

Llandudno

Digital Place Plan

August 2022



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1 What is a Smart Town?

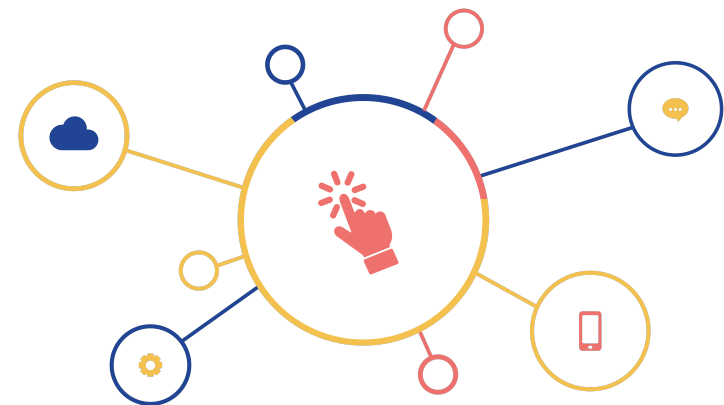
Smart Towns actively embrace new technologies to achieve economic, social and environmental benefits such as increased footfall and growth in spending, improved traffic management, energy saving, cleaner and safer streets, and increased public involvement.

Smart Towns adopt the same technology and data that national brands have been using for decades to enable small businesses and town centres to compete on an equal footing. Smart Towns also help with 'levelling -up' so that every business and organisation within a town has access to the same information they need to grow their businesses and the town centre as a whole.

And it is not necessary to be an expert or enthusiast for technology to take advantage of smart technology and data. People and places just need to be open to using new methods alongside digital skills training and business support to enable people to get the most out of digital.

A glossary can be found at the back of the Plan which explains the technical terms used in this document.

Recent research shows that around 70% of consumers spend up to 3-hours a day scrolling on social media. When you couple this with the fact more and more people are keen to support their local high street businesses, it stands to reason that connecting local people from the digital world to the physical world is the solution to increasing high street footfall and sales.¹



¹ Polly Barnfield OBE, CEO of Maybe* Tech.

1.0 Why have a Digital Place Plan?

The idea of town centres having their own Digital Place Plan (the Plan) is a recent idea, which is being delivered through 'The Year of SMART Towns'. For most towns it is likely to be something new and unfamiliar. However, for towns that wish to become smarter and more digitally confident, there are potential resources available including from Local Authorities and the Welsh Government's Transforming Towns programme.

Preparing a Plan will help to boost interest, understanding and support for digital technologies and the use of sensors to improve the performance of a town centre. Additionally, the process of preparing a Plan will encourage new action in support of existing town centre regeneration plans.



1.1 A Plan is based on 5 key stages:

- 1 Strategic digital review**
This identifies the digital priorities being set at county, regional and national levels through programmes, planned infrastructure and investments. The purpose is to ensure the Plan is in line with these priorities to maximise the level of support.
- 2 Plans and partnerships**
By researching existing plans and reviewing examples of partnership working within the town, this stage identifies the vision for the town centre, along with the level of ambition required and how digital might help to achieve it.
- 3 Digital place assessment**
The place assessment identifies how advanced a town is along their Smart Town journey. This is done by identifying the current infrastructure and how it is being used. The assessment is crucial for understanding what the town is already doing well and where it has the opportunity to digitally improve.
- 4 Business and stakeholder views**
Once the Plan has developed a comprehensive understanding of where the town is along its digital journey, businesses and other stakeholders meet to identify the direction and actions recommended in the Action Plan.
- 5 Action plan**
The final step of the process is to draft an Action Plan that identifies the most impactful (and feasible) actions that can be taken to become a digitally smarter town in the near-term (e.g. next 2 years).

2 Town centre characteristics

Llandudno is Wales' largest resort town, known as the 'Queen of Welsh Resorts', located in Conwy on the North Wales coast. The town has a population of around 20,000 and functions as a regional hub for tourism, with people visiting the town itself as well as using it as a base to explore the nearby Snowdonia National Park and the rest of Conwy.

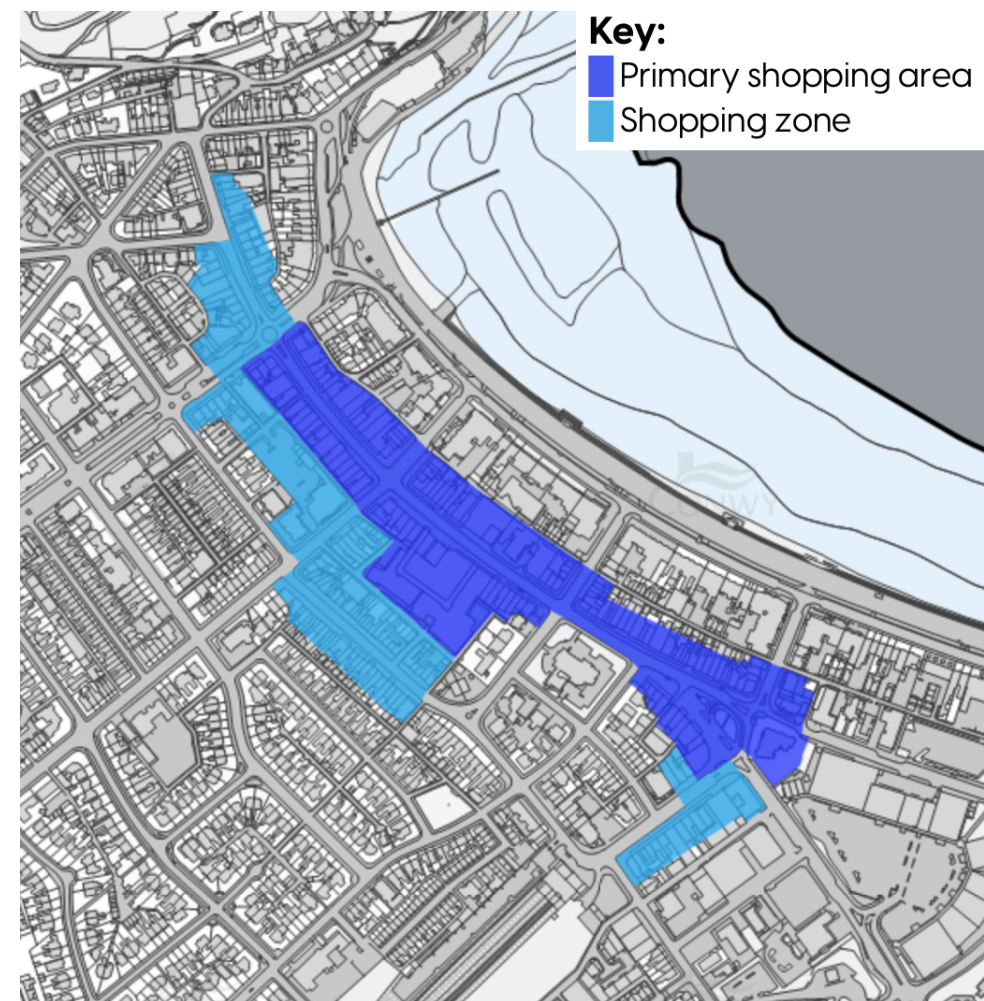
The town is a major hub in Conwy, identified in the Replacement LDP at the top of the retail hierarchy as a sub-regional centre which is "fundamental in delivering the housing, employment and other infrastructure, facilities and services". Similarly, Llandudno and Colwyn Bay are identified in Future Wales: The National Plan as a Regional Growth Area that will "continue to play a central role within the region" over the next two decades.

