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ABSTRACT
This paper takes a typological exploration of the 'tools' of 'design governance'. It begins by exploring the generic literature that focuses on the range of instruments, approaches and actions — the tools — that policy makers deploy in order to steer public and private actors towards particular policy outcomes. Subsequently, how the notion of tools relates to practices of design governance is examined: first, encompassing three 'formal' categories of design governance tools — guidance, incentive and control — and second, by drawing on the work of the former Commission for Architecture and the Built Environment (CABE) in England to introduce five categories of 'informal' design governance tools — evidence, knowledge, promotion, evaluation and assistance. The result, and the key contribution of this paper, is a new and comprehensive (albeit evolving), design governance toolbox that extends from formal to informal tools and far beyond that which most policy makers recognize or use.

A tools based approach

The tools of government

An important strand of public policy focuses on the 'tools' of government. Its accompanying literature focuses on the range of instruments, approaches and actions that policy makers deploy in order to steer the contexts, actors and organizations for which they are responsible towards particular policy outcomes. These are what Tiesdell and Adams (2011, 11) describe as the means rather than the ends of government. Their classification and analysis is valuable for the clues it gives about both the effective working of government and the range of alternate mechanisms that might be used to deliver defined ends.

Lester Salamon, often regarded as the godfather of tools-based approaches to understanding government, argues that in recent years there has been a proliferation of tools in government, driven on by a new found faith in liberal economic theories and frustration at the cost and effectiveness of government. "As a consequence, governments from the United States and Canada to Malaysia and New Zealand are being challenged to reinvent, downsize, privatize, devolve, decentralize, deregulate and de-layer themselves, subject themselves to performance tests, and contract themselves out" (Salamon 2000, 1612). Many such

Table 1. Classifying the tools of government.

Framework	Focus	Tools
Christopher Hood (1983)	(i) Role of government for which they are used; and (ii) Governmental resource utilized	(i) Detecting information or effecting behaviours, (ii) Nodality (government information), treasure (public resources), authority (legal power) or organization (ability to action change) — the NATO framework
McDonnell and Elmore (1987, 133)	Strategy of intervention	Mandates, inducements, capacity-building and system-changing
Schneider and Ingram (1990, 513–522)	Behaviours government action seeks to change	Authority tools, incentive tools, capacity tools, symbolic or hortatory tools and learning tools
Evert Vedung (1998)	The extent of force that different tools involve	Carrots, sticks and sermons
Salamon (2000)	Dimensions of governmental utility	Degree of coerciveness, directness, automaticity and visibility
Lascoumes and Le Gales (2007, 12)	Political relations forms of legitimacy that tools represent	Legislative and regulatory, economic and fiscal, agreement-based and incentive-based, information-based and communications-based, de facto and de jure standards best practices
Vabo and Røisland (2009)	Mode of governmental delivery	Directly or 'indirectly; the latter via the network of associations, partnerships and agencies that define the new landscape of 'governance'

approaches see government as a problem to be solved by making it: more efficient and less costly; more responsive to the needs of its constituents (those individuals and organizations it seeks to govern); more effective at achieving clearly defined ends; and less self-serving (of the bureaucracy itself). However, Salamon argues that modern government has already come a huge distance to address these concerns, although this journey often remains unrecognized. "At the heart of this revolution", he contends, "has been a fundamental transformation not just in the scope and scale of government action, but in its basic forms" (Salamon 2000, 1612).

Supporting this has been a rapid proliferation in the tools of public action; in other words in the instruments or means used to address public policy concerns. Over the years, a number of approaches have been developed to interrogate and classify the tools now available to government and compiling and comparing these frameworks quickly reveals that this is a cake that can be cut in many different ways (Table 1). As new tools have been invented, so, by necessity, have new sets of operating procedures, skills requirements, delivery mechanisms, even professions, dedicated to their development and use, including in design.

Tools in public sector urban design

Moving from the general to the particular and to the sorts of tools appropriate to the governance of design, a far more limited literature is revealed. Despite this, a number of frameworks have been proposed that together reveal a sophisticated toolkit (Table 2).

Stemming from a focus on built heritage, Schuster, de Monchaux, and Riley (1997) identify five categories of tool, that Schuster (2005, 357) subsequently argues represent "the fundamental building blocks with which a government's urban design policy is implemented". He contends that these can be used to map all urban design actions of the state and therefore need to be fully understood so that, in any given context, the best choice can be made among them.

Table 2. Classifying the tools of design governance.

Framework	Focus	Tools
Schuster, de Monchaux, and Riley (1997)	The public sector may choose direct provision by owning land and building itself (the state will do X)	Ownership and operation
	Intervening directly in the actions of others who seek to develop (you must or must not do X)	Regulation
	Encouraging certain behaviours, for example, grants, land transfer or enhanced development rights (if you do X the state will do Y)	Incentives (and disincentives)
	Zoning or re-zoning land uses (you have the right to do X, and the state will enforce that right)	Establishment, allocation and enforcement of property rights
	Collecting and distributing information intended to influence the actions of other actors, such as the production of guidance on desirable design attributes (you should do X or you need to know Y in order to do X)	Information
Carmona et al. (2010) — Part 1	'Positive' encouraging of appropriate development by producing a range of plans and guides from simple 'information' tools to 'establishment and allocation' devices guiding the distribution and redistribution of land uses	Guidance
	Enabling development in the public interest by actively contributing public sector land or resources to the development process or otherwise making development more attractive to landowners	Incentive
	The ultimate sanction through the ability to refuse permission for development via control and enforcement typically via overlapping regulatory regimes	Control
Tiesdell and Allmendinger (2005)	Setting the context for market decisions and transactions through shaping the decision environment	Shaping behaviours
	Lubricating market actions and transactions through restructuring the contours of the decision environment	Stimulating behaviours
	Controlling and regulating market actions through defining the parameters of the decision environment	Regulating behaviours
	Enhancing the ability of actors to operate more effectively through, for example, developing human capital (skills, knowledge and attitudes) and/or enhancing organizational networks	Developing the capacity of development actors / organizations
Carmona et al. (2010) — Part 2	Understanding the built environment as a complex local context	Diagnosis / appraisal
	Developing capacity and raising aspirations over time	Education
	Engaging all those with a stake in place	participation
	Stewardship of the built environment (reflecting the public sector's responsibility for its buildings, streets and spaces)	management

None of Schuster's tools are exclusively the province of design, and in fact relate to the full range of 'place-shaping' disciplines from urban planning to urban management. They confirm that the aspirations of governmental bodies may be implemented through direct action by government agencies or through the various ways and means of influencing the decisions of private actors such as the creation of policy and legal frameworks or through fiscal measures such as the imposition of taxes or tax breaks and subsidies. All but the first of Schuster's categories thereby shape the decision-making environment within which design occurs rather than specific design solutions, and all except (in some circumstances) the last are typically part of formal processes through which powers granted by statute are used to direct, cajole or encourage other parties towards particular ends in the public interest.

Focusing specifically on the role of the urban designer acting in the public sector, Carmona et al. (2010) offer a simplified three-part framework on the basis that in the neo-liberal age

the state rarely builds non-infrastructure related development beyond the scale of the individual building (a school, a hospital, etc.) and (in Schuster's terms) regulation typically flows from establishment rights. Consequently, the day-to-day practice of urban design in the public sector predominantly focuses around three key categories of tool: 'guidance, incentive and control'. Rather than a top-down command-and-control activity, this framework posits that a better way of understanding the role of urban design in the public sector is as a means of positively shaping the production of higher design quality and better places, where processes of control are moulded by allied processes of guidance and incentive that, ideally, precede the act of control (Carmona et al. 2010). All three actions are typically governed by statute and are often highly directive.

Tiesdell and Allmendinger (2005) argue that how tools affect the decision-making environment, and hence the behaviour of key development actors is vital to understand, not least because in utilizing the set of available tools, the public sector also make some actions more likely than others. The first three of their categories relate well to the trilogy of guidance incentive and control, but the fourth takes a new direction by focusing on the capacity to actually use the tools. This last category, when applied to the built environment, is particularly important because it recognizes a role for the public sector that goes beyond a focus on particular development outcomes and relates instead to shaping the process that leads to those outcomes. Implicitly it suggests that there is little point in having sophisticated governance infrastructure in place if those tasked with its operation lack the necessary competence, confidence, information, alliances or resources to manage it effectively. These sorts of concerns are likely to exist outside of any formal or statutory systems of governance and instead fall within that extensive group of activities and services that can be called informal or discretionary.

Carmona et al. (2010) also recognize this distinction, and draw on Lynch's (1976, 41–55) modes of urban design action – diagnosis, policy, design and regulation – supplemented by Rowley's (1994, 189) two additional modes – education and participation, and management – to enlarge their earlier framework with four additional means through which the public sector shapes place. The extended framework reflects a simplistic notion of urban design as a linear process to be shaped via public sector intervention using different tools along its length.[1] In reality, tools operate neither in isolation nor in a vacuum, and may exist within very crowded governance contexts with single tools impacting variously on a range of different behaviours. Design guidance, for example, is typically a bundle of shaping, regulating, and stimulus instruments (Carmona et al. 2010).

Towards a typology for design governance

Reflecting the discussion so far, it is possible to suggest a typology of tools to aid analysis and the understanding of design governance: "The process of state-sanctioned intervention in the means and processes of designing the built environment in order to shape both processes and outcomes in a defined public interest" (Carmona 2013). In a related article the nature of design governance was unpacked and four key conceptual distinctions were made (Carmona 2016). The first, between tools and administration, will be returned to below; the other three can usefully form the skeleton for such a typology.

