

# Mobility Hubs

## The Future Mobility Offer for Development Planning

November 2021

Future Mobility





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WSP UK Limited  
70 Chancery Lane  
London  
WC2A 1AF

Tel: +44 20 7314 5000  
Fax: +44 20 7314 5111

[wsp.com](http://wsp.com)



## Let's change the way we think. Let's create change.

### Mobility Hub Landscape

Against the premise of the global climate crisis and national targets to mitigate further negative effects of the way people and goods are transported in our societies, there is an urge to rethink how we plan the built environment. The Department for Transport's recently published document, *Decarbonising Transport: A Better, Greener Britain*, calls for 'place-based solutions' and recognises that different places and locations will require different solutions.

The mobility hubs concept is gaining significant traction across the UK, and are one such a solution. Hubs can provide easily accessible spaces integrating a variety of transport modes and promoting sustainable travel. They are designed to direct mobility away from privately owned vehicles towards shared ownership models, electric vehicles, bikes & scooters (micromobility), and public transport options.

They also, importantly, hold a community function, and may include the provision of parklets, benches, retail and workspace units, and even dark kitchens for increased food delivery options. Hubs are modular and can be implemented at different scales, can accommodate a range of different components, and will require different operating models depending on local need.

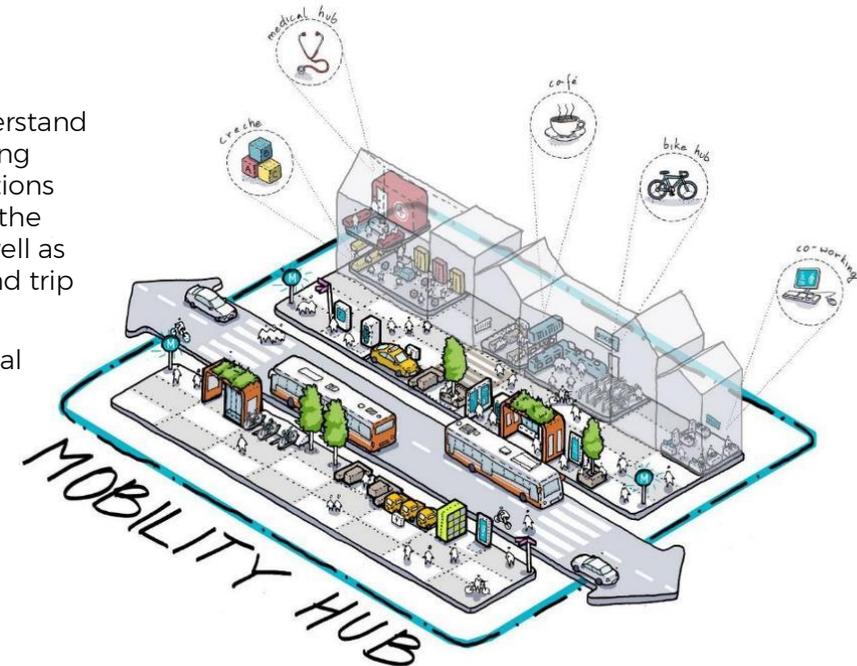
### Future Mobility Approach

We have worked with a range of private, public and third sector clients on the conceptualisation, design and implementation of Mobility Hubs. Given the unique nature of hubs, each presents a different set of challenges and opportunities, requiring tailored approach. Our approach is user-centric, and focuses on understanding people, the places they frequent and the activities they undertake there.

With that said, our works can be broadly categorised as follows:

- **Strategy:** exploring local needs to understand necessary hub components, undertaking spatial analysis for identifying key locations and detailing delivery prioritisation for the implementation of mobility hubs, as well as quantifying the potential modeshift and trip generation benefits to the scheme.
- **Design code:** providing indicative spatial requirements for different hub typologies to inform masterplan development.
- **Viability:** supporting the development of viable business models for hubs.

In what follows, we provide some examples of our mobility hubs work. Please note, this is not exhaustive.





