# TECHNICAL NOTE 3

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| **DATE:** | 29 November 2021 | **CONFIDENTIALITY:** | Public |
| **SUBJECT:** | Mobility Hubs | | |
| **PROJECT:** | Land at College Farm and Shorts Park | **AUTHOR:** | [redacted] |
| **CHECKED:** | [redacted] | **APPROVED:** | [redacted] |

## 1 INTRODUCTION

1.1 The purpose of this Technical Note (TN) is to broadly explain how a Mobility Hub (MH) would be incorporated into the masterplan for the proposed residential developments at College Farm and Shorts Park. The concept of Mobility Hubs has been developed in mainland Europe and the USA for over 20 years. In the UK, the overall concept is now being developed at transport hubs and more recently in major residential development as explained later in this TN.

1.2 By providing for and encouraging the use of more sustainable travel choices to influence behaviour, Mobility Hubs provide easy access to alternative sustainable travel modes to the private car and contribute towards meeting Local Plan policy objectives. The extent of facilities at Mobility Hubs varies ranging from integrating bus services with active travel, through to the implementation of car clubs and micromobility (e.g. 'e' bikes and 'e' scooters).

1.3 This TN will describe how Mobility Hubs will provide opportunities for residents to access a range of alternative active travel, micromobility and public transport options for the land currently being promoted for residential development at College Farm and Shorts Park. In addition, the facilities described below would also contribute towards influencing travel behaviours of residents at Shortstown, New Cardington and the consented land to the south and east of the listed Sheds.

1.4 Mobility Hubs provide an essential background for developing Mobility as a Service (MaaS)[1] which seeks to integrate, through a unified 'gateway' a range of shared and hired transport modes enabling, for example a journey combining an 'e' bike and rail modes of travel.

1.5 Guidance completed by Comouk[2] (assisted by WSP) is included at Appendix 8.1 and describes a Mobility Hub as a:

> *"recognisable place with an offer of different and connected transport modes supplemented with enhanced facilities and information features to both attract and benefit the traveller."*

1.6 In this regard, the masterplan for College Farm and Shorts Park will incorporate various multi modal facilities (which are described in more detail later in this TN) to encourage more sustainable travel and reduce the reliance on private car transport.

## 2 THE ROLE OF A MOBILITY HUB

2.1 A Mobility Hub is more than just the provision of transport facilities. Although they are the primary focus, the users are integral to the development, implementation and success of a Mobility Hub and to

[1] Mobility as a Service (MaaS) in the UK: change and its implications; Government Office for Science; December 2018
[2] Mobility Hubs Guidance; Comouk: UK Mobility Hub Guidance 2019/20, page 4.

ensure that there is a strong 'sense of place,' economic vitality in a location with attractive community space where residents are also able to meet.

2.2 The functionality of a Mobility Hub would serve to:

- Reduce the reliance on the use of private vehicles;
- Raise the profile, visibility and availability of a range of shared and sustainable travel modes and efficient integration of transport options;
- Focus on the user experience and ensures safety and security for all travellers;
- Improve air quality by reducing emissions;
- Cater for multi modal trips with seamless switches between modes;
- Meet 'first last' mile objectives to provide connectivity with local bus services and rail hubs;
- Create a community focal point and creates a 'sense of place';
- Provide the opportunity to reduce parking provision;
- Allow for flexibility to embrace technological innovations and foster resiliency; and
- Manage the integration of transport to provide 'Mobility as a Service' (MaaS)[3]

2.3 Through the implementation of a Mobility Hub on College Farm and Shorts Park, shared transport and active travel behaviour would be embedded in the future residential community and facilitate behavioural change to provide greater choice and accessibility.

2.4 In this regard, the majority of journeys in England are short with 25% of trips under 1.6km (i.e. 1 mile) and 68% under 8km (i.e. 5 miles).[4] The majority of these trips are currently made by private motor vehicles which contribute towards increased emissions and poor personal health. The provision of a Mobility Hub would therefore enable these short distance trips to be completed by other active modes such as walking and cycling and support the mobility needs of a '20 minute neighbourhood'.[5]

# 3 PROPOSED MOBILITY HUB FACILITIES

3.1 Mobility Hubs can de designed to accommodate varying needs of residents and commuters. It is anticipated that as a minimum, the following facilities would be provided at College Farm and Shorts Park:

*College Farm Facilities:*

- Secure and weather proof bus stops/shelters, with Real Time Passenger Information (RTPI) to accommodate frequent bus services that would probably comprise a new 'start up' service to connect College Farm with the proposed station at Wixams and other local stations in Bedford. The RTPI system would display arrival/departure details of bus services that would serve Bedford town centre, New Cardington and the stations at Wixams, Bedford and Bedford St

