

WiFi Projects in Scottish Libraries

Final Report



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Background

In Spring 2014 the Scottish Government awarded the Scottish Library and Information Council (SLIC) additional funding of £300,000 to support public library WiFi provision, linked to the implementation of the government's 'Let's get on' strategy. The purpose of the funding was to increase the availability of free public access WiFi across Scotland, via the public library network.

The funding was allocated using the Public Library Improvement Fund (PLIF) framework of competitive bids. Fifteen library services were successful in their bids, resulting in the introduction or extension of WiFi in over 130 libraries. This offered new opportunities for these library services to develop and encourage further digital participation, as well as providing users with alternative and flexible ways to access the inestimable range of online resources.

I was appointed as WiFi Project Officer on 1st December 2014 for a six month period, to monitor project developments, evaluate the impact of the funding, and make recommendations on best practice in WiFi procurement and provision.

Sources of information

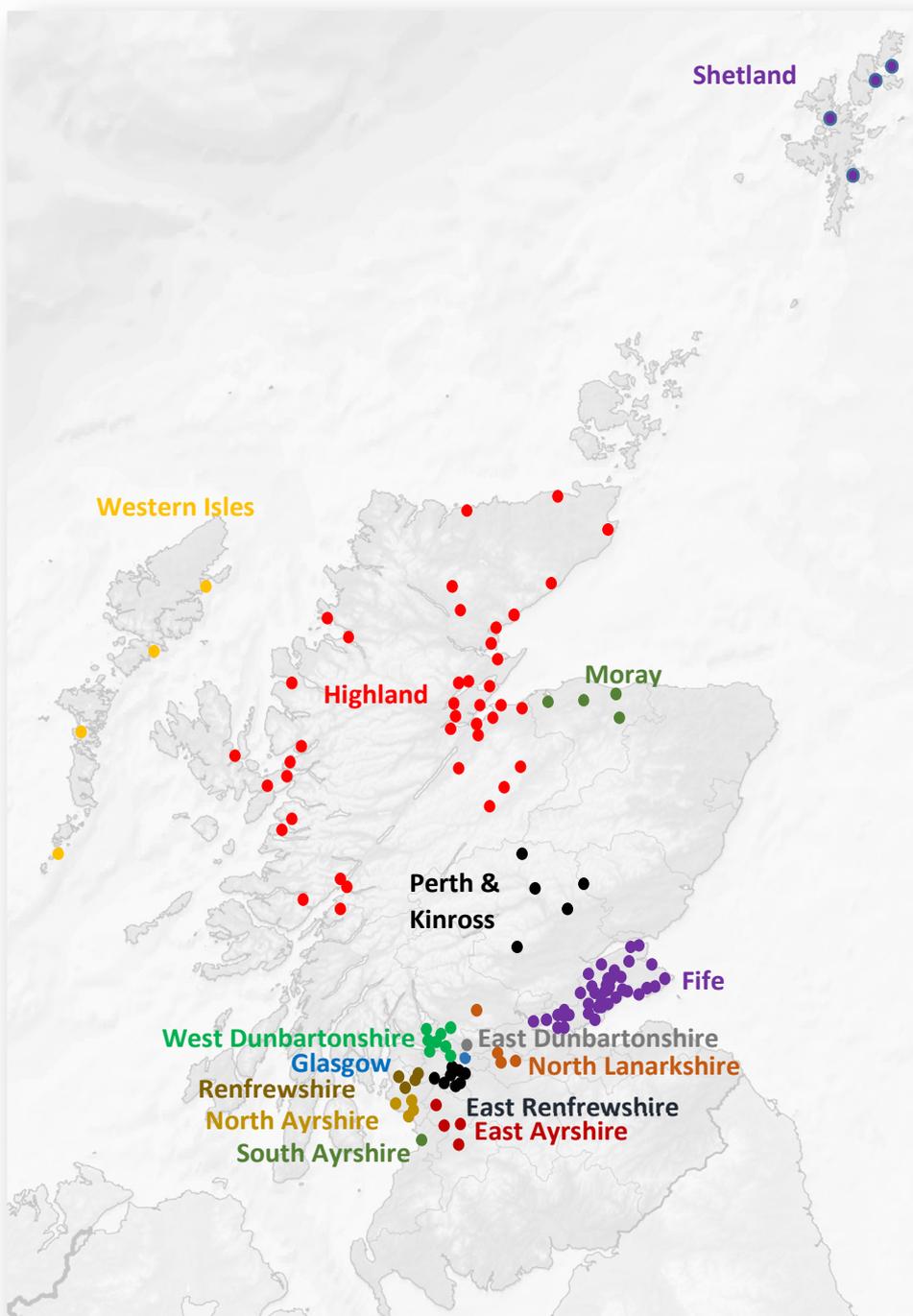
This report draws together information gathered from the following sources:

- Funding application documents
 - Of the 32 public library services in Scotland, 21 submitted funding applications with 15 of those receiving awards. These documents, both successful and unsuccessful, were comprehensively studied.
- Interim project reports
 - These detailed the projects progress, highlighting challenges and deviations from the original plans. In some cases the interim reports were not received as the projects were completed prior to the deadline for their submission. Final project reports were submitted instead.
- Final project reports
 - These were submitted by services at the conclusion of their projects and summarised all aspects of the process.
 - Financial claim forms were also submitted, providing a breakdown of the project costs.
- Visits to library services
 - Visits to library services were undertaken between January and April 2015. These visits provided a first-hand appreciation of the impact of the projects.
 - Where necessary, further information or clarification of specific details was obtained via telephone and email conversations.
 - An informal blog (scottishlibrarieswifi.org) was created that aimed to present a more immediate and dynamic record of these visits. It also provided a location for material that this report could not accommodate, for reasons such as space, format and tone. The feedback from this blog, both verbal and electronic, was a further source of information.
- Online research

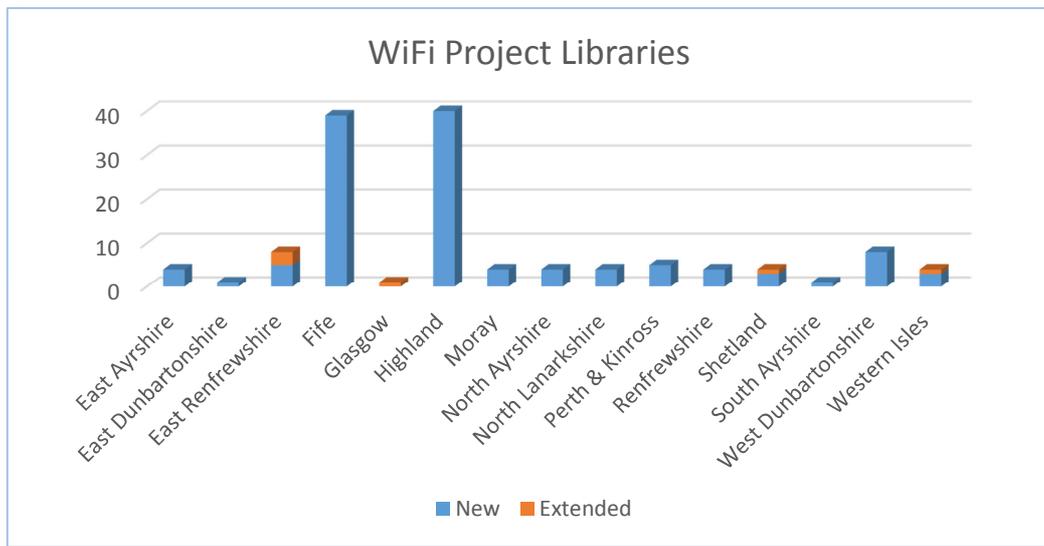
Projects

As a result of these fifteen projects, WiFi was newly installed in 125 libraries and improved in a further 6. The projects varied in terms of approach, scale and cost, not surprising given the geography and demographics of the country, as well as the diversity of library buildings.

