

THORNING, D., BALCH, C. & ESSEX, S. (2019) The delivery of mixed communities in the regeneration of urban waterfronts: an investigation of the comparative experience of Plymouth and Bristol, *Land Use Policy*, 84, 238-251.

Version: 22.3.19

FAO: *Land Use Policy (as a regular paper)*

**The delivery of mixed communities in the regeneration of urban waterfronts:
an investigation of the comparative experience of Plymouth and Bristol**

Daniel Thorning, Christopher Balch and Stephen Essex

Daniel Thorning,
Strategic Planning & Infrastructure, Plymouth City Council, Ballard House, West Hoe
Road, Plymouth, PL1 3BJ, Devon, UK
(Tel: +44 [0]1752-307578; email: daniel.thorning@plymouth.gov.uk)

Professor Christopher Balch,
School of Geography, Earth and Environmental Science, University of Plymouth,
Drake Circus, Plymouth, PL4 8AA, Devon, UK.
(Tel: +44 [0]1752-585980; email: christopher.balch@plymouth.ac.uk)

Dr Stephen Essex,
School of Geography, Earth and Environmental Science, University of Plymouth,
Drake Circus, Plymouth, PL4 8AA, Devon, UK.
(Tel: +44 [0]1752-585980; email: stephen.essex@plymouth.ac.uk)
Orcid : 0000-0002-7728-4043
Corresponding author

The delivery of mixed communities in the regeneration of urban waterfronts: an investigation of the comparative experience of Plymouth and Bristol

Abstract

The raison d'être of spatial planning is to secure public benefits or goods through the regulation of private development. Under neoliberalism, where economic growth is privileged over community interests, the ability of planning to deliver public goods can be compromised. The aim of this research was to investigate the delivery of mixed communities in the regeneration of waterfront sites in two outwardly comparable, but in detail, rather different port cities, namely Plymouth and Bristol. The range of dwelling types, extent of affordable housing and associated practicalities of delivery were evaluated using planning application data, 2000-2017 and semi-structured interviews with key stakeholder groups (local planning authority [LPA] officers, developers, land agents and politicians).

The results indicate that there is a standard 'model' of delivery for port regeneration with city centre harbour-side land yielding high density apartment developments and with houses becoming the prevalent house type in suburban waterfront locations. Planning policies for social mixing have not, in general, been successfully implemented in waterfront sites due to the greater priority afforded to development viability and the political pressure to unlock and accelerate economic growth. The exception to these findings was where public land had been used. For both cities, just two per cent of the dwellings delivered on privately procured sites were affordable housing units compared to over 25% on public land. This paper highlights the effect of neoliberalisation on the English planning system, which enables developers to acquire sites without regard to local development plan policies. Such policies allow developers and landowners to negate planning obligations to provide affordable housing to the detriment of public good and trust in the system.

HIGHLIGHTS:

- Standard 'model' for city centre waterfront regeneration is high density apartment development
- Delivery of affordable housing is compromised by political pressures to unlock economic growth
- Developers can negate planning obligations on the basis of development viability
- Exceptions possible on public land, through public subsidy or on sites with economies of scale
- Basis of planning transformed by enabling developers to avoid policy-compliant development

KEY WORDS: *Mixed communities; urban renaissance; waterfront regeneration; planning obligations.*

The delivery of mixed communities in the regeneration of urban waterfronts: an investigation of the comparative experience of Plymouth and Bristol

1.0 Introduction

Since 2000, as part of the urban renaissance agenda, UK planning policy has sought to promote sustainable 'mixed communities', consisting of developments of market-priced and affordable housing as a model of a more integrated, egalitarian, balanced and connected society (DCLG, 2010; Colomb, 2007). These high density developments, often on brownfield land, have become common in many inner urban areas, although the delivered reality of mixed communities is often contested. This delivery is placed into sharp focus in waterfront locations, where the sales premiums attached to such sites, together with abnormal costs associated with the remediation of ground contamination and flood mitigation, can affect viability and reduce the scope for land value capture for 'public good' from planning conditions and obligations. The increasing political prominence given to development viability and the delivery of economic growth after the 2008 recession has arguably reduced the ability of planning to secure wider public goods, such as affordable housing. This emphasis has far-reaching implications for urban land use and the associated equitable outcomes of planning decisions.

The aim of this research was to investigate the delivery of mixed communities in the regeneration of waterfront sites in two port cities, Plymouth and Bristol. While these two cities might appear outwardly comparable, their economies are very different, which affects the strength of the market and the ability to deliver public goods, such as affordable housing, from new development. The objectives of the study were: first, to establish the range of dwelling types delivered on waterfront regeneration sites using data compiled from relevant planning applications, 2000-2017; second, to understand the factors influencing the delivery of affordable housing in waterfront developments using planning application data and semi-structured interviews with key stakeholder groups (local planning authority [LPA] officers, developers, land agents and politicians); and third, to evaluate different attitudes and approaches to social mixing in waterfront regeneration sites using the semi-structured interviews. The research found that the UK planning system has a reduced capacity to deliver

mixed communities because of the political priorities for economic growth, which have enabled developers to negate planning obligations on the basis of development viability. Arguably, the basis of the planning system in England has been fundamentally undermined by enabling developers to avoid policy-compliant development. The only exceptions are where affordable housing has been provided on public land, through public subsidy or on larger sites with economies of scale.

The paper therefore connects to broader debates about how planning and land use policy plays an important supporting role in the delivery of neoliberal competitiveness and neoliberal spatial governance (Boland, 2014; Allmendinger and Haughton, 2013; Sager, 2011; 2015). In planning, neoliberalism refers to the minimisation of state intervention and regulation of the market to stimulate enterprise and entrepreneurialism ('roll-back' of the late 1970s and 1980s); market supportive forms and modes of state governance to facilitate the accumulation of capital and a reinforcement of neoliberalism as a hegemonic discourse ('roll-out' of the 1990s and 2000s); and the adaptive regimes and experimentation forms following the economic crisis after 2008 ('roll-with-it' or 'roiling' neoliberalism) (Allmendinger and Haughton, 2013, p.11). Five key issues and debates emerge from the shift of planning acting as a regulator to an enabler of development, which this paper intends to contribute through its analysis of the delivery of affordable housing as a 'public good' in Bristol and Plymouth.

The first debate is whether planning, as an independent regulatory function, can continue to deliver 'public good' under a neoliberal regime, where competitiveness is privileged over community interests (Boland, 2014; Haughton, *et al.*, 2013; Claydon and Smith, 1997). Some have argued that 'planning had betrayed its wider public ethos and had acted in a duplicitous way to facilitate growth' (Allmendinger, 2016, p.16) and that planners have become the 'handmaidens of neoliberalism' (Sager, 2013, p. xxiii). Second, the implementation of planning under this regime is subject to considerable experimentation, based on different or changing economic circumstances, local discretion, resistance and alternative pathways, which creates temporal, spatial and sectoral variegation of planning practice (Allmendinger and Haughton, 2013). Third, neoliberalisation encourages consensus-based policies, such as communicative planning, spatial planning, sustainable development and

even urban renaissance, which tend to stifle critical debate and the consideration of alternative pathways, which some have labelled as 'post-political' (Allmendinger and Haughton, 2011). Fourth, under these altered conditions, the trust that various stakeholders have in the planning system and its values can change, with long-term implications for subsequent interpersonal relations and interactions between the public and private sectors as well as the general public (Tait, 2012). Fifth, while beyond the scope of this paper, the unequal effects of these neoliberal planning practices can contribute to debates about social justice in the city (Harvey, 1973), the 'Right to the City' (Harvey, 2012) and the 'Just City' (Fainstein, 2014), especially in relation to which groups experience public benefits from development and planning decisions.

2.0 Mixed communities in waterfront regeneration

Since the 1980s, the waterfront has become a focal point for intensified planning intervention and urban regeneration (Boland *et al.*, 2017). Urban decline linked to the globalisation of trade, changing sea-transportation technologies and deindustrialisation have resulted in the widespread dereliction and deprivation in port cities during the late twentieth century (Tallon, 2013; Mackinnon and Cumbers, 2007; Leger *et al.*, 2016). The collapse of Fordism in the UK during the 1970s and the emergence of neoliberal orthodoxy resulted in an evolution of urban policy in which post-war Keynesian policies of state regulation and interventionism were replaced by those targeting economic growth and competitiveness through the deregulation of state intervention. Since the 1980s, successive governments have recognised the potential of large-scale urban regeneration projects, including those on the waterfront, for creating jobs and delivering growth. Port cities have been in the vanguard of neoliberal urban regeneration programmes since the 1980s, including Urban Development Corporations, City Challenge and the Single Regeneration Budget, which represented 'rolled-back' state intervention and deregulation to encourage enterprise through business-led initiatives and partnerships albeit involving considerable public expenditure.

These approaches have been criticised because of their failure to deliver public good to all demographic groups in society and their tendency to create gentrification and to be socially divisive. Urban development projects are risky and depend on the realisation of future rents. They therefore tend to target high-income segments of society at the expense of less affluent social groups (Swyngedouw *et al.*, 2002). Urban regeneration projects privilege restaurants, cafes, hotels and high-end housing primarily for young, professional, affluent and childless groups (Tallon, 2013). Most urban development projects therefore accentuate social polarisation through increases in land/rental values and the displacement of low-income households (i.e. gentrification), which illustrate the contested nature of public good delivered through this approach.

The New Labour administration, which came into power in 1997, placed 'social exclusion' at the heart of its policy discourse in response to decades of urban decline and a sense that the property-led regeneration programmes of the previous administration had not delivered positive change for the most disadvantaged (Macleavy, 2006). New Labour saw concentrations of poverty as the source of social exclusion and adopted policies to deconcentrate poverty and bring the middle classes back into the inner city, based on Lord Roger's Urban Task Force report, *Towards an Urban Renaissance* (Rogers and Coaffee, 2005; Colomb, 2007). Their urban policy had two key agendas: tackling social exclusion in the poorest areas through its 'neighbourhood renewal' programmes; and delivering a design-led 'urban renaissance' to encourage physical, aesthetic and economic regeneration (Cochrane, 2007).