[3] Mobility as a Service (MaaS) in the UK: change and its implications; Government Office for Science; December 2018
[4] National Travel Survey: England 2018, Department of Transport, 31 July 2019
[5] Sustrans, 16 December 2020: What is a 20-minute neighbourhood? - Sustrans.org.uk

Johns. Alternatively, a Demand Responsive Bus Service (DRBS) could also be provided to enable local residents to 'call up' a service via an 'App' to suite their travel requirements;

- 'Back to base' Car club Electric Vehicles (EV) and bay(s) (two – three spaces would be provided subject to further discussion with the operator) that could be operated either by Enterprise (or a similar operator) who recently entered a partnership with Bedford Borough Council to operate a car club in the town centre;
- Either 'one way' shuttle or 'back to base' 'e' bike share with access and payment by 'App' and stored securely; 'e' bikes would be provided and located at the Mobility Hub secured in lockable stands. The bikes could be booked either via an 'on line' App or directly at the Hub. It is proposed that a similar number would also be provided at the various local stations including Wixams, Bedford and Bedford St Johns as deemed appropriate. In this regard, each residential homeowner would receive a £500 discount voucher included within their 'Welcome Pack' that could be used towards either the purchase or hire of an 'e' bike from the Mobility Hub. To place this into context, the purchase of a basic 'e' bike would be in the order of £500 -£600 from Halfords (or similar retail outlet), hence the homeowner's discount voucher would broadly cover the initial cost;
- Alternative secure 'e' bike storage facilities at Wixams station to enable an electric 'Brompton' bike to be folded and stored securely in a locker;
- EV Charge Points (EVCPs) would be provide to accommodate fast charging that could be accessed 24/7; *[Note – from 2022, legislation will require that all new homes should accommodate fast EV charging which could also be adapted for 'e' bike charging];*
- Secure pedal cycle stands – either 'Sheffield' type or similar, in accordance with BBC's cycle parking policy;
- Pedal bike tyre pump and repair facilities;
- Local community Information terminal and touch screen;
- Digital pillar linked to 4G/5G high speed internet connection at the Hub, to provide transport information, public transport ticketing, way finding/distances and information on local services;
- Covered space to provide weather protection incorporated within the main community facilities, including a café (e.g. Costa or equivalent) and delivery lockers to accommodate 'first/last mile' trips and minimise large delivery vehicles having to access residential roads.

*Shorts Park Facilities:*

- Secure and weather proof bus stops/shelters, with Real Time Passenger Information (RTPI) to accommodate frequent bus services that would probably comprise a new 'start up' service to connect Shorts Park with the proposed station at Wixams and other local stations in Bedford. The RTPI system would display arrival/departure details of bus services that would serve Bedford town centre, New Cardington and the stations at Wixams, Bedford and Bedford St Johns. Alternatively, a Demand Responsive Bus Service (DRBS) could also be provided to enable local residents to 'call up' a service via an 'App' to suite their travel requirements;
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- Secure pedal cycle stands – either 'Sheffield' type or similar, in accordance with BBC's cycle parking policy;
- Pedal bike tyre pump and repair facilities;
- Local community Information terminal and touch screen;
- Digital pillar linked to 4G/5G high speed internet connection at the Hub, to provide: transport information, public transport ticketing, way finding/distances and information on local services;

# 4 OPERATIONAL CONSIDERATIONS

4.1 It is envisaged that the travel requirements for both College Farm and Shorts Park would be implemented and managed in accordance with a Framework Travel Plan (FTP) that would be managed by a bespoke Management Company. In this regard the Management Company would be responsible for the day to day running of the Mobility Hub. This would also include liaising with the selected operators of the car club and 'e' bikes and provide current information updates to local residents at the Hub and via a community App and local website.

4.2 The Management Company would also be responsible for liaising directly with BBC and other key stakeholders such as energy and fuel companies to ensure that operational needs of the Mobility Hubs are reviewed, monitored and updated on a frequent basis.