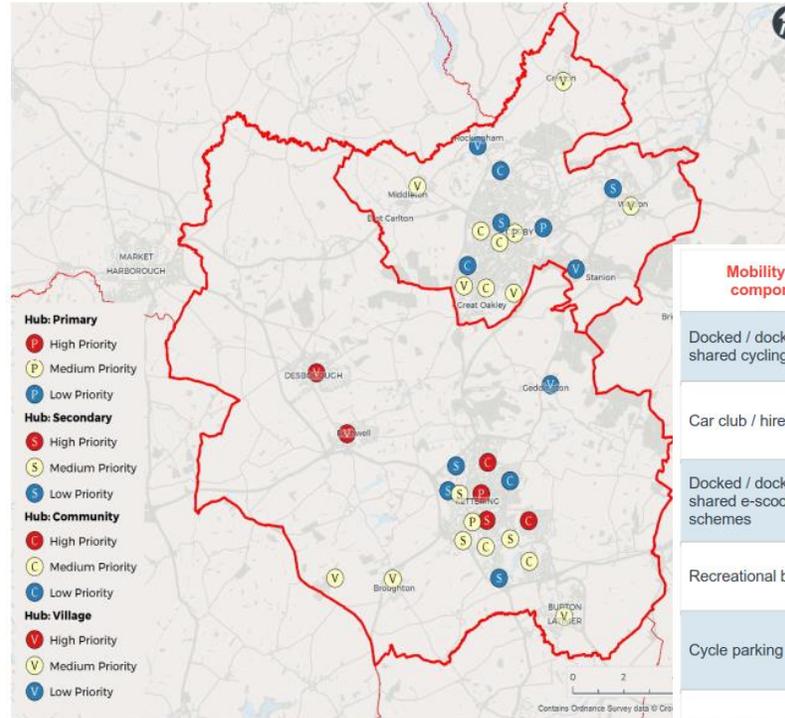
## What role can mobility hubs play in supporting a local economy?

### Project Premise

WSP was appointed to develop an Intelligent Transport Systems Strategy in Corby and Kettering, for which the Future Mobility team devised a Mobility Hub Strategy.

This entailed a **multi-criteria analysis** of the study area, including socio-demographic data, proximity to key land uses and indices of multiple deprivation, to identify suitable locations for hubs. The strategy also outlined **indicative high level costs** for the hubs, and prioritised which should be delivered first.

There was also **stakeholder engagement** undertaken to identify potential delivery partners and stakeholders, including micromobility service operators, landowners and Local Authority officials, which provided valuable insights into the local opportunities and constraints of mobility hub delivery.



Mobility hub component	Potential suppliers
Docked / dockless shared cycling schemes	
Car club / hire services	
Docked / dockless shared e-scooter schemes	
Recreational bike hire	
Cycle parking	
Parcel lockers	
Digital wayfinding totems	
Solar canopies / car port	
EV charging facilities	



# Design Code

## How do we design mobility hubs to be of most convenience to users?

### Project Premise

Otterpool Park is a proposed garden town near Folkestone, that will provide up to 10,000 new homes and jobs. WSP's Future Mobility team led the development of a user-centric mobility strategy to support this exemplar Garden Town envisioned to enable people to live affordable, happy and healthy lives in high-quality homes.

The user-centric mobility strategy was an evidenced based approach to developing alternative trip generation and mode share scenarios. It included the proposal of layered mobility investments and interventions to support the aspirations for a 'net zero carbon' and 'car-lite' development, which centred around a mobility hub offer.

Our analysis included identifying potential hub components to meet future travel and community needs, as well as outlining the indicative provision and where these would be best placed across the masterplan.

Mobility Hub Dashboards were also developed to showcase the indicative spatial requirements of the potential mobility elements, outline operating models and provide high level design considerations, as an initial resource for informing detail design plans.

### Mobility Hubs

Example components

Components		Primary Hub	Secondary Hub	Community Hub
Mobility Components (Public Transport)	Connections to existing rail and bus services	✓	✓	
	Demand-responsive transit	✓	✓	
Mobility Components (Non-Public Transport)	Car club / hire services	✓	✓	✓
	Docked / dockless shared cycling schemes	✓	✓	✓
	Docked / dockless shared e-scooter schemes	✓	✓	✓
	Recreational bike hire	✓	✓	✓
	E-cargobikes hire	✓	✓	✓

Potential benefit to scheme (where grey indicates 'not applicable')

- Supports low carbon ambitions
- Supports an active community
- Supports strong internal connection

### Shared vehicular assets

Shared car services include fractional ownership options as well as more traditional back-to-base services. Both types require designated bays for each vehicle provided



### Operating Models

- Recommended:**
- Back-to-base** - traditional car club offer where by user picks up and drops off vehicle at same bay.
  - Fractional Ownership** - a vehicle owned and shared amongst various households, which is parked in a convenient, dedicated bay.
- Suitable for later implementation**
- Peer-to-peer** - private vehicle owners list their vehicles on a platform for perspective renters in the area to use.
- Not recommended**
- Floating** - car sharing service without fixed parking bay, i.e. users can pick-up and drop-off vehicles at different bays.

