CleanCities

Pathways to Zero-Emission Freight: Can London lead the way?

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1. Context

The Mayor of London was elected on a renewed mandate to continue to introduce policies that improve air quality and help to achieve a climate target of net zero carbon by 2030.

Achieving these goals will undoubtedly require policies to reduce emissions from road freight, which is responsible for a disproportionate share of harmful emissions in London, relative to fleet composition and vehicle miles.

The Mayor's Transport Strategy includes policies that support a switch from diesel to electric and pedal powered freight, including the introduction of a central London zero-emission zone by 2025[1]. Similarly, the Mayor is also signatory to a global commitment to "Ensure a major area of their city is zero-emission by 2030"[2].

The implementation of this work, however, appears to be on hold and London is at risk of being left behind other cities which are taking more concerted action to prioritise electric and pedal-powered freight. More concerning still is the Mayor's decision to end a key incentive for zero-emission freight - the Congestion Charge discount for electric vans - despite a strong call from businesses to retain it[3].

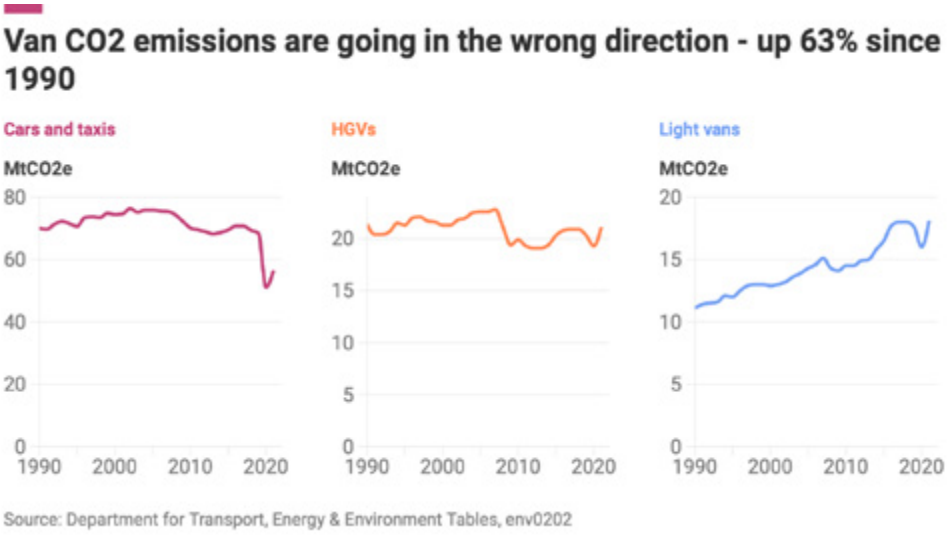
This briefing summarises the latest data and research in this space and helps to inform a policy pathway so that London can get back on track and to support a zero-emission freight zone in the centre of the city by 2030.

1 https://www.london.gov.uk/sites/default/files/mayors-transport-strategy-2018.pdf
2 https://www.c40.org/what-we-do/scaling-up-climate-action/transportation/green-and-healthy-streets/
3 https://cleancitiescampaign.org/businesses-warn-mayor-against-choking-off-switch-to-electric-vans/