Enshrined within both agendas was the concept of 'mixed communities', defined as "*new sustainable urban realms, founded upon the principles of social mixing [...] with the express aim of attracting the suburban knowledge and service industrial demographic back to the city*" (Rogers and Coaffee, 2005, p. 323; Urban Task Force, 1999). The report acknowledged that poor quality housing and imbalances in tenure and household incomes were a key factor in the decline of many deprived neighbourhoods (Urban Task Force, 1999). The report recommended a fine-grained social mix with tenure options at "*urban block, street and neighbourhood level, in a way that does not distinguish tenure by grouping or house type.*" The 'mixed communities' approach refers to the diversification of new and existing housing

developments by promoting a range of house types and tenures to create integrated and egalitarian societies in which space, services and facilities are shared by people of all social classes and incomes (Table 1) (DCLG, 2010).

Advocates of social mixing assumed that demographic change would increase life chances and living conditions for deprived groups, and promote more stable and cohesive communities (Bolt, *et al.*, 2010; Colomb, 2007). It is assumed that more affluent groups are able to garner greater public investment; encourage a stronger local economy; and bring networks and contacts to create 'bridging' and 'bonding' social capital for the benefit of the poor in areas of concentrated poverty (Lees, 2008). The influx of affluent classes can act as 'role models', in terms of behaviour and aspirations, to reduce socio-spatial segregation. In this way, the social milieu resulting from the spatial concentration of poverty and its neighbourhood effects, which reinforces aspects of disadvantage and actively reduces an individual's ability to move out of poverty or disadvantage, can be broken down (Randolph and Wood, 2003, iii). The principles of mixed communities became enshrined within planning policy (PPG3, DETR, 2000), urban design guidance (HCA, 2000) and the sustainable communities agenda (ODPM, 2003) and has become an "*unquestioned gospel*" in planning policy circles (Lees, 2008, p. 2450), which has remained a firmly embedded credo of British housing and planning policy (Bond, *et al.*, 2011; Lupton and Crispin, 2009; Lees, 2003).

However, there is little evidence to suggest that mixed tenure residential developments result in increased interactions between different income groups (Cheshire, 2007, 2009; Allen *et al.*, 2005; van Beckhoven and van Kempen, 2003; Kearns and Mason, 2013). The approach enshrines the rather uncomfortable undertones of a 'moralistic discourse', whereby the poor are dependent upon the more affluent classes. Instead, social mixing can create tensions between groups causing residents to withdraw rather than mix (Rose, 2004; Goodchild and Cole, 2001), and there are arguments suggesting that low income groups may be better off living in homogenous communities that have access to more affordable shops and public services (DCLG, 2010). Indeed, social mixing and cohesion are more likely to be achieved in socially homogenous neighbourhoods (Butler and Robson, 2003). As a result, scholars have argued that social mixing is an euphemism for state-led gentrification, which is widely perceived as a negative process that exacerbates

social exclusion and is associated with 'roll-out' neoliberal competitiveness (Davidson, 2008; Lees *et al.*, 2007; Atkinson, 2004; Cameron, 2003; Arthurson, *et al.* 2015).

The implementation of the mixed communities concept under neoliberal spatial governance is also problematic because development applications are subject to interaction between private developers and planners, usually involving the re-negotiation of priorities established in national and local planning policy. In urban regeneration schemes, private developers seek to negotiate with LPAs to provide as few affordable housing units as possible due to reduced sales revenues for affordable units and spill over effects on market-valued homes for sale. Affordable housing and tenants are often stigmatised through prejudice relating to behaviour, fear of crime, poor property maintenance and concerns from private purchasers regarding re-sale values. Private developers have to be aware of and respond to the perceived attitudes and preferences of house buyers. Therefore, the challenge for developers is to include affordable housing on a scale judged to exert minimal effect on the end value of market homes (Tiesdell, 2004).

Private developers and Registered Providers of social housing (RPs) (also known as housing associations) prefer segregation or integrated clusters to minimise the number of market units adjoining affordable homes and to reduce management costs. Where the quantum of affordable housing exceeds 25%, or where the tenure favours rented affordable housing, developers prefer segregation strategies as the perception from home buyers is that someone with equity in a property (for example, shared ownership tenants) will maintain their property better than somebody in rented accommodation (Tiesdell, 2004). Segregation strategies are more likely where there is a large value gap between market and affordable housing; the registered providers need to maximise value; and the perceived need of house purchasers to differentiate market homes.

These segregation strategies are particularly relevant for high value waterfront sites. Research by Knight Frank (2015) revealed that waterfront residential properties in the UK are worth on average 70% more than their inland counterparts. Positive site features, such as waterfront views, add little value to affordable housing units as rents for affordable/social properties are regulated by Homes England (formerly the

Homes and Communities Agency [HCA]). Therefore, registered providers often prefer to acquire more units of lesser 'nominal' quality (i.e. less desirable location, less kerb appeal, fewer parking spaces, smaller gardens or smaller units) rather than fewer units of higher 'nominal' quality (Tiesdell, 2004). The challenge to LPAs is therefore to secure policy levels of affordable housing with a representative mix of dwellings types that are distributed across sites.

Development viability has emerged as an increasingly important material consideration in the planning system and it presents a significant barrier to the delivery of mixed communities (McAllister, 2017). Planning obligations are the main mechanism by which communities can capture part of the uplift in land value generated by the granting of planning permission and they are the principal method for delivering affordable housing as a public good. According to the DCLG (2017, p.5), Section 106 agreements were the most common delivery mechanism for all affordable tenures in 2016-17, providing c. 18,000 affordable houses (43%) with the second most common mechanism being housing association direct delivery (12,000; 29%). Where planning applications do not comply with planning policy, financial viability tests are increasingly being used to calculate the amount of obligations that can be met by a development. Viability appraisals test the ability of a development to meet its costs, including planning obligations, while ensuring an appropriate site value for the landowner and a market adjusted return to the developer (RICS, 2012). Increasingly, developers are looking to the planning system to de-risk their schemes, so that within development appraisals/viability tests, profit is taken as a fixed element whereas, in practice, it should be a variable element (i.e. an out-turn of development). Landowners will seek to maximise their returns – and generally will not accept risk – which means that land purchase cost also becomes a fixed element in the equation. Consequently, the negotiable elements in this equation become land value capture and the size and quality of the housing product delivered to the consumer.

Development viability has been a planning consideration since at least 1998 when *Circular 6/98: Planning and Affordable Housing* stated that LPAs should consider the needs of developers for schemes to be financially viable. However, formal modelling of development viability as part of the development management process did not begin until 2005 (McAllister, 2017). Viability testing has become increasingly

embedded in planning as both the Coalition and the Conservative governments since 2010 have demonstrated more sympathy towards the interests of landowners and developers and a weakened commitment to affordable housing delivery (McAllister, 2017). For example, Paragraph 173 of the original version of the National Planning Policy Framework (NPPF) (DCLG: 2012: p. 41) stated:

“To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost of development and mitigation, provide competitive returns to a willing land owner and willing developer to enable the development to be deliverable” (DCLG, 2012: p. 41).

Furthermore, paragraph 205 of the NPPF (DCLG, 2012: p. 47) stated:

“Where obligations are being sought or revised, local planning authorities should take account of changes in market conditions over time and, wherever appropriate, be sufficiently flexible to prevent planned development being stalled”.

Similarly, the Growth and Infrastructure Act 2013 ensured that the quantity of affordable housing is the only obligation that can be reduced on previously approved planning permissions that are not economically viable (McAllister, 2017). In 2013, changes to permitted development rights allowed the conversion of office space to residential use with zero affordable housing (McAllister, *et al.*, 2018). The Vacant Building Credit (2014) also enabled developers to reduce the requirement to provide affordable housing based on vacant space brought back into productive use (McAllister, 2017). Together with viability testing, these are examples of ‘roll-with-it’ neoliberalisation, where market supportive mechanisms are introduced to encourage development in the otherwise challenging economic circumstances of a recession.

Viability modelling is, of course, *“saturated with intrinsic uncertainty”* and there are clear incentives for developers and landowners to bias calculations (McAllister, 2017, p.122). There are two very different views about whether the price paid for land should be used to justify reduced affordable housing contributions. The first argues that existing use value should be the starting point in appraisals, while the other argues that, in order to ensure that land comes forward for development, market

evidence (i.e. the price for which land is transacting in the market) should be utilised. It is widely acknowledged that developers have 'gamed' viability tests in order to reduce obligations to provide non-market housing (McAllister, *et al.*, 2018). Hill (2015, p. 22) states that LPAs often fail to defend their policies because of "*a mix of a lack of skill and experience in the face of better resourced developers and more aggressive property professionals and negotiators, as well as naivety, and lack of political will*". Viability tests are not usually made available to the public as they are impenetrable to all but highly trained surveyors and planners. Viability can be very sensitive to small changes made to developments costs and sales values (McAllister, 2007). Therefore, developers can estimate costs conservatively with large contingencies to negate or reduce the requirement to provide affordable housing (McAllister, 2017) and so undermine the delivery of public good, such as affordable housing. Research for Shelter has estimated that, since viability assessments became accepted practice after the original NPPF was published in 2012, the delivery of affordable homes by Section 106 agreements has fallen from 27,000 homes pa (52%) over the period 2007-12 to 17,000 pa (38%) over the period 2012-16 (Grayston, 2017, pp.12-13). These data clearly illustrate that the ability of planning to deliver public good has been affected by the privileging of the viability considerations of developers within the planning process.

3.0 Selection of case study cities

This paper utilises Plymouth and Bristol to assess whether the concept of mixed communities is applicable to waterfront housing regeneration under neoliberal spatial governance. Both cities are located in Southwest England, approximately 121 miles apart, and have undergone significant waterfront regeneration over the past 20 to 30 years in response to the decline of port and military activities. The ongoing regeneration projects in these port cities ensure that there were plentiful waterfront housing developments to study.