This map shows the geographical spread of the 131 libraries.

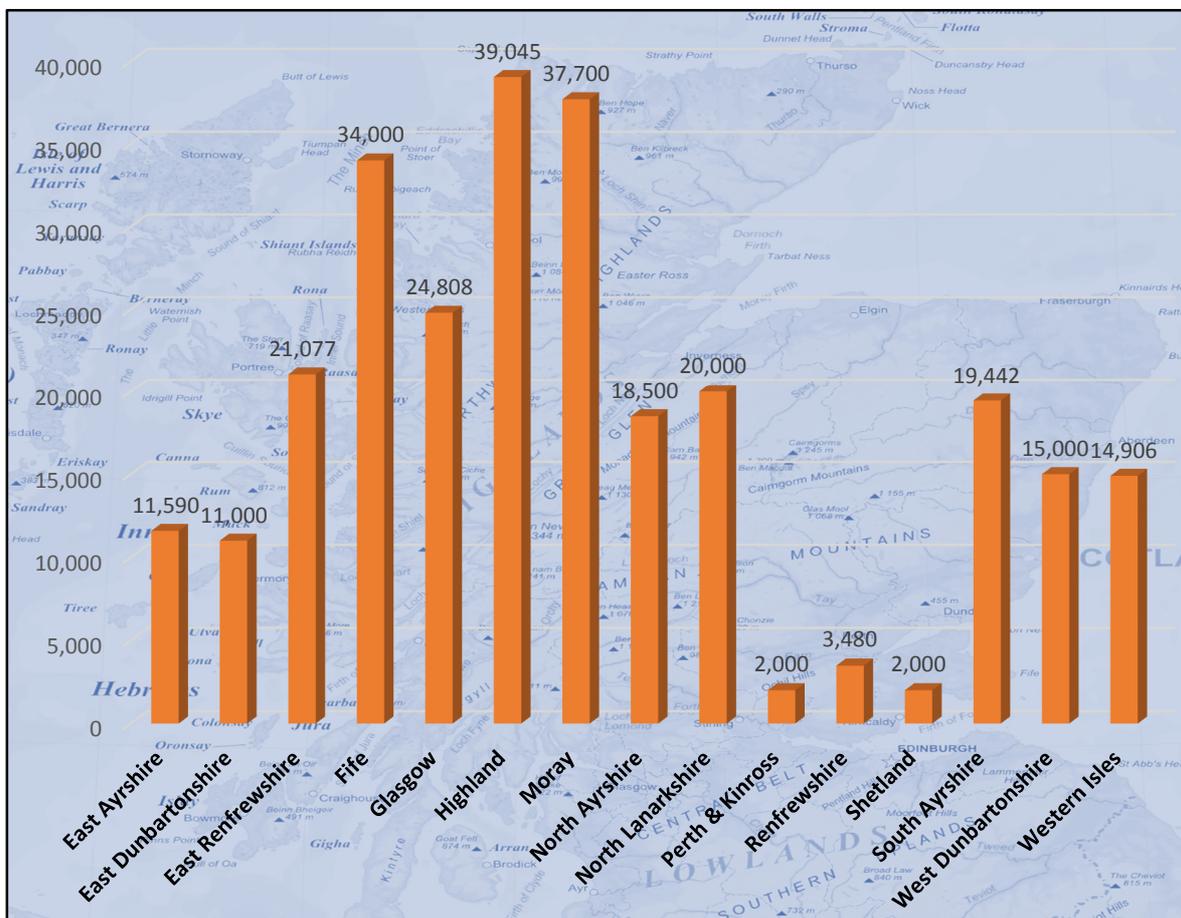


The number of new and extended installations are shown in the graph below. This doesn't reflect the complexity of any of the projects. For example, eight wireless access points may serve eight libraries in one project but only a single location in another.



Funding

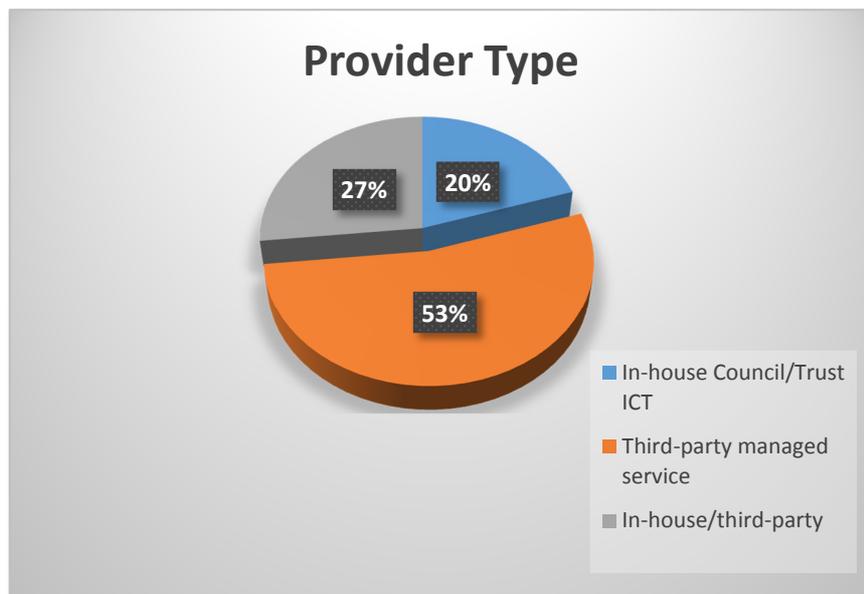
The following chart illustrates how the additional funding was allocated.



How the funding was used will be explored throughout this report.

Providers

An early decision to be taken by each project team was the selection of WiFi service provider; either in-house Council/Trust ICT, third-party managed service or a combination of the two. It is clear from the following chart that the third-party solution is preferred.



