

Committee(s):	Date:
Policy & Resources Committee	21 st September 2017
Subject: Gigabit City Programme update	Public
Report of: Director of Built Environment	For information
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Summary

This report seeks to provide Members with an update on the Gigabit City Programme being led by the City Property Advisory Team (CPAT), which aims to provide improved world leading wired and wireless connectivity for businesses, residents and visitors to the Square Mile.

Broadband speeds in the City remain some of the slowest in the UK, and residents and SMEs are now demanding speeds of up to 1 gigabit per second at affordable price points. Similarly the City's Wireless connectivity (WiFi, 3G and 4G) is patchy in many areas due to network coverage and capacity issues and requires significant investment in key high density areas.

The Gigabit City Programme is making good progress in addressing existing issues with wired and wireless connectivity, and so far agreement in principle has been secured from BT, Virgin Media and G.Network to roll out new affordable fibre broadband services at speeds of up to 1 gigabit from 2017-2018. CPAT and Department of the Built Environment (DBE) will work with these and other operators to facilitate timely installation to residents and SMEs in unserved areas.

The City of London Wireless Concession, signed with Cornerstone Technology Infrastructure Ltd (CTIL) in March 2017, will deliver a world leading free to use gigabit WiFi network by the end of September 2017. Following on from the deployment of the WiFi network it is proposed to expand the existing 4G network capacity through the installation of up to 400 "small cells" providing enhanced mobile coverage at street level during 2018-2019, The Wireless Concession will also present attractive market conditions for mobile operators, which will ensure that the Square Mile is amongst the first to benefit from 5G when it becomes available in 2020.

Recommendations:

- i. **Members are asked to note the contents of this report for information.**

Main Report

Background

1. The provision of fixed line telecommunication services to high end businesses in the City is well provided for through the existence of ten tier 1 fibre providers that have the ability to deliver significant capacity to provide for their needs. However, the City Corporation is under significant pressure to promote the delivery of affordable broadband services for smaller businesses that do not have the ability to pay for the services provided to high end businesses. The lack of affordable broadband services consistently remains one of the top complaints received by CPAT from both residents and small businesses, who in many areas have no option other than using BT Openreach's out dated copper broadband lines providing some of the slowest speeds in the UK. Broadband is now recognised as the "fifth utility" necessary for both domestic and business use. Businesses and residents are now demanding speeds of up to 1 gigabit at affordable prices. Such provision is widely available elsewhere in the UK but not in Central London.
2. In addition to lack of provision of affordable broadband, many parts of the Square Mile suffer from patchy mobile (4G) coverage owing to the sheer volume of users using the services coupled with the difficulty in getting signal penetration as a consequence of historic narrow streets and a dense urban environment. The external WiFi network deployed by the Cloud during 2007-2017 was recently shut down due to the greater need for investment to ensure a seamless user experience across the City's streets and spaces. For the City to maintain its reputation as a world business centre it is imperative that the City ensures that the telecommunication provision is world class so that broadband connectivity both for wired and mobile users provides the optimum environment for businesses, workers, visitors and residents to flourish.
3. The City of London "Gigabit City" Programme (formerly called the Superfast City Programme) is currently being led by the City Property Advisory Team (CPAT) and seeks to bring about world class wired and wireless connectivity in the Square Mile by:
 - Securing investment and quick deployment of new fibre broadband infrastructure to offer speeds of up to and beyond 1 gigabit per second at affordable price points.
 - Working with delivery partner CTIL, to build unparalleled world class wireless networks (WiFi, 4G and 5G post 2020) within the Square Mile using City owned street furniture assets and buildings.
4. The following key achievements have been made since the programme was introduced in 2014:
 - Securing of investment in 35 superfast broadband cabinets to serve 5000 premises in the Square Mile (SME and residential clusters) through discussions between former Chairman of Policy & Resources and CEO of BT Group. CPAT and DBE has worked alongside the Openreach delivery team

in rolling out cabinets across the City, which should all be complete by December 2017.