Much of the town centre was built as a holiday destination during the 1800s and as a consequence the town centre has a distinct Victorian character. This is reflected in the row of Victorian hotels built alongside the seafront promenade, many of which are Grade II listed. There is also a Grade II* listed Victorian pier at the north of the town centre near to the Happy Valley Botanical Gardens and Ski Centre, both of which are located on the Great Orme headland north of the town.

The town centre is heavily oriented around the visitor economy and is performing strongly in the wake of the pandemic, with the vacancy rate for commercial property close to 0% as of June 2022. The town's visitor economy is primarily composed of visitors aged 65+ and families but also caters towards younger demographics.

Figure 1: Areas designated for retail, food and drink in the Adopted Local Development Plan

Source: Conwy Adopted Local Development Plan



The visitor economy is seasonal with visitor numbers at their highest in late spring and summer and significantly lower in the winter and autumn. The town is believed to have benefited from the recent growth in domestic tourism.

Commercial property ownership in the town is highly concentrated with Mostyn Estates owning more than 80% of commercial properties in the town centre, including the two adjacent retail parks

The town centre has a large number of independent retailers, cafes, restaurants, public houses and bars whilst the majority of national retailers are located on the two adjacent retail parks (Parc Llandudno and Mostyn Champneys Retail Park). Independent retailers are largely concentrated along Mostyn Street, the centre's main shopping street, which also features a large number of cafes and restaurants. The majority of national retailers are located in the adjacent retail parks (such as M&S, Primark, Next and JD Sports) and the Victoria Shopping Centre off Mostyn Street.

Due to the leading role of the visitor economy, the town centre has a high number of businesses in the food, drink, retail and accommodation sectors. But the centre also serves a wide range of additional functions which reflect its regional role. These functions include a police station, MOSTYN Gallery (the largest contemporary art gallery in North Wales), town hall, banks, building societies and places of worship.

There are three roads into the town centre (A470, A546 and B5115) and at peak season traffic congestion can be an issue with a high volume of visitors arriving by car. The other gateways into the town are the coach park and train station (which has regular services to Blaenau Ffestiniog, Manchester and Llandudno Junction).

Place Activation

Events and culture are an important part of the town and an area which many stakeholders are looking to grow further. Venue Cymru is a major events venue which hosts national conferences, exhibitions, music, sport and comedy. The venue is due to host the Welsh Open in 2023. There are a number of other smaller venues located throughout the town centre which host live music, entertainment and theatre, such as The Motorsport Lounge.

A wide range of events take place in Llandudno across the town centre venues, main streets and the promenade, including: The Llandudno Victorian Extravaganza, Llandudno Vintage and Antique Fair and Llandudno Transport Festival.



2.0 Where could digital support the town centre?



Measure footfall and mobility in the town centre to inform destination management initiatives and measure their impact.



Enable businesses to grow their trade by making data-driven decisions around opening times, staffing, marketing and promotions.



Expand the town's event programme; smart footfall data has been used extensively by organisers to manage events and to measure their impact, as well as to secure grant funding.



Develop and promote the culture offering across a range of town centre venues and support culture-led regeneration through the use of digital signage, marketing and data.



Support the development of the town's year-round appeal with digital signage and marketing to reduce the seasonality of the town.



Monitor traffic flows into the town centre and support the development of an evidence-based plan for managing traffic and congestion throughout the year.



Enable digital public service delivery with high-quality digital infrastructure, potentially increasing the accessibility of such services.

3 Strategic digital review

This section reviews digital programmes, planned infrastructure and investments at both the local authority and regional level. The purpose is to ensure that the Plan aligns with strategic priorities and to facilitate dialogue around the SMART agenda on a local and regional level.

3.0 What are the strategies?

- Welsh Government's **Digital Strategy for Wales**
- Ambition North Wales' **Digital Connectivity Programme**
- Conwy County Borough Council's **Conwy ICT and Digital Strategy 2017-2022** – an updated strategy to cover 2022-2027 is due to be published in October 2022

There is strong support for the use of digital technology and data from the national to the county level, with the need for high-quality digital infrastructure across the region written into the Growth Deal itself. All of the strategies contain an emphasis on digital and enabling digital change at all levels of governance, recognising its transformative potential for small businesses.

With the national, regional and county level strategies and plans in place there is a defined, supportive framework in place for a local digital plan for Llandudno. This is further supported by Conwy County Borough Council's (CBC) investment into LoRaWAN (a technology that enables the use of low-cost sensors) across a number of sites in the county, including Llandudno.

3.1 What new funding and investment has there been?

Conwy CBC received six Cisco Meraki access units from Welsh Government which have been installed on Mostyn Street and Prince Edward Square to collect smart footfall data. The units measure how many people visit the town centre, how often and how long people stay in the centre.

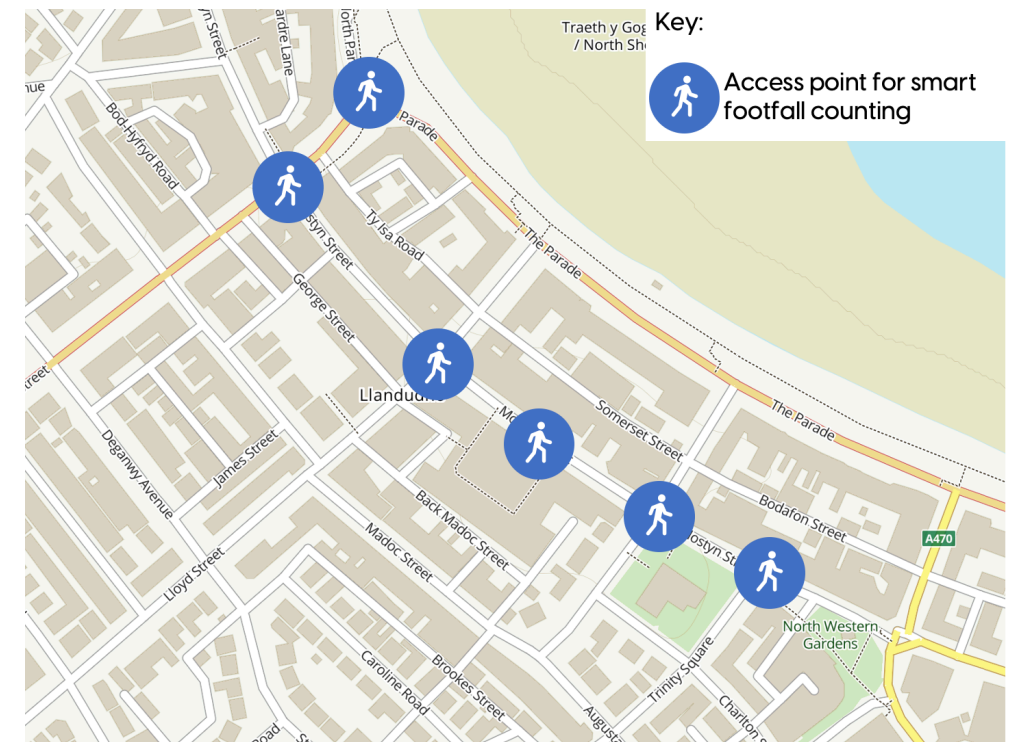
This is an important piece of digital infrastructure that can be utilised by local businesses and stakeholders for a wide range of uses, including informing their opening hours, staffing and marketing. The Council have applied for an additional three units from Welsh Government to expand coverage of the network to Parc Llandudno and the promenade.

