

Iceni Projects

Data Storage Centre at Bushey Car Boot Sale Site, Little Bushey Lane



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Executive Summary

The Bushey Car Boot Sale site at the junction of Little Bushey Lane and Aldenham Road represents a unique opportunity for Hertsmere Borough Council to positively plan for a major economic stimulus for the Borough, by establishing North Bushey as a key hub in the rapidly growing data centre market in the south east of England.

The London-South East region is already the largest data centre location in Europe and the second largest data centre location in the entire world. The existing infrastructure in the region is focused around three existing primary hubs (Docklands, Park Royal, and Slough) that have evolved due to their proximity to 400kV sub-stations, but these hubs are at capacity, with limited scope for expansion.

The National Grid Elstree 400kV Substation and surrounding highway network provides the unique locational requirements needed to support a new data centre, whilst the Bushey Car Boot Sale site is of a sufficient size to support such a data centre and is perfectly located in a freestanding safe location with two adjoining highways to accommodate cabling under Little Bushey Lane to connect to the wider network.

The development of the Bushey Car Boot Sale site for a data centre will enable Hertsmere to secure the benefits of the development. These include:

- Increased direct employment creation, particularly in high-skilled roles
- Indirect employment as Hertsmere establishes itself as a new data centre hub
- Associated economic benefits in the surrounding area as businesses are attracted, to the help the Council achieve its Local Plan goals
- Sustainability benefits through energy creation and reuse in the surrounding area
- Meeting its objectively assessed need for employment through a new high-tech sector with long term growth potential
- Potential to generate tax rates of approximately £3.5m per annum

The Council should be seeking to utilise the nationally significant infrastructure located in the North Bushey area of the Borough by channelling a bespoke form of high valuable infrastructure and economic development to it in order to support the wider economy. In this regard, North Bushey provides the unique infrastructure requirements necessary to support a new data centre and there are clear exceptional circumstances to remove the Bushey Car Boot Sale site from the Green Belt for data centre use, given the spatial requirements of such infrastructure.





The Need for Data Centres

Long before the impacts of Covid-19 were being felt, data centres had become an essential part of everyday life and vital to the global economy. The exponential growth in digital data brought about by computers, the internet and mobile devices, as well as the invention of the cloud, has made data centres integral to everyday life, whether you are an individual, a company or a country.

In the UK and across the world, many businesses have been moving their IT networks and data to remote data centres, rather than store them on servers on site. This approach provides necessary security and it would be reckless of companies to not have this safeguard given computer networks are increasingly susceptible to attack and can cause untold damage if the networks are not properly secured and protected.

With developments such as 5G and an increased demand for employees to work from home during and post-pandemic, this is a trend that will continue to increase and demand for data centres will rise. This trend has developed because remote purpose-built data facilities are required to provide inherent security

and also reliability advantages. It allows businesses to reduce the capital spending on ICT equipment, minimises the need for periodic hardware refreshes, reduces exposure to the depreciation of assets, and reduced rented floorspace costs by relocating IT infrastructure away from expensive city centre locations.

This importance has been recognised by the UK Government. As the realities of the Covid-19 pandemic were becoming clear in March 2020, the Department for Digital, Culture, Media and Sport (DCMS) created a designated team to ensure UK businesses could operate within the government's stay-at-home mandate. As we move into 2021 and new working patterns have been formed, the reliance on data centres will continue to grow.

The growth in data centres would be inhibited by an absence of suitable and available sites that have the power supply, connectivity and security to be developed as data centres. Failure of the planning system to meet the objectively assessed need for such development would greatly restrict this growth.

400kv Substation in SE Data Centre Area



Data Centres in the South East

The London data centre market is second only to Ashburn, Northern Virginia in terms of data capacity, and is subsequently the premier location in Europe.

The data centre market that serves London as a global city is split between the dominant sub-markets of West London (including Slough), North London (North Acton/ Park Royal), and East London (London Docklands). Slough, for example, has circa 170 MW of capacity, which when compared to the entire Paris market of 120 MW, demonstrates the dominance and importance of London both for the UK and EU. The London sub-market has developed because:

1. Substantial electricity is delivered to key National Grid sub-stations at each location, with sufficient available capacity required for a data centre to operate successfully;
2. Their locations are far enough away from each other to provide sufficient separation for firms located in central London, but close enough in travel time terms to be viable as a disaster recovery location;
3. Each location has fibre optic cables close by. In west London as an example, both the Grand Union canal and the Great West railway line provide the infrastructure routes for all major telecommunication carriers, which are critical to providing internet connectivity; and
4. The already evolved 'ecosystem' of data centres established in the London sub-regions provide a known, tested and respected location for the industry.

