



‘Built from the internet up’: assessing citizen participation in smart city planning through the case study of Quayside, Toronto

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Abstract Citizen participation in smart cities has come under ever more scrutiny in recent years. Whilst smart city projects across the world have proclaimed themselves as citizen-centric, scholars have found that these claims are still framed within a neoliberal, post-political conception of citizenship, whereby citizens are afforded little agency. In evaluating such projects and in aid of developing a better understanding of the citizen’s role in smart cities, scholars have developed various heuristics. This paper aims to further both empirical and theoretical developments in the field to evaluate citizen participation in Quayside, Toronto’s first smart city neighbourhood, using Cardullo and Kitchin’s Scaffold of Smart Citizen Participation. A document analysis of seventeen citizen engagement summary reports and advertisements, corresponding to eight citizen engagement initiatives, has revealed that the quality of citizen participation varied substantially according to individual initiatives in Quayside. It was also discovered that Cardullo and Kitchin’s scaffold was ineffective at capturing the complexity of citizen engagement in smart city planning. In light of this, a new heuristic which assesses the post-political spaces of citizen engagement has been developed. This heuristic can provide a productive foundation for further research in the field.

Keywords Citizen engagement · Smart cities · Heuristic · Scaffold · Post-political

Introduction

The term smart city has become somewhat of a buzzword in recent decades, utilised to describe a multitude of progressive urban futures that apply advanced technologies to urban governance (Kitchin, 2014). Forecast as a new phase for urban society, the concept has gained traction with municipalities, private corporations, academia and the media (Hollands, 2008; Kitchin, 2015). Some scholars argue that the concept has much deeper roots, originating in the form of cybernetics (Goodspeed, 2014; Hollands, 2008; Kitchin, 2015). Cybernetics, invented by Wiener (1948), is the concept of using feedback loops within a system to enhance its performance. It surfaced within the field of planning in the 1970s, being applied to urban renewal projects like that in Pittsburgh, USA (Goodspeed, 2014). In a modern framework, this would mean using data about an urban system to enhance the performance of a particular aspect of that system.

Some recent academic scholarship has followed techno-centric depictions of the smart city by examining how best to utilise smart city technology for the top-down management of urban spaces. Carli et al. (2013), for example, attempted to create a performance indicators framework to analyse how smart

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city technology was improving urban management, piloting this in the city of Bari, Italy. In a similar vein, Shen et al. (2018) have created an evaluation framework for smart cities based on five categories: smart infrastructure, smart governance, smart economy, smart people and smart environment. Within these five categories, quantitative measures like the number of telephones per household and employment rate in technology industries are used to determine smart city success (Shen et al., 2018).

Importantly, studying the field of cybernetics has highlighted critiques that can be applied to the present-day smart city concept (Goodspeed, 2014). Rittel and Webber (1973), for example, highlight that urban policymaking is a ‘wicked problem’, meaning that there is often no right answer to urban issues. Consequently, the use of cybernetics is ineffective, as it does not allow for the necessary citizen deliberation and political decision-making. Hollands’ (2008) highly influential and more recent critique agrees, stating how the concept is an extension of the entrepreneurial city, a theory first developed by Harvey (1989), whereby municipalities are focused on attracting capital over addressing the needs of its citizens. Equally, Greenfield’s (2013) analysis of three major projects (Masdar City, UAE, PlanIT Valley, Portugal, and Songdo, South Korea) stipulates that the smart city’s corporate-led focus is incompatible with addressing the needs of citizens. In Kitchin’s (2015) and Meijer & Bolivar’s (2016) respective reviews of the smart city literature, they similarly reiterate that the smart city concept is too often non-ideological, reinforcing the argument that smart cities need to be more ‘citizen-centric’ to become a progressive urban future. Goodman et al. (2020) add to these sentiments, claiming that citizen participation is particularly important to smart city planning, as developments are primarily focused on improving public life and they often demand large portions of public funding.

This paper aims to add to recent debates by utilising citizen engagement documentation from the Quayside smart city project, Toronto, to develop a new heuristic to assess citizen participation in smart city planning. The heuristic stems from a critical evaluation of Cardullo and Kitchin’s (2018) scaffold of smart citizen participation as well as drawing on the concept of the post-political, described as the ‘reduction of political contradictions to policy problems and managerial processes’ (Carr & Hesse, 2020,

p. 71). The new conception sees citizen engagement as being composed of seven distinct yet interlinked post-political spaces. The utility of this conception is demonstrated by evaluating the illustrative example of the Small Grants Program, one of the eight Quayside citizen engagement initiatives explored in this research.

Literature review

Urban planning and citizen participation

Concerns about citizen engagement in urban planning are not new nor exclusive to smart city developments. Theories of participation in planning have long been the subject of scholarly debate, having emerged in the 1960s with the promotion of Advocacy Planning (Davidoff, 1965). This technique saw planners represent the citizen’s voice, forcing developers to consider the interests of the wider community (Kamaci, 2014). Since the 1980s, Habermas’ concept of communicative rationality has dominated participatory planning, giving birth to the ‘communicative turn’ (Kamaci, 2014, p. 11).

Communicative Rationality emphasizes the need for citizen deliberation time, stipulating that stakeholders be treated equally, state their opinions rationally and debate to find a consensus (Hillier, 2003; Kamaci, 2014). Whilst Communicative Planning has become the popular theoretical framework for participation, it has also come under criticism for being too idealistic (Hillier, 2003; Parvin, 2018). Hillier (2003) and Purcell (2009, p. 149) argue that communicative planning does not work in a neoliberal context, as it demands ‘undistorted communication’ which Purcell (2009, p. 157) explains is impossible due to neoliberalism’s ‘democratic deficit’. The deficit consists of four factors: inequalities in political voice (due to social inequalities), local governments focusing on capital accumulation over citizen needs, outsourcing governance to private organisations (as was present during the Quayside project) and debating policies only within the bounds of what is competitive (Purcell, 2009). Monno and Khakee (2012) agree, their examination of both a top-down and a bottom-up planning initiative suggesting that citizens are prevented from being given real power to influence, in both scenarios. This research aims to add further

empirical evidence as to communicative planning's efficacy under neoliberal urban governance, contributing to ongoing debates (Legacy, 2017).

Within the bounds of the theoretical debates detailed above, there have also been more practical debates surrounding the efficacy of participatory techniques in urban planning (Callahan, 2007; Hanssen & Falleth, 2014; Innes & Booher, 2004; Istenic & Kozina, 2019). A major critique has been the exclusive nature of participatory processes; Innes and Booher's (2004) widely-cited critique of the US participatory planning system highlights how public meetings are often dominated by more privileged voices, with socio-cultural backgrounds that empower them to participate in decision-making. Including marginalised voices is therefore a prevalent issue within citizen participation.