First, there is a distinction between 'formal' and 'informal' tools; in other words between those which are legally defined in statute as 'required' roles of the state (typically tied to defined regulatory responsibilities) and those that are discretionary and which are therefore
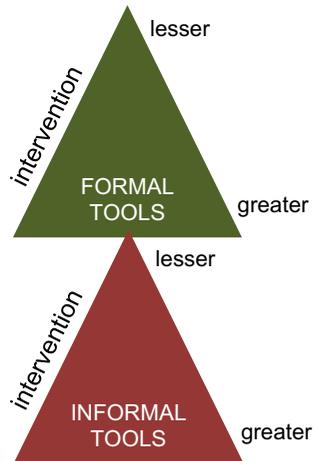
Figure 1. Design governance tools: framework for a typology.

optional. This is the major distinction that determines where tools are placed in the typology. Second, two further important conceptual distinctions can be combined into a second major distinguishing characteristic that focuses on the degree of intervention of design governance tools. These are the distinctions between the 'products' of designing the built environment and the 'processes' that shape them, and between 'direct' and 'indirect' processes of urban design (respectively those dealing directly with sites and projects and those concerned with shaping the decision-making environment within which choices about projects are subsequently made). Thus a focus on process and on indirectly shaping the decision-making environment is likely to be more long-term and diffuse in its impact, whereas a focus on product, on particular projects and / or places, is likely to be more immediate and clear-cut in its impact on shaping outcomes.

A multi-levelled typology flows from this, one in which, first, formal and, second, informal processes of design governance are distinguished. The sections that follow discuss these meta-categories, and within each identify tools representing the gradation from lesser to greater intervention as represented diagrammatically in Figure 1.

Formal tools, the tried and tested approach

A basis in legislation

To a large degree formal tools represent the tried and tested approach to the public sector's engagement with design in that they stem from very clear state powers sanctioned in legislation or binding national / state policy. This typically places a responsibility on local government to deliver these functions and defines the tools they should use to do the job.

In the UK, for example, national legislation since 1909 has permitted the creation of development plans that over the years have gone by various titles and that were given teeth with the nationalization of the right to develop land in 1947. After that, 'planning permission' was required before land could be developed. Over the last century a huge body of legislation (hundreds of pieces) has been enacted either to directly shape the planning system in the UK (or within its constituent countries) or that has significant indirect consequences on how it operates, for example, legislation dealing with environmental protection or human rights.
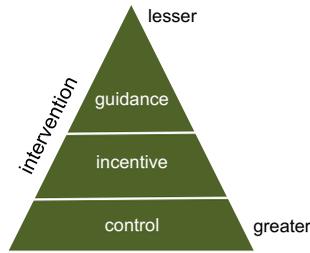
Figure 2. The formal tools, by level of intervention.

In 2015, for example, 16 separate pieces of primary legislation were of direct relevance to planning in England,[2] and 18 pieces of secondary legislation were also in force.[3] Furthermore, before 2012 (when it was consolidated), these were accompanied by over 1000 pages of policy and 7000 pages of guidance setting out how the powers should be used.[4] Whilst only a small proportion of this national planning legislation, policy and guidance related centrally to design, much of it concerned the context within which design was governed through planning; and planning remains just one of the legislative regimes that impact on how places are shaped. Others include legislation dealing with highways, housing, economic development, conservation, the environment, wildlife and countryside, local government, building control, public procurement, parks and open spaces and so forth.

As each legislative or policy intervention carries with it obligations for the state operating at its various scales, it also carries significant resourcing consequences (ultimately with tax and spend implications). In the case of design, this also impacts on property rights, freedoms and collective public interests. It is perhaps for these reasons that, in relation to design, the academic literature so overwhelmingly focuses on the formal tools of government and why informal tools, by contrast, are hardly dealt with at all. The discussion that follows adopts Carmona et al.'s (2010) simplified three-part framework – guidance, incentive and control – to structure the discussion of formal tools for design governance. In doing so it moves from advice through to compulsion, or from lesser to greater intervention (Figure 2).

Guidance

Baer (2011, 277) observes that "There are a number of words that mean approximately the same thing" relating to devices to guide human behaviour", and identifies customs, norms, rules, regulations and standards, using rules as the generic catch-all within which regulations ('government-issued rules') and standards ('a profession's internally devised rules') can be located. These terms, and a wide range of others, are often used indiscriminately (or at least interchangeably) and no agreed set of definitions exists. Lang (1996, 9) distinguishes between objectives, principles and guidelines when exploring public sector urban design, describing 'objectives' as the broad "statements of what a design is to achieve", 'principles' as "the link between a desired design objective and a particular pattern or layout of the environment", and 'guidelines' as "a statement which specifies (for uninformed people) how to meet a design objective". In this conception, the 'guideline' or 'guidance' (as preferred by Delafons (1994, 17) because it implies less rigidity) becomes the operational definition of the broad objective. In a similar vein, 'design guidance' is favoured here as the generic term for the range of tools that set out operational design parameters to direct the design of development.

Carmona (2011) places an important limit on what can be included in the category of guidance, suggesting that design guidance does not encompass fixed legally binding design requirements, as are found in some forms of zoning, because this would imply an element of enforceability that guidance does not possess. This, he suggests, "is critical because the very term 'guidance' suggests recommendation rather than compulsion and this represents a critical distinction between processes of guidance and those of control". Yet, despite the restriction, there has been a proliferation of types of design guidance, amongst which are: local design guides, design strategies, design frameworks, design briefs, development standards, spatial masterplans, design codes, design protocols and design charters. These terms are often confusing, poorly defined and overlapping, and despite attempts to classify them in relation to one another (e.g. Carmona 1996), their sheer variety only helps to illustrate the ambiguity of design guidance as a design / development tool.

Carmona (2011) goes on to argue that design guidance can be classified in many ways: according to its subject matter (type of land use or development); the type of context to which it applies; its scale of application (strategic to local); level of governance; whether generic or specific (the latter relating to a particular place, project or site); by level of detail or prescription; ownership (publicly or privately commissioned); whether focused on process or product; by the medium of representation (e.g. printed or online); and even by the degree of design ambition. The goals for design guidance, for example, may vary depending on the ambitions of its authors and the nature of the development context, particularly whether the intention is to establish minimum desirable thresholds for quality or to raise the bar and strive for a superior quality of design. The former – a 'safety net' approach – may be the limited ambition in an area beset by poor quality development. The latter – a 'springboard to excellence' – would apply in an area where the ambition to achieve better quality design is widely shared amongst key actors and the skills exist to deliver it. Although not mutually exclusive, these aspirations would depend on the nature of likely users of the guidance, the extent to which they are receptive to its content, and on the balance of power between the various players within the development process (Bentley 1999, 28–43).

At this point two fundamental qualities can be singled out to underpin a simple four-part typology of design guidance as expressed in Figure 3. These concern:
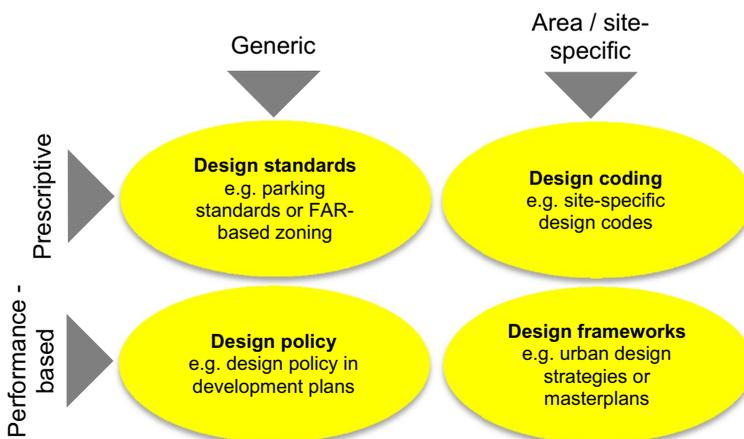

Figure 3. Typology of design guidance.

- The degree of locational specificity, whether generic (for example, applying to a whole municipality) or relating to a particular locality (for example a defined neighbourhood or site).
- The degree of interpretation that guidance requires.[5]

The first part of this conceptualization is self-explanatory, whilst the second part reflects a distinction made by Carmona, de Magalhaes and Natarajan (forthcoming).[6] Whereas performance requirements establish the broad design objectives of a public authority through the 'performance' expected of projects or places, or aspects of them (e.g. a building should be accessible to all), they do not specify how that performance should be met. Prescriptive criteria, by contrast, 'prescribe' what exactly this requires, in other words how the desired performance should be met in the end product or place (e.g. step free access to buildings). The former will be open to a good degree of interpretation when applied whilst the latter will be closely defined and, typically, inflexible. The typology results in four forms of design guidance: design standards, design coding, design policy and design frameworks which are defined more closely in Table 3.

All the categories fit in with Carmona's (2011) assertion that guidance tools do not include fixed 'blueprints' because the term 'guidance' "suggests a sense of direction for, but not an end solution to, a design problem". This is why, for example, the term 'masterplan and masterplanning' is avoided in the typology (despite the frequent use of the nomenclature as a synonym for design frameworks) because of its association with what Falk (2011, 37) refers to as 'big architecture' projects through which designers, incorrectly assume that "if you can visualise everything, you have solved the main problems of development". He quotes Garreau (1991, 435) who defines masterplanning as "that attribute of a development in which so many rigid controls are put in place, to defeat every imaginable future problem, that any possibility of life, spontaneity, or flexible response to unanticipated events is eliminated". Instead, Falk argues, what is required is a 'trellis' rather than a blueprint with which to guide growth. Whether in the form of standards, coding, policy or frameworks, viewing guidance tools as a trellis up which public design aspirations can grow seems like a helpful metaphor for design governance more widely.

In reality the divisions between guidance tools is not entirely clear cut. Design frameworks, for example, will often include design standards, policy and coding embedded within them in support of the design proposition. In the US, the extensive use of Regulating plans might be seen as a half-way house between locational design coding and design frameworks through the auspices of a two-dimensional plan locating and setting out the coded development parameters of a site: building lines, frontage widths, block and street dimensions, active frontages and so forth. In effect they relate codes to particular sites through a plan and are reminiscent of the Bebauungspläne (B-plans) used in Germany to designate urban development, acceptable land uses and development form, and to make provision for infrastructure in areas of rapid change.

Ultimately, whichever tool is used, the outcomes will only be as good as the thinking that goes into their preparation and subsequent application. B-Plans, for example, just like other mechanisms can and do contribute to high quality design (Vauban in Freiburg (Figure 4), for example), but just as easily can, and do, lead to "monotonous, land hungry developments of single-family homes that are unsustainable in terms of access, mix of tenure and use" (Stille 2007, 26).

