REF2021

Institution: University of Plymouth

Unit of Assessment: UoA13

Title of case study: Achieving Social Inclusion through Digital Placemaking

Period when the underpinning research was undertaken: 2013-2019

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Katharine Willis	Professor of Smart Cities and Communities	2011- present
Alessandro Aurigi	Professor of Urban Design	2009 - present

Period when the claimed impact occurred: April 2014- December 2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact

University of Plymouth (UoP) research demonstrated how an integrated approach to placemaking and digital technology enabled social inclusion and increased quality of life. Our research led to: (1) the mobilisation of rural community spaces in the UK to maximise the social benefits from high-speed broadband; (2) changes to Openreach's policy and investment in rural broadband; (3) the empowerment of urban communities in Brazil and India which resulted in the critique and protest of the exclusion of marginalised communities from 'Smart City' digital infrastructure plans; (4) impact on EU 'Smart Villages' and London 'Smart City' policies; and (5) enabling digital access to deprived neighbourhoods of Plymouth in response to COVID-19 and health inequality.

2. Underpinning research

Digital Placemaking advances the use of digital technology to enhance and deepen the relationship between people and physical places. Research led by Willis and Aurigi established that digital technologies can positively contribute to placemaking and social inclusion. Two monographs (both published by Routledge), *Digital and Smart Cities* (2018) [3.1] and *Netspaces: Space and place in a networked world* (2016) [3.2] detail and evidence relationships between digital connectivity and the physical characteristics of space and place. The research contributes to emerging fields in design and architecture by exploring the shaping of places through technologies and uses theoretical and historical perspectives as well as case studies from cities around the world. The texts critique the ideology of the 'smart city' as an ambivalent driver of social change which has excluded marginalised communities. By outlining that, in the social application of digital connectivity the provision of technical infrastructure is not enough to ensure benefits, the research demonstrates that when place and space are not factored into large-scale digital projects [3.3] this can conversely result in a lack of social inclusion [3.4]. The research approach contends that digital infrastructure needs to support communities to mobilise their own resources to realise benefits for all. Recognising the spatial role of technology generates important insights for research theory in the fields of architecture, urban design, computing and sociology.

Applying the underpinning research on the role of place in digital infrastructure projects, Willis and Aurigi developed an empirical four-year research project within the regional superfast broadband programme to understand how social inclusion could be achieved through a place-based approach to technology. The EU-funded £68 million Superfast Cornwall programme (2011-current), provided a highly relevant context for the research; a pioneering high-speed broadband programme in Cornwall, which has some of the highest social deprivation levels in EU. The four-year EU funded *Digital Neighbourhoods (Local Inclusion in Networked Communities)* Research Project (2013-2017) [G1] led by Willis, partnered with Superfast Cornwall, identified that digital inclusion in these contexts was highly dependent on 'place' [3.5], and requires a 'place' (such as a community centre, library or village hall), a set of people to create social networks, and access to equipment and connectivity. In collaboration with Cornwall Rural Community Charity (CRCC) and Cornwall Council, the research evidenced how access to high-speed broadband affects rural

places and piloted an approach aimed at overcoming digital divides. Methodologically, a case study and toolkit approach were adopted with a wide range of stakeholder groups in urban and rural contexts, to positively contribute to a sense of place and to community. In 2013, BT awarded UoP, as one of only three projects in their Superfast Cornwall Research Labs [G2] (PI Willis), funding for research on '*Digital Neighbourhoods'.* The project, developed with BT, was to undertake a three-year longitudinal study of a digital 'not-spot' - the rural village of St Breward, one of the least connected communities in the EU and with high deprivation indices. The research identified a gap in the digital provider's understanding of the benefits of digital connectivity for rural communities and the role of digital inclusion in community (Openreach at that time targeted home and business users and omitted community users).