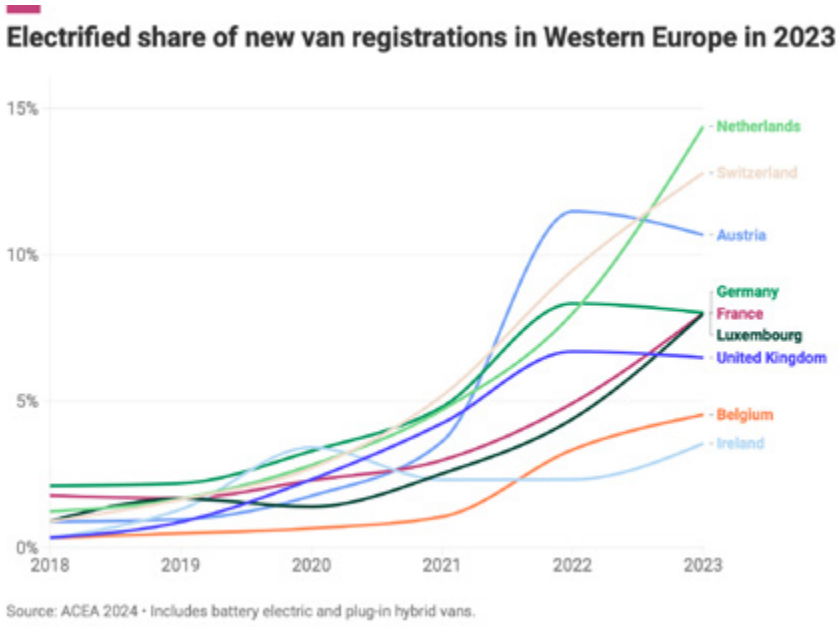
2. A need for action

The latest data shows there are now a million more vans on the road in the UK since 2014. The vast majority are diesel. Between 2018 and 2023, the total number of vans in the UK rose by nearly 15% to 4.5 million[4].

An increase in vans and the number of kilometres being driven is undermining action on air quality. Levels of harmful NOx emissions from the UK van fleet are now higher than they were a decade ago. This is also a risk to the government's climate targets: carbon emissions from the van fleet have increased by 63% since 1990, unlike cars and trucks[5].



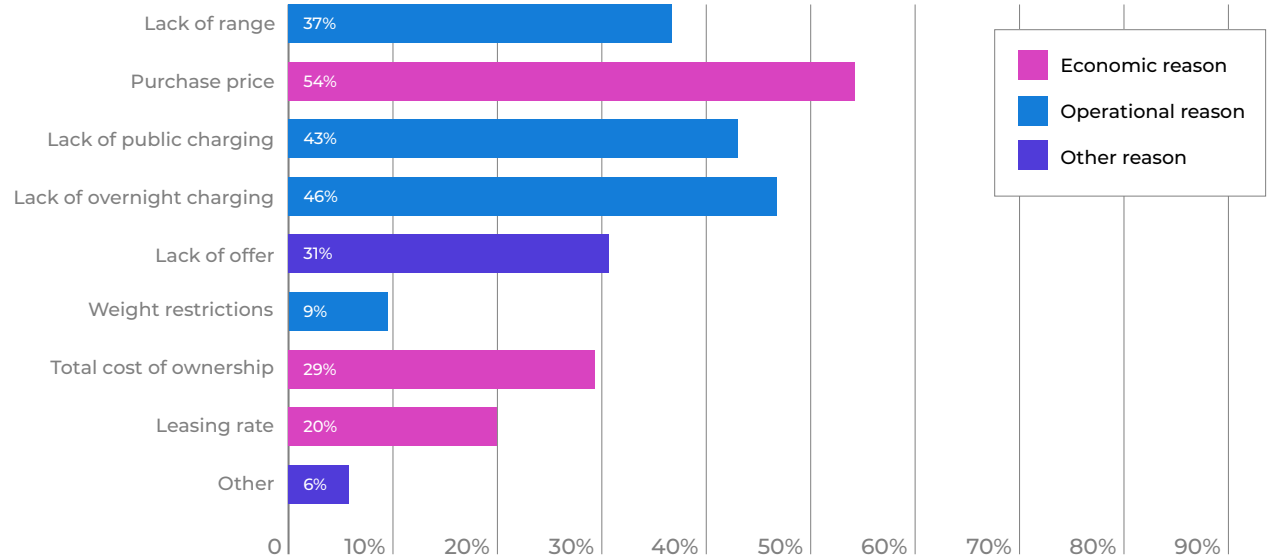
The UK is also falling behind other Western European countries in increasing its share of electrified new vans. Legislation in the UK, the 'ZEV mandate', requires 10% of van sales to be zero-emission in 2024. This was only around 6% in 2023.