This demonstrated a change of approach for some services who in their funding applications had indicated a preference for their current in-house providers. High costs and the work required to be Public Services Network (PSN) compliant prompted re-evaluation and the third-party option was chosen instead. Perth & Kinross, using an in-house solution, reported that the work involved in the PSN process was underestimated and delayed the project. In Moray considerable time was spent trying to find a suitable third-party solution that would also integrate with the Council network. This solution could not be found and therefore a completely third-party provider had to be contracted, delaying the progress of the project, but still achieving a launch in March 2015.

Not all library services had a choice when selecting a provider. In some cases the existing ICT contractor was mandated to install the WiFi solution and in others the project was part of a wider initiative where a supplier was already identified. Geography also dictated the availability and costs of providers, with the heavily populated central belt providing more choice and competition. However even here there are exceptions with only one provider able to deliver the high speed fibre broadband required for the Mitchell Library project in Glasgow.

The following table shows the provider type and cost per library for each project, but with several caveats.

- Some of the costs were derived from the funding applications, but the related projects underwent changes of approach that altered expenditure.
- In some projects the fund awarded financed the complete solution whereas in others it contributed to a larger sum, for example the three in-house projects were part of extensive Council ICT activities where the library elements could ‘piggy-back’ on the wider network infrastructure.

Library Service	Fund Awarded	No. of libraries	Cost per library	Provider type
East Ayrshire	11,590	2	5,795	Third-party
East Dunbartonshire	11,000	1	11,000	Combination
East Renfrewshire	21,077	8	2,635	Third-party
Fife	34,000	41	829	In-house
Glasgow *	24,808	1	24,808	Third-party
Highland	39,045	40	976	Combination
Moray	37,700	4	9,425	Third-party
North Ayrshire	18,500	4	4,625	Third-party
North Lanarkshire	20,000	4	5,000	Combination
Perth & Kinross	2,000	5	400	In-house
Renfrewshire	3,480	4	870	Third-party
Shetland	2,000	4	500	In-house
South Ayrshire *	19,442	1	19,442	Combination
West Dunbartonshire	15,000	8	1,875	Third-party
Western Isles	14,906	4	3,727	Third-party
Total	274,548	131	2,096	

* While the costs for Glasgow and South Ayrshire may appear to be comparatively high, it should be recognised that these projects had distinctive challenges and outcomes. The Mitchell Library in Glasgow required the installation of 43 wireless access points in order to provide robust performance throughout the building. The success of the Carnegie Library project in South Ayrshire, under budget by over £2,000, encouraged the local council to fund the rollout of WiFi to the remaining thirteen libraries in the service.

Coverage

All services visited report that WiFi is available throughout the library buildings. In some cases the signal ‘bleeds’ outside, extending the area of connectivity. Most services view this as potentially beneficial however at least one is ‘uncomfortable’ with this perceived reduction of control.

In contrast, Shetland specifically requested funding with a view to providing coverage in the grounds around Lerwick Library, effectively extending the area of the service. Feedback from this project has been very positive.



Outside Lerwick Library

Performance

The reports regarding WiFi performance have thus far been positive. In Perth & Kinross three lines were initially dedicated to WiFi, one of which was of an inferior quality and resulted in reduced transmission speeds. The ICT team reconfigured the system to direct users authenticating with library membership details to the two higher quality lines, freeing up the poorer one for visitors and non-members. This reduced the traffic on the weaker line and therefore increased its performance.

In Glasgow (Mitchell Library) the bandwidth can be customised to ensure that planned events, conferences, and theatre productions have the performance required. This ensures that these library spaces are attractive to potential hirers.

Where there are occasional issues with speed these are generally attributable to the wired infrastructure and will affect the static PCs as well as devices connected wirelessly.

It is important however not to be complacent with respect to performance as it should be anticipated that the use of free WiFi will increase and consequently its sustainability may be compromised.

User connection

The processes for users joining the WiFi networks are varied.

- East Dunbartonshire issues guest accounts for users. The user must obtain the login credentials from a member of staff. This service is still undergoing evaluation and may move towards Library Management System (LMS) authentication if considered to be beneficial.
- Manual accounts are also created for users of the Highland network however this will change to LMS authentication with Aruba Networks release of their ClearPass 6.5 software.

- In East Renfrewshire the user registers online and then must have their details authorised by a member of staff. Thereafter they can use their login credentials at any library in the service without staff intervention. These registrations are currently not time limited.
- Currently in Fife users must be library members to access the WiFi network. This is a council provided network that uses the same authentication for users in other council and sports trust facilities. While requiring library membership to connect may have some advantages, it also can be a problem for those wishing to use the WiFi service in locations where access to a library is not available. It has also been reported that some children have been posting their login credentials on Facebook for others to use. This method of authentication will be reviewed.
- Glasgow users can either join the network by registering via an online form or by using their social media account login details.
- North Ayrshire and South Ayrshire use LMS authentication with logins available for non-members with appropriate identification.
- As noted earlier Perth & Kinross uses LMS authentication to direct members to higher quality lines while visitors use a slower one. Registration is completed online and must be renewed every 100 days.
- In Renfrewshire the user first must register with the third-party provider. The MAC address of the device is recorded and enables that device to connect seamlessly in any of the libraries in the service as well as other locations served by the same provider across the country. Three devices per user can be registered.
- Users in Moray join the network using their email address, with the providers hoping to add social media account registration shortly.
- In Shetland the user selects the appropriate WiFi network on their device and can join immediately.
- West Dunbartonshire WiFi access is password controlled with a daily change of password and is restricted to library members. Access is not available outwith library opening hours.

Filtering

All services use filtering software to ensure that inappropriate content cannot be accessed. This is managed by the provider and generally duplicates the filtering rules that apply on the wired network PCs. Application can be made to the providers to have URLs filtered or unfiltered however this is very rare, suggesting that the filter rules copied from the wired network are at an appropriate level.

Technical support

All library services report that the WiFi solutions have been 100% reliable, with any interruption to the service resulting from external issues unrelated to the WiFi infrastructure. This suggests that the hardware and software underpinning the service is robust. It should be remembered though that many of these projects are still very new, therefore further evaluation later on may be revealing.

Staff who previously were spending a lot of time dealing with complaints, connection issues and equipment failure now spend more time supporting users in accessing our full range of library services.

Glasgow

Changes in approach

All library services were asked during visits whether they would change any aspects of the project if it were undertaken again. Most were satisfied with the process, with just the following points noted.

- Several services would be more explicit about the usage statistics they required from the systems. Providers generally arrange access to an exhaustive range of indicators but give limited guidance as to their interpretation. Any work the providers undertake to produce data in a more meaningful format is often chargeable.
- As noted earlier, some services initially assumed that their projects would be integrated with their council ICT infrastructure. The PSN compliance requirements changed the direction of these projects causing significant delays. This would have been very difficult for the WiFi project staff to anticipate without guidance and advice from ICT personnel with expertise in this area. Another service was advised by their council ICT team, prior to the funding award, to employ a third-party supplier due to the PSN workload, ensuring that the project was on-track at a very early stage.
- One service felt that they should have involved their Property Services department earlier in the project as the work required to install cabling and access points was underestimated, causing delays.
- In one project the connection to a wider Council initiative delayed the library element, however it is questionable whether libraries could have been separated from the larger project even if this was anticipated.

