CABINET

Report subject	**'Futures Fund' Allocation for the Installation of a Core Gigabit Fibre Network**
Meeting date	27 October 2021
Status	Public Report
Executive summary	This report sets out the case for £5.87m* of 'Futures Fund' investment in a 70.5km long core gigabit-fibre network in order to deliver operational savings for the Council. In particular these cost savings relate to the Wide Area Network (WAN) and the delivery of 'Smart' technology solutions. *[*This includes £200k approved through a Member Decision Notice to enable ducting to be installed as soon as possible as part of ongoing Transforming Travel programme works]* An investment analysis has indicated that with the support of the already budgeted Futures Fund, additional net savings would be delivered to the Council, with a breakeven point from Year 6 (2026/27) based on prevailing interest rates. In addition to providing cost savings to the Council, the installation of this fibre network supports the Council's Transformation and Smart Place programmes and also has the potential for supporting BCP Council's 'Big Plan'. An estimated 30km of the ducting and fibre can be installed during the course of the Transforming Travel construction programme. Utilising 'open' excavations will reduce the cost of installation of ducting by approximately 40%.
Recommendations	**It is RECOMMENDED that:** **(a) Cabinet recommends that Council be asked to approve the £5.87m Smart Places Gigabit Fibre scheme.** **(b) Cabinet recommends that Council note that the funding for the Smart Places Gigabit Fibre scheme will be from drawing down £5.87m of the £50m Futures Fund approved by Council as part of the 2021/22 Budget and associated Medium Term Financial Plan (MTFP) of the Council.**
Reason for recommendations	(i) Delivers operational cost savings for the Council (based upon present day activity). (ii) Provides the core infrastructure for future digital-based Council services. It will significantly reduce future connectivity costs and increases the viability of improving services and making service savings in support of the Council's internal Transformation Programme.

	(iii) Better digitally accessible services are strongly supported by the residents (Smart Place Strategy public consultation). (iv) Supports the delivery of the Council's Smart Place programme. (v) Installation of ducting can be done more cost-effectively and with less disruption during the course of the Transforming Travel works. (vi) Gigabit connectivity along the Transforming Travel corridors can be used to deliver transport benefits and the investment in gigabit fibre can contribute towards the 'match funding' requirement of the Transforming Travel programme. (vii) Has the potential to support the Council's Big Plan ambitions. (viii) Better digital infrastructure accelerates the realisation of economic, social and health benefits.
Portfolio Holder(s):	Councillor Philip Broadhead
Corporate Director	Adam Richens
Report Authors	Ruth Spencer/ Adrian Hale/Ian Woodgate
Wards	Council-wide
Classification	For Decision

Background

Summary of Rationale for the Funding Ask

1. Like many other local authorities BCP Council is facing considerable financial pressures, particularly in relation to revenue budgets. A key target for the Council is therefore to support initiatives that aim to reduce ongoing revenue costs. One area of Council revenue expenditure is digital connectivity. Typically, this includes current spend on its Wide Area Network (WAN) and emerging digital spend associated with its Transformation and Smart Place programmes.
2. In the future, the deployment of 'Smart' technologies is set to transform the way in which the Council manages its services, from providing assistive living devices to people in their homes to remote monitoring of legionella within council buildings. These technologies will deliver major savings for the Council, typically through its Transformation Programme, but will be heavily dependent upon digital connectivity which needs to be available and affordable. A key purpose of the Council's 'Futures Fund' is to invest in initiatives that unlock future potential.
3. In view of the above, this report sets out the case for £5.87m of Futures Fund investment in a 70.5km long core gigabit-fibre network in order to deliver operational savings for the Council. 70km (99%) of this network is to provide the majority of the Council's future Wide Area Network (WAN) passing 62 of the Council's 85 identified properties (73% of properties). The remainder of the properties will continue to be served by third-party ducting and fibre. It is estimated that 30km of this network can be installed during the course of the Transforming Travel works, at approximately 60% of the normal cost.
4. Once installed this network can then also be used to underpin the Transformation and Smart Place programmes as well as deliver additional benefits to the Transforming

Travel programme. In addition to helping the Council to improve its current and future statutory services, there is also the opportunity to make operational savings by investing in this core gigabit fibre network now.

