peak.	Amount/% of emissions reduced.
	Increase number of trips retimed to deliver off-peak	
Redirect personal deliveries	Decrease number of personal deliveries to business.	Number of trips reduced.
		Amount/% of emissions reduced.
Reduce your waste collections	Reduce number of waste collections as a result of less waste volume created.	Number of trips reduced.
	Consolidate waste collections	Amount/% of emissions reduced.
Run 'cleaner' vehicles	Switch from petrol/diesel vehicles to switch to ZLEV	Amount/% of emissions reduced.
		Number of potential / actual miles converted to ZLEVs (distance travelled).
		Number of potential / actual clean trips made.
Reduce energy consumption	Install a smart meter Switching to green tariff Switching to energy efficient lighting (LED bulbs) and appliances Motion sensors to control lighting Solar panels	% average kWh reduced per targeted activity % average kWh reduced per defined area % average kWh reduced per department
Conserve water	Install a smart meter Install water saving appliances Install a rainwater harvesting system	% m^3 reduced per targeted activity % m^3 reduced per defined area % m^3 reduced per department
Reduce, reuse, recycle	Go paperless / increase use of electronic documents Switch to reusable water jugs from bottled water	% decrease in paper orders % mass reduction in waste per targeted activity

	Reusable dining ware from disposable cups, plates, etc. Use recycled products	% mass reduction in waste per department
Manage work-related travel	Virtual meetings Active travel Public transport Carpooling	% reduced number of trips by team or project increased number of employees who have reduced their frequency driving to work or have stopped altogether
Source locally	Switch to neighbourhood suppliers	% decrease in distance travelled
Go circular	Rent/lease your products Sell or reuse by-products Redesign your produce to use fewer or resuable/recycable materials	% reduction in raw material materials purchased % reduction in transport mileage % reduction in transport emissions

Table 19: Suggested pledges and actions for businesses to take in Sustainable Steps.

Impact (emissions savings)

The following estimates assume that five business each commit to one action over the course of the next year as follows:

Projected emissions savings 2022-2023				
	NOx (kg)	$PM_{2.5}$ (kg)	PM_{10} (kg)	CO_2 (kg)
Org A	9.05	0.44	0.77	3,223.38
Org B	15.08	0.12	0.12	5,372.29
Org C	3.27	0.06	0.06	2,681.43
Org D	9.87	0.58	0.97	6,156.36
Org E	15.96	0.57	0.94	10,046.49
Total	53.24	1.78	2.85	27,479.95

Table 20: Sustainable Steps projected emissions savings 2022-2023.

6.4.3- Expand Clean Air Villages Directory

The Clean Air Villages Directory is a listing of businesses that provide their services using fully electric, ultra-low emission vehicles, cargo bikes or by foot across the Clean Air Villages. The Directory:

- is free to use. Businesses do not pay a fee to be listed, and the public does not pay for access to the site.
- promotes a reduction in congestion and supports local businesses by listing businesses based on their proximity to the user's postcode.

- incentivises businesses to switch vehicles.

Before the expansion, the directory listed 84 businesses across 27 village pages. At the time of this report, there were 107 businesses listed across 44 villages.

Summary of aims

The aim of expanding the Clean Air Villages Directory is to give new CAV project partners a way to show **businesses that offered zero- or low-emission deliveries in their areas, encourage other companies to do the same, and encourage local shopping.**

Delivery/achievements

In addition to adding new businesses, the map has been modified to include

- Additional borough outlines for Kent, Barnet, Brent and Southwark
- Additional villages areas, epicentres, and pages for
    - Borough outlines for Kent, Barnet, Brent and Southwark
    - Villages areas, epicentres, and pages for
    - Dartford (Kent County Council)
    - Ballards Lane (London Borough of Barnet)
    - Holborn High Street/Southampton Row Junction and Farringdon Road/New Bridge Street (Central District Alliance)
    - London Bridge at Borough High Street (Better Bankside)
    - Marylebone Road from Marble Arch/Euston/Kings Cross Junction (Euston Town[4])
    - Tower Bridge Road and London Bridge (Team London Bridge)
    - Victoria at Bressenden Place/Buckingham Palace Road (Victoria BID)
    - Walworth (London Borough of Southwark)
    - Whitehall and Parliament Square (Victoria Westminster BID)
    - Willesden High Road (London Borough of Brent)

[4] The updates to the CAV Directory were implemented before the change to partners from Euston Town BID to Camden Town Unlimited took place.

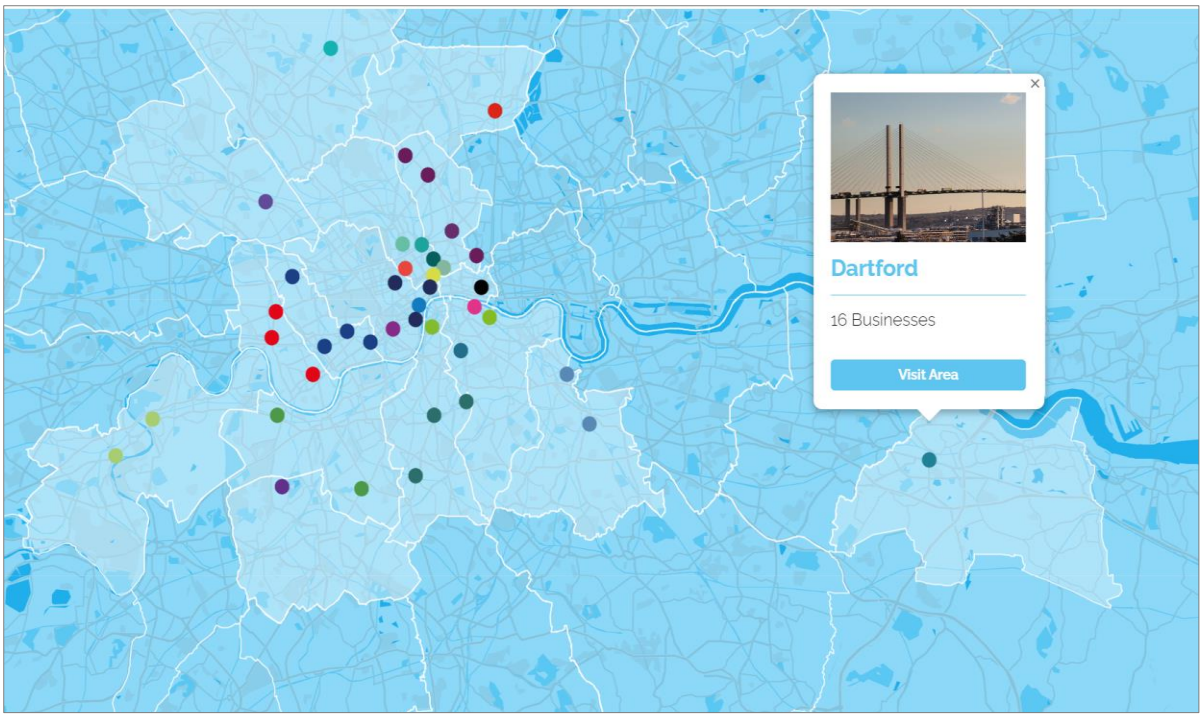


Figure 51: Excerpt of Directory map highlighting Dartford

Challenges

A major challenge updating the directory is engaging with listed businesses for feedback on their experience with it. Their input would have helped us ensure that the changes we made addressed any major concerns businesses may have.

Local communications

CRP regularly shared news about the directory via our newsletter and social media.

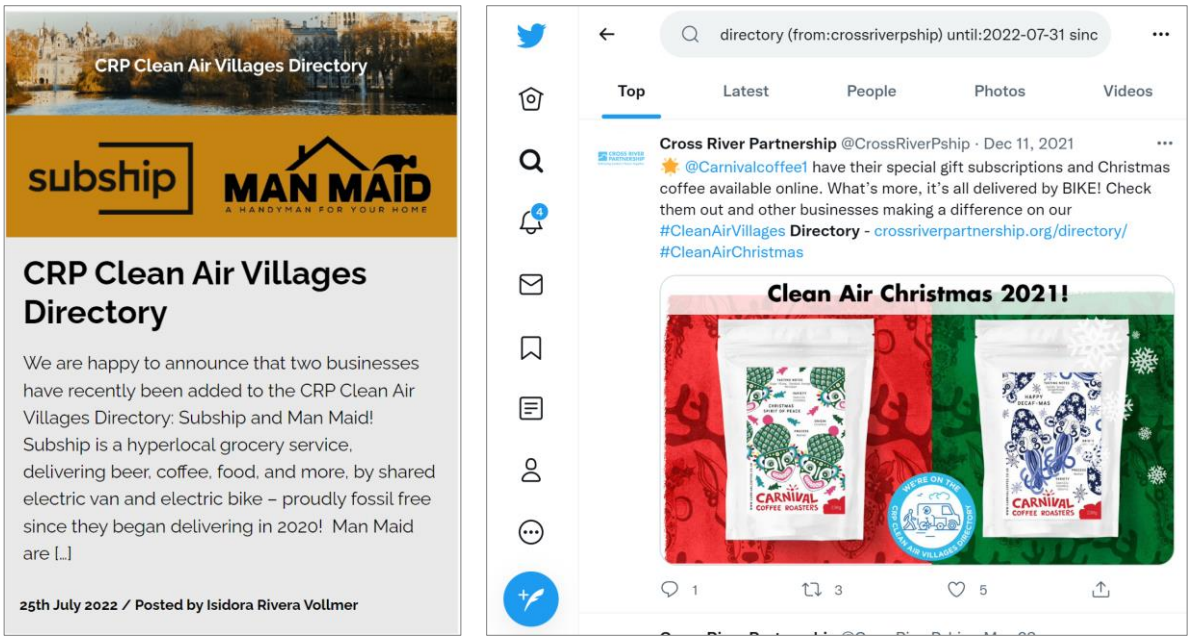


Figure 52: Sample newsletter article and social media post about CAV directory.

CRP also trialled paid advertising during December 2021, promoting the directory via social media which resulted in a surge of site visits. These numbers normalised almost immediately in the new year.

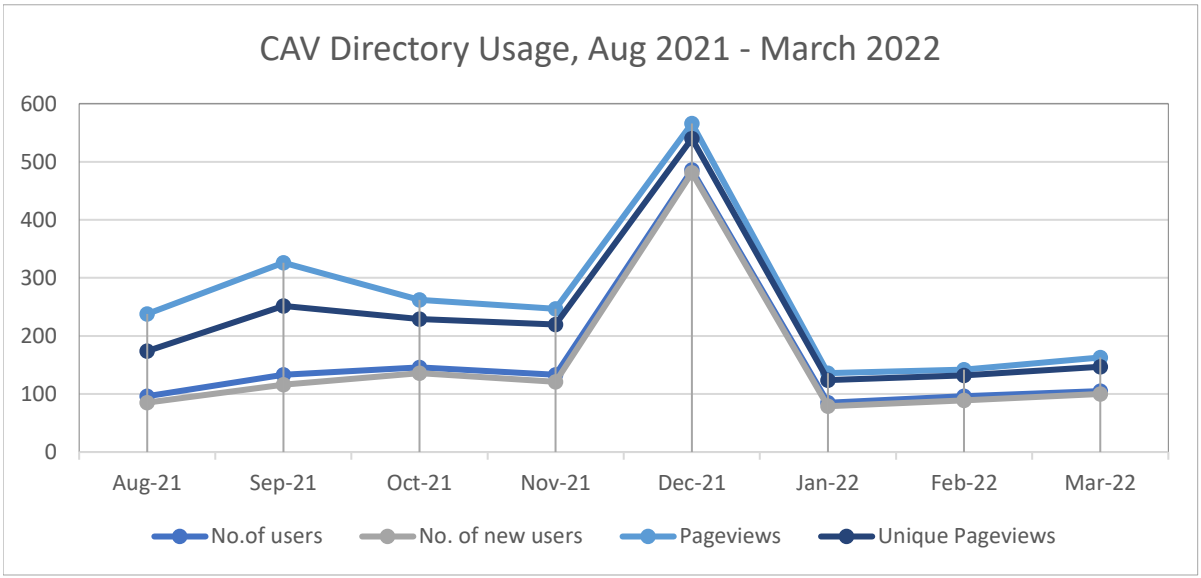


Figure 53: Chart displaying Directory analytics three months before and after 12/2021 advertising

Quote from business/partner/consultants etc.

"Initially we did deliveries on ordinary pedal bikes but when our local BID acquired an e-cargo bike, our lives became a lot easier. It was a real joy cycling round doing deliveries on the e-cargo bike. Quicker than a car with no parking worries. Cheaper and of course, much better for the environment. Being included in the Clean Air Villages Directory gave us great profile and hopefully helped others to spot the potential for a clean air delivery service."

Kevin Jones, Co-Owner, Eel Pie Records

Impact (emissions savings)

The following estimates assume that five businesses switch to a local supplier listed in the Directory, for regular deliveries as follows:

Projected emissions savings 2022-2023				
	NOx (kg)	$PM_{2.5}$ (kg)	PM_{10} (kg)	CO_2 (kg)
Org A	3.37	0.03	0.03	1,423.42
Org B	3.37	0.15	0.26	1,423.42
Org C	2.70	0.06	0.09	1,421.05
Org D	3.48	0.07	0.10	1,426.82
Org E	3.48	0.16	0.27	1,426.82
Total	16.40	0.47	0.75	7,121.54

Table 21: Clean Air Villages Directory projected emissions saving 2022-2023.

6.4.4- The Business Cargo Bike Guide (Web platform)

The Business Cargo Bike Guide (https://bizcargobikeguide.london) is a resource for businesses – particularly those based in London – looking for information on cargo bikes. The site has useful and easily digestible information on points to consider before getting a cargo bike, types of cargo bikes, operating and maintaining them, and more. The website also has a directory of local suppliers of bike-related services such as retailers, insurers, training, and more.

Summary of aims

The website aims to be a reusable resource for London-based businesses, particularly SMEs that may have limited resources to dedicate to understanding everything owning and operating a cargo bike entails.

Figure 54: Description of cargo bike from https://bizcargobikeguide.london

Delivery/achievements

The completed website offers information on types of cargo bikes, what to consider before getting one, challenges and solutions, maintenance, news and publications such as case studies and research Clean Air Villages and other CRP projects.

Local communications

The website has been promoted via the CRP newsletter and was launched on 28th July 2022 at Session 7 (Urban Futures: Creating a City to be Proud of) of CRP's webinar series, Connect 4.

Figure 55: July 2022 CRP Newsletter Article

Figure 56: Eventbrite post of CRP webinar series featuring the Business Cargo Bike Guide

Impact (emissions savings)

The following estimates assume that three businesses within central London switch from using a car to a cargo bike after consulting the website.

Projected emissions savings 2022-2023				
	NOx (kg)	$PM_{2.5}$ (kg)	PM_{10} (kg)	CO_2 (kg)
Org A	8.81	0.55	0.94	6,081.18
Org B	8.30	0.55	0.93	5,442.27
Org C	5.84	0.50	0.89	4,050.62
Total	22.95	1.61	2.76	15,574.07

Table 22: Business Cargo Bike Guide projected emissions saving 2022-2023.

6.4.5- Click.Collect.Clean Air

CRP developed *Click.Collect.Clean Air* to encourage individuals to have their personal deliveries made to locations other than their office. The site targets those working in city centres where congestion and air quality are an issue.

Summary of aims

The update aimed to make the site relevant and valuable to users by reviewing suppliers and making the site more engaging.

Delivery/achievements

The updated website includes:

- Updated suppliers (i.e. courier services) that offer flexible options to recipients and their information.
- An improved layout, making it easier for users to navigate.
- A new feature to encourage active travel by showing users travel time to their selected pick-up location by walking and cycling.