The research insights were extended to social inclusion in marginalised communities in the Global South in India and Brazil through the AHRC '*Whose Right to the (Smart) City?*' (2016-2018) (PI Willis) [G4] and the ESRC '*Augmented urbanity and smart technologies'* research (CoI Aurigi) (2016) [G3]. These research projects recognised that communities in rural and urban settings in the UK, Brazil and India shared characteristics, such as a lack of connectivity and digital skills, as well as the capacity to mobilise [3.6]. Applying the research to 'Smart City' projects in the Global South led to Willis outlining an agenda to empower local communities through digital placemaking, which enabled local communities and activists to recognise and include marginalised groups in national digital infrastructure projects [3.4].

In 2019, Willis (PI) was awarded UKRI 'Enhancing place-based partnerships in public engagement' (EPPE) [G5] funding for the '*Pop-up Centre for Health Technology in Stonehouse'* (2019-2020); a partnership with local community organisation Nudge Community Builders, the City Council and a local GP surgery. Digital Neighbourhoods research provided a convincing model of the role of digital hubs for social inclusion to develop the initiative through co-design with civic partners [3.5]. The project adopted the digital placemaking approach to enable the setup of a digital hub pilot in Stonehouse, Plymouth, one of the most deprived neighbourhoods in UK, and extended the research insights to provide access to healthcare technologies for local residents through the digital hub. This project proved extremely timely with COVID, and delivered a range of impactful responsive initiatives to support digital connections and capacity in the local community.

3. References to the research

3.1 Willis, K., Aurigi, A. (2017). Digital and Smart Cities. Abingdon: Routledge. https://doi.org/10.4324/9781315712451.

3.2 Willis, K. (2015). Netspaces: space and place in a networked world. Abingdon: Routledge. https://doi.org/10.4324/9781315562902.

3.3 Odendaal, N., & Aurigi, A. (2020). Towards an agenda of place, local agency-based and inclusive smart urbanism. In Willis, K., Aurigi, A. (2020). The Routledge Companion to Smart Cities. Abingdon: Routledge, pp 93-108. https://doi.org/10.4324/9781315178387-8.

3.4 Willis, K. (2019). 'Whose Right to the Smart City?'. In Cardullo, P., De Feliciantonio, C., & Kitchen, R. (Eds). The Right to the Smart City. Bingley: Emerald Publishing. pp 27-42. https://doi.org/10.1108/978-1-78769-139-120191002.

3.5 Willis, K. (2019). Making a 'Place' for ICTs in Rural Communities: The role of village halls in digital inclusion. In Proceedings of the 9th International Conference on Communities & Technologies - Transforming Communities (*C&T '19*). ACM, New York, NY, USA, pp 136–142, https://doi.org/10.1145/3328320.3328401.

3.6 Melgaço L., Willis K.S. (2015). ICTs and Technical Agency: A Case Study of a Rural Brazilian Community. In: Foth M., Brynskov M., Ojala T. (eds) Citizen's Right to the Digital City. Springer, Singapore. pp 101-117, https://doi.org/10.1007/978-981-287-919-6_6.

[G4] 2016 - 2018 AHRC: International Research Network Grant (AH/N004264/1) 'Whose Right to the (Smart) City?, PI – Willis. CoI Partners: UCL, UFMG(Brazil) and CAG (India).
[G5] 2019-2020 UKRI Enhancing place-based partnerships in public engagement: Pop Up Centre for Health Technology in Stonehouse, PI – Willis. CoI Partners: Nudge Community Builders, Plymouth City Council, and Plymouth Community Homes.

