On track for sustainable logistics: Integrating Rail Freight into London's deliveries

CROSS RIVER PARTNERSHIP
Delivering London's Future Together

Client: Cross River Partnership
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Supported by Impact on Urban Health

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Introduction

Introduction and Context

This study investigates the opportunity to utilise existing station infrastructure in Southwark and Lambeth to support the efficient and sustainable delivery of freight into Central London using rail.

It was commissioned by Cross River Partnership (CRP) and Impact on Urban Health to explore how rail freight solutions can support their goals of reducing polluting road-freight vehicles and achieving better air quality for residents of London.

The study builds on the findings from CRP's and Momentum Consultancy's Rail Freight in London Feasibility Study (2022), identifying areas where the evidence base needs further development, such as the suitability for stations within the study area for accommodating rail freight.

This study presents the **strategic case** for integrating rail freight into existing supply chains from different stakeholder perspectives. Achieving modal shift of freight from road to rail can play an important role in national and local objectives to **reduce carbon emissions and achieve net zero by 2050, improve air quality and reduce congestion**. Increasing rail freight **increases rail industry revenues and can utilise spare network capacity**.

Market Engagement

The freight and logistics market are in support of exploring alternative logistics concepts to complement road-biased logistics, but **only if it is a compelling proposition and does not increase the overall cost of distribution.**

There are several externalities at play impacting the reliability and cost of road transport. A shortage of HGV drivers and equipment, rising fuel prices, increasing traffic congestion and emissions regulations is pushing the logistics sector to explore alternative delivery solutions. The rise of low-volume, high-margin markets requiring fast delivery such as fast-fashion were identified as being suitable for fast rail freight.

However, rail introduces additional handling into the supply chain which adds time, complexity and costs, in comparison to road-based hub and spoke distribution networks.

Market engagement outlined the need for dedicated logistics infrastructure and storage space to support consolidation activities and transfer to last mile LGV's, EVs or cargo bikes, especially where high volumes are envisaged.

Station Assessment

Stations need to be able to meet multiple requirements for accommodating rail freight, in the form of train operations (e.g. how long does the train have to load or unload), platform operations (e.g. where is the freight stored / transferred) and access to and from the street

The rail network in the study area (28 stations) is dominated by frequent commuter trains, with little opportunity to accommodate freight. A shortlist of five stations has identified two credible options for future study:

- **Waterloo:** The existing station is well connected to the wider railway network. Being a terminus station with several platforms, there is opportunity for loading and unloading at quieter times of the day. The station does allow for a segregated, step-free route for freight from selected platforms to the street which can be used by micro-freight vehicles. There is also available space beneath the platforms for storage and consolidation.
- **London Bridge:** This station is also expected to have suitable facilities for transferring freight between platforms and street level, but access to the wider rail network more challenging than Waterloo.

Delivery Concepts

Two complementary delivery concepts have been developed to formalise the recommendations and action plans for developing rail freight potential in the study area. These concepts represent two levels of investment and benefits realization. Both can be developed in parallel.

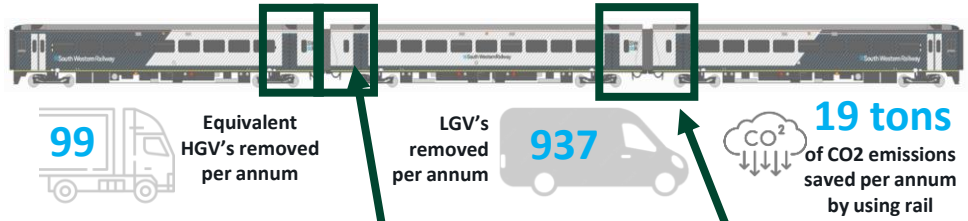
"Parcels as Passengers"

Using **unused space on existing passenger services** to move small volumes of goods on existing passenger trains between the South West (such as Exeter and Southampton) and London Waterloo.