Table 3. The four categories of guidance.

| Guidance	Characteristics	Examples
Design standards	• Consistently problematic, dominating critiques of design regulation • Generic, with little regard to varied context or creative design • Typically blunt and inflexible with little need for interpretation or negotiation • Technically and bureaucratically easy and cheap to implement providing good certainly about outcomes • Suited to technical aspects of building design (e.g. energy efficiency)	• Highways standards that prioritize vehicle flow efficiency and safety through separation and that have long been criticized as rigid and unresponsive to place quality • Parking standards that lower densities and prevent street-based solutions in residential areas • 'Euclidean' zoning (based on separating uses) is still the dominant practice in the US, leading, according to Leinberger (2008, 10), to sprawl based on a driveable-urbanism model
Design coding	• Prescribe the three-dimensional components of place but not the overall outcome • Site or area specific, often implementing a development framework (Carmona and Dann 2006). • Danger of over-prescription and obsessing about detailed design (Punter 2007, 180) • Leverage the legal authority of formal regulation but shape it to place making (Talen 2011, 532)	• Form-based codes in the US which move the focus of zoning away from land use and density towards building form and typology, allowing a greater sensitivity to place. • Typomophological approaches to regulation such as French Plan Local d'Urbanisme (Kropf 2011) • In the UK, site-specific design codes are now mainstream practice for large residential developments (Carmona and Giordano 2013)
Design policy	• Flexible, generic policy aspirations requiring varying degrees of discretion and interpretation in their use and as a result lacking certainty • High level determinants of the design decision-making environment in the absence of more locationally specific guidance • Requiring (ideally) skilled interpretation to relate them to particular development propositions (Hall 2007, 23)	• In England, design policies in local plans set out the parameters by which development will be negotiated and assessed under statutory (enforceable) powers • Local design guides, in the UK often known as supplementary planning guidance (SPG), with generic guidance on particular topics relating to a municipality (e.g. on housing design) • Flexible performance zoning in the US which substitutes functional categories for flexible performance criteria (Flint 2014)
Design frameworks	• Concerned with making spatial design propositions for particular sites or areas, and not with generic rules • The level of detail and prescription may vary but are often highly flexible and open to significant interpretation • Guiding rather than dictating the final form of development • A "framework for managing change … rather than just the spatial rendering of a property development on a site" (Al Waer 2013, 28)	• Variously known as: masterplans, urban design frameworks, development frameworks, development briefs, design strategies, area action plans and so on. • In the UK the Urban Task Force (1999) played a very significant role in reviving 'spatial masterplans' as three-dimensional vision-making and coordinating tools • Urban design strategies in English cities such as Bristol and Nottingham have successfully guided ambitious public realm proposals and private sector investments.
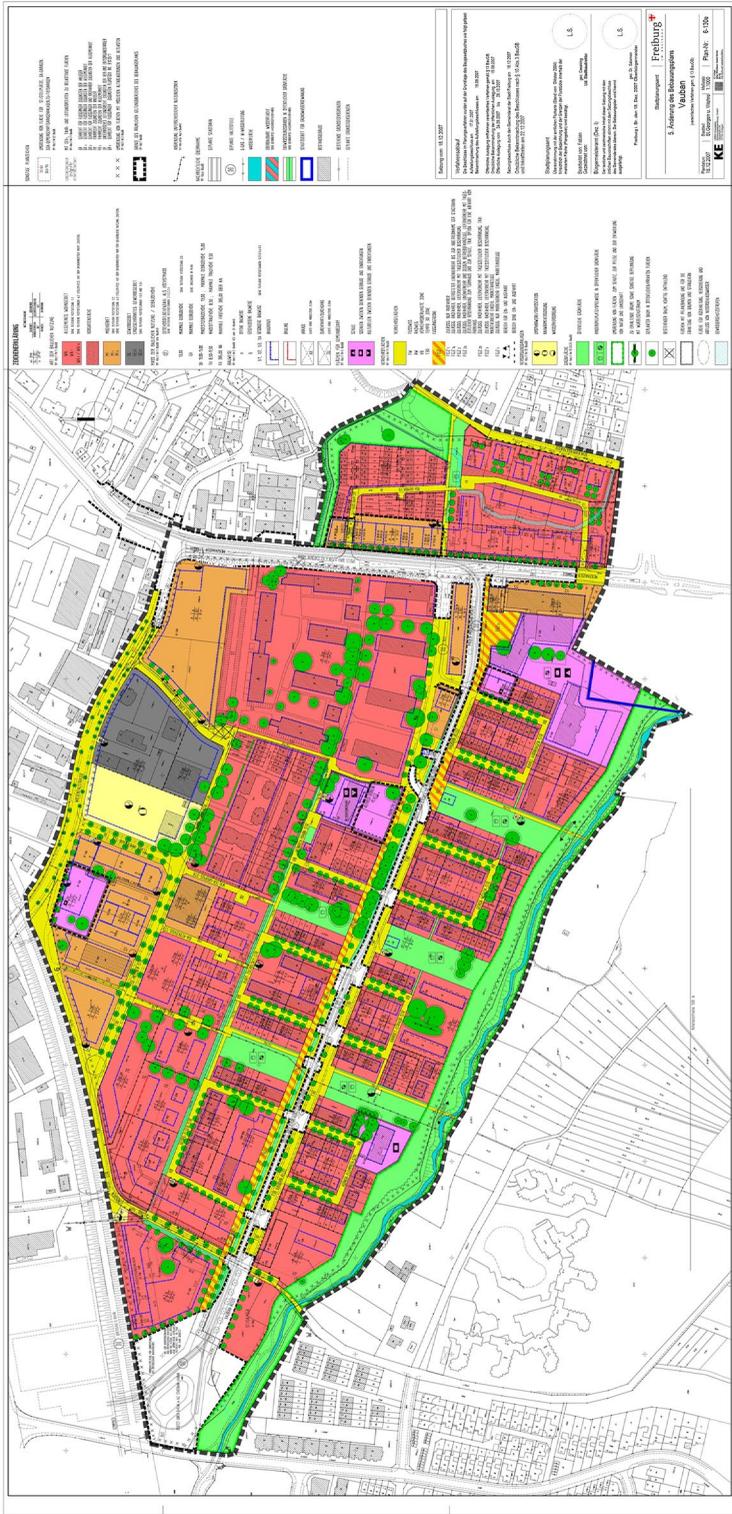
Figure 4. B-Plan extract and key, Vauban Freiburg. Source: Freiburg im Breisgau.

Incentive

The preparation of guidance of various types is a proactive but often less directly interventionalist form of governmental activity than incentive and control because, whilst it is a positive response to shaping the decision-making environment, in the large majority of cases public authorities will still be dependent on private actors interpreting the guidance and coming forward with development proposals. Clearly, as guidance becomes more locationally-specific and / or less flexible in the degree to which it enables interpretation, its relative power to shape outcomes will increase. Forms of incentive are likewise more or less interventionalist depending on whether or not they involve the state directly putting in public resources in order to encourage certain outcomes, or whether they are indirect and focused on rewarding defined 'good behaviour' with enhanced development rights.

In this regard, Lang (1996, 17) identifies two ways of incentivizing developers to produce particular design / development outcomes, first, through direct financial incentives, and second, through what he calls trade-offs: "Financial incentives reduce the monetary risk to developers of making specific types of development. … Trade-offs tie developments which are uneconomic in the market place to highly lucrative development". In both, the fundamental objective is an economic one, namely to stack the scales so that a particular development proposition swings from being uneconomic to economic, making development more likely, or, in terms of Hood's (1983) classification of governmental tools (see Table 1), the application of state 'treasure' to the problem.

Seen in such terms, if enough non-refundable state treasure is applied to any private development proposition then eventually it will become viable, although this will not necessarily guarantee good design and may be deemed illegal state aid. The critical task is not simply to incentivize development, but to incentivize high quality development. Moreover, in a neo-liberal environment where increasingly the private sector is being turned to in order to provide a wide range of public goods and where state resources are often limited, means of incentivization based on encouragement rather than state expenditure may be more important.

The state aided / state encouraged nexus provides a first means to classify incentivization processes as they relate to design. Processes of incentivization can also be classified in terms of what they are attempting to incentivize, namely whether they focus on facilitating the process of design and / or development or whether they focus directly on particular clearly defined outcomes such as the provision of public space. Together these two fundamental qualities underpin a four-part typology of design incentive, as expressed in Figure 5. The typology results in four forms of design incentive: subsidy, direct investment, process management and bonuses, which are defined in Table 4.

Control

The prospect of achieving the variety of permissions necessary for development to proceed is of course a major incentive in its own right for development actors and, like other tools, control processes can be shaped in a manner that facilitates or hinders better design. Equally, if incentives are viewed as the 'carrots' for good behaviour then control might be seen as the 'stick', and as a disincentive to bad behaviours. The key challenge in designing regulatory systems for design is to make the 'good' easy and the 'bad' arduous, although this
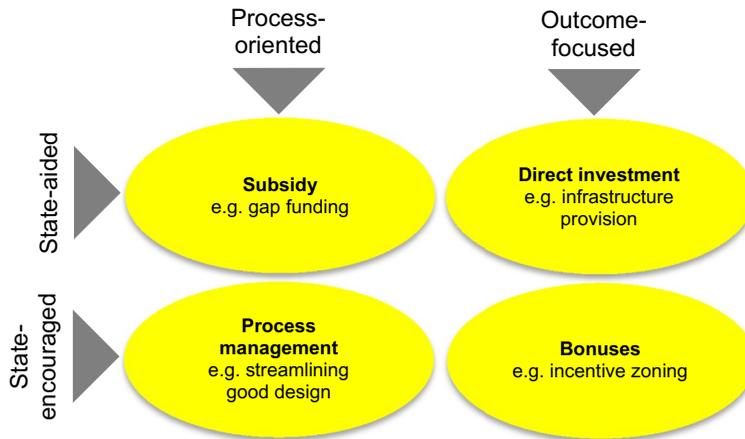
Figure 5. Typology of design incentive.

presupposes being able to distinguish good from bad (the role of design guidance) and having a system of sanctions (and incentives) in place to encourage it. As the ultimate sanction of regulatory processes is to deny permission to do something (e.g. permission to develop) the prime incentive will be to achieve consent for a proposal while the main sanction will be to withhold it.

