

Institution: Royal College of Art		
Unit of Assessment: 32 Art and Design: History, Practice and Theory		
Title of case study: Inclusive design for social wellbeing in the built environment impacts UK communities and policymakers		
Period when the underpinning research was undertaken: 2010-2020		
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:
Jeremy Myerson	Helen Hamlyn Professor of Design	2010-present
Gail Ramster	Senior Research Associate	2009-present
Jo-Anne Bichard	Professor of Accessible Design	2006-present
Ralph Alwani	Senior Research Associate	2016-2019
Jak Spencer	Research Fellow	2017-2019
Period when the claimed impact occurred: 2014-2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact		
<p>Research by the Helen Hamlyn Centre for Design (HHCD) in the RCA broadened the focus of inclusive design in the built environment, with significant impact on public audiences and policy-making, and lead to substantial investment in new projects and initiatives. The approach extended beyond a primary focus on physical access for wheelchair users to encompass wider consideration of hidden disabilities and mental health and the overall benefits the built environment can afford for improving wellbeing and social equity. Examples of impact include an online public toilet map, using open data, accessed by over half a million people in the UK; an inclusive redesign of the River Foyle area in Northern Ireland which attracted £25m of infrastructural investment; and an international exhibition about innovation for older people which brought inclusive design to the fore of the UK Government's £300m Grand Challenge on Healthy Ageing fund.</p>		
2. Underpinning research		
<p>Inclusive design in the built environment has traditionally focused on physical access for older and disabled people, especially wheelchair users. However, since 2010, HHCD researchers have broadened the field to focus on design methods and practices for hidden disabilities and mental health, including cognitive differences. This has brought a fresh impetus to create greater social equity and overall wellbeing in the built environment for the widest range of human needs, with practical application in the design of places and spaces (3.6).</p> <p>Underpinning research has addressed this shift in a number of ways. A study to improve access to public toilets in the city for different at-risk groups was conducted as part of the UK Research Council award, Tackling Ageing Continence through Theory Tools and Technology TACT3 (Bichard Co-I; 3.1, 3.2). Nearly 100 people were interviewed about their experiences of finding and using public toilets, from parents of new-borns to people aged over 90, as well as toilet operators and providers. The research demonstrated the role of public toilets in meeting a widening range of physical and mental needs; the need for better public toilet provision and design in the built environment; and better information about where and when toilets are open. Many who depend on public toilets have medical conditions that can be described as hidden disabilities. The study also showed that fears about being unable to access a public toilet when out and about can lead to social isolation and poor mental health. The research went on to</p>		

provide design guidance and a mechanism to support local authorities in making their data on public toilet provision readily available.

Research was conducted in partnership with Public Health Agency Northern Ireland (see Bichard et al, 3.3) to investigate how the inclusive redesign of an entire riverfront area can support community mental health. The 'Our Future Foyle' project focused on the River Foyle, which runs through Derry/Londonderry and is a suicide blackspot of long-term concern to health authorities in the region. Through extensive community engagement and a pilot series of art and design interventions on the bridges and banks of the river, the research demonstrated how a strategy for social equity and inclusion can transform an area of historically low levels of wellbeing into a healthier place of enjoyment, reflection and connection. The research won community and political support for investment in permanent infrastructure to redesign the entire site.

Research to create the *New Old* exhibition and catalogue at the Design Museum, London (3.4) introduced a social model of ageing rooted in strong mental wellbeing and social interaction (including travel, learning and participation in the workplace), as opposed to a medical model of ageing based mainly on safety, protection and avoiding falls in the built environment. The research surveyed best international practice in the built environment, from housing estates to light-rail systems, focusing in particular on Japan and Norway; it revealed the need for homes, neighbourhoods and workspaces to adapt to meet the cognitive as well as physical changes of ageing, such as the prevalence of dementia. In autumn 2019, the RCA was awarded a £4.9m grant by Research England to establish the Design Age Institute within HHCD, to address these ageing challenges through academic–industry partnerships.