4 https://www.transportenvironment.org/te-united-kingdom/articles/the-white-van-can-decarbonise
5 https://www.transportenvironment.org/te-united-kingdom/articles/the-white-van-can-decarbonise

Research by T&E UK[6] has found that the high initial purchase price of electric vans, combined with a lack of charging infrastructure (overnight and public), continues to hinder widespread adoption. While government incentives offer some financial relief, such as the plug-in grant, further support is necessary to drive the transition to battery electric vans. This is especially the case in the second-hand market.

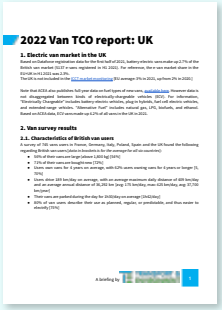
Reasons against buying an electric van (UK)



Source: T&E

Purchasing grants without other policy measures, such as regulation, are not sufficient to support the transition - as evidenced under London's ULEZ commercial vehicle scrappage scheme, which resulted in just 2% of diesel vans being scrapped and replaced with an electric van[7]. One example of a regulatory barrier is the need to streamline the government derogation that enables 4.25t electric vans to be driven with a category B driving licence[8].

Further action is also required to decarbonise trucks. Unlike in the EU, the UK is without an equivalent legally binding regulatory framework to decarbonise HGVs and there is currently little policy being developed at a local level to create demand[9].


2022 Van TCO report: UK

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Transport & Environment "2022 Van TCO report: UK"

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3. Pioneers of Europe

Many cities and companies are already advancing plans that will accelerate a shift towards zero-emission urban logistics in Europe. Clean Cities has published an overview of these 'pioneers', drawing on a literature review, a database of zero-emission zones and 20 expert interviews[10]. Research showed there are currently 35 European cities with explicit plans to introduce zero-emission zones by the 2030s, with an additional eight cities having formed local alliances with businesses and civil society to speed up the transition.

6 https://www.transportenvironment.org/uploads/files/202203_vanTCO_nationalfiches_UK-1.pdf
7 https://cleancitiescampaign.org/mayors-100-million-ulez-scrappage-scheme-fails-to-fuel-electric-van-surge/
8 https://www.bvrla.co.uk/resource/guidance-given-on-key-differences-for-4-25t-e-vans.html
9 https://www.transportenvironment.org/te-united-kingdom/articles/driving-change-transport-policies-for-growth-and-climate
10 https://cleancitiescampaign.org/research-list/pioneers/

41 European cities

Have adopted plans to introduce zero-emission zones by 2030, or signed 'green deals' or alliances with businesses on zero-emission urban logistics

35 cities

Have explicit plans to create a zero-emission zone (ZEZ) by the 2030s

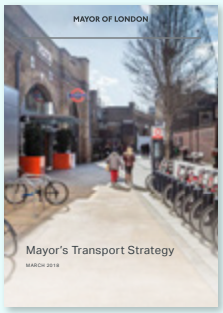
- Amsterdam and Rotterdam will start implementing zero-emission zones for freight (ZEZ-F) by 1 January 2025, as a part of their zero-emission urban transport goal by the 2030s. Another 31 Dutch cities will also implement ZEZ-F, following the National Implementation Agenda for Urban Logistics signed in 2021.
- Stockholm will start a near-zero-emission zone, allowing electric, gas (Euro 6) and certain hybrid vehicles by 31 December 2024, in a pilot zone of 20 hectares in the City Centre.
- Oxford has piloted a charge-based zero-emission zone since February 2022 and plans to expand it to most of the entire city centre from 2026.
- Brussels has a ZEZ for all vehicles, except heavy-duty vehicles as of 2035 included in their LEZ agenda.