Control processes themselves reflect one of two major types. They are based on fixed legal frameworks with unquestioning administrative decision making as typified by American, European and Japanese zoning systems. Alternatively they are discretionary with a distinction drawn between law and policy, as is the case in British town and country planning; the latter enacted through 'guiding' policy and plans, skilled professional interpretation in the light of local circumstances and political decision making (Reade 1987, 11). Beyond arguments over the inherent pros and cons of discretionary vs. fixed legal systems (Table 5), the diversity of control systems, and their often disjointed, uncoordinated and even contradictory nature is sometimes a cause of complaint (Imrie and Street 2006, 7).

Reflecting their relative strengths and weaknesses, many administrations adopt a mix of the two basic forms of regulation for different purposes. In the UK, for example, planning, conservation and environmental protection are discretionary whilst building control and highways adoption processes are fixed technical processes, open to little interpretation and no recourse to appeal (apart from in the courts).

Both forms of decision making retain the potential to contribute towards what has been described as a regulatory tyranny (Carmona 2009); the first because of its perceived arbitrary, inconsistent and subjective nature, and the second because of its lack of flexibility or inability to consider non-standard approaches. Perhaps because of this, in recent years there has been a convergence between the two systems (Booth 1999, 43), although even where this has happened, the two forms of regulation remain distinct because of the very different legal and administrative systems with which they are underpinned. Nevertheless, the overlay of formal design review procedures onto fixed legal zoning systems to give more flexibility on design, or the addition of more detailed and authoritative guidance to increase certainty in discretionary systems are examples of convergence.

Table 4. The four categories of incentive.

Incentive	Characteristics	Examples
Subsidy	• Granting state aid (treasure) to projects • Including price adjusting and capital-raising instruments (Adams and Tiesdell 2013, 134) to: (i) direct grants or tax incentives that fill a gap in funding; or (ii) guarantee investments, loan funds, or support projects through public–private partnerships • "Can be changed into development + design stimulus instruments by adding 'design strings'" (Tiesdell and Adams 2011, 25)	• In the UK, the first wave of Enterprise Zones in the 1980s, (e.g. in London's Docklands) included tax advantages alongside simplified planning with almost no control on design and often poor design outcomes • The Royal Docks Enterprise Zone combines similar tax incentives with a flexible design framework and set of design policies contained within *Royal Docks Spatial Principles* (Mayor of London & Newham London 2011). In effect developers will need to deliver good design to benefit from the subsidies
Direct investment	• Investment by the state through land acquisition, assembly and remediation, or by direct provision of an enhanced public realm, infrastructure or public amenities, etc. • Stimulating development by closing the gap between viable and unviable propositions or reducing the risk for private actors • In the process establishing a 'level of quality' to stimulate change in a proactive manner	• Hall (2014, 282) argues that state-led infrastructure projects in the Netherlands, Germany, Scandinavia and France drive economic development and are often accompanied by generous treatment of public space that set high aspirational standards • Such up-front provision is often accompanied by mechanisms to reclaim value for the state through public land ownership • Falk (2011) concludes that such advance investment "incentivizes developers to (a) take part and (b) take part now"
Process management	• Regulation is frequently criticized for adding burdens on development • The time taken to influence design, particularly when discretionary, often falls foul of such critique with concerns that such processes are "time-consuming and expensive" (Brenda Case Scheer 1994, 3). • Processes that streamline formal systems of control, or which otherwise actively manage the process in order to assist applicants can also incentivize good design	• 'Fast tracking' processes, e.g. fast-tracking proposals made by architects or that feature high quality design through regulatory systems • Developer subsidies, e.g. developers funding the preparation of design frameworks for municipalities, funding or dedicated design expertise within planning authorities • Pre-application discussions to agree key design principles before proposals are formally submitted for development consent • Protocols and timetables, agreed in advance for complex planning applications, e.g. relating to the sorts of design information required
Bonuses	• Systems of development bonuses (incentive zoning) in the US offer extra floor space in exchange for public amenities, e.g. better design features or public spaces. • Abuses of such systems have sometimes discredited them, including the poor quality of many of the 'public' amenities provided (Loukaitou-Sideris and Banerjee 1998, 84–99) • Outcomes are largely dependent on how private actors interpret such incentives	• Kayden (2000) has described how, between 1961 and 2000, 503 new public spaces were obtained through incentive zoning in New York. • Most were attached to office, residential and institutional buildings that have typically been granted a 20% increase in floor space • Despite some design exemplars, new public spaces were often barren, hostile and highly-controlled, and too often resulted in the separation of buildings at ground level (Barnett 1974, 41) rather than the creation of unified built frontages (Figure 6).

Figure 6. New York 'bonus' plaza, the status of this space is clearly denoted by the small wall-mounted plaque in the middle of the picture which reads 'Plaza rules of conduct. No smoking, No pigeon feeding, No rollerblading, No skateboarding, No loitering'.

Table 5. The pros and cons of discretionary, fixed-legal and crossover regulatory systems (adapted from Carmona et al. (2003)).

	Pros	Cons
Discretionary systems	Flexible decision making	Uncertain decision making
	Speedier plan-making	Slower planning applications
	Responsive to individual circumstances	Inconsistent decision making
	Responsive to community representations	Arbitrary decision making
	Potential for negotiation	Potential for conflict in decision making
Fixed legal systems	Certain decision making	Inflexible decision making
	Faster planning applications	Slower plan-making
	Consistent decision making	Unresponsive to individual circumstances
	Objective decision making	Unresponsive to community representations
	Avoidance of conflict in decision making	Little potential for negotiation
Crossover systems	Some flexibility	Some inflexibility
	Reasonably certain decision making. Responsive to individual circumstances	Some uncertainty
	Responsive to community representations	Slower planning applications
	Some potential for negotiation	Slower plan-making
	More consistent decision making	Potential for conflict in decision making
	More objective decision making	Some inconsistency
		Some arbitrariness

Looking beyond the two fundamental types of control, it is possible to distinguish a four-part typology of control tools (Figure 7) based, first, on whether they are primarily development or construction related, a factor that also reflects when in the larger place-shaping process the permission is given: pre- or post-development. Second, it also reflects to whom the benefit of the decision primarily accrues; whether a contribution from the developer to the state (the public gets something), or an authorization given from the state to the applicant (who is allowed to proceed with, or successfully complete, a development). In each of these categories there is potential for both discretionary and non-discretionary regulatory systems to have sway, although typically the more technical processes concerned with
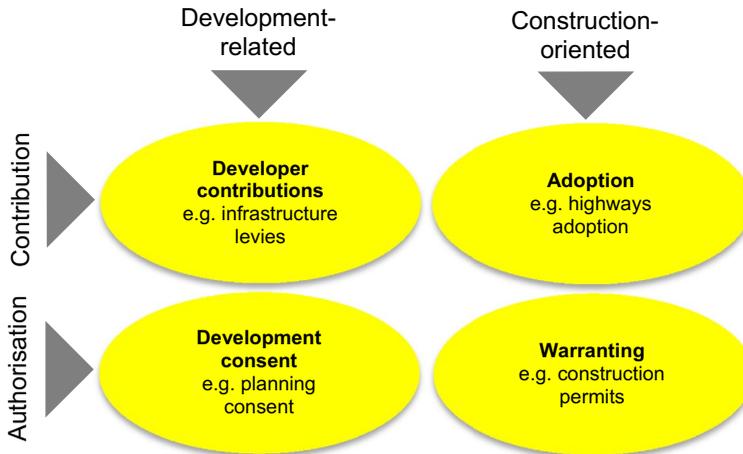
Figure 7. Typology of design control.

construction are more likely to be non-discretionary than those associated with the less certain processes of development. The typology results in four forms of design control: developer contributions, adoption, development consent and warranting. These are set out in Table 6.

Informal tools, or tools without teeth

Indirect design governance

If the reality of design governance across the world is defined by formal processes that remain strongly wedded to tools of control, supported by allied guidance and incentive processes that are focused almost entirely on underpinning the control function, then design governance will remain a largely technocratic and reactive process. Many have argued, for example, that this has too often been the dominant practice in the UK where proactive guidance tools have been usurped by generic policy and crude standards applied in a reactive manner (Farrell 2014, 83). Because formal processes will always be defined within and limited by the legislative frameworks within which they are created (and by the minds of the politicians and technocrats who draft them), it maybe that informal, non-statutory, means are ultimately required to break through the tried and tested, but all too often unsatisfactory, ways of doing things.

Returning to Salamon's (2002, 2) view that the neo-liberal era has brought with it a proliferation in the tools available to government, he also argues that many of these 'new' tools share an important characteristic in common: 'they are highly indirect. They rely heavily on a wide assortment of third parties – commercial banks, private hospitals, social service agencies, corporations, universities, day-care centres, other levels of government, financiers, and construction firms – to deliver publically financed services and pursue publicly authorized purposes'. For him, 'the upshot is an elaborate system of third-party government in which crucial elements of public authority are shared with a host of non-governmental or other-governmental actors'. Consequently, they also involve the sharing with third party actors

Table 6. The four categories of control.