Another issue highlighted with public participation has been the lack of agency afforded to citizens through participatory techniques. Callahan's (2007) research highlights the frivolousness of public hearings, explaining that they allow few moments of citizen input, doing little more than informing the public. Equally, in McCann's (2001, p. 207) examination of the 'visioning' participatory strategy in Lexington, USA, the design of the engagement was seen to limit citizen agency, as it was framed in a neoliberal, post-political manner. This limited citizens' abilities to think outside the neoliberal box about alternative strategies for urban development. Both McCann's (2001) and Hanssen and Falleth's (2014) research are evidence of the increasing role that private-sector stakeholders are playing in public participation. McCann (2001) touches on the impact of this, stating how private-sector developers had the ultimate power either to include or ignore citizen input, severely limiting the ability for citizens to influence the Lexington New Century project.

There have also been attempts to categorise levels of participation, to allow for easier comparison and evaluation of engagement techniques. Arnstein's (1969) seminal work, the ladder of citizen participation, was the first to do this; it splits citizen participation into eight categorisations, from least to most effective: manipulation, therapy, informing, consultation, placation, partnership, delegated power and citizen control. The ladder has been critiqued for its over-simplicity and hierarchical categorisation, as some argue that participatory techniques should not

be ranked in such a linear fashion (Simonofski et al., 2020). Fung (2006) has also developed a framework to evaluate citizen engagement, the democracy cube. This framework assesses engagement differently to Arnstein, based on three different elements of the engagement process: how participants are selected, how participants interact and form proposals and how these proposals are translated into policy (Fung, 2006). The influence of citizen participation heuristics has extended to the smart cities literature, as seen below.

The citizen-centric smart city

Investigations into smart city projects that claim to be citizen centric have found discouraging results. In formal discourses like the British Smart City Standard and the European Commission Smart City documents, citizens were found to be associated with 'consumer', 'business', 'services', 'needs', 'resident' and 'user', lacking agency (Cardullo & Kitchin, 2019; Joss et al., 2017, p. 40). Scholars have found these sentiments also translate into on-the-ground practices. For example, Shelton and Lodato's (2019) investigation of Atlanta's smart city citizen engagement found that the term citizen-centric was used ambiguously, enabling stakeholders to focus on how the smart city project could increase economic outcomes whilst only vaguely discussing the needs of Atlanta's citizens. In their short introduction to citizen participation in smart cities Ghose and Johnson (2020, p. 342) call for more studies that examine the 'processes and outcomes of real projects', as there are still relatively few examples.

Building on examinations of citizen participation in smart city projects, there has been a recent focus on developing frameworks to assess more easily the level of citizen engagement within smart city projects (Cardullo & Kitchin, 2018; Simonofski, Vallé, et al., 2019; Simonofski et al., 2020). The most prominent framework, Cardullo and Kitchin's (2018) Scaffold of Smart Citizen Participation (see Table 1), takes inspiration from Arnstein's (1969) Ladder of Citizen Participation. There are nine levels to the scaffold, with Cardullo and Kitchin (2018) adding the consumerism segment to Arnstein's ladder, whilst also providing more depth of understanding through extending the scaffold horizontally, to include the columns 'citizen role', 'citizen involvement', 'political discourse/

Table 1 A diagram based on Cardullo and Kitchin's (2018) scaffold with the Quayside citizen engagement initiatives mapped on the right-hand column; bold text highlights new citizen roles that were identified during this research

Form and level of participation	Role	Citizen Involvement	Quayside examples
Citizen Power	Citizen Control	Leader, Member	N/A
	Delegated Power	Decision-maker, Maker	N/A
	Partnership	Co-creator, Information-giver	Residents Reference Panel, Fellows Program, Small Grants Program
Tokenism	Placation	Proposer, Vision-maker	Design Jams, Summer Kids Camp
	Consultation	Participant, Tester, Player, Experience-maker	Public Roundtables, Town Hall, Neighbourhood Meetings
	Information	Recipient	N/A

framing' and 'modality'. The framework has been used in Dublin to assess already-existing smart city initiatives, however, it is yet to be tested within the remit of smart city planning processes. Simonofski et al.'s (2020) Holistic Evaluation Framework, developed over several studies, has no hierarchy (unlike the scaffold). Instead it uses scales and checklists to evaluate the level of citizen participation, claiming that participation techniques employed in a certain scenario cannot be seen as better or worse than their counterparts (Simonofski et al., 2017; Simonofski, Asensio, et al., 2019). In their evaluation of three different smart city citizen participation initiatives in Canada, Goodman et al. (2020) use the IAP2 Spectrum of Public Participation to assess levels of citizen participation. Inspired by Arnstein (1969), this simple framework ranks participation on five ascending levels: informing citizens, consulting citizens, involving citizens, collaborating with citizens and empowering citizens (Goodman et al., 2020). Goodman et al. (2020) could distinguish a range of citizen participation levels from this framework, conducting a broad-scale ranking of citizen participation based on the types of activities conducted.

Quayside, Toronto

Quayside is a 12-acre strip of land on Toronto's waterfront. Presently, Waterfront Toronto (WFT) oversee developments on the waterfront (Carr & Hesse, 2020; Morgan & Webb, 2020). Whilst WFT's influence has been hampered by a lack of ownership of ninety-nine percent of waterfront land, they hold total control over Quayside, allowing them to easily pursue its development (Morgan & Webb, 2020).

Accordingly, in March 2017 WFT issued a request-for-proposal for an 'innovation and funding partner' to develop Quayside, and by 17th October 2017 Sidewalk Labs (SWL) was chosen as the preferred bidder; SWL and WFT then joined to make Sidewalk Toronto (SWT) (Morgan & Webb, 2020, p. 88; Goodman & Powles, 2019).

After their involvement was confirmed, SWL commenced an eighteen-month process of citizen engagement, before the Master Innovation and Development Plan (MIDP) was released in June 2019, representing a detailed plan for the Quayside smart city district (Sidewalk Morgan & Webb, 2020; Toronto, 2020). The public consultation period did continue past the MIDP's publication, up to the project's cancellation in May 2020, but these subsequent engagements were conducted solely by WFT. To understand the nature of citizen engagements led by a private developer (also referred to as the stakeholder), this article focuses on the engagements occurring before the draft-MIDP's publication (October 2017 and June 2019).

Some of the extensive media discourse has portrayed Quayside as a positive opportunity to drive both urban technological innovation and sustainability (Florida, 2019; McKenzie, 2019; The Economist, 2018). Despite this, much of the discourse has been critical. A major source of this has been the #BlockSidewalk campaign, led by thirty Torontonians who believe that SWL's involvement in Quayside does not serve the public interest (BlockSidewalk, 2021). One member of this collective, Bianca Wylie, has been particularly vocal about issues with the project. They highlight how SWL's lack of transparency has limited the ability to conduct public engagement on

meaningful debates, also expressing concerns that ownership of data and technologies in the public sphere should not be so easily surrendered to a private corporation (Wylie, 2018a, 2018b). Ahmed's (2019) journalistic piece on the Quayside project similarly focuses on private-sector involvement in city planning, demonstrating how citizen engagement was largely a 'performative exercise', with initiatives ranging from manipulation to placation on Arnstein's (1969) ladder of participation.