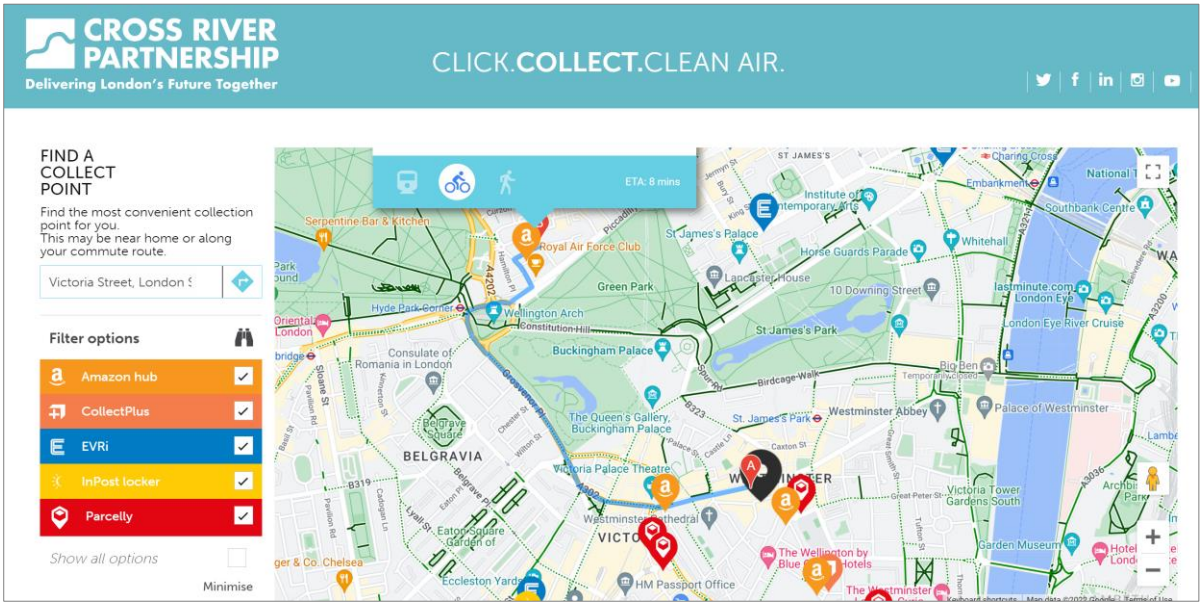


Figure 57: Screen shot from https://clickcollect.london/

Local communications

The website and its updates were discussed on 26th May 2022 at Session 5 (Tackling Air Pollution through Technology) of CRP's webinar series, Connect 4.

Figure 58: Eventbrite post of CRP webinar series featuring Click. Collect. Clean Air.

Impact (emissions savings)

The following estimates the emissions reduction when one individual who receives one personal delivery monthly switches from deliveries to their workplace to a click and collect point outside central London.

Projected emissions savings 2022-2023				
	NOx (kg)	$PM_{2.5}$ (kg)	PM_{10} (kg)	CO_2 (kg)
Total	0.65	0.03	0.06	341.05

Table 23: Click.Collect.Clean Air projected emissions saving 2022-2023.

6.5 - Freight Solution: Policy

Summary

The CAV4 Policy solution incorporated **ULEZ guidance and advice**, the **launch of Instagram for CRP** and the creation of **case studies and toolkits** to showcase best practice from CAV4. These assets **worked strategically alongside wider CRP communications**, acting as an excellent knowledge sharing exercise for air quality topics.

Main achievement

The main achievements for Policy are

- The creation of the **ULEZ guidance documents**. These received **136 link clicks** in total across the three resources over the lifetime of CAV4 and provided guidance for businesses and communities across London. CRP is promoting these beyond the project, so it is hoped that this figure will increase.

- The successful **launch of Instagram** as a platform to promote CAV4 and other CRP projects.
- The delivery of an **online event series**.
- The **creation of 15 case studies and toolkits** to inspire local authorities, Business Improvement Districts, landowners, businesses and communities.

6.5.1 – ULEZ documents

Summary of aims

The Ultra Low Emission Zone (ULEZ) expanded from 25th October 2021, to create a single larger zone up to, but not including, the North and South Circular Roads. This impacted around four million people, over a third of London's population.

This charge is focused on cars, motorcycles, vans, minibuses and other specialist vehicles. The ULEZ operates 24 hours per day, every day, except for Christmas Day. Cars, motorcycles, vans and other specialist vehicles (up to and including 3.5 tonnes), and minibuses (up to and including 5 tonnes) need to meet the ULEZ emissions standards, or pay a **£12.50 daily charge** when driving within the expanded ULEZ zone. The ULEZ does not operate in isolation – there are other road charges in London operating at the same time, meaning potentially multiple road charges per vehicle.

This expansion was a significant change for London's communities and CRP identified a lack of simple information for locals on these changes. As part of CAV4, the Policy strand aimed to **raise awareness through communications** about the ULEZ/LEZ expansion, including the **impacts on local communities and how to navigate the new policy changes**.

CRP wanted to **provide advice and signpost** to options available, to make people aware of why it was happening and the costs that may be involved. The aim was to reduce the number of non-compliant ICE vehicles on the road, **facilitating a greater shift to ultra-low emission alternatives**. This would mean better air quality within the ULEZ zone.

Engagement/Process

CRP worked with Transport for London (TfL), to mind map different ways in which the ULEZ information could be displayed **simply and easily for a variety of audiences**. TfL were particularly interested in ways that we could engage with smaller businesses.

CRP set up **regular meetings with TfL** to gain relevant information and accurately calculate costings. TfL advised on total charges, public transport options, Vehicle Scrappage Schemes, financial incentives and available tools for those looking for alternative modes of travel.

CRP chose to focus on providing information in an **easy and engaging format** through flow charts to encourage clear decision-making for readers. Additionally, CRP focused on providing **detailed costing information to support Londoners** and business owners with a realistic impact on vehicles which do not comply with the ULEZ, based on the number of times vehicles drive per week, month and year. This certainly needed to factor in different charges for different vehicles and areas of London, such as the Congestion Charge, ULEZ and LEZ, which may apply to some vehicles but not others.

Delivery/achievements

CRP produced **three, audience-specific, visually attractive flow charts** to promote expansion of the ULEZ to different audiences across London. These provide straightforward advice for **electric vehicle leasing and buying options, funding opportunities and financial incentives**. The guides also signpost to CRP tools which can help in transitioning to cleaner modes of transport for personal and business journeys. CRP also created a simple breakdown of the financial costs associated with continuing to drive a vehicle that does not meet the ULEZ (or LEZ) standards.

Options included grants for switching, vehicle sharing and transitioning to alternative modes of transport in order to meet the minimum requirements. CRP therefore provided practical solutions and support to multiple audiences, in order to prepare for the expansion of the ULEZ in London.

All the final resources can be found here:

- Resident ULEZ Flow Chart
- Business ULEZ Flow Chart
- ULEZ, LEZ, Congestion Charge Cost Breakdowns

Challenges

It was a challenge not to treat the audience of these guides as a homogenous group. The ULEZ expansion affects many different types of audiences in London, so it was essential that this **information was tailored**. This is why CRP split these guides into three sections. Flow charts were therefore used to acknowledge the differences between Londoners, such as the differing needs of a multinational business owner versus a self-employed tradesperson, or residents living in well-connected or disconnected parts of London in terms of public transport, cycle infrastructure and pedestrian-priority spaces.

CRP had a wealth of information to convey whilst engaging guide users. Challenges were therefore faced regarding how to display the information whilst grabbing a reader's attention/being visually pleasing.

Local communications

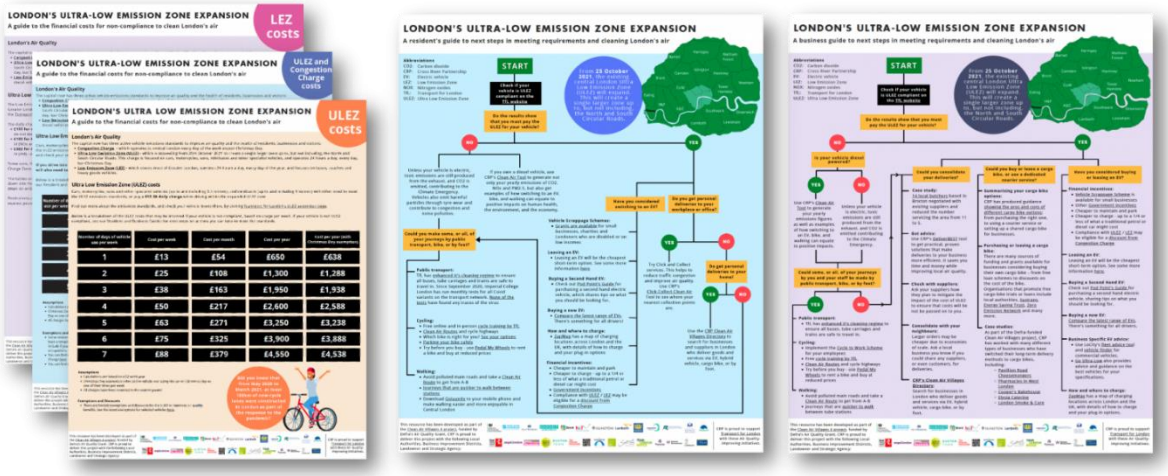


Figure 59: CRP's ULEZ Guides

CRP shared these documents with all CAV4 partners alongside a communications pack, including social media assets, newsletter content and tailored messaging, for further dissemination.

The guides were featured in the below articles:

- 'ULEZ expansion has come into effect' – The Fitzrovia Partnership
- 'Ultra Low Emission Zone' – London Borough of Hammersmith and Fulham
- 'Air quality' – Victoria BID
- 'Ultra Low Emission Expansion' – The Northbank BID
- 'Recognising the importance of air quality' – Public Sector Executive
- 'New ULEZ resources to help vehicle owners' – CiTTi
- 'London's ULEZ expansion: Why is it needed?' – The Leader, Evening Standard daily (The Evening Standard contacted CRP after coming across the ULEZ resources, and CRP's Sustainable Transport Manager, Ross Phillips, featured on The Leader podcast)

Quote from business/partner/consultants etc.

"CRP's ULEZ guidance documents were extremely helpful. They were useful in giving residents/ businesses and stakeholders some basic knowledge about air quality, how it affects the health of humans and why it does. The information helped to place the expansion of the ULEZ within the context of trying to improve the air quality and helped people to be able to understand the reasons it was being expanded to the North and South Circular and how it would improve the air quality for them and their friends and families. The information was targeted to be accessible and comprehended by normal non-expert people, which is always good!"

Andrew Galligan, Project Communications Specialist, Transport for London

6.5.2- Instagram

Summary of aims

The aim of launching Instagram for CRP was to **enable wider outreach and stronger impact messaging via alternative means**. This complimented CRP's overall communications strategy and branding opportunities.

Engagement/Process

Using Instagram for business can **drive brand awareness, boost sales, and build and track audience engagement**. With more than 25 million business accounts on Instagram, it was a necessity for CRP to be on the platform. CRP set up an Instagram account within an overarching communications plan for the organisation. This included engaging posts, videos, stories and graphics. CRP collaborated as a team to gather content from partner organisations and engaged CAV4 businesses.

CRP uses Hootsuite and Google Analytics alongside Instagram for detailed insights, allowing improvement on engagement and traction and creating a more strategic approach.

Delivery/achievements

CRP launched its Instagram account (@crossriverpartnership) on Clean Air Day 2021, with the intention of bringing CAV4 deliverables to a wider audience. CRP's Instagram complements other social media channels - LinkedIn, Facebook, Twitter and YouTube.

CRP's Instagram has proved to be a successful platform to promote national days, engage with businesses and communities and to promote CRP's Lunchtime Launch and Connect 4 events. Paid advertising via Instagram was also explored as part of promoting the CRP Clean Air Villages Directory **#CleanAirChristmas** campaign.

	Monthly average (June 2021 – June 2022)
Accounts reached	2,657
Profile visits	90
Website taps	4
Total follower growth	31
Likes	127
Comments	13

Table 24: Average Insights (June 2021 – June 2022)

Followers	Average (June 2021 – June 2022)
Female	47%
Male	53%
Age 18 – 24	8%
Age 25 – 34	33%
Age 35 – 44	29%
Age 45 – 54	17%
Age 55 – 64	10%
Age 65+	3%

Table 25: Average Follower Demographic (June 2021 – June 2022)

Challenges

Social media engagement with no advertisement budget presented its challenges, however, paid advertisement was explored as part of the CRP Clean Air Villages Directory expansion. The **advertised post for this tool expansion reached 45,657 people on Facebook** and **24,428 people on Instagram in December 2021**. In the same month, 56.4% of people visiting the CRP Clean Air Villages Directory were from social media traffic. Although this was a success, as soon as paid advertising finished, this dropped to 2.3% social media traffic in January 2022.

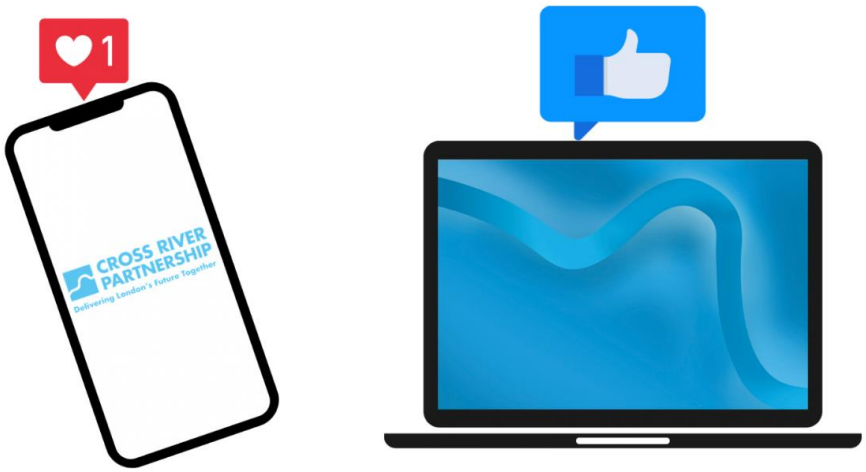
Negative comments on social media can be common, and some interventions such as Low Traffic Neighbourhoods, which CRP sometimes circulates information on, can be controversial with different online communities. The CRP team took part in media training with an external organisation to learn how to remain impartial and approach these sorts of comments online, which helped with this challenge.

Instagram requires a regular feed of images and engaging content. **During the pandemic, it was challenging to get images of real-life interventions**. Therefore, CRP sometimes relied on

infographics more than images, and more time had to be put in to making these interactive and informative for CRP's audience.

Local communications

Figure 60: A screenshot of CRP's Instagram page



Follow Us on Instagram and Facebook!

15th June 2021 / Posted by Rachael Aldridge

CRP is joining Instagram and Facebook, bringing you our content across two more social media platforms! **Follow us** in time for the official launch of our new accounts on **Clean Air Day, Thursday 17th June**. We'll be posting exclusive project updates, launches, events, competitions, and more! Please also visit our Twitter and LinkedIn to keep up to date.

For any suggestions, contributions or questions, please contact CRP Project Officer Rachael Aldridge.

Figure 61: Promoting the launch of CRP's Instagram and Facebook page via the CRP Newsletter.

Quote from business/partner/consultants etc.

"CRP's Instagram account has allowed us to collaborate with partners and share information on national days such as a Clean Air Day and Car Free Day. Knowledge sharing of this nature promotes emissions savings, so it has been great to be involved in the buzz of air quality related communications online."

Rachael Aldridge, Communications Project Manager, Cross River Partnership

6.5.3- Lunchtime Launches

Summary of aims

CRP's Lunchtime Launch monthly online events **aimed to address air quality and engage a wider audience**. CRP aimed to engage with partners on an individual level through these sessions, creating meaningful relationships and a **deeper insight into partner work through presentations and Q&A sessions** with the audience. All CAV4 partners were invited to these monthly events, and they complemented CAV4 project delivery.

Engagement/Process

These events were held digitally due to COVID-19. Although it was a shame to not be able to connect in-person, digital events have proven a successful communications tool for CRP's brand.

CRP created these events – from liaising with speakers, to deciding a theme and following up post-event. These formed a timeline from **January to December, with a different topic each month**.

