
rTown report

Workpackages 5 & 6 – e-Commerce & Town Team strategy

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Warning

This document is not an approved document of Innovate UK (Technology Strategy Board) or KTN Modern Built Environment.

The opinions and views expressed within this report have been reviewed by the members of the rTown Project Team, but do not necessarily reflect the views and opinions of individual members of the Project Team, or the organisations that the members represent.

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Document Summary

This report details proposals to address the challenges facing a regular user or visitor who wishes to make purchases, or spend time in the riverside market town of Ross-on-Wye.

The project innovations, the re-imagining aspect of the project, are to address the problem of consumers who wish to purchase from local businesses but whose commuting day prevents them from making face-to-face purchases; as well as the challenge of out-of-locality suppliers needing to make deliveries for those out at work by integrating provision of at least:

- extended 'click and collect' paradigm by integrating incentive vouchers (WP4);
- a physical location where goods can be received, stored and then collected by customers;
- local delivery at a specified time for a small premium.

These would be provided from the TownTeam hub – an information and service-request focus for the town centre where public transport users can receive town vouchers as credits against their travel tickets and so that disabled High Street users can access mobility scooters.

This topic deals with e-commerce; ordering, collection and delivery of consumer's purchases; information services - including tourist booking, information, guidance and infotainment, and miscellaneous provisions to build the attractiveness of the town.

The outputs of the Workpackage 5 and Workpackage 6 activities are combined into this single report because of the lack of sufficient local interest (see Current situation) in the proposed Lockerpoint offering to justify a separate report on the e-commerce aspects.

Market Need

Challenges

The rise of internet shopping is inexorable and is certainly less controllable than out-of-town shopping. It is that rapid change of purchasing behaviour that has caused many small independent shops to struggle to remain competitive, and for large chains to close their smaller physical outlets in town centre locations.

Within the constraints of a free market we seek to provide a co-ordinated range of services that can attract residents, occasional visitors and tourists to spend time in the town.

Current situation

In **Workpackage 1** we surveyed business and consumer views about the town centre. The results relevant to this report are provided in Annex 1: Town survey data. This section summarises those findings.

Business

There is something of a mismatch between traders view of the consumer offering in the town and users perceptions; businesses are either content with their offering or blame others for the decline in their prosperity. If the customer is always right these both imply a need for a radical re-think, and for the consumer offering somehow to be better matched to their expectations.

The appetite, or even basic understanding of the means and potential, seems to have passed most consumer-oriented businesses by. Unless they generally improve their skills and offering their businesses, ignoring any infrastructure issues, will decline.

Community

Given the focus by Herefordshire Council on job creation in the Hereford conurbation it is unlikely that there will be much significant short term job growth in Ross. This means that any growth in new housing stock will largely be filled, directly or indirectly, by people moving into the area to retire or to work elsewhere. Unless public transport services are markedly improved this will bring more car use into the town.

The emerging Neighbourhood Plan could be a means to enable community needs to be met at the same time as providing the right conditions for optimal use of the built, information and transport infrastructure in the town centre.

The Herefordshire Council assets newly acquired by the Town Council have the potential to be the springboard for new events and attractions as well as providing a basis for delivery of new services on behalf of the business community and residents.

Proposed offering

This was in two distinct areas as follows.

e-Commerce

The intent of rTown was to build on the 'click and collect' paradigm; here by integrating incentive vouchers (WP4), but also to extend that to a physical location where goods can be received, stored and then collected by customers (or, for a premium, delivered from there locally at a specified time).

Our thesis was that this would address the dual problems of consumers who wish to purchase from local businesses but whose commuting day prevents them from making face-to-face purchases; as well as the challenge of out-of-locality suppliers needing to make deliveries for those out at work. Such services are available on a piecemeal basis (at Spar in Ross) - we sought a comprehensive solution for local retailers in a locality.

As the basis for our feasibility study we proposed to use the MontBeau 'LockerPoint' technology integrated with our rTown 'TownTrolley' (intra-town porter) system and 'TownTeam' services. However, given the responses referred to above we have concluded that there is not sufficient certainty about demand to invest in further development or provision of such a technically advanced facility. Instead, we are proposing an IT-enabled, but manually provided, facility managed by the Town Team. We will consider this next.

Town Team

Finally, we had proposed that the TownTeam hub would act as an information and service-request focus for the town centre. In Ross we proposed that it should be located adjacent to the bus and coach station so that public transport users would be able receive town vouchers as credits against their travel tickets and so that disabled High Street users can access mobility scooters.

We also proposed that this should be the base for local updating of the IT systems enabling our overall service delivery; the office of the town centre manager; maintenance co-ordination; TownTrolley services; etc.

In the event, and directly driven by our feasibility study, we have concluded that this nexus of services should have a more obvious role and be the means to deliver the interwoven strands of work described below in Addressing the challenge.

Key advantage points

Our thesis from project inception has been that, although individual technical innovations can be important elements to re-imagining a high street, the means to achieve sustainable invigoration will lie in integration of multiple strands of service provision into a coherent service offering that provides a pleasing experience for consumers, and economic benefit to businesses. This element must therefore be seen in that wider context.

Addressing the challenge

For shoppers and tourists who drive to a town to visit it and its shops convenience is key to them staying for an extended period, the proposed services are designed to increase the number and duration of visits to the town centre.

For businesses the key to improved trade is meeting customer needs and demands, but increased footfall increases the likelihood of spending on goods or services. Our proposed services are designed to make it more attractive to do business in town than out, and to generate repeat business.

Community service company

We have worked with the Town Councilⁱ and with a local charityⁱⁱ which is already responsible for delivery of a number of services within the locality. By doing so we have determined that considerable value can be added to the location by bringing together a number of rather unobtrusive service offerings so that they can be delivered in a joined-up manner. We have dubbed this general provision the Town Team - which in our use has a broader responsibility than when it is used in the Portas Pilot context.

A local companyⁱⁱⁱ has a software product that enables local clients of not-for-profit organisations to be connected to the internal services of those organisations, or securely linked to other service-delivery organisations. We propose to use this as the basis for our local client management system to link to the incentive system (WP4) and to other services such as (but not exclusively) Job Club, Meals on Wheels and Age UK.

The rTown project requires a local and integrated management team to ensure that all elements of the proposed system operate efficiently and to avoid duplication of resources addressing similar or identical activities. The preferred approach is to place the project management with an existing charitable or 'not for profit' organisation with local knowledge and an existing infrastructure, thus avoiding additional start-up costs for staff and office facilities.

Enviroability has been operating in the Ross Town Centre area for the last 20 years being established in 1994 and, with the active support of Ross Town population, developed into a 'not for profit' business in 1999. It specialises in providing opportunities for disadvantaged and disabled members of the local community. Enviroability already undertakes a range of activities for Ross Town Council and local town centre businesses, which offers the potential to integrate further aspects of the rTown concept without incurring additional overhead or management costs.