The academic literature also demonstrates concerns over SWL's governance of Quayside. Scholars have underlined how SWL hoarded different roles in the development, using privatisation and platformization governance models to aim to optimise the smart city for profit-making at the expense of citizens and their public representatives (Flynn & Valverde, 2019; Goodman & Powles, 2019; Morgan & Webb, 2020; Orasch, 2019). Specifically, scholars also share Wylie's (2018a, 2018b) concerns over data governance, highlighting how vague terminology and a lack of legal bindings would make it easy for SWL to exploit citizens' data (Flynn & Valverde, 2019; Morgan & Webb, 2020).

The modes of control proposed by SWT for governing urban space has led to Carr and Hesse (2020) proclaiming the project as an example of post-political smart urban development. Carr and Hesse (2020, p. 78) hint at the connection between this and citizen engagement, suggesting that post-politics results in 'participatory processes in which the scope of possible outcomes is narrowly defined in advance'. They detail how initiatives like the Town Hall and Civic Jams were 'glossy', yet strongly dictated by SWT (Carr & Hesse, 2020, p. 78). Tenney et al. (2020) make similar claims about the superficial nature of citizen engagement in Quayside, detailing how the

City of Toronto had competing governance aims: creating a corporate-run, world-renowned smart city whilst also making it citizen-centric. Achieving their former goal meant citizen engagement became somewhat procedural and passive. This implies a depoliticising of citizen engagement practices.

Whilst the above accounts provide useful overviews of citizen engagement, they lack empirical depth. Mattern (2020) is the first to produce an empirically grounded assessment of citizen engagement in Quayside, focusing on the SWT 307 workshop space; their assessment of the initiative also implies a post-political framing. They highlight how citizens can visit, learn and give feedback on Quayside at 307, but its design (the use of post-it notes, feedback cards, extravagant maps and misleading language) feigns meaningful engagement, instead representing tokenistic 'corporate self-defence'. It is under this context of post-political urban development that citizen engagement initiatives from Quayside are utilised to evaluate Cardullo and Kitchin's (2018) scaffold. From this investigation, a new heuristic is developed, reframing citizen engagement in smart city planning as composed of multiple post-political spaces.

Methodology

The Quayside smart city project was selected for this research due to its high visibility. Large quantities of data were freely accessible online, including a variety of citizen engagement summary report documents published on both the SWL and WFT websites. Eight citizen engagement initiatives were chosen to be analysed (see Table 2)—this corresponded to seventeen citizen engagement summary report documents. Alongside data availability, these

Table 2 Names of the eight citizen engagement initiatives studied for this research, and the duration of each initiative

Citizen engagement initiative	Duration
Town Hall	1st November (2017)
Neighbourhood Meetings	26th February–13th November (2018)
Public Roundtables	20th March–8th December (2018)
Residents Reference Panel (RRP)	21st April (2018)–May (2019)
Fellows Program	25th April–8th November (2018)
Summer Kids Camp	July (2018)
Small Grants Program	24th August–16th November (2018)
Design Jams	17th September–19th September (2018)

initiatives were chosen as they employed a range of citizen engagement techniques, including different formats, outputs, activities, content and participants. Whilst it is acknowledged that other citizen engagement initiatives took place for Quayside, including significant informal participation led by #BlockSidewalk, this selection of initiatives still provided a sufficiently expansive and varied exploration of citizen engagement with which to evaluate Cardullo and Kitchin's (2018) scaffold, and subsequently develop a new heuristic, the primary objectives of the research. The Residents Reference Panel (RRP) contained five detailed minority reports at the back of the RRP final report document, utilised to provide a further insight into participant's perspectives on citizen engagement quality.

The detail of the documents enabled a considered understanding of the citizen's role in each engagement initiative to be developed. Using terminology from the 'role' and 'citizen involvement' columns of Cardullo and Kitchin's (2018) scaffold (see Table 1) as codes on Atlas.ti, documents were analysed to determine the level of citizen engagement in each initiative. The documents were then coded inductively to determine any citizen roles or private-sector developer roles that could not be captured by the scaffold. This combination of analytical methods enabled a thorough understanding of the scaffold's strengths and weaknesses, inspiring the production of the new conceptual understanding of citizen engagement presented below.

Assessing citizen participation using Cardullo and Kitchin's (2018) scaffold

Examining the citizens' role in each engagement initiative in such a granular fashion made clear the multitude of roles citizens held within each initiative. The initiatives could therefore be split into multiple *activities*, each affording citizens a different level of engagement. Many of the same activities were utilised across different initiatives: in total, nineteen different engagement activities were identified. Aside from the Small Grants Program, all initiatives were composed of multiple activities. Final rankings of initiatives on the scaffold (see Table 1) were determined by the highest level of activity within each initiative. A more granular breakdown

of results, detailing the engagement level of each *activity*, is provided in Table 3.

A new conception: political spaces of citizen engagement

Using Cardullo and Kitchin's (2018) scaffold enabled somewhat of a differentiation between higher quality and lower quality engagement initiatives. However, as seen comparing Tables 1 and 3, the scaffold did not fully represent the diversity of citizen engagement quality; initiatives like the Residents Reference Panel are seen on the scaffold as Partnership, yet only one of five activities in the initiative reached this level. Equally, the Neighbourhood Meetings and the Public Roundtables were ranked as the same level of engagement, yet the Roundtables were composed of five different activities compared to the Neighbourhood Meetings' two. These findings imply that the scaffold could not tell the full story. Using knowledge of the Quayside engagements alongside planning and smart cities literature, this paper presents a new conception of citizen engagement: as being constituted of distinct *political spaces*. The seven political spaces identified in this analysis are proposal formation, citizen selection, engagement design, information provision, deliberation, discourse production and proposal implementation. Each space is explained below, using illustrative examples from Quayside initiatives.

Proposal formation is the political space that Cardullo and Kitchin's (2018) scaffold was most adept at highlighting in its ranking of citizen engagements. Specifically, the scaffold's *role* and *citizen involvement* columns enable the differentiation of activities with high and low levels of proposal formation. Proposal formation is a vital aspect of citizen engagement as it represents the moment in which citizens can contribute their ideas, opinions and proposals, potentially influencing the outcome of a project. The participatory planning literature highlights that activities like presentations and Q&As are notoriously poor in their ability to influence projects (Callahan, 2007). This resonates with the Neighbourhood Meetings in Quayside, which were composed of presentations and Q&As. During the engagement, citizens could only contribute feedback through tagging it onto questions, there was no formal *space* in which they could give their ideas. This limited citizens' abilities to give

Table 3 A representation of the citizen engagement initiatives, and their respective activities, ranked on Cardullo and Kitchin’s (2018) scaffold (initiatives higher on the table contain activities of a higher citizen engagement level)

