

Background Notes for the EDCL Smarter Cities Review

Useful Definitions

Wiki - *"The goal of building a smart city is to improve quality of life by using technology to improve the efficiency of services and meet residents' needs. ICT allows city officials to interact directly with the community and the city infrastructure and to monitor what is happening in the city, how the city is evolving, and how to enable a better quality of life."*

IBM - "Smarter cities of all sizes are capitalizing on new technologies and insights to transform their systems, operations and service delivery."

Distinction between Smart city/Future city solutions

- Future city solutions are innovative physical projects which are often but not exclusively associated with low carbon economies.
- Smart city solutions apply digital technologies to address social, environmental and economic goals. Smart city solutions can combine physical and digital infrastructure or can be based on digital infrastructure alone.

The Internet of Things (IoT) it's about connecting devices over the internet, letting them talk to us, applications, and each other, e.g. a smart fridge texting you if its internal cameras saw there was no milk left or was out of date. In Britain its most common use is home heating and monitoring of energy use via smart meters - functions can regulate timings and temperatures via owners' smartphones. On a larger scale examples include connected traffic signals that monitor utility use, or smart bins that signal when they need to be emptied. The government is encouraging energy companies to hand out smart meters to encourage monitoring and thereby less energy consumption. However security and privacy are the biggest challenges for IoT with all these devices and systems collect a lot of personal data about people, e.g. the smart meter knows when you're home and what electronics you use when you're there.

Intelligent Transport Systems (ITS) are a key component of Smart Transport solutions. ITS solutions range from roadside devices, such as vehicle detection, to passenger carrying devices such as smartcards. In a 'systems environment' they can range from fleet management systems to integrated real-time management systems.

Intelligent transport systems bring greater control and automation to road networks. They can be used to ease congestion and reduce carbon emissions and allow for more effective responses to planned to unplanned incidents.

Examples of advances in technological interaction with residents

Assisted living technologies these can help residents to live independently for longer, increasing their quality of life and reducing the burden on core health and social care services such as hospitals and formal care homes

(N.B. a previous HSC Scrutiny Panel report examined Telecare & Telehealth)

Use of 'Apps': There is potential to engage the public in better public realm management, especially around waste. The Love Clean **London** initiative uses mobile phone and 'apps' technology to enable members of the public to report environmental quality issues such as graffiti vermin, poor waste storage and fly-tipping to their local authority. Users can send a text, upload photographs online or use a free mobile phone application to submit reports to their local authority. Reports are shown on an online interactive map, which allows local authorities to prioritise clean-up operations where most needed, helping to maintain a clean and pleasant public realm environment for the community. It also enables photographs to be displayed to show where clean-ups have taken place and the results of the action taken.

'My Portsmouth App'

PCC launched this on Friday 5 February 2016 to help keep the city clean, safe and tidy. The website advertises that:

"by downloading the free My Portsmouth app, people who live in, work in and visit the city will be able to report issues to us quickly and easily, so we can get them sorted.

If you download the app - or use the app available on all the new council smartphones - and report any issues you find, you can help us keep the city clean, safe and tidy.

Through the app, you can report problems including dumped rubbish, broken streetlights, abandoned trollies, graffiti, blocked drains, abandoned cars, and you can take a picture of the problem and show us where to find it on a map. You can also use the app to check when your next recycling collection will be, or to keep up with the latest council news."

Examples of Work Undertaken at other Local Authorities

Southampton City Council's Smart Cities Card

SCC's website explains:

"The SmartCities card is a multifunctional card that allows you to access a number of different services in Southampton. It can be your bus pass, a library card, a leisure card or as a card to pay the toll on the Itchen Bridge.

Anyone can apply for a Smartcities card, although to apply for the Get Active subscription or the Concessionary Bus Pass, you will need to be a resident of Southampton City Council."

Belfast & IBM Smarter Cities Challenge - 2013¹

The Smarter Cities Challenge was set up as a philanthropic initiative by IBM to offer their expertise to address major challenges facing cities around the world. IBM teams work with local leaders to deliver recommendations on how to make cities smarter and more effective.

Belfast participated in such a challenge in September 2013. A team of six IBM experts travelled to the city to consider more effective approaches to tackling the persistent issues of deprivation and health inequalities.

They carried out extensive interviews with councillors, community organisations, academics, community leaders and services providers – particularly those who try to tackle deprivation and health inequalities in parts of west and east Belfast.

The findings included that there was a strong sense that the city needs thinking on smart governance and decision-making.

The team's final recommendations sought to address the fundamental issue of how Belfast's organisations can work together in 'smarter' ways to tackle persistent, complex social problems:

- Create a collaborative planning environment: The city should put in place a Community Planning framework and a shared structure for better community engagement.

