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Reclaiming the commons for urban transformation

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ABSTRACT

This paper investigates how public space can leverage disruptive changes in urban environments which compel sustainable urban transformation. We draw on three recent cases in New York City (Times Square in Manhattan, Jackson Heights in Queens and 596 Acres in Brooklyn), where activation of public space radically changed the function and identify of apparently stable urban systems by giving rise to nascent 'urban commons'. As healthy commons are indicative of cultural and institutional practices aligned with sustainability, we examine how innovative social and institutional practices can form in urban environments, and compel more sustainable ways of living. Drawing on resilience theory as a framework, our analysis focuses on the contextual conditions and mechanisms that enabled new public spaces to form; the processes by which 'commons practices' developed; and the way these urban commons influence urban systems more widely. We find that rigid urban systems can be 'loosened' by iteratively prototyping urban interventions (such as temporary street closures). These actions create fertile, low-risk, experimental conditions in which stakeholders can cultivate and consolidate shared resources and custodial commons practices. The formation of these 'communities of practice' is essential for the advocacy and protection of new commons as they begin to scale and challenge dominant urban system configurations. We conclude by describing how urban commons must scale vertically and horizontally within wider urban systems to support transformation towards sustainability. Upon identifying a range of challenges to this process, we suggest that the distributed replication of small public space interventions may offer the most pragmatic path towards promoting and normalising commons practices, as it can seed a groundswell of grassroots social innovation. In turn, these activities may lay the cultural foundations for traditional institutional stakeholders and urban authorities to play a more progressive and enabling role in urban transformation.

1. Introduction

On September 17, 2011, a small, windblown concrete plaza, nestled at the base of Wall Street's skyscrapers, became home to hundreds of new residents and spawned a global change movement. Zucotti Park, one of New York City's many 'POPS' — privately-owned public spaces, became occupied and reclaimed as a public space. This collective action symbolically highlighted the contestation of public space as a symptom of a much greater cause: the unjust appropriation of common resources by a corporate few — 'the 1%'. Within weeks this publicly re-appropriated private space had matured into a pop-up, self-sustaining 'urban commons'. It defined itself through consensus-based, collective activities providing 'mutual aid': food, books and clothing distribution, first aid,

an information centre, a grey water and recycling sanitation system and even bike-powered generators (Frank and Huang, 2012). A communal spirit drove and was nourished by these activities, as the park became a thriving social and civic space with teach-in workshops, General Assembly meetings, music groups, exercise classes and long discussions into the night. As Daniel Latorre, an Occupy activist, recalls "I've never felt anything like it, because there was a sense of openness, that's why you went there… There's something that goes on when people are next to each other. It felt very alive. Very present" (Latorre, 2012).

Clearly, while public space is a physical domain, it continues to be valued as "the 'where' of democracy and civic engagement" (Neal, 2010). Indeed, besides New York City (NYC), in 2011 tens of thousands demonstrated against systemic marginalisation across the globe through the reclamation of public space — from Pearl Square in Bahrain to the Plaça de Catalunya in Barcelona and Tahrir Square in Cairo (El-Sadek, 2011). These actions highlighted the role of public space as an inclusive 'leveler' (Oldenburg, 2010) and both

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conduit and crucible for social change (Hobsbawm, 1973). The speed at which Occupy Wall Street's (OWS) actions (themselves inspired by the Tahrir Square protests and Spanish Indignados) gained a contagious momentum is a timely reminder how rapidly contemporary radical change can be transmitted and scaled. The Occupy 'meme' (Writers for the 99%, 2012), aided and engineered through social media, grew the movement spatially, ideologically and politically as Occupy affinity groups multiplied around the world, diversifying and self-organising in concurrent, decentralised waves. However, the Occupiers' eviction highlights the fragility and transience of these newly formed 'urban commons' within urban environments shaped by more powerful and rigid social, commercial and institutional interests. The legal occupation ended after two months when new regulations (introduced for the purpose) were upheld in a court decision - forcing the park's evacuation.

In this paper, we take inspiration from the nascent commons fostered in Zucotti Park to investigate how urban public spaces can act as critical leverage points for sustainable urban transformation. Public spaces and urban commons, while related, do differ. While public spaces can be defined as publicly-owned land, open (in principle) to all members of the public (Neal, 2010) as Jay Walljasper describes, "a commons arises whenever a given community decides it wishes to manage a resource in a collective manner, with special regard for equitable access, use and sustainability" (Walljasper, 2010). Urban commons might therefore require the physical form of a public space, and are defined by the social and institutional 'scaffolding' and practices developed for managing that space as a sustainable common-pool resource (Bollier, 2012). Commons can therefore be regarded as fundamentally complex, socio-ecological systems (Armitage, 2008; Berkes, 2006).

