11 "Smart Cities in the UK?"

David EVANS, MPhil MA MCP MBILD
JME Associates Ltd, UK

The phrase 'smart cities' has been adopted over the past decade by a number of large companies that understand technology - Cisco, IBM, Siemens - for the application of complex information systems to running urban infrastructure and services such as transportation, utilities, waste management and public safety. Indeed, IBM has copyrighted the variation, 'smarter cities'. The term is also used by politicians and their publicists to describe things they don't understand, but which sound suitably futuristic and technical. It's been used alongside, and confused with many similar terms. Some of these terms are a bit more specific - sustainable, for example leans towards the ecological; networked implies connections between the specific cities involved. And as Komninios (2006) notes, "All intelligent cities are digital cities, but all digital cities are not intelligent."

In this presentation, I plan to look critically at the smartness claims of a few cities in the UK, and also at the notion of smart cities itself, and highlight some of the reasons for the question mark. In summary, I don't think many cities in the UK are that smart, or that people would really want them to be "smart" in the sense that the term usually implies. They might however be happier with different kinds of smartness.

Some of the first cities involved in current EU projects were long term twins, under arrangements that begun in the middle of the last century. Birmingham, for example, was a founder member of the Eurocities network with twin partners Frankfurt and Lyon in 1986, with the aim simply of putting the issue of cities and their economic, political and social development onto the European agenda. This network now includes 135 European cities from 34 different countries. EUROCITIES works along three complementary strands of activities - networking, to develop contacts with colleagues in other European cities; influencing, strengthening the role of cities in European decision-making, and visibility, providing a European platform to city politicians.

Eurocities has now been joined by many other groupings - some of them long term, and some established simply for the duration of a particular project. The UK government, coming somewhat late to the party established a Future Cities grouping in 2013 group under the Department for Business which set up a bizarrely named Future Cities Catapult, to provide funding, spread best practice and support cities in their efforts to implement various pilot projects. The bulk of this funding (£33m) was awarded to Glasgow, although other projects are underway in Bristol, Milton Keynes and Peterborough. The Department of Culture Media and Sport is also committed to providing superfast broadband to twenty or so Super Connected Cities, and the Department of Transport plans to establish open standards for Intelligent Transport Systems.

The UK is not generally regarded internationally as a leader in Smart Cities. For example, a recent league table of Top Smart Cities had London at number 2, but no other UK cities in the Top 10. Other European countries are probably further ahead, with Spain, France, Germany and Italy all making steady progress with greater public

backing. Looking further afield, the US, Japan, Singapore, Australia and South Korea are all promoting and investing in Smarter Cities with encouraging results.

In a recent presentation about New York's Plans, Mayor Bloomberg stated that his team drew on the experiences of Berlin for renewable energy and green-roof policies: from Hong Kong, Shanghai and Delhi for rail systems; from Copenhagen for pedestrian and cycling upgrades: from Bogota for buses; and from Los Angeles and Chicago for plans to plant a million trees. Nothing from the UK.

To understand why, it's probably useful to have a brief look back at the history of city governance in the UK, and to highlight some of the significant differences with other parts of Europe.

19th century urban expansion, especially in the North of England was accomplished largely through the foresight of wealthy local industrialists – men like Joseph Chamberlain in Birmingham.   As mayor, Chamberlain forcibly purchased Birmingham's squabbling utilities companies on behalf of the borough declaring that, "we have not the slightest intention of making profit - we shall get our profit indirectly in the comfort of the town and in the health of the inhabitants". Partly inspired by Haussmann's work in Paris, Chamberlain also built new streets and rehoused the poor, and directed both public and private money was to the development of libraries, municipal swimming pools and schools. Chamberlain was also responsible for the creation of Birmingham University, and the clock tower in the centre is named after him