At least 8 cities

Have formed alliances with the private sector to transition to zero-emission urban logistics

- The Belgian cities of Antwerp, Ghent, Leuven and Mechelen, signed a regional "Green Deal" for Sustainable Urban Logistics for the Flanders Region in April 2019.
- In Lisbon, more than 120 leading companies signed a "Corporate Mobility Pact", committing to take diverse actions to promote clean, shared and active mobility.
- In the Netherlands, some cities have adopted zero-emission alliances to complement their ZEZ policies. For instance, the City of Rotterdam adopted a "Covenant Zero-Emission City Logistics: Together towards zero" in December 2020. A National covenant, in which the private sector committed to decarbonise its fleet, was signed in 2019.
- In April 2023, the Brussels Capital region adopted its Green Deal for Urban Logistics.
- In June 2024, the Chamber of Commerce of Vienna started its 'Zero-Emission' Transport project, a voluntary covenant signed with representatives from the private sector.

In 2017, the Mayor of London signed the C40 Cities' "Green and Healthy Streets Accelerator", which commits to "Ensure a major area of their city is zero-emission by 2030" and the Mayor also published a transport strategy in 2018 that committed to developing a zero-emission zone in central London from 2025[11]. London was therefore included in a cohort of 110 other European cities that have committed to international initiatives to decarbonise urban transport, with a stated intention to design zero-emission policies for urban logistics, but with no firm plan in place.



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Mayor of London "Mayor's Transport Strategy 2018"

Read here →

11 https://www.london.gov.uk/sites/default/files/mayors-transport-strategy-2018.pdf

At least 182 companies of various sizes and across sectors have joined alliances to transition to zero-emission urban logistics in Europe[12]. For example, the Brussels Green Deal for Low-Emission Logistics has 63 signatories, including companies such as AB InBev, Bpost, CHIREC hospitals, Colruyt, GLS, IKEA Belgium, and VPD Logistics. Signatories are required to commit to activities that advance low-emission logistics, such as improving awareness, adopting new technologies, and reducing emissions through measures that go beyond legal requirements.

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Clean Cities "The pioneers of zero-emission logistics in European cities Anexes"

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110 European cities

Have shown their intention to design zero-emission policies for urban logistics by joining international pacts or missions

16 cities

Committed to adopting a major zero-emission zone in their cities by 2030 by signing the "Green and Healthy Streets Accelerator" from C40 Cities

- Only three of them, Amsterdam, Rotterdam and Oxford, have designed their ZEZs and have started or will start implementing them by the end of 2024.
- Oslo wants to introduce a ZEZ as soon as the legal basis is in place from the national authorities.
- Copenhagen is designing its ZEZ policy, pending a national framework on zero-emission zones which is set to be adopted by the end of 2024.
- 11 Cities have not published official information indicating their policies' start date, including Barcelona, Berlin, Birmingham, Greater Manchester, Heidelberg, Liverpool, London, Milan, Oslo, Paris, Rome and Warsaw.

112 cities

Joined the EU "100 Climate-Neutral and Smart Cities" Mission, aiming to become climate-neutral by 2030

- The 112 cities must deliver 'Climate Contracts' outlining their plans to achieve climate neutrality by 2030.
- 10 Cities from this group, Antwerp, Brussels, Leuven, Stockholm, Amsterdam, The Hague, Eindhoven, Groningen and Utrecht, have already adopted zero-emission policies to decarbonise urban transport.
- The list includes cities from every EU member state, plus 12 cities - such as Reykjavík, Sarajevo, Oslo and Istanbul - from countries associated with the Horizon Europe program.

