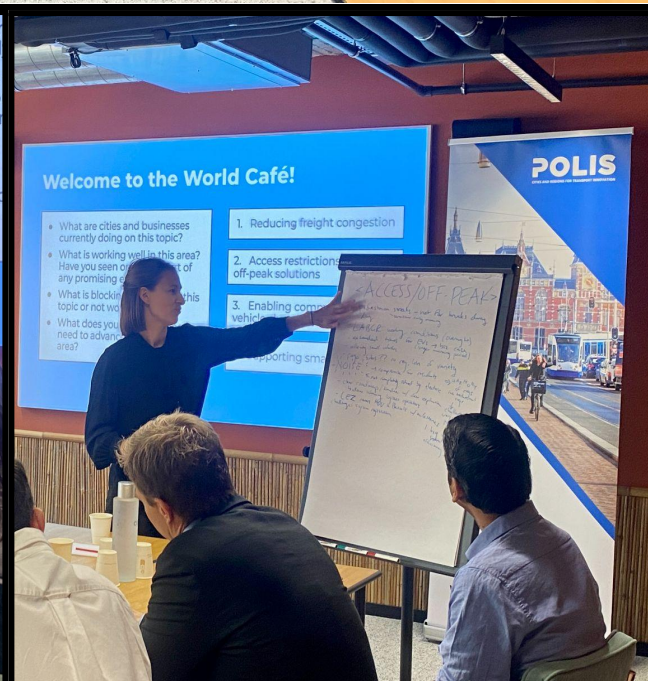


Summary Report

Zero Emission Freight European City-Business Roundtable

26-27th September 2023



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Acknowledgments

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Overview

On 27th September 2023, delegates from six European cities and nine private sector businesses attended the C40 Zero Emission Freight European City-Business Roundtable event in Brussels, Belgium. The roundtable provided a space for public and private sector delegates to speak candidly on challenges to and opportunities for zero emission freight in Europe, including upcoming trends or policies. The event aimed to build upon the common ground between cities and businesses, and to identify solutions and opportunities for collaboration.

The roundtable followed the [Urban Logistics Innovation Day](#), hosted by [POLIS](#) and [ALICE](#) on 26th September. The day served as a final conference for [LEAD](#), an EU Horizon 2020 research and innovation programme on urban logistics, and included keynote speakers and breakout sessions.

Roundtable hosts

C40 Cities

[C40](#) is a network of nearly 100 mayors of the world's leading cities working to deliver the urgent action needed right now to confront the climate crisis and create a future where everyone, everywhere can thrive.

ALICE

The European Technology Platform [ALICE](#) (Alliance for Logistics Innovation through Collaboration in Europe), is set up to develop a comprehensive industry lead strategy for research, innovation and market deployment of logistics and supply chain management in Europe.

Participating cities	Participating businesses
Brussels	BPost
London	Colruyt Group
Madrid	Einride
Milan	Ingka Group (IKEA)
Stockholm	Procter & Gamble
Warsaw	Proximus Group
	Scania
	UPS
	Volkswagen Commercial Vehicles

Key takeaways

- 1. Zero emission urban logistics is firmly on the map.** The appetite and momentum for sustainable urban freight is growing, with diverse stakeholders trying out new ways of working. The evidence base for solutions is increasing.
- 2. Public-private dialogue and collaboration is essential to success.** Cities and businesses greatly value opportunities for continued cross-sector dialogue on urban logistics – and recognise that zero emission freight is not possible without sharing expertise and working together.
- 3. Cities and businesses have many shared goals on urban freight.** Public and private sectors agree efforts are needed to improve safety and reduce both greenhouse gas (GHG) emissions and air pollution. There is also a strong shared desire to reduce freight congestion on city streets.
- 4. Small and medium-sized enterprises (SMEs) must be included in the conversation.** Smaller businesses are an essential component of urban freight. However, they will encounter additional barriers to transitioning to zero emissions and can be difficult to reach. More work is needed to establish best practices of outreach, inclusion and representation.
- 5. Low and zero emission zones present an opportunity to advance sustainable freight.** Ambitious transport policy can communicate a clear transport vision and provide a framework for trialling new solutions. It's important for the freight community's voice to be heard in planning for Zero Emission Zones and putting in place feasible milestones.
- 6. More investment and real-world data is needed.** Electric truck and van usage is growing, but not fast enough to hit climate goals. There are also other promising avenues for reducing pollution and congestion from freight like overnight deliveries, urban services hubs and multimodal opportunities, including river and rail. More data needs to be shared (e.g. on freight flows) to demonstrate feasibility of these opportunities, and increased investment and demonstration of viable projects are needed to achieve market transformation.