WiFi use

Visits to library services involved in these WiFi projects have reinforced the value of providing this alternative way to take advantage of the resources available on the Internet. It allows all of the functions associated with 'wired' access to be extended to mobile devices as well as providing opportunities to encourage and develop digital participation. The following list highlights some of the activities and events that would have been impossible, or at least very difficult, prior to the installation of WiFi.

- WiFi is used extensively during Training in New Technologies (TNT) programmes. These sessions, originally developed by Inverclyde Libraries in collaboration with North Ayrshire Libraries, and locally customisable, train staff in the use of mobile devices such as iPads and Android tablets. This increases knowledge and confidence, vital when assisting customers with their devices.



East Dunbartonshire library staff celebrating successful completion of their TNT programme

- Staff assisting customers either informally or as part of more structured ‘tech sessions’ can promote the library online resources. All participants gain from this type of interaction.
- WiFi has supported the North Ayrshire Appiness, Appy Days and Apptitude initiatives which offer digital learning opportunities to a wide range of users. North Ayrshire Libraries were named runners-up in the Digital Library category of the prestigious EDGE Awards in March 2015 for the Appiness project. These awards recognise positive achievements and promote outstanding library based initiatives which celebrate the value of libraries.
- Many customers prefer the familiarity of their own devices rather than the library PCs. Downloaded files can be saved directly to their devices, bypassing wired network download restrictions and avoiding the need for less secure removable storage.
- Some customers with disabilities may have specific accessibility software on their devices to enable them to participate digitally. It is impractical to try to replicate their individual system setups on wired PCs and therefore the WiFi service is critical in providing them with access to the Internet. This is of particular relevance as these customers may be affected by welfare reform changes.
- Customers using their own devices reduce the demand for networked PCs, freeing these up for users without suitable equipment.
- Non-IT related classes and meetings can be enhanced through use of online resources accessed via WiFi. Examples include ESOL training, Family History Society meetings and school visits to the library.
- Library spaces for hire are more marketable with the addition of WiFi.
- Customers use video calling software to communicate with family, friends and colleagues around the world. A user in London contacted a library in Fife to confirm that it offered free WiFi as he wanted to buy an iPad for his mother who lived locally

but didn't have internet access at home. He can now speak to her, and see her, in the library.

- Organisations using library buildings to engage with citizens, such as Macmillan Cancer Support, use WiFi to enhance that interaction.
- The code club in Glasgow's Mitchell Library inspires young people to become digital makers, creating video games and learning how to program robot-inspired handheld devices. WiFi access to the Internet is essential for this activity.



The Mitchell Library code club

Library spaces

Almost a side benefit of installing WiFi is the opportunity to reconsider the use of library spaces. IT training activities no longer need to be located in PC populated learning centres and instead can be delivered in areas of the library more appropriate to the scale and content of the sessions.

It was clear in at least two of the libraries visited that the availability of WiFi had an impact on the interior layout of the buildings. The refurbished A K Bell Library in Perth and the new library in the Barrhead Foundry in East Renfrewshire were designed and furnished to fully exploit the WiFi service. It can be assumed that in many more libraries across the country similar thought has been applied to the impact on interior spaces.

The addition of WiFi may also provide an opportunity to review PC provision, offering the possibility to create suitable mobile device space through the reduction of older, less cost-effective equipment.

Overseas

During the course of my research I have obtained information regarding public library WiFi provision in some other countries, where population and size are comparable to Scotland.

In terms of comparison, Northern Ireland and Sweden are at the lower and higher levels respectively.

Country		Population (million)	Area (km ²)
Scotland		5.3	78,387
Wales		3.1	20,779
Ireland		4.6	69,797
Northern Ireland		1.8	13,843
Sweden		9.6	438,575
Finland		5.4	338,434
Denmark		5.6	42,915
Norway		5.1	385,178

Gathering reliable data was challenging as, in common with Scotland, public libraries and their WiFi provision are the responsibility of local authorities, or municipalities in Nordic countries, and there is a lack of central data recording and compiling.

The notable exceptions are Denmark and Northern Ireland. In Denmark there are around 540 public libraries, all offering free WiFi. Each of the 97 municipalities work independently to deliver this service.

In 2009, five library authorities in Northern Ireland combined and became the responsibility of Libraries NI, a non-departmental public body reporting to the Department of Culture, Arts and Leisure. This enabled national procurement for WiFi as well as other library resources such as eBooks and eMagazines. The result is that all 96 public libraries in Northern Ireland offer a free WiFi service and, uniquely in my experience, provide customers with a wireless printing service.

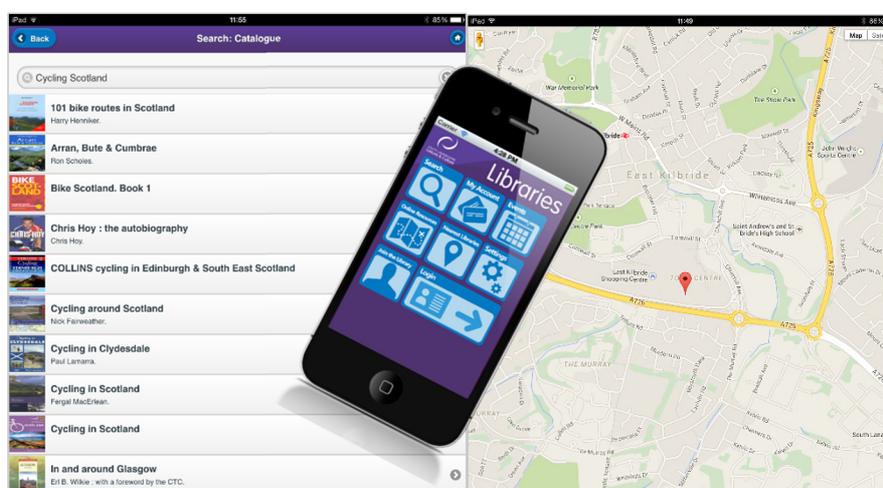
WiFi provision in Ireland and Wales is similar to that of Scotland in that local authorities work separately to procure the service, resulting in the same varied approaches. Ireland has recently tendered for a national shared LMS and it is anticipated that the same model of procurement may be considered for WiFi provision. In Wales it is anticipated that the budget announcement on 18th March 2015 stating that “we’ll provide funding for Wi-Fi in our public libraries” in England, will have an impact on provision there. It is important to monitor developments in Ireland and Wales.

In Sweden, Finland and Norway, WiFi is provided by the local municipalities, with each country offering the service in more than 90% (and probably closer to 100%) of its libraries. Citizens in Nordic countries pay a significantly higher rate of tax than in the United Kingdom and consequently expect better public services.