### Design standards and spatial requirement

As car club providers increasingly move towards all-electric and/or hybrid vehicles, charging infrastructure will be provided at all car club bays. In support of sustainable travel practices, this will be extended to fractional-ownership bays too. Seemingly, parking spaces for shared vehicles will be in line with robust parking dimensions outlined by TfL, recommending a total bay width of 3,600mm x 7,000mm to accommodate the necessary infrastructure.

	Recommended (tfl, rapid) (mm)
Weight	-
Length	7,000
Width	3,600
Capacity	1

### Design Considerations

Shared vehicular assets should be provided in car barns associated with strategic mobility hubs. They should be universally accessible and distinctly marked. Additionally, car club bays could also be provided on-street adjacent to other hubs.

#### Primary Hub

- Sheltered car barns within 2 mins walking distance from the primary hub.
- Dedicated fast charging infrastructure for all shared vehicles.
- Provisions for CCTV to enhance security and safety in the parking spots.
- Solar canopies to be included at sheltered car barns for renewable energy generation.



#### Secondary Hub

- On-street, demarcated parking within a maximum of 2 mins walking distance from the Community hub.
- Dedicated fast charging infrastructure for all shared vehicles.
- Strong pedestrian links to adjacent mobility hub.



#### Community Hub

- On-street, demarcated parking within a maximum of 2 mins walking distance from the Community hub.
- Dedicated fast charging infrastructure for all shared vehicles.
- Strong pedestrian links to adjacent mobility hub.



### Supporting Smart Infrastructure

Dynamic pavement lighting	Dynamic parking display
Coordinated docking area	No-go and slow-go zones
Online booking system	White label MaaS platform

### Exemplar Operators and/or Infrastructure Suppliers



Potential partners →



# Viability

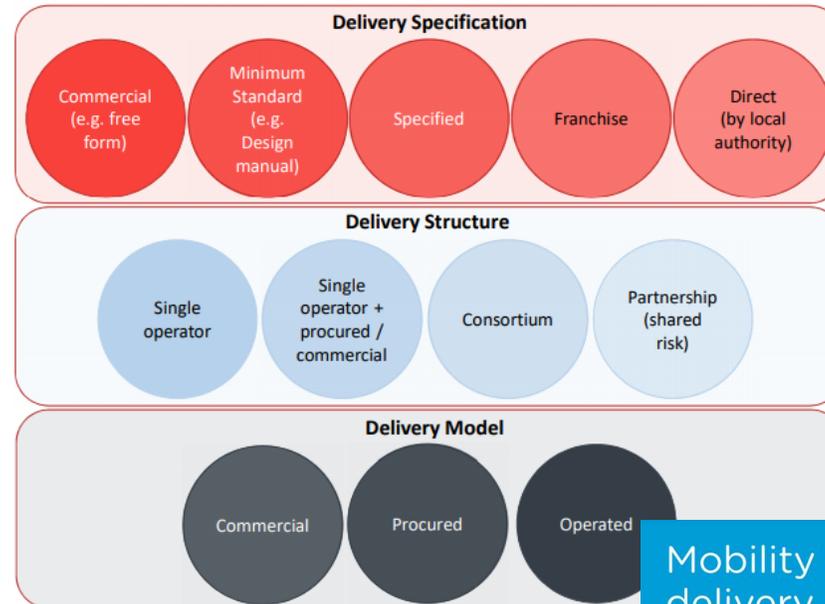
## What are the key considerations for delivering commercially viable mobility hubs?