Control	Characteristics	Examples
Developer contributions	• The non-optional societal price that is levied for the necessary permissions • Can be seen as a reverse-incentive – from the developer to the state – in order to incentivize the grant of the necessary development consents • They can help to rectify any negative externalities from a development and give society a slice of the uplift in land value relating to the grant of consent • Design can be a key beneficiary if factored into relevant negotiations	• In England, developer contributions can be levied in three key ways: as a 'condition' to the planning permission; as a separately negotiated 'obligation' to a planning consent; through a Community Infrastructure Levy (CIL) or a standard charge relating to the type and extent of development • Some municipalities in Canada levy Development Charges which penalize developments that sprawl (Baumeister 2012), justified on the basis that sprawl gives rise to higher infrastructure costs
Adoption	• The construction of roads and local infrastructure by a private developer and its transfer into state ownership • On the one hand, a public benefit in the form of a gift, and on the other an on-going liability (transferred from the private sector) to manage and maintain infrastructure at state expense • Typically infrastructure needs to be built according to defined standards for adoption which can put the state in a strong position to require high quality	• Known in different countries as adoption, gazetting, dedicating, addition, and expropriation and variously extending to: roads, footpaths, cycleways, public spaces, street lighting, street furniture, public art, verges, play areas, open space and sports facilities, parking areas, community buildings, schools and health facilities, SUDs, recycling and waste facilities, local energy generation and so forth • In the UK, local authorities are reluctant to adopt high specification bespoke elements because of the maintenance liability
Development consents	• Processes of consents for development relating to a diverse range of regulatory regimes: planning, zoning, subdivision, heritage / conservation controls, design review • They may be integrated with each other in various combinations or separated (Carmona et al. 2010) • Typically they are reactive to development propositions • Sometimes discretionary and requiring case by case negotiation, and sometimes part of fixed legal systems with as of right entitlements	• The UK's planning process is integrated and discretionary with judgements about the acceptability of design made by local planning authorities based on negotiation • Separated models are prominent in the US where a process of design review often sits alongside but separate from zoning and separate from the regulation of subdivisions • Subdivision, for example, is guided by its own processes of pre-application, preliminary plat and final plat that are overlaid by a "jumble of codes, regulations and design requirements" (Ben-Joseph 2005, 179; 181–182) and which are fixed and not subject to negotiation.
Warranting	• Building or construction permits focus on detailed design and construction against a published construction code • This will typically include pre-construction appraisal of construction plans leading onto a post-construction inspection of actual works • Once the notice, certificate or permit has been issued this provides a 'warrant' of standards achieved (rather than a consent to proceed), namely that they are legal and safe	• In the UK the focus of the building regulations is on a range of technical concerns such as: structural stability, heating and utilities, lighting, ventilation, sound insulation, and drainage and waste, the results of which are largely hidden from sight following construction • They also cover dimensions with an impact on external aesthetics including external heat loss / insulation and fire transmission, and on issues with an impact on layout, such as accessibility and the use of renewable technologies

of a key governmental function associated with the use of discretion in matters of public authority of the use of public funds.

With regard to the distinction between tools and administration briefly referred to above, administration represents the other side of the tools coin in that an administrative infrastructure, appropriate procedures, and the full range of human, financial and skills resources are required to operationalize any sort of tool (Carmona 2016). In this respect it is not just the tools that are increasingly indirect, but also their administration. Delafons (1994, 14–17) identifies a three-part typology of design administration.[7]

- The regulatory mode (the traditional municipal control of design through regulatory means).
- The authoritative intervention (appointing an 'independent' or at least arms-length and non-political body to take on the 'design' function).
- The proprietorial injunction (involving the complete abstinence from public design governance in favour of private landowners and developers controlling themselves).

More simply, these three systems might be characterized as 'traditional', 'indirect' and the 'private' administration of design. Completely private processes fall outside of the definition of design governance adopted for this paper, and therefore outside its scope. However, the application of indirect modes of governance and the sorts of tools this gives rise to offer a potentially rich source of innovation and a means to move beyond the traditional forms of design governance that have so often given rise to sub-standard outcomes. The work and experience of the Commission for Architecture and the Built Environment (CABE) that operated in England between 1999 and 2011 represents perhaps the most important experiment (globally) within this mode of working. Detailed analysis of the practices CABE adopted are reported elsewhere (see Carmona, de Magalhaes, Natarajan forthcoming), and sit at the heart of the typology adopted here.

The CABE experiment: indirect administration to informal tools

CABE was the UK Government's advisor on architecture, urban design and public space in England. Whilst CABE clearly operated within and wholly funded by the public sector, it was detached from national and local government and from 1999 operated as a company limited by guarantee, only attaining a statutory status in 2006 as a non-departmental public body (NDPB). Even with this status CABE operated throughout its life in the absence of any regulatory framework through which to achieve its ends and from 2006 with only the most general statutory powers giving it the right to exist and to conduct operations. It never possessed the right to make decisions that would be binding on others.

Despite this, CABE can be viewed as part of an attempt, through active government, to improve design quality in the built environment, thereby addressing a need stemming from the perceived failure of both the market and state to fully recognize the importance of good design. Although the legal successor to the Royal Fine Art Commission (RFAC) established in 1924 by a Conservative administration, CABE represented a perfect example of Tony Blair's New Labour government at work, namely a combination of "economic neo-liberalism with a commitment to active government" (Hall 2003). CABE spent, for example, considerable time and resources placing its arguments in the context of the market and of creating economic value. At the same time it was clearly in what Hall (2003) classified as a subordinate

role to the market, an influencer rather than a regulator, and reliant on developing, refining and deploying a range of pre-exiting and newly developed informal tools to achieve its ends of improving design.

Whilst CABE was not the first national body in England to have responsibility for design in the built environment, building as it did on three-quarters of a century of RFAC experience, in reality that experience had been extremely narrow and largely focused on design review of public projects. Consequently, although the mission of the RFAC extended into the neo-liberal era with its proliferation of governance tools and approaches, cossetted in its headquarters in Mayfair in London, those trends largely passed the old Commission by. As a consequence CABE represented the first UK-based organization of its type to fully embrace the new governance landscape, whilst a willingness to experiment with the range of new informal tools available to it became one of its defining features.

A typology of informal design governance tools

In the terms set out by Schuster, de Monchaux, and Riley (1997) to classify the generic tools of government (Table 2), CABE were denied access to: ownership and operation, regulation, and establishment, allocation and operation tools, and the use of incentives (and disincentives) was limited by CABE's relatively modest core funding.[8] For the most part, CABE operated within the final category of tools, 'information', which Schuster (2005) defines very broadly using the contrasting examples of 'listing' historic assets and informal design review, both of which operate through singling out an asset or project and publicizing its strengths and weaknesses in an authoritative manner in order to inform subsequent decision making. Within their meta-category of shaping instruments, Tiesdell and Allmendinger (2005) include 'generating information or promoting coordination' alongside 'capacity-building', the latter encompassing education and training, exchanging information, and building networks of support and expertise. All can be encompassed within the informal group of tools.

The Australian Public Service Commission (2009, 9) bring these types together into a category they call 'Education and information instruments', and whilst their analysis does not relate specifically to design, their conclusions are insightful: "This category of instruments cannot usually be relied upon in isolation, particularly where there is a substantial tension between public and private interests" as there often is in urban development. Instead, "A key function of these types of instruments is to internalize the desired behaviour into corporate and individual decision-making". They argue that this is especially important in order for governments to successfully address some of the most complex of policy problems such as climate change or dealing with obesity. The pursuit of design quality certainly falls into this category.

Reflecting the limitations enshrined in its foundation, which in effect largely restricted its operations to within the education and information field, CABE worked hard to expand the scope of the tools available to it and their effectiveness. Consequently, rather than adopting any of the pre-existing tools frameworks, it makes sense to simply categorize the activities of CABE in order to conceptually organize the various tools of informal design governance. Few attempts have anyway been made to systematically classify tools of the urban design process, and typically when this has been done discussion of informal tools has been omitted altogether or treated in isolation.[9]

In large part CABE focused its efforts on advising others, either generating advice, disseminating it, using it to argue for particular outcomes, or offering it directly to project teams. The analytical framework in Figure 8 was generated by applying an expanded version of these roles to a continuum of intervention, from lesser to greater (hands-off to increasingly hands-on), or what Doern and Phidd (1983) rather pejoratively refer to as the 'degree of intrusiveness' of instruments. In this framework interventions range from: the gathering of evidence, to the dissemination of knowledge, through the active promotion of design as a cause, to the 'detached' evaluation of design quality, and finally to direct assistance with projects (at the coalface) and / or with processes of design. Through the lens of CABE's work, these categories are briefly unpacked to reveal the sorts of tools each contains.

Evidence

The informal tools start with gathering an evidence-base about design and design process as a means to: support arguments about the importance of design; underpin advice about what works and what does not; and to monitor progress towards particular policy objectives or to gauge the state of the built environment. The search for evidence to underpin policy represented a cornerstone of the New Labour governments in the UK, with the 'third-way' politics of the time underpinned by a determination to move away from ideology as the driving force for governmental action and instead to support 'what works', preferably on the basis of evidence (Solesbury 2001, 2).

Evidence was the least interventionalist of the informal tools that CABE deployed, but to a significant degree evidence provided the basis upon which CABE's other tools were developed, refined and monitored. In particular, evidence represented a means of both constructing a knowledge base that could inform government, developers, commissioners of buildings and users but also, internally, it helped CABE to better focus its own work with empirical evidence. These tools evolved over the lifetime of the organization and developed to touch almost every sphere of the built environment from construction to spatial planning, buildings to landscape and product to process. At the heart of this category was research, focused on understanding the problems and processes of design and development as they effect the built environment. A second tool, audit, focused on measuring the quality of outcomes and ultimately the impact of development on place (Figure 9 and Table 7).

Although the amount of the evidence produced or compiled by CABE, either through dedicated research or by collecting information from its own activities was unprecedented, its actual impact varied. As with any organization involved in research, it is the connection
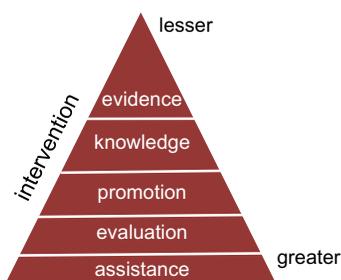

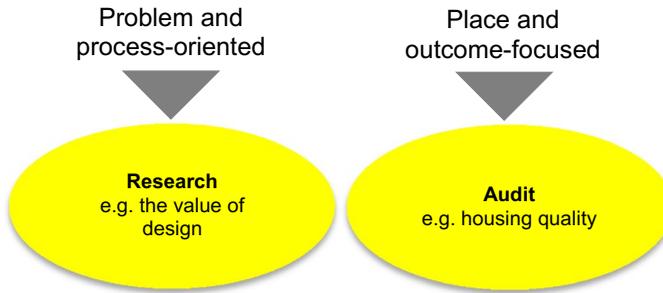**Figure 8.** The informal tools, by level of intervention.

Figure 9. Typology of evidence.

Table 7. The two categories of evidence.