LMS via WiFi

Most library management system providers now offer a light version, application or browser based, that is designed for tablet use. This provides the opportunity to carry the LMS around the library, or outside, using a WiFi connection to undertake circulation transactions. None of the services visited currently use this although some are considering it. The main challenge may be the implications for data security.

This should not be confused with downloadable library apps that can provide users with library information, including catalogue searching, item renewal and reservation, and location information, amongst many other functions. This functionality is enhanced by robust WiFi connectivity.



Conclusion

In this final section of the report I shall attempt to make some meaningful recommendations and comments based on my research. I will also use this space to thank everyone who made me feel very welcome during my visits, and also those who have provided advice, assistance and support throughout, especially my colleagues in SLIC.

I fully appreciate that while WiFi was uppermost in my mind during this period, staff in the library services I visited had many other priorities and challenges, and these may sometimes have influenced the progress of the WiFi projects.

Procurement

Making recommendations about procurement may be of limited value as most library services are directed towards a provider, either due to contractual obligation, or through selection following a tender process. The latter does offer the opportunity to specify requirements, but the ability to meet those may be balanced against cost. Up to now, and regardless of how they were selected, the providers have all delivered solutions that have met the project requirements, but long-term sustainability can only be properly judged over a greater time period.

The Libraries NI national procurement model has several attractions, not least presumably the ability to negotiate a good price for the solution. This however is in the context of a single library service. There would be significant challenges in developing a similar approach in Scotland, especially as some library WiFi offers are bound up with very cost effective wider Council initiatives such as those in Perth & Kinross and Shetland.

Usage statistics

Several library services expressed disappointment in the usage statistics that their WiFi provider supplies. Some felt that while considerable data was available, it was not presented in context. Some providers offered to supply the statistics in a more useable format but at an additional cost. This also raises questions about what to count. A device may join a wireless network automatically, triggering usage data without the user making a conscious decision to connect, or if a customer connects using a laptop, a tablet and a mobile phone does that count as 1 or 3 uses? There are many more examples where clarification would be useful however there doesn't appear to be any national (or wider) guidance.

Perhaps the complexity of obtaining, analysing and comparing usage data at present is not a productive use of time and energy. Shetland Islands Council do not place great emphasis on this type of data, preferring instead to minimise barriers for end-users. In some ways the use of the WiFi service can be compared to how books on the library shelves are used. There is no data, other than anecdotal, about users browsing habits. The collection is simply made available to them and only when an item is issued does it then become statistical evidence, which can then be combined with other indicators, such as visitor counting, to build up a picture of the service as a whole.

Often the anecdotal evidence best illustrates the value of free WiFi but it isn't represented in numbers on a spreadsheet. Library services should attempt to record this use of the service. In addition, the effect of free WiFi on existing, and measurable parts of the service, such as use of eResources and visitor numbers should be considered.

Possibly a downside of this 'anonymous' connectivity is that services cannot then be targeted at specific users or user groups. One library service that does record who uses the service is hoping to use that information to get detailed evaluation about their experience.

Cost

Unsurprisingly, project costs vary significantly across the projects making comparisons challenging. It is fairly straightforward to obtain project costs for third-party fully managed solutions, such as the West Dunbartonshire project, however it is difficult to compare these with either in-house or combination solutions. For example the three most apparently cost-effective solutions, in Fife, Perth and Kinross, and Shetland, are all in-house Council ICT projects, where the management and support costs are part of wider ICT budgets.

Attempting to measure value for money is also challenging. A single city location project may have similar costs to a multi-library predominantly rural one. While the single library may have thousands of monthly users, the rural locations may be the only option for their

fewer users to access online resources. I would argue that both projects offer value for money in ways that address their local requirements.

I have no doubt that the Project Managers involved in all of these initiatives used their knowledge and experience to deliver the best solutions that the money would allow.

WiFi printing

None of the services visited so far offer a wireless printing solution for customers wishing to print from mobile devices. Workarounds are in place that involve transferring files to networked PCs but it would be interesting to see whether a more elegant solution could be introduced. As free WiFi becomes available in more public libraries, and more customers are encouraged to take advantage of it, it seems likely that the demand for printing will increase. A couple of library services are examining how this functionality could be incorporated into their offer.

Connecting to WiFi

In identifying best practice in WiFi provision the most important outcome is that the wireless network is used fully and effectively, adding value to the library service. I believe that an important factor here is ensuring that the experience for the end-user is as easy and seamless as possible. A cumbersome joining process can be a barrier to further use, particularly when the connection is only required for a short time. The Shetland model again is attractive in this respect as the joining process only requires selecting the correct network from those available. The service can then be accessed at any time across all libraries as well as other Council and Recreational Trust facilities.

Device availability

One area where library staff could be further supported in promoting WiFi in their libraries would be to provide them with mobile devices to enable them to continue to develop their expertise and confidence. More fundamentally, every library offering a WiFi service should have access to a least one mobile device to confirm good network performance when necessary. The SLIC Technology Petting Zoo was valuable in this respect but was not a permanent solution.

A common theme that was apparent during all of my visits was the enthusiasm and desire of library staff at all levels to continue to develop and share their digital learning. With the introduction of the Peoples Network at the beginning of the 21st Century, and the computerisation of library processes prior to that, library staff have always had to embrace and master new technology to ensure that they are able to meet customers increasing expectations, and thereby keep libraries more relevant and valuable than ever. High quality WiFi infrastructure is essential in enabling library staff to maintain that vital role.

WiFi itself is simply an alternative way, albeit more flexible, of accessing the Internet, and is increasingly available in many non-library locations. Libraries however have a unique place in communities, a history of providing digital advice and training, and dedicated, creative

staff. That combination offers the best opportunity to further promote and develop digital participation, leading to better health, education, and economic and social wellbeing across Scotland for the future.



Appendix 1

WiFi in Scottish public libraries at 1st May 2015

Library Service	No. of libraries	No. with wifi	% with wifi
Aberdeen City	18	18	100%
Aberdeenshire	37	19	51%
Angus	7	7	100%
Argyll & Bute	9	9	100%
Clackmannanshire	8	2	25%
Dumfries & Galloway	24	23	96%
Dundee	14	14	100%
East Ayrshire	21	1	5%
East Dunbartonshire	8	2	25%
East Lothian	12	12	100%
East Renfrewshire	10	8	80%
Edinburgh	28	28	100%
Falkirk	8	8	100%
Fife	51	51	100%
Glasgow	33	7	21%
Highlands	40	40	100%
Inverclyde	7	7	100%
Midlothian	9	8	89%
Moray	11	4	36%
North Ayrshire	18	12	67%
North Lanarkshire	22	7	32%
Orkney	2	2	100%
Perth & Kinross	13	13	100%
Renfrewshire	12	12	100%
Scottish Borders	13	12	92%
Shetland	6	4	67%
South Ayrshire	14	14	100%
South Lanarkshire	25	15	60%
Stirling *	15	15	100%
West Dunbartonshire	8	8	100%
West Lothian	14	0	0%
Western Isles	6	4	67%
Total	523	386	74%

* WiFi in Stirling libraries unsuitable for most mobile devices.