We suggest 'urban commons' are important vehicles for fostering sustainability within cities as they require behaviours, cultures and institutions consistent with equitable and transparent sharing of resources (Cash et al., 2006; Marshall, 2008). When connected to public space, they also have the unique position of fitting structurally within the everyday cultural and spatial fabric of cities, while being partly buffered (by public ownership) from dominant market forces. Understanding how urban commons develop through the appropriation of public space may therefore reveal social and institutional innovations from which sustainable urban practices and ways of living emerge. Therefore, in exploring the contribution of public space and the commons to sustainable urban transformation, we are interested in firstly, identifying the processes enabling the creation of new urban commons in public space; secondly, the processes by which custodial practices develop; and thirdly, the capacity for urban commons to influence the urban environment from local to city levels.

Our investigation of urban commons as a vehicle for urban transformation is framed by an understanding of cities as complex adaptive 'systems-within-systems' (Alberti, 2009; Marzluff et al., 2008) and draws on resilience theory and its 'adaptive cycle' (Holling, 1973; Walker and Salt, 2006; Du Plessis, 2012). Consistent with this framework, we refer to urban transformation as a process where the dominant structures, functions and identity of urban systems change fundamentally — leading to new cultural, structural and institutional configurations (Gunderson et al., 2002). At a 'meta-level', this perspective is useful in explaining how the current failure of urban sustainability initiatives to drive significant change is partly due to the resilience of cities (at least in environmental policy) (Westley et al., 2011; Harich, 2010). In-turn, this understanding also highlights the need for urban transformation strategies to undermine the resilience of unsustainable urban configurations such as by disrupting the current flows and accumulation of resources (such as cultural, physical and economic).

A complex systems framing is also useful for understanding how small innovations in public space may influence large-scale transformations at whole of city scales, for it frames the configuration of urban systems as the result of emergent processes. In other words, the structure, function and identify of a city arises largely from myriad interactions between elements, including people, business, institutions, culture and physical conditions (Alberti, 2009; Alberti and Marzluff, 2004; Marzluff et al., 2008; Roggema, 2009). This radically de-values the influence of traditional top-down 'sustainable design' and policy mechanisms in achieving sustainable urban transformation. Conversely, it elevates the transformative impact of mechanisms that cultivate new norms, practices and other social innovations aligned with sustainability (Christensen et al., 2006; Westley et al., 2011). These socially-constructed 'rules of interaction' should be seen as the more important 'building blocks' that redefine a city's emergent pattern of structures and institutions. Clearly, however, cultivating small novel building blocks alone can't drive transformative change within the nested and mutually re-enforcing 'system within system' macro-architecture of cites (Alberti, 2009; Marzluff et al., 2008). Transformative social innovations must scale horizontally (via spatial replication) and vertically (via interaction with systems at larger scales) to affect broader systems change (Westley et al., 2011). Therefore, our focus on the emergence of new commons within public space is conscious of the role public areas play in facilitating communication between urban stakeholders at many levels.

We present three case studies in Manhattan, Queens and Brooklyn, and evaluate how new urban commons have developed from disruptions in apparently stable urban configurations. NYC is a fitting urban laboratory for this investigation, as it has recently seen significant urban change at multiple scales. These range from Mayor Bloomberg's current PlaNYC strategy for coping with the one million extra residents projected to settle in New York City by 2030, to the rash of 'grassroots' activities overtly challenging traditional property ownership and land access. The investigation is informed by site visits, participant observations and interviews with municipal urban planners, urban activists and designers, held from January—September 2012. We begin with the transformation of Times Square into a pedestrian plaza and evaluate the viability of a commons created by 'top-down', tactical urban interventions. Our second case study, a 'Play Street' in Jackson Heights, Queens, also examines how the same tactical practices operate at a grassroots level. We evaluate the compromises associated with this nascent commons engaging vertically with formal institutions in order to harness wider bureaucratic support. Our final case study investigates grassroots practices with 596 Acres, a Brooklyn-based organisation that supports local communities to appropriate vacant lots for activities such as gardening. Here we examine how linking urban and digital commons can support the replication, consolidation and wider legitimacy of novel community practices. We conclude by asking how these public spaces (see Fig. 1) and the various 'communities of practice' associated with them support wider urban transformation to sustainability.