Evidence	Characteristics	CABE example
Research	• Policy makers are amongst the key audiences for and commissioners of built environment research (Carmona 2014b) • From fundamental questions of place quality, to pragmatic issues concerning the design and / or development process, research can elucidate the processes that shape the built environment and how to influence them • Results help to ensure that design is dealt with in an objective and informed manner	• For CABE, one of the main objectives of producing research was for the organization to evidence its own activities and to make them robust in a manner that design had never been perceived to be • This was important because of the intangible nature of many of the assumed benefits of good design, and because of the widespread view that such benefits were subjective • For example CABE's research effort began with *The Value of Urban Design* project (CABE 2001) and the value added by good design became its most enduring research theme
Audit	• Audits (appraisal, diagnosis, or analysis) are fundamentally about understanding the qualities of place • Audit might precede development, or may be concerned with taking the 'state of the nation' in relation to particular design / development practices or as regards the overall quality of the built environment • Methods will vary, from those focused on the physical built environment, to the natural environment, to perceptions of place, to the social public realm	• CABE's housing audits were of the 'state of the nation' type, and were hugely influential in putting the general poor quality of residential design in England on the national agenda • The first audit reviewed a sample of private volume housebuilder schemes completed between 2001 and 2003 utilizing 20 indicators of quality that were reviewed on-site by trained assessors • National coverage was achieved over 3 years, with the final audit suggesting that fewer than 18% of schemes could be classed as good or very good design (CABE 2007, 4)

with the end users of the knowledge produced that dictates impact, and for CABE this meant a balance between defining a research agenda as a function of government priorities, following its instincts about what kind of knowledge it should produce, and being aware of the ultimate users of its research and how it would be perceived and used. For some users CABE's research represented an invaluable source of rigorous ammunition with which to arm themselves to make the case for better design, nationally and locally. For others CABE quickly became bogged down in their own crusade to produce more and more (to meet government targets and to continually demonstrate their relevance) and this pursuit of quantity was not always accompanied by an equal level of attention to rigour or quality. Most agree that CABE would have been immeasurably less impactful without the focus on

evidence which was amongst the key factors that distinguished the organization so completely from what had come before.

Knowledge

Whilst evidence, including through research or audit, forms the basis of knowledge, and is intrinsically of value in itself to inform practice and debate, its proactive use will depend on how it is utilized in combination with the other tools in the remaining informal categories and in relation to the formal tools already discussed. It should, for example, underpin the range of knowledge tools, the main purpose of which is to spread knowledge about the nature of good design, good and poor development practices, and why it matters. In so doing these tools can help to deal with a deficit in design awareness that, in the UK, extends across demand and supply sides (Urban Design Skills Working Group 2001, 7).

A major strand of CABE's work focused on disseminating the knowledge gathered through the sorts of evidence already discussed, as well as that obtained via the more proactive work of CABE, yet to be discussed. These tools comprised practice guides aiming at a variety of audiences, but especially professionals looking for sources of advice, databases of best practice case studies to serve as sources of reference and benchmarks, and education through summer schools for professionals and specialist training, and the preparation of school materials for children and young people (Table 8). In this respect they range from detached and passive tools (e.g. the case studies) to more hands-on and active educational tools involving the direct engagement of participants (e.g. training) (Figure 10).

In the absence of formal intervention and / or delivery powers, it was logical to seek to influence those who did have such powers, and the most straightforward way to attempt to do this was through generating and disseminating knowledge that would shape their practices. The practice guides in particular were clearly responsible for a large part of the visibility of CABE, and many of the guides (alongside the case studies) were (and still are) widely consulted by practitioners. Education, as a tool, was far less visible, although the numbers of local authority officers who attended CABE training events helped to build a critical mass of design-aware practitioners nationally within the public sector. However, this legacy may be more transient as, faced with the day-to-day realities and pressures of practice, lessons about design quality and its importance will be easily lost unless continually reinforced. The impact on education within schools and on the next generation is perhaps most difficult to gauge, as whilst CABE's interventions may have inspired a future generation of built environment professionals (it is too early to tell), CABE's efforts may also have represented a needle in the haystack given the sheer numbers of schools and schoolchildren in England.

Promotion

Knowledge tools, by their nature, will have an advocacy role, helping to advance particular normative design and design process aspirations based on evidence or practical experience. Promotion tools also rely on these same sources of information to make the case for particular design responses in a more proactive manner. Instead of waiting for organizations and individuals to seek out knowledge, these tools take the knowledge to them, seeking to package key messages in a manner that engages attention and wins over hearts and minds to the

Table 8. The three categories of knowledge.

Knowledge	Characteristics	CABE example
Practice guides	• Practice guides refer to the sorts of informal guidance on generic aspects of urban design / development practice that are created with the intention of sharing best practice, either in process or outcomes • Such guides are not place specific and are typically produced in order to disseminate the accumulated wisdom of particular groups or the insights garnered from research	• In the UK, the most widely used practice guide of this type was *By Design: Urban Design in the Planning System*, published in 2000 by government and CABE as a guide to the treatment of design within the planning system (CABE and DETR 2000) • The guide remained the primary source of national guidance on the subject until it was withdrawn in 2013, and its advice was widely adopted by municipalities in local policy
Case studies	• Whilst practice guides act to distil desired practice and to present it in a digestible form, a more raw form of knowledge are published case studies • They share best practice to inspire others and can be more directive in that they move beyond generic principles to advance models of 'best practice' • Typically these online resources are written against a common structure to allow cross-comparison, and to reveal key arguments	• CABE's sustainablecities.org.uk website contained extensive best practice cases to provide easy and accessible cutting-edge information and inspiration for practitioners • The cases studies were grouped by themes: energy, waste, water, transport, geographical information, public spaces; and by spatial scale: building, neighbourhood, region • The idea was to cut through the complexity of climate change and its relation to design and to frame the material for the target audience of local authority staff
Education / training	• This category encompasses both formal educational programmes (from school to university) and post-professional training as part of continuing professional development • Ultimately education and training is about raising awareness and ambitions, but also about increasing capacity within the formal processes of design governance in order to better inform and shape the decision-making environment	• For professionals, CABE's urban design summer schools lasted three to five days, attracting delegates from around the county, particularly from local government, and providing a basic grounding in urban design • These events involved hands-on pedagogic techniques that included design charettes, site visits, case investigations and reflective breakout sessions, often with 'live' schemes • CABE also developed a wide range of online resources for schools to expose children to the built environment as a learning resource

Detached /
passive

Hands-on /
active

Practice guides
e.g. client guide to
commissioning

Education / training
e.g. urban design
summer schools

Case studies
e.g. housing
exemplars

Figure 10. Typology of knowledge.

importance of good design. Another means to describe these processes might be proactive communication (as opposed to passive communication through means such as on-line case studies). Vedung and Van der Doelen(1998) call these 'sermons', or "Efforts to use the knowledge and data available to governments to influence consumer and producer behaviour in a direction consistent with government aims and wishes". In the case of design they are about persuading and exhorting particular behaviours that benefit good design, sometimes face-to-face and sometimes not.

For CABE, promotion involved four tools. First, two awareness raising tools: awards to exemplary projects and people as a way of promoting those who adhered to CABE's agenda; and structured (and sometimes opportunistic) campaigns to promote the message of good design and its inclusion in the decision-making framework of public and private sector players and end users. Second, promotion activities focused on particular audiences, encompassing advocacy to

Awareness
raising

Targeted
influence

Awards
e.g. public building
awards

Advocacy
e.g. within
government
departments

Campaigns
e.g. against poor
public space
management

Partnerships
e.g. with professional
institutes

Figure 11. Typology of promotion.

Table 9. The four categories of promotion.

Promotion	Characteristics	CABE example
Awards	• Architectural design awards range from high profile international prizes, to local awards • At the local scale awards are design governance tools in that they help to set aspirational design standards and identify exemplar schemes • They generate local publicity for good design, help to critically reflect on regulatory processes, and offer encouragement to good designers and developers (Biddulph, Hooper, and Punter 2006)	• The Prime Minister's Better Public Building Award was conceived "to reward excellence in both design and procurement across the public sector" (CABE 2011) • It ran throughout CABE's life (and beyond), at a time of massive investment in public sector building and related to any public building of any size anywhere in the country • It was established with the aspiration that it would motivate ministers and departments across government to work towards achieving high-quality design (CABE 2006a)
Campaigns	• Active campaigning on particular issues in order to advance key ideas / issues generally or to selected groups • Many government campaigns are aimed at a general audience, such as the long-running 'Keep Britain Tidy' campaign to discourage littering in public spaces • Others, such as place marketing, are more specialist and aimed at particular decision makers, influencers or consumers	• 'Streets of Shame' was a high profile campaign conceived by CABE to put the issue of street quality in the limelight • CABE intended to highlight what people liked and didn't like about their streets, their overall condition, and call attention to best practice in street design and management • The initiative generated headlines in national media outlets whilst a listeners' poll on BBC Radio 4 saw 1500 different streets nominated across the country in both good and bad categories
Advocacy	• Forms of advocacy attempt to seek out and convince key individuals and / or audiences about the value of a particular approach or set of ideas, for example around the importance of good design in the built environment. • This occurs both publicly, for example, through events and conferences, and privately, behind closed doors • Organizations can establish internal advocacy roles as permanent advocates for particular issues	• The housebuilding industry was particularly difficult to reach and so CABE began a programme of engaging directly with individual housebuilders at a high level • Through careful advocacy and engagement CABE were able to win a number of key national housebuilders around (Figure 12) • Whilst some developers remained doggedly resistant to the design message, the tectonic shift by others represented a key success for CABE
Partnerships	• Seeking to construct wider coalitions of interests to bring together key stakeholders involved in delivery of projects / processes / policies • Partnerships might be formal or informal in nature with allied organizations, thereby extending responsibility for delivery • Partnerships might occur between government departments or agencies, or between government and private or third sector service providers	• CABE's Regional Funding Programme transformed the Architecture Centre Network (ACN) into a truly national player with a role to facilitate the exchange of good practice across the English regions by sharing knowledge and innovation in respect of the quality of architecture and the public realm • ACN did so through advocacy, facilitation of public engagement, events and education via its 21 Architecture and Built Environment Centre members with whom CABE had a wide variety of partnership arrangements

Figure 12. Kidbrooke Village (phase one) by Berkeley Homes, one of the housebuilders strongly influenced by their engagement with CABE who continue to emphasize design quality as a new and important part of their business model.

shape the policies and programmes of government and the practices of key private actors, and partnership work to allow CABE to more effectively deliver its objectives in collaboration with others (Figure 11 and Table 9). These were in large part entirely new tools for the British state and reflected the idea that the public sector should no longer be sitting back but should be actively and publicly making the case for good design.