Appendix 2

Alphabetical list of project libraries

Abbeyview Library	Culloden Library	Lairg Library
Aberdour Library	Cumnock Library	Lerwick Library
Achilltibuie Library	Cupar Library	Leslie Library
Airdrie Library	Dalmuir Library	Lionacleit Library
Alexandria Library	Dalry Library	Lochcarron Library
Alness Library	Dick Institute	Lundin Links Library
Alyth Community Library	Dingwall Library	Mallaig Library
Anstruther Library	Dornoch Library	Markinch Library
Ardersier Library	Duloch Library	Mearns Library
Ardnamurchan Library	Dumbarton Library	Mid Yell Library
Auchtermuchty Library	Duntocher Library	Mitchell Library
Aviemore Library	Eaglesham Library	Muir of Ord Library
Badenoch Library	East Wemyss Library	Nairn Library
Balloch Library	Elgin Library	Neilston Library
Baltasound Library	Elie Library	Newburgh Library
Barrhead Foundry	Faifley Library	Newport Library
Beauly Library	Falkland Library	Oakley Library
Bellshill Library	Ferguslie Library	Parkhall Library
Bettyshill Library	Forres Library	Pitlochry Library
Birnam Library	Fort William Library	Pittenweem Library
Bishopbriggs Library	Fortrose Library	Pitteuchar Library
Bishopton Library	Foxbar Library	Plockton Library
Bonar Bridge Library	Freuchie Library	Portree Library
Bowhill Library	Gairloch Library	Ralston Library
Brae Library	Galston Library	Rosyth Library
Broadford Library	Giffnock Library	Roths Halls Library
Brora Library	Glen Urquhart Library	Saltcoats Local History Library
Buckhaven Library	Glenwood Library	Sinclairtown Library
Buckie Library	Golspie Library	St Andrews Library
Burntisland Library	Grantown on Spey Library	St Monans Library
Busby Library	Helmsdale Library	Stevenston Library
Cadham Library	Inshes Library	Stewarton Library
Caol Library	Invergordon Library	Stornoway Library
Cardenden Library	Inverness Library	Tain Library
Carnegie Library	Keith Library	Tarbert Library
Castlebay Library	Kelty Library	Tayport Library
Clarkston Library	Kennoway Library	Templehall Library
Clydebank Library	Kilsyth Library	Thornliebank Library
Coatbridge Library	Kincardine Library	Thornton Library
Comrie Library	Kinghorn Library	Thurso Library
Coupar Angus Library	Kinlochleven Library	Ullapool Library
Cowdenbeath Library	Knoydart Library	Valleyfield Library
Crail Library	Kyle of Lochalsh Library	West Kilbride Library
Cromarty Library	Ladybank Library	Wick Library
Crossgates Library		

Appendix 3

Individual project summaries

East Ayrshire

 <p><i>The Dick Institute</i></p>	East Ayrshire Libraries WiFi Project	
	Fund awarded	£11,590
	No. of libraries in project	2
	Average cost per library	£5795
Providers/partners		
 		

At the time of writing, the East Ayrshire project has yet to be launched. The aim of the project is to install WiFi in the library section of the Dick Institute in Kilmarnock, and possibly in one other branch library, depending on provider costs. This project has suffered delays, in part due to being linked to a wider Council/Trust WiFi initiative and possibly also hampered by personnel remit changes.

Further evaluation of this project at its conclusion should prove valuable.

<p><i>Training in WiFi and the new technologies will become an integral part of future staff training programmes.</i></p> <p>East Ayrshire</p>

East Dunbartonshire

 <p><i>Bishopbriggs Library</i></p>	WiFi	
	Fund awarded	£11,000
	No. of libraries in project	1
	Average cost per library	£11,000

Providers/partners



This project installed WiFi in Bishopbriggs Library enabling library customers to use their own mobile devices and therefore freeing up static PC provision for those without a device. The provider worked in collaboration with the Council to develop a design that incorporated the requirements of this project, and that would also be scalable to meet the needs of other library and council buildings.

The installation is relatively new and therefore usage data is still being gathered and interpreted, however there are plans to use this data to target users who could provide customer-based evaluation of the service.

...this will be the model that the Council and Libraries will use in future projects

East Dunbartonshire

East Renfrewshire



Barrhead Foundry Library

Implementation of free public WiFi in East Renfrewshire libraries

Fund awarded	£27,077
No. of libraries in project	8
Average cost per library	£2,635

Providers/partners



This project saw new WiFi installations in five libraries and an improved service in another three. The previous network through which public Internet access (WiFi and wired) was offered was identified as a risk with regard to PSN accreditation, therefore it was decided to migrate to a third party managed service operated by Virgin Media. This provided a more cost effective solution than the previous one, allowing the extension of the WiFi service to eight libraries in total.

One of these is the new library in the Barrhead Foundry, which has been designed to take advantage of the WiFi offer, including chairs with folding platforms for tablets and couches with built-in power, enabling device charging.

The solution was slightly more cost effective than estimated, allowing the underspend, with SLIC approval, to contribute to the development and roll out of wireless tablets that can be used instead of standard PCs to provide customers with access to the online library catalogue. Already in use in the recently refurbished Giffnock Library, these can be mounted on walls, desks, pillars etc. making the library space much more flexible.

The programme to replace and refresh traditional public access PCs will incorporate a greater emphasis on mobile technology so instead of a bank of PCs we will introduce facilities to encourage and facilitate use of tablets and smartphones such as better seating, charging points, more mobile devices for customers to use, etc.

East Renfrewshire

Fife

 <p style="text-align: center;">Oakley Library</p>	Wi-Fife	
	Fund awarded	£34,000
	No. of libraries in project	41
	Average cost per library	£829
Providers/partners		
  		

The Wi-Fife project installed WiFi in all 41 public libraries in the area, addressing the increase in demand for computer and Internet access as a result of welfare reform. Many of the libraries have limited space and could not meet this demand by adding PCs, so WiFi is the only viable option for these locations. Customers and colleagues, including those in services such as Community Learning and Citizens Advice, can use their own devices, not only providing them with access to online resources, but also freeing up PCs for those without suitable hardware.

The project was part of a wider Council initiative to install WiFi in as many Council and Sports Trust locations as possible. This makes monitoring and evaluation of usage difficult as the different services are not separately identified in the statistics. This is under review.

The library element of the project cost more than the fund awarded, with the Council making up the shortfall of £4,507.

Additional funding is being sought to ensure that there is at least one mobile device available in each library to test network connectivity, as well as for promoting the service.

Libraries are situated in some very rural areas of Fife, with limited public transport. Internet access via WiFi on a 24/7 basis aids customers to meet claimant commitments without the need to incur additional travel costs.