Initiatives	Activities					
Residents Reference Panel	Presentation	Guided tour	Q&A	Reviewing stakeholder developments	Roundtable discussions	Report writing and proposal formation
Fellows Program	Presentation	Product demonstration	Q&A	Guided tour	Report writing and proposal formation	
Small Grants Program	Research					
Design Jams	Presentation	‘In a word’ icebreaker	Q&A	Flipflopping public perceptions	The dreamer, the realist, the critic	Sharing goggles
Summer Kids Camp	Presentation	Guided tour	Mapping	Boardgames	Computer programming	Collaging of ideal neighbourhoods
Public Roundtables	Presentation	Online surveys	Q&A	Online workbook	Online survey	Roundtable discussions
Town Hall	Presentation	Community Comment Wall	Q&A			
Neighbourhood Meetings	Presentation	Q&A				
Key:						
Information --- Consultation --- Placation --- Partnership						

detailed opinions, thereby diminishing their influence on the smart city project. In contrast, the RRP and Fellows Program provided extensive opportunities for citizens to propose ideas, as citizens co-wrote reports over several months with detailed recommendations for Quayside. These differences are clearly represented on the scaffold (see Table 1). Altering the conceptual lens to political spaces of engagement continues to incorporate the productive work of Cardullo and Kitchin’s (2018) scaffold, whilst also allowing a more thorough analysis of other facets of citizen engagement.

Simonofski et al.’s (2020) HEF highlights the importance of *citizen selection*, using it as one

of eight scales to assess citizen engagement; this research agrees, stipulating that control over how citizens are selected is highly political, as it dictates who can contribute to a smart city project. Across the eight citizen engagement initiatives there was considerable range in the way citizens were selected to participate (see Table 4). In the RRP a randomised civic lottery was used to select participants, a high quality method that ensures a range of demographics are included in the initiative (Fung, 2006). Meanwhile, in the Neighbourhood Meetings, Town Hall and Public Roundtables, any citizen could join (self-selection). Whilst this is not actively exclusionary, this is less empowered than the civic lottery as underprivileged

Table 4 The methods of citizen selection used in each engagement initiative, extracted from each engagement summary report

Engagement initiative	Method of citizen selection
Residents reference panel	Random- civic lottery accounting for gender and demographic composition of Toronto. 36 individuals were selected to participate
Design jams	Invitation-only. WFT asked Neighbourhood Associations, City of Toronto, Councillors, CivicAction, Cycle Toronto, Ontario Association of Landscape Architects, George Brown College, Sidewalk Toronto Working Group and Sidewalk Toronto Fellows Program for citizen participants
Public roundtables	Public event- self-selection
Town hall	Public event- self-selection
Small grants program	Had to be a member of a post-secondary education institution in Ontario with a student research assistant. Assessed by a panel including representatives from SWL, WFT and the Toronto Foundation
Summer kids camp	All children encouraged to apply. Recruited ‘with the help of local community groups and centres in each of the different neighbourhoods’
Fellows program	Selection panel including representatives of SWL and WFT. Had to be young professionals in Toronto aged 19–24. There were 660 applications, with 12 Fellows selected for the initiative
Neighbourhood meetings	Public event- self-selection

citizens are unlikely to seek attending (Fung, 2006). Citizen selection in the Small Grants Program, Fellows Program and Design Jams was even more inferior. SWL were involved in the decision to make the Small Grants Program exclusively available to academics and the Fellows Program reserved for young professionals only. These decisions make the initiatives vulnerable to favouring privileged voices, a well-documented problem with citizen engagement (Innes & Booher, 2004). Cardullo and Kitchin’s (2018) scaffold fails to determine this. Conceptualising citizen selection as a distinct political space aims to more clearly enable an assessment of this facet of engagement.

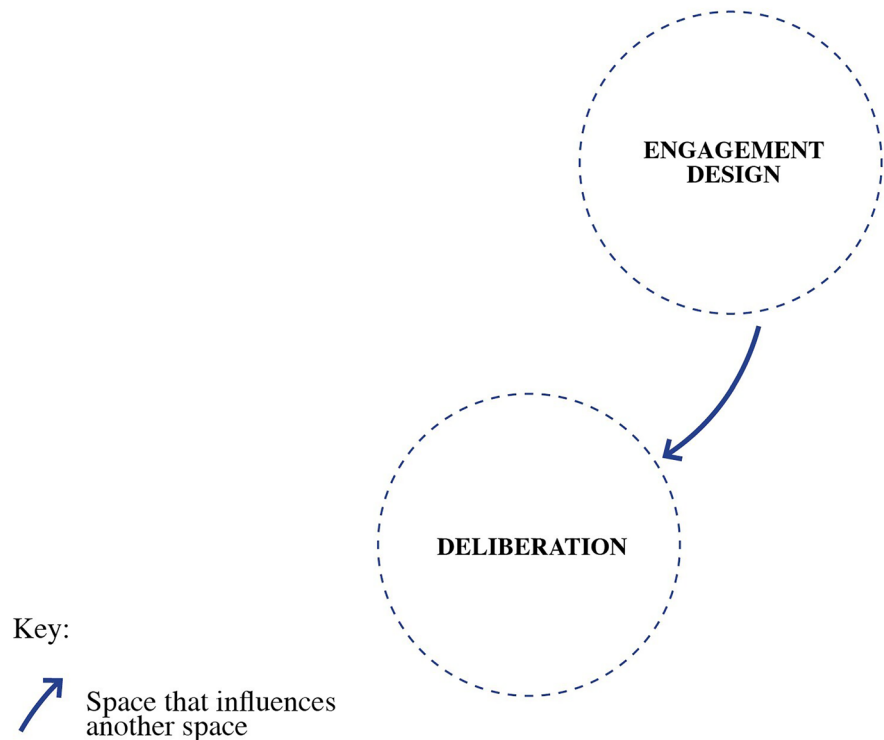
Evidence from Quayside also demonstrates that *engagement design* is a key political space in which citizen engagement can be influenced. Significantly, across all initiatives SWT was able to influence the inclusion of engagement content and the space given to different engagement activities. The RRP demonstrates the significance of this. The initiative was designed in conjunction with a public engagement consultancy, MASS LBP, meaning the extent of SWL’s influence on engagement content is undetermined. However, the summary report published by SWL admits that the initiative was designed ‘with input from WFT and SWL’, indicating that they played a significant role in its formulation. As confirmed by a panel member in their minority report, this lack of control over the programme’s design hindered citizens’ abilities to participate:

Our panel did not address the data-related questions I raised above. This is mostly because we couldn’t get to hard questions when Sidewalk Labs consistently chose safer examples to frame the conversation. Let’s talk about potholes, they said

The decision largely to ignore themes like data governance nudges citizens’ input away from more political aspects of the project. Citizen input is instead funnelled into more *apolitical* spaces, like discussions of potholes and street crossings. This highlights the interconnection between engagement design and another political space, deliberation. In this scenario, citizens were unable to influence the discussion topics during the RRP and this translated into a lack of control over time to discuss certain topics, like data governance. This demonstrates how (lack of) influence over engagement design can translate into (lack of) authority over deliberation (see Fig. 1).