5. A Public Works Loan Board (PWLB) financial analysis has been undertaken over a 54-year period with the prevailing interest rate of 1.95%, This indicates that for an upfront capital investment of £5.87m in a core gigabit fibre network, a net surplus of £4.26m is generated once Futures Fund support is applied. The breakeven year is Year 6 (2026/27).

6. The assessment therefore makes the case for investment in a core gigabit fibre network using Futures Fund support (which is already included within the Medium-Term Financial Plan). This is without factoring in the considerable wider service and operational savings that should also accrue, or the non-monitised social benefits.

7. Members of the public have been consulted on the Smart Place Strategy. In regard to creating innovative digital solutions to tackle social issues, 76% of 332 respondents agreed that this should be a priority, with 54% saying it should be a high priority. 70% of respondents considered improving digital access to services should be a priority.

8. Internally, the Council's Procurement Team has been consulted and strongly support taking the opportunity to install ducting as part of the TCF works, as this will help to reduce future costs and underpin the acceleration of digital Council services being promoted through the Transformation Programme. The Council's IT & IS team has also been consulted and have provided cost information where this is available.

9. The provision of additional ducting and fibre has the potential to attract further commercial investment into gigabit fibre. This would support the Council's Big Plan and government's ambition to go 'further, faster' in regard to the rollout of gigabit and 5G networks.

Supporting the Transforming Travel Programme (Transforming Cities Fund)

10. Ducting and fibre provision along the key transport corridors was included within the original Transforming Cities Fund (TCF) bid to the Department of Transport (DfT). This was for two key reasons, both of which are associated with reducing traffic congestion which is a major issue locally. The first is the provision of high-quality gigabit fibre connectivity, once fully deployed, enables more people to work effectively from home. This reduces traffic demand on the highway network at source, the benefit of which has clearly been seen during the COVID-19 pandemic. The second reason is that a 'digitally connected' highway network opens up the opportunity for far more effective traffic management technologies as well as creating opportunities for new transport technologies such as autonomous vehicles.

11. Unfortunately, the provision of ducting and fibre was not included within the final funding awarded by DfT, nevertheless the need for this provision remains and this can be laid very cost-effectively during the course of the TCF works. As the Council has a statutory responsibility to manage the highway network efficiently, this is an important factor in addition to any 'Invest to Save' consideration.

12. Bearing in mind the Council's obligation to find 'match-funding' in support of the TCF project any investment by the Council in the provision of ducting and fibre ought to act as a contribution.

Urgency

13. There are a number of strategic and operational factors which require the Council to act in a timely manner to help accelerate the roll out of gigabit fibre.

14. Over the next 8 months 40km of the Transforming Travel (TCF) programme routes will be constructed. This provides an immediate opportunity to install ducting for fibre during the course of any excavation works. This can be done at approximately 60% of the normal cost and reduces the likelihood of future traffic disruption resulting from duct laying.

15. The provision of additional Council-owned ducting that has the potential to be used by commercial telecommunication operators, can reduce their capital costs and increase the viability for fibre deployment. This should encourage investment and competition and help to accelerate the roll-out of more affordable gigabit fibre across BCP.

16. Accelerating the deployment of fibre will enable those social, health and economic benefits dependent upon better digital connectivity to be delivered more quickly both through the Smart Place Programme and the Council's internal Transformation Programme.

Options Appraisal

(i) Investment in Gigabit Fibre via the Futures Fund

Do Nothing (Reference Option)

17. The Council will own no additional ducting or fibre and will continue to pay commercial rates for its fibre connectivity for its Wide Area Network (WAN) and other services meaning that the opportunity to make savings will be missed. In addition, the cost of fibre to support the future deployment of Smart Place technologies in support of the Smart Place and Transformation programmes will be at commercial rates. This would impact upon the viability and delivery timescales for some Smart Place applications and services as well as Transformation Programme outcomes. It is estimated that over 50 years, over £9m of additional costs will be incurred in provision of fibre at commercial rates for these two programmes.