2. Times Square

In late May 2009 the New York City borough of Manhattan was gripped by small-scale hysteria (Ouroussoff, 2009). The reaction was not the consequence of a terrorist attack or sudden stock-market disaster, but the first steps to pedestrianize Times Square. The Department of Transport's (DOT) 'Green Light for Midtown' initiative shut traffic to one of the most dense and iconic intersections in the world, converting five blocks of Broadway into a series of pedestrian plazas. This initiative was launched in 2008 as a part of the DOT's Sustainable Streets strategy; a progressive agenda
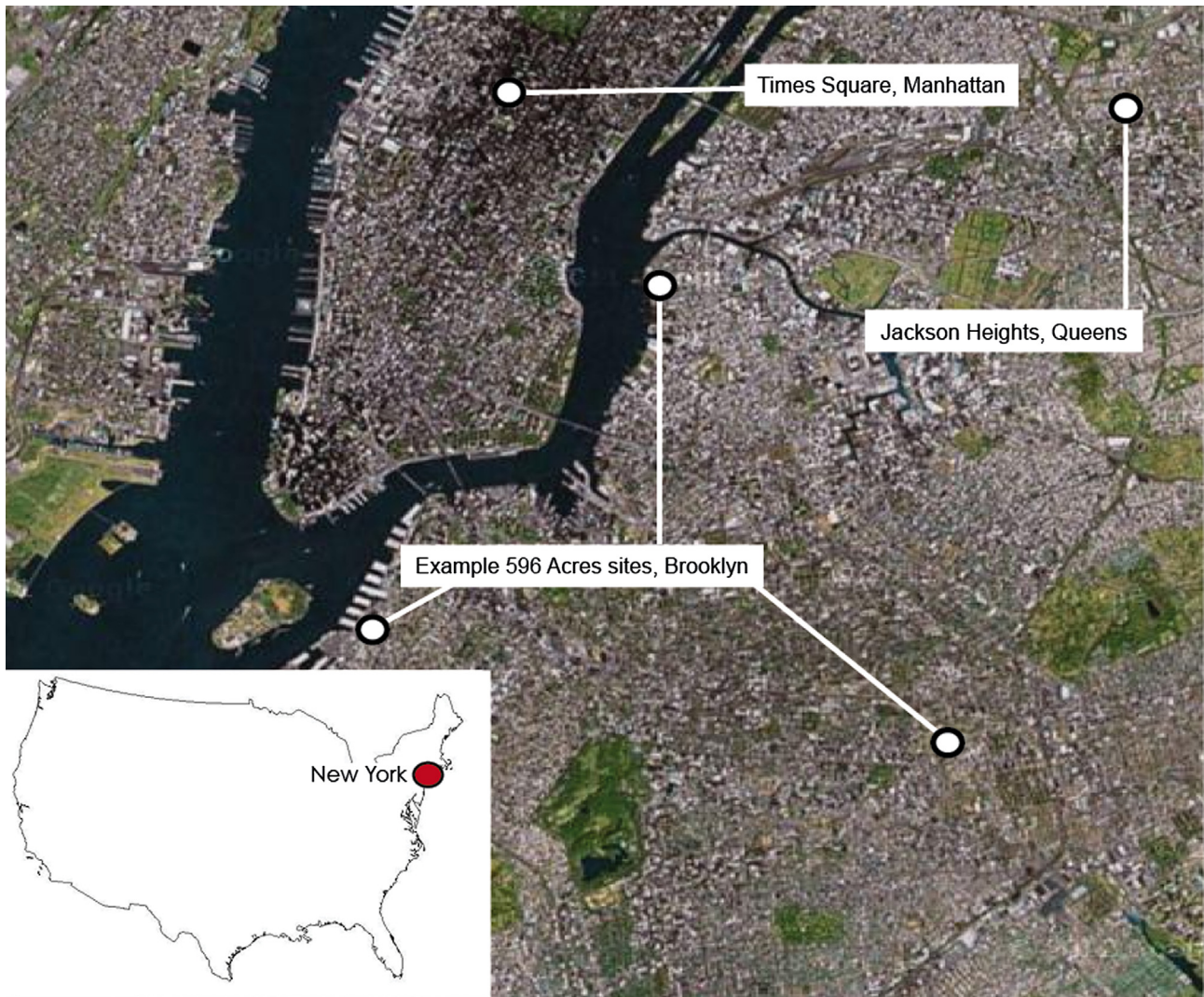
Fig. 1. This paper focuses on public spaces in New York — Times Square, Manhattan; Jackson Heights, Queens; and throughout Brooklyn.