Delivery/achievements

CRP's online events/Lunchtime Launches were implemented following the success of the Clean Air Villages 3 LiveShare series and have also been superseded by CRP's Connect 4 Series (please see more information in the Dissemination section). Nine Lunchtime Launch events took place during the CAV4 project.

724 attendees joined the sessions from April 2021 to December 2021, across nine events.

All Lunchtime Launch sessions addressed air quality and Clean Air Villages 4. All sessions were promoted to a wide audience via CRP's communications channels (all sessions were recorded, saved on CRP's YouTube channel).

A member of the CRP team chairs each session and provides an overview of CRP and projects. Each person who signs up is followed up with: presentation slides, a recording and a detailed Q&A document post-event. The sessions have enabled great discussion around air quality, sustainability and transport.

Name of Session	Date	Number of attendees (max 200)	% registrants who attended	YouTube views	Speakers
Lunchtime Launch 4 **Earth Day: Successful Sustainable Development in London** **Q&A Sheet**	22nd April 2021	66	55%	23	Fiona Coull, Project Manager, Cross River Partnership Debbie Akehurst, Chief Executive Officer, Central District Alliance (formerly Midtown BID) Katherine Fleming, Operations Director, The Northbank BID
Lunchtime Launch 5 **Spatial Mapping: Benefits for Air Quality, Logistics and Healthy Streets** **Q&A Sheet**	20th May 2021	121	54%	47	Laura Jacklin, Senior Project Officer, Cross River Partnership Rachel Aldred, Professor of Transport and Director of the Active Travel Academy, University of Westminster
Lunchtime Launch 6 **The ULEZ Expansion: Your options for a**	24th June 2021	89	57%	651	Kate Fenton, Project Manager, Cross River Partnership

cleaner, cheaper, greener London Q&A Sheet					Taryn Ferguson, Senior Policy and Programme Officer, Greater London Authority Stephen Inch, Senior Policy and Programme Officer, Greater London Authority
Lunchtime Launch 7 Railway Infrastructure: Dawn of a New Era? Q&A Sheet	29th July 2021	59	55%	62	Hasanul Hoque, Operations Manager, Camden Town Unlimited Val Beirne, Bankside Urban Forest Manager, Better Bankside Joshua West, Communications Manager, Cross River Partnership
Lunchtime Launch 8 The Future of Sustainable Shipping and Trade in London Q&A Sheet	19th August 2021	55	66%	46	James Trimmer, Director of Planning and Environment, Port of London Authority Sefinat Otaru, Project Manager, Cross River Partnership
Lunchtime Launch 9 Climate Effects: The Benefits of Greening Q&A Sheet	30th September 2021	62	41%	41	Lauren Racusin, Urban Planning, Sustainability, & Economic Development, Bloomberg Associates. Ben Connor, Senior Policy and Programmes Officer, Greater London Authority. Fiona Coull, Project Manager, Cross River Partnership.
Lunchtime Launch 10 The Challenges and Opportunities of Fleet Electrification Q&A Sheet	28th October 2021	48	58%	53	Pantelis Stefas, Asset Management and Technology Analyst, UK Power Networks Services Claire Thompson Sage, Sustainable Development Co-ordinator, UPS

					Adam Cundy, Senior Project Manager, Moixa Sefinat Otaru, Project Manager, Cross River Partnership
Lunchtime Launch 11 Good Parks for London 2021: Parks and Climate Change Q&A Sheet	18th November 2021	140	64%	124	Tony Leach, CEO, Parks for London Councillor Samia Choudary, London Borough of Hounslow Judy Ling Wing, Honorary President, Black Environment Network Joanne Dennis-Jones, Head of National Planning, GL Hearn Rachael Aldridge, Communications Project Manager, Cross River Partnership
Lunchtime Launch 12 Green Logistics London: A Healthier City for All Q&A Sheet	16th December 2021	84	58%	44	Dan Johnson, representing The Fitzrovia Partnership Ben Marston-Rydings, Head of Operations, EMSOL Susannah Wilks, Director, Cross River Partnership

Table 26: Lunchtime Launches during 2021

Following the completion of CRP's successful Lunchtime Launch series in December 2021, CRP set up a monthly series of webinars called **Connect 4**, running from January 2022 onwards, bringing together 4 speakers each time at 4pm to present on the latest AQ innovations and to launch pieces of work completed within the CAV4 Defra-funded projects. Please see the Dissemination Section 7 of this report for further information on CRP's Connect 4 webinar series.

Challenges

CRP had concerns about 'webinar fatigue', however the Lunchtime Launches had a strong attendance throughout the year. CRP has been able to bring an array of valued, industry-specific speakers to these events, on topics related to air quality.

Technical challenges were apparent at some of the sessions. For CRP's Connect 4 Series, Teams Webinar is being used, rather than the LiveWebinar platform.

Local communications

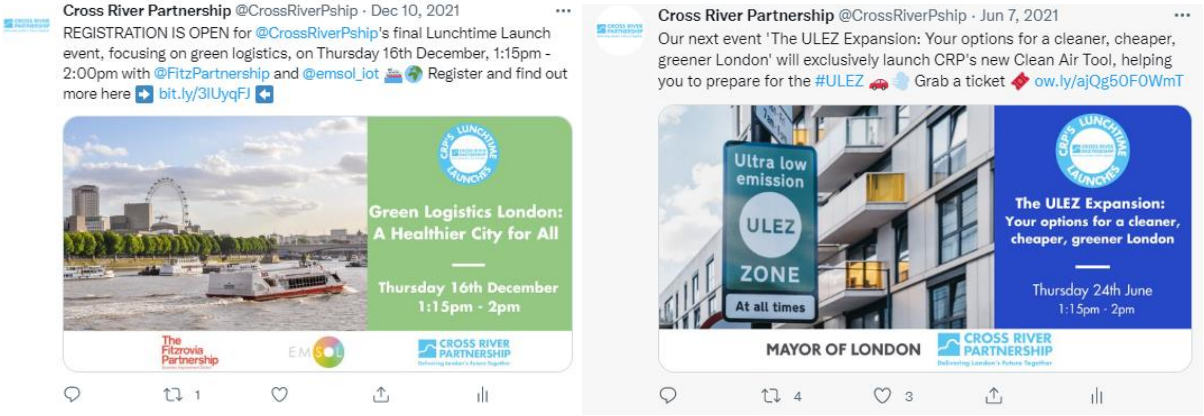


Figure 62: Promotion of Lunchtime Launches via CRP's Twitter

The virtual report launch was held on 18th November 2021 and was once again kindly hosted by the **Cross River Partnership** as part of their Lunchtime Launch series. We are delighted that over 130 colleagues could join us for the event, and for those of you who could not attend or would like to revisit the programme, the event recording and presentation slides can be found below.

An overview of the full report can be found here, and an accessible format of the report will be available soon.

Download the Good Parks for London 2021 report here.

Figure 63: Parks for London's Lunchtime Launch promotion

Quote from business/partner/consultants etc.

"CRP's Lunchtime Launch Series is a great way to reach a wide range of audiences. Parks for London values its collaboration with CRP to launch its annual Good Parks for London report in a professional way."

Tony Leach, CEO, Parks for London

6.5.3 - Case studies and toolkits

Summary of aims

Case studies and toolkits about CAV4 interventions were created as freight activities took place. The aim of these documents was to **inspire partners and local businesses** to create their own projects and implement their own freight solutions based on those created and implemented as part of CAV4 project activity.

These documents were produced to **provide learnings** to support other organisations wanting to set up something similar to a scheme found in CAV4. All case studies and toolkits have an air quality focus, with the aim to inspire for local authorities, businesses, private organisations and communities.

Engagement/Process

CRP engaged with relevant businesses and stakeholders to compile information to promote best practice. This was through both online and face-to-face meetings and interviews. A great deal of time and research went into the creation of these resources. In some instances, CRP commissioned an external party to produce these reports on behalf of CRP.

Delivery/achievements

CRP has produced **seven case studies** as part of the project:

Clean Air Villages 4 Case Study	Publication month
Making the Switch: A Guide for Fleet Owners	January 2022
Getting Started with River Freight: A Guide for Businesses	April 2022
Wimbledon Cargo Bike Scheme: Running and Engagement Event for Businesses	May 2022
Report Summary: Butler's Wharf & Dartford Pier Vessel Monitoring	June 2022
Cargo Bike Training in Lewisham	August 2022
Setting Up a Micro Logistics Hub: Better Air Quality for Brixton	August 2022
How to implement a reusable lunchbox scheme – from those that tried and failed	August 2022

Table 27: Case studies created through CAV4

'Making the Switch: A Guide for Fleet Owners' explores eight in-depth experiences from businesses with electric vehicles (EV) fleets in London. Using examples Cleanology, Complete, Father Nature, Fruit4London, GLH, GreenZone, Lyreco and Planet Minimal, this case study addresses fleet, charging, advice and guidance. This case study aims to provide information to make the transition easier for businesses looking to purchase or lease an electric fleet. It also examines what going electric could mean for a business. CRP asked questions about each business' vehicles, motivations, challenges faced, charging infrastructure and what's next for EVs in terms of regulation, technology and cost.

'Getting Started with River Freight: A Guide for Businesses' includes information on the **opportunities and challenges of river freight**, **how to set up your own river freight project**, **DHL's project**, a glossary of **useful terminology** and **useful contacts** to begin to use the tidal Thames for freight. Much of the information is through interviews conducted by CRP with the Port of London Authority, Transport for London, DHL Express, Livetts, CEVA Logistics and Guy's and St Thomas' NHS Foundation Trust.

CRP's **Wimbledon Cargo Bike case study** looks at the promotion of the bike, the launch day and includes quotes from businesses who have used the bike. This case study links to **video interviews with partners Love Wimbledon BID and Sustainable Merton**, who speak about the importance of the bike and how it helped their organisation grow. This case study **includes emission savings** and other figures.

The **Butler's Wharf & Dartford Pier Vessel Monitoring Report Summary** condenses CRP's main report into seven pages. This summary looks at the following key findings:

- Emissions compared to Defra and new WHO standards
- Pollution caused by river freight activity
- Site specific pollution comparison
- Noise pollution caused by river freight
- Key recommendations

CRP's **'Cargo Bike Training in Lewisham'** case study is a video detailing the CAV4 Lewisham cargo bike scheme. CRP ran four half-day training sessions for nine staff members to use the new cargo bike. This video details the training session and their benefits. CRP interviewed partners from London Borough of Lewisham and Lewisham Homes, including Councillor Louise Krupski, Cabinet Lead for Environment and Climate Action.

'Setting Up a Micro Logistics Hub: Better Air Quality for Brixton' details Brixton's air quality, the hub and estimated emissions savings from the scheme. This case study includes three videos, in which CRP interviewed Pedal Me about key space requirements and London Borough of Lambeth about the importance of the project.

CRP's circular economy case study, **'How to implement a reusable lunchbox scheme – from those that tried and failed!',** is designed to support local authorities and BIDs with setting up a circular economy scheme in their local area. CRP learned a lot from aiming to implement a reusable lunchbox scheme in Angel with the London Borough of Islington and angel.london, and have shared five key lessons and two takeaway learnings from setting this up.

Eight toolkits were created as part of CAV4:

Clean Air Villages 4 Toolkit	Publication month
ULEZ, LEZ and Congestion Charge costs	August 2021
ULEZ Business Flow Chart	August 2021
ULEZ Resident Flow Chart	August 2021
Electric Vehicle Rapid Charging Hubs Guidance	October 2021
The Lived Experience of Our Streets: A People First Vision for London's Streets	October 2021
Do I Have the Right Space for an Urban Logistics Hub?	November 2021

CRP's Monitoring Services Flyer	November 2021
Highways & Footways Accessibility Guidelines	January 2022

Table 28: Toolkits created through CAV4

'Highways & Footways Accessibility Guidelines' outlines ten key issues and makes recommendations for fully accessible streets that do not just adhere to minimum standards but also make a conscious effort to establish spaces that are generous in design. This report was prepared by architecture, urban design and research studio DSDHA and architectural access consultancy David Bonnett Associates. This report was part funded by CAV4. Other funding came from the TfL-funded Central London Sub Regional Transport Partnership.

CRP's **Monitoring Services Flyer** outlines CRP's offering of a cross-project monitoring programme. CRP is offering bespoke, value for money data analysis services to help local authorities and place makers unlock the potential of their data. CRP can **work with partners to monitor active travel and traffic count, granular level event analysis, speed reporting, air quality impacts and more**.

'The Lived Experience of Our Streets: A People First Vision for London's Streets' was produced by NOOMA Studio and **sets a vision to create more equitable and accessible streets for all users across London**. This toolkit aims to guide decision makers to put people at the centre of London's street space, exploring four different street typologies across London Boroughs of Camden, Lambeth, Wandsworth and Westminster. This report was part funded by CAV4. Other funding came from the TfL-funded Central London Sub Regional Transport Partnership.

For information on CRP's **ULEZ toolkits**, please see section 6.5.1.

CRP's **Electric Vehicle Rapid Charging Hubs Guidance toolkit** details advice and guidance around the implementation of rapid charging hubs. It also looks at the potential challenges faced during the **construction and planning stages**, emphasising the need for embedded knowledge to be shared. It was featured by Citti Magazine and published alongside CRP's October Lunchtime Launch 'The Challenges and Opportunities of Fleet Electrification'.

The toolkit **'Do I Have the Right Space for an Urban Logistics Hub'** is aimed at landowners and local authorities and was developed to promote the Urban Logistics Hub Map. This asks the audience whether their space fits the right criteria for correct location, access, space, contract and security to become an urban logistics hub.

Challenges

As most Freight Interventions were completed towards the end of the project, it was a challenge to get these case studies completed within the time frame of the project. Consequently, three of the case studies/toolkits were completed just after Q5 ended.

Additionally, making these case studies unique from previous Clean Air Villages case studies was a challenge, due to the volume of case studies already produced as part of the project. Making them multimedia and engaging was also a task, not aided by remote working.

Getting sign off from all stakeholders involved in these resources could also be challenging and time consuming.

Local communications

CRP promoted all the CAV4 case studies via social media and CRP's newsletter, often launching these at Lunchtime Launch/Connect 4 events. A press release was issued per case study.

