Smart Mobility Living Lab London

dg:cities

Mobility Hubs

Making it real

This is the final article in a short series exploring the challenges and opportunities for the next generation of Mobility Hubs. So far, we've talked about the current state-of-the-art, explored what a next generation Mobility Hub might look like based around the three central pillars of Place, Power and Communication and discussed some of the social and human potential they might bring. In this last article I will look to place Mobility Hubs into a real-world context based around TRL's Smart Mobility Living Lab (SMLL) located in the Royal Borough of Greenwich and Queen Elizabeth Olympic Park in London.

Much of the discussion outlined in the previous articles is theoretical, and while people intrinsically 'get' the idea of Mobility Hubs they often struggle to understand how exactly it relates to their business, let alone how they can build business or investment cases. They need some way to make the ideas 'real'. We have therefore been working with SMLL's partners to identify a number of real-world locations that can become tangible examples of the ideas outlined in the previous articles. Here, we outline a number of these opportunities.

First a few words about why SMLL.

SMART MOBILITY LIVING LAB

SMLL is a part of the wider UK Connected and Autonomous Mobility (CAM) testbed that aims to make the UK a world leader in the testing and roll-out of new mobility solutions. SMLL is unique in its combination of the semi-controlled, evolving modern infrastructure afforded by Queen Elizabeth Olympic Park together with the complex, less structured environment of a real-world mega city provided by the Royal Borough of Greenwich in South East London. This combination allows the testing and trialling of innovations at different maturity levels and provides a clear

path to deployment in a real city environment.

As well as providing the infrastructure needed to test new innovations, SMLL also has access to TRL's many years of transport expertise and DG:Cities existing work developing the case for Mobility Hubs, together with a wide range of partners as part of its Innovation Community, and extensive networks. This community brings together a varied collection of public and private sector players that have a real interest in understanding and delivering new mobility solutions – Mobility Hubs being a key focus.

So, what are the real-world SMLL and partner opportunities we've identified?

USE CASE 1

The Queen Elizabeth Olympic Park (The Park)

Queen Elizabeth Olympic Park (the Park) is a core component of SMLL through its partnership with the London Legacy Development Corporation (LLDC). Since the Park was developed to host the 2012 Olympic and Paralympic Games it has the perfect combination of modern infrastructure, space and a (more) controlled environment that make it an ideal place to develop, test and deploy innovative mobility solutions.

The area in which the Park sits includes a number of legacy and new transport challenges. There is the obvious need to support current and future travel on the Park (which covers 560 acres) for residents, workers and visitors, combined with a number of existing challenges in the surrounding boroughs. It is also located right next to one of London's biggest retail parks, Westfield Stratford City, all served by Stratford station which combines underground, overground, DLR with rail and bus services and is one of London's busiest interchanges. This complex environment presents real opportunities to develop and deploy future mobility solutions that meet London's Sustainable Transport Strategy.

There are therefore many opportunities to apply Mobility Hubs at the Park. A number of specific opportunities have been identified in discussion with LLDC that bring clear benefit to the local community and business including:

- An autonomous shuttle from Stratford Station to venues and locations on the Park such as Here East, London Stadium.
- Shared, low carbon mobility solutions for current (and future) residents and Park visitors that minimise vehicle ownership and provide inclusive first-mile, last-mile connectivity in the area for the widest possible cross section of users.
- Charging infrastructure for commercial fleets including EV logistics and maintenance vehicles, combined with a local logistics. solution based on Zero-Emission, Automated Logistics (ZEAL) solutions.
- The role of active travel as part of integrated transport solutions.

"The central aim is for 80 per cent of all trips in London to be made on foot, by cycle or using public transport by 2041"

LLDC, as the mayoral development corporation with responsibility for the Park, sees Mobility Hubs as a key tool to help them meet their current and future transport needs and are already actively engaging with partners to develop and deploy new and innovative mobility solutions on the Park. SMLL is working with them, and our wider Innovation Partners, to take forward these, and other ideas, for Mobility Hubs in the Park and surrounding area.

One key need on the Park, and elsewhere, is the provision of sustainable transport options for new commercial and residential developments.

That brings us to the Royal Borough of Greenwich, which is undergoing massive regeneration as the core of London moves further to the east.

USE CASE 2

New Real Estate Developments

One of the key components of successfully securing planning permission for new commercial and residential development is a coherent transport plan. This must both meet the needs of the future tenants and be well integrated with (or improve) existing, local transport provision. Providing a viable, sustainable, zero-carbon transport plan is therefore a key demand for successful commissioning of these types of developments. Mobility Hubs offer an excellent way to meet these requirements.