Bristol is one of the ten UK 'core cities' and is regarded as relatively economically successful in the UK context (Tallon, 2007). According to the Centre for Cities (2016), Bristol is the only core city with a gross value added (GVA) per capita more than the UK average. The city possesses easy access to London and the South East

as well as a densely populated and wealthy hinterland. Plymouth, on the other hand, is geographically more peripheral and has a more sparsely populated hinterland. It underperforms economically and scores within the bottom ten of UK cities for the number of businesses, new business start-ups and private sector jobs (Centre for Cities, 2016). The average (mean) house price in Bristol is £290,197, which is 57% higher than in Plymouth, where the average home costs £184,665 (National Housing Federation, 2018). Higher residential sales values in Bristol create opportunities for greater land value capture through Community Infrastructure Levy, Section 106 and affordable housing. Therefore, all else being equal, Bristol has greater capacity to deliver affordable housing than Plymouth. Despite both cities being at different ends of the spectrum in terms of contemporary economic buoyancy, both have adopted neoliberal competitive strategies with local cross-party political support to regenerate its deprived waterfront areas (as will be illustrated in Sections 3.1 and 3.2). Both cities have seen swings in political control over the period of the research, including the appointment of an elected mayor in Bristol. Political control in Plymouth has swung alternately between the Labour (1997-2000, 2003-07, 2012-15, 2018-) and Conservative parties (2000-03, 2007-12, 2017-18), with one period of no overall control (2015-17). In Bristol, since 1995, no overall political control has lasted 11 years (2003-09, 2011-16), Labour control for ten years (1995-2003, 2016) and Liberal Democrats control for two years (2009-11).

3.1 Plymouth

With a population of 256,384 (Census, 2011), Plymouth is the second largest urban centre in southwest England after Bristol. The city developed as an important trading and defence port originally comprising the three coastal towns of Sutton (Harbour), Stonehouse and Devonport. Sutton Harbour has been a commercial trading port since 1281 (Essex and Ford, 2015), whilst Devonport developed around the Royal Dockyard from 1691 (Robinson, 2010). Like many industrial cities, Plymouth experienced urban decline during the twentieth century as new technologies, such as containerisation, caused trade to migrate to larger ports. Arguably, the focus on the reconstruction of the city centre after the Second World War detracted attention from changing conditions along the city's waterfront. Defence reviews and the 'peace dividend' resulted in further job losses from the 1980s onwards. By the late twentieth century, much of Plymouth's waterfront had become scarred by semi-derelict land

and buildings from former port, industrial and storage uses, or inaccessible due to military uses.

The regeneration of Plymouth's waterfront since the 1990s has been private sector-led, albeit with considerable public sector support. Plymouth's Urban Development Corporation (PUDC, 1994-98), as an example of 'roll-back' neoliberalism, focused on transforming former military and port sites to a point where the private sector were willing to invest in leisure, marinas and residential properties. While much of the redevelopment focused on more exclusive residential properties at Mount Batten (former Royal Airforce station) and the Royal William Yard (former Naval Victualling Yard), there were more community oriented schemes at Mount Wise (former Naval buildings). The outcomes of 'roll-back' neoliberalism were therefore spatially variegated across the city related to local circumstances and opportunities. The New Deal for Communities funding in Devonport (2001-11) focused on re-establishing a mixed community on the site of a Naval Storage Enclave requisitioned in 1952 on the site of the original town centre of Devonport. There was a deliberate emphasis in the regeneration scheme on building market housing to replace the post-war imbalance on social rented flats, which had been perceived as a fundamental part of the area's socio-economic malaise. It might be argued that the inherent principles of this regeneration scheme had a clear purpose and rationale rather than being state-led gentrification per se. Since 2010, the continued regeneration of Plymouth's waterfront, such as Millbay and Sutton Harbour, has been subject to the vagaries of more recessionary conditions and associated development viability testing.

Plymouth's *Local Development Framework (LDF) Core Strategy* (PCC, 2007a, p. 11) set out David Mackay's vision for Plymouth to become "*one of Europe's finest most vibrant waterfront cities where an outstanding quality of life is enjoyed by everyone*". The waterfront has therefore been at the forefront of Plymouth's regeneration endeavours, and been central to the city's attempts to establish a competitive edge through its branding as 'Britain's Ocean City'. The city's vision statement and recent regeneration projects have, therefore, reflected the neoliberal emphasis of the competitive city, tinged with more progressive notions of social inclusion.

Plymouth City Council's (PCC) planning policies for mixed communities were set out in policy CS15 of the Core Strategy in 2007, which required at least 30% of homes

on sites of fifteen or more dwellings (including conversions) to be provided as on-site affordable housing units (PCC, 2007a). Plymouth's new Joint Local Plan (PCC, 2018, Policy DEV7) requires at least 30% on-site affordable housing on developments of more than ten homes, although off-site provision can be made for sites of 11-44 dwellings. Prior to 2007, the city's planning policy for affordable housing was set out in the First Deposit Local Plan 1995-2011, which required 25% of new homes on developments of fifteen or more dwellings to be affordable housing units (PCC, 2001).

3.2 Bristol

Bristol is the eighth most populated city in England with 428,100 inhabitants (Census, 2011). Bristol began rapid expansion during the eighteenth century as it established itself as the leading port for the slave trade (Bassett, 2001). Until the early nineteenth century, Bristol's trade was adversely affected by the second largest tidal range in the world with a difference of nine metres between low and high tide (Tallon, 2007). At low tide, ships would become stranded on the river bed. However, a dam was built at the beginning of the nineteenth century, turning the riverside wharves into a permanent body of water known as the 'Floating Harbour.' Nevertheless, ships increased in size during the nineteenth century and the meanders of the River Avon prevented vessels over 91 metres from accessing the floating docks. The Royal Edwards Dock and the Royal Portbury Dock were built at the mouth of the River Avon in 1908 and 1972 respectively and the Floating Harbour ceased commercial trading in 1977 (Bassett, 2001).

Dockside warehouses and industrial land consequently became derelict leaving a significant amount of brownfield land (Tallon, 2007). These sites have been redeveloped into office, residential and cultural spaces since the late 1970s through interventions by an Urban Development Corporation (1989-1995) and an Enterprise Zone since 2012 as well as Millennium project funding for the @Bristol attraction (Bassett, *et al.*, 2002). The city therefore has a long history of neoliberal interventions to lever in private investment, despite often clashing with the local authority's principles of accountability and local participation (Oatley, 1993). The LDF Core Strategy (2011, p.16) was explicitly neoliberal, pro-growth and competitive in its vision for the city by 2026: "Our aspiration for Bristol is to be a leading European city

for innovative industry, enterprise, culture, environmental quality, lifestyle and urban design, reinforcing its status as a European Science City and Green Capital". Notably, the emphasis of the vision in the Local Plan Review (2018) has changed to reflect more progressive notions of social justice (however illusory) through shaping "...a city of hope and aspiration where everyone shares its success" (BCC, 2018, p.6).

Bristol City Council's (BCC) planning policies for residential development are set out in policies BCS2, BCS17 and BCS20 of the *LDF Core Strategy* (BCC, 2011). Policies BCS2 and BCS20 encourage high density residential development in the city centre, including predominantly flats and townhouses in the Floating Harbour area. Policy BCS17 requires all residential developments of fifteen or more dwellings in the Floating Harbour area to provide 40% affordable housing to contribute to the creation of mixed, balanced and inclusive communities. Prior to the Core Strategy, the Local Plan (BCC, 1997) required 30% of homes on qualifying sites of fifteen or more dwellings (including conversions) to be delivered as affordable housing units.

4.0 Methodology

The research was conducted in the cities of Plymouth and Bristol between December 2016 and February 2017, combining quantitative and qualitative data collection. The criteria for selection of waterfront housing developments in the two cities were that sites must have direct physical and visual connectivity to the waterfront and must be within 100m of the water's edge; must have planning permission for fifteen or more dwellings, which represented the threshold for affordable housing delivery in both research areas; must have secured planning permission since 2000 (when the mixed communities concept was adopted in planning policy); and must have been completed or be under construction at the time of undertaking the research. Using online planning registers for PCC and BCC, Google Maps, site visits and local knowledge, fifteen developments were identified in Plymouth and eleven in Bristol (Figures 1 and 2).

To address the first two research objectives, the PCC and BCC online planning registers were used to collect secondary data on dwelling types, the proportion of

affordable housing, the gross density and the number of car parking spaces. The limitations of sourcing data from the PCC and BCC planning registers were that application documents were not available for all consents, particularly those granted in the early 2000s. Wherever possible, the researchers endeavoured to ascertain missing information through the subsequent interviews.

Primary data collection focused on semi-structured interviews with key stakeholder groups to gain insights into the planning and development processes related to affordable housing provision. Twelve participants representing six organisations were interviewed (out of a possible 23 that were invited: 52 per cent) (Table 2). A cross-section of stakeholder groups, including LPA officers, developers, agents and politicians, were interviewed to understand the justification for the proportion of affordable housing delivered and the attitudes towards social mixing in waterfront regeneration areas. Neither residents nor community groups were invited to participate in interviews as these groups have limited involvement in affordable housing negotiations. While a representative sample was sought, many of the key stakeholders in Bristol declined to participate. As a result, no interviews were possible with developers, agents or planning officers from Bristol. Likewise, elected members were reluctant to participate - hence only a former politician was interviewed in relation to the Bristol sites. Some of the data were therefore inevitably slightly skewed towards Plymouth.

The interviews revealed a degree of pathologising and stigmatising of certain groups by the respondents in relation to the regeneration issues discussed. For example, younger and transient tenants were problematised as a group with a propensity for noise, parties and anti-social behaviour, which would not mix well with other groups, especially the elderly and vulnerable communities. While these observations might reflect the experience of some respondents, anti-social behaviour is not the exclusive preserve of these groups. In another example, a respondent expressed the view that deprived areas should not receive further affordable housing, so that market housing investment could act as a trigger for regeneration. If this view influenced policy, it might consign low income groups to further hardship by constraining the supply of new affordable housing. These examples represent forms

of unconscious bias and potential discrimination from within the built environment professions, which might have the potential to create unequal power relations within the process and emphasises the importance of ethical values and awareness in professional practice. The principal researcher's positionality as an employee of PCC's Strategic Planning and Infrastructure Department had the potential to influence participant responses. There was a risk that participants from the development industry would answer questions in such a way as to please the interviewer and avoid revealing issues of commercial sensitivity. One of the developers indicated reservations about participating, whilst another was involved in affordable housing viability negotiations with the interviewer's employer at the time of interviewing. The research received approval from the University of Plymouth's Research Ethics Committee and the interviews followed the agreed protocol of providing full consent, ensuring confidentiality and the right to withdraw. None of the participants refused to answer questions or withdrew from an interview.