As Ross Town Council, and the local community, are being encouraged to take on responsibility for the provision of services from Herefordshire Council there is a danger that there will be duplication of resources and management overhead across similar functions. Placing these activities under the umbrella of an existing local organisation that has been formed to expressly benefit the local community, and without any need to generate profit, offers an opportunity to integrate the service provision and maximise efficiencies, and also to involve some of the most disadvantaged local residents in worthwhile activities. Our studies indicate that this approach provides the most cost effective solution for Council Tax Payers whilst also ensuring that any surplus funds are returned to the local community. Unlike most commercial outsourcing operators the

Enviroability organisation operates an 'open book' accounting process so there can also be confidence that all costs can be monitored by the Town Council.

Enabling e-Commerce

One client group, possibly through the Association of Ross Traders (ART), will be independent retailers and other businesses that wish to improve their awareness of online business opportunities.

Training and consultancy

A local business already provides rather low-key training in online business opportunities to local businesses, but this tends to be from a technical perspective. It is clear that a more marketing oriented approach is needed before the technical aspects are introduced. There are a number of complementary providers of such skills and we therefore propose that the Town Team coordinate the necessary elements of a training programme and organise delivery.

Incentive system management

It is not necessary for a business to develop any knowledge of the software aspects of the VoucherPoint system; just knowing what to offer, what to discount and by how much can either be implemented directly if a business prefers or as a local service by the Town Team.

Town-wide promotions agreed by ART will be managed through the Town Team, promoted into the information channels and delivered by the VoucherPoint system.

Integrating services

Local surveys have established that there are several extended hours businesses, located in the town centre, that would be interested in hosting a 'click and collect' facility. These include a local taxi firm and a public house. However there are already 2 'click and collect' hubs located in the Ross area and which serve national internet shopping chains^{iv}. Whilst these hubs are unlikely to want to service local traders as well they do represent a factor when considering the viability of investing heavily in the local 'click and collect' service.

Because the current level of interest from local traders in using a 'click and collect' service is also limited this is not seen as sufficiently certain to act as a core function for the town. However, because there is consumer demand, it could be viable as part of an integrated service support facility. Therefore, in a scaled back, proof of concept, implementation of retailer's added value services the Town Team will be responsible for the following areas of activity.

As with other areas of Enviroability work, we will make every effort to encourage 'difficult to place' people into suitable roles within the services they deliver.

Goods collection from retailers

When businesses in town have fulfilled orders from consumers who have indicated a wish to either collect goods from a central location or have them delivered then the Town Team will receive a message token from the retailer that will enable a collection agent to reconcile a client with the goods for collection. The goods will be conveyed either by electric vehicle^v or by pedicab^{vi vii} to the holding point.

Goods receipt, holding and issuing

The secure Town Team goods holding point will be located with the remainder of the Town Team facilities and, if requested, transferred to a secondary issuing point (e.g. the local taxi firm or public house mentioned above in Integrating services).

Goods will only be issued after satisfactory completion of two-stage identity validation that ties the goods to the consumer.

Goods delivery

If consumers request, The Town Team will deliver goods to addresses in the HR9 5 & 7 post code areas. Such deliveries can be consolidated with others so that a single delivery is made. A charge will be made for this service, though in some cases retailers will absorb it into their pricing.

The goods will be conveyed (refrigerated if necessary) either by electric vehicle^{viii} or by pedicab^{ix} to the consumer's requested delivery point within a short, pre-agreed, time slot, or made as and when available.

Goods will only be issued after satisfactory completion of two-stage identity validation that ties the goods to the consumer.

Town info-structure

As with many areas of public life, it is becoming increasingly difficult for the already elderly to be able to access information in ways to which they can relate. The less academically accomplished young also find it difficult to access the pieces of information that together make up the jigsaw of provision to which they too need access.

Our aim is therefore to bring together these social goals with the information, recreational and leisure needs of visitors and tourists to deliver a town centre that is welcoming to all, regardless of ability.

Town information service

The plan that has emerged from examining feasibility of various aspects of satisfying the disparate information needs is to use a local internet provider to host a single portal that provides a single point of access to all rTown related services – everything from navigation and parking, through incentives and promotions, to tourist information, bookings and interactive local guides and pedestrian navigation for the less able. The Town Team will coordinate the content requirements with the local businesses able to bring marketing skills to bear on this core area.

Location branding

We have identified the need for coordinated working alongside Visit Herefordshire^{xi} and coherent with the Herefordshire branding^{xii} but with a specific location focus and brand for Ross. A number of local marketing companies have the skills to deliver both the look and feel required, as well as a user friendly, and device agnostic, navigation.

More prosaically, the same brand look and feel is required for print and signage used within and beyond the town.

Accessibility

With our high proportion of over-80s, a growing number of over 60s and increasing levels of mobility and community living for those with a range of disabilities, we see it as our responsibility, as well as a marketing advantage which capitalises on the existing hotel for the elderly frail and people with disabilities^{xiii}.

As part of our feasibility study we have identified a number of information resources that we propose to implement to provide truly inclusive accessibility for all users whatever their ability.

1. The most technically basic is to introduce a coordinated system of pedestrian signage to provide readable maps and way-finding around the town centre and

between the high street and the points of tourist interest.

These signs will be similar to the Streetwise^{xiv} type to include QR codes, but also with beacons integrated into our own info-structure as described above. These beacons will also enable access to other pedestrian guidance options described below.

2. We have identified that the signs should carry non-text media (map and picture) in their physical forms and also, using beacons, enable the same information to be available between sign locations^{xv}. We can facilitate easy-to-follow photographic journeys in web, mobile, print and embeddable formats designed to include the needs of people with disabilities and those speaking English as a second language.
3. In common with many market towns with a surrounding agricultural economy, Ross has seen a continued growth in the number of migrant workers. Taken together with our long-standing tourist trade from Europe there is a continuing need for access to technology to support social inclusion and language learning for recent immigrants. A limited palette of languages will therefore implement the lessons from the recent SALSA^{xvi} and MALSETOV^{xvii} work to provide guidance and tourist information about the town and its environs.
4. The same beacon-equipped signs can also enable links to enable blind people to navigate the town safely^{xviii}.

By integrating these different aspects we can minimise the amount of street furniture and communications network installation required, thus demonstrating something suited to high streets rather than the large urban centres that most such pilots

We have identified that by working with the Ross-on-Wye branch of Age UK that our elderly population can access a personal shopper service and drop-in location hosted by Enviroability. Aspects of this service will share many features with the Poppins Shop^{xix} project in Greenock, using our incentive system in place of their poppins.

Tourist information service

Although Ross-on-Wye was the birthplace of the package tour the presentation of information for tourists in recent years can best be described as patchy. Most tourist resources draw visitors away from the town rather than making it a destination in its own right. We have therefore identified the need for locally curated information to be presented in a coherent portal specific to Ross-on-Wye but with links to the surrounding area, and with a recognisable brand link with the Visit Herefordshire website.

It is unrealistic to pretend that a small town can alone provide all the attractions that the various tourists seek, but our survey results and subsequent discussions have shown that by presenting those we have, and those that are available using Ross-on-Wye as base, in a coherent and attractive manner the town centre could benefit from increased footfall.

A dedicated Tourist Information office is needed in the centre of the town and, which is very visible. It needs to be open every day of the week, and until early evening during peak months and this implies more than one member of staff so adding other functions such as offering a cyber café will be needed to help it pay its way. In theory it could share premises with the general Town Team functions but the size, location and cost of premises for both may make that difficult.