However, control of new functions was in the hands of a plethora of different bodies - school boards, boards of guardians, local boards of health, and antiquated posts such as sheriffs and lord lieutenants alongside more contemporary creations such as town clerks. The 1888 Local Government Act created a slightly more coherent system based on the old counties, many of which had existed in various forms for hundreds of years, although towns of over 75,000 were designated county boroughs, with certain functions devolved. As newer towns grew while older ones declined, this became increasingly unworkable through the 20th century. A series of reforms in the 1970s led to new tiers and layers, many of which proved worse than what had gone before, and others which were abolished or merged for ideological reasons - most notably the Greater London Council, dissolved by Thatcher in 1984. More importantly, their powers to raise and spend money independently of central government were severely curtailed. The key point arising from this is that at a time when cities in the UK were supposed to be becoming smarter, many had no base on which to do so. The mantra of the 1980s was always that civic government was backward, based on restrictive practices, prone to wasteful profligacy and in hock to trade unions. Both nationally and locally, many of the functions that now form part of smart city initiatives - transport, utilities, power, telephony - were removed from any kind of local democratic control, and such local planning control as remained was starved of the resources it needed.

A New York mayor has discretion over seven local revenue streams (including income tax). Central grants cover just 33% of local spending in New York, 25% Berlin and a mere 17% in Paris. The equivalent figure for English cities is a humiliating 95%. The Council Tax, the main source of local revenue is based on house price valuations which have remained unchanged for over 20 years, while prices have

increased by over 500%. Local government can only increase revenue in minor areas like car parking charges and speed cameras. It surprises many people to realise that few UK cities actually have executive Mayors – currently just London, Bristol and Doncaster, although there are plans for one in Greater Manchester. Many more have Lord Mayors. London has both. Some have Dukes or Earls, which are not quite the same thing, although the Duke of Westminster, one of the richest men in the country, owns a substantial part of the centre of London.

Local public transport is a prime example of regulatory and financial impotence. Transport laws in the 1980s completely deregulated all local bus services except London. Since 1986 anyone has been able to operate a bus service, with no restrictions on timetables and fares, and minimal technical requirements. There is not even an obligation to inform local authorities or local users of the timetable or the fares. Local authorities were expressively forbidden to introduce any integrated ticketing scheme without consent of all private operators, and any such scheme had to be operated largely in the interest of the private operators.

As Thatcher put it, "Any man who rides a bus to work after the age of thirty can count himself a failure in life".   In Tyne and Wear, around Newcastle, the light rail-tram system, which was held up as a model for Britain in the early 1980s with cross-ticketing between buses and trams was broken up and privatised. It is now cheaper to use the bus than the metro so the services are forced into pointless competition. This same approach is reflected in ticket pricing and availability - simple flat rate fares which are common in many European cities are rare in the UK, with its obsession with stages and fares measured by distance.

During the 1990s, the problem of local transportation was complemented by rail privatisation, where the national operator, British Rail was broken up into one company that managed the tracks, and others that provided the services. The resulting chaos has led to the most expensive fares in Europe and a patchwork of provision which varies wildly across the country. Anyone who has travelled through New St Station in Birmingham at the heart of the network will have experienced announcements such as "passengers waiting for the train on platform 2 are advised that this service is now ready to depart from platform 11". The comparison with the seamlessly integrated services in cities like Berlin is depressing.

With this background in mind, what have UK cities achieved in the way of smartness, and what more can they hope to achieve over the next few years?

London, the capital, claims to be a smart city but its remit seems narrowly focussed on IT specific projects which, while important, do not approach the breadth of some of the definitions of what a smart city is supposed to be about. There is some superficially impressive work with open data, and social media enabled traffic management, but no real evidence that this is more than a gimmick. On transport, one of the first acts of the current Mayor was to reduce the restrictions on private cars and create so-called cycle superhighways which fizzled out in areas of densest traffic. That is now being replaced by proposals for the kind of segregated cycle lanes that exist in the Netherlands and many other European cities, but to fierce protests from many business interests. And the lack of any control over the price or availability of housing, the increasing number of empty buildings owned by Russian and Middle Eastern oligarchs and the skyline resembling "a   bizarre set of sex toys poking

gormlessly into the air" suggests anything but smartness. A reminder - just 5% of the taxes paid by Londoners is spent by locally elected bodies. The rest goes straight to the Treasury.