spearheaded by DOT Commissioner, Janette Sadik-Khan, and Assistant Commissioner for Planning and Sustainability, Andy Wiley-Shwartz (Latorre, 2012). The strategy aims to increase public space, improve safety and greening and develop pedestrian-oriented reconstruction projects. Premised upon a goal that all New Yorkers live within a 10 min walk from "a quality open space," it has become a key policy tool for transforming underused streets into "vibrant, social public spaces" (Department of Transportation, 2012a).

The site for New York City's new urban laboratory included a humble set of 376 rubber lawn chairs, essentially a public invitation to appropriate the new pedestrianised space and play out its non-vehicular usage. Subsequent images and videos travelled the world showing Times Square as a burgeoning social space, with people arranging chairs to follow the sun, creating conversation circles, sprawling gratuitously on asphalt, or simply sitting quietly in the company of strangers, watching the world pass by (see Fig. 2).

This closure was intended as an experimental, monitored, 6-month pilot phase (Seifman, 2009), and when studies showed the project delivering on municipal, business and public expectations (74% of New Yorkers agreed that Times Square has improved dramatically over the last year (NYDOT, 2010)), Mayor Bloomberg announced that the plaza would remain permanent in February

2010. The redevelopment has now only reached its final phase, some three years after the initial street closure. For the 360,000 pairs of feet that pass through this area each day, the result has almost doubled pedestrian space to 60,000 square feet (Times

Fig. 2. Lawn chairs being arranged in Times Square — credit Ethan Kent 2009

Square Alliance, 2012). Contrary to initial concerns that a 'slowed down' Times Square would rob New York City of its dynamism and turn the site into a tourist trap, it now stands as an oft-quoted example of successful urban reconfiguration (Wiley-Schwartz, 2012).

2.1. A process of reconfiguration

This case study highlights how discrete processes, operating in parallel at different scales, enabled the radical reconfiguration of an urban environment. Yet, these processes were only set in motion following the progressive 'weakening of systemic strangleholds' (Bagli, 2010). For example, economic instability in the late 1980's compelled the city government to restrategise its role as one of the site's key urban stakeholders. At this point, Times Square was a thriving red light district and drug haven, with municipal 'clean up' strategies largely playing to the interests of property developers. A depreciated market saw these strategies shelved, and by the mid-1990's the municipal strategy shifted towards policing, fighting crime and displacing the local sex industry. Rebecca Robertson, then president of the 42nd Street Development Project, notes that it was economic volatility which enabled Times Square's eventual cultural and social rejuvenation: "We couldn't have gotten our plan through in a hot market. The development pressures would've been way too strong. Everyone would've been talking about what big tenant can we get, and not about restoring popular culture and entertainment" (Bagli, 2010). The city's economic agenda also aimed to achieve social improvement with a restoration of the historic theatre district (Bagli, 2010), tax incentives luring back the more permanent, stable presence of corporate residents (Stern, 1999), and the formation of the Times Square Business Improvement District (BID) (later called The Times Square Alliance) in 1992. This non-profit organisation comprises a neighbourhood-wide alliance of businesses who are levied to support public services and commercial development (Ellen et al., 2007). The Times Square BID has now become a further significant stakeholder in the redevelopment of Times Square.

Times Square's cohort of stakeholders expanded again in response to a need for further spatial and institutional reconfiguration of the site. By the late-1990's it had fallen victim to its own success, becoming a chaotic, dangerous jostling space for tourists, pedestrians, workers and vehicles. In an effort to address this problem the Times Square Alliance helped coordinate a range of feasibility studies and workshops in 2006–07, in which designers, urbanists, artists and public servants 'reimagined' Times Square. This phase marked the onset of a new custodianship of Times Square, where the BID and the DOT, based on mutual interests, sparked a network of complementary activities with the goal of transforming Times Square into a more open and inclusive public space.

