SGL Unpacked: Kerbside Management Trial

Executive Summary

Trialling a Network of Virtual Loading Bays

CROSS RIVER PARTNERSHIP
SMARTER GREENER LOGISTICS
Department for Environment Food & Rural Affairs

1. SGL Kerbside Management Trial

1.1 Overview

Cross River Partnership (CRP) worked in collaboration with Grid Smarter Cities, City of London Corporation, London Borough of Camden, London Borough of Lambeth, London Borough of Richmond and Transport for London to deliver the Smarter Greener Logistics Kerbside Management Trial. The trial aimed to provide local authorities, businesses and operators with the opportunity to test Virtual Loading Bays (VLBs) as a kerbside management technology, and understand the operational, congestion and air quality impacts. The trial was delivered as part of CRP's Defra-funded Smarter Greener Logistics (SGL) programme.

1.2 Kerbside Management Technology & Virtual Loading Bays

Kerbside Management Technology aims to dynamically manage the kerbside with a focus on improving delivery operations for businesses and suppliers, alleviate congestion and improve air quality. VLBs are digitally created dedicated spaces at the kerbside that require no physical signage or infrastructure and can be pre-booked by participating operators to load and unload goods using the Grid Kerb booking platform. The purpose of VLBs is to utilise space, that would normally be used for other purposes, for loading at specific times of the day to make better use of urban space.

VLBs were selected as the technology to test for the SGL Kerbside Management Trial as they have the ability to dynamically manage kerbside space at selected locations without the need for highways infrastructure, which could not have been installed within the time constraints of the trial.

Figure 1. Tradeteam accessing Watling Street VLB in the City of London to complete a brewery logistics delivery.

1.3 Trial Set up

1.3.1. Project Partners

The trial involved 9 project partners, multiple internal teams, and key stakeholder groups.

Project Partner	Role
Cross River Partnership	Facilitator & Project Manager
Department for Environment, Food and Rural Affairs (DEFRA)	Funder
Grid Smarter Cities	Technology Provider
City of London Corporation	Local Authority
London Borough of Camden	Local Authority
London Borough of Lambeth	Local Authority
London Borough of Richmond	Local Authority
Transport for London	Integrated transport authority for London
Westminster City Council	Smarter Greener Logistics lead Partner

Figure 2. Kentish Town Road VLB in the LB Camden.

Local Authority Team	Role
Parking Operations	Support with parking policy, communications with enforcement contractors (including CCTV).
Transport Policy	Involved in selecting suitable sites for the Virtual Loading Bay and assessing Traffic Management Orders.
Climate Response / Sustainability / Air Quality	Advised on trial from climate and air quality perspective.
Communications	Reviewed trial communications materials and circulated trial information.
Legal	Provided guidance on relevant regulations and TMO process.
Data Security	Compliance with GDPR / data sharing.
Streetworks Team	Installed necessary signage for LB Richmond Sheen Lane (South) location.
External Enforcement Contractor	e.g. APCOA, NSL Day-to-day enforcement operations by CEOs. Office team involved in PCN process and exemptions.

Table 5. Internal LA teams and roles in trial (actual team names & role remit may be different across LAs).

1.3.2. VLB Locations

A network of 8 VLBs was developed at locations across London, including busy high streets and pedestrianised zones, and focused on different use cases such as health & safety needs of brewery logistics and large supplier delivery operations.

The VLB locations were selected following desk-based research and site visits to assess VLB suitability. The locations and rationale for selecting each site outlined below:

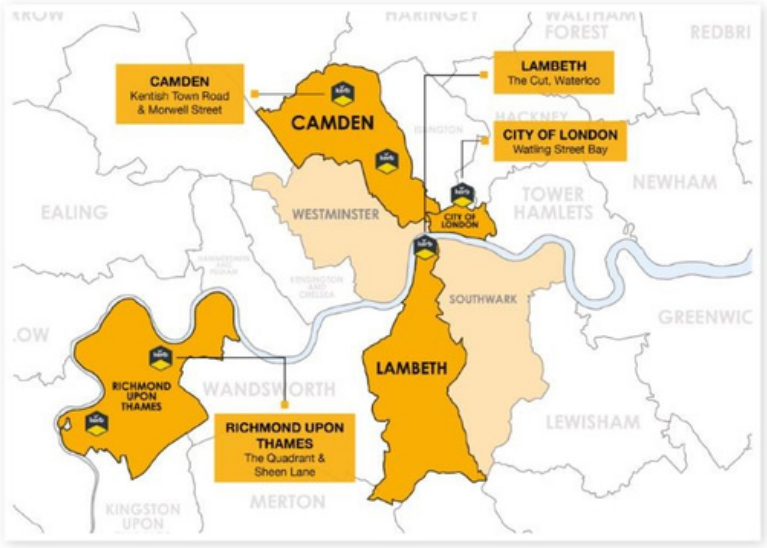

Figure 3: Map of VLB Locations

Local Authority	VLB Location(s)	Location / Hours of Operation	Businesses	Use Case
City of London Corporation	Watling Street (EC4M 9BR)	Pedestrianised street Monday – Sunday Available between 05:00-08:00 & 18:00-21:00	Pubs & Hospitality businesses (independent & large chains)	Support health and safety requirements for brewery logistics.
London Borough of Camden	Kentish Town Road (NW5 2TJ)	Local high street Monday - Sunday Unavailable between 07:00-10:00 & 16:00-19:00	Large retail chains	Support deliveries on a local high street with high traffic flows.
	Morwell Street (W1T 7RB)	Side street Monday – Sunday Available 24 hours	Large retail chains	Support deliveries on a major retail street.
London Borough of Lambeth	The Cut (Rosa's Thai), Waterloo (SE1 8LL)	Local high street Monday – Sunday Available 24 hours	Hospitality businesses (independent & large chains)	Support high volume of deliveries and reduce HGV movement on residential streets.

London Borough of Lambeth	The Cut (Filter Loading Bay), Waterloo (SE1 8LF)	Local high street Monday – Sunday Available 24 hours	Hospitality businesses (independent & large chains)	Support high volume of deliveries and reduce HGV movement on residential streets. Support LA Parking Suspension process.
London Borough of Richmond	The Quadrant, Richmond (TW9 1DN)	Local high street Monday – Sunday Available 07:00 – 23:00 (Unavailable between 08:00-10:00 & 16:30-18:30)	Large retail chains	Support deliveries on a local high street and provide an alternative delivery location to an existing loading bay frequently occupied by delivery motorbikes.
	Sheen Lane (Tesco), Mortlake (SW14 8AB)	Local high street Monday – Sunday Available 07:00 – 22:00	Large retail chain & independent hospitality businesses	Support deliveries to large retail chain and address resident concerns on congestion due to railway crossing in close proximity.
	Sheen Lane (South), Mortlake (SW14 8LP)	Local high street Monday – Sunday Available 07:00 – 23:00 (except 09:30 – 11:30 Tuesdays and Fridays)	Independent retailers and hospitality businesses	Support deliveries to local businesses by opening an underutilised section of highway.

Table 6. Summary of VLB locations, use cases and hours of operation.