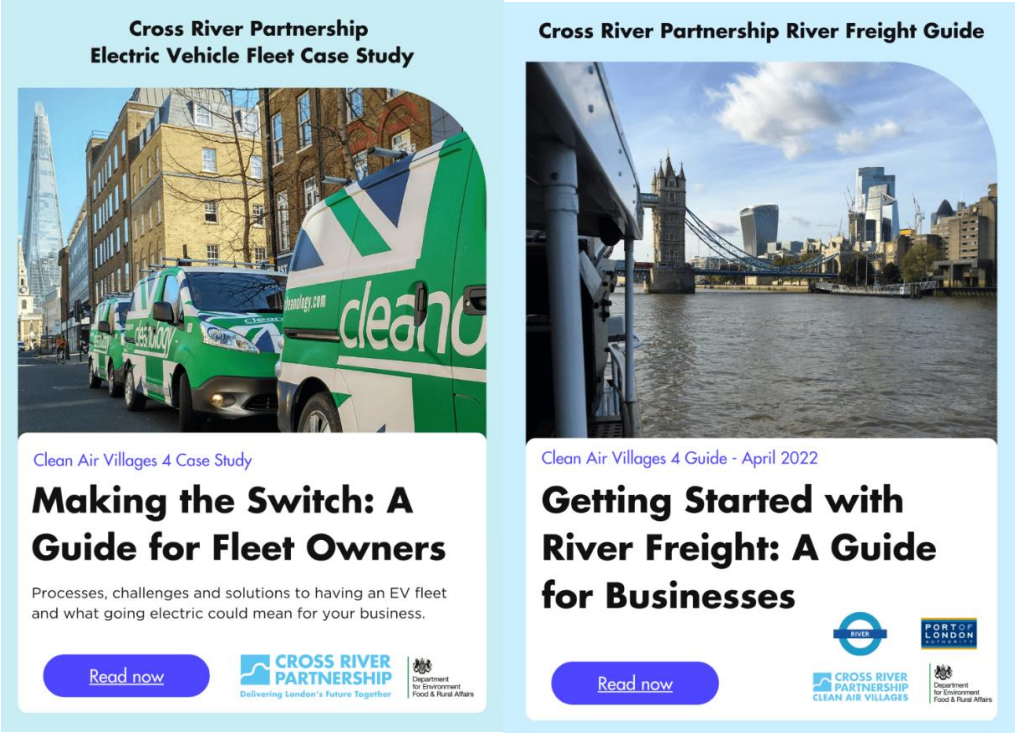


Figure 14: Two CAV4 case studies

Figure 65: Wimbledon Cargo Bike case study - LinkedIn post

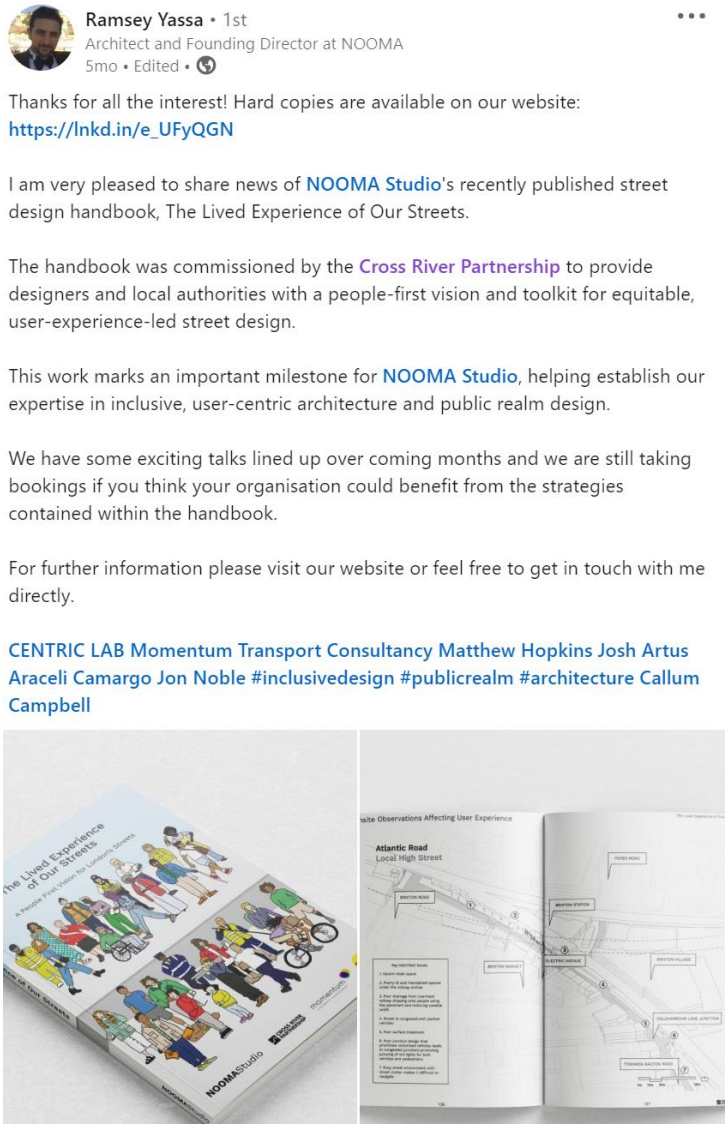


Figure 66: CRP's Toolkits promoted on LinkedIn

CRP's toolkits and case studies were mentioned in the following articles (in addition to the aforementioned publications)

- 'CRP issues new guidance on rapid charging hubs for councils and landowners' – CiTTi
- 'Cross River Partnership published EV transition guidance for fleets' – CommercialFleet
- 'River Freight Business Guide' – Tidal Thames News/Port of London Authority
- 'EMSOL Selected by Cross River Partnership to Monitor Freight Movements' – EMSOL

Quote from business/partner/consultants etc.

"Our river freight service started off as a piece of blue sky thinking about how we could improve efficiency and reduce emissions in London. The great support we have had from both the Port of London Authority and Transport for London has been critical in launching the service. Guides such as this one will be incredibly helpful to other businesses looking to make a splash in this area."

Ben Hiles, Senior Director for Infrastructure, DHL Express UK

"River freight can be a vital part of London's future. With an increased emphasis on sustainability and the need for just-in-time deliveries in today's society, people are beginning to see the value of delivering goods on the river. CRP's guide and the advice and contacts within it, including the PLA, will help businesses thinking of using the tidal Thames with their first steps towards river freight."

James Trimmer, Director of Planning and Environment, Port of London Authority

6.6 – Air Quality Monitoring

Summary

Utilising CRP's specialist knowledge, monitoring studies and solutions were implemented, as appropriate, across a range of the freight solutions. EV dongles have previously been found to be highly effective in providing understanding and reassurance to businesses considering switching to electric. These were therefore offered as part of CAV4. CRP has also provided traffic monitoring data analysis for project partners, this has supported a range of interventions. CRP also provided a study of the AQ and noise emissions of the GSTT/CEVA river freight trial.

Estimated emissions savings across the different freight interventions have been calculated using CRP's in-house emissions calculator, called Transport Emissions Calculator. These can be found under each intervention in the Project Outcomes section.

Main achievement

- **21 telematic dongles were provided to seven businesses** helping them to understand the benefits of switching their fleet to EVs
- **Traffic monitoring data capture and analysis was completed with three CAV4 partners**
- An **AQ and noise study of a vessel and two piers**, in relation to a river freight trial took place

6.6.1 – EV dongles (Barnet, Brent, Cadogan and Hammersmith & Fulham)

Summary of aims

The CAV4 project aimed to deliver innovative projects that will improve local air quality that are **backed by robust evidence and designed to share best practice**. **Telematic electric mobility 'dongles'** were procured to provide financial evidence to support businesses that were considering switching from diesel to electric vehicles.

Engagement/process

CRP engaged with **97 businesses** to encourage the use of EV dongles.

Once a business indicated their interest in this initiative they would be asked to fill out an **installation sheet detailing their vehicle information**. This would then be sent to an installation company who would arrange to install the telematic dongle at a convenient time for the business.

The dongle would then **monitor the vehicle(s) for a period of between one and three months**. This included monitoring elements such as speed, distance, stopping points as well as information such as the number of trips within London's congestion and Ultra Low Emission Zone.

Once the monitoring period was complete, this data would be processed as part of Geotabs' (the provider) **Electric Vehicle Suitability Assessment (EVSA)**. This would identify the benefits of switching the vehicle to an EV, as well as showing suitable options that are available on the market and the associated cost savings that could result from switching. The reports also provided a comparison between leasing and procuring an EV.

CRP then used the information provided from the EVSA to create a **simple and digestible report** which was then provided to the business to help them understand their options and next steps.

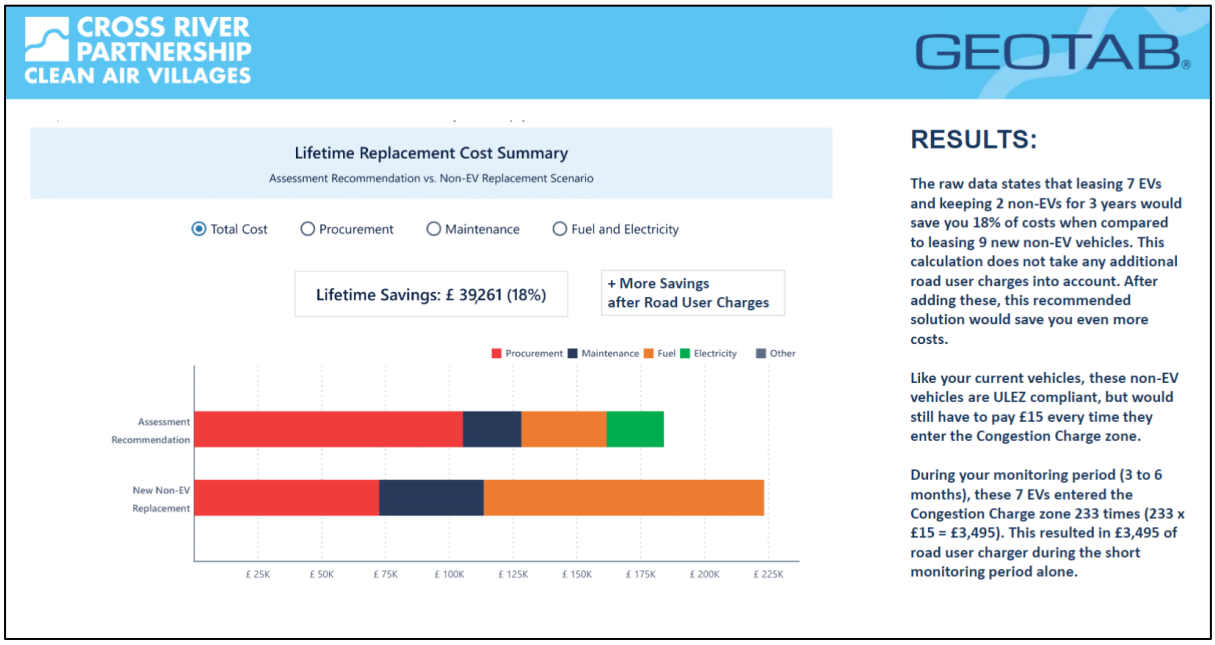


Figure 67: Snapshot from an EVSA

Delivery/achievements

CRP procured GeoTab and Eco-Track to provide the EV dongle service. Consequently, the following achievements were accomplished:

- **21 telematic dongles** were sent to **seven participating businesses**
- **7 Electric Vehicle Suitability Assessments were created to help businesses understand their options for transitioning to EVs**
- The data provided has **helped to inform Cadogan where to install new EV chargers** across their estate

CRP also helped the participating businesses to understand the data and reports provided to make sure they felt supported with their next steps when transitioning to EV. A table of the businesses can be seen below.

Business	Associated Borough / Partner	Number of Dongles
Greenzone	Cadogan	9
Hub Property Care	Cadogan	1
Kwikjet	Cadogan	1
Natural History Museum	RBKC	4
Phase Electrical	Cadogan	1
Portobello Brewing	Hammersmith & Fulham	4
The Regency Club	Brent	1

Table 29: Businesses who used the EV Dongles

Challenges

There were two distinct challenges relating to the implementation of the EV dongles: **privacy concerns** and **installation issues.**

The main challenge CRP faced around privacy concerns was with regards to staff from Imperial College Hospital. Hammersmith & Fulham were very keen to get organisations in the health sector to transition to EV as it has positive impacts on public health. **Imperial College Hospitals was identified as a suitable option as greening the fleet formed a key part of their sustainability objectives**. Consequently, following positive meetings with the hospital, their renal fleet was identified as being suitable for the EV dongles and we were given the green light by the hospital's sustainability & improvement manager. However, despite the dongles being sent out, once the staff became aware of the initiative, several concerns were raised around privacy. These included:

- Concerns the dongles would **monitor the performance of the car/individual**
- Concerns around the monitoring of vehicle speed and the implications on staff if they were **seen to be speeding**
- Concerns around the **psychological / mental health impacts** on an individual who is being monitored with the device

Following these concerns, CRP had several meetings with staff where we highlighted that the purpose of the project was solely to look at the vehicle emissions impact and not to monitor staff. Despite this, it was eventually decided that the dongles would not be taken forward as the hospital did not want to be seen as putting additional stress on their staff.

CRP then explored the **possibility of installing dongles onto some of the hospital's DHL hopper buses**. However, these already had other monitoring devices installed and so we were not able to install the telematic dongles to gather data for our analysis.

The second challenge that CRP faced related to installing the dongles themselves. Many businesses who we contacted stated **they did not have the time for the installations** to take place and as a result would not be able to take the initiative forward. Similarly, it sometimes took up to two months to **find a suitable date** for the installation of the dongles due to limitations around when vehicles were available and the working hours of the dongle provider.

Finally, another challenge that CRP faced on several occasions related **to getting sign off for the scheme**. For example, we would often be told by a staff member that the dongle information would be sent to their manager or a business's owner in order to make a decision, but despite following up

it was unclear if this actually happened, and we could not get an appropriate response. These challenges slowed down or halted proceedings considerably.

Local communications

CRP created a flyer and several other communication assets that were promoted across social media and shared by partners. We also created a survey to assist with the installation of any dongles. A screenshot of the flyer can be seen below.

Figure 68: Social media and promotional materials

Quote from business/partner/consultants etc.

"As we look to improve our local air quality and support our suppliers move towards electric vehicles, Cadogan is pleased to have been working with Cross River Partnership and Geotab as part of CRP's Defra-funded Clean Air Villages programme. The information we've gathered has enabled us to make informed, data-based decisions on which vehicles are best suited to our different suppliers, and how we can best support them with relevant charging infrastructure. This is a key step on our journey towards a more sustainable Chelsea."

Kate Neale, Head of Sustainability, Cadogan

Impact (emissions savings)

Following the completion of the EVSA's, one business (Greenzone), indicated that they would transition their fleet to EV as per the recommendations. This would involve changing eight vehicles to electric alternatives. Based on the distances that these vehicles travelled over one month (February was chosen as it was the only period when all vehicles were being monitored by EV dongles), the below emissions savings have been calculated. The calculations also take into account that it would take some time for the new vehicles to be procured, and therefore emission savings have only been calculated for six months.

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
42338.4	3711.1	2126.0	15543.4

Table 30: EV dongles projected emissions saving 2022-2023.

6.6.2.1- VivaCity traffic monitoring – The Fitzrovia Partnership

Summary of aims

As part of CAV4, The Fitzrovia Partnership (BID) asked for CRP's support regarding **traffic monitoring and data analysis** to understand the **impacts of the ULEZ expansion** in October 2021 and any **yearly comparisons** from the previous CAV3 project.

Engagement/process

As the locations for the monitoring were the same as those associated with the CAV3 programme, it was a fairly simple process to get the VivaCity sensors reinstalled. Once permissions had been provided from The Fitzrovia Partnership, the **VivaCity sensors were re-installed on Charlotte Street and Warren Street for a period of three months**.

Delivery/achievements

The main aim of the monitoring was to **understand the impact of the ULEZ expansion** on 25th October 2022. Despite a very tight timeframe, the sensors were able to be installed on 21st October, just **before the expansion took place**. **Monitoring was then undertaken for a period of three**

months and **comparisons were made between the previous data analysis** and reporting (from CAV3) to see if there were any clear differences in patterns between the two data sets.

Consequently, a **detailed report was created** for The Fitzrovia Partnership that included analysis on **classified counts** (pedestrians, cyclists, cars, motorcycles, LGVs, HGVs, OGV1s, OGV2s and buses), **emissions data, ULEZ impacts and yearly comparisons**.

These findings have **helped to support The Fitzrovia Partnership** with a strong understanding of transport and local air quality impacts enabling them to make **data-based decisions** on air quality, sustainability, and transport initiatives in the local area.

Challenges

The only challenge was the **tight turnaround** to get sensors installed before the ULEZ expansion. However, this was achieved.

Local communications

No communications were created for the reporting as it involved **sensitive data** that The Fitzrovia Partnership did not want to publicise. However, a screenshot of the report can be seen below.