Birmingham was one of the first cities in the UK to get its own Act of Parliament (in 1854) to allow the Authority permission to acquire land to create public parks, and today it has ambitions to deliver a 60% reduction in carbon emission over the next ten years. The Birmingham Smart City Commission and Digital Birmingham which include key players from Birmingham's economic and academic community and third sector leaders aim to share as much data as possible in three areas – technology and place (connectivity, infrastructure, embedding digital principles into city planning); people (digital inclusion, skills, employment, building smart communities); and economy (health and wellbeing, energy efficiency, smart payments). However, lack of funding means that the new city library, opened to great acclaim last year is now reduced to nine to five opening on weekdays only. There is talk of a £8 million a citywide Wi-Fi network allowing more efficient traffic management. Transport spending in London at £644 per head is more than four times that in the West Midlands, and local public transport in the Birmingham area is woefully unintegrated. Plans to link the main Birmingham railway stations by tram are only now beginning to take shape – but Birmingham still seems like one of Richard Weller's cities that the cars built when we weren't looking (2013).

Manchester is undertaking a number of initiatives to encourage its development as a "smart city" and is a partner in a number of European projects with other significantly smarter cities such as Helsinki, Barcelona, Amsterdam, Ghent, Bologna and Cologne. The Manchester Digital Development Agency is involved in number of European projects and supports a "Go ON Manchester" campaign to develop "digital champions" - and again, there are plans for an open public Wi-Fi network to enable better connectivity.
More importantly however in the light of the UK's record on local governance, Manchester has just received a sudden and unprecedented derogation of power from Whitehall under a scheme known as devoManc. The surprise offer from the government last year, stung by worries around the Scottish referendum was open to "any city that wants to move to a new model of city government – and have an elected mayor". The new mayor will not be accountable to an elected assembly, like in London – instead, he or she would answer to the ten leaders of neighbouring authorities directly, sitting as a cabinet, and health care has now also been added to the mix. The Department for Transport however flatly opposed Manchester's desire to regulate local bus companies, having only recently deregulated them.

Of all the UK's putative smart cities however, Bristol perhaps comes closest to the European model. Bristol City Council owns and manages a £9 million city fibre network, 'Gigabit Bristol', created by the University of Bristol from an old cable television network – which the council bought for small change and which, thanks to the addition of new superfast fibre, can support colossal data speeds of terabits per second. The project likes to compare itself to the work of the great Victorian engineer Joseph Bazalgette - when he replaced the drains and sewers in London, he built far more capacity than a city of that size needed at that point, on the basis that it was the over-specification that allowed London to grow. The city's new fibre optic network is intended to form the basis of a giant open source operating system that can learn from its citizens, while they, in turn, can use it to "customise their environment." For

example, Sphere (Sensor Platform for Healthcare in a Residential Environment) will see some homes fitted with sophisticated monitors that can work out how effectively people prepare meals, whether they eat in front of their TV, and how quickly they walk upstairs.

The elected Mayor of Bristol, George Ferguson is a one of very few UK urban leaders who really understand and promotes technology, with aspirations for Bristol to become the UK's most creative, smart, green and connected city. It is currently the only place in the UK to be funded both as a Super Connected City and a Future City Demonstrator, and in 2015 Bristol is European Green Capital.

However, standing back a bit from these utopian visions, it's instructive to look back a few years to where did the idea of the Smart City in its current form actually came from. Quite apart from its other effects on economic and political life, the banking crisis that began with the collapse of Lehmann Brothers in September 2008 led to a dramatic drop in corporate IT spending, prompting companies such as IBM, Cisco and Siemens to repurpose the technology designed to run multinational corporations and try to sell it to local government (Townsend 2014). At the same time, Apple launched the iPhone.

The American urban writer Adam Greenfield (2011) criticises the belief that "the smart city" can simply be a turnkey installation – a collection of technologies that can provide accurate knowledge of all the needs of its citizens and be able to meet them perfectly. The rhetoric, vision, and reality of these corporate schemes is based on an alarming disregard for both history and actual knowledge about how cities really function. It leads to bizarre notions like defensive architecture, and in the UK, the omnipresence of CCTV. Indeed, part of the reason of London's surprisingly high positions in some smart city league tables is probably due to the quantity of big data that CCTV produces. Conversely, cities from Berlin eastwards are far more wary of constant and omnipresent surveillance, remembering only too well how these technologies were used by the Stasi or the Securitate in the comparatively recent past. (MacGregor 2014)