18. Opportunities to provide improvements to traffic network management and to reduce congestion would be missed.

19. Private investment would need to be sought for the core network, but this may not be forthcoming. Investors have indicated that they would prefer to see the Council demonstrating its commitment through investment as well.

20. This option does not deliver operational savings for the Council and does not avoid future costs. Therefore, this option is not recommended.

Option 1: Do Something – Investment in a 70.5km Core Gigabit Fibre Network

21. There is the opportunity to invest in the installation of a 70.5km core gigabit network across the BCP region to enable the Council to realise major operational savings and to facilitate service improvements. Key cost savings will be on the Council's Wide Area Network (WAN).

22. It is estimated that a major element of the ducting and fibre can be laid during the course of construction for the Transforming Travel (TCF) programme, significantly reducing installation costs.

Summary of Core Gigabit Fibre Network, Lengths and Costs

23. The installation of the proposed core gigabit fibre network consists of three elements:

    i. A length of ducting and fibre where the WAN network coincides with the excavation for the TCF programme;

    ii. A length of ducting and fibre where the WAN network does not coincide with the TCF programme and/or where new excavation is required to complete the majority of the WAN network (together i. and ii. will provide 73% of the WAN coverage).

    iii. A short length of ducting and fibre for education and social purposes that coincides with the TCF programme excavation due to take place over the next 3-6 months. (This is over and above i. and ii. and the opportunity for which would otherwise be missed);

24. The indicative proposed core network is shown in **Appendix 1.** The table below sets out the overall cost of the project including the length and cost of each element of the proposed core gigabit fibre network as well as the project management costs budgeted at 15%.

Table 1. Project Costs

Core Gigabit Fibre Network Element	Utilises TCF Excavation	Length (km)	Cost
(i) WAN Network – Phase 1	Yes	30	£1.38m
(ii) WAN Network – Phase 2	No	40	£3.24m
TCF Ducting (early intervention)	Yes	0.5	£0.02m
Project Management Costs @ 15%	-	-	£0.70m
Optimism Bias @ 10%	-	-	£0.53m
Total		**70.5km**	**£5.87m**

25. The delivery programme is shown in **Appendix 2.**

Sources of Savings

26. There are many potential areas of savings for the Council, but for simplicity three areas have been assessed:

    i. Wide Area Network digital connectivity savings

    ii. Traffic Signal Monitoring digital connectivity savings

    iii. CCTV Management digital connectivity savings

Sources of Cost Avoidance

27. In addition to savings, by using this new, council-owned, gigabit network, there is the opportunity to avoid substantial future costs, estimated at over £9m. This cost avoidance is associated with not having to use commercial fibre rates for digital technologies related to the Smart Place programme and Transformation Programme. (As these future costs have not yet been incurred, they do not form part of the savings analysis set out below).

Assessment of Costs against Savings

28. An assessment of costs versus savings has been undertaken, using a Public Works Loans Board (PWLB) model, over a 50-year period and at both the prevailing interest rate of 1.95% and an 'Invest to Save - Low Risk Model' rate of 3%. See **Appendix 3**.

29. The installation period for the 70.5km core gigabit network is taken as four years, 2021 to 2024 inclusive and the assessment takes account of the readiness of the network over this period. It is estimated that up to 75% of the TCF routes will involve excavation. An Optimism Bias of 10% has been applied to the base installation costs, giving a total capital cost of £5.87m. It is estimated that annual maintenance costs will be a maximum of 1% of the capital costs, i.e., £58.7k per annum.

30. In regard to WAN savings IT have confirmed that the Council currently spends approximately £300k per annum on its complete Wide Area Network managed provision. There is no breakdown of this cost, but it is estimated that a minimum of £200k is associated with leasing fibre connectivity. The proposed gigabit network is approximately 70km long and expected to serve 62 of the 85 Council properties (73%). This is taken into account in the assessment.