Times Square, as it is experienced today, can be regarded the product of two complementary processes. On the one hand, the site's increasing dysfunctionality signalled a progressive weakening of existing commercial and institutional roles; a 'loosening' systemic configuration which ultimately compelled a change in stakeholder practices. On the other, the emergence of new relationships borne of shared values and goals compelled a shift in policy and governance of the site. This gave rise to a reconfiguration of relationships and new practices – in particular a sense of shared custodianship. As the former *New York Times* architecture critic, Nicolai Ouroussoff, noted upon the launch of the first phase, "What's most encouraging … is that it reasserts the positive role government can play in shaping the public realm after decades of sitting by and watching private interests take over" (Ouroussoff, 2009).

Stakeholder involvement was further broadened in 2009, when the public was invited to participate in Times Square's iterative prototyping as a public plaza. This process reflects a significant point of systemic leveraging in urban transformation, as it catalysed a radical shift in the physical nature of the site while elevating the public's value and agency as stakeholders. Furthermore, the process of iterative site transformation was 'light touch', low risk and reversible. Popularly termed 'tactical urbanism' in the United States (Lydon et al., 2011), this strategy has typically been driven by grassroots activists for urban intervention, often as unsanctioned activity (such as chair-bombing, guerrilla gardening, the Build a Better Block program). However, it is increasingly legal and applied as sanctioned processes (Open Streets, Parkmobile, Pavement to Parks, Park(ing) Day) (Lydon et al., 2011). As described by Aurash Khawarzad, founder of Brooklyn-based Change Administration, an urban planning and design civic engagement studio, tactical urbanism is increasingly adopted by bureaucracies as "a way to start conversation" when needing to engage the public about significant urban transformation (Khawarzad, 2012). The success of tactical urbanism lies precisely in the way it enlivens the collective public imagination about the potential for urban change through the experience of jointly transforming their urban environment. It is also highly suited to today's 'experience economy' (Pine and Gilmore, 1999), where the public is increasingly literate and appreciative of experiential and event-based activities.

Tactical urbanism, or as described by Wiley-Shwartz, 'temporary figuration,' has become an important feature of the DOT's plaza program, showing that even unwieldy, large bureaucracies can employ agile strategies to reconfigure large urban environments. It has allowed the DOT to plan and design in a people-focused, rather than form-centric way by ensuring public input into temporary reconfiguration before any capital works occur (usually taking three years): "[it] gives us the benefit of seeing how everything behaves and planning the design so that it can be responsive to how people are using the space, instead of just guessing. It's really hard, if you haven't closed the street it's hard to know what the paths of travel are going to be, where people are going to want to sit and interact with surrounding buildings. It's very difficult…"(Latorre, 2012). Indeed, the tactical use of movable chairs and tables was critical to enabling and embedding the change. They were an entirely reversible, low risk and, at 0.001% of the project's total US$1.5 million budget, low cost aspect of the project (Grynbaum, 2009). Importantly, the chairs enabled the urban and social landscape of the site to be radically altered within mere hours. In this case a tactical reallocation of spatial and cultural resources has enabled a new trajectory of adaptation. Where the configuration prior to the shutdown resulted in traffic congestion, pollution and danger to pedestrians, the recent reconfiguration sees a new public space given over to social interaction. Therefore beyond offering the DOT a low-risk method of radically altering the city's centre, tactical urbanism also 'loosens' rigid social and institutional norms that are often enforced through urban design. Instead of chairs and tables being bolted down – a signal of mistrust and low civic expectations – the public is granted creative license to a new site for experimental social interaction. Here, the public is an active stakeholder, partaking in new implied relationships with the city authorities and the BID.

In summary, tactical urbanism facilitates a subtle disruption of urban systems – questioning and catalysing changes in the physical form, identity, function and institutional relationships at targeted sites. As an iterative process, it structures the progressive reconfiguration of resources (such as financial or cultural capital) and the re-consolidation of multiple stakeholder roles, practices and shared knowledge. Furthermore, by reactivating the social and civic importance of public spaces, tactical urbanism can create network

hubs supporting the transmission of ideas and innovations beyond their initial 'niches' (Moore and Westley, 2011). In doing so, it supports experimentation across scales within the urban system — from the public's spatial experience, to institutional planning and policy design, and through the formation of new stakeholder partnerships at different scales.