One example of the challenges and opportunities facing new real-estate developers is the U+I prospective site at Morden Wharf. This is a brownfield site on the west side of Greenwich peninsula and is currently awaiting a planning decision from the council. There are significant connectivity issues in that part of the Borough, so developing a viable transport plan is a key part of the application. As can be seen from the developer's website, and planning submission, U+I are cognisant of change. In the work commissioned from DG:Cities looking at Future Mobility Trends a Mobility Hub is a core component of their future transport solution. Such a hub will provide opportunities for the movement of both people and goods as outlined in a previous article on Hubs.

In discussions with the developers, it is clear that they understand the opportunities and challenges the rapid change in mobility present them in developing and delivering a transport solution for the site as the site is built and over the years ahead. Sites like this take a number of years to complete, often rolled-out over different phases, so any transport solution needs to be future proofed against changes in technology and user demand. A well-designed Mobility Hub can adapt to these changing needs and be part of a wider connectivity network across the Borough and meeting the transport, mobility and connectivity needs of future tenants and communities.

As well as the building of new mixed-usage developments, there are a number of other brown field sites in the Borough where new mobility can provide opportunity for growth and job creation as well as providing new transport options. Mobility Hubs in their wider sense that these blogs have outlined provide an excellent opportunity to meet these regeneration needs.

One such opportunity is in Plumstead.

USE CASE 3

Plumstead Power Station

Located in the Royal Borough of Greenwich, the Plumstead power station site (in SE18) is a Grade II listed site in the heart of Plumstead. It is currently being used by Crossrail as a logistics hub and offices but will shortly return to the Council who are keen to use it as a key part of the redevelopment of Plumstead High Street and the surrounding area. This will build on a number of other redevelopment projects in the area including the new Crossrail station, Spray Street and the Royal Arsenal Riverside development.

The site is a mixture of office and light commercial use with a range of internal and external space, that presents a great location for mobility led innovation activates. One exciting opportunity is around the B2B aspects of Mobility Hubs outlined in the second article in this series. The site would lend itself well to a logistics consolidation centre and/or a charging and management base for commercial EVs serving the first-mile, last-mile movement of goods and people. This area of London is due to undergo significant redevelopment in the coming year, making the Power Station a perfect location for developing and delivering new mobility services, potentially as part of a wider 'green economy' innovation community, bring growth, jobs and wider opportunities to the area. With fast fibre connectivity Plumstead power station also has all the requirements needed to act as a host for edge compute, micro data centre and communication infrastructure bringing yet more possibilities of linking together mobility, communications and the green economy to identify and deliver real value through new data driven services.

In early discussions with the Council, it is clear that they recognise the potential opportunities in Plumstead for a Mobility Hub led regeneration of the Power Station site. The increasing demand for the development and deployment of new transport solutions and services is a great opportunity to develop the site as a leading location for new businesses in this sector and to help solve some key intra-borough transport challenges.

USE CASE 4

Other

The examples mentioned above are just a small sample of the opportunities for Mobility Hubs in the areas already closely linked with SMLL. There are a whole range of other opportunities both in Greenwich and across the UK. There is a clear need to evolve the business model for a number of parts of the transport infrastructure as we move to a zero-carbon, shared, active transport model. BP is already working to understand how changes in the transport system will affect their business and are deploying a year-long Mobility Hub pilot site on Greenwich Peninsula in the coming month.

There isn't space here to go into all the other opportunities from carparks that could provide an existing network of location that are by their very nature well placed to serve as Mobility Hubs to shopping centres and existing mass transit hubs. All of these sites offer exciting opportunities for mixing logistics, personal mobility, EV charging or Micro Data Centres depending on need and context.

WHERE NEXT?

In all the opportunities mentioned here, there is a real interest from the Place pillar of Mobility Hubs. There is more work to be done to develop these options for Queen Elizabeth Olympic Park, Morden Wharf and the Power Station, however the enthusiasm of the site owners/ operators is clear. Turning these opportunities into reality will require co-design between site owners and operators, infrastructure and service providers. This is where SMLL's innovation partners, and wider network, can add unique value.

Mobility Hubs are still relatively immature so there remains an open question around the right balance between the need for a clear business/ investment case versus 'build it and they will come' approach. This means there is a need to shape initial Mobility Hub ideas around a commercially viable anchor client, while building in additional capacity to support innovation and the development of new services. We believe there is a clear need for more strategic thinking in this area. The high level of interest in Mobility Hubs from across the UK, evidenced by their inclusion in many planned Future Mobility Zones and sustainable transport plans, means there is a need for a better blueprint of how design, develop, deploy and operate these Hubs. This needs a flexible approach based on co-design between private and public sectors that SMLL and its partner network are uniquely placed to provide.

This is an exciting and fascinating area with huge potential to deliver commercial and social value while helping us meet the challenging goals of a net-zero future. SMLL and their innovation partners are keen to be at the forefront of this opportunity.

Please join us!

START A CONVERSATION

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