Recommendations



What can cities do?

- **Put freight on the agenda:** By making a public commitment to achieve sustainable urban freight or by taking visible action, cities can help create the space for knowledge exchange and send a market signal to the private sector. Cities should also incorporate freight into other transport efforts, like zero emission areas and the buildout of EV charging infrastructure.
 - **Provide regulatory certainty:** Cities can set long-term visions and plans that provide the certainty the private sector needs to invest in zero emission technology.
 - **Build internal capacity:** Although city officials do not need to be logistics experts, there should be staff who can focus on urban logistics and work with businesses to advance progress on shared goals.
 - **Serve as enabler:** Cities play a valuable role in advancing zero emission freight by primarily acting as a partner, facilitator, convener and regulator. They do not need to manage pilot projects, for example.
 - **Create forums for public-private knowledge sharing:** Cities should use their power to bring stakeholders together for regular two-way knowledge sharing and feedback on urban logistics plans and policies.
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What can businesses do?

- **Build internal capacity:** Businesses should dedicate resources and time to innovation, learning, sharing results and providing expert knowledge to cities and small businesses on shared zero emission goals.
 - **Lead on innovation:** The private sector should use its capital to invest in new solutions and technology, advancing the market and contributing to the real-world evidence base.
 - **Start now:** Many challenges still exist to advance sustainable urban logistics. The private sector can actively participate in finding solutions and have a profound impact on leading resilient new ways of operating, in turn championing good business practices across the sector.
 - **Share lessons learned and data:** Businesses should share information on technology and approaches they are testing, as well as data that can contribute to better policies. Don't be afraid to fail publicly.
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What can organisations like C40 and ALICE do?

- **Highlight climate commitments:** Raising awareness of existing climate and zero emission transport pledges and commitments can reinforce market signals and enhance accountability.
- **Share successes and lessons learned:** Organisations can amplify the findings from different projects and regions, helping to ensure stakeholders are building on existing trials and evidence.
- **Convene and moderate:** Providing third-party spaces for dialogue can accelerate knowledge exchange.
- **Showcase cities and businesses that are leading the way:** Raising awareness of leading actors can provide examples and help create a positive feedback loop.
- **Emphasise opportunities for scalability and replicability:** With a more birds-eye view, organisations can identify the policies and projects that have strong potential for success in other places.

City-business spotlights

The roundtable provided an opportunity for cities and businesses to share how they are collaboratively delivering across the spectrum of zero emission freight. From future policy development and infrastructure planning, to EV adoption and off-peak deliveries, the range and quality of projects taking place is testament to the importance of the public and private sector working in partnership. Here are a few examples of past and present city-business collaborations:

Brussels

Collective commitments from public and private sectors - In April 2023, [50 businesses and key city players](#) from the Brussels Capital Region (BCR) signed an agreement – the [Brussels Green Deal on Zero Emission Urban Logistics](#) – committing themselves to implementing more sustainable urban logistics practises. Each signatory will set their own commitments and objectives every two years. For example, by 2025 Bpost is committed to making zero-emission deliveries in the city, and the international carrier Ziegler will commit to using cargo bikes for part of its deliveries.



Credit: POLIS network.eu

London

Forums and networks - Transport for London regularly convenes [LoCity](#) (a freight fleet operator and city network) to receive direct feedback from the freight community and share key policy updates on initiatives such as the city's [scrappage scheme](#), a £160m financial assistance grant to help SMEs and residents to scrap or retrofit their vehicles. The Mayor of London's [EV Infrastructure Task Force](#) also brings together representatives from large and local business, energy, infrastructure, and government to provide guidance on how to increase the quantity and variety of EV charging infrastructure across the capital.