31. In regard to traffic signal monitoring connectivity, it is estimated that the Council spends approximately £20k per annum and it is estimated that there will be 25% utilisation of the core gigabit network, leading to equivalent annual savings of £5,000.

32. In regard to CCTV management connectivity, it is estimated that the Council spends approximately £22k per annum and it is estimated that there will be 25% utilisation of the core gigabit network, leading to equivalent annual savings of £5,500.

33. The following table summarises the costs and savings for the core gigabit fibre network based upon a Public Works Loans Board model with the prevailing interest rate of 1.95%.

Table 2. Gigabit Fibre Network – Costs & Savings Assessment (PWLB @1.95%)

PWLB Model (prevailing Interest rate @ 1.95%)	**Cost/(Savings)** £
Costs	
Borrowing capital repaid over 54 years	5,870,000
Borrowing interest over 54 years	3,372,210
Operational expenses over 54 years	3,112,902
Total Costs over 54 years	**12,355,112**
Savings	
WAN savings over 54 years	(7,438,000)
Traffic Signal Monitoring savings over 54 years	(252,500)
CCTV Management savings over 54 years	(277,750)
Total Savings over 54 years	**(7,968,250)**
Gross 54-year position (without Futures Fund)	**4,386,862**
Futures Fund support over 54 years	(8,644,667)
Net 54-year position (with Futures Fund)	**(4,257,805)**
Breakeven year (with Futures Fund support)	**6**

34. This assessment takes no account of the following additional cost savings and societal benefits:

    a. Future cost avoidance associated with fibre leasing costs for the Smart Place and Transformation programmes – estimated as at least £9m based upon current rates.

    b. Additional savings within Council service areas facilitated by better connectivity such as adult social care, housing, waste management, tourism, transport and car parks.

    c. Benefits to other public sector and voluntary sector organisations including the NHS or Police.

    d. Local productivity benefits to businesses resulting from reduced traffic congestion.

    e. Acceleration of the roll-out of public Wi-Fi, 5G and IoT networks and associated promotion of local digital innovation.

    f. The significant economic and social benefits that would accrue from the accelerated roll-out of affordable gigabit fibre and broadband (subject to additional commercial investment in gigabit fibre).

    g. Wider regeneration and inward investments opportunities resulting from a high-quality digitally connected area. (subject to additional commercial investment in gigabit fibre).

35. More detailed financial information is included within the financial implications section below, including a comparison between the prevailing PWLB interest rate of 1.95% and the 'Invest to Save – Low Risk Model' rate of 3%.

Summary of Option 1 – Do Something: Investment in a 70.5km Core Gigabit Fibre Network

36. In summary, based upon a PWLB analysis with the prevailing interest rate of 1.95%, for an upfront capital investment of £5.87m it is forecast that over 54 years, the borrowing costs associated with the core gigabit fibre network and associated ongoing maintenance costs will total £12.36m. Over 54 years Option 1 delivers savings to the Council of £7.97m. This produces a net deficit of £4.39m. However, this takes no account of future cost avoidance, which is estimated at over £9m over the same period. A key purpose of the Futures Fund is to invest in order to reduce future costs to the Council. **Once the Futures Fund support is applied a net surplus of £4.26m is generated over the 54-year period, breaking even in Year 6 (2026/27).**

37. In view of the favourable financial assessment and that Option 1 also helps to facilitate numerous economic and social benefits and delivers against Smart Place programme objectives and the council's Transformation Programme **this is the preferred option.**

Summary of financial implications

38. Capital investment of £5.87m is proposed as part of this scheme, with £0.2m in the current 2021/22 financial year, and a further £1.89m in each of the following 3 years until 2024/25. The proposed expenditure, which includes a contingency of 10%, will be spent on laying 70.5 kilometres of ducting for a core gigabit fibre network. It is proposed that this investment is funded from prudential borrowing via the £50m Futures Fund approved by Council as part of the 2021/22 Budget and associated Medium Term Financial Plan (MTFP) of the Council.