Conwy CBC has also invested in LoRaWAN technology and are one of the leading Councils in exploiting the technology. In Llandudno, the Council has installed LoRa gateways (a piece of equipment which enables low-cost sensors to send information to the cloud where it can be accessed remotely) at three sites: Ysgol San Sior, Venue Cymru and the Great Orme.

The gateways are currently being used to measure weather patterns at the local level for educational purposes. Additional sensors can be added to the gateways for a wide range of other uses, such as monitoring parking, measuring bin fill levels or counting footfall.

As part of the application to the Welsh Government, Conwy CBC have also applied for additional LoRa gateways for towns on the North coast, including Llandudno, and sensors for measuring traffic flows.

Figure 2: Map of access points (for smart footfall counting) in the town centre



In addition, further investment in Llandudno is planned. A 10-year regeneration plan for Llandudno has been commissioned by Conwy CBC which will inform how the Local Authority invests in the town over the next decade, including in digital. A funding programme is being developed as part of the plan-making process and a wide-range of funding options for place-based investments will be considered.

Most premises in the town centre are covered by Openreach's fibre broadband network which provides superfast broadband with speeds of up to 80 Mbps using through fibre to the cabinet (FTTC).

The superfast broadband network is due to be upgraded by Openreach by the end of 2026 to an **ultrafast fibre broadband network**, providing fibre to the premises (FTTP). This will provide speeds of up to 900 Mbps by using a fibre optic cable from the exchange to the property.

Figure 3: Map of Openreach ultrafast broadband rollout in the region

Source: Openreach



Key:

■ To be built between April 2021 and December 2026

3.2 What business support is there?

Conwy CBC provides support for businesses in the county, including directing businesses to resources and grants for digital technology. Conwy CBC's **Business Support Team** often act as the 'first port of call' for local businesses and may refer them to other services when suitable (e.g. Business Wales).

Business Wales provides business support which covers a wide range of areas (such as marketing) alongside digital-specific support for businesses through **Superfast Business Wales**. Both services include general resources covering a wide range of topics as well as personalised 1-to-1 training. A key part of the services are to signpost businesses to other relevant Welsh Government resources and services, such as **Superfast Cymru** and **Social Business Wales**.

There may be scope to develop digital business support further by providing business owners with guidance on how they can use LoRaWAN and smart footfall data in their businesses. For example, providing hotels and other hospitality businesses with guidance on installing LoRa temperature sensors to record fridge and freezer temperatures, automating recordkeeping for regulatory compliance purposes.

3.3 What are the strategic opportunities for the town centre?

There is a clear strategic framework that can support a Digital Place Plan in Llandudno and the work of Conwy CBC and its partners has created a platform for further digital investments. In addition, the **Regeneration Plan** details a blueprint for future investment in the town which can guide the delivery of future digital initiatives.

Conwy CBC has installed some of the key building blocks of a Smart Town which need to be exploited on the local level, a key focus of the Plan. As a result, the strategic opportunities in Llandudno are centred on expanding and exploiting the network of digital infrastructure which is already in place in the town centre.

Summary of strategic review

Strategic plans supporting digital	Strong support for digital across all sectors and at all levels of governance, as reflected in the strategies and programmes of Conwy CBC, Ambition North Wales and the Welsh Government.	✓
Funding available	The Welsh Government's Transforming Towns programme and the UK Government's Shared Prosperity Fund are available to support local digital initiatives.	✓
Investment in infrastructure	Conwy CBC has installed smart footfall sensors, LoRa gateways and sensors in Llandudno and has plans to develop this further. The Regeneration Plan provides a blueprint for future digital investment into the town.	✓
Business support	Superfast Business Wales provides digital support alongside digital marketing support from Business Wales and this is complemented on the local level by Conwy CBC's Business Support Team .	✓



4 Plans and partnerships

4.O Are there plans or a vision for Llandudno that a Digital Place Plan can support?

Llandudno 10 Year Regeneration Plan

Conwy CBC commissioned the **Regeneration Plan** for Llandudno to set a clear vision for regeneration and to guide investment activity in the town over the next decade. The Regeneration Plan recognises the importance of digital in futureproofing the town and attracting visitors from a wider range of demographics and geographical areas. Specifically, digital signage to improve wayfinding in the town centre and growing the use of digital channels to promote the town online are both recommended in the Regeneration Plan.

The Digital Place Plan can support the vision and actions set out in the Regeneration Plan through a Smart Towns approach to digital that roots initiatives to local needs and priorities. This is reflected in the recommendation of the Regeneration Plan to integrate the final findings of both plans.

Creu Conwy: Creating The Spark

Published by Conwy CBC in 2021, **Creu Conwy** is the culture strategy for the county. Linking with the **Destination Management Plan**, the culture strategy aims for “more joined-up, adventurous programming; transformational tourism, especially beyond the main season; using iconic venues and nature for cultural events and art.”

Across the three themes of: *adventurous*, *playful* and *connected* the strategy aims to utilise culture to drive sustainable economic growth and help bring communities closer together. Digital has a clear role in supporting the delivery of this plan, particularly around the promotion of culture and the expansion of the events programme.

The promotion of culture is a recurring theme within the strategy and an area which digital can support in a wide variety of ways, from signage to digital marketing. There is scope for the dynamic use of digital signage to promote events and activities and manage crowds during events and festivals in Llandudno. Businesses and stakeholders have been in discussion with Conwy CBC around the installation of digital signage and there is a strong role for this signage to support an ambitious and evolving culture strategy on the local level.

The culture strategy discusses adding vibrancy and strengthening existing events as well as attracting new events to Conwy which can be supported through the exploitation of smart footfall networks. Smart footfall data has been used extensively by organisers to manage events and to measure their impact as well as to secure grant funding. This supports discussions with stakeholders and also indicates that expanding the events programme and utilising a wider range of venues from across the town is a key priority.

Conwy County's Economic Growth Strategy: 2017-2027

The Conwy CBC **Economic Growth Strategy** sets a vision and ambitions for the economy over a 10-year period. The strategy recognises the importance of digital, identifying it as one of three strategic growth sectors for the county and notes that “digital capability and capacity is fundamental to Conwy’s thriving tourism and creative sectors.”

The strategy states that digital infrastructure is needed to create the conditions for sustainable growth and that there is a need for Conwy CBC to lobby for better digital connectivity. This is an area of development which can be supported by a Digital Place Plan, particularly by identifying the digital infrastructure in Llandudno which needs investment and how it is impacting businesses as well as supporting Conwy CBC to lobby for better digital connectivity.

4.1 Is there a town centre partnership or forum?

The capacity for digital to help drive forward town centre regeneration and place management is influenced by the level of cross-organisation partnership working and how a town centre already involves a range of stakeholders.

Who are the main representative groups and town centre organisations?

- Conwy CBC
- Llandudno Town Council
- Llandudno Hospitality Association
- Llandudno Business Forum
- Mostyn Estates
- Llandudno Town Team
- Llandudno Regeneration Board

Are there any meetings, partnerships or forums that are focused on the high street/town centre?