2.2. Scaling through iteration

Times Square's transformation demonstrates that iterative, tactical strategies provide a means for large bureaucracies to achieve rapid urban change, thereby highlighting the transience of apparently stable urban configurations. However, as Mike Lydon, principle of urban planning, research and advocacy firm The Street Plans Collaborative notes, tactical urbanism only achieves system-wide effect when the iterative process involves genuine public involvement, and where success depends upon gaining public legitimacy: "what we're talking about is incrementally changing the nature of the city we're in… what you see in New York now, a block here, a parking space there, a sidewalk there, is really… the long-term, unspoken vision. Do you go to the public and say 'over the next 40 years we're going to take away 2% of your car spaces?... That's not going to play well... But if you just start doing it — over time, it's really an intelligent way to achieve that same end goal" (Lydon, 2012). In this sense, the significance of Times Square is less the result of shifting from a vehicle- to pedestrian-dominated space, but the creation of a new public platform for systemic experimentation and stakeholder relationship-building, as Wiley-Schwartz similarly describes: "change is hard. Hard for people to visualize…that's what we try and do with temporary configuration… so that people can get used to the idea … so we can try different configurations out, and the community can get used to them" (Latorre, 2012).

While the recent process of urban reconfiguration has been successful, Times Square's long-term trajectory as a burgeoning commons is uncertain. In particular, the resulting transformation largely reflects the commercial interests of the stakeholder coalition that had the resources and advocacy power to intervene within the existing urban fabric and subsequently gained responsibility for the site. Visiting Times Square entails surrendering to an immersive spectacle that compels passive consumption, as witting within its tiered seats invokes a large living room with ground-to-sky televisions (Fig. 3).

Furthermore, while Times Square is a relatively safe experience (at any time of day or night), it is not particularly civic. At one level, the greater foot traffic, while enabling local businesses to record an increase of turnover, also helps line the pockets of already-wealthy

Fig. 3. Times Square as a commercialised public space, credit Ethan Kent 2012

multi-national businesses with outlets or billboard advertising around the plaza. At another level, it is notoriously bereft of 'locals' — there is something of a running joke that Times Square is one place where New Yorkers will never be found. Instead, Times Square's most frequent users comprise a transient population of tourists, commuting office workers, and the more static small business owners. There is therefore no local community to regularly participate in Times Square as a commons or reap on-going benefits from any contribution to the site.

In short, Times Square has undergone a rapid physical, cultural and institutional reconfiguration but is fast losing its capacity for innovation. Without further iterative disruption, it risks becoming an increasingly stagnant sub-system within the wider urban environment — a site where vehicles have been displaced by pedestrians but consumptive pressures are reinforced, and where business and transient pedestrian stakeholders have little incentive to share custodianship. Further devolution of agency from current institutional stakeholders and more active support of local custodians are needed to foster civic engagement. As it currently stands, the Times Square stakeholders have missed an opportunity to create a vibrant commons. However, as the following case study shows, the DOT has also deployed tactical urbanism in a city-wide program which is more closely oriented with cultivating a thriving civic commons.

3. Jackson Heights

Jackson Heights, in the borough of Queens, is one of the most culturally diverse neighbourhoods in NYC and home to the highest density of children per acre of green space. In 2007 a neighbourhood alliance comprising Jackson Heights Green, Western Jackson Heights Alliance and Friends of Travis Park applied successfully to the Department of Transport (DOT) to form a 'play street'. In an effort to create more public space, the community hoped to exclude traffic from the already quiet 78th street and allow the overcrowded Travis Park to spill into the street every Sunday for 20 weeks. The initiative was a huge success owing to an energetic community program of events and a farmers market, and enormous enthusiasm for a new community meeting-place. The event was repeated in 2009, then held for all of July and August in 2010 to see how a more permanent arrangement might work. Following further success and much community, council and even federal support, the site was earmarked as a three-month play street in 2011. However, the Queens Community Board's Transportation Committee voted the proposal down, claiming the street would be impacted by a lack of parking and crime at night. In a showing of solidarity and protest, nearly 200 community members (including many children) stormed the board meeting, and, equipped with testimony and revised plans, succeeded in having the original decision overturned (Kazis, 2010). As Elena Madison, a Green Alliance member who advocated for the play street from its inception recalls, "it was the liveliest and most-crowded community board meeting we had ever had" (Madison, 2012). In January 2012, the Green Alliance was accepted as a project partner for the DOT's public plaza program so that the 78th street could become a permanent car-free public space. This was a landmark achievement for grassroots urban advocacy — representing the first time an all-volunteer group had been successfully approved for the program. The DOT began making improvements in August 2012 with the result being more than 1200 m^2 of additional and permanent public space for the Jackson Heights community.