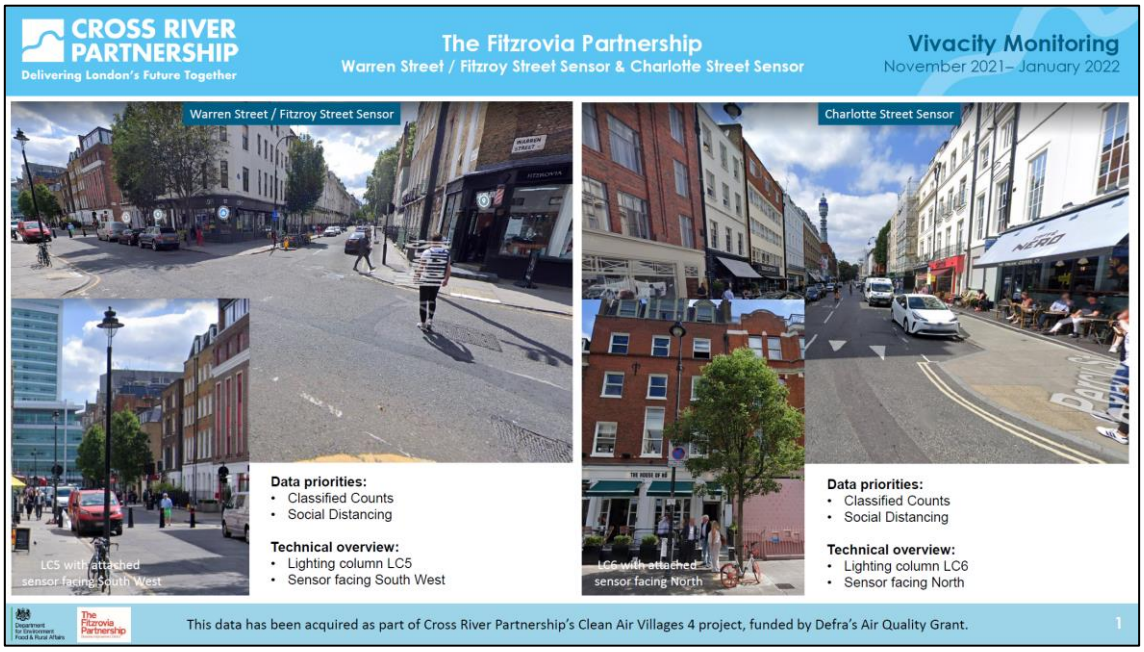


Figure 69: Front Cover of the Fitzrovia Report

6.6.2.2- VivaCity traffic monitoring – South Bank BID

Summary of aims

CRP had worked with South Bank BID to support them with their ongoing data analysis and monitoring services by providing them with **detailed motorised and non-motorised traffic data and estimated emissions calculations** through the CAV4 project. This supports South Bank BID's continued approach of **evidence-based decision-making** around emissions, sustainable transport, traffic and the public realm.

Engagement/process

CRP had been working with South Bank BID since Clean Air Villages 3 to deliver tailored data analysis and monitoring services using data collected by VivaCity's artificial intelligence traffic sensors. CRP had worked with VivaCity and South Bank BID to install **five sensors across the South Bank BID area** that were in place by the start of the Clean Air Villages 4 project (1st April 2021).

CRP provided South Bank BID with quarterly data analysis and monitoring services at each sensor location that explored:

- Pedestrian and cyclist counts
- Motorised traffic counts including for cars, motorcycles, vans, lorries and buses
- Average pedestrian and cyclist counts throughout the day
- Average motorised traffic counts including for cars, motorcycles, vans, lorries and buses
- Estimated emissions calculations, using CRP's updated Transport Emissions Calculator (previously called measureBEST), for cars, vans and lorries based on off-peak, morning peak, inter-peak and evening peak time periods

As part of Clean Air Villages 4, **South Bank BID asked to extend the monitoring programme** to the end of CAV4, with some financial support from the Defra Air Quality Grant due to the support that this provides South Bank BID with understanding and tackling vehicle emissions in the local area. This had continued to support South Bank BID's continued approach of evidence-based decision-making around the emissions, sustainable transport, traffic and the public realm.

Delivery/achievements

CRP provided South Bank BID with tailored reports for each sensor across pedestrian, cyclist, car, motorcyclist, van (LGVs), lorries (OGV1), articulates (OGV2) and buses. **The sensor reports were produced quarterly with one report per sensor per quarter**, covering the data from the CAV4 programme. An additional report was produced in March 2022 covering just one months' worth of data to enable CRP to work in the formal quarters of the financial calendar year. This gave a total for **30 reports provided to South Bank BID**.

A critical feature of the reports was using real traffic and movement data to calculate emissions at peak, inter-peak and off-peak times, to support South Bank BID with a strong understanding of the local air quality impact. This once again feeds into the decision-making on air quality, sustainability and transport in the local area.

Challenges

There were no challenges in producing reports for South Bank BID.

Local communications

No communications were created for the reporting as it involved sensitive data that South Bank BID did not want to publicise. However, a screenshot of the report can be seen below.

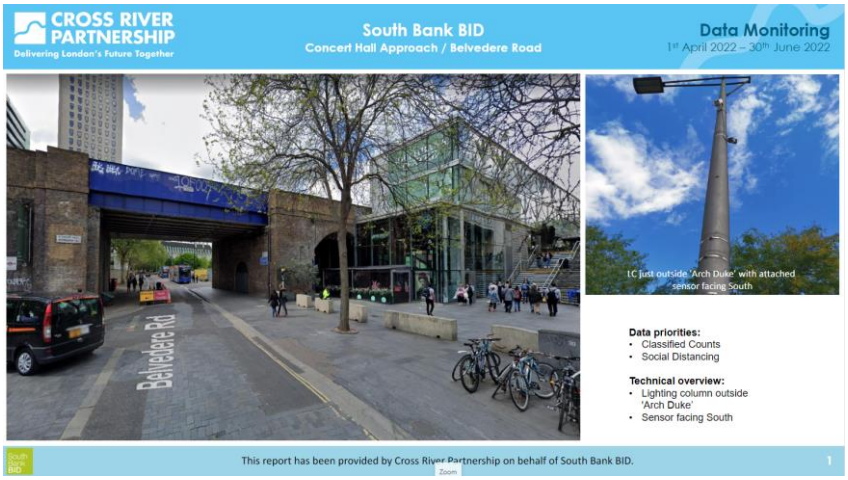


Figure 70: A screenshot of the report delivered for South Bank BID for 1st April 2022 – 30th June 2022

Quote from business/partner/consultants etc.

"CRP's VivaCity reports have supported South Bank BID's ongoing work in the area in understanding the movements of people, cyclists and vehicles and the associated emissions in the area. This data has proved key in supporting our strategies for air quality and public realm and has enabled us to make evidence-based decisions on the place management of our local area."

Abdel Najid, Head of Place Management, South Bank BID

6.6.2.3- VivaCity traffic monitoring – Southwark

Summary of aims

As part of CAV4, the London Borough of Southwark approached CRP for **support with data analysis in the Peckham Air Quality Focus Area**[5]. They particularly wanted to understand more about the **air pollution levels in Rye Lane before and after it was reopened to buses and taxis** on 18th October 2021. The initial closure was associated with COVID-19 measures to enable more social distancing in the area during the pandemic.

Engagement/process

As Southwark already had a **VivaCity Sensor located on Rye Lane**, the first step was to gain access to the data. This was done through discussion with VivaCity, an organisation that CRP already works closely with. Once the data was made accessible, **analysis was undertaken for classified counts between the period of 1st September 2021 and 30th November 2021**.

However, as Southwark wanted a particular focus on bus emissions, **a methodology was created** that could **estimate the average emissions from one bus count on Rye Lane**. This took into account the **different bus types** that were routed through Rye Lane (ten bus routes were identified with

[5] Walworth was the chosen AQFA originally, as this was where the virtual loading bay trial would have taken place.

several bus types being used including hybrid buses, electric buses and diesel buses) and the **quantity of buses** associated with each route.

Following this, the **emissions associated with each bus were identified** and a calculation was made to **estimate the average emissions that a bus would create** based on the routes and bus frequency. Consequently it was calculated that the estimated average emission of one bus count on Rye Lane was:

- NOx: 0.2529 g/km * 0.025 km ≈ 0.006 g
- PM: 0.01245 g/km * 0.025 km ≈ 0.0003 g
- CO2: 830.685 g/km * 0.025 km ≈ 20.77 g

(Note: g per 25m was used as VivaCity sensors scan a distance of 25m)

These calculations were then used to estimate the impact of buses on local emissions. Additionally, estimated emissions were calculated for Car, LGV and OGVs using CRP's in-house Transport Emissions Calculator tool. This assumes an average vehicle speed, determined by the location (central, inner or outer London) and time period (e.g. morning peak), based on TfL data.

Delivery/achievements

A **detailed report was created** for London Borough of Southwark that included analysis on **classified counts** (pedestrians, cyclists, cars, motorcycles, LGVs, HGVs, OGV1s, OGV2s and buses) as well as **emissions data associated with cars, LGVs, HGVs and buses.** Additionally, a robust methodology was identified to **estimate emissions associated with buses** based on the current TfL bus fleet that services the local area.

The findings highlighted that **bus emissions were highest during the PM peak on weekdays** and during **inter-peak periods on weekends**. Additionally, after Rye Lane was reopened, **average LGV numbers were higher** than the LGV levels before the 18th October 2021.

Challenges

The main challenge was **identifying a suitable methodology to calculate estimated bus emissions** in the local area.

Local communications

No communications were created for the reporting as it involved **sensitive data** that the London Borough of Southwark did not want to publicise. However, a screenshot of the report can be seen below.

Figure 71: A screenshot of the report delivered for the London Borough of Southwark

6.6.2.3 - VivaCity traffic monitoring – Pier Monitoring

Summary of aims

CRP has commissioned VivaCity to install ten sensors across London at strategic pier locations on the Thames. This is enabling CRP to understand **how light freight can best be integrated** with existing movements on and off piers, and the surrounding areas, to support the continued resurgence of light freight on the River Thames.

Engagement/process

In March 2022, CRP explored the idea of understanding movements of pedestrians, cyclists and motorised traffic vehicles onto and around piers on the Thames in London. This was born from CRP's Light Freight: Design Solutions for Thames River Infrastructure and CRP's Getting Started with River Freight: A Guide for Businesses, which both identified the need to understand passenger and cyclist movements at piers, and explored how cargo bikes can be best integrated with existing infrastructure.

In March 2022, **CRP commissioned VivaCity to install ten sensors across London at strategic pier locations on the Thames**, which were to be decided by the final outcomes of the research, trials and projects that CRP was delivering for CAV4. This would support CRP to understand how light freight can best be integrated with existing movements on and off piers, and the surrounding areas, to support the continued resurgence of light freight on the River Thames.

In June 2022, **the first sensor was installed at Wood's Quay, on Victoria Embankment**. This was chosen as it is the site of the **Northbank river freight trial**, delivering office supplies from Dartford stopping at Woolwich *en route* and delivering to the final destination of Wood's Quay. The onward

journey delivery would then be made by cargo bike to businesses in the Northbank BID area and beyond.

The other nine sensors are still to be installed with permissions currently sought for installation following the completion of the CAV4 project. The data will be used extensively to support CRP's activities in the Defra AQ Grant-funded, Clean Air Logistics for London project.

Delivery/achievements

CRP commissioned VivaCity to install ten sensors across London at strategic pier locations on the Thames. The first sensor was installed at Wood's Quay, on Victoria Embankment, in June 2022, to analyse the impact of the river freight trial being delivered by Northbank BID.

Challenges

One major challenge that CRP has found in the installation of the sensors **is understanding and finding the right landowner and pier owner around the piers in London**. This meant that it was challenging to find the right contact for the installations, often with separate pier and landowners, which could either be public or private sector or a strategic agency, such as TfL. As a result, this delayed some installations.

Another challenge was the piers may not have had the correct infrastructure to have a sensor attached to them. Some piers do not have high enough lighting columns located on or next to the pier, which meant that sensors could not be installed as they **could be targeted for vandalism and may not have the right height and angle for accurate counts**. Some piers therefore needed to be discounted from CRP's initial list for this reason.

Local communications

No communications were created as the sensor had not collected data for an adequate amount of time for analysis to take place. Additionally, the data is sensitive and therefore will not be publicised.

6.6.3- EMSOL river freight trial monitoring

Summary of aims

As part of CAV4, CRP wanted to **understand and share more about air and noise pollution impacts from river freight**. **CRP therefore worked with Guy's & St Thomas' Trust (GSTT), CEVA Logistics, EMSOL and the pier and vessel owners, to monitor and analyse the impact of the GSTT and CEVA river freight trial.**

Engagement/process

CRP approached GSTT and CEVA in relation to their river freight trial. The trial brought goods from CEVA's Dartford consolidation centre to DIFT, here the goods (medical supplies) were loaded onto a vessel and taken up the river Thames to Butler's Wharf, in the London Borough of Southwark. It was agreed that **CRP would conduct a study as part of CAV4 that would monitor the two pier locations and the vessel**. This would take place over four months (September 2021 to January 2022).

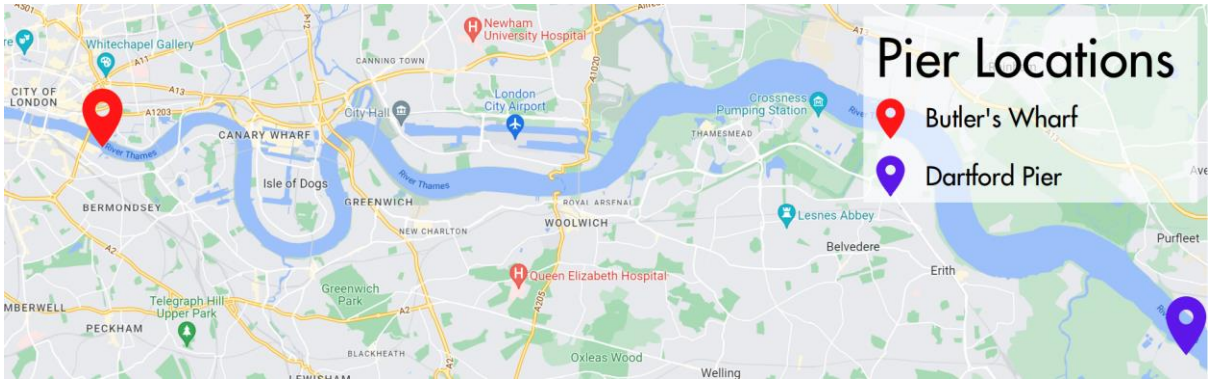


Figure 72: A map to show the loading and unloading locations along the river of the GSTT goods

CRP procured EMSOL to deliver the data collection and analysis. **Monthly meetings took place to discuss preliminary findings**. Team London Bridge BID were also involved in these meetings, as Butler's Wharf was in their area.

Delivery/achievements

A **detailed study** **was published in March 2022** and a **summary document** can be found here. Key findings were:

- That **WHO guidelines were too stringent and Defra guidelines were too lenient**
- **Cold engine starts and excess idling cause an excess of NO2**
- A **night service** could **minimise pollution spikes**
- **Education of boat skippers on speed and operations** would reduce emissions
- Bends in the river were found to be **pollution hotspots**
- Pollution was higher where **speed limits** were higher
- EMSOL's sensors were compared with London Air Quality Network sensors and the hotspots did not correlate. **The river freight activity was therefore found to be the cause of spikes in pollution at the pier locations being monitored**
- The **noise from river freight is negligible**, suggesting that a night service could operate without affecting riverside communities

Further details, including key recommendations and future opportunities can be found in the full study.

Challenges

CRP and EMSOL were not able to compare the pollution generated from Hydrotreated Vegetable Oil with data from a diesel vessel.

Local communications

A press release was sent out in March 2022, showcasing the study. CRP also produced and published a summary version of the study.

EMSOL presented the preliminary findings of the study at CRP's online Lunchtime Launch event on 16th December 2021. This event was attended by 84 people, with 46 views afterwards.

EMSOL also provided an in-depth presentation of the findings at the CAV4 Q4 steering group meeting, which took place on 21st April 2022. The CAV4 partners were able to ask questions and the Port of London Authority were also able to answer technical questions in relation to river freight.

Quote from business/partner/consultants etc.

"CAV4 has provided the opportunity to scientifically assess the environmental opportunities and challenges associated with moving freight from road to river. CRP and partners have enabled EMSOL to evidence scalable technology for air and noise pollution management for piers along the River Thames. EMSOL values and remains committed to being part of the solution to reducing harmful freight emissions from our capital"

Freddie Talberg, Founder & CEO, EMSOL

6.6.4- Environmental audits

Summary of aims

Following the efforts that went into delivering a shared EV for the London Borough of Richmond upon Thames (LBRuT), and then the exploration of a waste consolidation scheme, by this point there were only a few months left of CAV4. **LBRuT were keen to offer environmental audits and certification for their businesses**. The aims of the audits were to fund an external specialist to assess the operations of businesses and **make recommendations for improvements**. Funding would also be provided for businesses to implement recommendations.