5.0 Results and Analysis

5.1 Composition of dwelling types in waterfront redevelopment

A high-density approach to housing regeneration has been taken in the 15 Plymouth and 11 Bristol waterfront sites, especially in city centre locations. Flats represented 70% of the new dwellings delivered across the Plymouth developments compared to at least 99% at the Floating Harbour site in Bristol (Tables 3 and 4). The dominance on flatted development was explained as a design response to the waterfront environment and by the developers' requirement to achieve high GDV. House types were more flexible outside of the central locations, related to suburban housing markets and deliberate regeneration strategies in deprived communities.

The results from both cities indicate that there has been a standard model of delivery for waterfront regeneration in central locations: namely mixed-use, high-rise and high-density apartment blocks with under-croft parking. Car parking provision in such locations is less than one space per dwelling linked to the need to maximise land use and the availability of convenient access to local transport options and amenities. In Bristol, the BCC Planning Officer and a former Bristol politician explained that high-density flatted development was the appropriate land use at the Floating Harbour.

Houses were felt to be an inefficient form of development in an ‘urban renaissance’ environment. The former Bristol politician and the BCC HEO stated that the type of housing delivered at the Floating Harbour was influenced by the developers’ need to maximise GDVs to generate competitive land values sufficient to persuade landowners to part with their assets. When asked why developers were only seeking to build flats in the Floating Harbour area, the BCC HEO replied:

“Viability. They [the developers] need to get to 5 or 6 storeys, which they cannot do in houses, and they don’t feel there is any value in maisonettes.”

The PCC Planning Officer was asked the same question, but in relation to Sutton Harbour, the response was:

“Sutton Harbour is [within the] city centre and because of the nature of the area, it has higher values. Therefore, they [developers] can afford to do something more expensive in that location.”

The PCC Urban Designer added that the type of development at Sutton Harbour was partly an urban design response to the environment:

“You’re facing a large area of open space – the water – so you can justify in urban design terms [building] taller buildings along the waterfront to frame and accentuate the harbour.”

In Plymouth, the type of housing was more flexible outside of the city centre as demonstrated by the mix of flats and houses in Devonport and suburban Plymstock. In Devonport, houses represented 36% of the new dwellings, which was a deliberate regeneration strategy designed to reduce flatted developments and increase owner occupation as a response to the ‘problematic’ residential structure of the area before the New Deal for Communities programme. The Devonport Area Action Plan (AAP) (PCC, 2007b) stated that *“existing housing in Devonport is unbalanced, being heavily biased towards social rented accommodation predominantly in the form of flats. This is not at present a sustainable community”* (PCC, 2007b: p. 18). By completion of the Devonport regeneration scheme, it was envisaged that 60% of the new dwellings would be houses, whilst just 30% would be affordable housing units.

The PCC Urban Designer, PCC Cabinet Member and a Plymouth-based land agent agreed that the type of waterfront redevelopment at the Boatyard and Hooe Lake (Plymstock) was characteristic of suburban development. These interviewees stated that the demand for housing in suburban locations lies in the detached and semi-detached house market. The land agent advised that:

“[The developer’s] market research would have told them this [Plymstock] was suburbia. Suburbia demand lies with detached and semi-detached houses. [...] You do see flatted schemes in the suburbs but, generally speaking, the best revenues are in the two or three bed house market unless [the site] is in a high value area, in which case it’s executive housing [that generates the greatest GDV]. Developers will always target what will give them the best revenue per square foot.”

The land agent added that Plymstock was a relatively high value area for Plymouth, which encouraged the developer at the Boatyard to build executive housing. Nevertheless, in both cities, the high GDVs of waterfront locations had determined a more exclusive residential environment irrespective of whether that was in the form of high-rise apartments or suburban houses.

5.2 Implementation mixed communities concept

A total of 21% of dwellings delivered on the Plymouth sites were affordable compared to 11% in Bristol (Tables 3 and 4). Just five of the 26 sites across both research areas achieved policy levels of affordable housing, which suggests that the concept of mixed communities has not been implemented successfully in waterfront regeneration areas in both cities. If local planning policy is taken as a ‘benchmark’ of expected levels of affordable housing provision, then implementation should have been 25-30 per cent in Plymouth and 30-40 per cent in Bristol. The interview data revealed two interrelated reasons why policies for social mixing have not been implemented: (1) development viability linked to high development costs, planning policy and other political priorities; and (2) the prioritisation of accelerated delivery and economic growth over local planning policies.

5.2.1 Development Viability: All participants stressed that waterfront sites tend to cost more to develop than inland sites due to abnormal development costs. These

costs include the mitigation of flood risk; remediation of ground contamination; strengthening of quay walls and made ground/reclaimed land; piling foundations down to the bedrock; using expensive and robust marine grade materials to weather extreme conditions; land assembly; archaeological/conservation considerations; and aligning terrestrial and marine planning processes. The historic nature of ports also ensures that there are often listed buildings that need to be preserved in waterfront locations, which adds to the costs of regeneration. Furthermore, multiple land ownership and historic covenants can complicate regeneration efforts, particularly related to site assembly. Developers have to negotiate with multiple owners and sometimes the LPA has to enforce Compulsory Purchase Orders, which are expensive and lead to delays and subsequent land holding costs.

The characteristic high-rise apartment block type of waterfront regeneration also affects development viability. According to the PCC Urban Designer and the PCC Cabinet Member, the architectural response for high rise flats is usually expensive, including large windows to maximise the waterfront views, steel frame construction, high quality building materials and internal specifications and the need for piled foundations. Furthermore, a Plymouth-based land agent referred to the significant amount of communal space for lobbies, stairways and hallways that cannot be sold in apartment blocks, meaning that the developer recovers no revenue for around 20% of the gross floor area:

“High rise buildings with common areas are expensive to build. You’re only selling your net internal area and your gross to net margin might be 80% so you’re building 20% of uneconomical wasted space that you don’t get any value for. If you’re building individual houses, the ... scheme at the Boatyard for example, you’re building traditional housing which really ought to be cheaper to build as you’re not going high so you don’t need to worry about engineering stresses.”

An investment company also suggested that apartment blocks are more difficult to fund than houses due to the greater sales risk, which results in increased interest rates and further challenges to viability:

“[Building houses is] a better story for the bank in terms of their risk profile because you can phase houses or terraces for example to get money into the cash flow. To build an apartment block, you have to build all at once so there is a massive risk.

Hopefully you will sell homes at your PC [practical completion] date so the risk profile starts dropping off.”

Landowners have an expectation that waterfront sites can generate high GDV, which means that developers often have to overpay for sites to provide a competitive offer, but are then also faced with the additional expenditures noted above. The result is a reduced budget for planning obligations, such as affordable housing. This finding was supported by the following interview extract with a major landowning company:

“It is not correct to assume that all waterfront housing developments will necessarily be high value [...] High sales values are often offset by high site redevelopment costs due to a range of factors such as the cost of moving existing infrastructure, the cost of archaeological investigation, site contamination issues, ground stability issues etc. Therefore, it is incorrect to assume that high sales values automatically translate into high site values. Often scheme viability is much more marginal than is perceived and, if existing use values are to be exceeded, then scheme viability needs to be carefully modelled to ensure viability.”

Development viability was given as the reason why the great majority of the developments in both research areas did not achieve policy levels of affordable housing. The four developments around Sutton Harbour failed to provide any on-site affordable housing due to viability. Instead, Eau 1 and Eau 2 provided a commuted sum of £109,030 to enable the LPA to deliver affordable housing off-site. In relation to Discovery Wharf, the land agent working on behalf of the developer stated:

“It was viability again. It was the first of its ilk in terms of new build housing on Sutton Harbour. Back then, Discovery Wharf only just achieved £200 per square foot [in GDV]. It was the first scheme in Plymouth that achieved £200 per square foot. The argument led by the developer was that it was a risk. Nobody knew what the demand levels were going to be as it was the first one to be built at that time. Costs were high, building on a quayside on the waterfront. There were ground conditions that precluded any form of affordable housing. Also, affordable housing couldn't have been delivered on this site as there would have been issues with service charges from the swimming pool: so clearly, affordable housing wouldn't have sat very comfortably in terms of viability in service charge terms. I think build costs did exceed their predictions.”

These considerations relate to the development economics of waterfront regeneration. However, the effect of the neoliberalisation of planning is evident in changed planning guidance from central government over negotiations about the extent of affordable housing, which has shifted in favour of the developers. PCC HDO1 explained how the NPPF had made affordable housing delivery challenging in Plymouth. There are two parts to this discussion: the first part regarding development viability and the second part relating to the requirement to maintain a five-year land supply.

The guidance of the original NPPF requires LPAs to be flexible when requiring planning obligations to ensure that developers and landowners achieve competitive returns on development. The interview data revealed that development appraisals were not undertaken in either Plymouth or Bristol until the NPPF was published in 2012. According to PCC HDO1, the NPPF has resulted in virtually all developments in Plymouth being subjected to viability appraisals with all developers seeking to reduce planning obligations for affordable housing on both waterfront and inland sites. PCC HDO1 stated that prior to the NPPF, planning applications either provided policy levels of affordable housing or permission was refused. LPAs had flexibility to negotiate the level of affordable housing where planning officers agreed that there were significant abnormal impacts. PCC HDO1 therefore felt that, whilst there were abnormal costs at the Boatyard and Hooe Lake, both sites should have been able to deliver 30% affordable housing given the relatively high value nature of housing in Plymstock. Instead, these sites delivered 9% and 15% affordable housing because of reported threats to viability claimed by developers caused by abnormal costs associated with reinforcing quarry and quay walls, remediating contaminated land at a derelict scrapyards and providing access to the site.

Similarly, in Bristol, all of the interviewees agreed (independently) that viability had undermined BCC's capacity to deliver affordable housing. The BCC Planning Officer and HEO explained how viability had enabled developers to use the purchase price as the site value in viability appraisals. Developers were therefore able to overpay for sites without having due consideration for local planning policies on the basis that they could reduce affordable housing obligations based on viability. The BCC HEO stated that the developers for the Huller and Cheese and the Eye sites overpaid for the land and consequently secured planning permission with nil on-site affordable

housing. The BCC HEO stated that, for the General Hospital site, the developer was able to use the £6m purchase price as the site value for viability testing instead of the alternative residential use value, which was far greater. The 205 town houses and apartments at the General Hospital are now selling for between £325,000 and £1,250,000 per dwelling, generating significant GDVs.