This resonates with Mattern’s (2020) and Ahmed’s (2019) assessment of citizen engagement at Quayside, highlighting how less controversial debates on parks and public space were given precedence over ‘thornier’ issues like data governance. Design of engagement is therefore highly political, as important decisions affecting the subsequent stages of citizen engagement are made here. Cardullo and Kitchin’s (2018) scaffold is too simplistic to give sufficient attention to this facet of citizen engagement. Through conceptualising it as a distinct political

Fig. 1 A visualisation of how influence over engagement design can translate into influence over deliberation



space, engagement design can be more thoroughly interrogated.

Deciding the origins and extent of information citizens receive is highly important, as it frames how citizens perceive problems and opportunities for a given project. This research suggests that *information provision* is particularly important for citizen participation in smart city planning, because it necessitates understanding complex technological processes like data collection and artificial intelligence that citizens will initially be less knowledgeable about than traditional urban themes. Its importance is hinted at in Ahmed’s (2019) work, as they highlight how a key task of the oppositional group #BlockSidewalk was to translate smart city concepts ‘such as public technology infrastructure and surveillance capitalism’.

Results from the Roundtable 1 post-event survey indicate that many citizens placed high importance on information provision: 87 percent of citizen respondents stated that they attended the Roundtable to ‘learn more about the project’. These sentiments compliment findings shown in Table. 3: seven out of eight engagement initiatives contained activities classed as *information*, implying that citizens need time allocated to information provision to be able to access

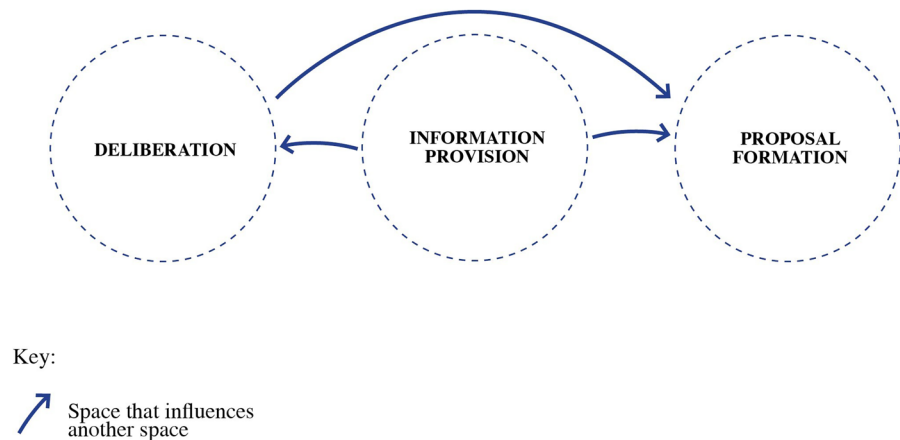
other spaces of engagement, like proposal formation. As expressed by one citizen in their minority report, even the RRP can be seen as short on information provision:

The proposals for Quayside are so complex, that it was already difficult as a panellist to consider and review the numerous proposals under a single project. I would suggest that future engagement focus on improving people’s understanding of the details pertaining to each individual proposal, so that Torontonians are able to properly evaluate the project’s merits.

For citizens on the RRP to submit a detailed set of recommendations on topics such as ‘responsible data use’ and ‘potential business models’, it would follow that they need detailed information to inform their opinions beforehand. Whilst Cardullo and Kitchin’s (2018) scaffold contends that information provision is low-level engagement (see Table. 1), this evidence suggests the contrary.

Also important is the origins of information provision—if the stakeholder delivers the information, they can heavily influence the nature of citizens’ involvements. This is demonstrated by the RRP, the

Fig. 2 A visualisation of how stakeholder control over information provision can translate into influence over deliberation and/or proposal formation



engagement initiative ranked as the most progressive according to Cardullo and Kitchin's (2018) scaffold. At face value, the extensive nature of information provision (through guided tours, presentations and workshops) equipped citizens well to produce their report. However, the origins of some of the information somewhat negated the extensive nature of the programme. In their minority report, a member of the RRP provides a clear indication of this:

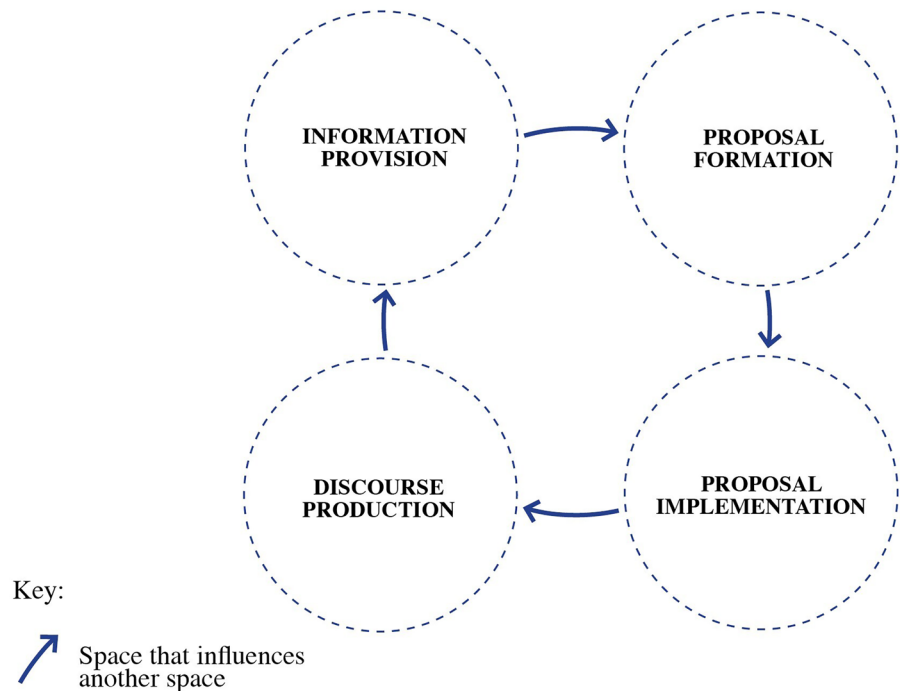
We...were given many documents to review. Despite this, we were often caught off guard by media coverage, including the story in the Toronto Star about the proposed diversion of tax funds to Sidewalk Labs to pay for infrastructure, which appeared after our final panel meeting. We had a meeting about business models shortly before this story came out...which... touched on the financing of infrastructure, but we were not informed about the specific proposal discovered by the media...there was no venue provided for related discussion.

Stakeholder-led information provision can therefore conceal certain topics and limit what citizens discuss, rendering them ill-equipped to contest or propose alternatives to the stakeholder's original ideas. This highlights the interconnectedness of political spaces, and the importance of information provision, as highly framed information provision can impact the quality of subsequent deliberation and proposal formation (visualised in Fig. 2). All seven initiatives that contained information provision had a proportion delivered by SWL. This suggests that political power in this space is primarily

held by the stakeholder, a viewpoint similarly asserted by Carr and Hesse (2020, p. 78) who highlight how SWL were able to 'set the agenda, choose speakers and curate its audience'. This power imbalance somewhat limits citizens to SWL's narrative of smart urban placemaking; a perspective not always in the public interest. The RRP's high ranking on Cardullo and Kitchin's (2018) scaffold fails to account for this. Once again, the format of the scaffold, providing only one assessment of the citizen's role for the whole engagement, limits its utility. Through conceptualising information provision as a distinct political space, one can assess this important facet independently of other aspects of engagement.

