



Swansea Bay City Deal Joint Scrutiny Committee

Digital Infrastructure Programme Overview & Update

09/11/2021

The Digital Infrastructure Programme of the Swansea Bay City Deal is an investment in the Digital Connectivity and associated Telecommunications Infrastructure of the region. This includes but is not limited to full fibre fixed connectivity and associated infrastructure, 4G Advanced, 5G and Internet of Things wireless networks and use cases. It is in essence the deployment of enabling technology that will allow quality digital services to be delivered and accessed over fixed line networks or wireless networks.

The Programme will deliver the essential underlying Infrastructure required to support and underpin the regions broader Digital Strategy. It will help to ensure that the region is equipped with future-proofed Digital Infrastructure that will provide the transformative foundations for City Deal interventions and wider regional growth. The Programme will also help to ensure social inclusion and cohesion in a post Covid19 world.

This gigabit capable ultra-reliable connectivity will help to ensure that the region capitalises on opportunities to accelerate economic growth and establish itself as a centre of excellence in the key sectors of; energy, life science and well-being and smart manufacturing. Future proofed Digital Infrastructure will help create a paradigm shift in the design, development, and application of technology within these key sectors across the region.

Strategic Case

The breadth and quality of digital infrastructure available in Wales has fallen behind that found in many other parts of the UK. This is compounded by the fact that there are significant differences within Wales itself. The reasons for this do not only rest with the topology of the region and the fact that it is heavily rural, it is a deeper issue related to digital awareness, affordability and commercial appetite for investment by the communications service providers (CSPs).

There is broad and proven recognition that the provision of digital services drives economic growth and enables social inclusion and cohesion. There is also a growing recognition that the availability of world class digital connectivity stimulates innovation and the creation of new business streams. The clear conclusion is that the Swansea Bay City Deal (SBCD) must address any shortfall in the availability of digital connectivity in the region. It must invest in digital connectivity to obtain a competitive advantage and it must also drive the uptake and quality of those services that are already available.

Improving the Digital Infrastructure of the region is critical as it has suffered from a lack of commercial investment that has consequently resulted in an underlying gap in delivery capability. These gaps need to be closed in order for the SBCD and the region to achieve its goals. The proposed Programme of work will lead to:

- An increase in local productivity and employment
- An uplift in the region’s attractiveness for both the telecommunications industry and subsequent inward investment by highly skilled digitally intensive industries
- An enhanced ability to deliver local services, notably education, health, and transport
- Environmental benefits through the facilitation of teleworking and enhanced traffic management
- A reduced gap in access to digital services across the region, notably to isolated communities
- Enabling digital transformation across the public and private sector
- Ensuring the cities and development zones of the region obtain a competitive advantage against other parts of the UK.

The region is not homogenous in its requirements and challenges and the investment priorities need to reflect this. To give a focus on the region’s needs, and the manner in which they can be met, three intervention areas have been identified to be delivered through the Digital Infrastructure Programme. These are:

Intervention	Description
Connected Places	This is regional support that will increase the availability of fibre to the premise in key urban areas. Mainly targeted at existing industrial areas and economic growth zones to provide competitive world class connectivity
Rural Connectivity	Intervention where there is shortfall in existing or planned investment to ensure as many rural premises as possible in the region has access to a minimum broadband service, currently considered to be 30Mbps, via gigabit capable infrastructure.
Next Generation Wireless	This is focussed on the provision of next generation wireless connectivity in the form of 4GAdv, 5G and IoT networks. The use cases and business models for these technologies is still to emerge, but supporting early adoption and stimulating innovation within the regions SMEs will ensure that the region stays at the forefront of deploying this technology

Each area deals with a different regional challenge and calls upon different mixes of digital infrastructure to overcome them. However, all are complimentary and interdependent and together provide the underlying infrastructure for the SBCD to address its goals.