Elsewhere in Bristol, the Great Western Dock development delivered 5.5% affordable housing due to the political requirement to provide the SS Great Britain World Heritage Museum. The BCC HEO advised that the developer argued to create a £2 million dowry to help fund the museum and provide an income. Viability linked to other political requirements therefore prevented the Great Western Dock site from achieving policy levels of affordable housing. Other sites across Bristol have secured reduced levels of affordable housing to prioritise other planning obligations: for example, the Metrobus link at Wapping Wharf and the restoration of a listed building at Finzel's Reach.

These observations have some significant implications. The original NPPF has enabled developers to deftly side step affordable housing obligations based on development viability. It is not clear whether developers overpay for sites to negate such obligations or whether they need to overpay to persuade landowners to sell their assets, but the implication is that sites were not acquired in full consideration of local planning policies. Either way, the neoliberalised planning system in England is configured in a way that ensures that it is bound to fail in terms of creating mixed communities because of such provisions to enable developers to avoid policy-compliant development. The former Bristol politician stated:

“[As a politician] I was passionate about it [affordable housing] but I couldn't [deliver it] as I had strategic planning powers but no planning control powers. The law is against you [as LPAs] and this is what militates against British affordable housing. The formula for getting affordable housing is blown out of the water by the loopholes that exist that allow you to take into account the price of the land. The price of the land should be irrelevant as whatever you paid for the price of the land, you paid for it knowing the requirement of 30-40% affordable housing.”

5.2.2 Accelerated Delivery: As a response to the 2008 recession, the government has introduced measures within the NPPF and the *General Permitted Development*

(England) Order 2015 (GPDO) that prioritise growth over development that complies with local development plans. Consequently, LPAs have had reduced power to refuse permission and achieve 'planning gain' from new development, such as affordable housing, and so represents an example of the temporal shifts with the neoliberalisation of planning.

The NPPF requires LPAs to identify and maintain a five-year supply of housing. Policies for the supply of housing are considered to be out-of-date where LPAs cannot demonstrate a five year supply of housing. LPAs are required to approve planning applications without delay where relevant policies are out-of-date, unless the adverse impacts of allowing development would significantly and demonstrably outweigh the benefits. Unlike the pre-2012 plan-led planning system, in which applications were determined in accordance to the development plan unless material considerations indicated otherwise, the NPPF requires LPAs to approve applications unless there is a significant degree of harm that would be caused by granting permission. According to PAS (2014), 46% of LPAs did not have a five-year land supply, which made it difficult for LPAs to refuse planning permission for housing developments. The implication is that applications that do not provide policy levels of affordable housing have been granted planning permission on the basis of an unintended consequence of another government policy.

In Plymouth, the development at the Boatyard was initially considered for refusal by PCC, on the grounds of a change of use from employment to residential use and the failure to comply with policy CS15 for affordable housing. However, PCC HDO1 advised that PCC reluctantly granted planning permission on the basis that it feared it would lose if the decision was appealed due to the NPPF's presumption in favour of sustainable development and the absence of a five-year land supply.

The BCC HEO added concerns over the GPDO, which enables developers to convert office to residential space without the need for planning permission. This order prevents LPAs from securing planning obligations for affordable housing. The GPDO presents a significant challenge to affordable housing delivery in Bristol, where there is an abundance of waterfront office space around the Floating Harbour. Permitted development is another example of how the national planning system over-privileges developers and landowners.

Political agendas have undermined the ability of LPAs to secure planning obligations for affordable housing and that such drivers will continue to present challenges in the future. Nevertheless, the study revealed three exceptions where mixed communities policies have been implemented: (1) on public land; (2) where public subsidy is provided; and (3) on large sites. The effect of neoliberalisation of planning within the same city is uneven and can produce spatial variegation based on public landownership, government subsidy and/or plot size.

5.2.3 Exceptions: Analysis of the amount of affordable housing delivered on public sites shows that nine of the fifteen Plymouth developments and three of the eleven Bristol developments were on publicly owned sites (Table 5). At first glance, Plymouth appears to have delivered a much greater proportion of affordable housing (21% as opposed to Bristol's 11% across all sites). However, further analysis reveals that, on publicly owned sites, Plymouth and Bristol delivered 25% and 27% affordable housing respectively. Just 2% of the dwellings delivered on privately owned sites were affordable housing units in both cities. A total of 91% of the affordable housing units delivered in Plymouth were on publicly owned sites compared to 85% in Bristol. The amount of affordable housing delivered on public and privately owned sites is therefore remarkably similar in both study areas, which suggests that land ownership has a significant impact upon the amount of affordable housing delivered and upon the ability to deliver mixed communities.

The second exception where social mixing policies have been implemented is when significant public subsidy is provided. Public funding does not guarantee that affordable house can be delivered. Thus, the Royal William Yard development did not deliver any affordable housing despite receiving significant PUDC infrastructure investment. However, the Phoenix Quay, Cargo and Cargo 2 developments demonstrate that significant abnormal development costs were offset by significant HCA investment in the form of public land and subsidy, which delivered policy levels of affordable housing.

As joint ventures between RPs and private developers, the Pottery Quay and Gun Wharf developments in Devonport were unique in that they were the only developments in both cities to deliver above policy levels of affordable housing with 47% and 64% respectively. The use of public land enabled a best value, rather than

maximum value, approach to be adopted in the use of land. PCC HDO1 stated that these sites were the first developments in the regeneration of Devonport and, because both sites were regarded as “*notorious no go areas*”, there was little confidence in the developers’ ability to sell market units. However, the significant local demand for rented affordable housing together with the availability of public subsidy for this provision enabled the developers to deliver properties of this type. PCC HDO1 and PCC HDO2 also advised that the amount of affordable housing was influenced by the obligation to rehouse tenants that wanted to return to the estates having been rehoused temporarily to enable demolition. Therefore, unlike the other developments, which secured consent with reduced amounts of affordable housing, the provision was increased at Gun Wharf and Pottery Quay to attract public funding and mitigate the sales risk on the market homes.

The third exception is on large sites of three or more hectares. A total of five of the 26 developments across both cities were larger than three hectares with each site delivering at least 190 homes. These sites were Mount Wise (10.5 ha) and Hooe Lake (5.5 ha) in Plymouth and Canon’s Marsh (7.0 ha), Finzel’s Reach (4.4 ha) and Wapping Wharf (3.6 ha) in Bristol. The scale of these sites ensured that there were desirable and less desirable parts which enabled the inclusion of 15% affordable housing. A Plymouth-based land agent stated that:

“If you’ve got large regeneration areas, economies of scale kick in and you also have areas of land that aren’t as prime as others and it’s these sorts of areas that allow affordable housing to be delivered.”

5.3 Attitudes and approaches to social mixing on waterfront regeneration sites across four stakeholder groups involved in the planning and development process

The consensus across all four stakeholder groups was that social mixing is a worthwhile ambition and morally the right thing to do, but that there is some conflict over whether planning policies are a practical way to implement mixed communities in waterfront regeneration areas. The interview data revealed three additional challenges to delivering mixed communities (aside from development viability linked

to development costs), which are: (1) viability linked to housing management issues; (2) service charges and rents; and (3) the wider aims of regeneration. While these issues are well-known in managing market housing alongside affordable properties, they represent additional considerations for developers when formulating development proposals.

5.3.1 Viability and Housing Management Issues: According to some interviewees from both the public and private sector, the integration of affordable housing can reduce the value of market homes on mixed tenure developments. The investment company stated that one of the first questions asked by prospective purchasers was the location of the affordable housing units. Where tenures are mixed across a development, the value of the properties on either side of affordable houses can be reduced in value. Integrated affordable housing has an even greater effect on blocks of flats, where one affordable unit can affect the value of all of the apartments.

The PCC HDO2 explained some of the housing management issues that can arise in developments with mixed communities:

“From a housing management perspective, flats are seen as a management risk as they are [associated with] younger, transient [tenants and are prone to] parties and anti-social behaviour. So flats are seen as more of a problem. Planning policy doesn’t reflect that allocations are made under the Housing Act, which is based on need. So flats for one and two bed [households] can be occupied by vulnerable people or older persons with health problems and vulnerability so you start mixing people with complicated needs in with people wanting luxurious lifestyles and the two don’t go together.”

A key principle of mixed communities is that private and affordable properties should be distributed throughout a development and be indistinguishable and tenure blind. However, an investment company raised a housing management issue at Mount Wise, where the registered provider had refused to participate in ongoing maintenance programmes on the estate. Private owners and most of the shared ownership occupants are signed up to a maintenance programme, whereby homes are cleaned and painted and the parapets and drainage systems are cleared regularly. The registered provider would not sign up to this programme, meaning that the affordable housing units are not cleaned and, as a consequence, stand out from

the market homes. The affordable homes may therefore be identified contrary to policy CS15 of Plymouth's Core Strategy (PCC, 2007a), which states that such dwellings should be tenure blind and indivisible from market units. The registered provider's refusal to maintain its properties detracts from the quality of the environment and subsequent sales values.

5.3.2 Service Charges and Rents: There was a consensus amongst participants that high service charges in waterfront apartment blocks make it difficult to accommodate affordable housing in such buildings. In addition to development viability, high service charges were given as a reason why Discovery Wharf could not support affordable housing. A Plymouth-based land agent stated:

“There is that issue of affordable housing and service charges in luxury buildings which are designed for the waterfront. Discovery Wharf is a classic example – great big foyers, swimming pool, gymnasium, a concierge service, two lift shafts, which are all paid for by the resident's service charges. So not only is it [on-site affordable housing delivery] unviable, but the service charge is unaffordable in affordable housing terms to maintain facilities. If you look at [the] affordable rent [tenure] now, the service charge needs to be deducted from the rent received so that would create an even greater gap.”

Both PCC and BCC use Section 106 agreements to cap service charges to £572 and £550 pa (for the 2016/17 year) respectively (except in supported housing schemes). However, a major landowning and development company advised that a typical service charge at Eau 1 or Eau 2 is in the region of £2,000-£2,500 pa (up to £208.33 per calendar month (pcm)). The affordable rent tenure requires service charges to be included within the rent, which cannot exceed 80% of the value of the market rent. At the time of writing, the rent on a two bedroom flat at Sutton Harbour was around £1,000 pcm (around £1,208.33 pcm with the service charge), which is significantly higher than the £530.23 local housing allowance (housing benefit) rate, creating an affordability gap that would need to be met by the tenant. Therefore, the rent and service charges ensure that flats in city centre waterfront locations are not truly affordable to those in housing need.