The Business Forum is a recently established network that is focused on providing a forum and a voice for all businesses in the town (not exclusively hospitality businesses).

The group was established by local businesses in conjunction with Conwy CBC in 2022 following the Chamber of Trade ceasing activities in early 2020. The group functions as a clear point of contact to the business community (for Conwy CBC and other organisations) and provides a regular forum for businesses to meet as well as for Conwy CBC to distribute relevant information.

The Llandudno Regeneration Board has also been recently established and brings together the town's main representative groups from both the public and private sector. The Board is focused on the future of the town and will help further develop collaborative working arrangements between key town centre organisations.

4.2 Findings

Across the county level plans and the **Regeneration Plan** for the town, there is a clear recognition of the importance of digital for Llandudno as well as the diverse role it can play. These plans set out a comprehensive vision and set of actions for the town that the Digital Place Plan can support. There is a definite role for the County Borough Council as well as the range of businesses and town centre organisations. The key challenge for Llandudno is ensuring the effective distribution of data to facilitate the exploitation of the investments in digital in the town centre.

5 Digital place assessment

The digital place assessment identifies where a town is located on the Smart Town journey based on what infrastructure is already in place, how it is currently being used and identifies the next steps it should take to move forward. At the beginning of this process, towns should be aiming for a minimum basic level of physical infrastructure and online presence; Stage 1 (Getting Started).

Basics building blocks

1 - Physical infrastructure:

- **Superfast or ultrafast broadband**
Faster and more reliable broadband, for homes and businesses is key for accessing the opportunities presented by the internet, such as selling products online to a global audience.
- **4G coverage**
Reliable and fast mobile data is key for enabling businesses and other stakeholders to get the most out of tech solutions, particularly when they are on the go.
- **Smart footfall sensors**
Smart footfall counting units provide clear and usable information about how many people visit the town, how frequently and how long they stay. These pieces of information are vital for understanding how the town is currently functioning as well as the impact of any events and other changes on how people use the town.

- **LoRa gateway (Internet of Things)**

LoRa gateways are important pieces of equipment which enable low-cost sensors to send information to a cloud, where it can be accessed remotely. Gateways enable towns to set up an Internet of Things network which can record a range of information that helps to manage the town. This information can range from the number of parking spaces available to remotely identifying when a bin needs emptying.

2 - Online presence:

- **Unified website**
A unified website provides a platform for promoting businesses, launching local campaigns, promoting events and activities as well as functioning as an online visitor destination.
- **Social media**
An active use of social media for marketing and communication in relation to the town centre. This could include using Facebook, Instagram or Twitter.

3 - Business support and skills development:

- Opportunities for businesses to receive digital skills training to better utilise digital data and tools to acquire and retain more customers.

5.O The journey

There are three key milestones on the Smart Town journey shown in Figure 4. For most towns the journey will begin somewhere between Stages O and 1 with the need to get started on putting in place some or all the essential components of a Smart Town.

As a town progresses across its journey, it is able to take on larger initiatives unique to the town, its infrastructure, plans, and partnerships. Smart Towns that have been working with digital technology for some time have often only reached Stage 2 ("Using").

Figure 4: Journey tracker

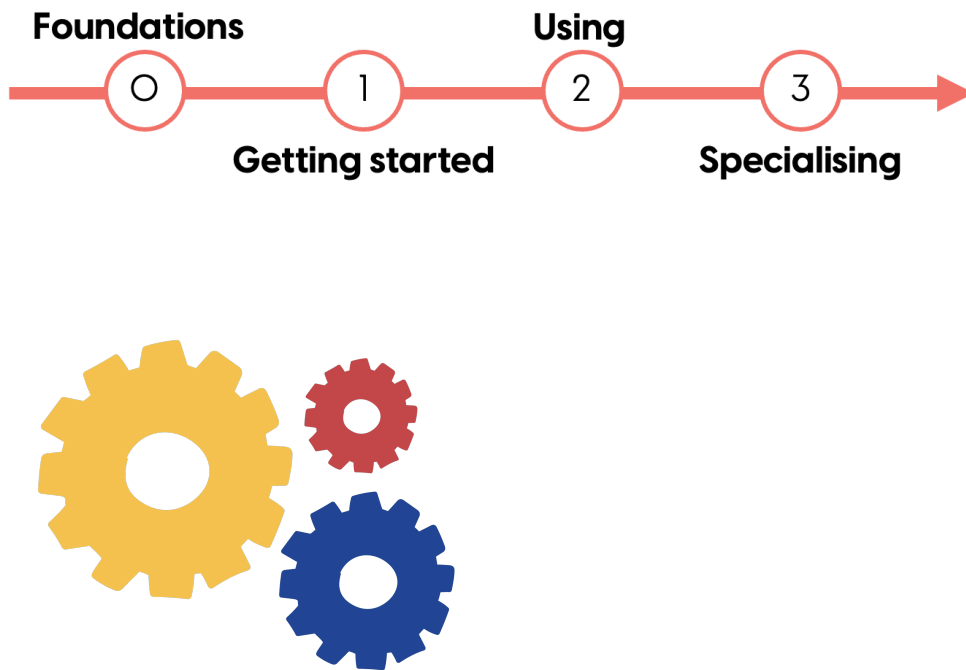
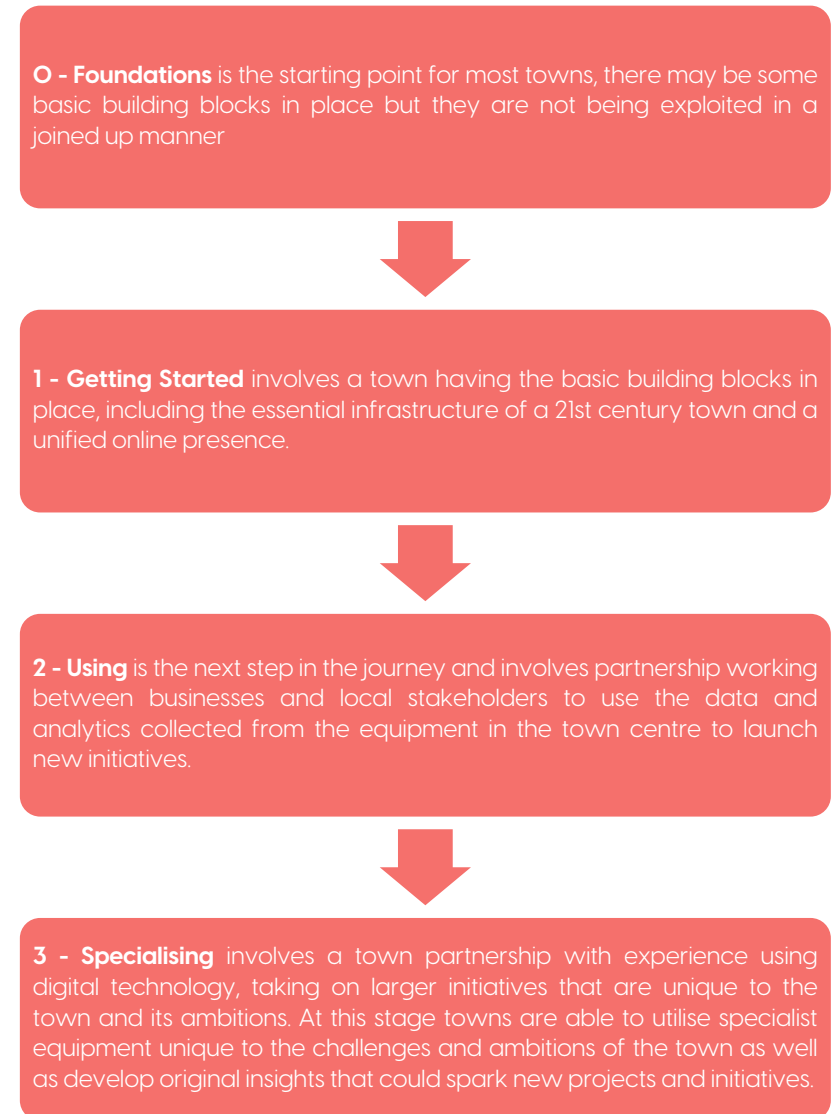