A key aspect of Habermas' communicative rationality that has influenced recent participatory planning practice is the importance of *deliberation*, both between citizens as well as between citizens and stakeholders, for allowing people to understand different perspectives and come to an informed judgement (Fung, 2006; Hillier, 2003; Kamaci, 2014). Carr and Hesse (2020, p. 78) also emphasize the importance of deliberation, highlighting how its absence in Quayside's citizen engagement schemes chimes with post-political 'managerial processes' whereby private sector stakeholders perform tokenistic engagement that removes time for citizen debate. Whilst findings do not show a complete omission of deliberation in the Quayside project (the RRP and Fellows Program included deliberation), they do highlight a lack of deliberation in some initiatives. The Roundtables initiative dedicated the 'discussion' activity to deliberation between citizens. This is unlike the

Fig. 3 A visualisation of how stakeholder control over discourse production can transition into information provision, which can influence subsequent proposal formation and implementation



Neighbourhood Meetings and Town Hall, which had no obvious discussion activities. Without the ability to discuss ideas, citizens cannot expose themselves to multiple perspectives, gaining deep levels of understanding about a given topic (Fung, 2006). This limits their ability to produce considered proposals, and therefore, control over time to deliberate is highly political. Yet on Cardullo and Kitchin's (2018) scaffold, the Roundtables, Neighbourhood Meetings and Town Hall are ranked equally. Recognising deliberation as a distinct *political space* allows for a more granular assessment of citizen engagement, differentiating between ostensibly similar initiatives.

Another key political space in the engagement process is *discourse production*. In their analysis of the Quayside 307 citizen engagement initiative, Mattern (2020) highlights how 'participation is now deployed as part of a public performance wherein the aesthetics of collaboration signify democratic process, without always providing the real thing'. This implies that, through discourse and presentation, participation becomes a performative exercise without achieving objective impact. This research strengthens Mattern's argument, demonstrating how SWT's power over the production of summary reports allowed them to determine what was presented to the public and how

the engagement could be perceived. The Town Hall summary report offers a particularly clear example of this. SWT summarised the Community Comment Wall during the Town Hall initiative into eight bullet points and a further two pages of citizen sentiments. Considering over 500 citizen comments were produced, it is unrealistic to expect all comments to be collated into a readable report. However, SWT could still choose which sentiments were emphasized and which were omitted. Furthermore, using the phrase 'what we heard you care about' to introduce the citizen sentiments emits a friendly, conscientious tone whilst tactfully evading the display of negative feedback, instead displaying generic indicators of what citizens feel is important. This gives citizens no indication of more the critical opinions on the project, influencing how readers perceive Quayside.

This example again indicates the interrelation between distinct political spaces. Discourse, once produced, transitions to a form of information provision. If the citizens who digest this information then participate further, this influences the proposals they form and a reinforcing cycle of political control ensues (visualised in Fig. 3). Whilst the stakeholder cannot control all discourse production (like media coverage), their control over publishing citizen

sentiments is still significant. Discourse production is therefore highly political, and warrants its own granular assessment as a facet of the engagement process. Cardullo and Kitchin's (2018) scaffold fails to acknowledge this as it ignores the impact of post-engagement conduct.

The final political space identified within citizen engagement is *proposal implementation*; it is somewhat recognised through the scaffold, in the rungs of delegated power and citizen control, but this could be more clearly demarcated if conceptualised as a distinct political space. McCann (2001) highlights how private-sector developments are problematic for citizen engagement as the control given to these developers often means they can choose to ignore citizen input. This renders the engagement process pointless as there is no accountability to implement citizen proposals. Evidence from citizen engagements in Quayside supports this proposition—the Fellows Program and the RRP both produced detailed citizen proposals for how Quayside should be built. However, SWT had no requirement to implement ideas formed in these initiatives: in both summary reports, SWT vaguely state that the work of citizens will 'help shape' the MIDP, whilst providing no details of how this would occur. If SWL decided against implementing any citizen ideas, citizen influence could be reduced to negligible. This implies that proposal implementation is the most important political space, as its neglect has the ability to render the whole engagement process redundant.

Due to the cancellation of the Quayside project, it is unknown whether this lack of transparency would have resulted in reduced citizen influence. Even so, this highlights that proposal implementation is a highly important facet of citizen engagement,

determining the concrete level of impact achieved by the citizen's voice at the end of the citizen engagement process. Control over such decisions is highly political, and the conceptualisation of proposal implementation as a distinct political space allows for a more explicit acknowledgement of its importance.

Post-political spaces of citizen engagement?

The seven identified political spaces, summarised in Table 5, have each been shown to play a significant role in influencing the quality of citizen engagement. In many of the Quayside initiatives, these political spaces have been hidden from view. The presentation of citizen engagement by SWT as providing a 'range of opportunities' for 'extensive consultation and collaboration' that will 'help shape' Quayside hides the fact that citizens are still excluded from many political aspects of the engagement (Sidewalk Toronto, 2018j). This form of exclusion subtly limits the impact citizens can have on the project, whilst dampening the rationale for protest by still offering (tokenistic) gestures of participation. Analysing the initiatives using Cardullo and Kitchin's (2018) scaffold also conceals these spaces. This paper argues that Carr and Hesse's (2020) evaluation of Quayside as post-political can be applied at the granular level of citizen engagement. Political spaces of citizen engagement can therefore be reframed as *post-political spaces of citizen engagement*. This underlines how, if they are hidden from the citizen, political spaces become *post-political spaces*.

The newly formed heuristic (Table 6) attempts to collate findings from four sources: Cardullo and Kitchin's (2018) scaffold, Simonofski et al.'s (2020)

Table 5 The seven post-political spaces and each of their significance to citizen engagement

Post-political spaces of citizen engagement	Significance for citizen engagement
Citizen selection	Determines the citizen voices able to contribute to the smart city project
Engagement design	Determines the matters citizens are able to focus on, and the format within which they do so
Information provision	Determines the relevant information or knowledge disclosed to citizens
Deliberation	Determines the time allocated to citizens discussing ideas and issues with other citizens and stakeholders
Proposal formation	Determines the extent to which citizens can put forward ideas, concerns, recommendations and proposals
Discourse production	Determines the extent to which citizens control how their sentiments and activities are displayed to others
Proposal implementation	Determines how and if citizen proposals are put into practice