3.1. Developing a community of practice

In Jackson Heights, like Times Square, a series of iterative, 'light touch' urban interventions helped weaken, disrupt and reconfigure

existing urban configurations – creating a permanent, car-free public plaza. However, where Times Square's closure was largely an opportunity for the DOT and Times Square Alliance to gain stakeholder legitimacy and identify how the public would appropriate a new pedestrian space, in Jackson Heights, the iterative disruptions in urban space cultivated a more complex outcome. Outcomes reflect the values and goals of the stakeholders involved. In Times Square, stakeholders were defined according to their bureaucratic and corporate roles, while in Jackson Heights, community stakeholders came together organically, driven by common interests and values rather than being commanded by professional expertise. As Madison recalls, "people with all sorts of skills were crawling out of the woodwork wanting to help…all on their own time. Everyone understands that it's an important asset – it's going to benefit everyone" (Madison, 2012).

Following initial community interest, the play street's iterative creation allowed stakeholders to experiment with the space, define activities, share knowledge and expertise, find mechanisms for consolidating practices, and learn to self-organize. Essentially this facilitated an organic step-by-step evolution and gradual consolidation of stakeholder practices around a shared space, values and goals, a novel context-specific configuration of physical space, norms, cultural practices and eventually – institutions. The play street's first iteration involved a great deal of on-the-ground collective participation, by all volunteers. Madison describes how "it was an incredible amount of work, from cleaning it ourselves to putting flyers on all the cars in the middle of the week, and there was no place to put all the equipment so we had to store it in a co-op across the street. You had to literally roll two handcarts of stuff out everyday" (Madison, 2012). Yet, through this process the group developed a thorough sense of the tasks required to make the play street operational. Similarly, processes of outreach helped identify core values; namely, that the play street's custodianship was driven by a connection to each other and the neighbourhood, as Madison further explains: "it's crucial that people know people in the neighbourhood. For us it was through parenting and day care, and our local CSA [community supported agriculture scheme] is very child and family-focused" (Madison, 2012).

As with Times Square, each experimental iteration on 78th Street was marked by a greater consolidation of custodianship practices, an expansion in stakeholder networks and greater legitimacy. This process could be described as the formation of a 'community of practice', where community membership is consolidated through "participation in an activity system about which participants share understanding concerning what they are doing and what that means in their lives and for their communities" (Lave and Wenger, 1991). The work of a community of practice is defined, on one hand, as building self-reflexive awareness of a coherent group identity and defining member roles and self-organizing practices, and on the other, the actual operational tasks it may undertake – which for the play street custodians involved transforming public space into a community hub.

The iterative process of consolidation also enabled the play street's community of practice to substantiate its authority and legitimacy as a custodian of a burgeoning commons in the face of systemic resistance. As the community structured its operational expertise and capacity to self-organise, its ability to demonstrate success and negotiate with key agencies improved. Madison describes the relative ease with which the Community Board was persuaded to approve the first play street iteration as "flying under the radar… they didn't really seem to understand what it was about, what it would entail." However, the second iteration demanded a more significant appropriation of public resources to achieve a more substantial reconfiguration of the urban environment. It therefore appeared a greater challenge to the Community

Board's predominantly conservative view that streets were for cars, not people (Madison, 2012). However, with the Jackson Heights Green Alliance becoming a newly incorporated (and therefore 'legitimate') entity, it was able to authoritatively demonstrate how a reconfigured 78th street was meeting community-needs. It was a safe and active recreation space for physical exercise, a meeting place for mothers groups, was hosting a popular farmers market, home to education workshops, cultural events and other community activities. By the time the Board was approached with an application for the final (permanent) street closure, the Alliance was met with a surprise: "We expected a push…but didn't have any hassles" (Madison, 2012). A diverse range of individuals and small businesses now regularly approach the Alliance to hold events, not expecting financial support, but with each involvement reinforcing the shared wealth of the play street as an urban commons: "just a great number of people, now that it's their own… people just do things – for free, just because they want to contribute… it's a great service to the community" (Madison, 2012).