The traditional UK core data centre clusters (Docklands, Park Royal, and Slough) are increasingly finding it difficult to meet the on-going expansion demands of data centre operators because land is not available in these areas and the three substations are effectively at capacity, with lengthy lead in times for necessary transformer replacement, which has focussed the market on North Bushey. Furthermore, operators are also now wanting to ensure that additional data centre capacity is not going to be reliant on the same power stations, so that there is some increased inbuilt robustness.

These key considerations have led to data centre operators looking to expand beyond their core traditional locations for a location around the M25, close to existing fibre optics routes and close to alternative major power stations, and North Bushey is the optimum location due to its existing infrastructure provision. The intensity and urgency of interest has increased because of the experiences of COVID-19 and the reliance of data for the world to continue operating.

Why Hertsmere?

Hertsmere has been identified as a key future target location because of the National Grid Elstree 400kV Substation to the east of the site, and the fibre optics laid along Little Bushey Lane which connect to the M1.

There are currently only four substations within the South East of England that are large enough to accommodate the requirements of a data centre hub whilst also benefiting from low latency fibre cabling, one of which is the Elstree Substation.

Additionally, it would be crucial to the viability of any data centre site to be located adjacently to the EU Networks long-haul cabling. This cabling connects to London Internet Exchanges to the South East, up to Liverpool and out to Dublin to the North West, to Newcastle and out to Scandinavia to the North East, and to Newport and out to the United States to the West. Subsequently it is integral to the UK's digital infrastructure. The cabling runs directly adjacent to the Little Bushey Lane site.

There are limited locations where a data centre would be appropriate. Given this existing infrastructure in North Bushey, it is the most viable location to create a new data centre hub, and means that the area is primed for investment in a way that no other area is. Furthermore, the combination of the Elstree Substation, the long haul cabling and availability of the land make this site the optimum location in the South East at this time.

In addition to this, the emerging Local Plan has identified areas of employment land that can quickly ensure that complementary facilities and businesses are attracted to the area, with the data centre hub serving as a catalyst for wider inward investment.





Objectively Assessed Need and Demand for Data Centres in Hertsmere

The emerging Local Plan has a supporting evidence to justify the policies and allocations within it. This includes the 2016 and updated 2019 South West Hertfordshire Economic Study.

The studies provide an objective assessment of the long term employment land and premises needs over the period 2018 to 2036, including an evaluation of the current and future supply. The Economic Studies also provide a high level review of existing employment areas and potential future sites and whether there is likely to be sufficient land supply to meet the needs of the South West Hertfordshire economy. They reveal a baseline scenario whereby even if all intensification and redevelopment opportunities were pursued, there would still be likely to be a shortfall of employment land available to meet the needs of the economy, and a particular shortage of sites which offer good access to the road and rail network. The studies conclude that there is therefore a pressing need for the South West Herts authorities to identify additional sites in order to retain its competitiveness with other locations in East and South East England, and that the authorities should consider whether the exceptional circumstances exist to justify Green Belt releases for employment purposes.

Neither study considered the objectively assessed need for data centres in Hertsmere and therefore this requirement is additional to the need for conventional employment floorspace, such as office and warehouses uses, for which there is strong market demand for sites with good connections to the primary highway network. However, the objectively assessed need for data centres in the north Bushey area of the District is compelling due the unique alignment of regionally and nationally significant infrastructure in the Elstree 400KV Sub-station, M1 motorway and the connecting Little Bushey Lane.

The following operators are known to have a requirement for data centres in the South East:

Amazon Web Services (AWS) is a world-leading cloud platform and offers over 175 fully features services from data centres globally. Startup businesses, large enterprises, and leading government agencies are using AWS to lower costs, become more agile, and innovate faster. Since 2016 the company has provided cloud infrastructure in London from three locations and is looking to expand.

Microsoft's cloud platform, **Azure**, opened in the UK in 20216 at sites in London and Cardiff. The platform is used by the Department for Education, HM Revenue and Customs, and NHS Blood and Transplant, as well as numerous councils across the country. Microsoft has continued to invest in its cloud infrastructure and service capabilities to meet the demand of its expanding customer base, and is looking to increase its availability zone locations in the South East.

