

# Mobility Hubs

The next generation



This is the second in a series of articles discussing the concept of Mobility Hubs and how they can address many of the challenges of sustainable transport in our cities. The first article ([available here](#)) outlines the existing thinking on Mobility Hubs and how they are currently being deployed. This piece explores how these ideas could be extended and how to ensure the Hubs idea can become self-funding and is robust to changes in technology and demand.

## ➤ NUTS & BOLTS

At its heart a Mobility Hub needs place, power and connectivity to underpin building a wide range of mobility and supporting services.

A successful Hub needs the right location and mix of mobility infrastructure – bike/scooter docks, EV charging points etc. While this infrastructure is relatively light, it can still be a problem to deploy due to planning and space constraints. Therefore, having strong engagement from the landowner, and the responsible authority, is key to both make sure the Hub meets the local need and to minimise potential deployment barriers.

Since a Mobility Hub will need to cater for an increasing number of electric vehicles, from e-bikes and e-scooters to EVs of various types, it needs robust power infrastructure. There can be financial and regulatory barriers in developing new locations. In particular, the cost of connecting the underlying energy infrastructure can fall to the installer of the first charge point limiting the commercial viability of small Hubs in particular. This has been recognised by government and there are a number of [funding options](#) available in the UK to help with these costs.

The final core component is fast communications. This may not be necessary to deliver the main mobility components, but it brings the possibility of a much richer range of services to both the user and the service operator. At its heart, this is fibre to the Hub; a range of connectivity and communication options can then be constructed that go beyond the needs of a pure Mobility Hub.





# ➤ AND THEN WHAT?

Having the fundamentals of place, power and comms enables the layering of Hub services. Currently this is a mix of active mobility options co-located with EV charging points and, for bigger Hubs, a mass public transit node. Support services generally consist of a coffee shop, bike repair centre and transport system information resources, with possibly some kind of customer focussed package pick-up and drop-off options, such as in [Flanders, Belgium](#).

These are all valuable components, however there is a real opportunity for a broader conception of what services a Mobility Hub might incorporate. Building the right mix of B2B, B2C and social services will support a Hub's long-term commercial viability ensuring the concept lasts beyond the lifetime of publicly funded trials.

These Hubs also need to form a credible, interoperable network – it's no good if there isn't a hub near your destination or if you can't dock your e-scooter because of incompatible hardware. As with other aspects of the Hub's concept, this needs a systems perspective to understand what constitutes a minimum viable network, how this network integrates with the existing transport system and how, and where, the Hub network can best be expanded. Modelling clearly plays an important role in developing this blueprint, allowing the investigation of a range of Hub configurations, but public engagement is equally (if not more) important to give a better understanding of current and future user need.



# > A COMMERCIAL ECO-SYSTEM

The question then becomes: how do you build these financially viable Hub concepts and network, and what are the services that can work for different use cases? Obviously, the answer will be very different in each location, depending on scale and user need, but there are some fundamental concepts that can be applied.

There is clear value in a Mobility Hub providing last mile solutions for both people and goods – a key urban transport challenge. This requires flexibility in design and implementation to respond to technology changes, such as new charging infrastructure, and to meet shifting demand profiles and travel patterns. This requires new, innovative partnerships between public and private sectors to balance investment and risk as seen in the trials in cities from Paris to Milan, and as recently [recommended by the Commission on Travel Demand](#).

As noted by US DoT in the [Bremen trials](#) and elsewhere, sharing the capital and operational costs of the hub between public and private stakeholders will be vital for the longevity of the hubs idea. A common model is where a local authority providing the basic infrastructure and operational framework (around interoperability and pricing) and then licenses the mobility (and supporting) services to commercial partners, as seen in Milan and Paris. Whatever form these partnerships take, they need to:

- Manage the inherent technology and demand risks;
- Develop a strategic deployment plan for Hub locations and interconnections;
- Ensure interoperability of different Hubs both for vehicles and payments; and
- Define a pricing and payments model that balances commercial and social drivers leading to long-term financial stability.



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# OTHER OPPORTUNITIES

The real value in the Hub concept though comes from combining multiple layers of services that support wider connectivity, the last-mile transfer of goods and people, and provide wider community value. In particular servicing the rising demand for online shopping, and the associated increase in local delivery services, is an excellent prospect for Mobility Hubs to provide these urgently needed services efficiently and effectively while meeting sustainability goals.

Adding a more sophisticated logistical layer onto the basic concept of a Mobility Hub therefore provides an exciting opportunity to address [the challenges of decarbonising last-mile delivery facing many retailers](#). It clearly makes sense to co-locate Mobility Hubs for passenger transfers with micro-consolidation centres and package collection/return lockers, together with the charging assets for logistic fleets. Not only does this directly address the issues around last-mile delivery and returns, but greatly increases utility and commercial value of the Hub idea.

Finally, I want to return to the point made earlier about communication infrastructure being a core pillar of

the next generation Hub concept. Having a robust power supply and a high-speed comms at a network of local locations provides a wide range of opportunities for additional service layers on top of mobility and logistics. This could include new operating models for comms technologies (including 5G) and the providing the communication and compute infrastructure for the roll-out of Smart Cities, the Internet of Things and Connected and Autonomous Vehicles.

In summary, to ensure the commercial viability the Hub concept needs the basic idea of a Mobility Hub to be combined in a network with logistics last-mile services and wider mixture of viable B2B, B2C and local community services. In addition, delivering the basics of place, power and communications, provides an exciting opportunity for the design, development and delivery of new, as yet unknown, services.

The next article will introduce some ideas on what the concept of a Mobility/Connectivity Hub might look like and how it can support wider ideas of connectivity in our cities.

# ➤ START A CONVERSATION



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## ▶ OTHER PAPERS IN THIS SERIES

- # 1 – Mobility Hubs – Introducing the concept
- # 3 – Connectivity not just mobility (coming soon)
- # 4 – London as a place to experiment (coming soon)



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