Some of the inclusive design principles that underpin the shift to addressing hidden disabilities and wider wellbeing in the built environment were described in a peer-reviewed paper, 'Scaling Down' (3.5); these included having a participatory rather than an expert mindset, designing for real people (not personas) and building on assets rather than deficits. This paper not only included a case study from the River Foyle project but also discussed research to improve social equity on the Boundary Housing Estate in London, through the provision of better lighting designed in consultation with diverse local communities. A special edition of *Built Environment* guest-edited by Bichard (3.6) makes the over-arching argument for widening the parameters of inclusive design across a spectrum of needs, to create greater social equity in the built environment.

Overall, the underpinning research can be described as challenging designers, planners and policymakers to look beyond physical access for disabled people in the built environment to a wider consideration of mental wellbeing and social engagement, which includes those with hidden disabilities and different ways of seeing the world.

3. References to the research

3.1 Bichard, J., van den Heuvel, E., Jowitt, F., Gilhooly, M., Parker, S.G., Long, A., Ratcliffe, N.M., McKee, K.J., Gaydecki, P. (2012), 'Tackling Ageing Continence through Theory, Tools & Technology', *Ageing & Society: An Interdisciplinary Journal*, 1 (2), 83–96.

3.2 Bichard, J. and Knight, G. (2012), 'Improving public services through open data: The Great British Public Toilet Map', *Municipal Engineer*, 165 (3), 157–165.

(3.1 and 3.2 funded by ESRC New Dynamics of Ageing, Bichard Co-I, £1.3m)

3.3 Bichard, J., Alwani, R., Raby, E., West, J. and Spencer, J. (2018) 'Creating an Inclusive Architectural Intervention as a Research Space to Explore Community Well-being', in: P. Landon, J. Lazar, A. Heylighen and H. Dong (eds), *Breaking Down Barriers*, New York, NY: Springer. **Submitted to REF2021.**

3.4 Myerson, J. (ed.) (2017), *New Old: Designing for our Future Selves*, London, UK: The Design Museum, exhibition and edited book/exhibition catalogue, Design Museum (2017) Poland (2017), Taiwan (2018) and USA (2020). **Submitted to REF2021.**

3.5 Myerson, J. (2017), 'Scaling Down—Why Designers Need to Reverse Their Thinking', *She Ji: The Journal of Design, Economics and Innovation*, 4 (2). 288–299. **Submitted to REF2021.**

3.6 Bichard, J. (guest ed.) (2018), 'Inclusive Design: Towards Social Equity in the Built Environment' (editorial), *Built Environment*, 44 (1), 5–8.

4. Details of the impact

RCA inclusive design research for social equity in the built environment has had a direct impact on public audiences and communities. It has also fed significantly into UK policymaking in the areas of open data and services, regional health investment and innovation for healthy ageing, leading to social policy changes through new tools, initiatives and investments.

Public benefits with open data

Work by HHCD researchers Ramster and Bichard as part of the TACT3 study (New Dynamics of Ageing 2008–11, see 3.1) led to the creation of The Great British Public Toilet Map (TGBPTM). This is a citizen-driven website (www.toiletmap.org.uk) that uses open data from local councils to provide information about public toilets in the UK, including availability and opening times, thus making the built environment more accessible to people with different medical and social needs. It was conceived in response to information about publicly accessible toilets being incomplete, out of date and fragmented across hundreds of websites.

TGBPTM has given direct benefit to public audiences and there have been more than 500,000 visitors since it was launched in 2014. A well-received pilot in the London area was followed by an expansion of TGBPTM across the UK, which now lists more than 13,500 facilities and includes 'crowd-sourced' contributions, i.e., people adding toilets through the website interface. TGBPTM identified government open-data initiatives as an opportunity to transform public toilet information through local councils (5.1). In the policy sphere, the project campaigned for local councils to publish open data, leading to a change in Ordinance Survey policy (5.2) and 90 UK councils publishing toilet data (compared to just one in 2010). TGBPTM has frequently been recognised as a people-centred application for open data to address a social need and identified by the Communities and Local Government Select Committee for the reliable collection of public toilet data from local authorities.