Engagement/process

CRP worked with LBRuT to see if there was interest from Church Street traders in Twickenham. CRP and LBRuT also met with the London Borough of Kingston Upon Thames (LBK), who had recently delivered a scheme called the Green Business Challenge, with an organisation called Carbon Architecture. Their experiences fed into what LBRuT wanted to take place in their borough.

CRP and LBRuT met Carbon Architecture to find out more. They offered a Green Mark accreditation and an Environment Management System, which requires a business to establish its current position in relation to its broad environmental impact. Once the operational baseline is understood, the process is all about creating a framework for the delivery of a time-framed action plan.

CRP spoke with **Twickenham BID board members to gauge interest**. There was an initial hesitancy about an audit either sounding like too much commitment, or that businesses could be assessed and made to look bad. It was important to reassure businesses that the idea of the scheme was to be positive and to promote the certification as a selling point. Feedback from a LBK event was extremely positive and even businesses that considered themselves to be 'green' found that there was much more that they could be doing.

Delivery/achievements

Due to time constraints, CRP and LBRuT agreed that CRP would produce a 'roadmap', or guidance document for LBRuT to use to **deliver the audits beyond CAV4**. CRP produced this and it contained the following:

- Summary of aims

- Key contacts
- Key milestones
- Financial breakdown
- Carbon Architectures Outputs
    - Theme 1: Energy
    - Theme 2: Water
    - Theme 3: Waste Management / Minimisation
    - Theme 4: Storage & handling of potential pollutants
    - Theme 5: Sustainable Travel
    - Theme 6: Purchase & Procurement
    - Theme 7: Biodiversity
- Long term aims
- AQ measures
- Comms strategy
- Engagement
- Alternative providers
- Next steps

LBRuT will work with a provider to deliver the environmental audits in 2022/23, with up to 15 businesses benefitting from the scheme.

Challenges

There was a certain amount of scepticism, or suspicion from businesses about what the audits might mean for them. It is therefore important to show that the audits are meant to be helpful, rather than critical. It is also important for businesses to understand how much of their time it might take up if they take part.

The main challenge for CAV4 was time constraints for delivery. As other intervention options for LBRuT had been considered for CAV4, by the time they had been, unfortunately, ruled out, there did not remain enough time to deliver the environmental audits.

Local communications

As the environmental audits were not delivered, no comms took place. CRP conducted engagement over the phone.

Below is a sample from LBK's website promoting their Green Mark scheme. Similar comms can be used when LBRuT deliver their own audits.

Figure 73: A LBK Green Mark tweet and link to their survey

Impact (emissions savings)

If five businesses receive financial support and within the timeframes, one business switches to an EV and one business switches from a car to an e-cargo bike, then the following emissions savings would be the result. Based on the EV driving a modest 50 miles per week and the cargo bike a conservative 10 miles per week. These have been calculated across a six-month period.

Projected emissions savings 2022-2023			
NOX (g)	PM2.5 (g)	PM10 (g)	CO2 (kg)
1.44	0.02	0.03	658.32

Table 31: Richmond environmental audits projected emissions saving 2022-2023.

7. Dissemination

With the help of project partners, stakeholders and engaged businesses, CRP has **communicated extensively about the Clean Air Villages 4 project**. In addition to the wider business community, CRP communicated project progress and findings to strategic agencies in London, London Boroughs, Business Improvement Districts and other CRP Partners. Table 32 below provides an overview of dissemination outputs versus the original targets.

Target as per proposal	Output
Develop 7 case studies, best practice/how-to-guides/toolkits	15 case studies, toolkits and guidance documents created and distributed widely
Deliver 9 knowledge sharing events	15 took place (9 Lunchtime Launch events, 6 Connect 4 events)
5 Stakeholder steering group meetings	Stakeholder steering group meetings held with partners invited to attend all: • 15 July 2021 • 14 October 2021 • 20 January 2022 • 21 April 2022 • 14 July 2022
5 Quarterly project update reports and one overall project evaluation report	Herewith complete

Table 32: Summary of CAV4 targets and outputs

7.1 External events

CRP attended and presented about CAV4 at 21 events during the project. Each event was a great opportunity for networking around air quality.

Name of Event	Date
Chartered Institute of Environmental Health Air Quality Conference	21/4/2021
Landor series: E-cargo bikes in action	27/4/2021
Fitzrovia Sustainability Forum	18/5/2021
Association of Town & City Management meeting	10/6/2021
Air Quality Forum 2021	20/5/21
Greater London Freight Partnership	22/6/2021
Quarterly Sustainable Forum with Museums	22/6/2021
Angel BID Sustainability Forum	23/6/2021
Hammersmith BID Transport Forum	14/7/2021
CLFQP- Central London Freight Quality Partnership	15/7/2021
LoTAG/Urban Design London event on Air Quality	22/9/2021
Small Business Saturday: The Tour 2021	29/11/2021
FSB: London Net Zero Roundtable Series: Your Countdown to COP26	22/10/2021
Future Cities Forum on Achieving Net Zero	19/10/2021
The Local Government Climate Action Conference 2021	6/10/2021

Enhanced Environment - Brixton BID	3/2/2022
TfL Safe and Sustainable Deliveries webinar	9/2/2022
PLA Chairman's Reception, Woods Quay	28/3/2022
Stronger Things 2022	30/3/2022
Logistics UK – Light Freight on the Thames	16/5/2022
Quarterly Sustainable Forum with Museums	19/6/2022

Table 33: Events where CRP staff have spoken/presented

7.2 Instagram

Instagram was utilised as a valuable social media platform for the project, launched on Clean Air Day 2021 to promote CRP's Clean Air Tool. This platform was used in tandem with CRP's LinkedIn, Twitter, Facebook and YouTube platforms to promote CAV4 activities.

The tool enabled wider outreach and stronger impact messaging. CRP engages with partners via Instagram, and the page has shown value in terms of engagement and interaction with businesses and community groups in the CAV4 focus areas. CRP's Instagram page has gained good traction and has been well received, with a wide audience of followers.

Please see section 6.5.2 for further details on the launch of Instagram and the benefits of the platform.

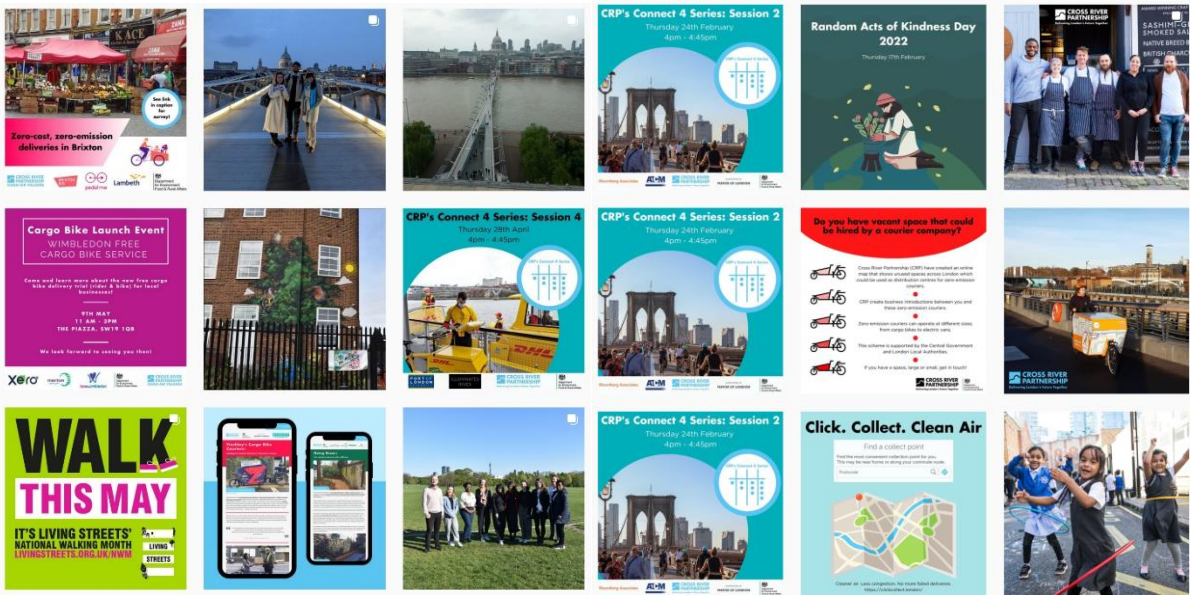


Figure 74: Examples of CRP's social media posts

Social media campaigns for CAV4 included:

- **Clean Air Day campaign**

CRP launched the CAV3 Clean Air Tool and engaged with new Instagram followers on the CAV4 project.

- **Plastic Free July campaign**

CRP used Instagram to promote businesses who were listed on the CRP Clean Air Villages Directory and also are plastic free/zero waste. This included promoting offers from these businesses using Reels, images and videos.

- **Clean Air Christmas**

CRP promoted businesses listed on the CRP Clean Air Villages Directory, including their Christmas offers. This encouraged more zero emission deliveries in London.

- **CAV4 Countdown**

CRP spoke with partners and launched a campaign to celebrate the end of the project. This summarised project outputs, emissions savings and key partners.

7.3 Lunchtime Launches / CRP's Connect 4 Series

Lunchtime Launches and CRP's Connect 4 Series have both proven **useful knowledge sharing initiatives**. **All sessions addressed air quality and CAV4** and all sessions are promoted to a wide audience via CRP's communications channels.

The Lunchtime Launch series (which began in January 2021) attracted a wide range of participants. Taking place on the last Thursday of each month, these sessions were interactive online discussions, showcasing the innovative projects that CRP is delivering to drive positive change for London's residents, businesses and visitors. These events began in January 2021 and continued until December 2021.

When signing up via the session's Eventbrite page, each attendee had the option to ask questions pre-event, which CRP passes on to external speakers. Every person who registers for the event is also followed up with – CRP shares the slides, recording and a detailed Q&A document from the event with all registrants. The sessions have enabled good discussion around clean air, sustainability and transport.

Within the CAV4 project timeline, there have been a total of six lunchtime launch sessions. Each session had at least one external speaker, a CRP speaker and a CRP chair. Each session also had a Q&A section, and each registrant was followed up with, with a recording, slides and detailed Q&A sheet.

Following this success, CRP created a series of hybrid events for 2022, to continue from the success of the Lunchtime Launches – CRP's Connect 4 Series. These 45-minute-long events take place at 4pm on the last Thursday of each month, connecting speakers with an engaged audience.

Please see below for a table of each session for CRP's Connect 4 Series. Please see the Policy section for a detailed account of the Lunchtime Launch sessions.

Name and link to session	Month	Number of attendees	Number of YouTube views	Speakers	Documents launched
CRP's Connect 4 Series: Session 1	January 2022	81	57	Eleanor Marshall, Project Officer, Cross River Partnership Jane Wong, Architect, DSDHA Noel Shapton, Director, Delivering London Jamie Eagles, Director of Place, Better Bankside	Highways & Footways Accessibility Guidelines
CRP's Connect 4 Series: Session 2	February 2022	57	25	Ross Phillips, Sustainable Transport Manager, Cross River Partnership Ojay McDonald, Chief Executive, ATCM Gordon Innes, Bloomberg Associates	Global Streetscape Responses to COVID-19
CRP's Connect 4 Series: Session 3	March 2022	60	31	Isidora Rivera Vollmer, Project Officer, Cross River Partnership Ollie Bolderson, Principal Consultant, Momentum Mark Thirkell, Morag Robertson and Gordon Sutherland, Jacobs	CRP's CAV4 Rail Freight Study
CRP's Connect 4 Series: Session 4	April 2022	55	43	David Ebbrell, Project Officer, Cross River Partnership Alistair Gail, Director of Corporate Affairs, Strategy & Thames Vision, Port of London Authority Ciron Edwards, The Illuminated River Foundation	Light Freight: Design Solutions for Thames Freight Infrastructure River Freight Monitoring: Butler's Wharf and Dartford Pier Getting Started with River Freight: A Guide for Businesses
CRP's Connect 4 Series: Session 5	May 2022	51	20	Sefinat Otaru, Project Manager, Cross River Partnership	click.collect.london

				Gail Rowe, Customer Director, Liberty Charge Matteo Maccario, CEO, Pluvo	
CRP's Connect 4 Series: Session 6	June 2022	39	18	Ross Phillips, Sustainable Transport Manager, Cross River Partnership Fiona Jenkins, Associate, Steer Lucy Minyo, Public Realm Lead, Central District Alliance	Towards Vision Zero

Table 34: CRP's Connect 4 events during CAV4

7.4 ULEZ resources

CRP created ULEZ resources in Q1 of the project, which were well received by project partners and produced in advance of the ULEZ expansion in October 2021. There appears to be a lack of awareness of the expansion of the ULEZ and these are helpful for Local Authorities and Business Improvement Districts alike, to share amongst the business and resident communities. **CRP created these with TfL.** For a full summary, please see section 6.5.1.

Please see the resources below:

- Resident ULEZ Flow Chart
- Business ULEZ Flow Chart
- ULEZ, LEZ, Congestion Charge Cost Breakdowns

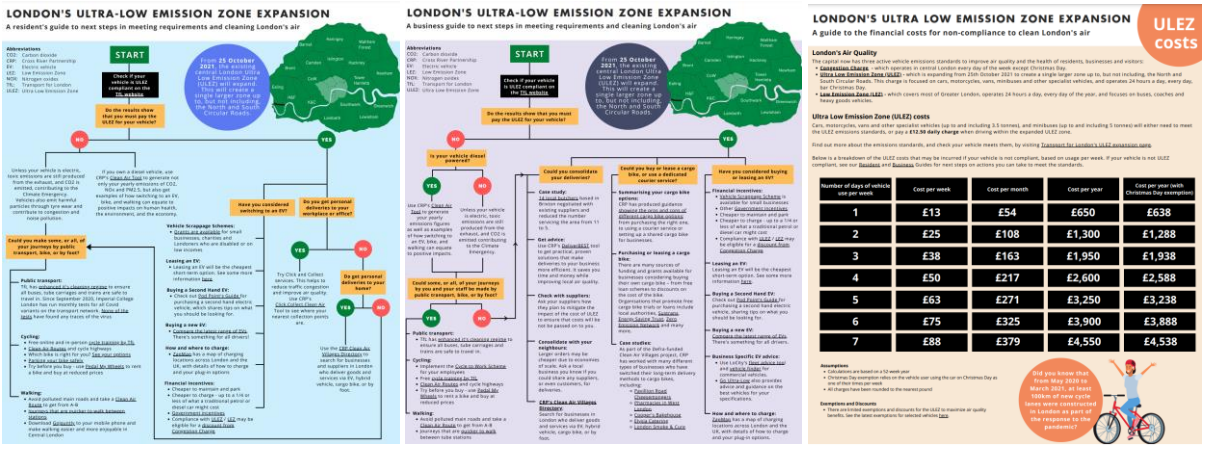


Figure 75: CRP's ULEZ guides for residents and businesses and financial guide

7.5 Case studies and toolkits

CRP developed case studies and toolkits for CAV4 as freight interventions took place. The combined target for CAV4 case studies and toolkits was seven, and this has been **exceeded as a total of 15 have been produced**.

For a more detailed looks at CRP's case studies and toolkits, including a table with links to all documents, please see the Policy section.

7.6 Sharing best practice

The collaboration of 26 different project partners on the Clean Air Villages 4 project allowed for **best practice exchange and the promotion of a coordinated approach to switching to zero emission modes to improve air quality across boroughs**.

A **project inception meeting** took place on 15th April 2021 to discuss project background, activities, targets and strategy. This was followed by **five quarterly steering group meetings**.