Possible venues for this service are the Library (though its much curtailed hours and slightly peripheral location are not helpful), the Market House (though access is less than ideal), and various shops at present vacant, such as the premises at 34 High Street, or the former book shop at the entrance to The Crofts. Other premises may become available and we shall look to take this area forward in discussion with the Town Council, Visit Herefordshire and the Association of Ross Traders.

Accommodation

There is no single source of information on tourist accommodation within the HR9 post code area so our content management system will provide this directly and by links to agencies offering accommodation locally.

Tourist trails

Taking up the initial competition assessor's comments and our own survey feedback, we have been able to undertake some feasibility work on creating things of recurring local and tourist interest. This work is reported in detail in Annex 2: Play Ross, so is just summarised here.

There is much of historical, cultural and popular interest within the town centre or within strolling distance. We shall use the signage described above as the ambient information structure with which visitors can engage from the moment of arrival.

The dedicated Tourist Information office space would also act as a Hub for the game, providing technical backup for players. Latest interactive and augmented reality technology, such as Google Glass, could be available to hire from this outlet.

Audio Guide Headphones and leaflets could also give information in a less technical / intimidating way for those not ready to embrace newer technologies.

Eating out

As with accommodation, there is no single source of information on the many eating options within the HR9 post code area so our content management system will provide this directly and by links to agencies offering internet purchasing or booking in the locality.

Retail promotion

Although the Association of Ross Traders (ART) has a website^{xx} it is not presented in such a way that the products and services provided by its members are accessible (unless they are part of the business name). We have identified that consumers would like to search the town businesses for products and services so propose to use the terms associated with those products to do so, identify a business and either order or make contact.

The CRM associated with the incentive system will enable promotions to be made known to app and email subscribers to the town's incentive scheme, but we have yet to determine if we will implement local search functions in that, through enhanced ART system functionality, through the British Independent Retailers Association^{xxi} 'My High St' system^{xxii}, through a mix of these, or by some other means.

Town fault-logging service

Our survey showed that businesses and consumers (mostly residents in this case) would value a problem reporting system that does not require that they would need to know the body responsible for particular issues. This would in part function as a mirror image of the information push functions of the Town information service and would be most liked if it used walk-up and phone receipt of problem reporting.

The CharityLog system handles this sort of logging and hand-off function well but there remains some work to do in differentiating and coordinating the services currently provided by the library (only Herefordshire Council responsibilities) and those handled by other bodies.

Benefits to the end users

Our proposal is to add value to end users by making in-town shopping and leisure extremely convenient and economically attractive. Our strategy is to thereby encourage

footfall into the town centre which in turn will improve the attractiveness of property to new businesses. That in turn will improve property values and ensure returns sufficient to encourage better maintenance, thus increasing attractiveness to tourists.

Who benefits?

The immediate beneficiaries are end users, with local businesses gaining from improved stay duration and footfall. The local authority will benefit from reduced enforcement costs, with the option to do away completely with penalty charge notices and associated costs.

Suppliers, the product developers, producers, distributors and installers, will gain from increased revenue from sales as this new way of managing car parks necessitates replacement of obsolete equipment.

Market adoption

The results from the town survey show that currently there is a somewhat dispiriting lack of understanding of the challenge and possibilities of e-commerce. This will need to improve if the town is to thrive.

Market characteristics

Customer groups

There are a number of different customer, or stakeholder, groups involved in this area but for simplicity we'll deal with them as four main groupings:

- Consumers – i.e. those visiting the town centre to shop, to stay, or for leisure;
- Businesses – i.e. providers of goods or services within the town centre;
- Service providers – in Ross this is at present chiefly the local authorities, arms-length organisations and third sector organisations;
- Suppliers – those seeking to deliver to town centre businesses or local consumers.

Service provision

Our vision is that the town team will coordinate and be responsible for delivery of the services described in Proposed offering.

Market size

Market size will depend on local conditions (distance from other towns and larger centres, built environment including ease of parking, age profile, etc.). However, we estimate that some of the portfolio of services proposed would be viable in most UK locations – but that the precise mix would vary according to the location.

Globally, we would expect a similar model to be viable across the industrialised nations.

Because we see this as a not-for-profit area of endeavour it is extremely difficult to estimate market value – which is likely to be extremely variable from one location to another and from one country to another.

Market trends

The main trend in industrialised societies is twofold:

1. the real or perceived pressure on time amongst the working population who are therefore unwilling or unable to spend time manner;

2. the aging population who like to engage in the social interaction that face-to-face shopping involves, but who are, with age and associated limitations, less able to deal with the physical load of shopping.

However, as illustrated in Demographic data the locality is also relatively poor (Herefordshire has the lowest average earnings in the West Midlands, with 20% of families earning less than £15k p.a.)^{xxiii}.

Key infrastructure

Infrastructure requirements for the integration of the Town Team service with other activities (notably tourism and pedestrian guidance are detailed in sections of the Town information service part of this report, electrical services to signage sites (all exist), fixed or mobile phone or broadband services to sites(all exist), WiFi, ZigBee and /or Bluetooth coverage of the location (partially exists).

Business sectors

Within this location, and other like it, the business sectors involved are the local authorities, local businesses and their representative organisations, third sector organisations and the informal representatives (media and social media) of consumers.

More broadly, central government and professional groups, as well as manufacturers and service providers and their trade organisations have legitimate interests.

Customer engagement

- Consumers;
- Businesses;
- Owners and operators of parking facilities;
- Suppliers – product manufacturers and service integrators.

Contacts & support

Consumers

We have undertaken the town benchmarking study (WP1) to gauge opinions and likely support for the proposals in this report, some dialogue has taken place on social media and in the local press but the main consultation will take place under the umbrella of the Neighbourhood plan in Q1 of 2015.

Businesses

We have engaged with local businesses through the town benchmarking study (WP1) to gauge opinions and likely support for the proposals in this report. We have also had regular dialogue through the Association of Ross Traders and the Business Lunch Club.

Suppliers – product manufacturers and service integrators

Our Town Team function is the node through which a number of local, national and international suppliers (in that order of preference) will bring together product and services into something coherent within the context of the high street, town centre - the location.

Design validation

Based on feedback from our survey activity, we are proposing to deliver enhanced integration of services to encourage stay and spend within the town. In common with most modern software products, our targets come with software development kits or published

application programming interfaces. We have test some, but not all of these; so would expect some small implementation challenges but as with everything else in our proposal, the main challenge is not technical.

The main challenge remains ensuring not just a shared vision but the shared will and determination across business and organisational structures to solve the challenges. At present the will exists - and there seems to be good executive interest. Whether that will live through an election and continue in uncertain economic times remains to be seen.

Product pricing

Market expectations

Pricing Town Team functions is difficult. On one hand the services are those that consumers expect to be there for free, and on the other businesses and local authorities are understandably unwilling to pay for services that do not result in improved trade. There has to be a reasonable return on investment for all, even for a not-for-profit provider.

Consumers

Of the town team services we have investigated it seems that some consumers would be willing to pay a very small premium for a goods collection facility (Lockerpoint), and more would pay for delivery - especially if a number of items from disparate retailers to be coordinated into a single delivery at a guaranteed time.

Untested is whether consumers would redeem vouchers for collection and delivery services rather than for discount - worth checking.