However, four of the interviewees did suggest how social mixing can work in waterfront apartment blocks. The BCC HEO, PCC HDO1, a major landowning/

development company and a land agent discussed the use of ‘*poor doors*.’ It is possible to build two entrances with the affordable housing units occupying a number of whole floors, or to build a separate block for the affordable homes. The separate blocks/floors can be tenure blind with the areas containing the affordable homes being more basic to reduce service charges. For example, the affordable units could be situated on the lower floors within a block so there is no requirement for a lift. For a scheme in Bristol, the BCC HEO agreed to the developer providing two lifts with one servicing the market homes and the other servicing the affordable units. However, these options effectively segregate the affordable and market units and therefore the concept of poor doors remains socially and politically controversial.

5.3.3 Regeneration Aims: As the purpose of urban regeneration is to produce a lasting improvement to an area, it was perceived by some respondents that social problems could not be resolved without increasing the proportion of market housing. This process has been referred to by critics as state-led gentrification. In relation to Devonport, the PCC HDO1 stated: *“if a whole area is poor to begin with, then it’s good to have no affordable housing. It’s a trigger for regeneration”*. All of the interviewees agreed that, whilst the four Sutton Harbour developments are exclusive on an individual site basis, they have complemented the existing stock of socially rented flats and so created a mix of house types and tenures at a broader neighbourhood scale.

6.0 Discussion and Conclusion

Using the implementation of planning policy to encourage mixed communities and affordable housing in two English waterfront cities, Bristol and Plymouth, this paper has sought to assess the ability of a neoliberalised English planning system to negotiate planning obligations with developers and to deliver ‘public goods’ through land value capture. It was apparent that there is a standard ‘model’ of delivery for inner city waterfront regeneration, namely high-rise, high density apartment blocks with little to no affordable housing, which had been influenced by urban renaissance design considerations, developers’ need to achieve high GDVs, and facilitated by viability tests and the requirement for five-year land supplies under a neoliberalised planning regime. The type of housing delivered outside city centre locations was

more flexible and could contain a mix of flats and houses. Despite house prices being 57% higher in Bristol than Plymouth, the planning outcome in terms of the deliverability of affordable housing on privately owned sites is virtually identical (in policy terms, 30-40% and in construction terms, 11-21%). This finding suggests a failure of land value capture, because of the priority given to delivery of economic growth through new housing, the viability loophole and the reliance on market mechanisms (both in relation to the land and housing development market).

The ability of planning to deliver public goods has clearly been affected detrimentally because of issues related to development viability and political priorities to deliver economic growth. The challenges of development viability of waterfront sites, such as the requirement to remediate contaminated land, mitigate flood risk and to strengthen made or reclaimed land, often require the reduction of planning obligations. Issues associated with housing management, the stigma attached to affordable housing, unaffordable rents and service charges, and the wider social aims of urban regeneration also add to the viability challenge for developers in these locations. Whilst the creation of mixed communities is equitably the right thing to aspire, social mixing is not always practical in reality.

The interview data from across all stakeholder groups confirmed that waterfront development tends to be more expensive and technically complicated than that in inland areas. Developers and landowners are understandably entitled to make a reasonable financial return from the development process. However, the tendency for developers to acquire sites at a value that does not regard development plan policies/obligations highlights structural issues within the planning system at a national scale in England. The original NPPF stated that planning obligations, such as those for affordable housing, should be sufficiently flexible to prevent development from becoming stalled. The NPPF has enabled almost all landowners and developers, who are better resourced than LPAs (Hill, 2015), to reduce the quantity of affordable housing through viability discussions. One interpretation might be that the planning system is inadvertently encouraging landowners to enhance land values in the knowledge that developers can overpay for sites and then reduce planning obligations through negotiation. Developers' profit margins are also protected through these viability negotiations.

Ultimately, the planning system is in place to guide sustainable development that accords with the development plan, which has been subjected to public consultation and examination, and so to deliver in the public interest. The original NPPF enables developers to dodge the obligation to provide affordable housing via viability negotiations and/or where a LPA cannot demonstrate a five-year supply of housing. Developers are therefore implementing development that is contrary to the development plan without the need to consult the public (other than the statutory consultation required on all planning applications). In some cases where the GDPO applies, developers do not need planning permission at all. If development proposals that were contrary to the local development plan were refused, developers would have no choice but to pay a site value that has regard to the local planning policies. The fact that developers can secure planning permission for proposals that are contrary to local development plans undermines civic trust in LPAs and in the legitimacy of the planning system itself. National planning policy since 2012 has therefore put the power in the hands of the developers and landowners who control the land supply for development. These conclusions illustrate the subtle and often hidden outcomes for cities and their populations from the neoliberalisation of planning even if these effects are temporary – accentuated by recessionary conditions and political drivers to encourage economic growth – and spatially variable being experienced more acutely in favoured cities or locations within cities. This point highlights the experimental and adaptive influence of neoliberalism in planning and illustrates its spatial, temporal and sectoral variegation.

The exception to these findings was where public land or subsidy has been made available to deliver affordable housing and on larger sites of three or more hectares. About 91% and 85% of the affordable housing in the waterfront regeneration schemes of Plymouth and Bristol respectively was on public land. Just 2% of the homes delivered on privately procured sites were affordable in both cities. Land ownership has a significant impact on the ability of LPAs to implement planning policies to create mixed communities. In Devonport (Plymouth), where 75% of the pre-regeneration homes were socially rented (PCC, 2007b), it would not have been socially equitable to replace affordable housing with executive flats for affluent households. Similarly, it would not have been sustainable to add a significant amount of affordable housing to Sutton Harbour (Plymouth), which already contained high

levels of socially rented flats in the area. In these circumstances and locations, local authorities have the ability to be disruptive to the 'post-political' tendencies of neoliberalism by delivering alternative pathways through the utilisation of their own landownership assets.

In order to deliver mixed communities, LPAs might be allowed to take a more assertive and interventionist approach to land assembly by utilising public assets to deliver public benefit. If affordable housing cannot be mixed with market properties in waterfront locations, then public authorities might identify sites which they own or control and then seek to maximise off-site contributions from developers for social infrastructure on an appropriate scale. However, in a recessionary environment, these objectives are likely to prove politically contentious and almost intractable. Under these circumstances, planning has acquired a reduced capacity to deliver public good, such as mixed communities, because of the political priorities for economic growth which have allowed developers to negate planning obligations on the basis of development viability. By enabling developers to avoid policy-compliant development, the basis of urban land use policy has been fundamentally transformed.

These circumstances would point to a need for some rebalancing of power in the planning system. The new NPPF (July, 2018) is trying to shift discussions about viability to the plan and policy making stage in setting realistic parameters for affordable housing contributions and undertaking viability assessments at the planning application stage (Soloman, 2018). The National Audit Office (2019) have also recognised that developers have been re-negotiating lower contributions on the grounds of financial viability and, while reforms were underway, these would take several years to implement. These government statements are tacit acceptance that developers have indeed been 'gaming' the system against LPAs, who do not generally have the knowledge or expertise to rebut developers' claims. It also represents the clearest possible evidence that the influence of neoliberalisation on planning is both 'experimental' and variegated temporally. The MHCLG (2018, p.7) recognise that landowners currently retain around 50 percent of the increase in land value arising from planning permission, which is necessary to provide relevant public infrastructure and services, but that there is scope to claim a greater proportion of the land value through the reform of mechanisms.

Acknowledgments

The authors would like to thank the respondents for their constructive involvement in the interviews. The authors would like to thank the respondents for their constructive involvement in the interviews; to Professors Mark Brayshay and Richard Yarwood for their helpful comments on an earlier draft of this paper; and to the anonymous referees who provided constructive insights into context of the research. Credit also to Jamie Quinn and Tim Absalom for the cartography.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

- Allen, C., Camina, M., Casey, R., Coward, S. and Wood, M. (2005) *Mixed tenure, twenty years on: -nothing out of the ordinary*, Joseph Rowntree Foundation/Chartered Institute of Housing, York/Coventry.
- Allmendinger, P. (2016) *Neoliberal spatial governance*, Routledge, London.
- Allmendinger, P., & Haughton, G. (2012) Post-political spatial planning in England: a crisis of consensus?. *Transactions of the Institute of British Geographers*, 37 (1), 89-103. doi: <https://doi.org/10.1111/j.1475-5661.2011.00468.x>
- Allmendinger, P., & Haughton, G. (2013) The evolution and trajectories of English spatial governance: 'Neoliberal' episodes in planning. *Planning Practice & Research*, 28 (1), 6-26. doi: <https://doi.org/10.1080/02697459.2012.699223>
- Arthurson, K., Levin, I., & Ziersch, A. (2015). What is the Meaning of 'Social Mix'? Shifting perspectives in planning and implementing public housing estate redevelopment. *Australian Geographer*, 46 (4), 491-505. doi: <https://doi.org/10.1080/00049182.2015.1075270>
- Atkinson, R. (2004) The evidence on the impact of gentrification: new lessons for the urban renaissance, *European Journal of Housing Policy*, 4 (1), 107-31. doi: <https://doi.org/10.1080/1461671042000215479>
- Bassett, K. (2001) *Discovering cities: Bristol*, Geographical Association, Sheffield.
- Bassett, K., Griffiths, R. & Smith, I. (2002) Testing Governance: Partnerships, Planning and Conflict in Waterfront Regeneration, *Urban Studies*, 39 (10), 1757-1775. doi: <https://doi.org/10.1080/0042098022000002948>
- Bristol City Council (BCC) (1997) *Local Plan*, Bristol City Council, Bristol.
- BCC (2011) *Core Strategy*, Bristol City Council, Bristol.