SMART investment objectives have been defined for each of these three areas as follows:

- **Connected Places; Ensures towns, cities and development zones have access to competitive world class full fibre infrastructure. This will deliver the following spending objectives:**
 - *improve the quality of public service delivery by ensuring all public buildings are served with gigabit capable infrastructure, facilitating improved efficiency and public access to services. This will be measured by the number and frequency of Digital customer contacts and costs per transaction.*
 - *cost savings to the public sector for digital connectivity. This will be achieved through the aggregation of demand and the consolidation of the purchasing process. Savings will be measured by year on year expenditure and cost per unit of capacity used.*
 - *stimulation of competition in digital services. The number of services providers in the region will be measured and tariffs benchmarked.*
 - *stimulate inward investment in the region by telecommunications industry and hence improve access to services for residents and businesses. Experience elsewhere has shown that expenditure by the public sector on digital infrastructure typically leverages additional private sector investment. This will be reported on and measured as part of procurements and economic development programmes, including wider coverage and additional services being offered.*
 - *deliver economic benefits through the usage of digital infrastructure, notably increased efficiency, and enhanced productivity. A range of studies are available that benchmark economic impacts on a region. These are highlighted in this report. The benefits modelling used in these reports can be utilised or a bespoke set can be developed. It should be noted that the benefit modelling has a diverse range of measures including impacts on environmental and social benefits.*

- **Rural: Facilitate equality of access to broadband services across the region. This will deliver the following spending objectives;**
 - *improve the quality of public service delivery by ensuring communities in remote areas have access to services. This will be measured by tracking the availability of services across the region along with take up and usage of the public service.*
 - *social cohesion and inclusion across the region to sustain communities.*
 - *stimulate economic growth by enhancing opportunities for employment. Employment, number of business start-ups and investment levels will all be measured with an initial baseline established.*

- **Next Generation Wireless: Ensure that the region is at the forefront of 4G Adv, 5G and Internet of Things (IoT) investment and subsequent innovation. This will deliver;**
 - *Inward investment. Accelerated deployment of 5G will be considered as inward investment and measured accordingly. The attraction of businesses to areas that has 5G coverage will be measured by movement into these zones.*
 - *Innovation and ensuring the region is at the forefront of new service roll out and delivery. The availability of services such as 5G and other IoT wireless networks will be tracked and availability and penetration benchmarked against other parts of the UK*
 - *Economic growth. The uptake of 5G and IoT services will be measured with the assumption that early adoption is driven by gains to productivity or service offering and therefore economic growth. As this is likely to be a narrow area to monitor, direct input from companies utilising 5G and IoT will be gained to measure growth.*

Economic Case

The Digital Infrastructure Programme has three Projects which it will directly deliver in order to drive growth and GVA and to close the digital divides across the region.

Options have been considered for all three areas, ranging from Do-Nothing to significant levels of investment. A preferred option has been identified for all three areas which represents a pragmatic approach that maximises the impact of existing interventions and addresses any significant gaps that these might leave.

Connected Places

- An investment in public sector owned duct infrastructure and a procurement of commercial owned full fibre infrastructure

Rural

- Programme of supply side engagement to stimulate investment
- Demand stimulation programme to raise awareness and drive adoption in businesses and residential consumers
- A focused and locally led procurement to in-fill gaps in service provision which is state aid compliant and complementary to existing national and regional programmes

Next Generation Wireless

- Selected funded interventions and proof of concepts to deliver 4G Adv, 5G and IoT connectivity in key locations should be executed under a central SBCD mandate and management

A summary of the economic appraisal for each of the three streams within this Digital Programme is presented in the following table:

	Portfolio	Rural	Connected Places	Next Generation Wireless
A. Economic Impact		£87.5m	£220m	£11.7m
B. Public sector cost (or appropriate value for cost). Note Cost includes total public sector expenditure by SBCD, DCMS and Welsh Government	Note: Additional commercial investment in leveraged by public sector investment	£21.5m	£12.5m	£4.5m
C. Appropriate BCR		3.5	11	1.5
D. Significant unmonetisable costs/benefits		<ul style="list-style-type: none"> • Productivity enhanced • Aids start ups • Teleworking • Household benefits • Sustains communities • Facilitates mobile deployment • Delivers public services • Environmental benefits 	<ul style="list-style-type: none"> • Productivity enhanced • Aids start ups • Stimulates network build and inward investment • Teleworking • Household benefits • Sustains communities • Facilitates mobile deployment • Industrial benefits • Delivers public services 	<ul style="list-style-type: none"> • Stimulates network build and inward investment • Teleworking • Household benefits • Sustains communities • Facilitates mobile deployment • Productivity enhanced • Environmental impacts (e.g. reduced Co2)

Commercial Case

The commercial case defines the recommended procurement routes, service specifications and commercial and contractual considerations. These are different for each of the 3 Project areas identified and shaped by:

- Stakeholders appetite to invest in public sector assets and infrastructure
- Commercial appetite for inward investment
- Ensuring state aid compliance
- Ensuring investments are complementary to the activities of the PSBA
- Complementary to other national and regional schemes

Procurement activities proposed under each of the 3 Project areas are as follows:

Rural Connectivity

- Preferred Option 2 - Supply Side engagement
- Preferred Option 3 - Demand Stimulation programme
- Preferred Option 4 - SBCD led in-fill procurement

Options 2 and 3 represent an internal team providing support services, possibly with some external professional support. This does not require procurement.

Option 4 represents SBCD led in-fill procurement for the provision of connectivity to public sector, residential and commercial premises with no or poor, internet access. The exact locations to be reached are to be specified within each procurement action, as well as the level of service to be provided.

Connected Places

- Preferred Option 3 - Infrastructure asset investment
- Preferred Option 4: Procurement of infrastructure and/or managed service

Option 3 represents Infrastructure asset investment. Under this scenario SBCD fund the expansion and upgrade of public sector ducting within the region.

Option 4 represents the SBCD Public Sector procuring Fibre Infrastructure; Notably the build and use of dark fibre (or an equivalent wavelength service) to a defined portfolio of public sector sites, and / or a Managed Service; Gigabit capable connectivity to sites.

Next Generation Wireless

- Preferred Option 3 – Undertake Future Telecom Infrastructure Review guidance in full & drive SRN.

- Preferred Option 5 – Funded intervention to deliver 5G, 4G Adv and IoT connectivity and use cases in selected locations.

Option 3 does not require direct procurement action. The action will require the set-up and recruitment of a dedicated specialist team to provide, on behalf of the four local authorities, a service in line with that proposed in the Future Telecoms Infrastructure Review, (FTIR).

Option 5 represents funded intervention to deliver 5G, 4G Adv and IoT connectivity and use cases in selected locations. It is considered that the team brought together for Option 3 will also be able to provide the additional support necessary to execute Option 5. Procurement will be undertaken in respect of a project by project requirement, covering one, or a combination of;

- 5G/4G coverage and services
- IoT coverage and services

Financial Case

A summary of the proposed expenditure under each of these three streams is presented in the table below. The table splits out that potentially provided by the SBCD along with commercial investment and likely central government grant funding. It should be noted that commercial investment is likely to emerge in two waves: an initial direct contribution to the proposed Programme plan. In addition, there will be secondary pull through investment by the commercial sector as subsequent investment will be made to enhance and expand the digital infrastructure facilitated by SBCD.

There are strong positive economic and social impacts for all three of the Programme's Projects. The analysis undertaken has been careful to apply economic multipliers that have been used in other government programmes to support their business case.