TGBPTM was recognised as a finalist in the 2016 ESRC Outstanding Impact in Society Awards (5.3), and led to a spin-out company, Public Convenience Ltd, set up by researchers Bichard and Ramster, which has run TGBPTM since 2018. Public Convenience has an ongoing sponsorship deal for TGBPTM with Domestos/Unilever, as part of the Use Our Loos campaign to create a national community toilet scheme. Health services and charities now routinely include details about the map when giving information to patients and it is endorsed by the Crohns and Colitis Association (5.4). The company also offers consultancy services and contributed to new toilet provision at the Wellcome Gallery in London, extending the impact of the research on communities in the public realm. Bichard has been a member of two British Standard Institute committees which established new standards (BS6465 and BS8300) for sanitaryware for disabled people in the built environment, bringing her public toilets research to the policy sphere.

Health, tourism and economic benefits

HHCD research at the River Foyle in Northern Ireland had a direct impact on local communities traumatised by the legacy of The Troubles. More than 15,000 people engaged with a series of temporary interactive design installations to improve wellbeing and inclusion. Practical research to develop a suicide prevention strategy for the entire area, involving giant digital 'reeds' on the bridge and community 'bubbles' along the riverbank, has led directly to a commitment to spend more than £25m on permanent design improvements to the River Foyle (5.5).

In 2018, 'Our Future Foyle', led by Bichard, Alwani and Spencer for RCA in partnership with Public Health Agency Northern Ireland, moved from research and feasibility to planning and delivery of three key design interventions on the River Foyle identified and explored by the study. A new non-profit vehicle was established to raise more than £25m of infrastructure investment to achieve significant health, tourism and economic benefits for the City of Derry/Londonderry and the wider region, funded by government and overseen by senior civil

servants in Northern Ireland. The project is supported by a cross-departmental board, with representation from all government departments, to oversee its implementation. RCA researchers Alwani and Spencer are part of this delivery mechanism, having moved to Derry/Londonderry, set up a design studio and initiated Urban Scale Interventions (<https://urbanscaleinterventions.com/index.html>), and won the tender to deliver the public consultation for the new inclusive design strategy.

The project is cited in the Community Plan for Derry and Strabane (November 2017), with a vision to create a thriving, prosperous and sustainable city and district with equality of opportunity for all; the Foyle Bridge location and work is also outlined as a key action (one of 10 objectives) in the Protect Life 2 strategy document for suicide prevention issued by the Department of Health in Northern Ireland, with 'Our Future Foyle' initiatives flagged as a solution to technical and cost barriers (5.6). Urban Scale Interventions is now engaged in other government policy-directed public procurement projects such as The Westlink, using inclusive design techniques pioneered on River Foyle.

Investing in innovation for an ageing population

Myerson's 2017 New Old exhibition (3.4) has had an impact on public audiences, drawing more than 1000,000 visitors worldwide and receiving extensive media coverage (5.7); reviewers noted how innovation and technology could enable older people to work and travel more easily, reducing care costs. The exhibition then toured (5.7) to Poland (2017), Taiwan (2018) and USA (2020). Key messages in the New Old research about the need to address mental wellbeing and identity in older people, and not just physical access, helped to inform the Foresight report Future of an Ageing Population, including a commitment to inclusive design as a 'policy implication' (5.8). This briefed policymakers across government on ageing implications; Myerson served on the report's expert advisory group as academic lead for environment and infrastructure.

