

Telecommunications Connectivity

Fixed Network and Mobile Coverage Assessment

Switchback Office Park
 Gardner Road
 Maidenhead
 Berkshire
 SL6 7RJ



Switchback Office Park, Gardner Road, Maidenhead, Berkshire SL6 7RJ

STRUCTURE

Switchback Office Park is an established commercial development affording six self contained offices over three buildings around a landscaped courtyard to the north of Maidenhead town centre on Gardner Road. The offices each extend to two floors affording up to 12,800 sq ft (1,190 sqm) of high quality office accommodation over a variety of floor plates. The buildings are traditionally constructed with brick and glass facades under tiled roofs. The park is situated in a mixed environment of residential premises with a number of commercial buildings to the south and east of similar height.

TOPOGRAPHY

Location Plan

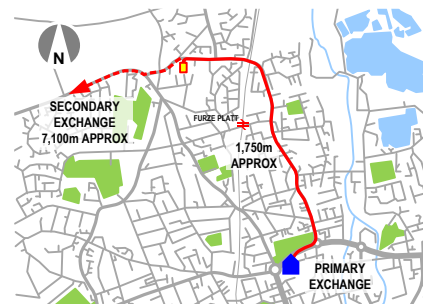


BT Exchange Information

Primary Exchange	MAIDENHEAD (THM)
(1,750m approx)	SL6 1RG
Secondary Exchange	LITTLEWICK GREEN (THLG)
(7,100m approx)	SL6 3QR

BT Exchange locations

Routes and distances are indicative only



BT SUMMARY

Switchback Office Park is located approximately 1,750m from the BT Maidenhead Exchange, which is situated to the south east of the site. Maidenhead Exchange provides excellent services including ADSL, ADSL+, SDSL, 21CN WBC and FTTC (to some areas) plus the availability of LLU services from AOL, O2/Be, C&W, Talk Talk, Tiscali, Pipex and Sky Easy Net all over BT infrastructure. Based on the existing standard copper services, Maidenhead Exchange can offer broadband speeds of around 6Mbps at this time. However, this exchange has been enabled to provide BT Infinity services over fibre with speeds of up to 50Mbps download and 13Mbps upload and is currently in roll-out subject to location (Data via the BT website). Littlewick Green Exchange to the south west affords a lesser range of services at present but could provide a level of diversity and resilience across BT business services should it be required.

TELECOMS CARRIERS

Telecommunications carriers with owned infrastructure located within easy reach of the building are listed below for information. In addition to these, there are a number of alternative carriers that can provide service, albeit over a third party network such as BT. It must be noted that the presence of infrastructure within the search area does not constitute availability of service at the building location.

British Telecom Tel: 0800 800 152 www.bt.com

Virgin Media Tel: 0845 6000789 www.virginmedia.com

SUMMARY

The BT services available at Maidenhead Exchange, and added resilience of a second exchange afford the Switchback Office Park an excellent level of services to meet today's business needs. The ongoing roll-out of BT Infinity services affords significant financial benefits to smaller business's requiring a premium product over other fibre services where available. The presence of a second carriers infrastructure over and above that of BT from Virgin Media adjacent to the site and in its environs is one that affords tenants a level of additional services and resilience, albeit with the need for civil infrastructure. However, the ability to provide such service over the BT network should not be overlooked as a more cost effective solution.

RATING

BT / LLU

4

CARRIERS

2

BT / LLU

1

2

3

4

- 1 Limited services available from BT only
- 2 Good BT services, limited by LLU Operators
- 3 Good BT/LLU services now, or planned
- 4 Excellent BT/LLU services now, with diversity

CARRIERS

1

2

3

4

- 1 Limited infrastructure available / no infrastructure
- 2 Moderate level of infrastructure with limited access issues
- 3 Good level of infrastructure with limited access issues
- 4 Excellent level of infrastructure with no access issues

GLOSSARY OF TERMS

ADSL (Asymmetric Digital Subscriber Line) Asymmetric line speed, the speed from the internet to the user, and the user to the internet are different. Feed over copper cable, governed by distance from exchange to user. (co-exists with voice services)

ADSL+ (Asymmetric Digital Subscriber Line+) Asymmetric line speed as above, but with faster connections both downstream and upstream over similar distance following roll-out of BT's 21CN Wholesale Broadband Connect (WBC).