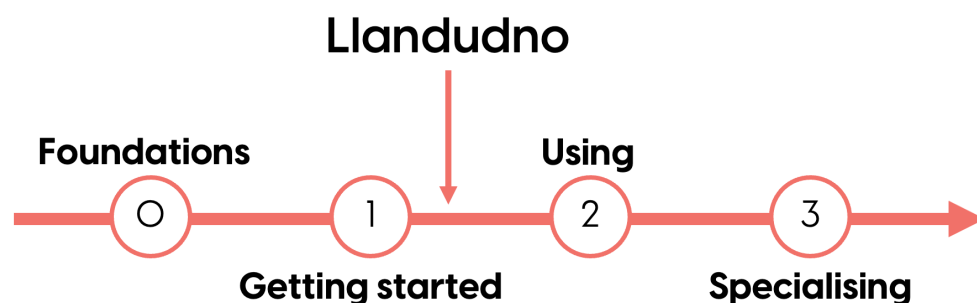
Figure 5: Smart Town journey



5.1 How Smart is Llandudno?

The assessment suggests that Llandudno is positioned between Stages 1 and 2 of its Smart Town journey, as it has the basic building blocks in place but has not begun fully exploiting them.

Figure 6: Llandudno's position in its journey



5.2 Digital infrastructure and technology in Llandudno

Llandudno has some good quality digital infrastructure but reports of issues at peak times with the mobile and broadband networks suggest there may be scope to improve the foundations.

Welsh Government's Open Market Review (OMR) indicates that broadband quality varies in the town centre with the majority of premises able to access superfast fibre broadband (FTTC). Business groups have reported issues with bandwidth as a number of businesses have encountered issues running a large number of Wi-Fi connected devices through a single connection.

Plans to upgrade to an **ultrafast fibre broadband** network have been categorised as 'Under review' by the OMR. This means that the plans in place to improve the network have been judged through the OMR as potentially being at risk of not being completed.

Data provided by mobile network operators to Ofcom, indicates that the four mobile networks provide 'Good' to 'Ok' 4G coverage and the Vodafone and O2 networks provide 5G coverage of the town. However, reports from businesses and local stakeholders indicate that the mobile networks are often inaccessible at peak times. This is believed to be a result of the large number of visitors during peak season which may cause network saturation issues.

This is a significant issue for businesses and can undermine the visitor experience and may be addressed in tandem with the broadband issue through a Digital Infrastructure Action Plan.

The North Wales Economic Ambition Board have begun independently assessing 4G connectivity in the region by mapping how the quality of coverage varies from area-to-area and identifying where there may be 'not-spots' (i.e. no coverage). There may be an opportunity to use this mapping to provide clear evidence about the coverage and quality of the mobile networks in Llandudno – this is discussed further in Section 6.

Six Cisco Meraki access points for smart footfall counting have been installed by Conwy CBC in the town centre, the locations of which can be seen in Figure 2. Alongside the access points, there are also beam footfall counters in the town centre which measure the volume of passing footfall. Conwy CBC has applied to Welsh Government for additional access points to expand the coverage of the network. The data from these units is not currently shared with businesses and stakeholders.

Discussions with the Council indicate that they are open to do so and are currently working with its technical partners to develop a shareable dashboard that will visualise the smart footfall data and highlight key metrics.

With a dashboard of this kind in place, the data will be automatically collated and visualised. This will enable both the Local Authority and local stakeholders (including businesses) to see the key trends and use these insights to support decision-making. For example, this data has already been used by cafes in Cardigan to adjust opening hours and staffing – opening later when there is a higher level of footfall in the evening.

Three LoRa gateways have been installed by Conwy CBC in Llandudno (Ysgol San Sior, Venue Cymru and Great Orme) as well as a number of sensors for measuring weather at a local level. Conwy CBC have identified further uses for the LoRa network in Llandudno, such as automatically recording fridge and freezer temperatures in hotels and other hospitality businesses, for regulatory compliance purposes.

There is also evidence of some digital heritage and culture initiatives in the town centre. The Alice in Wonderland Town Trail was established to celebrate the town's connection with Alice Liddell, the inspiration for Alice who holidayed in Llandudno. The trail features a series of Alice in Wonderland sculptures dotted around the town.

An app was later developed for the Alice Trail which featured augmented reality elements. However, visitors have reported issues accessing and using the app and the website for the trail is no longer live. The trail is reported to be very popular with visitors and there may be potential to explore digitising the trail again.

HistoryPoints have been installed at the War Memorial, Lifeboat Station, West Shore and Great Orme. HistoryPoints are a Wales-wide initiative to place QR codes at historical sites which provide concise historical information on a web page, when the QR code is scanned.

5.3 Online presence

Of the 715 businesses in the town centre, 326 or 46% had some form of social media profile with a combined audience of 330 million as of June 2022. Of those which have some form of social media profile, 30% are active on social media.

The town has a strong online presence with the 'Visit Conwy' website (run by Conwy CBC) featuring at the top of search rankings – followed by Visit Wales' guide to Llandudno and Colwyn Bay. Visit Conwy functions as the visitor destination website for the county as a whole but includes dedicated pages and content for Llandudno.

The website provides up-to-date listings for accommodation, food and drink and shopping in the town as well as a calendar of events and activities. The design of the website is modern, contains a number of useful features, such as a trip planner, and regularly receives more than 100,000 views a month – suggesting that it is playing an effective role marketing Llandudno and the wider county online.

Discussions with stakeholders have indicated that the events component could be promoted further, as local stakeholders look to expand the town's culture and entertainment offer.

5.4 Where is Llandudno now?

As Llandudno has all the basic building blocks of a Smart Town in place, it is ahead of most Welsh towns in terms of digital infrastructure and technology. As a result, the next steps around digital infrastructure need to focus on ensuring that both the public and private sector are utilising and taking full advantage of these investments in the town.

There may also be scope to improve some of the basic building blocks further to cope with the seasonal surges in demand experienced by the town. Specifically, the mobile network which reportedly struggles to handle demand at peak times.

Discussions with businesses and stakeholders have also indicated that there is significant demand for smart footfall data from a network that has extensive town centre coverage. This suggests an appropriate distribution model needs to be established, to enable businesses and stakeholders to make data-driven decisions about how to improve business performance and manage the town centre.