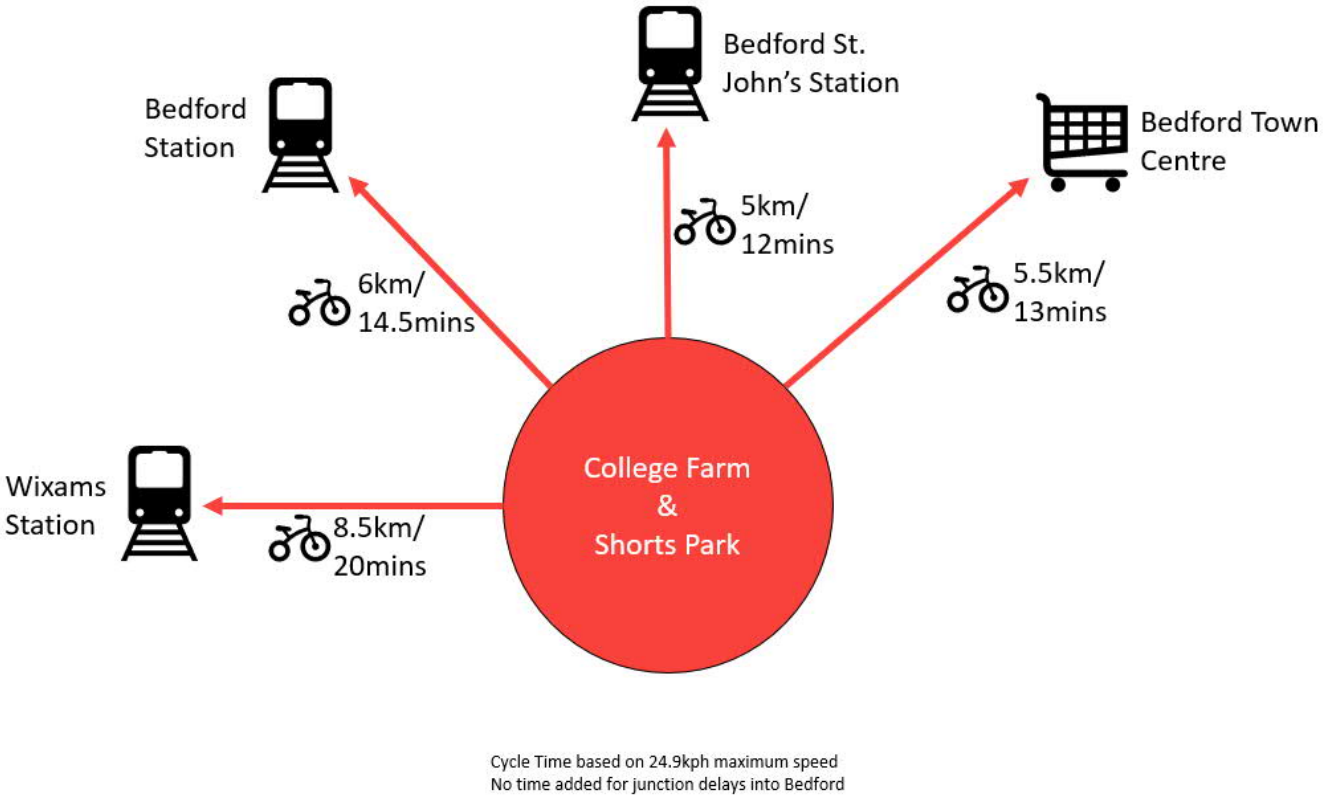
# 5 HIRE AND PURCHASE COSTS OF 'E' BIKES

5.1 The benefits of encouraging sustainable and active travel are well documented through Government research and policy.[6] Reduced reliance on private car transport and improvements to local air quality will improve the health and wellbeing of local residents.

5.2 Residents will have a choice of sustainable mode between College Farm/Shorts Park, the proposed station at Wixams and existing stations at Bedford, as shown in Figure 1.

[6] National Planning Policy Framework (NPPF), July 2021: Section 9 – Promoting Sustainable Transport

**Figure 1: E-bike Cycle Times**




5.3 The availability of 'e' bikes at the Mobility Hub would enable residents to try out an 'e' bike prior to either purchase or secure a longer term rental arrangement. The cost of 'e' bikes can vary significantly from £500 to £5,000 and therefore initial rental could initially be a more attractive proposition. As previously explained in this TN, the £500 discount voucher that would be included in the Welcome Pack for residents could be used to either purchase a basic 'e' bike model or alternatively hire an 'e' bike from the Mobility Hub.

5.4 In this regard, both College Farm and Shorts Park are approximately 8.5km (5.3 miles) from the proposed location of the new Wixams station by bicycle; the distance to Bedford and Bedford St Johns stations are 6km and 5km respectively. As an example, a return trip between College Farm/Shorts Park and Wixams station would therefore be approximately 17km (10.6 miles). The average price of unleaded fuel[7] is £1.41/litre and the average consumption for a petrol fuelled car of 36 miles per gallon.