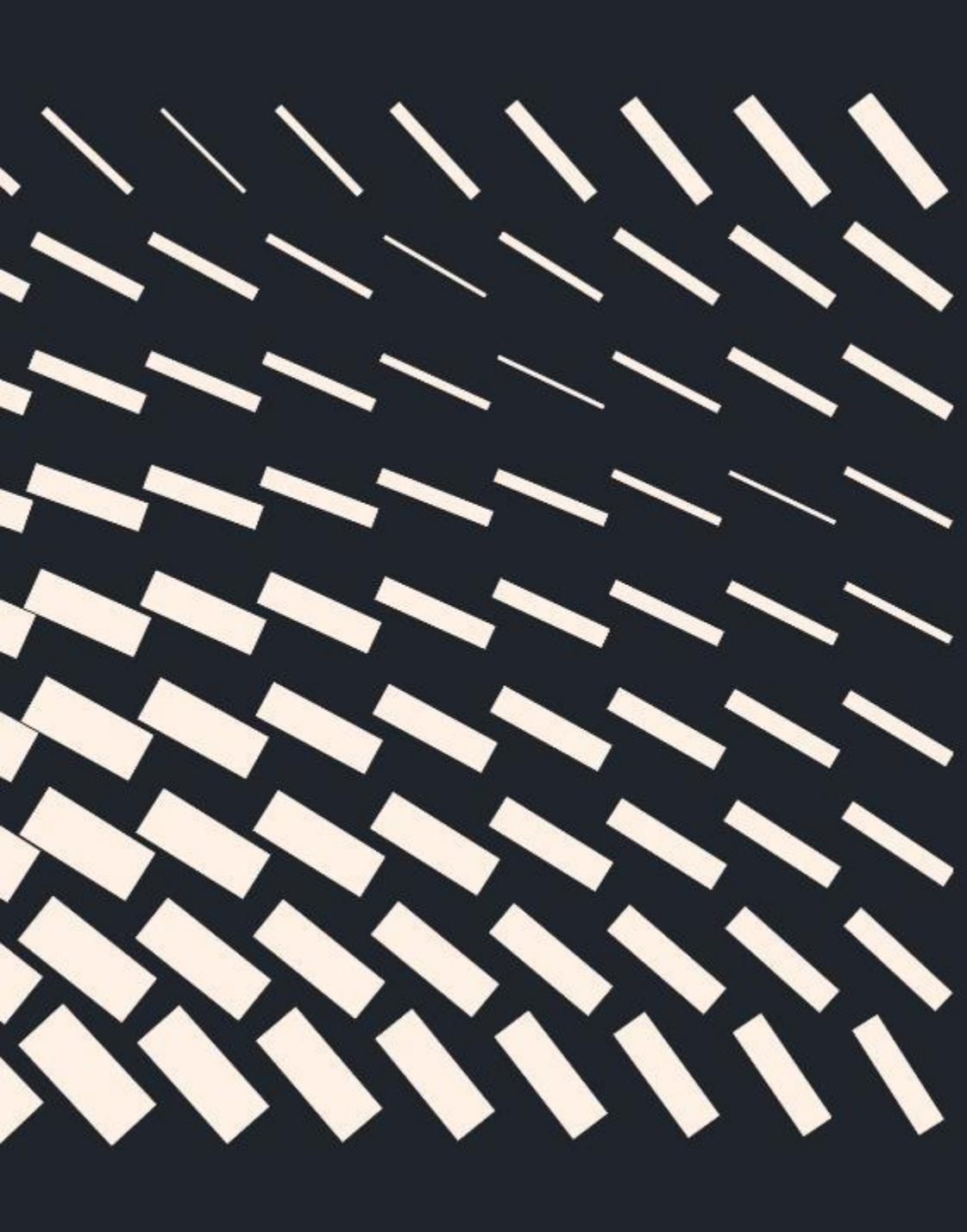
### Project Premise

WSP's Future Mobility team supported CoMoUK (Collaborative Mobility UK) to develop research on the key considerations for viable mobility and community hub business models. This included:

- Recognising the local need for both **mobility and community services** to develop five typical combinations of components across different hub typologies used to formulate potential **business models, management approaches** and **revenue packages**.
- Investigating the key criteria for **assessing the viability of shared modes** and how they are interlinked with users and the hub concept.
- **Soft market testing** with key mobility operators and wider stakeholders through the **Mobility Hub Forum**.

This culminated in a published piece of work providing new guidance on the funding, procurement and management of mobility hubs, which can be found [here](#).





**Giles Perkins**  
*Head of Future Mobility*  
[giles.perkins@wsp.com](mailto:giles.perkins@wsp.com)

**Toby Thornton**  
*Technical Director, Future Mobility*  
[toby.thornton@wsp.com](mailto:toby.thornton@wsp.com)

**Pete Ramsey**  
*Associate Director, Future Mobility*  
[peter.ramsey@wsp.com](mailto:peter.ramsey@wsp.com)

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