Madrid

Pilot project partnership - In 2021, EMT Madrid (City Council of Madrid) and CITYlogin (a sustainable urban distribution business) set up a [micro logistics hub in Plaza Mayor](#), one of the main transport arteries of Madrid. The partnership enabled the distribution of goods via EVs in the city centre, supporting the capital's 'Madrid 360 Sustainable Mobility Plan' and compliance with EU air quality standards. The operating data of the micro logistics hub feeds into a Digital Twin model of Madrid, a virtual replica of the city that simulates and predicts the operation of the distribution units, contributing to more sustainable planning of last-mile logistics models.



Credit: eit Urban Mobility / EMT Madrid

Stockholm

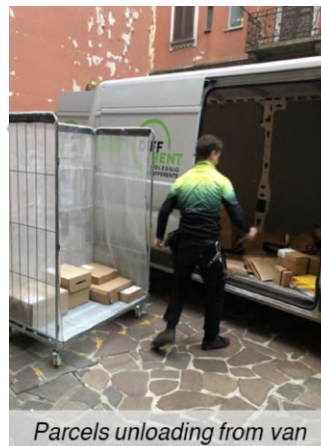
Consortium-driven projects - the City of Stockholm, along with a consortium of business partners including Scania, HAVI Logistics, and McDonald's, launched an [8-month trial project](#) to test electric plug-in hybrid trucks and their noise impacts during [nighttime deliveries](#) in what would have otherwise been the restricted periods heavy lorries could operate in the inner city of Stockholm. Another example is the city's [Älskade stad](#) ("Beloved City") programme, a lasting partnership between the city, a postal delivery company, waste collection business, and landowner, which combines parcel delivery with waste collection. A specialised EV collects parcels from an urban consolidation centre and delivers its cargo at the same time as collecting waste from the drop-off points, improving efficiency and reducing congestion.

Warsaw

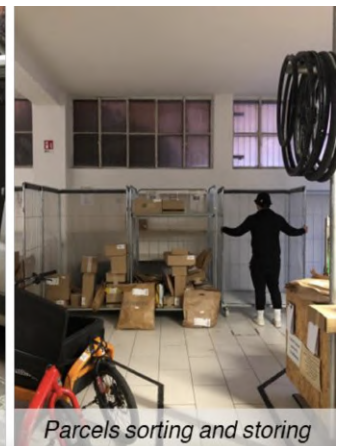
Greening opportunities - The city manages the '[Green Fund for Warsaw](#)', which enables entrepreneurs and other entities to participate in the development and maintenance of green areas in the city. The collaborative programme invites businesses to contribute to greening initiatives across parks, squares, and streetsides to improve biodiversity as well as local air quality.

Milan

City and business workshops - the City of Milan launched a pilot project in late 2022 to test the [use of e-cargo bikes for last-mile e-commerce deliveries](#). The city organised a workshop at the start of the pilot with the selected cycling logistics operators and larger logistics businesses to provide an open dialogue on challenges, opportunities and cover any questions or concerns before pilot activities began. The [feedback](#) from the workshop ultimately changed the format of the pilot away from a consolidation focus and onto the idea of testing the feasibility of cargo bike deliveries in the city centre as an exclusive service.



Parcels unloading from van



Parcels sorting and storing

What is the role of e-cargo bikes?

E-cargo bikes are gaining a lot of traction in Europe, with major logistics operators integrating them into their existing vehicle fleets, especially for last-mile deliveries. Cargo bikes can be quicker and cheaper than combustion engine vans, and crucially have zero tail-pipe emissions. Benefits also extend to accessing more parking options in urban city centres, restriction-free trips in and out of low/zero emission zones, health benefits to staff riders, and increases in customer satisfaction for businesses using them in their operations.

Despite their popularity and huge potential in tackling emissions and congestion, businesses at the roundtable emphasised that cargo bikes are not the solution for all freight segments. Currently, best use cases are for parcel deliveries in dense urban areas and for service providers transporting small to medium loads. However, new innovations in design and battery technology are enabling greater distances to be travelled with increasingly heavier loads, which will diversify their use cases for businesses.