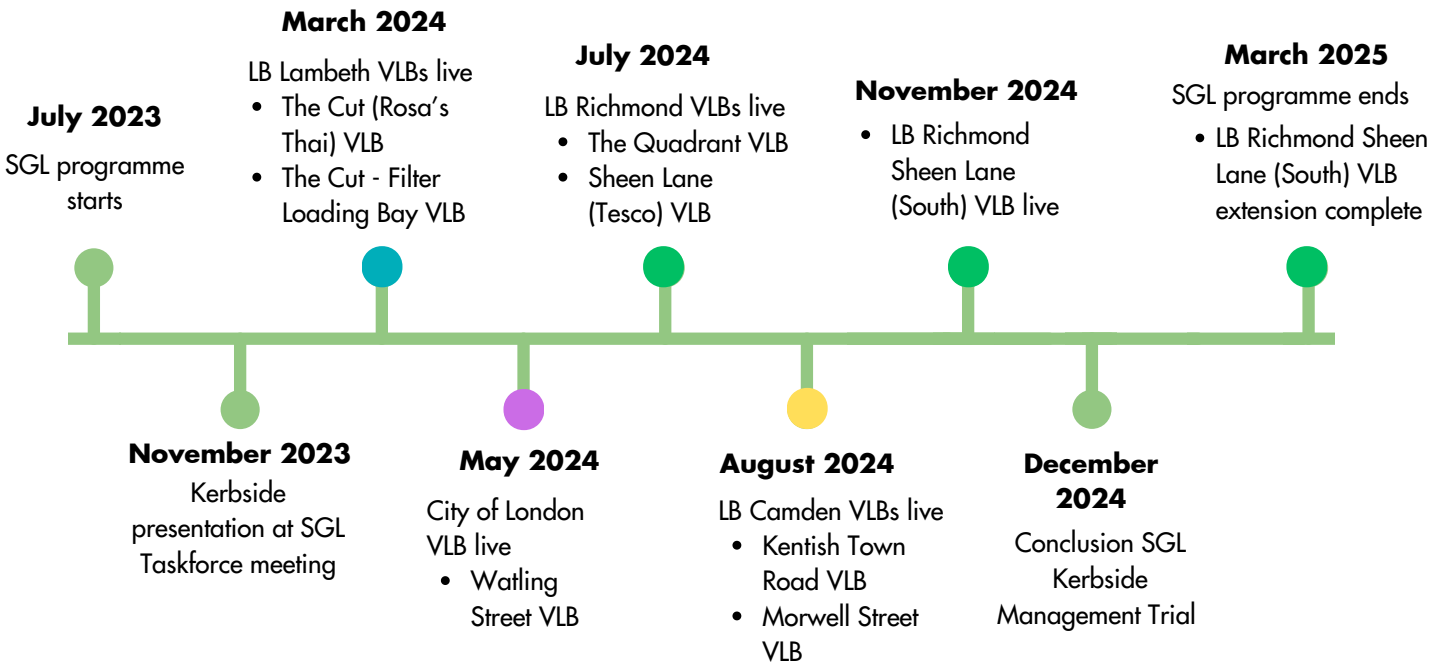

Figure 4: Overall SGL Kerbside Management Trial Timeline

1.3.4. Enforcement & Reporting

The trial ran from July 2023 to March 2025 with VLBs going live at different stages based on the time it took to identify locations, secure the necessary permissions, integrate with enforcement and map the VLBs on the Kerb platform. Local authorities had access to online dashboards which provided VLB usage data and were also provided with regular bookings reports via email throughout the trial.

Figure 5. Traffic filter at the junction of The Cut and Short Street, LB Lambeth

1.3.5. Trial Additions

LB Lambeth added additional elements to their VLB locations to explore how the kerbside management technology could support wider borough initiatives. This included the integration of kerbside management technology with an existing traffic filter to reduce HGV movements on smaller residential roads. The LA also utilised the Kerb booking system to support the Parking Suspension process for an existing physical loading bay that is used for extended periods of time.

1.3.6. Trial Costs

The main cost of the trial was the annual licence fee for the Virtual Loading Bay solution which provided CRP and 4 LAs access to the platform. Grid also supported the trial with additional communications materials, including flyers and signage, that are not included below.

Local Authority	VLB Location(s)	Cost
Virtual Loading Bays – Annual Licence	One annual licence fee which allowed access to platform for CRP and 4 participating LAs. This included: - Mapping of the VLBs - Whitelist reporting - Supplier onboarding & support - Dedicated project webpage	£24,000*
Grid Project Management support	Including but not limited to: - Site visits - CRP x Grid regular project meetings - Local authority project meetings	£6,000*
Communication Materials	Promotional flyers for each local authority trial	£185
	Total cost	**£30,185 (excl. VAT)**

Table 7. Summary of Kerbside Management Trial Costs.

**Annual licence fee, including number of VLB locations and associated support, agreed by Grid in 2023 for the specific purpose of the SGL Kerbside Management Trial. Future cost of platform for individual local authorities subject to commercial discussions and agreement between LA and Grid.*

1.4 Engagement & Communications

The two main target audiences for taking part in the trial were **local businesses** (in close proximity to the VLB) and **suppliers** to those businesses who load and unload near the VLB location. Extensive communications and engagement took place with these audiences throughout the trial to encourage participation, develop a picture of delivery and servicing in the selected locations, and understand the impact of VLBs on deliveries and logistics operations.

Figure 6. CRP Team Members conducting business engagement along Tottenham Court Road, LB Camden.

Local Businesses & Suppliers	Trial-wide Communications
In-person engagement supported by informational flyers	Dedicated trial webpage
Targeted emails and calls with trial information	Email campaigns to logistics sector
'One-time booking' account	Social media posts
Local authority letters to businesses	Logistics sector press articles
In-person & online introductory meetings	Written & video case studies
Informational signage (LB Lambeth)	Logistics sector newsletters

Table 8. Summary of engagement & communications approaches employed throughout the trial.