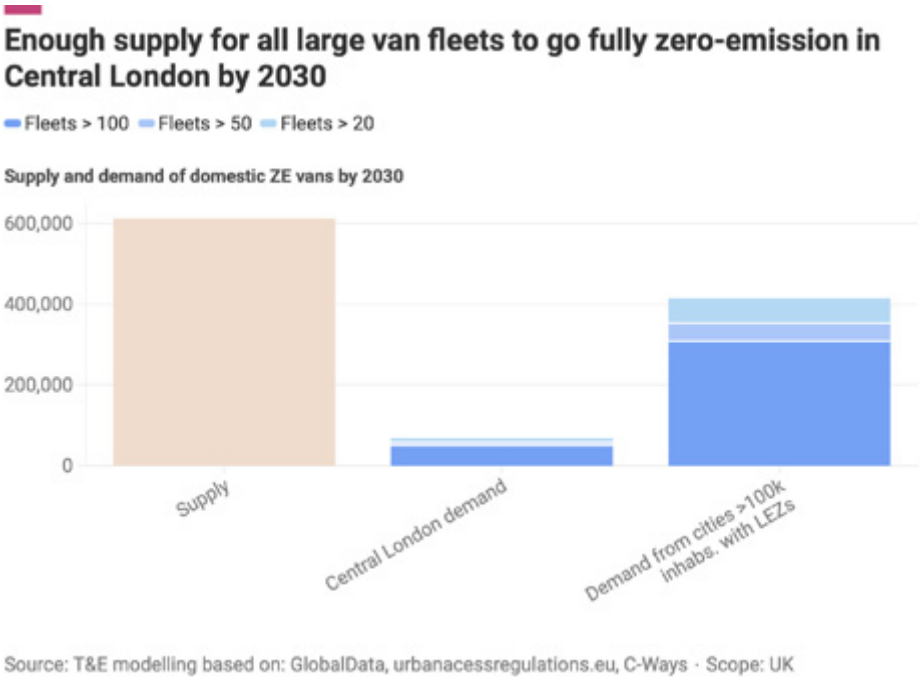
Seven of these cities participate in both the C40 Commitment and the EU Mission: Barcelona, Copenhagen, Milan, Paris, Rome, Oslo, and Warsaw.

12 https://cleancitiescampaign.org/wp-content/uploads/2024/10/Pioneers-of-zero-emission-logistics-annex.pdf

4. Electric van market

The latest data shows that a made-in-Europe supply of zero-emission vans - largely battery electric - is set to improve significantly over the next few years, with the market primed to meet the demand posed by the growing number of zero-emission freight zones in Europe. By 2030, there will be enough European supply for all large van fleets to go fully zero-emission in EU and UK capitals[13]. In particular:

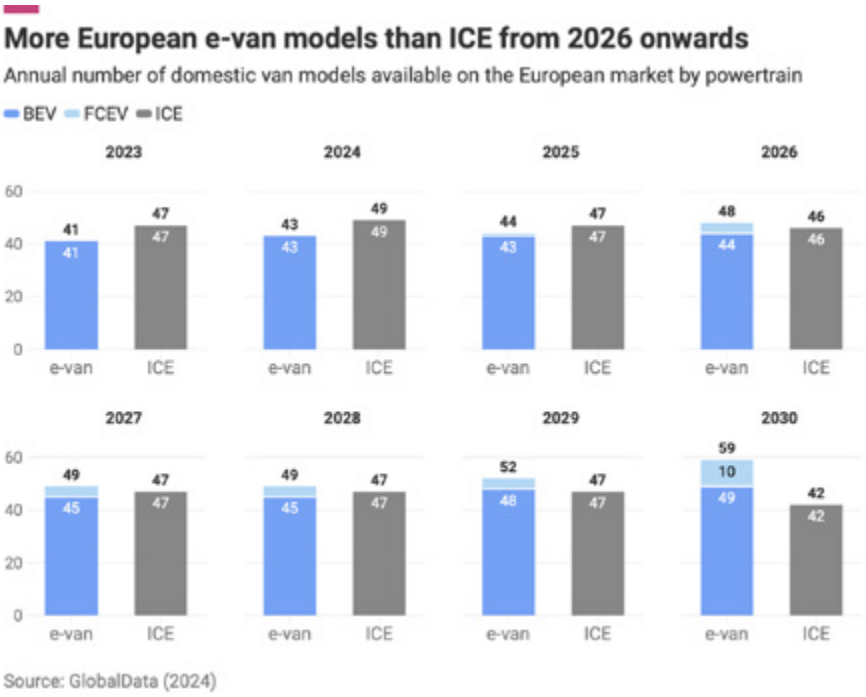
- Between 2025 and 2030, the projected supply of electric vans will outstrip the needs of commercial fleets with 20 or more vehicles operating across EU and UK capitals, enabling cities to advance their decarbonisation ambitions and efforts.