Google currently has five data centre campuses in Europe - Ireland, Netherlands, Denmark, Finland and Belgium - and is currently looking to expand into the UK. An Oxford Economics report found that Google's first six data centres in the US were responsible for as many as 11,000 jobs, and an expansion into the UK would look to build on this.

The only **Vantage Data Centres** campus in the UK is a 50 acre site in Cardiff, which hosts three data centres and is Europe's largest and most powerful campus. It provides offices and workspace, alongside important power, cooling, connectivity and security features that are integral to a data centre campus.

Digital Realty currently has 17 data centre facilities in London, located primarily around the three main hubs. It has also expanded north of London to a site in Watford that offers a total of 7,400sqm of space, to enable high specification data halls, and any available nearby locations would help enhance an expanded service.



The Little Bushey Lane Site

The site is located within Hertsmere Borough Council, on a greenfield site within the North Bushey area. Its only current function is to serve as a car boot sale on occasional weekends, which has the effect of attracting significant numbers of motor vehicles to the site and surrounding highway network.

Immediately to the north of the site is a Costco warehouse with its associated car parking, and across Aldenham Road to the north west is a sports centre (David Lloyd Bushey). A Jewish cemetery is located 200m to the east of the site, separated by sports pitches which serve as an extension to the Metropolitan Police Bushey Sports Ground to the south.

The proposed site is well suited for a data centre use due to the following characteristics:

1. It is located close to all required infrastructure for a data centre, including ready access to the telecommunications fibre connections needed;
2. The Elstree substation is located within necessary close proximity of the site and can provide the power supply required;

3. The nearby mainline station at Watford Junction provides access to/from London in under 30 minutes, which would aid any requirements for disaster recovery operations;
4. The site is secure from susceptibility to disasters and security threats by virtue of its self-containment and environmental suitability for the use; and
5. The site is of a scale not normally available in combination with the above points. The site size allows for a large-scale data centre to be delivered quickly in a market where there is strong demand, given the growth in datacentre storage and processing.

There are few if any comparable sites available on a freehold basis with the same characteristics to accommodate a data centre development of requisite size and accordingly, the authority has a significant opportunity to deliver new high-tech infrastructure to support the expansion of the digital economy in Hertsmere and serve as a catalyst for future job growth.

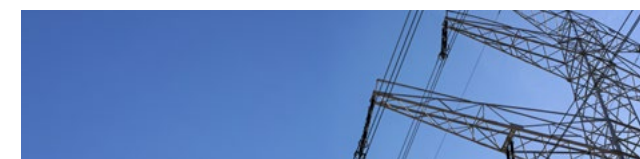
A summary of the suitability of the site for a data centre is provided in the table below:

Site Requirement	
Plot size	The 9 acre plot of land can comfortably accommodate a data centre.
Location	Given its proximity to the Elstree Substation (approximately 1.2km) and connectivity to the fibre cables that provide a link to the London Inter-net Exchanges, this site is ideally located.
Security and Access	Access from Little Bushey Lane has already been established, and the site is suitably self-contained and screened to provide the security needed at a data centre.
Availability	The site is available and ready to be developed immediately.
Local Impact	Given the infrastructure available in the site's proximity, no major additional work or cost is required within the site surroundings to deliver a data centre. Additionally, there are no local residents in the surrounding area that could consider any noise generation from the data centre a nuisance.
Site Constraints	Given the overhead cables running along the north of the site, a development modest in height would be most suitable at this site. Given this, and noting the sustainable location and context of the site, a use such as a data centre would be ideally suited.

Next Steps

The site is currently designated as Green Belt and has no other designations/allocations associated with it.

The site is being promoted through the Local Plan process for Data Centre use and it is hoped that Lindhill can work with Hertsmere Borough Council to formulate the evidence base to quantify the objectively assessed need for data centres through the Local Plan. In tandem, Lindhill has aspirations to prepare a comprehensive planning application for the development for determination in 2021/2022 so that the following benefits can be realised:



Local Infrastructure

Co-locating key infrastructure within the proximity of the Elstree 400kw power station to create an efficient and effective power network.



Employment

Creation of direct and indirect jobs through new infrastructure to support and bolster a host of IT supported industries in Hertsmere.



Construction

Direct Employment through the construction of a high-spec, high-tech data centre.



Financial Contribution

Significant contributions to local rates of taxes through a high-technology building.

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