Overall SGL Kerbside Management Trial Usage Figures

Total of **30 operators** made bookings on the platform

17 regular users of the platform

3 Operators converted from onsite, one-time booking to regular user

655 Total bookings

1 hour 20 mins* average booking time

0 Rogue Vehicles reported

**Omitting Young Vic bookings (The Cut - Filter Loading Bay VLB) due to longer booking periods in conjunction with existing loading bay Parking Suspensions.*

Figure 7. Overall SGL Kerbside Management Trial Usage Figures

Figure 8. The Cut (Rosa's Thai) VLB on The Cut in LB Lambeth.

1.5 Trial Insights and Data Analysis

1.5.1. Operational Insights

The SGL Kerbside Management trial ran from July 2023 to March 2025 with VLBs going live at different dates across the trial period. VLB usage data across the 8 locations was captured from the Kerb platform and analysed to understand VLB usage trends and patterns from the trial.

1.5.2. Air Quality benefits

Using CRP's in-house Transport Emissions Calculator (TEC), the SGL Kerbside Management Trial resulted in **an estimated 66.6 vehicle km saved over the trial period**. This led to the following estimated emissions savings:

61.16g Nox
9.76g PM10
5.66g PM2.5
55.67kg CO2

Based on projected VLB usage figures from the SGL Kerbside Management Trial and CRP's TEC, **an estimated 636.05 vehicle km could be saved over an annual period**. This could result in the following estimated air quality savings:

650.99g Nox
75.41g PM10
39.88g PM2.5
531.55kg CO2

The emissions savings for the LB Lambeth VLBs during the trial period and annual projections are markedly higher in comparison to the other VLBs in the SGL Kerbside Management Trial. This is likely due to the integration with the traffic filter along The Cut and vehicle km being saved for each booking rather than just in the case of a missed delivery (assumption applied to City of London, LB Camden and LB Richmond VLBs).

1.6 Trial Learnings

- There is a clear appetite from LAs to look at use of kerbside space and innovative management approaches. The trial provided LAs with an opportunity to understand and test kerbside management technology with no up-front-cost implications and support from CRP and Grid.
- VLBs operate best where they provide a solution to an existing delivery challenge and / or when an incentive to use the VLB is provided. Without one, or both, behaviour change amongst operators is harder to achieve.
- Effectiveness of VLBs is dependent on developing a network across a certain geographic area or sector (e.g. brewery logistics, chain stores) to support enough Operators with deliveries at multiple locations and achieve real behaviour change within the logistics sector.
- Integrating Kerbside Management Technology with traffic filter exemptions achieved emissions and congestion savings and provided a clear incentive for using the VLBs (evidenced in LB Lambeth).
- VLBs and the engagement process provide valuable data on delivery and servicing activity that can be used to inform LA policy and projects. However, a comprehensive picture is dependent on regular VLB usage and impacted when the VLB(s) is not operational.

- Importance of assessing other highways regulations and restrictions when considering suitable VLB locations, including Traffic Orders (Moving & Static), loading restrictions and pedestrian zones.
- The VLBs took time to embed within local logistics behaviours which often led to low levels of usage within the first few months.
- The engagement and communications approach must be tailored to the specific VLB location and the businesses (and their suppliers) in close proximity to the VLB. Targeted engagement with specific supplier contacts proved an effective engagement method.
- The average booking time across the trials highlighted that the maximum loading time defined in LA Traffic Orders is often shorter than the actual time required for operators to complete their (un)loading activities, particularly for larger chains and brewery logistics.
- Many of the VLB locations in the trial were selected as they did not present a major challenge to existing loading activity or residents/businesses/Council Members. Implementing VLBs in more challenging delivery locations would have likely achieved higher usage figures, however, would have taken longer to consult on and implement.

1.7 Recommendations & Future Opportunities

1.7.1. VLB Use Cases

The trial highlighted that the best use cases for VLBs were when they provided a solution to an existing delivery challenge and / or an incentive to use the VLB was provided.