4. Details of the impact

Achieving social inclusion through digital placemaking in rural communities

The Digital Neighbourhoods Research Project (DN), led by Willis, implemented a significant digital inclusion method for five villages in Cornwall which increased the use of broadband-connected community venues, enhancing both social inclusion and digital inclusion. Through interactions with 100 residents in St Breward (10% of overall residents), our research identified the needs and attitudes to broadband as part of Superfast Cornwall's Digital Inclusion project. DN then worked intensely with rural village residents to develop a new digital infrastructure within the Breward Institute & War Memorial Hall, The Centre of Pendeen community centre, St Dennis (ClayTAWC) and Carnon Downs Village Hall. Based on a model of 'digital champions' who organised computer classes and drop-in sessions, the activities were popular and oversubscribed. Veronica Stansfield, Secretary of St Breward Institute & War Memorial Hall confirms that '*The project has increased the use of broadband-connectivity in our community, enhancing both social inclusion and digital inclusion in our village. The project itself delivered social inclusion in the villages and brought new visitors to our digital hub. Between August 2013 and December 2019 there were 18,710 visits recorded by St Breward Memorial Hall with an average of 2500 visits per year*' [5.1]. Similar outcomes were reported by the villages of Pendeen, St Dennis and Carnon Downs. A local resident in St Breward commented: *"Superfast […] redefined the nature of the activities that our clubs can offer. For example, using the superfast connection and our smart board, the Art Group can make 'virtual tours' of art galleries online, the Gardening Group can watch You Tube videos on gardening techniques and the History Group can carry out online research. Our community cinema can stream films"* [5.2]. The project enabled new working practice for St Breward Parish Council where broadband *"helped streamline their activities as they can now look at planning applications and carry out other important research online, saving time and money"* [5.2]. The Digital Venue Toolkit was a key output of the project and was distributed to all Parish Councils in Cornwall by Cornwall Council in 2017. At a national level, Action with Communities in Rural England (ACRE), England's largest rural grouping of county-based local development charities, distributed the Toolkit to its 38 member organisations, which reach 52,000 grassroots organisations, as best practice for digital inclusion in rural villages [5.3i]. In an article 'ACRE supports launch of toolkits for rural communities' Deborah Clarke, Rural Evidence Manager at ACRE is quoted as follows: '*We are keen to encourage all rural community buildings to get online and embrace social media. The next generation taking over as volunteers and trustees will expect up to date facilities. Alongside promoting Plymouth University's toolkit we are working with the Phone Co-op to encourage halls to get online*'. This led to a number of regions adopting this as best practice. For example, Rural Action Derbyshire (RAD) developed the community place-based digital hub, Derby Digital Hubs [5.3ii], which made extensive use of the Digital Venue Toolkit.

Changing business practice and policy shift by BT and Openreach

Our research influenced the digital inclusion strategy of the national broadband provider, Openreach, and was cited as evidence in 'The Impact of High-Speed Broadband for Communities' report [5.4] for the Community Fibre Partnerships scheme (BT Group broadband grant broadband scheme for rural communities). Openreach uses SRoI indicators that demonstrate that the economic value of this policy is that the social benefits of getting online are worth £1,274 a year to someone using the internet for the first time [5.5]. In October 2019, Clive Selley, CEO of Openreach, attended a meeting at St Breward Memorial Hall with the researchers and members of the local community to discuss the DN research and get community members' feedback. Following this meeting, Cowens confirms; '*UoP research demonstrated to Openreach the importance of digital inclusion within communities, and this had an influence at a high level. Openreach now recognises that rural communities needed to be understood differently in broadband implementation, and this could well have helped to influence Openreach's strategic direction and led to them committing to provide a full fibre network to as many hard-to-reach areas of the UK as possible. Openreach has invested billions of pounds and recruited 1000s of engineers*

to facilitate this' [5.5]. The research resulted in the company extending their remit, which hitherto was under no obligation to factor in the differences in technology adoption into rural communities. As a direct outcome of the evidence from the DN project, in 2020 Openreach announced an investment in '227 rural communities with full fibre broadband' by 2021, which formed part of their plan to 'extend full fibre broadband to the British countryside as well as urban areas' [5.6].