- Further commitment obtained from BT to invest in faster affordable broadband with speeds up to 1 gigabit per second to 12,000 premises in unserved areas. Following further discussions between Chairman of Policy & Resources and CEO of BT Group a joint implementation plan allowing out of hours and weekend working will be implemented with DBE, that will speed up required street work to install gigabit fibre services. Work expected to begin very soon and to be completed by 2019.
- Completion of 2 year public tender led by CPAT, IT and City Procurement to appoint a partner to lead the Wireless Concession to deliver free to use world leading gigabit WiFi network by September 2017 and 400 4G small cells by 2019. The Concession will generate around £18m in revenue to the City of London over the 15 year contract period.
- Commencement of network roll out to provide faster affordable broadband of up to 1 gigabit per second to 3000 properties on the City's 12 housing estates, expected to be completed by the end of 2018.
- Development of a standardised wayleave (led by CPAT and Remembrancers) in conjunction with City of London Law Society, British Standards Institution, trade associations and the telecoms and property industries, to speed up broadband connections, which has been adopted and is being routinely used by many telecoms operators and landlords,

Gigabit City Programme latest

Wired connectivity

5. The City Corporation has actively engaged with BT Openreach to encourage delivery of affordable fixed line broadband services. In response to this pressure BT Openreach is currently deploying superfast broadband cabinets to allow the various retail providers to offer their customers enhanced broadband speeds of up to 80 megabits per second. This is the same service already offered to businesses and residents in most areas of the UK other than in certain remote areas and curiously, Central London. This service will serve 5,000 premises in the Square Mile and predominately covers only the residential and small business clusters.
6. Many areas will not be covered by these cabinets and BT Openreach has committed to delivering a new "fibre to the premises" (FTTP) service through a new network in the Square Mile delivering up to 1 gigabit to over 12,000 premises.
7. The Chairman of Policy & Resources met with the CEO's of BT and Openreach on the 30th August 2017, where it was requested that a joint delivery plan should be formed with the City Corporation to overcome constraints to delivery around street works. This delivery plan will include closer collaboration with DBE to allow

out of hours working in the evening and at weekends to speed up install time to SMEs and residents.

8. The Director of the Built Environment has, through the local risk budget, secured a one year resource to assist in stimulating the delivery of a range of alternative network providers to provide affordable broadband services. The post is located in the CPAT team working to the Strategic Infrastructure Advisor and has now commenced a programme to engage with ten Tier I fibre network operators in the City (who offer more expensive fibre optic “leased line” connections to larger businesses in the City), and with new market entrants currently operating outside of the Square Mile, to encourage investment and roll out of faster more affordable services with speeds of up to 1 gigabit per second. From initial discussions it is clear that, to date they have been discouraged by the cost of deploying network infrastructure and the lack of information regarding coverage. CPAT will seek to facilitate easier and faster deployment of network infrastructure in those areas that currently suffer from poor broadband connectivity (“not spots”) by:
 - Mapping “not spot” areas in the Square Mile and disseminate to fibre broadband providers.
 - Identifying barriers for investment and determining how best the City Corporation can unlock.
 - Undertaking demand stimulation campaigns and activities with providers, businesses, building owners and residents to promote the delivery and take up of services.
 - Developing an on-line portal to identify services available in City streets.
9. Some of the fibre providers currently active in other parts of London have indicated their willingness to deploy networks in the Square Mile, and it is anticipated that, with the ongoing assistance of CPAT and DBE, roll out of new fibre broadband infrastructure should take place during 2018. Following the appointment of the new post, positive discussions have taken place with several providers and good engagement has been made in particular with BT, Virgin Media, G.Network who have given agreement in principle to pilot areas being connected to trial network install techniques and likely take up of services.
10. CPAT has recently responded to the Department of Culture Media & Sport’s “Local Full Fibre Network” (LFFN) Expression of Interest document which offers public bodies the opportunity to bid for a share of £200m to fund the roll out of full fibre broadband networks across the UK. As part of the expression of interest document the potential for providing duct infrastructure for telecommunication providers has been identified along with the option of delivering a “gigabit broadband” voucher that could be utilised to help pay towards the cost of connection. This model was previously used as part of a London wide connectivity voucher scheme that resulted in over 400 businesses in the City upgrading their broadband provision. As part of any second stage this would need to be developed further.
11. The City Corporation has committed to facilitating the provision of affordable gigabit fibre broadband to the City’s 3000 flats on 12 housing estates (including those in other London Boroughs) by the end of 2018 (approved by DCCS Grand