Source: T&E modelling based on: GlobalData, urbanacessregulations.eu, C-Ways · Scope: UK

- Businesses will soon have more, domestically produced, battery electric van models to choose from than conventional internal combustion engine models, offering a broader array of options suited to different business needs;
    - From 2026 onwards, van buyers will have more e-van models to choose from than conventional models
    - In 2030, when the EU van CO^2 standards are further strengthened, there will be 59 e-van models on the European market but only 42 conventional models.

13 https://cleancitiescampaign.org/research-list/zero-emission-fleets-in-cities/



- By 2027, the average price of electric vans will be cheaper to purchase than diesel, driven by falling battery prices and increasing economies of scale.
    - Existing studies find battery-electric vans are already cheaper to own and run than diesel vans in 12 European countries out of 16 reviewed, when financial incentives are considered.

Cargo bikes - the unsung hero

Zero-emission freight will only be achieved by also supporting the uptake of e-cargo bikes, which are estimated to potentially replace up to 9 percent of van kilometres driven by 2025 and up to 17 percent of van kilometres by 2030 in central London[14].

Analysis from Clean Cities shows London has seen a 63 percent increase in cargo bikes used by Londoners and businesses from 2022 to 2023, which will be helped by the greater ease of access and shorter journey times gained by businesses switching some of their operations to pedal power[15]. Several local authorities, including in central London, have already signed the Cargo Revolution Charter in support of accelerating the uptake of e-cargo bikes amongst businesses and residents and a number of projects are currently underway[16].

14 https://content.tfl.gov.uk/tfl-cargo-bike-action-plan-2023-acc.pdf
15 https://cleancitiescampaign.org/london-sees-dramatic-increase-in-cargo-bikes/
16 https://www.cargorevolution.org/borough-charter

5. London's goals

The Mayor of London has committed to making London the world's first electric-vehicle ready global city[17], which will be essential to improving air quality in London. The hidden social and environmental costs associated with diesel vans are estimated to total £2.46 billion annually[18] and diesel freight vehicles (especially vans) are the top road transport contributor to NOx emissions in central London[19], leading to very harmful levels of nitrogen dioxide. Modelling has shown that phasing out diesel vehicles in central London, in conjunction with a reduction in car kilometres, would help London to meet WHO interim guidelines by 2030[20].

Achieving zero-emission freight is also critical to achieving the Mayor's target for London to be a net zero-carbon city by 2030. In 2022, the Greater London Authority published four possible pathways to net zero, looking at the different ways London can reduce emissions[21]. The Mayor selected a preferred pathway to net zero – the Accelerated Green pathway. This pathway is guiding the development of policies and programmes and the intended outcomes are:

- All new vans registered in London are zero-emission by 2030 (this was 8% in 2023[22])
- 34% of van kilometres are electric by 2030 (this was roughly 5% in 2023[23]);
- A maximum 2% growth in van vehicle kilometres by 2030 based on 2020 levels (this grew by 3% in 2023[24]).

6. A policy pathway for London?

London has been at the forefront internationally of efforts to reduce the harmful impacts of road transport in cities. But it risks being left behind other cities, such as those in the Netherlands, Sweden and France, which are taking more concerted action to prioritise electric and pedal-powered freight.

It is clear that if London wants to remain a world leader then new policies are needed and existing policies must be implemented effectively to reduce harmful emissions from freight. Clean Cities commissioned Just Economics to produce a five-year pathway in support of London becoming a leader in the transition to clean and sustainable freight, culminating in the implementation of a central ZEZ-F in 2030.

The report finds that implementing a fully operational ZEZ-F in central London by 2030 would yield significant benefits for Londoners in terms of air quality and make a substantial contribution to reducing harmful road transport emissions.

The value of the combined health and carbon cost savings of a ZEZ-F in 2030 are £140 million for that year alone[25].