Mobilising urban digital inclusion in the Global South: India and Brazil
Our research on marginalised communities within urban settings led to capacity building around national smart projects in the Global South with communities and stakeholders in Chennai, India and Belo Horizonte, Brazil. In these cities, 'Smart Cities' policies were frequently experienced by these citizens as tools for exclusion. Mobilisation at community level, transferred from the DN in Cornwall, was key to resisting exclusion and adopting digital connectivity as a tool for placemaking activities and challenging top down technology-led smart city projects. In India, the network partnered with the national activist organisation Civic Action and Consumer Group (CAG), The Indian Nation Street Hawkers Association and ICT for Change, enabling capacity building in these organisations in Chennai and Bengaluru to challenge the implementation of smart city projects in their cities. As a consequence, the National Hawkers Federation mobilized its 40 million members across India to ensure their rights were recognized, campaigning under the banner "We want bread not smart city". CAG has produced a set of papers to inform strategies to resist exclusion [5.7] that have been accessed by a wide range of civic organisations. In Chennai, the prime focus of the research, the Smart City Chennai project, a flagship city of the Indian 100 Smart Cities Mission, was significantly reduced in scope and in 2018 it was reported in the Hindu that 'The Minister said just one project of the Smart City Mission had been completed in Chennai in the past three years'. In Brazil, the network partnered with History under Construction (representing the favela of Vila das Antenas) and informed Brazilian Smart City policy through engagement with the Secretary of Digital Inclusion at the Ministry of Science, Technology, Innovation and Communication.

Influence on UK and EU Policy on digital inclusion
At a policy level, evidence presented by Willis at the Greater London Authority (GLA) London Assembly Regeneration Committee, on the role of inclusion on Smart City projects, contributed to the GLA Smart London programme making changes to address the lack of social inclusion in the programme. At a national level, Willis informed policy guidance to digital inclusion government policy groups through evidence provided to the Department of Culture, Media and Sport (DCMS) Research Working Group (Digital Inclusion) in March 2016, and the 2019 section on 'People in Rural Areas' in the DCMS The Digital Engagement 'What Works' Toolkit was co-authored by Willis [5.8]. The smart cities toolkit methodology was further extended to build capacity in citizens in the UK, and was delivered through the 'Hack The City' event at the Victoria and Albert Museum Digital Design Weekend in 2018, with written feedback from visitors to the event evidencing increased understanding about the role of Smart Cities in urban neighbourhoods.
At a European level, Superfast Cornwall was the biggest single investment of the EU Convergence programme and as a rural broadband pilot in the most economically deprived region of Europe was a "hugely significant" model for EU roll out. The DN was featured as best practice by the European Network for Rural Development (ENRD) in two policy briefs presented to EU Policymakers at EIP-AGRI Seminar in December 2018 [5.9i]. This event informed the European Commission (DG AGRI) strategy for the period 2020-2023. The briefs feature in the EU Rural Review No. 26 'Smart Villages: Revitalising rural services' which is used as best practice by policymakers across Europe in the Smart Villages EU programme [5.9ii].

Achieving social inclusion through Digital Placemaking in an urban deprived neighbourhood
The research has been applied to a community digital health hubs initiative as part of a 2019-2020 UKRI-funded six-month pilot 'Enhancing place-based partnerships in public engagement: Pop Up Centre for Health Technology in Stonehouse'. The neighbourhood of Stonehouse, Plymouth falls within the most deprived 1% nationally (IMD 2019) and has high levels of inequality. The pop-up Centre for Health Technology (CHT) in Stonehouse is a community-based outpost where the University works with community action group, Nudge, to co-produce and build capacity in appropriate health technologies with residents, to address social and digital exclusion. The project