Businesses

As yet we have no firm metrics on how much turnover would be driven by using these services. That in large part is why it is necessary to run a pilot implementation before attempting to make considerable investment in supporting technology for LockerPoint.

For the tourist accommodation and eating out services then a normal commission would be taken or a Google-style pay per clicked link charge.

For tourist trails, play and other event services then these would be charged according to the level of appeal. Time spent using Google Glass or similar would require a hefty deposit guarantee, and a could attract a substantial charge per hour of use, whereas a paper map of access code to a walking guide would be in the order of pence.

Local authorities

Local authorities might be expected to fund aspects of the information provision on the basis that it would be less expensive to use a not-for-profit organisation than the normal commercial outsourcing arrangements. However, because of the length of contract often let by local authorities it could take some time for the full benefits of that transition to be evident.

Product manufacturers and service integrators

Although it would be possible to fund supply costs it is unlikely that Phase 2 finances would cover development costs and profits on bought in products and services. Suppliers to our phase 2 implementation would therefore have to treat rTown as a live pilot and demonstration site with the expectation of determining viability at scale.

Technical challenge

As stated in our project scope - our aim is not to invent any new technologies but to 're-imagine a high street' by combining technology and services with infrastructure in a novel and transferrable manner.

Intellectual Property

Patentability

In our view the rTown services we are proposing are not suitable for UK or EU patent because they are predictable applications of available art.

Other Protection

The concept of a system providing stand-alone incentive voucher dispensing point linked to trader-controlled offers is copyright to Montbeau Ltd which asserts its ownership of the terms VoucherPoint and LockerPoint.

Additional functionality added as a result of the rTown work will remain the copyright of Montbeau Ltd, but income-sharing from VoucherPoint integration into ParknSave and TownTrolley has been agreed.

The concept of any incentive system linked to parking payment (our term: ParknSave) is not yet registered for patent or trademark protection but copyright for the concept as described is asserted by AMS Consulting.

The concept of a goods collection service linked to pre-payment at a town centre location (our term: TownTrolley) is not yet registered for patent or trademark protection but joint copyright for the concept as described is asserted by AMS Consulting and Ian Betts Ltd income-sharing has been agreed.

The concept of a goods collection service linked to out-of-town or internet pre-payment (our term: ClicknCollect) is not registered for patent protection; trademark protection has been refused for 'click&collect' though a registration for 'CLICK N COLLECT' (applied to betting) was submitted in January 2014.

We shall retain our methods and information within the project partners and have contracts in place to secure that. In addition, third party discussions have only been engaged in when non-disclosure agreements have been signed with the knowledge of all parties. We shall register trade names and marks if granted a contract under Phase 2.

Third Party IP

We are dependent on third party products, methods and technologies, and have entered into licensing arrangements where necessary to integrate those elements into our designs.

Having searched the available resources for extant IP claims we understand the following to be the position with respect to, and at the date of submission of, this proposal.

Underpinning technologies include IPR from many sources and are licensed variously for integration into information systems at the hardware, firmware or software level. None of these underpinning technologies, on the basis of our searches, have restrictions on use in the proposed rTown context.

IP transfer

In view of his intended retirement in 2016 and to ensure the continuity of the project's work, the lead contractor for rTown, Melvin Reynolds, Senior Partner of AMS Consulting, proposes that on granting of a Phase 2 contract, the IPR attributable to rTown will be

vested with the most appropriate Community Interest Company (or similar legal vehicle established by or with Ross-on-Wye Town Council) to manage physical and business assets of the Council.

This IPR will then be made available for use by other community 'High Street' interests.

Additional IPR owned and developed by the contractors to the project will remain theirs to commercialise further as they wish.

Open issues

Issues that remain to be addressed may include:

1. Costs, RoI and calculations;
2. Sales & Marketing/Exploitation -
 - a. Sources of information to customers,
 - b. Increasing market penetration,
 - c. Reasons;
3. Competition -
 - a. Existing,
 - b. Future;
4. Concept Description -
 - a. Customer Requirements;
5. Key specifications and functionality -
 - a. Proposals,
 - b. Technical feasibility.

Annex 1: Town survey data

This element of the report just concentrates on the benchmarking data topics that are directly applicable. Other aspects are available in the reports in the WP1, Benchmarking, area of the project website.

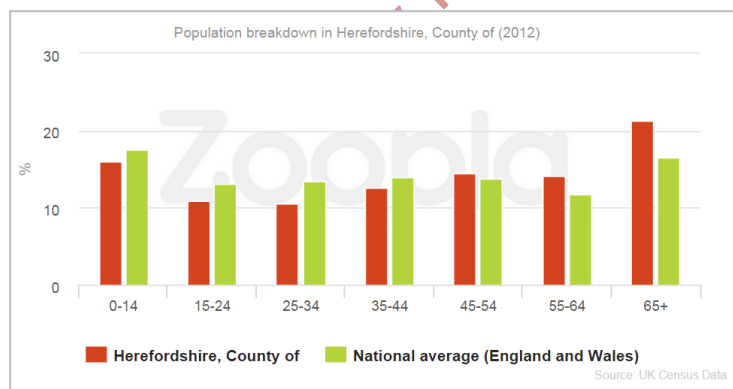
Demographic data

Ross-on-Wye is typed as a Group 2 location characterised by persons living alone (separated/divorced and pensioners), as well as people in routine and lower supervisory and managerial occupations and people living in rented accommodation. Normally car ownership is low whilst travel to work by public transport is relatively high, whereas in Ross this is not an option due to the lack of public transport services; this of course puts further pressure on discretionary spending in this group.

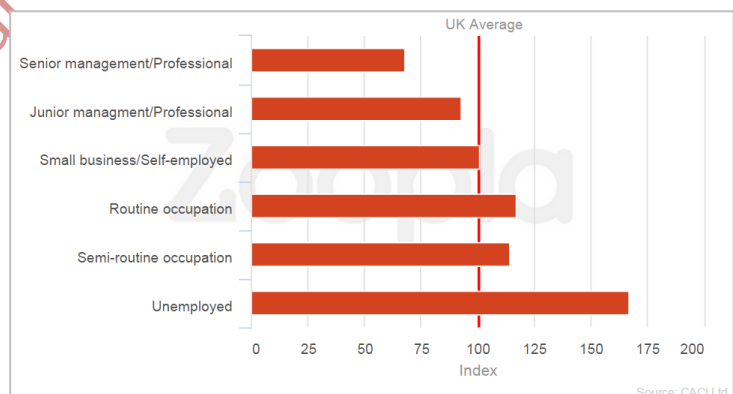
Geographically this group is well scattered across the rural areas of the country but there are few examples of this type of place around the main population centres.

The following demographic data was gleaned from the Zoopla local data and re-presents census and other survey data; see the Herefordshire Facts and Figures data^{xxiv} for detail.