Fife

Glasgow

 <i>The Mitchell Library</i>	Mitchell Library WiFi	
	Fund awarded	£24,808
	No. of libraries in project	1
	Average cost per library	£24,808
Providers/partners		
		

The fund awarded for Mitchell Library WiFi accounted for less than half of the total cost, emphasising the scale of the project. In total 43 wireless access point were installed to ensure robust coverage throughout the substantial building, replacing an older system that was no longer sustainable. The only provider capable of delivering the high speed fibre optic solution required was Virgin Media.

The day I visited the library it was apparent that the WiFi was well used with people on every floor, in every area, using mobile devices to access the Internet. The comprehensive management system reported that there were 120 users connected at one point during my visit on what was a fairly unexceptional weekday afternoon.

WiFi has been an important addition for the Macmillan Cancer Information and Support Service based in the library. Their volunteers now use the service to guide clients to high quality Internet resources offering support and information. They also promote the eBook and eMagazine services for the information and relaxation they provide.

Prior to the upgrade the average number of WiFi users per day was 52. Since the new system was installed this has increased to 183 per day.

We now deliver a wide range of sessions promoting our Family History, e-book, e-magazine and other online resources utilising WiFi. This has allowed us to attract new digital learners and increase digital participation from people of all ages from across the city and beyond.

Glasgow

Highland

 <p style="text-align: center;"><i>Aviemore Library</i></p>	<h3 style="color: #a52a2a;">Highland Libraries WiFi</h3> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 70%;">Fund awarded</td> <td style="text-align: right;">£39,045</td> </tr> <tr> <td>No. of libraries in project</td> <td style="text-align: right;">40</td> </tr> <tr> <td>Average cost per library</td> <td style="text-align: right;">£976</td> </tr> </table>	Fund awarded	£39,045	No. of libraries in project	40	Average cost per library	£976
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<p>Providers/partners</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>The Highland Council Comhairle na Gàidhealtachd</p> </div> <div style="text-align: center;">  <p>highlife highland na Gàidhealtachd</p> </div> <div style="text-align: center;">  <p>FUJITSU</p> </div> <div style="text-align: center;">  <p>aruba® NETWORKS</p> </div> </div>							

The funding award for the Highland project significantly contributed to the total cost of just over £60,000, to install WiFi in every public library in the area. This is probably the most geographically challenging project with 40 locations spread between Thurso in the North, Kinlochleven in the South, Grantown on Spey in the East, and Portree in the West. It also includes the most inaccessible library, in Knoydart, only reachable by boat or a sixteen mile walk through rough country.

This project suffered delays due to the complexity of the infrastructure, associated with PSN restrictions, and severe weather conditions at the beginning of 2015. In addition, problems related to the web security certificate have further delayed the project, however these challenges have been overcome and the service will be launched in late May or early June 2015.

WiFi will be used to support several new initiatives including intergenerational activities where younger people will show older people how to use tablets to complement their hobbies and interests, such as gardening and cookery.

The introduction of WiFi and the many benefits it brings, particularly to our many rural communities will help ensure that libraries will be the focal point for improving people's lives and building stronger communities.

Highland

Moray

 <p><i>Elgin Library</i></p>	WiFi Provision	
	Fund awarded	£37,700
	No. of libraries in project	4
	Average cost per library	£9,425
Providers/partners <div style="display: flex; justify-content: space-around; align-items: center;">    </div>		

This project to install WiFi in the four main libraries in Moray initially planned to integrate the wireless network with the Council one, however after considering the PSN compliance requirements, a change of approach was taken and a third party solution was procured, completely separate from the Council network. This change of tack was taken in November 2014 resulting in a fairly short run-in for project completion.

The solution was launched on 19th March 2015 and has thus far met its objectives, although promotion and evaluation are still at an early stage. Library staff are offering drop-in sessions to provide advice and demonstrations to library users as well as training volunteers who will then support new learners in the use of digital devices. Moray is also exploring how WiFi can support their partnerships with Job Centre Plus, Skills Development Scotland, Citizens Online, Moray College and Employability Action and other groups and users.

Funding has also been secured from the Scottish Council for Voluntary Organisations (SCVO) to run DigITal Clubs in the four libraries for a twelve month period.

...staff and partners are accessing the WiFi to communicate by webcam with partner agencies and suppliers. Partner agencies are already booking our meeting rooms to train their staff and volunteers using the wifi facilities.

Moray

North Ayrshire

 <p>Dalry Library</p>	Wireless North Ayrshire	
	Fund awarded	£18,500
	No. of libraries in project	4
	Average cost per library	£4,625
Providers/partners <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>North Ayrshire Council Comhairle Siorrachd Àir a Tuath</p> </div> <div style="text-align: center;">  <p>INSIGHT MEDIA Internet Limited</p> </div> </div>		

Originally three libraries were included in this project, but lower than anticipated costs enabled an additional location to be added, following discussion with SLIC. This extra site, Stevenston Library, is a pilot location for an Employment Hub within the library. This Employment Hub is North Ayrshire Council’s response to the introduction of Universal Credit and the impact of Welfare Reform. Partners in the Hub include DWP, Ayrshire College, local social enterprises, and NAC Services including digital skills and adult literacy. The WiFi in this library was part funded by North Ayrshire Council.

A training programme for staff, Training in New Technologies (TNT), was developed in collaboration with Inverclyde Libraries to provide knowledge and confidence to support WiFi users. Apptitude workshops, a digital participation project also funded by SLIC through the Scottish Government’s Public Library Improvement Fund (PLIF), have been delivered in the WiFi project libraries. These sessions support library users in using WiFi and the library’s digital resources. One particular strand to this initiative involves bringing P5 to P7 children into the library to teach them how to use various mobile devices to explore educational apps as well as learning about the library online resources. When the children complete the programme they become Digital Champions and are able to share their new skills and knowledge with peers in school and with older library users via intergenerational activities.

Following an Apptitude session where upper primary pupils were given the opportunity to explore various educational apps during their visit to the library, the teacher commented ‘that it was a most enjoyable morning and that the children were fully engaged in their learning.’

North Ayrshire

North Lanarkshire

 <p>Bellshill Library</p>	Get Connected	
	Fund awarded	£20,000
	No. of libraries in project	4
	Average cost per library	£5,000
Providers/partners		
   		

This project underwent a significant change of approach following a North Lanarkshire Council decision to invest in network improvements and create a Transformation Team. This caused delays in developing and agreeing the preferred solution.

At the time of writing, a visit to this service to monitor and evaluate project progress has proven to be impractical. It is hoped that this can be arranged soon.

The ability to take our learning models /activities out beyond the Open Learning centres by using non desktop based kit allied to WiFi will allow us to reach new audiences.