SDSL (Symmetric Digital Subscriber Line) Symmetric line speed, the speed between the user and the internet are the same in both directions but cannot co-exist with voice services over the same line.

FTTC (Fibre to the Cabinet) Provides fibre to the cabinet, shortening copper cable length requirements to enhance speed

FTTP (Fibre to the Premises) Provides fibre direct to the premises at a lower cost than that of standard lease line products

LLU (Local Loop Unbundling) Is the process by which third party network operators are able to install equipment into BT exchanges in order to deliver their own services without having to utilise BT's network.

BT Infinity (British Telecom) Fibre delivered broadband service from enabled exchanges providing broadband speeds of up to 80Mbps download (subject to conditions) at a lower cost to that of traditional leased fibre services.

Mobile Voice / Data Appraisal - Coverage Predictions

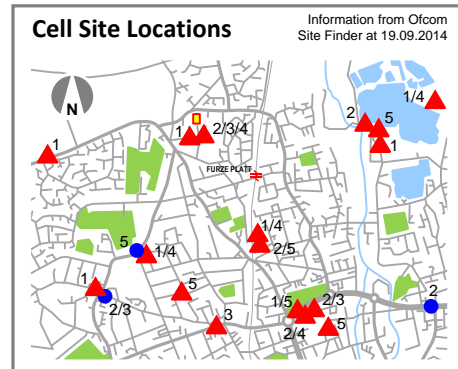
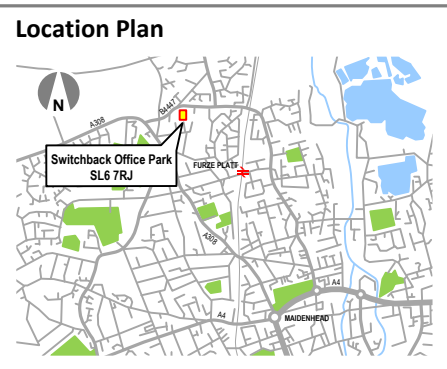
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Sept 2014

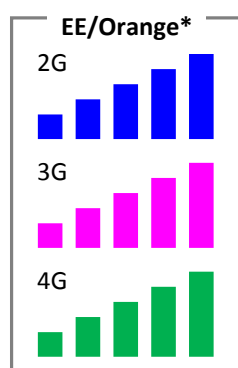
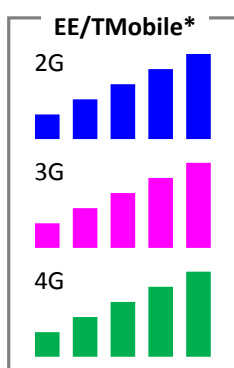
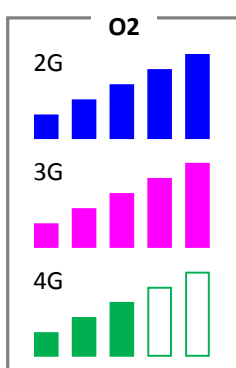
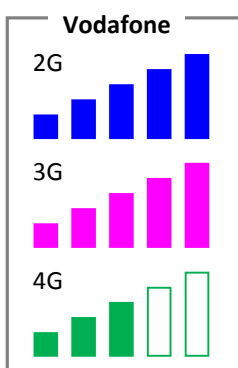
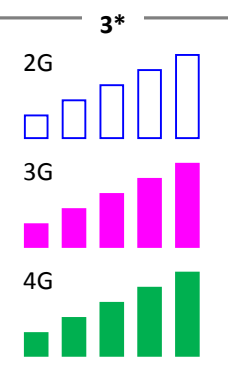
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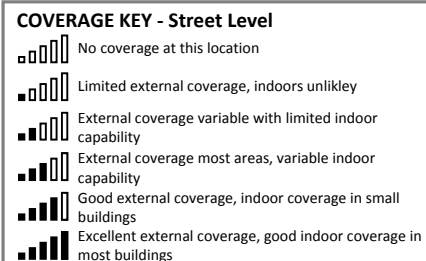