The following use cases were identified:

- **Brewery Logistics –** VLB supported specific health and safety requirements of the sector including the need for deliveries to take place in close proximity to the delivery point.
- **Integration with traffic filter technology** – VLBs provided delivery vehicles with an automatic dispensation to travel through the traffic filter, reducing HGV circulation on smaller residential streets.
- **Dedicated VLB for large chains at delivery challenge locations** – VLBs supported supplier deliveries to large chain stores with a frequent delivery schedule and dedicated fleet managers responsible for scheduling bookings on the Kerb platform.

Figure 9. The Quadrant VLB in the LB Richmond.

1.7.2. Trial Legacy

The SGL Kerbside Management Trial produced valuable usage and emissions data, and lessons learned for Virtual Loading Bay set-up, operations and best use cases. Both LB Lambeth and LB Richmond have extended the operations of their VLBs beyond the SGL programme and are continuing to work with Grid and local businesses / suppliers to increase VLB usage and identify other suitable VLB locations across the borough. All the LAs that took part in the trial are actively looking at how to make the necessary provision for freight and servicing activity whilst also balancing this against the multitude of other kerbside uses.

> "The Smarter Greener Logistics Project has helped to show how technology can help on street challenges for specific uses at the kerbside. The project has included a range of stakeholders from both council teams, operators and strategic partners. Uncovering areas that have challenges and being able to showcase live data can help to make London a more dynamic kerbside environment."
>
> **Grid Smarter Cities**

1.7.3. Future Opportunities for VLB Technology

Competing demands for kerbside space in dense urban areas means that there is an appetite amongst LAs to consider innovative technologies to dynamically manage kerbside use. The following areas are key opportunities for the future use of VLB technology:

- Full integration with enforcement software.
- VLBs as a potential revenue source.
- Integrating VLBs in future highways schemes.
- Trialling alongside Permit Loading Bays.
- Digitisation of Traffic Orders / Kerbside Information.
- Supporting LA Policy & Strategies.
- Developing network of VLBs & process standardisation.

The trial has demonstrated that logistics operations and management must be considered within existing and future kerbside use to continue to support businesses to receive required goods in an efficient and sustainable way.

Figure 10. Watling Street VLB in the City of London which supported brewery logistics.

1.8 Next Steps

The SGL Kerbside Management Trial highlights the range of opportunities for VLB technology to enable LAs to dynamically manage kerbside space, address demands from businesses and Operators to cater for logistics activities within urban areas, and achieve savings to delivery vehicle circulation distances with associated congestion and local air quality benefits.

Recommended next steps:

- Continue to **develop LA, Business & Operator knowledge and understanding of VLBs and kerbside management technology** through trials, that provide the opportunity to test within a supported structure without significant financial commitment. Trials that test the integration of the technology across different LA enforcement platforms would also be valuable.
- Ensure a **collaborative approach to the digitisation of kerbside space** between the public and private sector to ensure that the digitisation is **comprehensive, accessible and transparent** for the different users and managers of the space.
- Reframe the narrative around the **kerbside to be viewed as a dynamic and flexible space with multiple uses and users.** LAs should develop kerbside-specific strategies and action plans, e.g. LB Lambeth Kerbside Strategy (2023), that consider the existing and potential uses of the kerbside. The **needs of the freight and logistics sector should be considered** within this, as well as sustainable uses, including urban greening, and sustainable transport parking provision.
- **Trial new use cases for VLBs**, including EV-only VLBs, VLBs designed into schemes at planning stage and complimentary VLBs & PLBs. Further trials would also allow for testing of the integration capability of the technology across different LA platforms and help to streamline the overall integration process.
- **Central government and strategic agencies to acknowledge kerbside management technology as a beneficial tool** to support the logistics sector and build this into upcoming policy and strategy concerned with sustainable logistics / management of the kerbside.
- Further **development and refinement of the methodology for understanding the emissions savings and sustainability benefits** of VLBs beyond the scope of the SGL trial. This can be achieved through further trials of VLBs, both on a larger scale and specifically focused on the emissions savings, which will enable the collection of more accurate data on existing delivery trends, VLB usage and impact to congestion and local air quality.

Read the full **SGL Unpacked: Kerbside Management Trial** report for an in-depth evaluation of the trial including:

- Kerbside Management Technology
- Trial Set Up
- Engagement & Communications
- Case Studies
- Trial Insights & Data Analysis
- Trial Learnings
- Recommendations & Future Opportunities
- Next Steps

If you would like further information about anything that has been included in this case study, please get in touch:

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