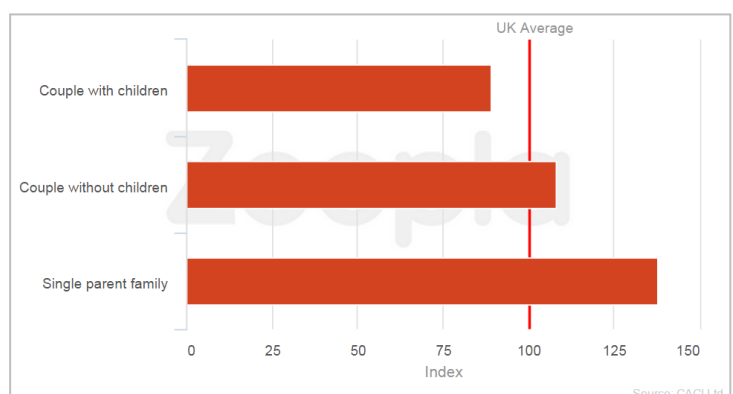
The age profile of Herefordshire in the 2011 census shows a bias towards the upper age brackets:



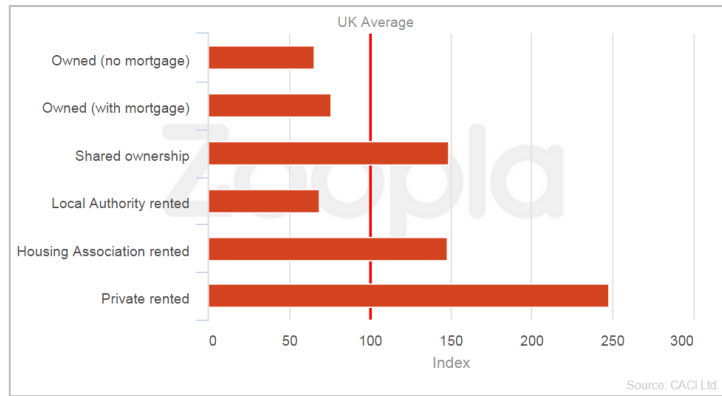
The CACI Ltd.^{xxv} data shows a preponderance of low income households in the Ross post code area:



Households in HR9 have above average representations of (older?) couples and single-parent families.



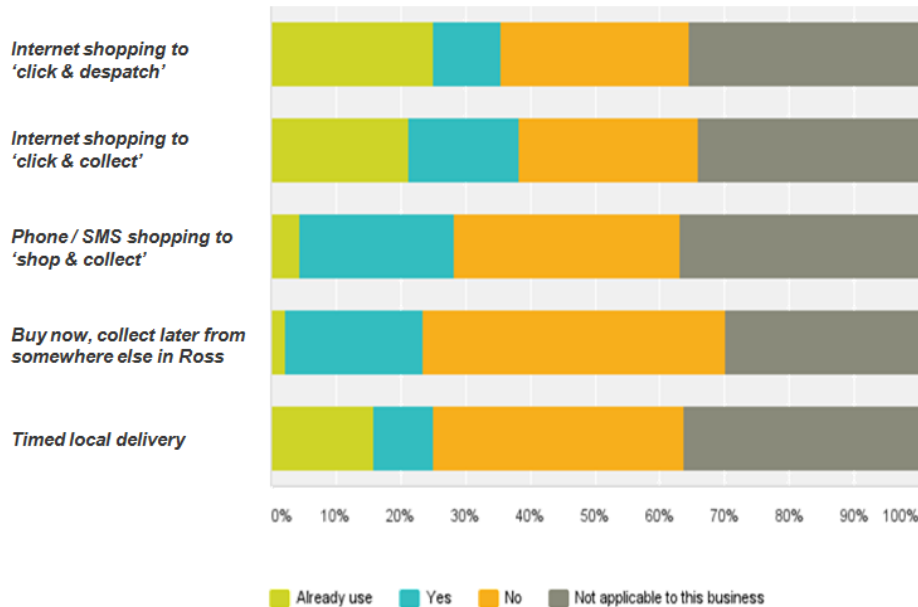
Household status in HR9 further illustrates the financial fragility of the area, despite which council tax charges are a little higher than the national average.



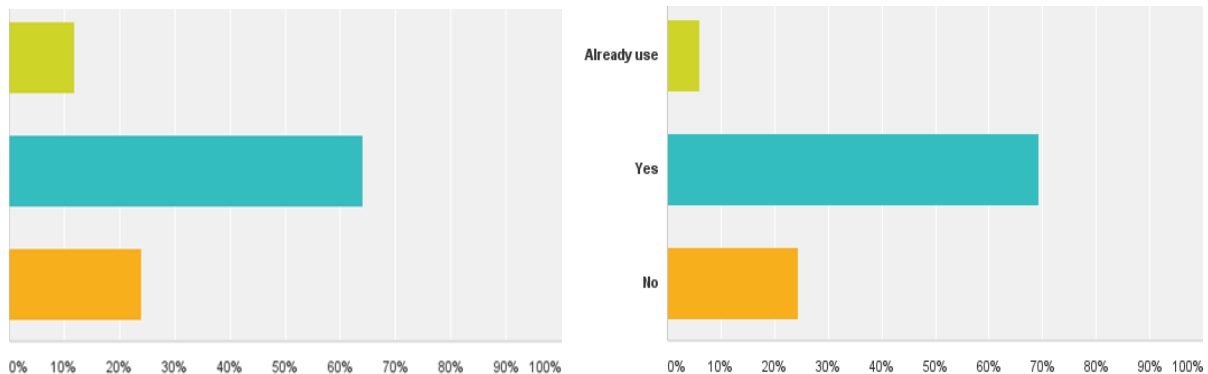
Business attitudes to e-enabled working

Of the businesses responding 59% said they would consider providing financial or other incentives for customers, together with other traders, that are designed to boost trade.

For e-commerce related matters the results were as follows:



Asked about information services they responded as follows:



The favoured information reporting means were fairly equally distributed with a slight preference sequence as follows: telephone, walk-in, internet and then text.

Consumer attitudes to e-enabled working

This section was deliberately divided into sub-sections to address different groups of consumers.

Use of internet shopping to 'click & collect'

Asked "Would you use internet shopping to 'click & collect' if town traders were to offer it?" 7% indicated they already used it (3:2 for in-town:out-of-town purchases), 57% would use it if offered, and 36% would not.

Amongst 38 free-text responses the 40 categorised indicated 15% with no understanding of the question, and 22% as dislike of the internet; whereas 41% indicated they used internet shopping now, and a further 19% would do so if the right conditions were present in town.

Use of phone shopping to collect later

Asked "Would you use phone shopping to 'shop & collect' if town traders were to offer it?" 2% indicated they already used it, 34% would use it if offered, and 64% would not.

Amongst 21 free-text responses the 21 categorised indicated 19% with no understanding of the question, and 24% as dislike (they seemed to think it involved the internet); whereas 19% indicated they used phone shopping now (3:1 for in-town:out-of-town purchases), and a further 36% would do so if the right conditions were present in town.

Use of personal shopping to collect later

Asked "Would you use a 'buy now, collect from elsewhere in Ross-on-Wye later' service if town traders were to offer it?" 1% indicated they already used it, 41% would use it if offered, and 58% would not.

Amongst 16 free-text responses the 19 categorised indicated 37% with no understanding of the question, and 16% as dislike (they seemed to think it involved the internet); whereas 19% indicated they such a service now, and a further 36% would do so if the right conditions were present in town.

Use of a timed local delivery service

Asked "Would you use timed local delivery if town traders were to offer it?" 1.5% indicated they already used it, 54% would use it if offered, and 44.5% would not.