Stream	Total Budget Spend (Revenue and Capital over 5 year)	Direct SBCD Capital Contribution	Direct SBCD Revenue Contribution	Other Public Sector Contribution	Direct Commercial Contribution	Additional Commercial Sector Pull through Investment	Economic Uplift over 15 years from Budget Investment
Rural							
Option 2; Supplier Engagement	0.5	0.0	0.5	0.0	0.0	0.0	
Option 3: Demand Stimulation	5.0	0.0	1.5	3.5	0.0	28.9	17.5

Option 4: In-fill Procurement	20.0	6.0	0.0	10.0	4.0	20.0	70.0
Connected Places							
Options 3/4 Duct Investment /Procurement	20.0	12.0	0.5	0.0	7.5	70.0	220.0
Next Generation Wireless							
Option 3; Infrastructure Review	2.0	0.0	2.0	0.0	0.0		
Option 5: Support for Specific Projects	7.5	2.5	0.0	0.0	5.0	3.0	11.3
TOTAL	55.0	20.5	4.5	13.5	16.5	121.9	318.8

The table above summarises the budget spend and investment sources along with associated benefits. It is estimated that the Digital Programme will result in over £120 million of direct and pull through commercial investment and an economic stimulus to the region of over £300 million over the next 15 years.

Management Case

The SBCD Digital Infrastructure Programme Management Case provides the Digital Infrastructure Board, SBCD Portfolio Management Office and Joint Committee with confidence that the capability and capacity to govern and deliver the Programme is in place, and that they and other governance and delivery structures receive information in a timely and transparent manner to help them make informed decisions. This is being achieved by establishing and operating capacity and capability to implement and manage robust governance and approvals through people, structures, strategies, and processes based around Portfolio, Programme and Project Management (P3M) practices and principles.

The Digital Infrastructure Programme will be periodically reviewed by the regional PMO and external stage gate reviews to assess and improve its governance, assurance, and communications arrangements. This will ensure that the ambition of the Programme and its associated Projects are aligned to delivery. These arrangements will also ensure that progress and deliverables are communicated effectively through transparency, while demonstrating value for money to the region and people of Wales.

In October 2020 the Digital Infrastructure Programme went through a comprehensive OGC Gateway™ Review 0: Strategic assessment. This assurance review was arranged and managed by the Welsh Government Integrated Assurance Hub (IAH) and conducted by an external review team of Programme/Project Management experts. The primary purposes of the Gateway Review 0: Strategic assessment was to review the outcomes and objectives for the programme (and the way they fit together) and confirm that they make the necessary contribution to Ministers' or the departments' overall strategy.

The Review Team found that successful delivery was probable with a delivery confidence assessment of Amber/Green given. SBCD leaders, partners and stakeholders welcome and fully support the findings and recommendations of this review. We recognise all the key points discussed and agree with findings and recommendations. We are determined to ensure the successful delivery of this programme and are therefore fully committed to implementing all the recommendations made by the review team in full and as soon as possible. The review has been extremely helpful in ensuring the programme is progressing well and continues to do so. The review has identified areas for improvement and given us an important level of

assurance regarding progress so far and how to move forward with confidence. We thank the review team for their efforts. The process was enjoyable, informative, and beneficial. The team were open, honest, and effective throughout. A clear Programme Management structure has been defined consisting of a Digital Infrastructure Programme Board reporting to the Swansea Bay City Deal Programme Board and Joint Committee.

A central Digital Infrastructure Programme Management Office (DIPMO) has been established to oversee and steer Digital Infrastructure strategy and policy for the region in liaison with UKG, Welsh Government and the private sector. The DIPMO is charged with meeting Programme aims and objectives as set out in the Programme business case, overseeing risk and governance, maintaining communication and engagement across all sectors, and achieving Programme outcomes, including community benefits.

This DIPMO team will be hosted within Carmarthenshire County Council as the lead authority for the Digital Infrastructure Programme.

In order to deliver the business plan the Programme team will be responsible for the;

- Development of overall digital strategy
- Maximising and coordinating funding opportunities for the Region
- Interaction with Welsh and UK Govts on digital programmes
- Co-ordination and management of regional Digital procurement activities
- Supply side engagement with industry
- Development of regional procurement frameworks and procurement templates
- State aid guidance
- Development of regional guidelines and approach to demand stimulation
- Market analysis and monitoring of infrastructure deployed.