The findings of the Foresight report on ageing (2016) catalysed an exchange of letters in autumn 2017 between the Council for Science and Technology and Prime Minister Theresa May (5.9); this exchange led directly to the announcement of a Grand Challenge of Ageing in the Industrial Strategy, with the UK Government committing to create a £300m fund for innovation and technology that will make the UK a global leader in innovation for healthy ageing. The prime minister said: 'I agree with your conclusions that successful scale innovation will require a range of players to work together.' The Council for Science and Technology also recommended 'the establishment of a National Centre of Excellence in Ageing and Design, bringing together academia and industry to embed inclusive, age-friendly design in the development of mainstream technology' (5.9). Subsequently, in 2019, the RCA was awarded a £4.9m grant by Research England through a competitive process for HHCD to set up the Design Age Institute (5.10), a specialist unit dedicated to working with academic partners and industry to develop new age-friendly products and services for homes, neighbourhoods and workspaces. The new Institute began work in June 2020, further extending the impact of HHCD inclusive design research around social equity in the built environment.

5. Sources to corroborate the impact

5.1 Programme Manager, Local Government Association, letter about The Great British Toilet Map (2016).

5.2 Member, Open Data User Group, letter about The Great British Toilet Map (2016).

5.3 The Great British Public Toilet Map, ESRC Impact Prize finalist 2016:

<https://esrc.ukri.org/news-events-and-publications/impact-case-studies/website-of-public-toilets-improves-quality-of-life/> and <https://esrc.ukri.org/research/celebrating-impact-prize/previous-years-winners/impact-prize-winners-2016/>

5.4 Public Convenience Ltd, consulting and sponsorship deal for The Great British Toilet Map: <https://publicconvenience.org/consultancy>

The Mirror, 'Need a loo near you?' media coverage (19 Sept 2018),

<https://www.mirror.co.uk/news/uk-news/need-loo-near-you-new-13116282>

Crohns and Colitis Association endorsement: <https://www.crohnsandcolitis.org.uk/news/launch-of-the-great-british-toilet-map>

5.5 'Our Future Foyle' riverside development:

<https://www.theguardian.com/cities/2018/sep/10/derry-has-a-high-suicide-rate-but-could-redesigning-the-river-help-the-city>

Video showing Foyle design concepts: <https://www.youtube.com/watch?v=HNhBLNFfZvM>

Plans for £25m investment in 'Our Future Foyle': <https://syncni.com/article/1366/our-future-foyle-project-set-to-transform-derry-londonderry>

5.6 Community Plan for Derry and Strabane:

<https://www.derrystrabane.com/getmedia/d5769e51-b974-4551-b043-bba13631e659/3-1-Draft-Strategic-Growth-Plan.pdf>

Protect Life 2: a draft strategy for suicide prevention in the north of Ireland: <https://www.health-ni.gov.uk/sites/default/files/consultations/health/protect-life-2-consultation.pdf>

5.7 Oliver Wainwright (2017), *New Old* exhibition review, the *Guardian*:

<https://www.theguardian.com/artanddesign/2017/jan/12/new-old-exhibition-design-museum-london-review-tech-for-older-people>

New Old (2017), Lodz Design festival, Poland: <https://www.lodzdesign.com/about-us/archive/lodz-design-festival-2017-en-gb/program-2017-en-gb/exhibition/curator-exhibitions/new-old-en-gb/>

New Old (2018), exhibition catalogue, Taiwan: Kaohsiung Museum of Fine Arts.

New Old (2020), exhibition catalogue, New York: Pratt Institute Gallery; and review:

<https://www.curbed.com/2020/2/21/21144776/design-aging-in-place-pratt-exhibition-new-old>.

5.8 Government Office of Science (2016), 'Future of an Ageing Population' report:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/816458/future-of-an-ageing-population.pdf

5.9 Council for Science and Technology letter to Prime Minister Theresa May (Oct 2017), and reply (Dec 2017).

5.10 Launch of Design Age Institute at Royal College of Art (2019): <https://www.rca.ac.uk/news-and-events/news/royal-college-art-establish-design-age-institute/>