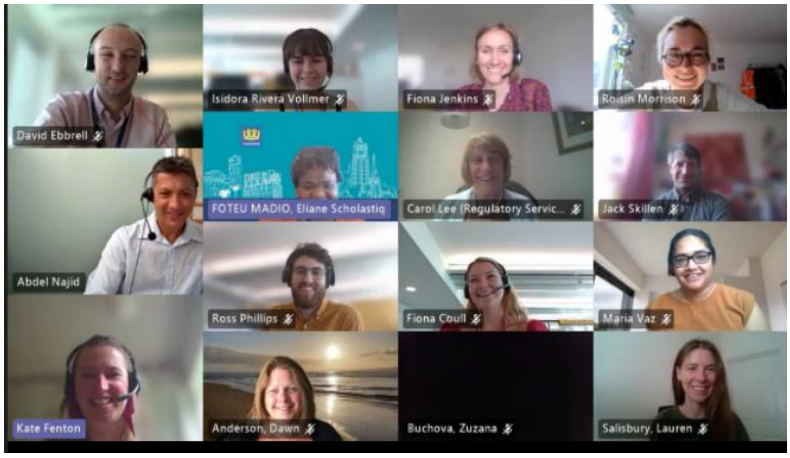


Figure 76: CAV4 partners at the final steering group meeting

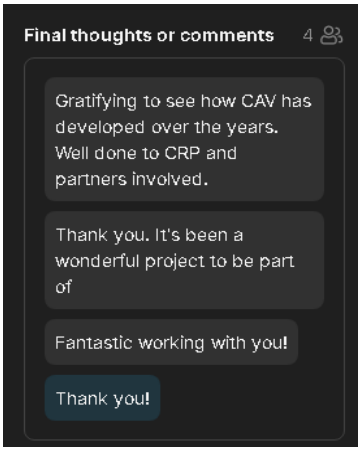


Figure 77: Slido responses showing feedback about CAV4

The quarterly steering group meetings took place as a regular catch up with the partners. CRP led **breakout rooms with AQ topics** to discuss in smaller groups. **CRP also invited consultants to present about the GSTT AQ monitoring study, about the pier infrastructure study and also the walking freight study**. These in-depth presentations provided an environment in which discussions could also take place. **The project partners were always invited to share about AQ activities** that were happening in their areas. These online meetings were recorded and shared with the partners afterwards.

In addition to the online event series, case studies and guidance documents, presenting and attending external events and online communications campaign, intervention-related communications took place. These can be found in the Project Outcomes section.

7.7 Other communications

Evidence of CRP CAV4 activities mentioned in external publications:

Publication	Link to Article	Date of Publication
Aeroqual	Creating a Network of Clean Air Urban Walking Routes Starts with Real-Time Air Monitoring	August 2021
Air Quality News	New project will monitor pollution on the Thames	August 2021
Air Quality News	New Clean Air Villages will improve London's air quality	March 2021
Apex Insight	London ULEZ rules tightened on PHEVs	October 2021
Automation	EMSOL selected by the Cross River Partnership to monitor air pollution and noise levels associated with river freight activity on the River Thames	August 2021
Barnet Together	Free Electric Vehicle Suitability Assessments for Businesses in Barnet	March 2022
Brent & Kilburn Times	Willesden Green businesses encouraged to swap car deliveries for cargo bikes	May 2022
CiTTi Magazine	River Freight: Water World	November 2021
CiTTi Magazine	Northbank BID offers free cargo bike courier service for zero-emission deliveries	August 2021
CiTTi Magazine	CRP issues new guidance on rapid charging hubs for councils and landowners	October 2021
CiTTi Magazine	London clean air village project delivers sustainable freight solutions	March 2021
CiTTi Magazine	New ULEZ resources to help vehicle owners	October 2021
CiTTi Magazine	Non-profit launches river freight pilot for cleaner air	July 2022
CommercialFleet	Cross River Partnership published EV transition guidance for fleets	February 2022
edie	Funding for Indigenous-led nature projects and London's latest e-cargo bikes: The sustainability success stories of the week	May 2022
edie	Ocean plastic prevention partnerships and Co-op's new circular bread beer: The sustainability success stories of the week	August 2022
EMSOL	EMSOL Selected by Cross River Partnership to Monitor Freight Movements	August 2021
Evening Standard The Leader Podcast	London's ULEZ Expansion: Why is it needed?	October 2021
Fleet News	Are river and rail the future of urban deliveries?	August 2022
FleetNews	ULEZ expansion to cost fleet £54m, says Masternaut	November 2021

FleetWorld	New fleet case studies to give guidance on EV switch	January 2022
GOV.UK	£9 million fund for local authorities to tackle air pollution	September 2021
Hammersmith BID	Cross River Partnership secures funding for Clean Air Villages 4	March 2021
Institute of Materials, Minerals & Mining	European Oxide Scale conference 2022	June 2022
Interchange UK	River freight trial offers Central London roads alternative	July 2022
Logistics UK	Join the river renaissance, Port of London Director urges Logistics UK delegates	May 2022
London Borough of Camden	Camden launches OurBike cargo bike scheme	August 2022
London Borough of Hammersmith and Fulham	Ultra Low Emission Zone	October 2021
London News Online	New clean air project funded by the government announced	March 2021
London News Online	Womble kickstarts cargo bike delivery scheme for businesses	May 2022
London SE1	Project to bring goods by river to Butler's Wharf wins Govt backing	March 2022
Port of London Authority	Cross River Partnership release new light freight study	March 2022
Port of London Authority	River Freight Business Guide	April 2022
Port of London Authority	Pushing the Envelope	July 2022
Public Sector Executive	Recognising the importance of air quality in London	October 2021
Smart Transport	Cross River Partnership launches last mile delivery tool for London	May 2021
Smart Transport	Local authorities awarded £5m for innovative air quality projects	March 2021
Smart Transport	How the drive to net-zero heralds a new era for transport and planning	January 2022
Sustainable Merton	New Clean Air Villages cargo bike trial launched in Merton for Wimbledon businesses	May 2022
Thames Estuary Growth Board	New Study Reveals the Potential to use London's Piers for Handling Light Freight on the River Thames	April 2022
The Fitzrovia Partnership	ULEZ expansion has come into effect	October 2021
The Northbank BID	Ultra Low Emission Zone (ULEZ) Expansion	October 2021
Transport Infrastructure News	Rail freight boost identified from London road pricing push	April 2022
Transport Infrastructure News	Rail freight boost identified from London road pricing push	April 2022
Victoria BID	Air quality	October 2021

Vivacity Labs	Cross River Partnership Showcases the Impact of Street Interventions Across London	June 2021

Table 35: CRP mentions in external publications

CRP also published **68 articles** about Clean Air Villages. All articles can be found on CRP's News page.

7.8 LinkedIn Air Quality Group

CRP's LinkedIn Air Quality Group, 'London Clean Air Community' has **grown since its creation as part of CAV3**. **The group has 111 members as of August 2022**, and continues to be a great knowledge sharing platform and community and network building environment for those interested in air quality in London.

8. Lessons Learned

Lessons learned is a highly valuable part of any project and CRP will apply these to future projects and hopes that other organisations will be able to find useful feedback here too. Where Freight Interventions have not worked out for CAV4, CRP has sought to understand why, for example, in the case of the circular economy scheme. A case study was produced for this. Successes are just as important as failures and CRP learns and shares from both.

The CAV4 quarterly steering group meetings moved online during the pandemic in 2020. The consequence was that **meetings could be recorded and shared with partners** who were unable to attend. Partners were also spared valuable time from travelling all over London. In January 2022, **Defra colleagues joined the third quarterly meeting, and subsequent meetings**. The outcome of this was that Defra were able to feed in directly to discussions with the wider group and in breakout rooms. This more 'hands-on' involvement is to be valued and welcomed in the future.

CRP produces and submits a Risk Register as part of the proposal for funding to Defra. In this, it shows the potential for certain eventualities, such as: new partners joining the project, issues or changes being required in relation to match-funding and Covid-related issues.

- CRP found that new partners wanted to join the CAV4 project and was able to on board these, with Defra's approval, as they were strategically significant to delivery, but the total number of project partners landing at 26 was a big number. **CRP has learnt that limiting the number of project partners enables us to fully manage the divergence of desires in relation to the project.**
- Linked with this were issues around, particularly, in-kind match-funding from BIDs. BIDs are often time poor and had been particularly squeezed since 2020. CRP was able to adjust match-funding contributions in some cases and was **highly flexible** about changes between cash and in-kind. On reflection, in-kind contributions from BIDs have been hard to meet and CRP therefore has learnt that they may be better placed to be unofficial / associate partners of some projects in the future and it is good to be aware of the pressures that partners are under.
- The final pre-empted **challenge was in relation to Covid-19**. With the majority of the population vaccinated and lockdowns no longer occurring, there were less unpredictable, last-minute restrictions to navigate. But, over the course of CAV4, there was a high degree of sickness/Covid-related absence in all areas of the project. From the CRP team and its partners' teams, to suppliers and their driver shortages, to businesses of all scales and types. Such absences do accumulate to contribute to delays in project delivery. CRP is a small team and has in place measures to ensure that the team can cover one another, should it be necessary. These processes have been fine-tuned, as such eventualities occur more frequently due to Covid-19.

Some of the lessons learnt by CRP during CAV4 include:

CRP should work to **support project partners to pin down their project preferences early and specifically**, in a quite directional way, to ensure that project deliverables are met and that the most is made of the funding opportunity for all stakeholders.

CRP also keeps an open mind with respect to **partners leaving or joining a project**. Resourcing, deliverables can all change quickly and there is a time lag between committing to a project and it launching.

Giving credit and praise to partners for their support and achievements is very important. Without the project partners, there would be no project. **Making the most of opportunities to support partners with their existing priorities creates synergy and a supportive environment and should take place whenever possible**. CRP also regularly seeks out **candid feedback** from the partners, for example, in smaller groups as part of the steering group meetings. There is also often an opportunity to send anonymous feedback via Slidos.

The value in developing excellent relationships across multiple departments of large organisations, such as Local Authorities helps the project gain momentum and brings **synergies with different departments working together towards common goals**.

CRP has continued to find an **increased awareness of the air quality issue**, an awareness which has grown year-on-year during CAV engagement. This has deepened as the climate crisis agenda has increased, but has been counteracted by the struggle that businesses have been under over the last two years, due to the pandemic. In many ways, **businesses are growing to be ever more socially and environmentally conscious**, there is greater awareness of cargo bikes, there are more cyclists, there's more appreciation of green spaces, the ULEZ area has expanded, Low Traffic Neighbourhoods have been present in the media, the Mayor of London has kept AQ on the agenda. On the flipside, **it is a great challenge linking deliveries with public health in the minds of a business** and it is often a better idea to show a business the benefits of an initiative that will save them money, rather than that it would improve AQ. Equally, CRP still finds and will continue to find that a small number of businesses do not want to engage about the topic. They struggle to see why it impacts on their business or have excuses as to why it is not their problem. **This is where the role of legislation becomes more important**.

Additional challenges with engagement are, as previously found, that **smaller businesses struggle to find the time to discuss AQ issues**, as other priorities take precedence. Therefore, the more that projects like CAV4 can **bring tangible opportunities** to a business, rather than conducting surveys or research, the better.

CRP found that **setting up cargo bike schemes in slightly less central boroughs of London brought with it new challenges**: cargo bike operators would not all deliver in these areas, as the journey there and back would take too long. Showcasing to such operators that there was demand in these areas was therefore important.

Anticipating and factoring in delays to pilots and trials is common sense, but factoring in even greater contingencies for time delays is also a good idea. External variables, are, after all, unpredictable. Knowing that it is worth the wait, once such trials or pilots are in operation, keeps the motivation going!

Tried and tested deliverables, like case studies and guidance documents continually prove their value. The CRP team frequently refer businesses to and use previous CAV publications for current projects and CAV4 is no exception. These also provide a way to celebrate project successes, which is an important element of project delivery, to celebrate both internally and externally. **CRP has also produced summaries of all reports commissioned as part of CAV4 and finds these more easily digestible to some parties**. CRP will continue to do this in future projects.

CRP finds that **setting quantifiable project targets for the team** (such as with the 1-2-1s) and delegating ownership of specific project elements leads to better outcomes and higher motivation. The team work hard to **capture all expected and extra project benefits throughout the project lifetime**, which are all reported to Defra and therefore shared as learnings. Linked with this, is that CRP knows that working on a plethora of leads and project elements all at the same time, is the best way to ensure project outputs are met.

Photos of people, partners and businesses bring case studies to life and CRP endeavours to take photos that capture project work succinctly. Aiming to generate excitement about interventions and sharing stories online about CAV4 is vital to **ensure that learnings are disseminated far and wide**.

Working with external consultants is something that CRP is well versed in. There have been instances where work from sub-contracted consultants has experienced delays. It is **critical to always write extremely clear project briefs**, which include many timetabled milestones. Having detailed contracts in place is also vital so that **all organisations know who is responsible for what**.

Finally, **CRP always endeavours to keep Defra, the project funder, fully informed about project developments, challenges and changes**, so that there are no surprises at the end of the project. **Good communication is essential for the project outcomes**.

9. Next Steps

Clean Air Logistics for London

CRP and partners are delighted to have been awarded further Air Quality Grant funding to deliver **Clean Air Logistics for London (CALL) in 2022/23**. CALL has been developed directly as a result of needs and potential uncovered during the delivery of CAV4. We look forward to continuing to work with Defra on air quality improvement initiatives.

The **12-month project** will see CRP working collaboratively, with **11 project partners** to move more freight into London via river rather than road, supported by a network of highly visible zero emission delivery methods across the central London area, including electric vehicles, cargo bikes and walking freight.

The 11 project partners for CALL include: City of Westminster (lead), London Boroughs of Hammersmith & Fulham, Islington, Lambeth, Lewisham, Southwark, Wandsworth, as well as Business Improvement Districts; The Fitzrovia Partnership and The Northbank BID, plus landowner Cadogan and strategic partner, the Port of London Authority.

CALL project activities have been estimated to bring about the following annual Air Quality emissions reductions:

- 193.8 g of NOx
- 6.8 g of PM2.5 and 13.2 g of PM10
- 84,407 kg of CO2

Clean Air Freight

CRP is delighted to have been **awarded funding from Impact on Urban Health** (Guy's & St Thomas' Trust Foundation) **to continue the CAV4 Brixton last mile logistics hub trial**. The funding has enabled a nine-month extension to the trial and includes a detailed evaluation of the findings. Impact on Urban Health have also **funded a detailed rail freight study** that will focus on stations in the London Boroughs of Lambeth and Southwark. This will build on the rail freight study delivered as part of CAV4.

HORIZON European Funding Bid

CRP is taking part in a collaborative trans-national European funding bid to the HORIZON funding source on a DISTRICT programme, which if successful will see London being a pilot city trialling **further innovative approaches to sustainable freight management**. This will include extra River Freight Trials, Walking Freight Trials, additional Parcel Lockers and further work on the Micro Hubs Logistics Map started with Defra funding. Any successful DISTRICT programme would run over the period 2023 – 2025, and would provide excellent complementarity with any future Defra funding allocations that CRP is fortunate enough to secure.