Summary of Llandudno's assessment

Plan	The Regeneration Plan sets out a 10-year vision including a set of actions for Llandudno and is complemented by a range of county level plans.	✓
Partnership	There is no formal partnership, however, the Business Forum provides a defined point of contact between businesses and Conwy CBC.	—
Physical infrastructure	All of the key pieces of infrastructure are in place but reports from the Local Authority and businesses suggest that improvements to foundational infrastructure are needed.	—
Online presence	A number of individual businesses perform well on social media; the Visit Conwy brand ranks well in search rankings and functions as the destination website for Llandudno.	✓
Business support and skills	Business Wales provides a wide range of support for businesses looking to utilise digital tools and platforms. This is complemented by the business support provided by Conwy CBC. There may be scope to expand this further through a tailored programme of business support	✓

6 Priorities for Llandudno

The following section outlines the key issues raised by businesses and stakeholders during the plan-making process as well as in other plans and strategies for Llandudno and Conwy, such as the **Regeneration Plan**. The issues (and opportunities) are organised by theme, with four themes identified for Llandudno.

6.O Digital priorities for Llandudno



Improve digital connectivity – develop a Digital Infrastructure Action Plan and work with private partners to secure investments in the broadband and mobile networks.



Expand smart footfall and LoRa networks – to provide a comprehensive set of mobility and location analytics that identify trends in footfall and usage of the centre that can be used by businesses and stakeholders.



Widely distribute data – enable businesses and stakeholders to take action using the data, by sharing it frequently and in an accessible manner.



Develop the town's culture offer – use a package of digital technology to grow and diversify the town's event programme and wider culture offer.

6.1 Improve digital connectivity

Broadband and mobile networks are foundational parts of Llandudno's digital infrastructure. These networks are key to the town's digital connectivity as well as the exploitation of a range of other digital technologies. Businesses and stakeholders have reported connectivity issues with both the broadband and mobile networks. This is a significant issue as it has the potential to undermine businesses' ability to trade and damage the visitor experience. There is scope to address this through developing a Digital Infrastructure Action Plan that can be used to work with private companies to secure investments for improvements to both networks.

Discussions with business groups indicate that there are a number of businesses in the town centre which are bandwidth intensive and experience frequent issues with their current broadband connection. This includes large hotels, many of which have a large number of Wi-Fi connected devices (e.g. radiators and door locks) and limited bandwidth, which is believed to lead to saturation issues.

Similarly, businesses and stakeholders have reported connectivity issues with mobile networks, particularly from the Parade and promenade where buildings reduce coverage. The quality of mobile networks are reported to be inconsistent throughout some days and at peak times of the year and Conwy CBC have reported issues operating card systems which are connected to the mobile network.

As such, investments in foundational infrastructure to improve the digital connectivity of the town centre are considered of high importance for the local economy and the vitality of the town in the long-term.

To address the connectivity issues there is scope to produce a dedicated Digital Infrastructure Action Plan which covers Llandudno. An Action Plan could feature an evidence base, identify key issues and set out a strategy for addressing connectivity issues. This can be used in turn to support public sector bodies and local stakeholders to work with the relevant private companies to target future infrastructure investments.

As the digital infrastructure is owned and operated by private companies, the principal role of public bodies in this process is to identify the need for investment in these networks and work with private companies to facilitate their improvement. Whilst public bodies may have limited influence in some cases, there is still the opportunity to play an active and positive role in this process.

To achieve this, an evidence base can be produced that maps the coverage and quality of the broadband and mobile networks. The North Wales Economic Ambition Board has begun independently mapping mobile networks' coverage in the region and there may be scope to build on this work through a Digital Infrastructure Action Plan.

Issues with bandwidth will likely be reduced by the planned upgrade of the town's broadband network from superfast fibre broadband (FTTC) to **ultrafast fibre broadband** (FTTP). Improvements to the fibre broadband network of the town will support internet connections with higher bandwidth and guarantee an ultrafast connection that is less vulnerable to interference and more durable. As such, this upgrade is considered of high importance for businesses and the town centre as a whole and should be a key feature of a Digital Infrastructure Action Plan.

A Digital Infrastructure Action Plan produced at the regional or county level has the potential to increase its impact. This is a model that has been adopted by a range of public bodies across the UK (e.g. Local Authorities and Local Employment Partnerships). This in alignment with Conwy CBC's **Economic Growth Strategy** which recognises that digital infrastructure is needed to enable economic growth and that there is a need to lobby for better digital connectivity.



6.2 Expand smart footfall and LoRa network

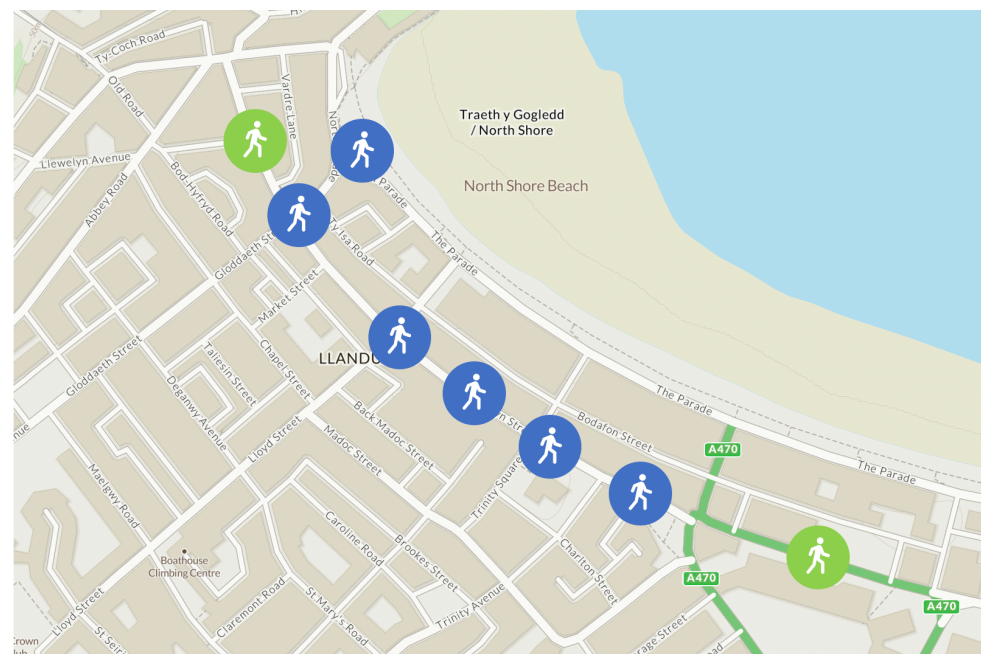
Conwy CBC have installed smart footfall sensors on Mostyn Street. The sensors measure a wider range of metrics than traditional beam footfall counters, providing data which can be highly valuable for businesses. These metrics include the number of visitors, visits, dwell time, frequency of visits to the centre and the busyness of different parts of the centre.

Businesses stated that they would look to use visitor data to inform their operations, in particular opening hours and staffing which can be adjusted dynamically to meet demand with access to more visitor data. The structure of commercial property ownership in Llandudno also enables for the location of businesses to be adjusted to match where footfall is at its highest at different times of day and on different days of the week. For example, locating a restaurant in an area within the town centre which has higher footfall in the late afternoon and evening.