This will likely include carrying **individual parcels** in non-passenger areas of a train (e.g. a lockable cupboard) with couriers carrying out the loading and unloading at stations.

Pros
- Low risk
- Low Capex / Opex required
- Model is proven on GWR/EMR

Cons
- Low volumes only
- Reliant on TOC engagement
- Low logistics carbon reduction / emissions savings due to low volumes



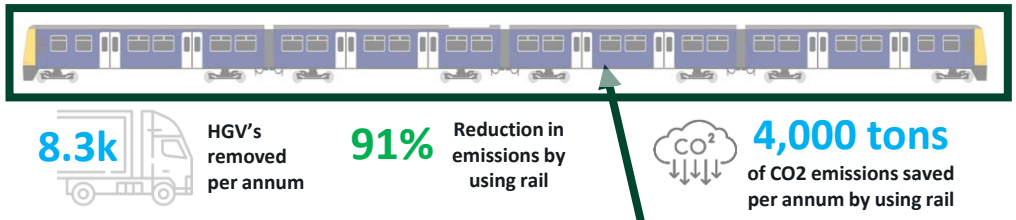
"Dedicated Freight Multiple Unit (FMU)"

Using a **full** repurposed passenger train to carry larger volumes of freight from strategic freight hubs (such as in the Midlands) into London Waterloo.

These trains can carry **roll cages and ULD's** which can be easily loaded and unloaded at stations. This concept may require modifications at stations to handle larger volumes efficiently.

Pros
- Low-Medium risk
- High logistics carbon emissions reduction from removed HGV's
- Can be tailored to meet needs of logistics industry

Cons
- Roll cages may create inefficiencies
- May not be enough space at stations for logistics
- High Opex costs
- Requires WTT pathing for reliability



Further detail on the methodology for emissions and vehicle saving calculations is located in Section 4: Delivery Concepts.

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Key Findings and Recommendations

The parcels as passengers concept is the recommended option of the two assessed. It will require CRP to work with a third party to develop the proposition, identify routes and customers and work with TOCs to deliver the concept. Possible routes could include Southampton and Exeter to London Waterloo.

Parcels as passengers has lower barriers to entry as existing rolling stock is already in operation and the requirements to transport smaller volumes frequently could take advantage of surplus luggage and/or space on TOCs' services. The dedicated FMU concept requires the procurement / leasing of suitable rolling stock that is modified to handle light freight.

Parcels as passengers does not require dedicated logistics infrastructure at stations. Therefore requirements are expected to be far lower in comparison to the FMU concept. As a result, lead times may also be shorter. However, this trial will require considerable stakeholder engagement by CRP to secure buy in from the passenger TOCs, which will take time.

Implementation of either concept would bring environmental and economic benefits whilst supporting national and local government in achieving transport decarbonisation.

Benefits from carrying parcels with this concept may start small, but include an opportunity to reach scalability. Utilising surplus capacity on passenger services could reduce LGV and HGV movements between London and the South West. If scaled to multiple long-distance services per day, this could represent a significant carbon saving.

Trialing a **dedicated FMU concept** for a number of months will require a large operating budget. Without investment from FOCs, enhanced Mode Shift Revenue Support (MSRS) or rail innovation grants from the DfT, the short-term barriers are likely going to persist into the medium term.

This report has set out the station requirements to handle dedicated FMUs. CRP should engage Network Rail and enquire about the suitability of London Bridge and London Waterloo for a FMU trial service in future.

Other locations in London that are outside of Lambeth and Southwark might provide more suitable infrastructure and be deserving of further research.

It is recommended that following this report, a **dedicated working group** for London should be set up, to facilitate discussions between funders, logistics companies, infrastructure providers, operators and advisors.

This can provide continued momentum and support development within this space, ensuring a constructive forum where concepts and issues can be debated and issues resolved. The findings from this study are applicable across London beyond the study area.

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