39. Prudential borrowing for these items is permitted under revised HM Treasury PWLB guidance as the capital investment is for service delivery and infrastructure improvements. Annual borrowing repayments are calculated at 1.95% (prevailing pwlb rate and 3% (BCP Council low risk invest to save framework rate) over the estimated useful life of the asset (50 years). Annual borrowing repayments (commencing the first full year following the year in which borrowing is taken out) is initially estimated to be £2k in 2022/23 rising to £72k per annum from 2024/25 when the full investment has been made. It should always be borne in mind that the council is required to repay principal and interest on any loans before it can determine the resources available annually to support service delivery. Bearing that in mind members will need to reflect on their responsibility to both current and future taxpayers and its fiduciary duty to be prudent in the administration of its funds. This is a specific reference to the fact that the Futures Fund capital and interest costs is a cost pressure within the Councils MTFP.

40. Appendix 3 sets out the financial evaluation of the recommended investment in gigabit fibre showing a detailed breakdown of the first 10 years plus 10-year summaries thereafter.

41. The financial models have been developed using the prevailing PWLB rate (1.95%) and the Invest to Save low risk rate (3%).

42. The investment is considered low risk as the Council has previous experience of undertaking similar works required and has good knowledge of its existing expenditure and therefore the savings that can be achieved from this investment

43. Table 3 summaries the net impact of both models on the Council's budget and Medium-Term Financial Plan (MTFP) during the first 10 years of operations after taking into consideration the application of the Futures Fund support which has already been approved and is already within the Council's MTFP.

Table 3: Impact on budget and MTFP years 1 to 10

Financial Year	Scheme Year	Prevailing PWLB Model (1.95%)	Invest to Save Low Risk Model (3%)
		£	£
2021/22	1	3,040	5,140
2022/23	2	66,830	88,144
2023/24	3	76,957	112,150
2024/25	4	(55,410)	(6,345)
2025/26	5	(52,046)	(8,961)
2026/27	6	(82,819)	(39,755)
2027/28	7	(82,847)	(39,805)
2028/29	8	(82,876)	(39,856)
2029/30	9	(82,905)	(39,909)
2030/31	10	(82,934)	(39,963)
Total Operational Phase years 1-10		**(375,010)**	**(9,159)**

44. Table 4 summarises the key financial data over the asset life from both model's perspectives. The key data is shown over a 54-year period due to a phased implementation of the works and corresponding matched borrowing.

Table 4: Key Financial Data

	Prevailing PWLB Model (1.95%)	Invest to Save Low Risk Model (3%)
	£	£
Savings over 54 years	(7,968,250)	(7,968,250)
Operational expenses over 54 years	3,112,902	3,112,902
Borrowing interest over 54 years	3,372,210	5,537,023
Borrowing capital repaid over 54 years	5,870,000	5,870,000
Futures Fund support over 54 years	(8,644,667)	(8,644,667)
Net 54-year surplus	(4,257,805)	(2.092,992)
Breakeven year	6	10

45. The financial model assumes a 50-year asset life

46. The financial model excludes inflation uplifts to both the savings and the maintenance costs. Including inflationary uplifts would improve the financial position as the assumed savings outweigh the assumed maintenance costs.

47. No capital appreciation has been assumed as part of the financial modelling. However, with effective management and maintenance of these assets there is the potential for the asset to appreciate in value.

48. The financial benefit of future costs being avoided due to the scheme being implemented, have not been taken into consideration in the models.

49. Without financial support from the Futures Fund this scheme would not be viable based on cost savings highlighted alone.

50. BCP Council is undertaking a level of due diligence to see if the financial models could be improved by finding further savings or income streams associated with the works. Neither of these are assumed in either of the financial models but they are still being explored by officers.

Summary of legal implications

51. "Local Authorities have the power to borrow under s1 Local Government Act 2003. The discretion afforded to Local Authorities to borrow under s1 of the Act is wide reaching – "for any purpose relevant to its functions under any enactment or for prudent management of [the Local Authorities] financial affairs". The content of this report indicates that the Service Unit relies upon borrowing "for any purpose relevant to its functions under any enactment" given that the aim of this project is to improve service delivery and infrastructure via installing ducting which could be utilised for traffic management, CCTV, WAN and Smart Place.