- BCC (2018) *Local Plan Review*, Bristol City Council, Bristol.
- Boland, P. (2014) The relationship between spatial planning and economic competitiveness: the 'path to economic nirvana' or a 'dangerous obsession'? *Environment and Planning A*, 46 (4), 770-787. doi: <https://doi.org/10.1068%2Fa4687>
- Boland, P., Bronte, J. and Muir, J. (2017) On the waterfront: Neoliberal urbanism and the politics of public benefit, *Cities*, 61, 117-127. Doi: <https://doi.org/10.1016/j.cities.2016.08.012>
- Bolt, G., Phillips, D. & Van Kempen, R. (2010) Housing Policy, (De)segregation and Social Mixing: An International Perspective, *Housing Studies*, 25 (2), 129-135. doi: <https://doi.org/10.1080/02673030903564838>
- Bond, L., Sautkina, E., & Kearns, A. (2011). Mixed messages about mixed tenure: do reviews tell the real story?. *Housing Studies*, 26 (1), 69-94. doi: <https://doi.org/10.1080/02673037.2010.512752>
- Butler, T. and Robson, G. (2003) *London Calling: The Middle Classes and the Re-making of Inner London*, Berg, Oxford.
- Cameron, S. (2003) Gentrification, housing differentiation and urban regeneration: 'going for growth' in Newcastle upon Tyne, *Urban Studies*, 40 (12), 2367-2382. doi: <https://doi.org/10.1080/0042098032000136110>
- Census (2011) [online] Census 2011. Available at: <http://www.nomisweb.co.uk/articles/747.aspx>. [Accessed 1st December 2016].
- Centre for Cities (2016) [online] Core Cities Outlook 2016. Available at: <http://www.centreforcities.org/wp-content/uploads/2016/01/Cities-Outlook-2016.pdf> [Accessed: 10th March 2017].
- Cheshire, P. (2007) *Segregated neighbourhoods and mixed communities*, Joseph Rowntree Foundation, York.
- Cheshire, P. (2009) Policies for mixed communities: faith-based displacement activity?, *International Regional Science Review*, 32 (3). pp. 343-375. doi: <https://doi.org/10.1177/0160017609336080>
- Claydon, J. & Smith, B. (1997) Negotiating planning gains through the British development control system, *Urban Studies*, 34 (2), 2003-2022. doi: <https://doi.org/10.1080/0042098975196>
- Cochrane, A. (2007) *Understanding urban policy: A critical approach*, Blackwell, Oxford.
- Colomb, C. (2007) Unpacking New Labour's 'Urban Renaissance' Agenda: Towards a Socially Sustainable Reurbanization of British Cities? *Planning, Practice and Research*, 22 (1), 1-24. doi: <https://doi.org/10.1080/02697450701455249>
- Davidson, M. (2008) Spoiled mixture: where does state-led "positive" gentrification end?, *Urban Studies* 45, 2385-2405. doi: <https://doi.org/10.1177/0042098008097105>

Department for Communities and Local Government (DCLG) (2010) [online] Mixed Communities Evidence Review. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7606/1775206.pdf [Accessed 1 October 2016].

DCLG (2012) [online] National Planning Policy Framework. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf [Accessed: 22 October 2016].

DCLG (2018) [online] Affordable Housing Supply: April 2016 to March 2017 England. Housing Statistical Release 09 November 2017. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/657902/Affordable_Housing_Supply_2016-17.pdf [Accessed 11 September 2018].

Department of the Environment, Transport and the Regions (DETR) (2000) *Planning Policy Guidance 3: Housing*, HMSO, Norwich.

Essex, S. and Ford, P. (2015) Coastal urban regeneration: Thirty years of change on Plymouth's waterfront, *Transactions of the Devonshire Association*, 147, 73-102.

Fainstein, S. S. (2014) The just city. *International Journal of Urban Sciences*, 18 (1), 1-18. doi: <https://doi.org/10.1080/12265934.2013.834643>

Goodchild, B. and Cole, I. (2001) Social balance and mixed neighbourhoods in Britain since 1979, *Environment and Planning D*, 19, 103–121. doi: <https://doi.org/10.1068/d39j>

Grayston, R. (2017) *Slipping through the loophole: How viability assessments are reducing housing supply in England*, Shelter, London.

Harvey, D. (1973) *Social Justice and the City*, John Hopkins University Press, Baltimore.

Harvey, D. (2012) *Rebel Cities: From the Right to the City to Urban Revolution*, Verso, London.

Haughton, G., Allmendinger, P., & Oosterlynck, S. (2013) Spaces of neoliberal experimentation: soft spaces, postpolitics, and neoliberal governmentality. *Environment and Planning A*, 45 (1), 217-234. doi: <https://doi.org/10.1068%2Fa45121>

Homes and Communities Agency (HCA) (2000) *Urban Design Compendium 1* [online] Homes and Communities Agency. Available at: https://udc.homesandcommunities.co.uk/urban-design-compendium?page_id=3892&page=2 [Accessed 14th October 2016].

Hill, S. (2015) Property and reasons: Reconnecting the citizen and state through Community Land Trusts and land reforms in nine narratives [online] Available: http://www.academia.edu/12082488/Property_Justice_and_Reason_-_Reconnecting_the_Citizen_and_the_State_through_Community_Land_Trusts_and_Land_Reform [Accessed: 28th February 2017].

Kearns, A., & Mason, P. (2013) Defining and measuring displacement: is relocation from restructured neighbourhoods always unwelcome and disruptive?. *Housing Studies*, 28 (2), 177-204. doi: <https://doi.org/10.1080/02673037.2013.767885>.

Knight Frank (2015) Waterfront Index [online] UK Waterfront Index 2015. Available at: <http://www.knightfrank.co.uk/research/reports/uk-waterfront-index-2015-3060.aspx> [Accessed: 24th September 2016].

Lees, L. (2003) Policy (re)turns: gentrification research and urban policy – urban policy and gentrification research, *Environment and Planning A*, 35, 571-574. doi: <https://doi.org/10.1068/a3504com>

Lees, L. (2008) Gentrification and social mixing: towards an inclusive urban renaissance?, *Urban Studies*, 45 (12), 2449-2470. doi: <https://doi.org/10.1177/0042098008097099>

Lees, L., Slater, T. and Wyly, E. (2007) *Gentrification*, Routledge, Abingdon.

Leger, C., Balch, C. and Essex, S. (2016) Understanding the Planning Challenges of Brownfield Development in Coastal Urban Areas of England, *Planning Practice and Research*, 31 (2), 1-13.

Lupton, R. and Crispin, F. (2009) Mixed communities: A new approach to spatially concentrated poverty in England, *International Journal of Urban and Regional Research*, 33 (4), 1014-1028. doi: <https://doi.org/10.1111/j.1468-2427.2009.00904.x>

McAllister, P. (2017) The calculative turn in land value capture: Lessons from the English planning system, *Land Use Policy*, 63, 122-129. doi: <https://doi.org/10.1016/j.landusepol.2017.01.002>

McAllister, P., Shepherd, E. & Wyatt, P. (2018) Policy shifts, developer contributions and land value capture in London 2005–2017, *Land Use Policy*, 78, 316-326. doi: <https://doi.org/10.1016/j.landusepol.2018.06.047> .

Mackinnon, D. and Cumbers, A. (2007) *An Introduction to Economic Geography: Globalisation, Uneven Development and Place*, Pearson Education, Harlow.

Macleavy, J. (2006) The language of politics and the politics of language: Unpacking 'social exclusion' in New Labour policy, *Space and Polity*, 10 (1), 87-98. doi: <https://doi.org/10.1080/13562570600796812>

Ministry of Housing, Communities and Local Government (2018) *Government response to the Housing, Communities and Local Government Select Committee inquiry on land value capture*, CM9734, HMSO, London.

National Audit Office (2019) *Planning for New Homes*, HC1923, NAO, London.

National Housing Federation (2018) *Home Truths, 2017-18*, NHF, London.

Oakley, N. (1993) Realising the potential of urban policy: the case of the Bristol Development Corporation, in Imrie, R. and Thomas, H. (Eds.) *British Urban Policy and the Urban Development Corporations*, Paul Chapman Publishing, London, pp.136-153.

Office of the Deputy Prime Minister (ODPM) (2003) *Sustainable Communities: People, Places and Prosperity*, HMSO, Norwich.

Planning Advisory Service (PAS) (2014) Five year land supply survey [online] Available: <https://planningadvisor.wordpress.com/2014/05/20/five-year-land-supply-survey/> [Accessed: 3rd March 2017].

Plymouth City Council (PCC) (2001) *First Deposit Local Plan*, Plymouth City Council, Plymouth.

PCC (2007a) *Core Strategy 2006-2021*, Plymouth City Council, Plymouth.

PCC (2007b) *Devonport Area Action Plan 2006-2021*, Plymouth City Council, Plymouth.

PCC (2018) *South West Devon Joint Local Plan*, Plymouth City Council, Plymouth.

Royal Institute of Chartered Surveyors (RICS) (2012) Financial viability in planning [online] Available: <http://www.rics.org/Documents/Financial%20viability%20in%20planning.pdf> [Accessed: 26 February 2017].

Randolph, B. and Wood, M. (2003) *The benefits of tenure diversification*, Australian Housing and Urban Research Institute, Melbourne.

Robinson, C. (2010) *A History of Devonport*, Pen and Ink Publishing, Plymouth.

Rogers, P. and Coaffee, J. (2005) Moral panics and urban renaissance: Policy, tactics and youth in public spaces, *City*, 9 (3), 321-340. doi: <https://doi.org/10.1080/13604810500392613>

Rose, D. (2004) Discourses and experiences of social mix in gentrifying neighbourhoods: A Montreal case study, *Canadian Journal of Urban Research*, 13 (2), 278–316. doi: <https://www.jstor.org/stable/44321118>

Sager, T. (2011) Neo-liberal urban planning policies: A literature survey 1990–2010. *Progress in Planning*, 76 (4), 147-199. doi: <https://doi.org/10.1016/j.progress.2011.09.001>

Sager, T. (2013) *Reviving Critical Planning Theory: Dealing with Pressure, Neoliberalism, and Responsibility in Communicative Planning*, Routledge, London.

Sager, T. (2015) Ideological traces in plans for compact cities: Is neo-liberalism hegemonic?. *Planning Theory*, 14 (3), 268-295. doi: <https://doi.org/10.1177%2F1473095214527279>

Soloman, G. (2018) *NPPF 2018: a new approach to viability*, <https://www.burges-salmon.com/news-and-insight/legal-updates/nppf-2018-a-new-approach-to-viability/> (accessed on 15 October, 2018).