Promotion is seen by many as a critical part of the CABE armoury and effective in continually highlighting the significance of design and putting those messages where they mattered, in front of key decision makers (both professional and political, public and private). It also helped to raise the profile of the organization in the professional and political spheres. Whether it significantly impacted on the wider national awareness of good design amongst the non-professional population (a key objective of CABE) is doubtful (despite occasional flurries of national media interest), but such an objective would certainly have been a very long-term project and, whether this might have been possible if CABE had continued, remains an open question.

Evaluation

The final two informal categories move from a more general focus on issues to the evaluation of particular projects or places. Reflecting this, the degree of intervention steps up as, whilst still informal, these tools have the potential to shape particular outcomes rather than just the decision-making environment.

The penultimate category, 'evaluation', contains a series of tools through which judgements are made about the quality of design by a party external to, and therefore detached from, the design process. This brings us up against a key problematic – the extent to which it is possible, or not, to systemize such evaluation. Commenting on the problem of 'measuring quality' across governmental services, Beckford (2002, 278) asserts: "Not everything can be proceduralized, in the service sector". Instead, he argues, "The only way to solve the problem of quality in the service sector is to employ trained, educated staff, and grant them the freedom necessary to do the job".

Applying this logic to the challenges of measuring quality in planning, Carmona and Sieh (2004) make the important distinction between, on the one hand, the need to be selective
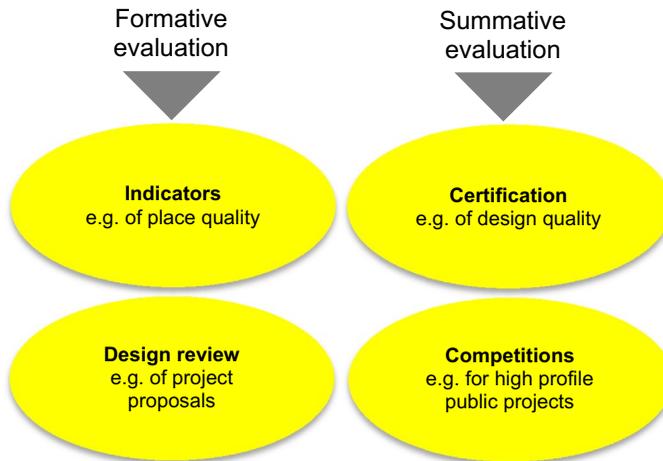
Figure 13. Typology of evaluation.

in what is being measured during complex processes such as design in order to make such tasks manageable and useful, whilst on the other avoiding the trap of being reductionist. For them, the key means to balance easily measurable (simple or objective) and less measurable (complex or subjective) dimensions of design is 'expert judgement', and in one way or another even the most systemized tools in this section rely on that.

CABE's evaluation tools provided a range of systemized means to evaluate design quality which, they argued, were objective, robust, holistic in their scope, and therefore could be trusted. Because, as compared to the previous informal tools, evaluation grappled with real developments, it also brought the governance of design into the field, with a direct and tangible impact on actual projects and places. It did so in a variety of ways: sometimes formative, feeding into and informing the design process, and sometimes summative, evaluating the outputs from design (Figure 13). In effect these tools led to judgements, good or bad, about design propositions, and by implication also passed judgements, right or wrong, on the performance of the teams responsible for them. A frequent backlash and controversy flowed from this work.

It was in relation to its evaluation tools that CABE was best known in England, and arguably these tools helped to build both CABE's reputation, but also, particularly in the case of design review, a constituency of dissenters who felt that 'official' judgement on design without recourse to either a democratic process or to an obvious means to challenge decisions was always going to be problematic. These concerns were nothing new and whilst CABE continued to conduct informal design review (outside the formal planning process) as its 'headline' service throughout its existence, it also found other means to evaluate design through the use of indicators, certification and competitions in (arguably) a less confrontational and more encouraging and aspirational manner (Table 10).

By these multiple means CABE developed its own distinctive blend of approaches, where evaluations were not just a means to measure performance but were also a way to shape urban design throughout the country, and were often part of larger packages of tools that approached the governance of design from different directions. Whist competitions remained a relatively underutilized tool in the CABE armoury – because CABE was not a commissioner

Table 10. The four categories of evaluation.

Evaluation	Characteristics	CABE example
Indicators	• Indicators seek to measure and represent aspects of performance (e.g. design quality) in a manner that can be easily shared and understood • The danger is that "complex situations are poorly described by simple means" (Carmona & Sieh 2004) • Yet indicators can also be developmental tools, designed to diagnose and monitor qualities, rather than simply to represent them, and this is their real value as design governance tools	• In 2007 CABE launched a public space indicator called Spaceshaper that covered eight themes – access, maintenance, environment, use, design & appearance, other people, community, and 'you' – which were scored on a spider diagram • Spaceshaper was used in local areas at facilitated events involving: a site visit, the computerized production of the diagram and discussions around the results • CABE heavily promoted the branded indicator kit and trained a large number of facilitators to use it
Design review (informal)	• In addition to formal design review processes, design review has developed as a practice outside of statutory regulatory frameworks • It provides a means of evaluating projects through impartial expert opinion in order to offer critique and (preferably) constructive advice to development teams • Informal design review should be an improvement tool, focused on adding value to developments prior to being submitted for regulatory consents	• CABE reviewed many hundreds of schemes, including The Shard by Renzo Piano that now stands above London Bridge Station on London's South Bank • Given the importance of the scheme it was submitted to four design reviews with CABE focusing on the scheme's relationship to London Bridge Station • How the tower hit the ground, how people flowed, and how the tower effected wind turbulence were key issues for CABE, rather than its impact on London's skyline (Figure 14)
Certification	• These tools do not proffer any formal consent or warrant, but offer the status of having reached a defined and verified benchmark of quality, for example, for energy efficiency • Typically this is recognized in the award of a protected stamp or kite mark such as BREEAM in the UK or LEED in the US, each with their own criteria, evaluation frameworks, assessment panels and certification processes	• The Building for Life's certification system represented a defined 'mark of quality' for new housing developments • CABE and its partners devised a compact set of just 20 questions providing a manageable basis for the certification scheme, with all projects achieving 14 or more out of the 20 received either a silver or gold standard • While the criteria risked a degree of reductionism, it represented a user-friendly hook for local authorities and others on which to hang discussions about design quality
Competitions	• Design competitions come in many shapes (open, limited, invited) and sizes (local, national, international), across two fundamental types: conceptual (ideas only) and project (relating to a tangible building project) (Lehrer 2011, 305–307) • They focus on raising standards through a competitive process • Whilst they may inform formal design governance processes, their use is rarely mandated. There are a few exceptions to this, for example, the French State mandates a design competition for public buildings over a specified cost. In so doing it builds on the Beaux Arts tradition of competitions that France has exported around the world.	• CABE used competitions sparingly because of their somewhat unpredictable nature • Where used they hoped that they would expose England to 'world class' winning designs that others would then emulate, for example the 2002 Designs on Democracy competition that asked entrants to 'reinvent' the town hall • CABE generally spent a good deal of time bringing non-design partners up to speed about the uses, utility and pitfalls of competitions and when and when not to use them

Figure 14. The Shard, the visual impact of the scheme on London's skyline (including from here from the Tower of London world heritage site) was not a major concern in CABE's reviews which instead largely supported what they saw as an innovative new landmark for the city.

of projects and because of the inevitable costs and uncertainties associated with such processes – indicators, and particularly certification, were heavily relied upon. They were also key ways through with the organization could project its aspirations for design and provided ready means through which CABE could find common cause with allied organizations.

Assistance

The final category is also the most hands-on and proactive through engaging the public sector directly in the process of design. This may, and often does, happen as part of the sorts of semi-formal pre-application consultations that precede the depositing of a formal proposal for development consent, for example, when a public official (planner, or specialist urban design, heritage, highways or landscape professional) gets his or her pens out and begins to work with the applicant to shape a scheme into an acceptable form. Such processes are often encouraged by the relevant authorities in order to try and ensure first, a better outcome, second, a more efficient processing of the formal application for consent once it is made, and third to help develop a more trusting and collaborative relationship between applicant and authority (xxi).

Beyond these ad hoc and essentially reactive processes, more proactive opportunities exist to engage directly in projects or to otherwise shape the decision-making environment within which design occurs. Through its assistance activities, CABE was working directly in the field and intervening much earlier in the process in live project work and local processes of design governance. More than any others, these tools distinguished CABE from its predecessor (the RFAC) in terms of the sheer ambition of the organization and the penetration of its governance approach across the nation. These tools allowed CABE to get ever more involved in strategic aspects of development processes, shaping the decision-making environments of many organizations (particularly local authorities) who were themselves directly

Table 11. The two categories of Assistance.

| Assistance	Characteristics	CABE example
Financial assistance	• Beyond direct financial assistance to projects, resources can be transferred via less direct means in order to buy an influential seat at the table of whichever organization or initiative is being assisted • In the UK, for example, for many years large numbers of conservation officer posts in local authorities were directly funded by English Heritage, the former national heritage agency (Grover 2003, 52)	• CABE was able to provide significant financial support to the not-for-profit Architecture and Built Environment Centres (ABECs) around the country, in the process securing a significant influence on their goals, programmes, and operations • Targets and work plans were agreed with each ABEC relating to matters such as skills development, quality in public buildings, awareness of the importance of urban design, developing local hubs, facilitating public involvement, and conducting design review
Enabling	• Providing direct targeted expert assistance to municipalities (and others) on projects and / or processes of design governance, such as in relation to a particular master-plan, policy framework or community engagement exercise • Beyond the parachuting in of expertise to address a time limited problem, typically this will have an educational purpose by engaging local professional staff, politicians and others in a manner that leaves a lasting legacy of improved skills and expertise	• From 2003 to 2008, CABE was engaged in a major programme of work to enable public sector clients to better manage the design and delivery of early years buildings ('Sure Start' centres) • Enablers (experts retained by CABE) provided direct assistance to head teachers and other local education authority clients on projects that ranged from individual buildings to portfolios of up to 40 buildings (CABE 2006b, 18) • In particular, they advised on how to draft briefs, select architects and on procurement more widely
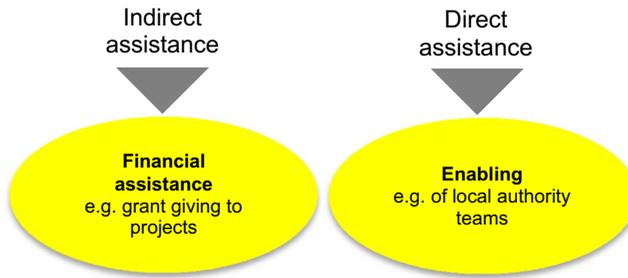
Figure 15. Typology of assistance.

influencing or actually shaping design outcomes. They were perhaps the most sophisticated tools of informal design governance, allowing CABE a bespoke and direct form of intervention short of actually having design, development or regulatory powers itself. They are consistently seen by those who were involved as amongst CABE's most effective tools.