Where required the DIPMO will utilise external legal (for state aid and procurement) and technical support. This central team would report directly to the Digital Infrastructure Programme Board, Programme lead authority (Carmarthenshire County Council) and Swansea Bay City Deal Joint Committee as required. It will also coordinate and draw upon the resources and skills of stakeholders including the local authorities, health

boards and universities as required – notably during procurements and demand stimulation activities.

Digital Infrastructure Programme Status Update.

The Digital Infrastructure Programme is now in a position to fully transition from preparation to delivery. The following activity is now complete or ongoing.

Business Case

- A comprehensive Digital Infrastructure Programme Business Case was produced during Spring/Summer 2020 in collaboration with appointed consultants and local, regional, and national stakeholders.
- Significant stakeholder engagement and consultation of the Business Case took place throughout Summer/Autumn 2020.
- The Business Case and all associated plans were scrutinised and refined locally, regionally, and nationally during Summer/Autumn 2020.
- A comprehensive stage gate review of the Digital Infrastructure Programme was conducted by Government appointed external experts in November 2020. The Programme was awarded Amber/Green status.
- Local & Regional endorsement for the Digital Infrastructure Programme and its Business Case was achieved in November 2020.
- In March 2021 the Digital Programme achieved Ministerial endorsement from both the Welsh Government & UK Government.
- Updating and refinement of the Business Case is ongoing throughout the lifetime of the Programme.

Governance

- Both the Digital Infrastructure Programme and overarching City Deal Portfolio Governance is fully established and functioning.

- A Digital Infrastructure Programme Board has been fully established with key partners and stakeholders represented. Terms of reference are in place, agreed upon and reviewed monthly.
- A Senior Responsible Officer for the Programme is in place along with a Programme Board Chair and Vice Chair.
- The Programme Risk Register/Issues Log is fully operational and scrutinised monthly by Digital Infrastructure Programme Board.
- The Digital Infrastructure Programme is represented at several national forums of relevance i.e. Welsh Governments Digital infrastructure barrier busting taskforce.

Funding

- Access to £25M City Deal funding for the Programme is secured with operational Budgets established.
- Programme funding agreements are drafted and being consulted upon with the 4 Local Authorities.
- The following additional public sector funding has been secured across the region, helping to achieve the aims and objectives of the Digital Infrastructure Programme:
 - £3.5M from regional partners for demand stimulation, supplier engagement, barrier busting and infrastructure deployment support and facilitation.
 - £9.2M Superfast Cymru funding for rural infill procurement of gigabit broadband across the Swansea Bay City Region.
 - > £500K for community broadband projects via UK Governments Gigabit Voucher scheme.
 - £400K for an open access wireless “Internet of Things” network across the region.
- Lobbying for, facilitating, and supporting significant private sector investment in Digital Infrastructure across the Region is ongoing.

Resources

- Appointment of specialist advisors to the Digital Infrastructure Programme is complete.
- Recruitment of a central Digital Infrastructure Programme team is complete:
 - 1 x Digital Programme Manager
 - 2 x Digital Project Managers
- SBCD Regional Portfolio Office resources are in place and fully supporting the Digital Infrastructure Programme.
- Local Authority devolved resource recruitment is ongoing. Job profiles are currently being drafted for 1 x Digital Infrastructure lead per Local Authority.

Delivery

- The Programme has been and will continue to support and facilitate significant private and public sector regional investment in fiber and mobile connectivity.
- The Programme is assisting individual Local Authorities, Universities and Health boards with their own Connectivity agenda, programmes & initiatives where possible.
- Final delivery workshops for each of the 3 project workstreams are scheduled for November/December 2021. The purpose of the workshops is to:
 - Review and agree the final list of interventions for each of the 3 Project workstreams within the Digital Infrastructure Programme.
 - Refine the commercial case and route to market (where applicable) for each Project/intervention.
 - Agree specific details for each Project/intervention i.e. exactly who, when and where.
 - Establish governance for each of the 3 Project workstreams and ensure

- Procurement and delivery of individual Projects and interventions of the Digital Infrastructure Programme will commence in the new calendar year 2022.