Table 6 The post-political spaces of citizen engagement evaluative heuristic

Citizen selection	+1 Selection by stakeholder	+2 Selection by stakeholder and external administrator	+3 Citizen self-selection	+4 Selection by external administrator	+5 Random selection
Design of engagement content	+1 Designed exclusively by the stakeholder	+2 Designed by stakeholder and independent administrators	+3 Designed by independent administrators	+4 Designed by independent administrators, citizens consulted	+5 Design led by citizens
Information provision	+1 Information provided exclusively by the stakeholder	+2 Mostly provided by stakeholder, some provided independently	+3 Mostly provided independently, some provided by stakeholder	+4 Provided exclusively by independent administrators	+5 Provided by independent administrators and citizens
	+1 Minimal time given to information provision	+2 Limited time given to information provision	+3 Considerable time given to information provision	+4 Substantial time given to information provision	+5 Extensive time given to information provision
Deliberation	+1 Minimal time/space given to deliberate	+2 Limited time/space given to deliberate	+3 Considerable time/space given to deliberate	+4 Significant time/space given to deliberate	+5 Extensive time/space given to deliberate
Proposal formation	+1 Citizens are participants, learners. No active input.	+2 Citizens are feedback-givers to specific ideas	+3 Citizens are vision-makers-no concrete proposals made	+4 Citizens give proposals responding to specific prompts	+5 Citizens autonomously give detailed proposals
Discourse production	+1 Discourse exclusively produced by stakeholder	+2 Discourse produced by external administrators with the stakeholder	+3 Discourse produced by stakeholder and citizens	+4 Discourse produced by external administrators	+5 Discourse produced by the external administrators and/or citizens
Proposal implementation	x0 No citizen proposals are implemented, citizens are ignored	x1 Citizen proposals largely ignored, few proposals indirectly influence policy	x2 Some citizen proposals indirectly influence decisions, few original proposals are implemented	x3 Multiple original proposals are implemented, choices made by the stakeholder	x4 Most original proposals are implemented, citizens vote on which to administer

Holistic Evaluation Framework (HEF), Fung's (2006) democracy cube and the conceptualisation of post-political spaces of citizen engagement developed in this paper. The heuristic produces a score, calculated through adding up scores for each individual political space (information provision has two scales). This enables engagement initiatives to be easily compared, whilst also unveiling specific spaces of post-political citizen engagement.

Firstly, Cardullo and Kitchin's (2018) scaffold was used to develop the *proposal formation* scale, utilising terminology from the columns of the scaffold titled *role* and *citizen involvement*, as the terminology used in these columns was found to be useful in identifying the nature of citizens' involvements in proposal formation. Vocabulary like 'participants', 'feedback-givers' and 'proposals' are taken directly from the scaffold (Cardullo & Kitchin, 2018), whereas 'vision-maker' was developed during this research as an additional term to define citizens describing generic wishes or concerns for a project, without being able to detail how this vision would manifest practically.

Second, Simonofski et al.'s (2020) HEF provided a useful basis to develop the structure of the heuristic. The HEF uses scales and checklists to produce a citizen participation score. The use of scales was translated into this framework—it enables the quality of each post-political space of engagement to be assessed individually, whilst still generating an overall evaluation for the engagement. This addresses the criticism of Cardullo and Kitchin's (2018) scaffold that a linear hierarchy privileges some forms of participation over others (Simonofski et al., 2020), reinforcing the findings in this research that each *political space* plays an important role in citizen engagement quality.

The bulk of this heuristic stems from the conception of post-political spaces of engagement theorised in this article. Citizen selection, proposal formation, engagement design, information provision, deliberation, discourse production and proposal implementation were all identified as key political spaces within citizen engagement. Fung's (2006) work reinforced the idea that citizen selection, proposal formation and proposal implementation in particular were important facets to include. Each scale is based on the ranging quality of the eight initiatives analysed in this paper; where no citizen engagement reached a high level, for example in the design of engagement content, rational

classifications have been estimated. In recognition of the importance of proposal implementation for validating outcomes of the citizen engagement process, this facet is scored with a multiplier—if no citizen proposals are implemented, the engagement score is multiplied by zero giving an overall score of zero. This reflects the idea that, without citizen proposals being put into action, the overall citizen engagement process can be futile.

By their very nature, post-political spaces are hidden from the citizen, as the stakeholder aims to 'narrowly define' citizen engagement (Carr & Hesse, 2020, p. 78). This heuristic makes post-political spaces visible. For example, in the Small Grants Program, citizen selection, engagement content and information provision were all either stakeholder dictated or non-existent, meaning that access to the engagement initiative was restricted. However, the initiative's deliberation, proposal formation and discourse production were high-quality, allowing citizens the autonomy to deliberate over results for a relatively long period (the program commenced on September 10th 2018 and the deadline for deliverables was November 16th 2018), whilst producing independent findings as a research paper. The heuristic (see Table 7) represents the range of quality present within the engagement initiative, with a low score received for citizen selection, engagement design and information provision, emphasising how they are *post-political* spaces, and high scores for deliberation, proposal formation and discourse production. Under Cardullo and Kitchin's (2018) scaffold, the Small Grants Program was classified highly, under partnership, hiding the poor quality aspects of the engagement. Utilising the new heuristic therefore gives a more nuanced analysis, revealing that in the early spaces of engagement in particular, the initiative is post-political and lacks inclusivity—its ranking is therefore more accurate on the new heuristic.

Ranking the Small Grants Program on the new heuristic also highlights the interconnection between different post-political spaces. In this example, information provision and engagement design were contingent on the nature of citizen selection, as selecting academics meant engagement content could be technical and difficult to understand whilst information provision could be minimal. Equally, proposal formation could only reach a four on the scale, as research topics were pre-determined by SWT in engagement

Table 7 The Small Grants Program ranked on the post-political spaces of citizen engagement evaluative heuristic (shading indicates the score for each political space)

Citizen selection	+1 Selection by stakeholder	+2 Selection by stakeholder and external administrator	+3 Citizen self-selection	+4 Selection by external administrator	+5 Random selection
Design of engagement content	+1 Designed exclusively by the stakeholder	+2 Designed by stakeholder and independent administrators	+3 Designed by independent administrators	+4 Designed by independent administrators, citizens consulted	+5 Design led by citizens
Information provision	+1 Information provided exclusively by the stakeholder	+2 Mostly provided by stakeholder, some provided independently	+3 Mostly provided independently, some provided by stakeholder	+4 Provided exclusively by independent administrators	+5 Provided by independent administrators and citizens
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Proposal formation	+1 Citizens are participants, learners. No active input.	+2 Citizens are feedback-givers to specific ideas	+3 Citizens are vision-makers-no concrete proposals made	+4 Citizens give proposals responding to specific prompts	+5 Citizens autonomously give detailed proposals
Discourse production	+1 Discourse exclusively produced by stakeholder	+2 Discourse produced by external administrators with the stakeholder	+3 Discourse produced by stakeholder and citizens	+4 Discourse produced by external administrators	+5 Discourse produced by the external administrators and/or citizens
Proposal implementation	x0 No citizen proposals are implemented, citizens are ignored	x1 Citizen proposals largely ignored, few proposals indirectly influence policy	x2 Some citizen proposals indirectly influence decisions, few original proposals are implemented	x3 Multiple original proposals are implemented, choices made by the stakeholder	x4 Most original proposals are implemented, citizens vote on which to administer