Deep dive: Freight challenges and opportunities

Participants were split into four groups to deep dive into the challenges and opportunities for the below topics:

- Reducing freight congestion
- Access restrictions and off-peak solutions
- Supporting small businesses
- Enabling commercial vehicle charging

Below are a selection of the key discussion points from each group.

Reducing freight congestion

- The dynamic use of space has a fundamental part to play in reducing congestion. For example, micro logistics hubs (small, secure spaces used to receive, sort, and send deliveries in central locations) are not a 'one size fits all' solution, but can be attractive to logistics operators for inner city consolidation and delivery. Identifying applicable micro hub locations should take into account different characteristics like access height, floor space, power supply, security and ownership.
 - Utilising river and rail freight can provide opportunities to reduce congestion on road networks. Understanding the goods types (e.g. waste, bulk, construction materials) that waterways and railways would be best suited for would allow future discussions with cities to identify locations for loading/offloading in inner city terminals.
 - There are technology-based solutions to support a reduction in freight congestion, such as mapping vehicle capacity levels to ensure they are fully loaded, and the role of geofencing and dynamic curb management. There is a need to understand freight flows in greater detail to inform opportunities for consolidation – data sharing between businesses and cities can be a significant barrier to this.
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Access restrictions and off-peak solutions

- Off-peak (evening, overnight and early morning) freight delivery pilot programmes continue to be of interest to cities, yet there are recurring challenges. Noise disturbance was the most commonly discussed topic – EVs are significantly quieter than fossil fueled vehicles but they don't remove noises associated with offloading and loading. Participants discussed potential solutions including more comprehensive off-peak best practices training for drivers, as well as the certainty from cities that businesses can operate off-peak, which would incentivise the development of quieter technology and methods. There was a collective agreement that the best use cases for off-peak services need to be identified and that micro logistics hubs and small EVs could facilitate off-peak deliveries.
 - Participants brought up how certain restrictions could inadvertently move cities away from their goals. For example, time restrictions could mean operators need more vehicles on the road during available times to make up the volume of deliveries needed, and weight restrictions could limit EV adoption, since they are typically heavier than combustion engine vehicles. Logistics experts could guide policy development in this area if brought into the conversations early.
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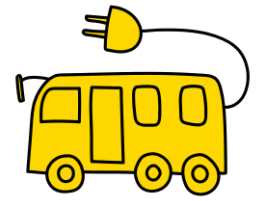
Supporting small businesses

- Small and medium-sized enterprises (SMEs) need representation in urban logistics policy decisions to inform cities and larger businesses of their needs.
- Financial programmes of support (e.g. scrappage schemes) should have clear timelines and showcase innovative models for EV purchasing or alternative shared-ownership pathways.
- Time is a limiting factor for SMEs – engagement around transitioning to sustainable freight needs to be clear and concise, and outline the financial and reputational advantages. Effectively communicating positive examples of SME leadership would inspire and galvanise local business support for adopting sustainable freight practices.
- There is a role for larger companies in supporting SMEs through knowledge sharing of best practices across specific sectors. Additionally, cities should continue to provide financial incentives and tailor urban logistics policies with SMEs included in the conversation.



Enabling commercial vehicle charging

- An overarching message from this group was that charging infrastructure needs to be planned and implemented as soon as possible across all types (ultra rapid / rapid / fast / slow charging). Understanding the operational use cases for different electrified vehicles, as well as existing freight flows, can inform future charging points across inner and outer urban areas.
- There is a need to understand which stakeholders have the capacity to install charging points on their land. Existing infrastructure, such as gas stations and service centres, can be retrofitted with electric charging points to serve businesses and neighbouring communities. However, more engagement with real estate owners and big logistics service providers is needed to understand what can be made available to others.
- Echoing discussions in the 'Access restrictions and off-peak solutions' group, there's a desire for policy development to reflect freight operational models. Policies focussed on increasing livable cities (such as encouraging pedestrian spaces) should also integrate allocating city space for commercial vehicles. The group was interested in hearing more best practice examples from other sectors around this topic.