A city consists of real people moving through real environments, using everything from their feet to bicycles to cars and trains. As the sociologist Richard Sennett says, "We are very odd snooker balls whose colour and shape change constantly in contact with other balls." (Sennett, 2015). Is a student updating her Facebook status on her iPhone in the street, a tourist checking a restaurant on TripAdvisor, or a traveller ordering a taxi through Uber part of the smart city infrastructure? The sales pitch of smart city solutions salespeople assumes that everything people do, " whether in public or in spaces and settings formerly thought of as private — can be sensed accurately, raised to the network without loss, and submitted to the consideration of some system capable of interpreting it appropriately. And furthermore, that all of these efforts can somehow, by means unspecified, avoid being skewed by the entropy, error and contingency that mark everything else that transpires inside history." (Greenfield, 2011).

According to Sennett, part of the problem is because too many urban forms are designed for single functions and can't be easily adapted when they outlive their original purpose. High streets are abandoned in favour of shopping malls, which are in turn abandoned for even larger out of town malls – which in turn are now falling into disrepair. But while speaking the language of freedom, political and economic elites effectively manipulate closed bureaucratic systems for maximum private gain. Those who complain most about zoning restrictions are those who stand to gain the most, and almost certainly do not live in the areas they are proposing to change.

Against this kind of over determination inspired by the early twentieth century French architect Le Corbusier, the approach of town planners such as Jane Jacobs suggested that urban life should be dense, diverse and dissonant. Sennett proposes three ways the open city should develop - ambiguous edges (porous membranes rather than solid walls), incomplete forms (to allow people themselves to determine the functions of urban space) and unresolved narrative, as real life rarely follows a script. As the American poet William Empson wrote in a throwaway line, "the arts result from overcrowding" - people mix at the margins, they collude, gossip and innovate.

So what should a really smart city look like? We need to hear more about examples of public sector innovation, as Western culture is immured in propaganda suggesting that public sector is slow, big, cumbersome and entirely devoid of innovation. An employee from a 19th century city council would recognise much of what they saw in a 2015 city council office, although they might wonder about the flickering screens on everyone's desks. But bureaucracies have rarely managed to scale empathy and engagement, and often seem unable to turn strategy into a real civic culture.

In Helsinki, Ravintolapäivä (Restaurant Day – http://www.restaurantday.org) started in 2011 with hundreds of diverse popup restaurants peppering the streets, effortlessly circumventing the city government by exploiting legal grey areas and simply relying on common sense, and clear public support. Created in response to overly repressive, cumbersome and outdated legislation, the festival was originally devised by a small group of friends coordinated via Facebook and Twitter. Ravintolapäivä was essentially code, a set of instruction – and as such, difficult to arrest or abolish. It's part of a growing movement towards Happy Cities, rather than Smart Cities.

In the UK, the School of Life established by the philosopher Alain de Boton has proposed six things real people look for in a city – order, visible life, compactness, orientation and mystery, scale, and uniqueness. Even today it seems, the planners have not recovered the simple art at which their predecessors were supreme, that of the lively, coherent urban street.

"The shape of a city changes more quickly, alas, than the heart of a mortal" (Charles Baudelaire - Les Fleurs du Mal).

11.1 <u>REFERENCES</u>

De Boton, A (2015) The School of Life, [http://www.citymetric.com/skylines/video-alain-de-botton-explains-how-make-our-cities-more-attractive-824 – 10 March 2015]

Greenfield, A (2011) Against the Smart City, New York, Verso [http://www.amazon.co.uk/Against-smart-city-here-Book-ebook/dp/B00FHQ5DBS – 10 March 2015]

Komninos, N. (2006) 'The Architecture of Intelligent Cities', Intelligent Environments 06, Institution of Engineering [http://www.urenio.org/wp-content/uploads/2008/11/2006-The-Architecture-of-Intel-Cities-IE06.pdf - 10 March 20015]

MacGregor, N (2014) Germany: Memories of a Nation, London, Allan Lane and the BBC

Sennett, R (2015) The Open City; https://www.richardsennett.com/site/senn/UploadedResources/The%20Open%20City.pdf – 10 March 2015]

Townsend, A (2014) Smart Cities, New York, Norton

Weller, R, Bolleter, J A (2013), Made in Australia: The Future of Australian Cities, UWA Publishing, Perth, WA