Amongst 19 free-text responses the 27 categorised indicated 10% as dislike, whereas 10% indicated they such a service for out-of-town shopping now; a further 80% would do so in the town if the right conditions were present.

Use of a unified town information service

Asked "Would you use a unified town information service to find out about accommodation, outlets, services and promotions?" 6% of the 219 respondents indicated they already used something, 67% would use it if offered, and 27% would not.

Amongst 12 free-text responses the 17 categorised 12% indicated no understanding of the question, whereas 41% indicated they currently use 'old media'; a further 47% new media.

The favoured information gathering means are internet and walk-in, with phone and text both favoured less.

Use of a unified town service to report problems

Asked "Would you use a unified town information service to report problems with aspects of the town?" 2% of the 214 respondents indicated they already used something, 79% would use it if offered, and 19% would not.

There were only 4 free-text responses so no conclusions could safely be drawn from them. The favoured information reporting means are in order of preference; internet, walk-in, telephone and then text.

Annex 2: Play Ross

Rationale

The rTown project has identified that Ross-on-Wye, while historically a tourist destination, has in more recent years lost its bloom. Visitors are reporting that there is not enough going on in the town to sustain more than a fleeting visit. The town is also looking very tired, and is in desperate need of a facelift. Ross needs to develop more tourist friendly 'content', and to present itself as a vibrant place to visit.

This is why we are putting forward our suggestions to revitalise the centre and introduce new ideas that would put Ross back in the picture as a unique part of any tour of the Wye Valley. These plans focus on the idea of making Ross a place where you know that you can come and enjoy yourself, while soaking up its history. To that end we want Ross to become a 'Playable Town'.



Photo: Luke Jerram

The concept of a 'Playable City' - a phrase coined by The Bristol Watershed - is being developed by various cities around the world^{xxvi}. The idea is to incorporate a playful side to the development of smart city technology. This is our aim with the Play Ross project.

We want to piggyback additional layers of tourist information, entertainment, and downright playfulness onto the iBeacons and other

technologies which are proposed around Ross town centre as part of the rTown project.

The overall image we want to create is that of a 'Playful Museum/Theme Park' where visitors enjoy taking part in an ongoing game/tour. The main game, or series of games, would be available all year, with an occasional large event, such as a Streetgames Day, or a major attraction such as the Bristol 'Park & Slide'^{xxvii} event. There should also be weekly street theatre or musical performance in the town centre.

Play the game

The game / games, are yet to be devised. If the rTown project proceeded to the next level, we would aim to create them, in conjunction with experienced street games developers, already working in this area. We have already approached 'Pan Studio'^{xxviii}, who won the first ever Watershed Playable City award in 2013 for their 'Hello Lamp Post' game. We would involve PAN, or companies like Calvium^{xxix} on board to



help deliver our game.

Although yet to be devised, we do have certain objectives for our game.

Besides entertaining visitors, we would wish it to drive them around the main areas of the town. By this we mean all the main shopping areas, as well as going up to The Prospect, down to the riverside, and including other places of historical interest.

For this reason it is imagined the game would have some of the qualities of a round of golf, where players follow a course, encounter interesting obstacles, and gain points for good play. Within that overall concept, smaller objectives could be incorporated, with some elements altering, depending on the way a player tackles the course. Results would also be influenced by the interaction between players. Thus the game would be different each time you played. This concept also allows the game to evolve once it is up and running.

Players install apps on their mobile devices, allowing the game to be played. These guide them round the town, using GPS, and picking up content from iBeacons. QR codes would add other layers of info or intrigue.

There could also be clues and information displayed in print. Other Apps would allow an exchange of points between players, give you bonus points, fine and deduct points, and keep track of the score.

'Find Me' bluetooth tiles could be regularly moved around the town, interacting with your apps. Points would be gained in various ways; some embedded in information, some earned, some randomly received.

Play-back

We would also incorporate aspects of Ross past, so that the town's history was peeled back in front of your eyes and merged into the game. Information would arrive as videos, audio, images from YouTube and other sites. Content received would be aimed at different age groups.

Horrible Ross



Like Horrible histories, with plenty of bad smells and disgusting behaviour, such as The plague, Medieval sewers, plus cute stuff like the Ross Hedgehog, aimed at younger visitors. (Ross has an annual 'Hedgehog Festival' in May each year). See here for one example of musical content - a song about the Black Death, that could be accessed while looking at the Plague Cross^{xxx}.

Beautiful Ross

Emphasising the cultural and tourist friendly aspects of the town, such as architecture, the picturesque tour, historical figures, local links to authors (Dennis Potter, Wordsworth, Dickens, CS Lewis).

Popular Ross

This will focus on recent history, such as music, film and TV. For instance bands that played at the 'Top Spot Ballroom' (now Jacqueline's) in the 60's (Pink Floyd, The Beatles, The Kinks), or films that were either made in the town and immediate area (e.g. Shadowlands), or shown at the Roxy cinema (now the Maltings), such as Star Wars and ET. See here for a link to Mott The Hoople, who were from Ross^{xxxi} -

Play on paper

It should be noted that we would offer a similar game experience, which could be played using just paper, with leaflets and printed displays around the town. So that visitors not wanting to use new technology would be able to take part. Pan Studios have also developed street games that do not rely on any technology, and we would incorporate ideas and games along these lines into our project^{xxxii}.

Playground

Although not included in our Play Ross proposal, we would also definitely back the rTown proposals to make part of Ross pedestrianised, which we feel would improve the quality of tourism in the town centre, as well as making it a much pleasanter place to shop and hang out. This would also tie into the staging of regular street theatre around the Market House area. I have spent 25 years performing street theatre across Europe, and can confirm that the most vibrant towns all have pedestrian areas which become spaces for relaxation, fun, and shopping. Last years performance by 'The Spurring Man' on the Rope Walk, as part of the Riverside festival, also proved that there is a hunger for, and a desire to see more, cutting edge street performance around Ross.

In fact, we don't think the current proposal goes far enough. Besides pedestrianising the road down from the Market House, we feel the area under the Market House is currently much underused. It does house stalls on market days, for the sale of books and socks, but the rest of the time it is vacant. It could be used regularly, twice a week or more, perhaps Sundays and Wednesdays, to run undercover events. These could be Musical performances, Art exhibitions, Silent Discos or street entertainment. With the Courtyard Theatre now perhaps becoming involved, this may become a reality anyway.

The regular market should be encouraged to expand along the High Street. With the High Street being closed to traffic on market days one way to kick start larger markets would be to hold a 'street theatre market', where street theatre companies create and run their own pretend market stalls.



The theatre group 'Desperate Men' have a great stall selling spoof 'Bears Milk Cheese' for example, and my company Actfunny have a show called 'The Car Boot Sale' trying to sell rubbish for thousands of pounds. Other performers would be encouraged to add stalls, and these could be interspersed with regular and real stalls.

The several 'dark shops' around the town should also be part of this.

More ambitiously, The Crofts Court needs a makeover. It could have a large awning stretched over it, like a mini millennium dome cover. Or better still it could have a large geodesic dome over it, with palm trees planted inside. This would allow it to host more regular events like craft markets, daytime 'tea dances' and silent discos and as well as being on the Games/history route. Other areas already under cover, such as The Maltings or Jacqueline's night club could become daytime dance venues. We would also seek to link the sports and leisure centres to this.