STREET LEVEL COVERAGE



OBSERVATIONS

Switchback Office Park affords an good/excellent level of macro coverage from all of the four mobile operators for 2G, 3G and 4G services as above. The closest serving cells are detailed in respect of 2G, 3G and 4G services and can be seen vary in location and distance, providing general coverage to the site. Any high concentration of users within the building may impact on the capacity available especially if this is confined to any one single network operator. Based on this information it is considered to be a location that affords an good/excellent level of overall coverage across all operators at street level.

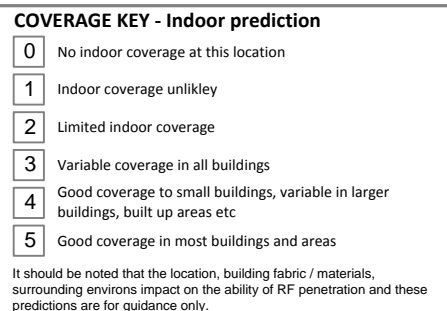


PREDICTIONS

Surrounding buildings, the distance and direction of the serving cells and building construction can all impact on the penetration of signal throughout a building. Based on the location and serving cells, it is envisaged that a good/variable level of coverage will be present throughout the buildings for 2G and 3G services for all operators, with 4G services present for EE and Three, but limited for both Vodafone and O2 at this time. However, there may be some limited isolated coverage issues on the lower floor internal rooms but still maintaining an acceptable level of voice service. In cases of coverage issues, each of the operators can provide solutions to enhance their service of which we can provide details and assist in their procurement and installation should they be required. Further to the coverage levels, the availability of service is dependant on capacity. This is the volume of data and simultaneous voice calls the macro cell can accommodate at any one time. Capacity issues result in 'network busy' messages or dropped calls. The level of capacity can be addressed by the operators should the building be populated with a high number of users on a single network which will impact on both them and others using the same cell.

INDOOR SUMMARY

OPERATOR	2G	3G	4G
3*	0	4	4
Vodafone	4	4	2
O2	4	4	2
EE/T-Mobile*	4	4	4
EE/Orange*	4	4	4



Fixed Telecoms Appraisal Summary

In addition to the Fixed Network carrier study completed, a review by survey of the office park was undertaken on the 17th September 2014 accordingly. The purpose of this survey was to clearly identify the presence of existing fixed telecommunications carrier's infrastructure on/adjacent to the site, or within the local environs.



SITE AERIAL VIEW (Site highlighted in red)



LOOKING EAST TOWARDS ENTRANCE



LOOKING WEST TOWARDS ENTRANCE

Local Carriers

Switchback Office Park has access from the public highway via Gardner Road to the north. The survey located a good number of telecommunications chambers owned and operated by BT and Virgin Media in Gardner Road in close proximity to the site. This infrastructure extends along Gardner Road and Switchback Road South in both directions where further chambers were located for both carriers. An existing BT and Virgin Media chamber are located in the footway at the east side of the entrance (See **Photograph 1**) with a BT cabinet located adjacent to the boundary wall (See **Photograph 2**). Additional chambers owned and operated by BT and Virgin Media were also located in the footway to the west of the entrance in various locations (See **Photograph 3**).



PHOTOGRAPH 1
BT AND VIRGIN MEDIA CHAMBER AT ENTRANCE ON
GARDNER ROAD (EAST SIDE)



PHOTOGRAPH 2
EXISTING BT CABINET ADJACENT ENTRANCE ON
GARDNER ROAD (EAST SIDE)



PHOTOGRAPH 3
EXISTING BT AND VIRGIN MEDIA CHAMBER IN
FOOTWAY TO WEST OF ENTRANCE

The BT infrastructure extends into the park with a number of chambers present highlighting a ducted network connecting all buildings to deliver copper and fibre services to the buildings. Typically the chambers are located outside of the office buildings with further chambers in the general car parking areas (See **Photograph 4,5 and 6**). In addition, we were made aware that a new duct run that had been installed as part of the Building 6 refurbishment to provide access for Virgin Media in the future. This was located within the grass verge adjacent to the boundary wall on Gardner Road, ideally suited to connect into the Virgin Media duct route in the footway if and when required.