17 https://sadiq.london/manifesto/making-london-greener/
18 https://www.justeconomics.co.uk/delivering-value
19 https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2019
20 https://cleancitiescampaign.org/research-list/how-low-can-cities-go/
21 https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/climate-change/zero-carbon-london/pathways-net-zero-carbon-2030
22 https://www.gov.uk/government/statistical-data-sets/vehicle-licensing-statistics-data-tables
23 Based on preliminary data provided by TfL (8% central, 5% inner, 3% outer London observed in December 2023)
24 https://roadtraffic.dft.gov.uk/regions/6
25 Conducted in line with DfT TAG guidance108 and HM Treasury Green Book guidance.

The five-year pathway involves a series of financial, efficiency and infrastructure measures, learning lessons from other leading cities that have pioneered zero-emission freight zones. It mirrors the time horizons for ZEZ-F implementation in other cities and builds, where possible, on existing policy measures already underway in London and the UK.

The experience of other cities that are closer to ZEZ-F implementation points to two success criteria:

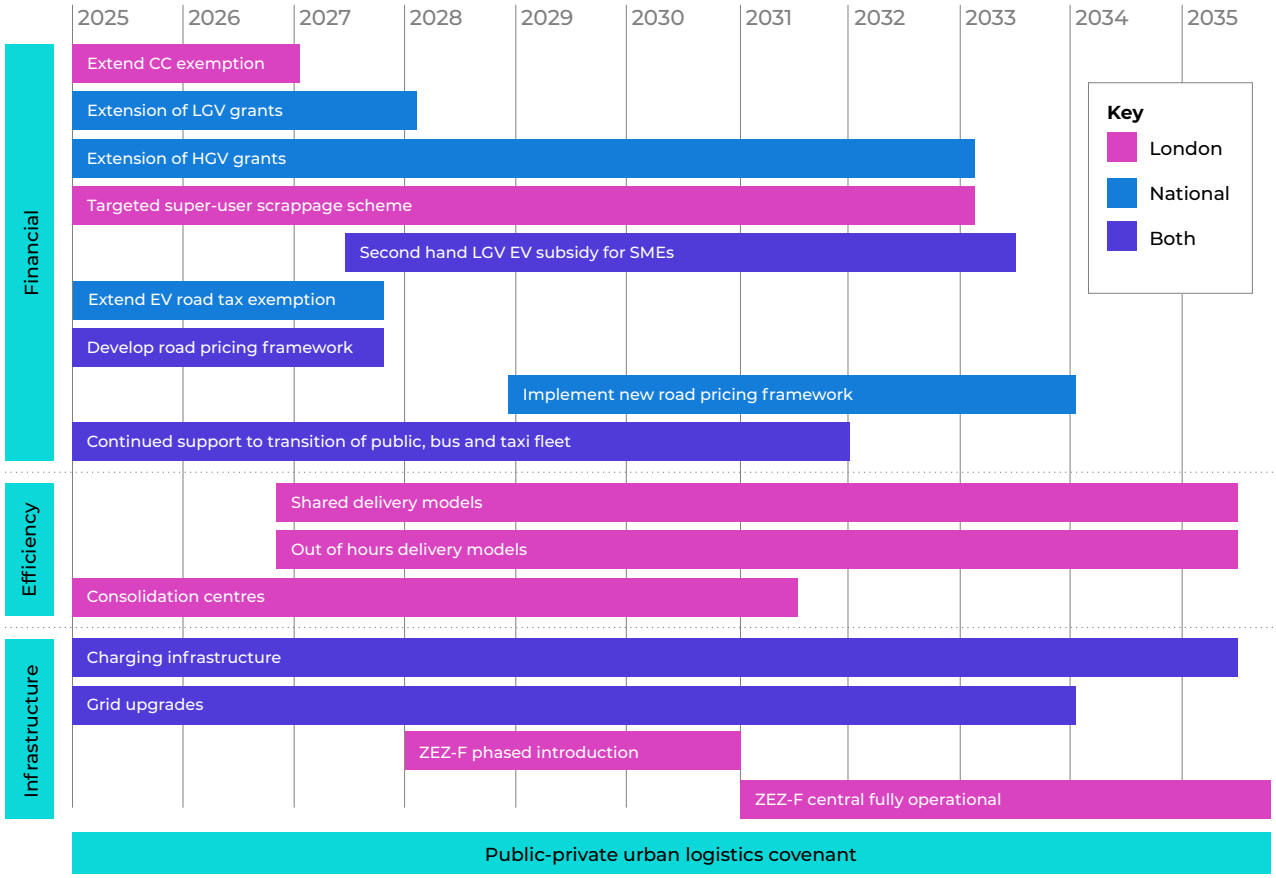
1. Achieving clarity around the roadmap and milestones