Budget

If the rTown bid is successful, the Play Ross project would apply to the Arts Council England to match any Innovate UK funding. Currently it is estimated that a budget of between £30 - £50 thousand pounds would be available from the rTown project, with the aim of matching that from Arts Council or other grants. We anticipate starting to apply for Arts Council assistance early in 2015, before the Innovate UK results are known, and before any development of our ideas are started.

Most of the cost of hardware needed to create the game would be funded from the main rTown budget, since we would be piggybacking our games on technology already being proposed for rTown. Only the cost of apps, websites, software and actual game development would come from the Play Ross budget.

Having talked to Pan Studios about the cost of creating 'Hello Lamp Post' for the Bristol Playable City, it is felt that we are in the right ballpark with our costing estimate. This game cost about £30,000 to create and deliver. So if we assume that our project will be perhaps 3 times as large, but that some costs will come out of other budgets, we could roughly estimate that a budget of £60 - £80 thousand would allow our project to be delivered.

There would of course be ongoing running costs for our game, we would want to look at ways we could 'work the game' to help with these running costs.

Play hub

Although not essential for our proposal, we feel that the town needs a dedicated Tourist Information office, which is in the centre of the town and very visible. Suggested venues for this are various shops at present vacant, such as the premises at 34 High Street, or the old book shop at the entrance to The Crofts. Other premises may become available.

This permanent space would also act as a Hub for the game, providing technical backup for players. Latest interactive and augmented reality technology, such as Google Glass, could be available to hire from this outlet. It should also offer a cyber cafe. Audio Guide Headphones and leaflets could also give information in a less technical / intimidating way for those not ready to embrace newer technologies.

Note on the author of this annex

William Wilding, who put this Annex together for rTown, has a history of creating playful street entertainment and larger shows. He graduated from Wimbledon School of Art in 1980, where he studied performance art. He spent 15 years performing in Stand Up comedy clubs, and 20 years running his own street theatre company 'dotComedy', before starting 'Actfunny', which specialises in small, walkabout street theatre. He has created small, fun sized shows and much larger installations and shows, such as an open top comedy bus tour of Newcastle, and a giant movable maze called 'Get Lost'^{xxxiii}, which he helped devise and created in 2005, with the aid of an Arts Council grant. Besides still performing and devising entertainment, he currently runs a self catering holiday cottage outside Ross, and regularly talks to tourist guests about their experiences of Ross and the surrounding area.



Annex 3: Ross-on-Wye WiFi / Bluetooth signal cover

Introduction

For about ten years Ross has had access to a public, freely to access WiFi network.

Understanding is that it was commissioned by or on behalf of the Town Council, was project managed and installed by a university (now unknown) and that the server was provided by Wyenet Ltd. at its premises in St Mary Street.

The network still exists and is powered but, due to a lapse of contract and for technical reasons, there is no longer a connection to the internet through the Wyenet server.

Vision

The rTown vision is that the area enclosed by the red line in the sketch map (Figure 1, below) should be provided by WiFi and/or iBeacon (Bluetooth LE) coverage so that consumers and tourists should have quick and easy access to parking (see the WP3 report), retail, accommodation and tourist trail information.

Because the areas of interest and target tourist engagement, are greater than just the town centre, the area enclosed by the amber line would ideally be covered by WiFi and/or iBeacon signal.

Further, if the proposals for parking management made in the WP3 Report are taken forward at some stage then the parking route advance signs (A) and the parking route real-time information signs (D) on the following map should be linked, and have communication transmit/receive capability with, the same network.

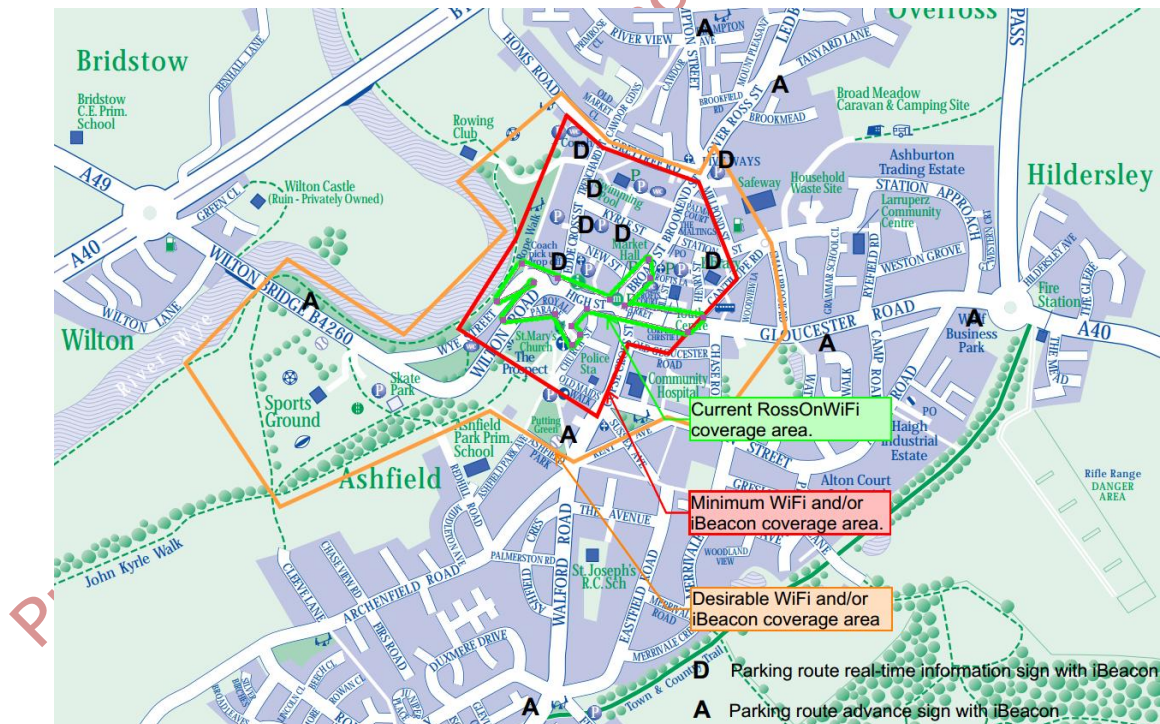


Figure 1: Wireless communication coverage requirements

Current provision

Survey

A secondary survey of RossOnWiFi coverage was made on 2015-01-28; the results are shown in (Figure 2, below) and the access point locations marked with green fill if the MAC-address was available, and as outline only if only the SSID was available.

Access point characteristics

The eight mapped broadcasting APs have been identified and a visual search was made to for equipment that might be faulty, and not broadcasting. No further APs were identified.

All access points (APs) identified are mounted on the poles or brackets of street lamps, on which they are presumably dependent for power¹.