PHOTOGRAPH 4
BT CHAMBER IN CAR PARKING AREA



PHOTOGRAPH 5
BT CHAMBER OUTSIDE BUILDING 4



PHOTOGRAPH 6
BT CHAMBER OUTSIDE BUILDING 6

Building Presence

By inspection it is clear that the buildings all currently have good access from BT via the ducted network as detailed above. We accessed two buildings as part of the survey to understand the current level of services and availability of space for equipment and cabling. Building 4 was accessed and the BT entry point was located in the ground floor riser cupboard in the landlords demise (See **Photograph 7**). This extends to a single duct which contained a total of three cables including two 50 pairs (approx) and one 20 pairs (approx) copper cables. One of these terminated within an existing DP, with the other running from the riser into other parts of the building via termination points. There was no identified fibre services located at this point. This entry point affords good access into the riser which extends to the first floor (See **Photograph 8**). The available space for future cabling, equipment and containment is excellent and could be provided within minimal timescales. Building 6 was in the final stages of refurbishment at survey, and the BT duct entry (See **Photograph 9**) was observed in the ground floor riser cupboard alongside the additional duct as detailed above for future use by Virgin Media (See **Photograph 10**). Only minimal services were within the BT duct at this time, in preparation of future tenant requirements.

In addition to the findings of the survey, we are aware that a good level of BT fibre is present within the confines of the park with direct access into each of the buildings from an existing joint to meet both existing and future tenant demand for such services.



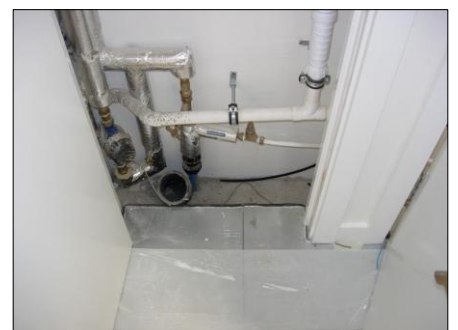
PHOTOGRAPH 7
TYPICAL RISER CUPBOARD AND BT ENTRY
(BUILDING 4)



PHOTOGRAPH 8
TYPICAL RISER CUPBOARD
(BUILDING 4)



PHOTOGRAPH 9
EXISTING BT DUCT IN RISER CUPBOARD
(BUILDING 6)



PHOTOGRAPH 10
NEW DUCT FOR VIRGIN MEDIA USE IN RISER CUPBOARD
(BUILDING 6)

Service Availability

The standard services afforded by BT over its existing copper networks provides a level of broadband services with speeds expected in the region of 6Mbps. Maidenhead Exchange is BT Infinity enabled, and is currently in roll-out and will be able to provide future speeds of up to 50Mbps download, and 13Mbps upload (subject to conditions) providing an alternative to other business tariff services (Data obtained via the BT website). However, this service is already available to adjacent areas but currently not to the Switchback Office Park based on BT's information. This can be due the status of serving cabinet or if the park is connected direct to the exchange. The current level of business tariff services available from BT will provide an excellent level of service at this time. Furthermore, there are a host of companies that can provide enhanced products over the existing infrastructure providing smaller businesses a more affordable level of service if so required. The presence of Virgin Media adjacent to the park affords tenants a choice of providers, albeit with the need for extension via external and on-site civil infrastructure or third party agreements.

Summary

Based on the local carrier infrastructure and the availability of services from BT's local exchange including the ongoing roll-out of FTTC services, we consider Switchback Office Park has a good level of connectivity with the ability to enhance this by means of additional fibre services where required in minimal timescales from order. The presence of the additional carrier affords a good alternative provision of service and diversity at this time albeit subject to the viability and rights of access requirements.