10. Contact

For further information please contact CRP Project Manager Kate Fenton at katefenton@crossriverpartnership.org or CRP Director Susannah Wilks at susannahwilks@crossriverpartnership.org

11 – Appendices

Appendix I - List of Tables

Appendix II - List of Figures

Appendix III - Table of all 1-2-1 meetings

	Name of Organisation	Type of meeting		Name of Organisation	Type of meeting		Name of Organisation	Type of meeting
1	3Space	A&G	**97**	GeoTab	A&G	**193**	Phase Electrical Services	A&G
2	ACOEM	PS	**98**	Getir	A&G	**194**	PLA, Hammersmith BID, Wandsworth Council	PS
3	Aesme Studio	A&G	**99**	Ghost Whale	PS	**195**	Pluvo	PS
4	Albertine	A&G	**100**	GL Hearn	PS	**196**	Pod Point	PS
5	Amazon Logistics	A&G	**101**	GLH	PS	**197**	Point Inside	PS
6	Angel / Islington	CAV4P	**102**	Go Link	PS	**198**	Polka Café	A&G
7	Annie's Ibiza	A&G	**103**	Grant Mills Wood	A&G	**199**	Pop Brixton	A&G
8	AnotherDay	PS	**104**	Great Portland Estates	PS		Port of London Authority	CAV4P
9	AQ consultants	PS	**105**	GreenZone	PS	**201**	Port of Tilbury London Limited	PS
10	Argent developers	A&G	**106**	Grosvenor, Momentum, Victoria BIDs	PS	**202**	Portobello Brewing	A&G
11	Arrival	PS	**107**	Guy's & St Thomas' Trust	PS	**203**	Principle (cleaning contractor)	A&G

12	Arval	PS		Guzzl	A&G	**204**	Proud Cabaret	A&G
13	Asahi	A&G	**109**	Hackney Council	PS		Putney BID & Wandsworth	PS
14	Atlas Uni-trade	PS	**110**	Hairitage	A&G	**206**	Quiver	PS
15	Aubergine Art	A&G	**111**	Hammersmith and Fulham	PS	**207**	Raybel Charters	A&G
16	Barnet	CAV4P	**112**	Hammersmith BID	A&G	**208**	RBKC	CAV4P
17	Bathroom Merchant Services	A&G	**113**	Healthy Eaters	PS	**209**	Re:London	PS
18	BDB Pitmans	A&G	**114**	Hermes	A&G	**210**	Red Giant	PS
19	Be Offices	A&G	**115**	Hootananny	CAV4P	**211**	Rex Removals & Clearance Ltd	A&G
20	Beer + Burger	A&G	**116**	Hospitality Source	CAV4P	**212**	Richmond	CAV4P
21	Benugo	A&G	**117**	HUB Property Care	A&G	**213**	Rio Grande	A&G
22	Beryl	PS	**118**	Hudson Fuggle	PS	**214**	Road Haulage Association	A&G
23	Better Bankside	CAV4P	**119**	Human Forest	A&G	**215**	Robert Dyas	A&G
24	Bexley Council/Sustrans	A&G	**120**	Ilford BID	PS	**216**	Round Table Books	A&G
25	Big Yellow Storage	A&G	**121**	Impact Brixton	A&G	**217**	Royal Trinity Hospice	A&G
26	BikeWorks	PS	**122**	Imperial College Healthcare Trust	PS	**218**	Samaritans Charity Shop Willesden Green	A&G
27	BLG/PLA: Matthew Clark & Hills Prospect	A&G	**123**	Incentive FM	A&G	**219**	Scope	A&G
28	Bliss Coffee	A&G	**124**	Innovation Gateway	A&G	**220**	Seanhanna	A&G
29	Borough Market	A&G	**125**	InStreatham	A&G	**221**	Shrewsbury Cup	PS
30	Brent	CAV4P	**126**	iREcycle, Complete, PLA, Northbank BID	A&G	**222**	Signs Print/Signs of Style	A&G
31	Brewery Logistics Group	PS	**127**	Islington	A&G	**223**	Silver Fleet	PS
32	British Land	A&G	**128**	i-Thai	A&G	**224**	Sister Ray	A&G
33	Brixton Blend	A&G	**129**	Jacobs (and TfL)	PS	**225**	Smarty Dry Cleaners	A&G
34	Brixton Brewery	A&G	**130**	Jellyfish Pictures	A&G	**226**	Social for Good	PS
35	Brixton Distillery	A&G	**131**	Jenvas Ltd	CAV4P	**227**	Solar Catcher	PS
36	Brixton Village	A&G	**132**	Junee	A&G	**228**	Source London	PS
37	Cadogan Estates	CAV4P	**133**	Just Park	PS	**229**	SouthBank BID	CAV4P
38	Café Mori	A&G	**134**	Kent Community Trust NHS	A&G	**230**	Southeastern Railway	PS
39	Camden Town Brewery	A&G	**135**	Kent County Council	A&G	**231**	Southwark & Westminster	PS
40	Camden Town Unlimited	CAV4P	**136**	Kerb (Grid) and WCC planning meeting	PS	**232**	Southwark Council	CAV4P
41	Cancer Research UK	A&G	**137**	King Falafel	PS	**233**	Sparkle O'Hara	A&G
42	Capco	A&G	**138**	King's College Hospital & MP Smarter Travel	A&G	**234**	Specialist Cellars	A&G
43	Carbon Architecture	PS	**139**	King's College London	CAV4P	**235**	Steer	PS
44	Cass Art Soho	A&G	**140**	Kingston LA	PS	**236**	Stems Wilder	A&G

45	CBRE	PS	**141**	Kitty Fisher's Group	A&G	**237**	STSL	A&G
46	Central District Alliance	CAV4P	**142**	Kricket	A&G	**238**	Sustainable Merton	A&G
47	CEVA EMSOL Livett's	PS	**143**	Kwik Jet	A&G	**239**	Sustrans	A&G
48	CEVA Logistics	PS	**144**	Lambeth	A&G	**240**	SW Fruit & Veg	A&G
49	Charing Cross Hospital Trust	A&G	**145**	Lambeth & Brixton BID	A&G	**241**	Tailoring by Blueman	A&G
50	Charrli	PS	**146**	Legendary Community Club	A&G	**242**	Team London Bridge	CAV4P
51	Chemco Pharmacy	A&G	**147**	Lewisham	A&G	**243**	Templo	PS
52	City of London Corporation	A&G	**148**	Lewisham Homes	CAV4P	**244**	Terracycle	PS
53	City Sprint	PS	**149**	Lewisham Local	PS	**245**	Thames Estuary Growth Board	PS
54	Clean Air Bayswater	A&G	**150**	Library of Things	A&G	**246**	The Entertainer	A&G
55	Clean Car	PS	**151**	Lily King	CAV4P	**247**	The Fitzrovia Partnership	CAV4P
56	Club Zero	PS	**152**	Liquor Supply	PS	**248**	The Orchard Nursery	A&G
57	Collectiv Food	PS	**153**	Little Greece	PS	**249**	The Refill Larder	PS
58	Complete logistics (previously Anglo)	A&G	**154**	Livett's Group	A&G	**250**	The Regency Club	A&G
59	Copper Rattle LTD	A&G	**155**	Lockem	A&G	**251**	The Villager Launderette & Dry Cleaners	A&G
60	Courtesan	A&G	**156**	Logistics UK	A&G	**252**	The Wine Parlour	A&G
61	Creature	A&G	**157**	London Borough of Redbridge	A&G	**253**	Ticketmaster	A&G
62	Culture Calling	PS	**158**	London Bridge City / Savills	PS	**254**	Tortilla	A&G
63	Curb Cargo	A&G	**159**	London Calling Arts Logistics	PS	**255**	Touro	A&G
64	Cycle Confident	PS	**160**	London Chamber of Commerce and Industry	A&G	**256**	Transport for London	PS
65	Daisy Chain	A&G	**161**	London Councils	A&G	**257**	TSS	A&G
66	Dartford County Council	PS	**162**	London Food hub consultancy	A&G	**258**	TW Magazines	A&G
67	Deli Beira	A&G	**163**	London Green Cycles	PS	**259**	Twickenham BID	PS
68	Delivering London	PS	**164**	London Riverside BID	PS	**260**	Ubeeqo	PS
69	Dexters	A&G	**165**	LoveWimbledon	PS	**261**	Universal Works	A&G
70	DHL	PS	**166**	Lyreco	PS	**262**	UPS	PS
71	DPD	A&G	**167**	Lyreco & CEVA	PS	**263**	Urban Growth	A&G
72	Ecofleet	PS	**168**	Lyric Theatre	A&G	**264**	Urban Health	PS
73	Edward's Bakery	A&G	**169**	Mango Logistics	PS	**265**	Urb-it	PS
74	EEMC	PS	**170**	Marina Cafe	PS	**266**	Vantastec	PS
75	Effective Consulting Group	PS	**171**	Mayflower	PS	**267**	Varamiz Rail	PS
76	Ellen McArthur Foundation	PS	**172**	Merton	A&G	**268**	Vauxhall One	A&G
77	Elys	A&G	**173**	Momentum Transport	PS	**269**	Verizon Connect	A&G

78	EMSOL	PS	**174**	Natural History Muesum	A&G	**270**	Victoria BID	CAV4P
79	Energy Saving Trust	A&G	**175**	Neptune	A&G	**271**	Victoria Westminster BID	CAV4P
80	Enterprise Car Club	PS	**176**	Network Rail	CAV4P	**272**	Vision Express	A&G
81	E-street services	PS	**177**	Newcare Pharmacy	PS	**273**	Volcano Coffee Works	A&G
82	ET Enviro technology services	PS	**178**	Noise Abatement Society	A&G	**274**	Wahaca	A&G
83	Euston Town BID	CAV4P	**179**	Northbank BID	A&G	**275**	Walnut Whole Foods	A&G
84	EV Carshop	PS	**180**	O'Farrells Butcher	PS	**276**	Wandsworth	CAV4P
85	Fafa's UK	A&G	**181**	Oakwood	A&G	**277**	We Are Cauli	PS
86	Farina & More	A&G	**182**	Octavia Housing	PS	**278**	We are Waterloo	A&G
87	Father Nature	A&G	**183**	Orion Railfreight	CAV4P	**279**	WebFleet	A&G
88	Federation Coffee	A&G	**184**	Owen Brother's Catering	A&G	**280**	Westminster City Council	CAV4P
89	Federation of Small Businesses	PS	**185**	Oxfam	A&G	**281**	Westway Trust	PS
90	First Mile	A&G	**186**	Panel Tex	A&G	**282**	Willesden Green Library	A&G
91	Fitch+Switch	A&G	**187**	Parallax	PS		WSP	PS
92	Forth Ports	PS	**188**	Parks for London	A&G	**284**	XeroE	PS
93	Franco Manca	A&G	**189**	Party Crashers	A&G	**285**	XOXO Coffee & Patisserie	A&G
94	Friendship Adventure	PS	**190**	Pedal Me	PS	**286**	YesMake	A&G
95	Fruit 4 London	PS	**191**	Peddle My Wheels	A&G	**287**	Zedify	PS
96	Galvanise	PS	**192**	Peddle Smart	PS	**288**	Zipcar	PS

Key: A&G = Advice and Guidance, PS = Project Support, CAV4P = CAV4 Partner Meeting

Appendix IV – Form sent to suppliers for Cadogan

Cross River Partnership (CRP) is a non-profit and impartial partnership organisation that has been delivering positive change for London's residents, businesses and visitors for over 25 years.

Clean Air Villages 4 (CAV4) is a Defra-funded project led by Westminster City Council in collaboration with 26 project partners to improve the air quality across different London 'villages', where both air pollution and population density levels are high.

We have been working closely with our partner, Cadogan, to consolidate deliveries to one of their multi-tenanted developments in order to improve air quality in the local area.

Why is consolidation important? It can help improve local air quality, achieve corporate social responsibility (CSR) and sustainability goals and potentially reduce costs. By becoming a preferred supplier for Cadogan's tenants you could attract more business in addition to improving local air quality.

We are contacting suppliers who deliver office supplies to SW3, to find out about their operations. This information will be used to create a preferred supplier scheme. Please provide as much detail and evidence, as possible.

Credibility

A businesses' credibility is measured based upon a variety of factors as mentioned below. Please answer the questions below.

Do you have quality assurance standards or management accreditation? E.g. awards, ISO 9001 etc.

- [ ] Yes
- [ ] No

If yes, please specify.

Do you have a specific document or set of documents detailing your company's environmental policy?

- [ ] Yes
- [ ] No

If yes, please specify.

Do you have, or are you in the process of, being recognised under an environmental management standard eg. ISO 14001?

- [ ] Yes
- [ ] No

If yes, please specify.

Do you have health and safety policies in place? Eg. OHSAS 18001, ISO standards etc.

- [ ] Yes
- [ ] No

If yes, please specify.

Are you a London Living Wage employer?

- [ ] Yes
- [ ] No

Do you have any customer service awards?

☐ Yes

☐ No

If yes, please specify.

Capability

Business capability is based upon the operational performance of the supplier, whereby their ability to deliver the requirements of the community are assessed. Please can you answer the questions below.

Is your company planning to grow and develop in response to changing customer needs?

☐ Yes

☐ No

If yes, please specify.

Should you be selected as a preferred supplier for this area, do you have sufficient resources to accommodate an increase in demand?

☐ Yes

☐ No

If yes, please specify.

In order to consolidate deliveries, will you be able to agree to e.g. a chosen delivery day in the week for businesses in the same building? (There would be certain exceptions, such as when an order is placed as urgent).

Commercial

We wish to understand the commercial viability of the supplier and the level of possibility to achieve group discounts on products and services provided. Please can you answer the questions below.

Do you have published articles or an annual report? Is it possible to see financial records for the last 3 years, and/or those projected for the next 3 years?

☐ Yes

☐ No

If yes, please specify by providing a link if possible.

Do you offer a discounted purchase price for group or multiple orders?

☐ Yes

☐ No

If yes, please specify.

Do you currently, or in the future, have the potential and capability to supply different priced products at basic and premium price points?

☐ Yes

☐ No

If yes, please specify.

Monitoring

Monitoring can observe and check the progress of something over a period of time. It allows us to assess the situation and offers data-based ways of improvement. Please can you answer the questions below.

Do you have the capability to administer tracking and

recording of customer profiles, deliveries and vehicle emission data corresponding to delivery vehicle trips?

☐ Yes

☐ No

If yes, please specify.

Do you formally report or record delivery amounts and associated information?

☐ Yes

☐ No

If yes, please specify.

Quality of Products

Product quality is an important consideration for businesses

Do you have the ability to provide a wide product range for stationery or groceries, with flexibility regarding brands/volume etc.?

☐ Yes

☐ No

If yes, please specify.

Do you have the ability to source alternative products from a variety of suppliers e.g. local, organic etc. depending on what the customers would like?

- [ ] Yes
- [ ] No

If yes, please specify.

Fleet

Transit fleets are an important part of the efficiency of any supplier. They can also have an impact on local air quality. Please can you answer the questions below.

Does your company use any type of electric vehicle?

- [ ] Yes
- [ ] No

If yes, please specify.

Does your company use cargo bikes?

- [ ] Yes
- [ ] No

If yes, please specify.

Do you have a fleet strategy for the future that incorporates measures to lower emissions?

- [ ] Yes
- [ ] No

If yes, please specify.

Green Credentials

Green credentials are important for any business in order to meet sustainability goals, and of course for our planet. Please can you answer the questions below.

Has your organisation received any environmental awards?

- [ ] Yes
- [ ] No

If yes, please specify.

Does your company provide eco products e.g., FSC accredited products?

Yes

No

If yes, please specify.

Does your company provide recycled products?

Does your company provide local products, are there any rules on the locality of items?

Yes

No

If yes, please specify.

Does your company use any form of renewable energy?

Does your company provide circular economy products? The circular economy creates a closed loop of consumption by using products that are recycled, repaired or reused rather than bought and disposed of.

Examples of this are products such as recycled paper, refurbished IT and second-hand office furniture.

Yes

No

If yes, please specify.

Does your company use any reverse logistics methods? Reverse logistics is where the product is returned to the manufacturer after use. For example end of use recycling services, refurbishing or resale.

Yes

No

If yes, please specify.

Unique selling points and any other information

Yes

No

If yes, please specify.

Does your organisation have any other unique selling points, or additional comments in support of this form?

Appendix V – Feedback from Wimbledon Cargo Bike business users

Business 1

Q: What delivery methods did you use before the cargo bike scheme? A: Van - DPD

Q: What were the main benefits of using the service? A: To see if there was enough appetite locally for deliveries. These are a very small % of our current sales.

Q: How useful did you find the scheme? A: 9/10

Business 2

Q: What delivery methods did you use before the cargo bike scheme? A: Car / Taxi

Q: What were the main benefits of using the service? A: Emission free deliveries.

Q: How useful did you find the scheme? A: 7/10