Conwy CBC have plans to expand this network to cover Mostyn Street (north of the A465), Prince Edward Square and Mostyn Broadway, if they are able to secure additional funding from Welsh Government. The most recent units were installed in June 2022 and therefore the network has not yet collected year-long data about town centre usage.

There is scope to further expand the network to extend coverage across the main gateways to the town as well as the promenade, with additional funding. Discussions with businesses indicated that there was significant demand for smart footfall data for the promenade and parade as well as how visitors entered the town. Coverage of these areas would show pedestrian flows throughout the town centre in greater depth. In particular this data would illuminate town centre linkages and the relationship between the Promenade and town centre footfall.

Figure 7: Map of existing and proposed for smart footfall sensors (access points)



Key:



Existing access points – locations of the existing (Cisco Meraki) access points installed in the town



Planned access points – areas planned by Conwy CBC to be covered by future access points (if funding is secured)

6.3 Widely distribute data

At the core of a successful Smart Town is the frequent distribution of data and analytics to a wide range of local stakeholders, such as businesses and the Town Council. This enables town centre organisations to take decisions and make plans using up to date data about the town centre and informed by their own experiences and insights.

The frequent distribution of data can support smaller businesses, in particular, to make a series of decisions around when they open, staffing and how they market their business. For example, in Cardigan smart footfall data is distributed in close to real-time via an online dashboard and in a monthly newsletter. Cafes have used this data to adjust opening hours and staffing – opening later when there is a higher level of footfall in the evening. This has had a positive impact on the vitality of the town centre and grown the evening economy.

This links with Conwy CBC's 10-year **Economic Growth Strategy** which has a strong focus on strengthening the SME (small and medium enterprise) and social enterprise sector in the county.

The data collected by the smart footfall network in the town centre is not currently shared by Conwy CBC. Discussions with Council officers indicate that, in principle, they are happy to share the smart footfall data and discussions with businesses have indicated a strong appetite for the data.

A distribution model is being established by Conwy CBC, who are working with its technical partners to set up an online dashboard for displaying data from the network. This dashboard will enable Conwy CBC to share data and analytics from the network to business groups (such as the Business Forum), the Town Council and local stakeholders. With access to

the dashboard, businesses and stakeholders will have access to hard evidence about how the town centre is being used and how this changes from hour to hour.

To ensure that businesses and stakeholders have easy access to the data, a newsletter may also be established that includes a link to the dashboard and highlights key trends. A regular newsletter can also be used to share other useful data which is already being collected (e.g. visitor analytics from the Visit Conwy website and social media) and information about upcoming events.

As noted, Cardigan provides a model for how to distribute data in a way that businesses can use to take action. Town analytics are distributed in a monthly newsletter in the form of data and graphs to shops, councillors, Council officers, the MS and MP. The newsletter also includes a link to a dashboard where real time data can be accessed.



6.4 Exploit LoRa network

The LoRa network in Llandudno has significant potential to support the town's economic development and place management. This has been reflected in discussions with Conwy CBC and individual businesses who have suggested a variety of uses for LoRa sensors in the town that would inform how they operate.

As a free and public network, individual businesses and stakeholders are able to add their own sensors to the network; more sensors can be added to the network over time, as different needs arise.

Conwy CBC have already identified the opportunity to use LoRa sensors to record fridge and freezer temperatures for automatic record keeping, reducing the costs for hospitality businesses and freeing up staff time. Discussions with businesses found a demand for traffic counters and parking sensors which could be used to measure traffic and parking trends in the town centre and provide the data for an evidence-based approach for dealing with both traffic and parking.

There is scope to organise and increase the impact of Conwy CBC's work with LoRa in Llandudno through a dedicated sensor programme which details how and where sensors can be used in the town centre as well as detailed costings. A programme of this nature has the in-principle support of Conwy CBC and has the potential to increase the impact of existing investments in LoRa in Llandudno as well as attract additional funds for targeted investment in the future.

A sensor programme could focus on the areas with existing Local Authority, business and stakeholder interest, including:

- Monitoring traffic flows on the A470, A546 and B5115 in and out of the town centre
- Measuring footfall across footpaths in the Great Orme County Park, this will support funding applications and help inform maintenance of trails
- Managing on-street parking in the town centre, including loading bays and disabled parking spaces on Mostyn Street and the Parade
- Automatically recording fridge and freezer temperatures for regulatory compliance

6.5 Develop the town's culture offer

The **Creu Conwy** cultural strategy underlies Conwy CBC's work across the county and mirrors the interest among businesses and stakeholders on the local level in expanding the town's event programme. There is potential for digital to be used to grow the year-round event programme and bring in a wider range of events and activities. As digital technology and data can be used to support the promotion, funding and management of events and other cultural activities in the town.

Events and festivals are an important part of the town centre, bringing the centre to life and attracting a wide range of visitors. The ability to measure the impact of events can help organisers secure funding, attract new events to the town and support the planning of future events. Therefore, the ability to measure the impact of these events on the local area is highly important.

Smart footfall data enables organisers to see the impact that their events and activities have on town centre footfall and dwell time as well as the number of new visitors the event attracts. By comparing these metrics with a baseline, organisers are able to better understand the wider impact of

their events, including on the town centre economy. Access to this information has the potential to help organisers, plan and manage their events going forward. Event organisers in other towns have also used this information to set key performance indicators (e.g. increasing visitors to the town centre by 10% during an event) as a way of attracting and securing funding.

An example of this is Other Voices an annual music festival held in Ireland and Wales (alternating each year). Cardigan were successful in attracting the festival to the town as they were able to provide detailed feedback about the festival's impact on footfall and the town centre economy through data collected by a smart footfall system. The town was also successful in securing Welsh Government funding which was linked to a target of increasing footfall by 12%. This was measured by the town's smart footfall system and the event increased footfall by nearly 20%, securing additional funding.

In addition, there is clear scope for installing digital signage as a way of promoting events in the town centre and enhancing the visitor experience as is recommended in the **Regeneration Plan**. Digital signage installed at key gateways to the town centre and in the centre can display useful visitor information and provide a modern, dynamic advertising solution for town centre businesses who can market directly to visitors as they enter the town.

The signage can be used to promote local events and festivals, helping to address concerns among some stakeholders around the visibility and level of awareness of the current events programme. As digital signage can be updated in real-time it can be used in the management events and festivals, in particular with managing pedestrian flows during events.

There is also potential to utilise digital signage to reduce the seasonality of the town's visitor economy. Events held in the town during winter months can be promoted during the summer to encourage repeat visits to the town outside of peak season. A signage strategy developed by Conwy CBC in conjunction with the local business community could identify priority areas for digital signage and the type of signage, ensuring that it is in keeping with the town's Victorian architecture.



7 Action plan

Llandudno is a successful town with a clear vision for the future oriented around a strong visitor economy and an expansive culture offer. Conwy CBC has made significant investments in digital across the county and these will play an important role in achieving this vision for the town.

Local and county-level plans highlight the need to safeguard and futureproof the town's existing provision. Particularly in the food, drink, accommodation and retail sectors which have potential to be developed further over the medium to long-term. As a result, the Plan is primarily focused on the role that digital can play in future proofing the town to ensure that it maintains its strong visitor economy and develops its role as a gateway for the North Wales region.