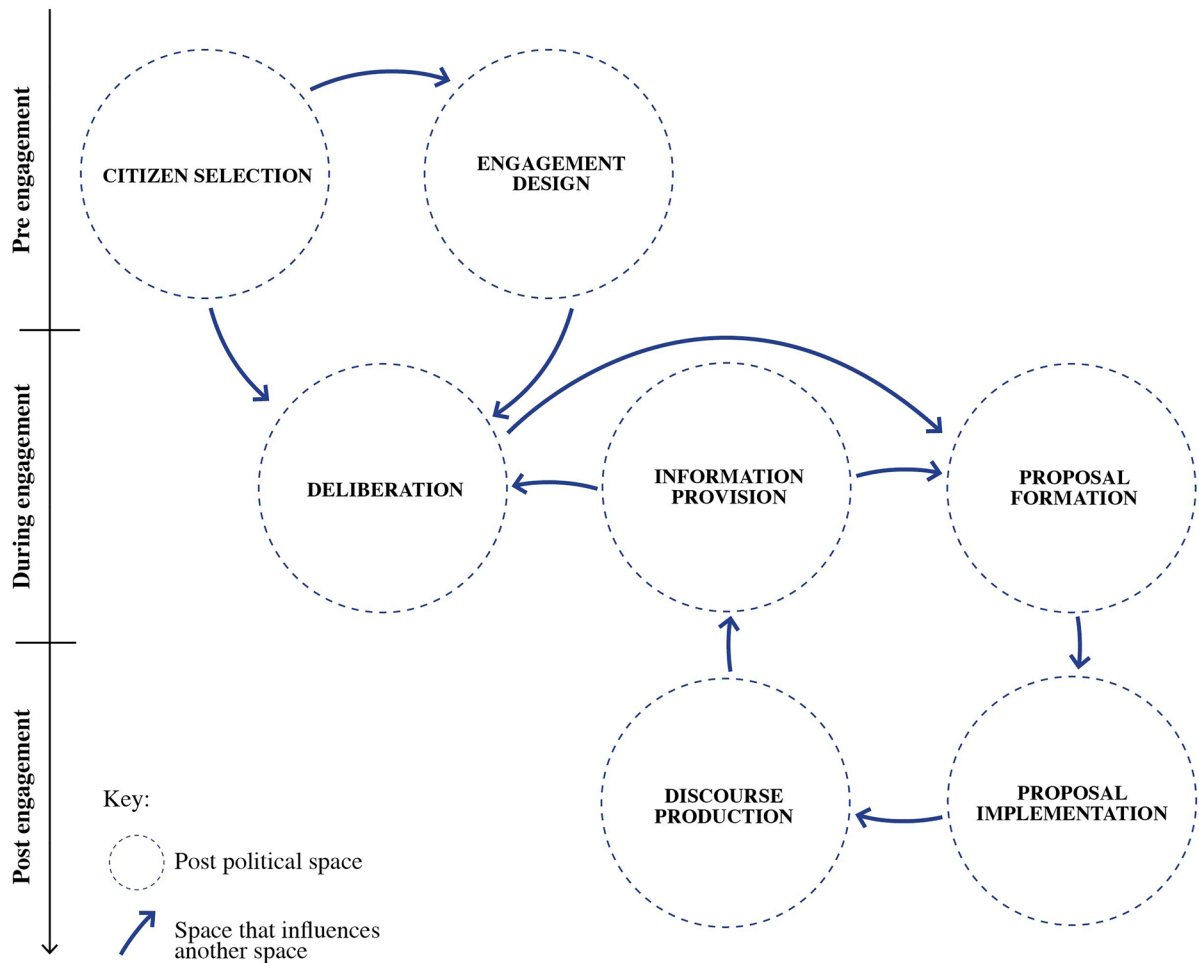


Fig. 4 A visualisation of all seven post-political spaces and the interconnections between them

design. A lack of citizen influence over engagement design therefore limited the quality of citizens' deliberation and proposal formation. Proposal implementation is given a multiplier of $\times 0$ as no citizen proposals were implemented (due to the project's cancellation). This means the initiative's collective score of sixteen for the first six political spaces is reduced to zero. The connections between political spaces highlighted here, alongside the other connections discussed in the paper, are visualised in Fig. 4.

Conclusion

This research has discovered that Cardullo and Kitchin's (2018) scaffold could not effectively represent

the diverse spaces in which citizen engagement quality was determined at Quayside. A new heuristic has been developed that theorises citizen engagement as composed of multiple *political spaces* (see Table 6), which can be further refined as post-political spaces of citizen engagement. This modification integrates the conceptual lens of post-political urban governance, which demonstrates how political decision-making in urban planning can be easily disguised as apolitical 'managerial processes' (Carr & Hesse, 2020:71), hidden from citizen input. The heuristic incorporates this lens by highlighting the spaces of citizen engagement that perform poorly and are therefore post-political. The seven post-political spaces are detailed in Table 5.

The eight Quayside citizen engagement initiatives examined in this article would receive a score of 0 on the new heuristic, as the project was subsequently cancelled and no citizen proposals were implemented. However, the example of the Small Grants Program demonstrates how the initiatives' evaluation on the new heuristic produces a much more nuanced understanding of their quality. Assertions that all engagement initiatives were post-political, and ranged between placation and manipulation on Arnstein's (1969) ladder of participation, overgeneralise (Ahmed, 2019; Carr & Hesse, 2020; Tenney et al., 2020). Instead, this research has discovered that citizen participation was more varied in its quality (see supplementary information for rankings of all initiatives on the new heuristic).

This work has initiated the development of a tool that will enable a richer understanding of citizen participation in smart city planning. Through conducting a granular analysis and removing the fixation on proposal formation, one can see the multiplicity of political roles that citizens can play in engagements, facilitating a more considered evaluation of barriers to quality citizen participation. The post-political spaces of citizen engagement heuristic helps to battle the post-political turn in smart urban governance through specifically identifying where post-politics is employed in citizen engagement. Policymakers and academics alike can use the framework to score and compare engagement initiatives against each other, identifying where citizen engagement in smart city planning should be re-politicised. Furthermore, this conceptualisation facilitates an understanding of different post-political spaces as highly interlinked. Demonstrated through examples from Quayside, influence over one post-political space, like discourse production, can translate into influence over another, like information provision; the different facets of the citizen engagement are therefore porous, each affecting the nature of other spaces. For citizens to hold genuine influence over the development of progressive urban spaces, more attention should be paid to the *diverse* spaces in which they can exert political power.

Whilst the new theorisation represents considerable progress, it is by no means complete. The heuristic should be tested in different smart city planning contexts in aid of refinement. Further examination of the eight Quayside initiatives could

also be conducted. This could be accomplished through interviews, which may uncover details like the nature of the partnerships between SWT and independent public engagement consultancies that helped to design and run the RRP and Design Jams, like MASS LBP and Cultural Collective. Such an in-depth utilisation of the heuristic may help to discover additional political spaces, or add a greater depth of understanding to current political spaces.

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