Zero Emission Zones and freight

Many European cities have already introduced, or have plans to introduce, a Low Emission Zone, which regulates the circulation of high-polluting vehicles by either preventing access to the zone or charging a fee to enter. As of May 2023, there were over 320 Low Emission Zones across Europe, and more than 500 planned by 2025. Many cities are now considering Zero Emission Zones, with 13 European cities already endorsing the C40 [Green and Healthy Streets Accelerator](#) which will ensure a major area of their city is zero emission by 2030. In addition, some cities are even introducing specific zones for commercial vans and trucks. For example, from 1 January 2025, municipalities in [the Netherlands](#) will be allowed to introduce Zero Emission Zones, which will potentially require all company vans and trucks wanting to enter the zones to be zero emission.

Planning for these zones provides an opportunity to communicate the city's overarching transport vision and send a clear signal of the city's zero emission priorities, as well as establish a framework for interaction with, and feedback from, the freight community. As such, there is a need to embed sustainable freight practices as an intrinsic component of cities' Low and Zero Emission Zone visions and plans.

Zero Emission Zone recommendations

Participants at the roundtable discussed plans of action for rolling out a Zero Emission Zone and how to ensure the freight community is ready to meet the requirements, identifying key recommendations for cities:

- Establishing a city-business working group or forum to deliver the zero emission zone and provide feedback on aspects such as the zone boundaries, timelines, milestones and specific targets, rules, exemptions, and packages of support.
- Creating a long-term Zero Emission Zone vision that aligns with the city's transport vision. Sub-visions for different transport areas and their needs might also be useful.
- Creating an urban freight unit / department, with city resources and capacity to support urban logistics operations, specifically oriented to SMEs.
- Convening a network of initial movers to understand processes of transition to meet the zone requirements and how best practices can be shared.
- Clearly defining how enforcement would be carried out and measured accurately.
- Assessing the needs of local businesses and what will be required to support a just transition, e.g. scrappage schemes or incentive packages.
- Galvanising policy support that will provide opportunities for quickly implementing new technology solutions, such as charging infrastructure and digital infrastructure.
- Developing a robust communications plan to raise awareness of the Zero Emission Zone's rules, timeline, and why it is being introduced, with communications targeted to the freight community including SMEs.
- Setting up an evaluation procedure with the city-business working group to help identify where policy tweaks or adjustments are needed.



Conclusion

The roundtable was a constructive and beneficial event for city and business attendees, who engaged candidly across a broad range of challenges, successes, and areas for further discussion on zero emission freight in Europe. The in-depth discussions between public and private sectors throughout the day's activities is a testament to the importance of convening in-person opportunities to share knowledge.

The day's dialogue highlighted many areas for further exploration:

1. **Solutions are not one size fits all** - each city has its own unique social, political and environmental qualities which must be considered when implementing zero emission freight initiatives. How can we apply greater flexibility to existing solutions that allow for more transferable approaches to be used and scaled across cities?
2. **From pilot project to permanent practice** - the economic viability and legacy of successful freight pilot projects is at risk when they are tied to funding that is not guaranteed to continue or when there is no clear sustainable business model. In order to scale and permanently embed pilots, there is a need to understand responsibilities of ownership, potential revenue streams and future management to ensure solutions can continue to deliver on cities' sustainable freight action plans.
3. **Cities as enablers of innovation** - Businesses have the experience and expertise to lead on innovation. As enablers, how can cities create opportunities, maximise positive impacts of innovation and inspire new ways of operating?
4. **Rethinking the use of space** - Initiating conversations with real estate stakeholders could present new options for micro logistics hubs. For example, parking lots and garages can offer space for sustainable freight activity.
5. **Enabling data-sharing to support decision-making** - greater access to data-rich sources needs to be facilitated in a way that reinforces safety and transparency. Cities and businesses can both benefit from partnering on data exchange practices, with an agreed framework to ensure accountability.

C40 will draw on the information gathered and lessons learned from this roundtable to build our programmes to best support cities and develop future collaborative events.

Please contact Catherine Ittner, Zero Emission Freight Senior Manager (cittner@c40.org), and Joshua West, Zero Emission Freight Project Officer (jwest@c40.org), if you have any questions about this summary report.