7.0 Key projects and actions

The assessment has identified that Llandudno is beginning at Stage 1 of its Smart Town journey with the aim to progress to Stage 2. This is possible through a small number of investments and a clear approach to exploiting new and existing digital infrastructure. The key actions and projects required to achieve this are set out in the following section:

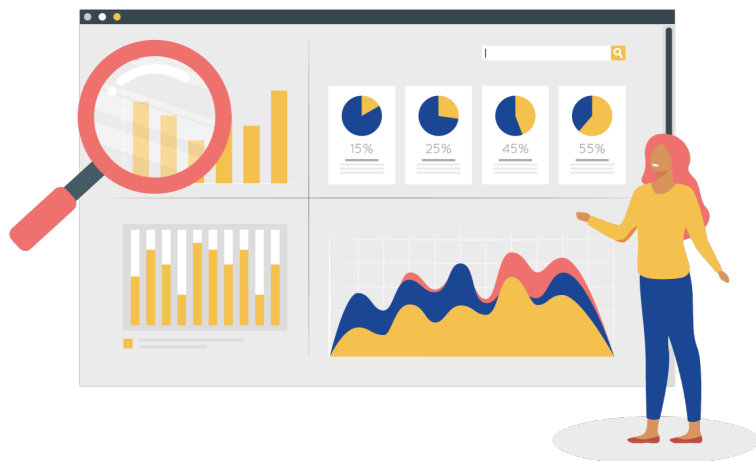
Improve digital connectivity

1. Produce a Digital Infrastructure Action Plan to identify where improvements are needed in the broadband and mobile networks in Llandudno.
 - o Scope for the Plan to be produced at the county or regional level to maximise its impact.
 - o Opportunity for collaboration between Conwy CBC, North Wales Economic Ambition Board and local stakeholders.
 - o Utilise existing mapping (e.g. 4G mapping of North Wales Economic Ambition Board) and datasets (e.g. Open Market Review of broadband).
2. Conwy CBC, North Wales Economic Ambition Board and partners to use the Digital Infrastructure Action Plan as the basis to work with telecommunications companies to secure the necessary improvements in local networks.
3. Develop a sensor programme to plan the roll out of LoRa sensors in and around the town. Focus on areas with existing stakeholder interest, including traffic, parking, green infrastructure and regulatory compliance.

4. Expand coverage of the smart footfall network to cover the north of Mostyn Street, Parc Llandudno and the Promenade, to provide greater detail around pedestrian flows in the centre and footfall in different areas of the centre throughout the day/week.
 - Coverage of the Promenade has the potential to support and measure the impact of future active travel initiatives.

Widely distribute data

1. Conwy CBC to continue working with its technical partners to develop an online dashboard for displaying Llandudno's smart footfall network.
2. Integrate Smart Towns into existing partnership working arrangements, including the Business Forum and Regeneration Board, to coordinate digital investment and to plan for the exploitation of new technology.
 - Embed a 'what does the data say' approach in local decision-making that uses Smart Towns analytics as an evidence base.



3. Working with existing business groups, Conwy CBC to establish a newsletter that circulates Smart Towns analytics, key trends and upcoming events to businesses.
4. Support the Town Council and local stakeholders to access and exploit Smart Towns data and analytics, in particular data from the smart footfall network.
5. Explore the potential for a digital hub or destination management software (e.g. Vzta or Patrwm.io) for the town centre to provide a single platform for Smart Towns data and the ability to market to visitors using the data.

Develop the town's culture offer

1. Install outdoor digital signage in the town centre and at key gateways to the town (main car parks, bus station and train station).
 - Investigate the feasibility of developing a signage strategy that informs the type of signage, where it is installed and how it will be used to maximise its benefits for the local area.
 - Promote local events using digital signage installed in the town centre and at key gateways.
2. Provide event organisers with access to smart footfall data to measure the impact of their events.
3. Support event organisers to use the data to secure funding, plan future events and manage ongoing events.

7.1 Delivery

Working with key stakeholders, the projects identified above are considered deliverable in an 18-month window. Projects will typically follow a process of funding, procurement, design, installation and exploitation – this can vary depending on the nature of the project. The following section sets out a route map for delivery based on these steps:

1) Funding

Projects involving the purchase and installation of new infrastructure or the purchase of third-party data or solutions are likely to require new funding. At the present time, there are a number of potential sources:

Transforming Towns Placemaking Grant – Welsh Government

Local Authorities, BIDs and Town Councils are eligible to apply for the Placemaking Grant under 'Digital Towns' which supports investments in digital infrastructure and data providing there is a clear plan for its exploitation. A key consideration for funding is whether proposed schemes "demonstrate the value of data and embedding a 'what does the data say' approach, ensuring it is always used as an evidence base in making strategic decisions that benefits the high street and further afield."

Shared Prosperity Fund – UK Government

Local Authorities will be able to support projects from their allocated funds that meet the following investment priorities: communities and place, supporting local businesses and people and skills. The projects featured in the Action Plan are cross-cutting with the majority addressing all three investment priorities. Specific interventions eligible for funding include

those which support local digital skills or invest in digital infrastructure for local community facilities.

2) Design, procure and install

It is likely that a specialist supplier will be required to advise on the design, installation and use of the chosen new technology. Projects involving physical infrastructure will require key stakeholders to work with specialist companies to design the necessary technical schemes and specifications, e.g. the location of sensors or digital signage. In addition, specialists are able to advise on securing the relevant permissions needed (e.g. permission from property owner), planning permission, location of utilities/connections and identify specific project risks.

3) Exploitation

Exploitation involves ensuring that all relevant stakeholders have access to the data and are aware of how it can be used. This will involve the establishment of a distribution model (e.g. newsletter or digital hub) and support to interpret and take action from the data. This is a critical step for taking full advantage of digital infrastructure and enabling businesses, organisations and stakeholders to realise the benefits from newly installed technology.

i. Glossary

Augmented reality – Interactive experience with a real-world environment using a smart device. Augmented reality experiences often include visual elements overlayed on the surrounding environment.

Access points – Wi-Fi access points that can be used to provide public Wi-Fi and location and mobility analytics.

Broadband – An always on high-speed internet connection.

Cisco Meraki unit – A brand of access points used across Wales.

Digital champion – Someone who is digitally experienced and can help and support others to improve their digital skills set.

Digital strategy – A plan of action that focuses on digital technology as a way of achieving a set of goals.

Internet of Things (IoT) – A network of devices and sensors.

LoRa – A way of sending small pieces of information frequently from sensors to a cloud where people can access it. A long-range and low-power wireless communication systems.

LoRaWAN – A set of rules that determine how information is sent across the LoRa network (the network protocol).

LoRa gateway – A device that collects the information sent from a sensor and sends it on to the cloud, where it can be accessed.

Superfast broadband – Broadband which provides download speeds of 30 Mbps or more. The connection is typically provided by a fibre cable to the street cabinet and then a copper cable to the premises.

Third-party data – Datasets (that can be bought) which are produced by organisations that do not directly interact with the source of the data, such as the customer or a business.

Town Wi-Fi – Public Wi-Fi which covers a town or town centre.

Ultrafast broadband – Broadband which provides download speeds of around 300 Mbps or more. The connection is typically provided by a fibre cable the entire way from the local exchange to the premise.



Contact Owen Davies Consulting @ 43A&B Frogmore Street Abergavenny NP7 5AN. Owen Davies - owen@owendaviesconsulting.co.uk and Ieuan Best - ieuan@owendaviesconsulting.co.uk

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