Swyngedouw, E., Moulaert, F. and Rodriguez, A. (2002) Neoliberal urbanization in Europe: large-scale urban development projects and the new urban policy, *Antipode*, 34 (3), 542-577. doi: <https://doi.org/10.1111/1467-8330.00254>

Tait, M. (2012) Building trust in planning professionals: understanding the contested legitimacy of a planning decision, *Town Planning Review*, **83** (5), 597-618, <https://doi.org/10.3828/tpr.2012.36>.

Tallon, A. (2007) City Profile: Bristol, *Cities*, 24 (1), 74-88. doi: <https://doi.org/10.1016/j.cities.2006.10.004>

Tallon, A. (Ed.) (2013) *Urban regeneration in the UK*. Second edition. Routledge, Abingdon.

Tiesdell, S. (2004) Integrating affordable housing with market-rate developments: the design dimension, *Environment and Planning B: Planning and Design*, 31, 195-212. doi: <https://doi.org/10.1068/b2998>

Urban Task Force (1999) *Towards an Urban Renaissance*, E & FN Son, London.

van Beekhoven, E. and van Kempen, R. (2003) Social effects of urban restructuring: a case study in Amsterdam and Utrecht, the Netherlands, *Housing Studies*, 18 (6), 853-875. doi: <https://doi.org/10.1080/0267303032000135474>

Table 1. Hypotheses about problems of concentrated poverty and the desired benefits of mixed communities.

Assumed area effects of concentrations of poverty	Assumed benefits of living in a mixed community and/or creating mixed communities
Arising from lack of resources: <ul style="list-style-type: none"> • Absence of private sector facilities including shops and banks • High demands on poor quality public services • Poor reputation • High crime and anti-social behaviour 	Arising from more resources: <ul style="list-style-type: none"> • More money to support facilities • Improved services, particularly schools • Improved reputation • Fewer residents with motivation for crime and anti-social behaviour
Arising from limited interaction between social groups: <ul style="list-style-type: none"> • Exposure to disaffected peer groups • Isolation from job-finding or health-promoting networks of adults 	Arising from greater interaction between social groups: <ul style="list-style-type: none"> • Exposure to aspirational peer groups • Access to more advantaged and aspirational social groups and networks

Source: DCLG (adapted from 2010: p. 16)

Table 2. Participating interviewees/organisations.

Plymouth	Bristol
LPA officers	
PCC Planning Officer	BCC Former Planning Officer
PCC Urban Designer	BCC Housing Enabling Officer (HEO)
PCC Housing Delivery Officer 1 (HDO1)	
PCC Housing Delivery Officer 2 (HDO2)	
Developers	
Investment Company	None
Major landowning and development company	
Agents	
Land Agent	None
Politicians	
PCC Cabinet Member	Former Politician
	BCC Cabinet Member (written responses)

Table 3. Results from the desktop analysis of Plymouth developments.

Area	Development	Number of dwellings	Car parking spaces (spaces per dwelling)	Gross density (dwellings per ha)	Dwelling types	Percentage of dwellings that are houses	Percentage of dwellings that are affordable (and the policy at the time of securing the consent)
Sutton Harbour	Discovery Wharf	59	53 (90%)	323	59 flats	0%	0% (25%)
	Eau 1	56	53 (95%)	130	56 flats	0%	0% (25%)
	Eau 2	37	Not known	185	37 flats	0%	0% (25%)
	Queen Anne's Quay	38	Not known	109 (329 net)	38 flats	0%	0% (25%)
Millbay, Stonehouse	Phoenix Quay	123	114 (93%)	138	32 houses & 91 flats	26%	25% (25%)
	Cargo	134	124 (93%)	300	134 flats	0%	25% (25%)
	Cargo 2	48	42 (88%)	106	14 houses & 34 flats	29%	25% (25%)
	Quadrant Quay	102	110 (108%)	169	15 houses & 87 flats	15%	10% (30%)
Royal William Yard, Stonehouse	Mills Bakery	78	65 (87%)	120	78 flats	0%	0% (25%)
	Brewhouse and Clarence Buildings	133	134 (101%)	81	133 flats	0%	0% (25%)
Devonport	Pottery Quay	203	Not known	119	53 houses & 150 flats	26%	47% (25%)
	Gun Wharf	99	99 (100%)	53	82 houses & 17 flats	82%	65% (25%)
	Mount Wise	450	508 (113%)	43	139 houses & 311 flats	31%	22% (25%)
Plymstock	Hooe Lake	190	400 (211%)	34	169 houses & 21 flats	89%	15% (30%)
	The Boatyard	53	132 (249%)	32	53 houses	100%	9% (30%)
Total		1,803	1,834 (120%)¹	119 (median)	537 houses (30%) & 1,246 flats (70%)	30%	21%

Source: Authors (2017).

¹1,834 car parking spaces for the 1,525 dwellings for which the number of spaces was determined. The number of spaces could not be obtained for Eau 2 and Queen Anne's Quay. This level of parking equates to 120% provision across thirteen sites.

Table 4. Results from the desktop analysis of Bristol’s developments.

Development	Number of dwellings	Car parking spaces (spaces per dwelling)	Gross density (dwellings per ha)	Dwelling types	Percentage of dwellings that are affordable (and the policy at the time of securing the consent)
Queen Street Apartments	34	Not known	282	All flats	15% (30%)
Canon’s Marsh	688	Not known	98	All flats	17% (30%)
The Eye	108	Not known	3190	All flats	0% (30%)
SACO Apartments	160	20 (13%)	5461	All flats	19% (30%)
Temple Bridge Apartments	22	Not known	756	All flats	0% (30%)
Finzel’s Reach	398	Not known	90	All flats	23% (30%)
Great Western Dock	145	80 (55%)	296	All flats	5.5% (30%)
Huller and Cheese	55	25 (45%)	406	All flats	0% (40%)
Redcliffe Parade West	30	21 (70%)	167	All flats	0% (40%)
Wapping Wharf	523	279 (53%)	147	502 flats & 21 x townhouses and duplex/triplex apartments	19% (30%)
General Hospital	205	148 (72%)	165	195 flats & 10 houses	0% (40%)
Total	2,368	573 (51%)¹	282 (median)	99% flats	11%

Source: Authors (2017).

¹573 car parking spaces for the 1,118 dwellings for which the number of spaces was determined. The number of spaces could not be obtained for Queen Square Apartments, Canon’s Marsh, the Eye, Temple Bridge Apartments or Finzel’s Reach. The level of parking equates to 51% across the six sites where parking levels were ascertained.

Table 5. Analysis of affordable housing delivery on publicly owned waterfront regeneration sites.

	Plymouth	Bristol
Total number of dwellings consented on qualifying development	1,803	2,407
Total affordable housing units	379 (21%)	253 (11%)
Land ownership at time of securing planning permission	9 publically owned sites (60%) 5 privately owned sites (40%)	3 publically owned sites (30%) 7 privately owned sites (70%)
Number of dwellings on sites that were publically owned	1,370	796
Number of affordable housing units on sites that were publically owned	345 (25%)	215 (27%)
Number of dwellings on sites that were privately owned	1,458	1,611
Number of affordable housing units on sites that were privately owned	34 (2%)	38 (2%)

Source: Authors (2017).



Figure 1. Location of Plymouth waterfront regeneration sites. The fifteen Plymouth developments are spread across the neighbourhoods of Devonport, Millbay and Stonehouse, Sutton Harbour and Plymstock.

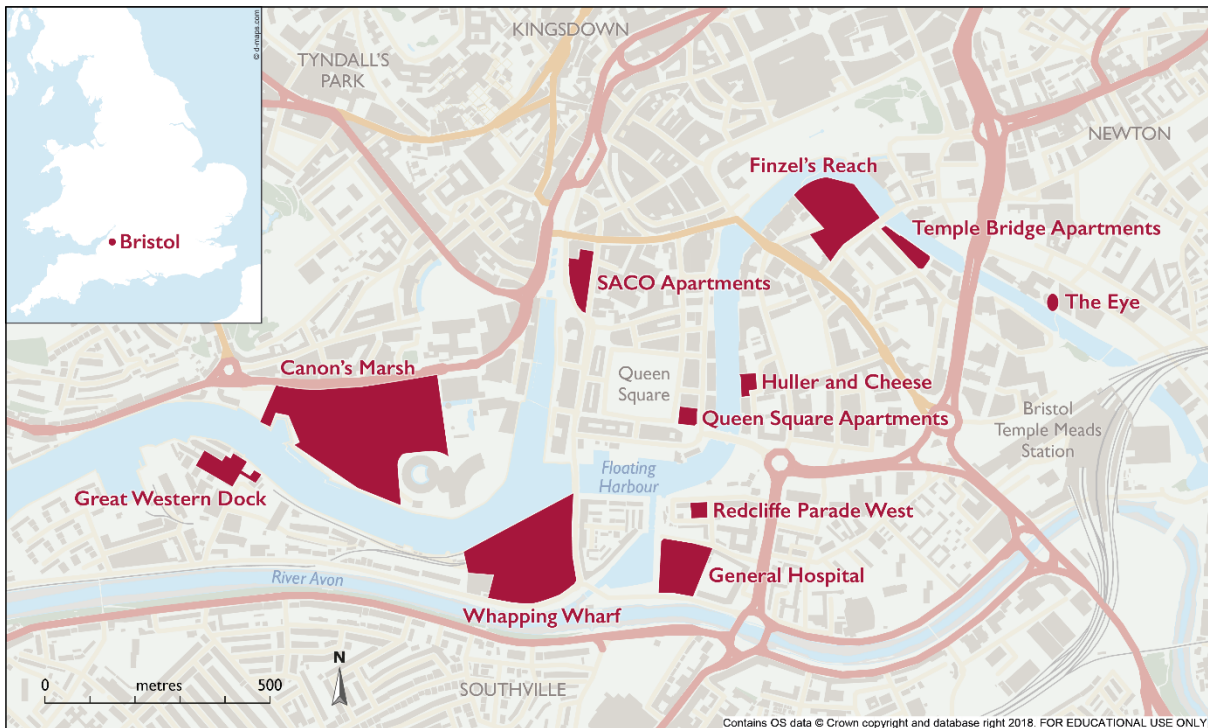


Figure 2. Location of Bristol waterfront regeneration sites. All eleven of the sites fall within Bristol's central area as defined by the BCC *Central Area Plan* (BCC, 2015).