5.5 On this basis, a single return trip to Wixams by private car would consume 1.34 litres (0.29 gallons) of fuel. A weekly commute over five days would therefore consume 6.7 litres of unleaded fuel at a cost of £9.48. In addition, the cost of parking a private car at Wixams station would probably in the region of £7-10/day, although this cost could be reduced with the purchase of a season ticket. Based on this cost, over five days, weekly parking charges would be in the region of £35. Hence, the overall weekly running costs to commute between College Farm/Shorts Park and Wixams by private car would be approximately £45. With the addition of road tax, maintenance and insurance, the projected weekly cost could be nearer to £75, although this could be influenced further with the introduction of a higher longer term parking tariff and restricted parking at Wixams station.

[7] Compare latest petrol and diesel fuel prices | The AA

5.6 As an example of a rental scheme, new ‘e’ bike rental ‘on street’ scheme has just been launched in Greater Manchester[8] which enables users to unlock a bike for £1 and then pay 10p per minute of use. The ‘e’ bikes would have to be returned to a docking station located around the city (ie. similar to Boris Bikes in London) and are designed to be tamper proof and include a stolen bike alert system agreed with Greater Manchester Police. In the context of College Fam and Shorts Park, ‘e’ bike docking points would be located at Wixams and Bedford rail stations and also the town centre.

5.7 Assuming a similar arrangement could be implemented at College Farm and Shorts Park, then based on a speed of 24.9km/hr (15.5 mph), to cover 8.5km (5.3 miles) would take approximately 20 minutes, which equates to £3 for a single one way journey between home and Wixams station. Hence, on this basis, for a daily return trip, the overall cost by ‘e’ bike hired from the Mobility Hub on either College Farm or Shorts Park would be in the region of £6 per day. Over a weekly five day commute, the cost would around £30; which is less than half the cost of using a private car. As each household would receive a discount voucher of £500 with their Welcome Pack, this could be used for the purpose of either trying, leasing or buying an ‘e’ bike as previously explained.

# 6 EXAMPLES

6.1 There are numerous examples of across Europe where Mobility Hubs have been successfully delivered. Bremen in Germany has created a network of more than 40 Mobility Hubs with many expanding into residential areas and suburban neighbourhoods. The Hubs have been located so they connect the local bus/tram network with shared mobility service (eg: car clubs) and cycling.

6.2 In the UK, Mobility Hubs that have been delivered are generally focused around the grouping of shared mobility services in a single location, rather than the creation of a digital platform. In this regard, WSP is currently working with Homes England and Kent County Council in the promotion of Otterpool Park Garden Town to provide some 10,000 homes near Folkstone.

6.3 The WSP project team has developed a user centric mobility strategy at Otterpool Park assuming a ‘car lite’ approach to establish appropriate sustainable travel interventions centred around a Mobility Hub close to the HS1 rail line and M20[9]. Hub facilities were determined based on the future needs of the local community to maximise the opportunity to influence travel behaviour from first occupation.

6.4 Another example is the first Mobility Hub in the UK at the Ancoats Conservation Area in east Manchester. This will include: shared car and cycle parking for residents/visitors, EV clubs, EVCPs and a last mile delivery consolidation centre. The planning for the Mobility Hub is currently being considered in conjunction with the major regeneration of the area for some 200 homes.

6.5 British Petroleum (BP) has built a Mobility Hub[10] located at the O2 Arena on the Greenwich Peninsula which includes EV charging facilities, a car club operated by Enterprise, ‘e’ bike facilities and pedal bikes promoted by Brompton. All these facilities are accessed through a digital platform complemented by parcel storage managed by InPost[11] to accommodate first/last mile deliveries.

6.6 More recently, Plymouth City Council (PCC) secured monies from Government’s Transforming Cities Fund (TCF)[12] that will enable the Council to install 50 multi-modal Mobility Hubs strategically integrated

[8] Greater Manchester News: New 24/7 hire scheme offering electric bikes launches on Oxford Road
[9] Mobility Hubs – WSP, November 2021,
[10] bp mobility hub | Products and services | Home
[11] Home - InPost
[12] Mobility Hubs | PLYMOUTH.GOV.UK

into the public transport network across the City. It is intended that the initiative will encourage the use of more sustainable travel modes, reduce congestion and improve air quality. The Hubs will comprise: 300 EVCPs, 400 ‘e’ bikes, a car club, 0.5 megawatts of solar carports, a smart journey planning system, lighting/CCTV and storage lockers.

# 7 CONCLUSION

7.1 A centrally located multi-modal Mobility Hub on College Farm and Shorts Park would contribute towards influencing travel behaviour of future residents to enhance the choice of transport mode and provide access to a range of facilities managed by a bespoke Management Company on a digital platform.

# 8 APPENDICES

Appendix 8.2 UK Mobility Hubs Guidance – Comouk; 2019/20

Appendix 8.1 Mobility Hubs – WSP; November 2021