2. Fostering collaboration and open communication between the many stakeholders that are required for a successful transition

Crucially, while the ZEZ-F may be located within a city, its successful implementation requires collaboration between national and local government. It also requires the government and industry to work together.

London has the LoCity forum, which was set up to support the uptake of low emission commercial vehicles and to create a platform for businesses to engage with TfL. There is an opportunity to task this network with the goal of supporting the delivery of a five-year policy pathway.

The figure below depicts the key elements of the proposed pathway. It is colour-coded by stakeholder to indicate where action is required by local government, national government or both. Private stakeholders will also play a role in a number of these areas, such as growing the charging infrastructure.



Source: Just Economics Research Ltd

7. Policy pathway:

Governance

Mayor/TfL

- Set a clear timeline for implementation of a Zero-emission Zone for Freight and renew the LoCity forum with a five-year programme of work (local, national, business) to enable collaborative working towards this goal

Financial measures

Mayor/TfL

- Extend the EV congestion charging exemption for LGVs and HGVs to 2027
- Support SMEs to make the transition to battery electric LGVs through a targeted scrappage scheme (immediately) and a subsidy or loan towards second-hand battery electric vans (2027)
- Accelerate progress towards electrification of the GLA group fleet by 2030 and support local authorities to achieve this goal, particularly for vans and those operating in central London

National government

- Extend the OZEV plug-in van and truck grant until BEVs reach at least 15% fleet composition.
- Extend vehicle excise duty exemption for battery electric LGVs and HGVs until they reach at least 15% of fleet composition
- Explore options for plugging the fuel tax revenue gap, with a view to implementing a framework that continues to incentivise zero-emission vehicles, particularly zero-emission LGVs and HGVs

Efficiency measures

Mayor/TfL

- Actively promote frameworks for out-of-hours deliveries by battery electric LGVs
- Work together with the business community to understand the need for consolidation centres and logistics hubs and facilitate access to under-utilised public buildings where appropriate
- Progress the recommendations from the 2017 review of the London Lorry Control Scheme to better support out-of-hours deliveries by battery electric vehicles
- Work with business actors to support freight sharing models that optimise payloads and reduce one-off journeys

Infrastructure

Mayor/TfL

- Continue to proactively support the development of London's charging infrastructure, with a particular focus on the needs of freight vehicles. Use the multistakeholder forum (as per Action 1) to assess and plan for charging needs
- Ensure that potential grid constraints are identified and addressed to enable sufficient capacity for EV infrastructure

National government

- Work with local government to ensure grid constraints are addressed and that sufficient funding is available to do so

8. Conclusion

Accelerating the transition to zero-emission freight in London will be essential to meeting the Mayor's climate targets and to improve air quality.

There is a huge opportunity for London to get back on track by developing a five year policy pathway for zero-emission freight, with a blend of regulatory measures, financial support and infrastructure, delivered through effective collaboration between local authorities, government and businesses.

Anchoring a pathway around the development of a zero-emission freight zone in central London would draw on lessons from pioneering European cities, build momentum and deliver significant health and carbon benefits for Londoners.

This briefing was written by Clean Cities, a campaign hosted by Transport & Environment.

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About the Clean Cities Campaign

The Clean Cities Campaign is a European coalition of organisations hosted by Transport & Environment. Our mission is to transform the way we move in cities by influencing decision makers and empowering communities so everyone can enjoy healthy and liveable streets

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