Committee in February 2017). The initiative will include a low cost no contract broadband option for residents on benefits or low incomes. CPAT will lead the coordination of installations with the department of Community & Children's Services across the 12 estates, which is expected to begin in November 2017.

Wireless connectivity.

12. Following the conclusion of a public tender process and approval from relevant committees, CTIL was awarded a contract to undertake a Wireless Concession which will deliver:

- A world leading gigabit WiFi network across the Square Mile by the end of September 2017, which will be free to use on an unlimited basis, which will be more advanced than the Link NYC gigabit WiFi network recently built in New York City
- A network of at least 400 4G small cells by 2019, using City street furniture to provide enhanced mobile coverage at street level, that will be the largest project of its kind anywhere in the UK, and will place the City in the best position to adopt 5G when it comes available (2021).

13. The WiFi network will be launched for public use at the end of September 2017 and a communication strategy is being developed to ensure public awareness,

14. O2 is the first mobile operator to commit to rolling out small cells in the Square Mile and has committed to rolling out 242 by April 2019, with installation starting in September 2017. Discussions have also taken place with 3 around roll out over 200 small cells in the City which are expected to be delivered by early 2018.

15. The Wireless Concession will allow CTIL access to City Corporation assets (selected buildings and street furniture) on an exclusive basis over a 15 year period. In return for the award of the concession CTIL are building out the WiFi network with no initial cost to the City Corporation. The total cost of building and managing the network during the life of the concession is circa £5.1m. Under the terms of the concession CTIL will recoup the cost of delivering the WiFi network before entering into the revenue share element of the concession which could deliver the City Corporation circa £12.9m generated from the renting of the City owned street furniture and building assets to mobile operators

16. The Wireless Concession will promote the City as an exemplar in providing world class wireless infrastructure, to support agile working and future adoption of smart cities applications. The London Assembly Regeneration Committee's "*Digital Connectivity in London*" report published on 29th June 2017 recognised the leading role of the City Corporation in delivering a world leading gigabit WiFi network and 400 4G small cells across the Square Mile.

17. 5G (the next generation mobile standards) is expected to be rolled out in the UK 2021 once the standards have been internationally ratified. It is important that the Square Mile is in a state of readiness for when 5G becomes available. To this end CPAT is engaging with Kings College London and Ericsson, who have been

granted £5.3m from the Government's 5G innovation fund, with a view to a 5G trial taking place within the Guildhall complex. The trial will aim to understand the opportunities that could result from deployment of a 5G network and associated enabled technology. Working with Kings College and Ericsson will help inform the City Corporation's understanding of how a 5G network can be deployed and the benefits to be derived so should aid future rollout in the City.

Conclusion

18. Whilst the Square Mile has a world class telecommunication infrastructure for those businesses that can afford it, the City has lagged behind other global and UK cities in the provision of affordable gigabit broadband. There are now a number of telecommunication providers who are seeking to deliver networks to the City and other providers who have indicated a desire to do so, but require support to remove barriers. A dedicated post has been provided for 1 year whose focus will be on supporting the deployment of networks through proactive engagement with providers and end users.
19. The recent concession granted to CTIL will provide for the delivery of a world leading public gigabit WiFi network that will be free to use by workers, resident and visitors in the Square Mile. The concession will also provide for the delivery of additional 4G capacity that should enhance user experience and also provide a mechanism for deploying 5G networks in the future.

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