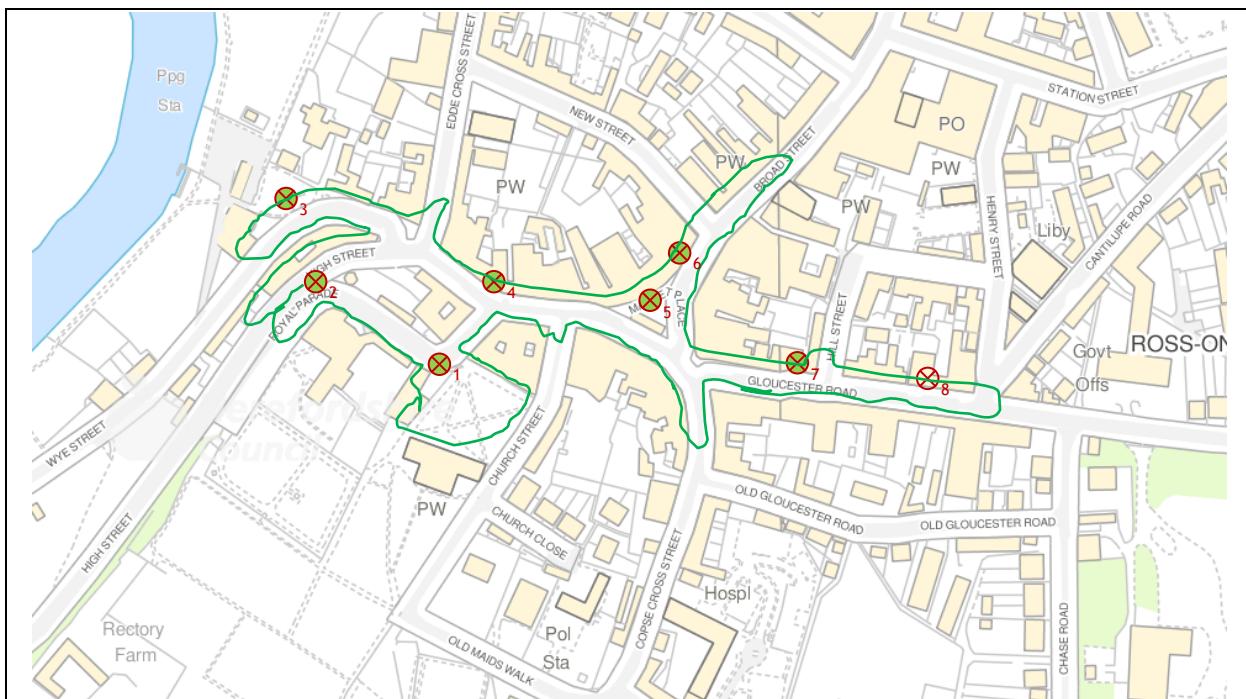


Figure 2: RossonWiFi Access Point locations

Incident weather made it impossible to note the MAC addresses of the broadcasting APs, but a future survey using the same (Android WiFi Analyzer) or similar app would enable those details, together with channel and signal strength patterns to be noted.

Coverage within the streets is approximately as shown with reasonable (-45dB) signal strength being available when within a five or so metres of an AP. The signal decay over distance was predictable, but the value for WiFi communication purposes might be more complex due to the very large number of competing signals that appear and disappear across the coverage area.

The table overleaf has been prepared for noting the technical characteristics of each AP.

¹ The Ross Depot manager for Balfour Beatty living Places (BBLP), Andy Darks andy.darks@BBLivingPlaces.com, is responsible for Street lighting and was unaware of this provision but understood the need for it and will try to ensure that the current and, if possible, future needs are accommodated during the upgrade programme to LED luminaries.

Table 1: Existing Access Points - technical characteristics

Access point ID	MAC addresses	Channels	Notes
1.	Not yet obtained	Not yet obtained	
2.	Not yet obtained	Not yet obtained	
3.	Not yet obtained	Not yet obtained	
4.	Not yet obtained	Not yet obtained	
5.	Not yet obtained	Not yet obtained	
6.	Not yet obtained	Not yet obtained	
7.	Not yet obtained	Not yet obtained	
8.	Not yet obtained	Not yet obtained	

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References and useful links

To be completed

- i <http://www.rosstc-herefordshire.gov.uk/index.php>
- ii <http://www.enviroability.org.uk/>
- iii <http://www.charitylog.co.uk/>
- iv <http://www.collectplus.co.uk/>
- v <http://www.lowimpact.org/lowimpactlinks/linkselectricvehicles/>
- vi <http://www.cyclesmaximus.com/>
- vii <http://www.herefordpedicabs.com/>
- viii <http://www.lowimpact.org/lowimpactlinks/linkselectricvehicles/>
- ix <http://www.cyclesmaximus.com/>
- x <http://www.herefordpedicabs.com/>
- xi <http://visitherefordshire.co.uk/>
- xii <http://www.hereyoucan.co.uk/>
- xiii <http://www.mertonhouse.org/>
- xiv <http://www.streetwisesystems.com/>
- xv <http://photoroute.com/>
- xvi <http://www.open.ac.uk/blogs/salsa/>
- xvii <http://www.maseltov.eu/>
- xviii <http://www.bbc.co.uk/news/technology-29913637> – we have had discussions to ensure that this could be integrated with other aspects of our software, but at present it is mediated through only one phone operating system - a situation that is not likely to change with this specific developer
- xix <http://www.poppinsproject.co.uk/>
- xx <http://www.associationofrosstraders.co.uk/>
- xxi <http://www.bira.co.uk/>
- xxii <http://www.bira.co.uk/myhighst/myhigh-st>
- xxiii BBC WM report: <https://www.facebook.com/video.php?v=10152926937784761>
- xxiv <http://factsandfigures.herefordshire.gov.uk/1922.aspx>
- xxv <http://www.caci.co.uk/>
- xxvi Playable Cities - Bristol is fast becoming the world's first Playable City. The Watershed (who coined the phase) in Bristol are behind many projects involving Playable Cities, and set up an annual award, which was won in 2013 by Pan Studio - see below. Other cities such as Dublin are also working towards this.
- xxvii Park And Slide - A major event in Bristol in 2013, which attracted massive crowds. Go here - <http://player.vimeo.com/video/93914669> for a film of this event and here <http://www.lukejerram.com> for details of its creator, Luke Jerram, who creates all kinds of artworks and events, which get installed around the world.
- xxviii Pan Studios - Pan Studio won the first ever Watershed award in 2013 for a playable city game with their 'Hello Lamp Post' game. They are also currently working on other games, along similar lines to those we would hope to develop with them for Ross. See here - <http://player.vimeo.com/video/67889287> - for a video of Hello Lamp Post, and here - <https://www.kickstarter.com/projects/panstudio/run-an-empire-the-real-world-territory-control-gam> for details of their latest game 'Run An Empire'.
- xxix Calvium have been working on GPS apps since 2004, their 'AppTrails' help make street stories, sound walks, audio walks and guides. See here for a film about an AppTrail Calvium made for Kings Cross Station: <http://youtu.be/ONFgOYWYSg>
- xxx <http://youtu.be/rZy6XilXDZQ>
- xxxi <http://youtu.be/yKmvTcSzcE8>
- xxxii Pan Studios have also developed many games which can be played without any technology. These work by having printed instructions at various sites (or instructions on paper leaflets). The rules are always made as simple as possible, so that games can be played immediately, without the need to learn complex conditions.
- xxxiii <http://youtu.be/p2e9CLKPhg>