North Lanarkshire

Perth and Kinross

 <p>Birnam Library</p>	WiFi in Local Libraries (WILL)	
	Fund awarded	£2,000
	No. of libraries in project	5
	Average cost per library	£400
Providers/partners		
		

This project installed WiFi in five part-time libraries which, added to the eight full-time locations already offering the service, completes the coverage in the area. These smaller libraries are in largely rural areas but serve a significant tourist population. Often they offer the only local opportunities for visitors to access online resources. It is hoped that the addition of this service may have some positive impact on the local economies.

The service is provided by the corporate IT department, working closely with the library project team. This partnership has developed since the introduction of the Peoples Network, with both parties understanding the requirements of the other, ensuring a productive and cost effective process.

A new post of Digital Librarian has been created to bring fresh thinking and increased capacity to developing our Digital Services.

Perth and Kinross

Renfrewshire

 <i>Ferguslie Library</i>	Renfrewshire free WiFi	
	Fund awarded	£3,480
	No. of libraries in project	4
	Average cost per library	£870
Providers/partners		
		

The funding awarded to Renfrewshire financed the installation of WiFi in four libraries, part of a larger project that saw all twelve libraries in the area enabled. The funding for the remaining eight libraries was provided by Renfrewshire Council who were seeking to increase access to the Internet for people living, working, and studying in the area. A third-party supplier was contracted to provide a free WiFi in town halls and museums, as well as libraries.

A significant objective for this project was to respond to the increasing demand for online access as a result of the digital by default agenda, primarily for those users affected by welfare reform changes. Another aim was the desire to promote the library's own digital

resources such as eBooks and eMagazines, particularly through digital learning experiences like ‘Tap a Tablet’, for older users.

WiFi has made the library space more flexible, encouraging use by partners such as Macmillan Cancer Support and Engage Renfrewshire.

Public response has been overwhelmingly positive and we have much anecdotal evidence that it is having a very positive impact on job seekers and benefit claimants affected by welfare reform.

Renfrewshire

Shetland

 <i>Lerwick Library</i>	Better Signals	
	Fund awarded	£2,000
	No. of libraries in project	4
	Average cost per library	£500
Providers/partners		
 Shetland Islands Council		

This project benefited from the strategy of Shetland Islands Council ICT Unit to offer free and easily accessible WiFi in public buildings and inter-island ferry terminals. The result is a high speed WiFi connection with minimal technical and administrative complexity. The end user can join the network, without login credentials, in a wide range of locations, making the experience very easy and flexible.

This flexibility was the key when improving the signal in the main library in Lerwick. WiFi routers were located to ensure full coverage in the library, eliminating previous black spots, and were also positioned to ensure that the service was accessible in the grounds around the library. This was a very successful initiative, particularly during the good weather in summer 2014. An unanticipated use of the service was observed following installation, with dozens of cruise liner tourists taking advantage of the free access in the library grounds. The WiFi network performance is so robust that the PCs in the library learning centre connect wirelessly rather than using Ethernet cables. This again means that they can be used more flexibly, and easily relocated if necessary.

The impact of the improved and extended wifi signal is clear to see, with customers now working in areas where they couldn't work before. Many more customers are also using the wifi when the libraries are closed

Shetland

South Ayrshire

 <p><i>Carnegie Library, Ayr</i></p>	WiFi Provision for South Ayrshire Libraries	
	Fund awarded	£19,442
	No. of libraries in project	1
	Average cost per library	£19,442
Providers/partners		
  		

The aim of this project was to pilot WiFi in the Carnegie Library in Ayr, the main library in South Ayrshire. The service was launched in September 2014 and its success, from installation to impact encouraged identification of funding to extend it to the remaining thirteen libraries. An underspend of £2,132 on this project contributed to that phase 2 rollout which was completed in April 2015.

As well as providing wireless access to the Internet, the WiFi service also supports the library staff in their extensive use of social media. They have very active Facebook, Twitter and Pinterest accounts, and maintain library and local history blogs. The ability to view these activities on mobile devices is vital in ensuring that they convey the desired impression.

With the building blocks now in place, our next phase is to extend WiFi through to our rural branches, where the need is greatest. It will also allow us to push our e-reads service to customers and to fully embrace the TNT project with our staff.

South Ayrshire

West Dunbartonshire

 <p><i>Dumbarton Library</i></p>	WiFi Provision in Libraries	
	Fund awarded	£15,000
	No. of libraries in project	8
	Average cost per library	£1,875
Providers/partners <div style="display: flex; justify-content: space-around; align-items: center;">   </div>		

This project initially planned to use an in-house solution, but a reduced funding award and fresh expertise that came from a change of personnel, resulted in a new third party managed approach that was significantly less expensive than the original specification.

The project involved installing superfast optical fibre broadband into all eight public libraries, however one of the possible measures announced by the Council to reduce their budget was to close five of these branches. This effectively put the project on hold until a decision was made. Fortunately at a Council meeting in February 2015 it was decided not to close these libraries. This resulted in a very late start to the project but through the effective planning undertaken by the Project Manager in partnership with the provider it was completed in March 2015.

One of the main objectives for this project is to encourage the teenage and young adult demographic into using public libraries. This group has been previously been difficult to attract but it is hoped that free WiFi will increase their participation and have a positive effect on footfall and use of electronic resources.

The library ICT team are currently investigating the possibilities of offering a wireless printing solution for users of mobile devices.

Even in our areas of multiple deprivation we find that the majority of library users have at least a basic smartphone and the attraction of using free WiFi rather than one's own data allowance should be a significant positive for them.

West Dunbartonshire

Western Isles

 <p>Tarbert Library (located inside Sir E. Scott School)</p>	WiFi for Western Isles Libraries	
	Fund awarded	£14,906
	No. of libraries in project	4
	Average cost per library	£3,727
Providers/partners		
  <p>Comhairle nan Eilean Siar</p>		

The aim of this project was to ensure WiFi availability in libraries on each of the Western Isles; Lewis, Harris, the Uists and Barra. Installing the service in these remote rural locations has proven challenging and at the time of writing the project is still incomplete. In one location the library building is owned by an independent company who agreed to install the required additional cabling but it was very difficult to confirm costs and timescales. This cabling work was finally started at the end of April 2015 and it is therefore hoped that the project will be launched around the end of May.

At another location ADSL lines were unsuitable, therefore a satellite connection was required, adding further complexity and cost. Additional costs have been met by existing budgets.

The impact of this project is likely to be significant as there are very few WiFi alternatives in these rural locations.

At present, there are very few public places in the Western Isles offering wireless access. Limited 3G coverage and inconsistent broadband across the Western Isles exacerbate this issue, making it difficult for both locals and visitors to get online access. On the less populated islands, such as Barra and Lionacleit, access is even more limited. Apart from hotels and some B&Bs, who offer WiFi to residents, there are no venues offering free WiFi access at all. These difficulties, combined with the remote location and rural spread of the population on the Western Isles, place an even greater importance on providing WiFi access at libraries on each of the isles – Lewis, Harris, the Uists and Barra – to support digital participation for locals and visitors.

Western Isles