CABE provided assistance through two tools: financial assistance and enabling (Table 11). The financial assistance provided by CABE, both through organizational support and project grants, were ultimately dependent on others, outside the Commission, delivering the objectives of these programmes; but CABE were able to carefully leverage how this occurred in order that the limited resources at their disposal were worked hard to drive design up local agendas. Enabling took the form of direct mentoring on projects of different scales provided through a pool of experts or 'enablers' (typically private consultants) and consequently depended on an external skills-base and relationships built by enablers to CABE's public sector clients (Figure 15). Because of this the programme could sometimes appear to exist

at one step removed from the Commission, but in fact was constructed and carefully steered from within CABE. It quickly became an important source of learning and development for CABE itself, as well as an effective knowledge transfer programme across the country.

Community participation (as symptomatic of a larger problem)

Before closing this discussion of informal tools it is important to deal with the issue of community participation as it relates to the governance of design. Whilst the act of community participation in the process of shaping places could be viewed as a separate 'tool' of government in its own right, in fact forms of engagement feature in connection with a range of the formal and informal design governance tools already discussed. For this reason participation is not singled out as a tool in its own right, but is instead treated as an activity underpinning others, most notably:

- Guidance – by way of direct participation in the production of design guidance in order to improve its content, encourage unanimity of vision, avoid discord, and ultimately improve outcomes.
- Control – through interested parties making inputs into development proposals as they come forward through regulatory regimes, either through tokenistic processes of consultation or more positively and influentially through the sorts of deeper engagement with communities that are possible in the pre-consenting phases of the development process, for example, through charettes and other participatory mechanisms.
- Evidence – as part of the process of understanding places through revealing the aspirations and preoccupations of communities, either in isolation (focusing on particular communities and / or places) or as part of larger audit processes in order to help to shape public policy responses to place quality.
- Knowledge – through targeted education / training for communities directly engaged in bringing forward design / development / planning propositions, for example, the sorts of community led neighbourhood planning processes that are now a feature of English planning and which are supported (in some cases) by a limited package of centrally funded technical assistance.
- Assistance – in order to raise aspirations for design amongst local communities and stakeholders as part of long-term efforts to re-shape the decision-making environment, including through local enabling activities.

The first and second are pragmatic and (if done well) inherently democratic responses to encourage citizen involvement in the design of projects and / or places as part of formal urban governance processes. Typically, their use is prescribed in legislation linked to planning or urban regeneration, although the reality may be little more than tokenistic. The remainder sit within the informal sphere of design governance and are therefore, usually, discretionary.

Whether formal or informal, most commentators argue that participation is inherently desirable and a wide range of tried and tested methods are now available to conduct it (Hou 2011; Wates 2014). However, this should not imply that participation is always desirable in relation to design governance tools, nor necessarily that deeper and more immersive forms are always superior to those that are less so (Biddulph 1998, 45). In the case of design guidance, for example, whilst the explicit focus on physical design offers something tangible for
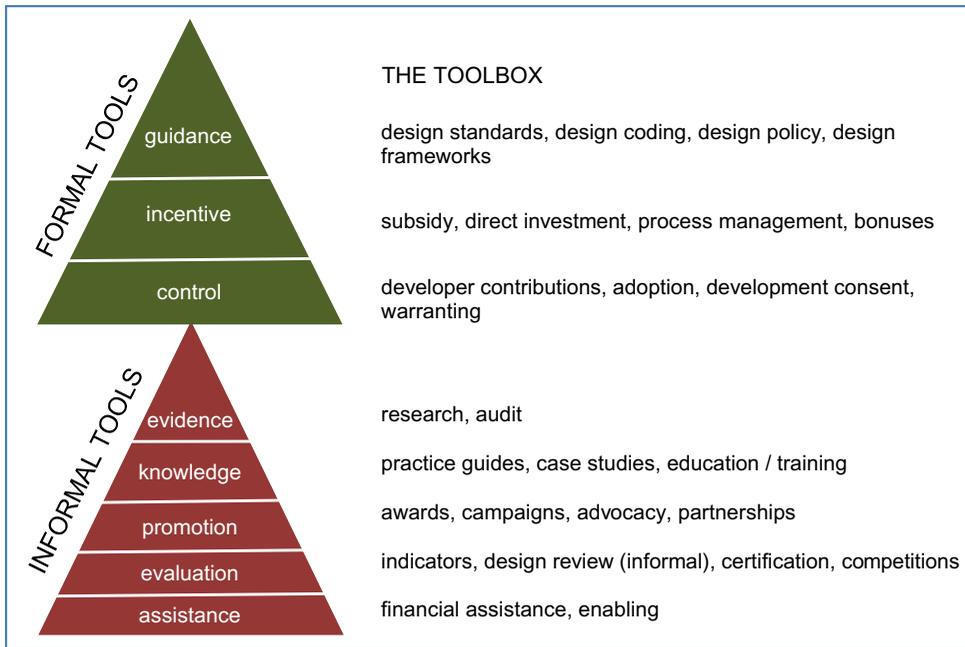
Figure 16. The complete design governance toolbox (formal and informal).

communities to engage with (far more so than some other seemingly intangible planning concerns), research into the use and utility of design codes has revealed that non-professional audiences struggle to understand and engage with the more technical forms of guidance (Carmona and Dann 2006). This is because whilst design standards, policy and coding are likely to have significant impacts on how places are shaped, it is only the various types of design frameworks which set out graphically and spatially a future vision for particular places that move beyond the abstract to the tangible.

The low levels of public engagement with many place-focused regulatory processes is in part explained by this communications gap (until and unless individuals perceive themselves to be directly impacted; Hester 1999). So is the potential and power of design frameworks to bridge the gap if shaped by or at least subjected to early, meaningful and fundamental community participation through charettes and other locationally-specific engagement exercises (Walters 2007, 163–181). Unfortunately, the lack of positive engagement of communities across the formal tools spectrum is symptomatic of the larger problem concerning the over-reliance on standards and / or generic policy, and subsequently on processes of control, as well as to a general failure to positively shape the decision-making environment by other formal and informal means that precede the act of control.

Conclusion

In this paper the nature of tools in government has been explored and related to the particularities of design. A multi-levelled typology flows from this, one in which, first, formal and, second, informal processes of design governance are distinguished. The dominant 'formal' tools of design governance have been set out followed by an introduction to the

'informal' tools of design governance which constituted the armoury of CABE in its role as English national champion for design quality in the built environment. Within each meta-category the tools follow a gradation from lesser to greater intervention.

Whilst CABE was clearly influential, its powers were actually severely limited and the organization never had access to some of the most powerful design governance tools in the box. Instead, CABE represented a unique experiment exploring the use of informal 'tools without teeth' to advance the national design agenda. Within the tools of government literature, most studies still focus on the utility of single tools and their use in particular circumstances, rather than on the interrelationships between tools and on the decision-making processes used to distinguish when to use one tool over another (Linder and Peters 1989, 55–6). The demise of CABE in 2011 represented an important moment and an opportune window through which to take a fundamental look at the full range of design governance tools now available, and their mapping into a coherent typology was a first step along that road (Figure 16).

The exercise reveals that there are many more tools than are often recognized in the urban design literature and certainly more than are typically used, and that new tools continue to evolve. Failing to utilize them more fully means that those who are responsible for shaping the quality of the built environment are typically doing so with one hand tied behind their back, particularly when it comes to shaping the all-important decision-making environment within which project and place-specific design decisions occur. Analysis of the CABE tool kit has forcefully revealed that those responsible should fully embrace the informal as well as formal modes of design governance and should consider such processes to be part of a long-term and necessary societal investment in place.

Notes

1. In reality urban design is not a linear process at all but instead a continuum in which stages in the process come around and around again and the shaping of place, knowingly or otherwise, never actually ends (see Carmona 2014a).
2. http://www.planningportal.gov.uk/planning/planningpolicyandlegislation/currentlegislation/acts.
3. http://planningjungle.com/consolidated-versions-of-legislation/.
4. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/39,821/taylor_review.pdf.
5. A quality determined by an amalgam of the other factors including the degree of prescription, governance level and ambition; specifically, whether performance-based or prescriptive.
6. Drawing from Lang (1996, 9) and Hall (1996, 8–40).
7. The full typology relates to 'aesthetic control', a term used in the UK up until the early 1990s, and mixes tools with administration. The reduced administration typology strips out the tools-only categories.
8. CABE did give grants to the network of regional Architecture and Built Environment Centres (ABECs) that emerged in the 2000s and administered the £45 million Sea Change arts-based regeneration programme. Both used ring-fenced government money, although CABE was in a powerful position to set the terms of the grant-giving and incentivize particular practices.
9. Carmona et al.'s (2010) framework for public sector urban design (Table 2) goes some way to addressing these concerns, with its category of education and participation, alongside the more formal categories of policy, regulation and management, and the cross-over categories of diagnosis and design. Another can be found in the five meta-categories of the New Zealand Urban Design Toolkit: research and analysis, community participation, raising awareness, planning and design, and implementation, although here the intention is to identify the full range of urban design tools rather than those relating to design governance and mixes formal with informal processes (Ministry for the Environment 2006).

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