52. The Council's 2021/22 budget and MTFP includes provision to service £50m of PWLB borrowing drawn down in £10m tranches over the next 5 years. Legal Services has not had sight of the terms and conditions associated with the PWLB borrowing, however given the nature and prevalence of PWLB borrowing, it is likely that the Council's Finance team will be comfortable with the borrowing terms and interest repayments when agreements are entered into.

53. The Service Unit has been advised that in order to comply with the Subsidy Control Regime, it must ensure that any contractor used to install the ducting has been selected following the relevant procurement process in accordance with the Council's Financial Regulations and Public Contracts Regulations 2015.

54. The Service Unit must ensure that appropriate contractual arrangements are entered into with the contractor prior to the commencement of any works. Legal Services would advise that an industry standard works contract, possibly NEC, is used, however advice should be sought once a specification has been produced. The Service Unit should continue to liaise with the Procurement Team to identify whether there is a suitable framework available.

55. Prior to installation of the ducting, the Service Unit should seek advice from external legal specialists as to the Council's position under the Electronic Communications Code 2003, any relevant Ofcom authorisation / accreditation, associated membership fees and any other aspects relating to the Telecoms legal position.

56. The Service Unit must also liaise with and seek advice from Highways on the ducting installation to ensure Highways are satisfied and able to grant a licence under s50 New Roads and Street Works Act and the associated fees of obtaining the s50 licence.

57. The Service Unit must also obtain advice from Legal Services on the property elements associated with the works to include considering whether the contractor is a statutory undertaker, the powers under which the works are being undertaken, whether wayleaves and / or easements are required, potential negotiations with third party landowners etc.

Summary of human resources implications

58. It is anticipated that a temporary project manager will need to be appointed. Project management costs have been accounted for within the costings.

Summary of sustainability impact

59. A DIA has already been produced for the overarching draft Smart Place Strategy.

Summary of public health implications

60. There will be a major positive public health impact. Individuals will have better digital access to public services. This will help to tackle health inequalities, typically by enabling people to access more services, including remote GP appointments.

61. The availability of cheaper connectivity will enable the Council and private health providers to deliver more cost-effective services for clients, such as deployment of assistive living technologies and remote monitoring of housing conditions e.g. for moisture or legionella.

62. The widescale deployment of gigabit capability with very high upload and download speeds will have a considerable positive impact upon NHS communications between GP surgeries and hospitals.

Summary of equality implications

63. An Equality Impact Assessment: conversation screening tool (Form 1) has been produced at a programme level. The deployment of ducting for gigabit fibre has no other direct impact upon protected characteristics beyond those benefits outlined in the programme level EIA.

Summary of risk assessment

64. Three immediate risks have been identified.

    i. Delays in ducting manufacturing supply chain: Ducting is in limited supply with lead times of 10 to 16 weeks being quoted by several suppliers. Mitigation: A source of existing ducting has been identified with near immediate availability, although this will need to be confirmed once funding approval has been given.

    ii. Delays to the Transforming Travel programme: There is a risk that the addition of the ducting could delay the Transforming Travel programme, which could avoid the ducting being included. Mitigation: Meetings have taken place and will continue to take place with the client manager, programme manager, project manager and procurement. It has been agreed that early engagement will take place with contractors and the provision of ducting will be included in those discussions.

    iii. Increase in rates for ducting: There is a risk that the rates for the installation for ducting could increase or that additional new excavation is required. Mitigation: Rates for current work along with initial quotes for laying ducting in open trenching have been used in estimating costs. Early engagement with contractors should ensure that ducting rates remain reasonable. An Optimism Bias of 10% has been applied to the estimated costs.

65. *(A Risk Register for the deployment of ducting for fibre will be developed shortly – Appendix 4)*

Background papers

None

Appendices

Appendix 1: Proposed Core Gigabit Network – Indicative Layout Plan

Appendix 2: Proposed Core Gigabit Network - Delivery Programme

Appendix 3: PWLB Financial Assessment

Appendix 4: Gigabit Fibre Deployment Risk Register