worked with Nudge Community Builders (NESTA New Radicals) and local partners including Plymouth City Council and Plymouth Community Homes (the city's largest social housing provider). In response to the COVID pandemic, and the closure of the physical hub, the project transitioned to enabling digital access and support to many excluded local residents. This included a number of digital inclusion initiatives that addressed the particular needs of local community, including the installation of a public Wi-Fi in the main street, and a project to distribute digital devices to those in need. Wendy Hart, co-founder of Nudge Community Builders, explains the significance of the work: '*The project explored ways to break-down digital inequality and our link with Plymouth University enabled us to open our Wi-fi to provide free access to people in Stonehouse. This would have been impossible to achieve without this partnership working. Free Wi-Fi, along with the individual support we gave to community members, gave people access to important services such as for seeking jobs and applying for Universal Credit. Our Wi-Fi was accessed by over 2400 users in a four-month period, demonstrating the critical need for digital access, particularly during lockdown working with the University has created mutual and lasting benefits. The status of working with them has opened more doors for us and has created tangible benefits for the community, which prior to this partnership we had struggled to cement*' [5.10].

5. Sources to corroborate the impact

5.1 Testimonial - Veronica Stansfield (Secretary), St Breward Institute & War Memorial Hall.

5.2 Case Study - Superfast Cornwall (2015) 'Digital Inclusion Case Studies - St Breward Institute and War Memorial Hall'. Available at https://www.superfastcornwall.org/case-studies/digital-inclusion-case-studies/st-breward-institute-and-war-memorial-hall/.

5.3 i) Press Release – ACRE (Action with Communities in Rural England) (2017) 'ACRE supports launch of toolkits for rural communities'. Available at https://acre.org.uk/news/2017-11-14-acre-supports-launch-of-toolkits-for-rural-communities.
ii) Rural Action Derbyshire (RAD) testimonial on process of developing Digital Hubs Derbyshire from Helena Stubbs (RAD – Village Halls Adviser 2018. 'Thanks to Katharine Willis'. https://www.ruralactionderbyshire.org.uk/news/digital-hub.

5.4 Industry Report - Regneris for Openreach (2018). The Impact of High-Speed Broadband for Communities'. The report cites Digital Neighbourhoods research in section "The Social Value of Digital Inclusion" p.18. Available at https://www.bt.com/bt-plc/assets/documents/about-bt/bt-uk-and-worldwide/bt-in-the-uk-and-ireland/research-and-reports/the-impact-of-high-speed-broadband-for-communities.pdf.

5.5 Testimonial - Julian Cowens, Programme Manager, Superfast Cornwall (delivery partner Openreach).

5.6 Press Release - 'Openreach accelerates full fibre build to 'harder to reach' market towns, villages & rural areas', 7 January 20 https://www.openreach.com/news/openreach-accelerates-full-fibre-build-to-harder-to-reach-market-towns-villages--rural-areas/

5.7 Non Governement Organisation Report – Citizen consumer and civil Action Group (CAG) (2016) (Re) prioritizing Citizenship: Setting a new agenda for Smart Cities Governance. Available at https://www.cag.org.in/database/reprioritising-citizenship-setting-new-agenda-smart-cities-governance.

5.8 Department of Culture, Media and Sport (DCMS) 2019 'The Digital Engagement 'What Works' Toolkit' p. 26-28.

5.9 i) Policy Brief - European Network for Rural Development (ENRD) (2018). 'Cornwall-UK, Steps towards a digital rural region', presented to EU Policymakers as best practice at EIP-AGRI Seminar, Brussels: 'Multi-level strategies for digitising agriculture and rural areas'. Available at https://enrd.ec.europa.eu/publications/cornwall-uk-steps-towards-digital-rural-region_en.
ii) Policy Brief - European Network for Rural Development (ERND) (2019). 'Smart Villages - how to ensure that digital strategies benefit rural communities Orientations for policy-makers and implementers'. Available at https://enrd.ec.europa.eu/publications/smart-villages-how-ensure-digital-strategies-benefit-rural-communities_en.

5.10 Testimonial - Hannah Sloggett and Wendy Hart (Directors), Nudge Community Builders.