¹ Belfast City Council website information

<http://www.belfastcity.gov.uk/community/IBM-smarter-cities-challenge.aspx>

- Define an evidence-based decision-making: Belfast needs to develop a planning culture based on outcomes that allows partners to make decisions based on objective data.
- If organisations measure success using standard approaches then it becomes easier for partners to find out if their interventions are actually making a difference to people's lives.
- Technology: The city should put in place suitable software systems to makes it easier for partners (and citizens) to engage and to gather and compare results; to support decision making; and to capture and manage information over time.

The full report has made a significant contribution to the council's thinking on the future governance of the city.

- Visit the [IBM Smarter Cities website](#)

Following on from the study the steps identified up to 2015 included:

1. Build an inclusive approach to Community Planning: Working from a number of the IBM recommendations we are planning how we can design an approach to Community Planning in the city that involves our residents and seeks to use the contribution of our partners in more effective ways.
2. Develop a common way to measure our work: We are proposing to work with our partners in government and elsewhere to develop standard, objective ways to measure the impact of our work.
3. Develop a system to manage impact data: This is often an expensive option. As a first step we're proposing that we begin with a modest pilot project to adapt one of our own in-house data management systems for this purpose. This would allow us to begin to manage and share evaluation data in preparation for community planning.
4. Data analysis and decision-making: We want to enhance our in-house analytical skills to support decision-making particularly with the use of neighbourhood data. We want to work with our councillors and our partners to consider how this data can support decisions.
5. Urban data reference group: We will bring together people from a number of organisations and agencies to support the data requirements for Community Planning.

Ipswich BC - 2012

In July 2012 Ipswich was one of 30 successful UK cities to secure a relatively small amount of Technology Strategy Board (TSB) funding to run a Future Cities feasibility study. The following information is taken from a report to Ipswich Borough Council which set out the findings of that study².

Those cities that won through the first round of the competition were also able to submit a bid for a £24m TSB grant to run a full future cities demonstrator project.

The £22m '**Travel Ipswich**' transport is an integrated scheme designed to deliver a step change in travel behaviour. It addresses smart traffic management, real time passenger information and e-ticketing. It directly links into the existing £1m Walk Ipswich and Fresh Ways to Work projects. Spare capacity on a fibre ring being installed as part of the Travel Ipswich project will be utilised as part of the WiFi roll out.

Suffolk County Council's Better Broadband Project Board oversaw a £23m public sector investment in superfast broadband over the three years (from 2012). This included around 8% of Ipswich premises not already covered by BT and Virgin Media roll out plans. As part of the broadband plans a smart technology demonstrator was to be opened to the public.

The central booking system on the council's sports centres was also updated in 2013, as one of the first full system integration opportunities.

One of the aims of Smart Ipswich was **accessibility** to all, with special attention placed on those who may find new technology daunting, such as the elderly, and consideration given to culture, language, abilities, skills and interests.

Their vision was, that by 2020, Ipswich will have proven itself as the UK's first 'smart, small city'.

Bristol is Open

Bristol Is Open³ is a joint venture between the University of Bristol and Bristol City Council. It is funded by the local, national and European governments, with academic research funding, and by the private sector. It is delivering research and development initiatives that contribute to the development of a smart city and the 'Internet of Things'.

Small sensors, including the smart phones and GPS devices of willing participants, will supply the three new fast networks in the centre of Bristol, with information about many aspects of city life, including energy, air quality and traffic flows. A city operating system will dynamically host this machine-to-machine communication, allowing the development of a wide range of applications.

² Report to Ipswich Borough Council by Chris Tuppen of Smart Anglia and visiting professor of smart technologies at the University Campus Suffolk

³ The website is www.bristolisopen.com

Nesta (an innovation charity) reports:

"'Smart cities' offer sensors, 'big data' and advanced computing as answers to these challenges, but they have often faced criticism for being too concerned with hardware rather than with people.⁴

For smart cities to reach their full potential, they need to focus on the citizens living in them, not just technology.

Traditionally, smart cities have emphasised hardware - the internet of things, 'big data' and advanced computing - over the needs of people and the challenges they face living in cities. They have also emphasised marketing and promotion at the expense of hard evidence and testing solutions out in the real world. As a result, many smart city ideas have failed to deliver on their promise, combining high costs and low returns.

Our new report Rethinking smart cities from the ground up, explores how many city governments are now trying to put this right, to reap the full potential of new digital technologies while not repeating the mistakes of the past. They are looking for answers that involve the public in both shaping technologies and implementing them; solutions that are cheaper and more modular; and they are seeking out evidence instead of hype."

⁴ See more at: <http://www.nesta.org.uk/publications/rethinking-smart-cities-ground#sthash.TqKxyiFu.dpuf>