3.2. Scaling vertically

The play street's increasing popularity, expanded capacity and resulting successful application to the DOT's plaza program reflects a 'scaling up' between nested urban systems, as the street began integrating with higher level bureaucratic institutions. The program shows how cities and local governments can together build networks necessary for commons custodianship by acting as facilitators to guide the process. As Wiley-Schwartz explains about the program: "my philosophy is that we want the neighbourhoods to be doing the programming and the city to be providing the opportunity to use the public space in different ways" (Latorre, 2012). It does so by inviting non-profit organisations (NPO's) to enter a competitive selection process that prioritises neighbourhoods lacking open spaces. At the time of writing, in less than five years since the program's launch some two dozen operational changes have been made and around 50 plaza projects are in various stages of development. Key to the DOT's facilitation role is cultivating cross-scale strategic partnerships between the council and communities, aggregating different user groups that might become plaza-partners, such as community boards, development corporations and BIDs. Wiley-Schwartz describes this network formation as "…the right alchemy… you need the right partnerships to make a destiny, and to make a change… you can do it anywhere, if you've for the right conditions…" (Latorre, 2012). The DOT tries to ensure that the 'right conditions' are cultivated by having applicants prove their abilities as plaza custodians, including the rudimentary capacity and community support to manage a plaza. For the Green Alliance, the combination of consolidating as a community of practice and local sanctioning by the Community Board was necessary for its 'evidence of scale', and gaining entry into the program.

The Plaza Program requires the DOT to engage with these practices, at the very least to mitigate the often fraught and complex process of developing public plazas. Wiley-Schwartz explains that "just because there's interest, that's not enough. That's where we start. We need to have community meetings and get all the issues out, as people might like something in theory, but not have internalized all the changes to their street network, parking regulations or building accessibility, which may be the result of putting all that in the public space" (Latorre, 2012) The DOT also offers financing, design and construction support, including a collaborative design and public visioning process with the Department of Design and Construction (Department of Transportation, 2012b). In return, the NPO is responsible for public outreach, developing a funding plan, insurance, maintenance of the site and event

programming. It is also allowed to generate its plaza's funding revenue through concessions, sponsorship and public events. Yet, while the program is receiving positive recognition by urban designers, advocates and communities, the process of vertical cross-scale interaction (scaling up) can undermine the practices communities are developing – particularly when moving from total self-reliance, to partial bureaucratic dependency.

Bureaucratic rigidity may prove a key factor limiting community scope for experimentation and autonomy. This can be especially problematic when it causes functions critical to the commons to slip between systems of support. This has become evident in Jackson Heights upon recent attempts to provide amenities, where, according to Madison, bathrooms are a "hot issue"(Madison, 2012). Typically funded by the Parks Department, recent budget cuts have seen the full-time attendant removed, and upkeep dramatically reduced. Indeed, a recent visit to the play street on a busy Sunday afternoon found the bathrooms without paper, no running water for the hand basin, and bins filled with litter. They were also locked by 3pm, despite the nearby playground being open until evening. In this case, much of the problem relates to the inflexibility of structural governing arrangements within formal public institutions. As Madison notes with frustration, the Parks partnership doesn't allow revenue raising for this purpose: "the Parks Department gives us a lot of difficulties, gives us zero support… if Parks would let us, we could totally raise enough money to pay someone!" (Madison, 2012). While the Alliance found a temporary solution (a social co-op will provide the service over coming months), the Green Alliance is also forced, through formal arrangements with the DOT, to source funding for the DOT's capital development phase to expand seating, shade and play equipment, and support programming activities such as concerts, classes and exhibitions (IOBY, 2012). As a consequence, the Green Alliance has stretched itself by expanding fundraising practices, including bringing in additional stakeholders such as In our Back Yard (Ioby), a popular non-profit organization which offers an online 'crowd resourcing' platform (IOBY, 2012). Therefore while the DOT offers an excellent program, there is an institutional failure when community custodians must reach a set scale in order to manage the site's transformation, but struggle to access the commensurate regulatory and financial support to match he growing demands in the site.

While the pressures of 'scaling up' have manifest in deficient service provision and funding, they are also felt in the way the community of practice was being stretched hierarchically to cope with its expanded responsibilities. Madison describes how for the first time, she has felt a dispersed sense of connection to the community: "It was working better as a commons when we had zero dollars and more volunteers… we were doing it for ourselves. As it became more formalised over time people started to get less connected to it" (Madison, 2012). Therefore a significant barrier to the sustainability of this plaza lies in managing bureaucratic partnerships which enforce specific structures and require a growth in organizational capacity without compromising grassroots connectivity: "I liked it better when we were less formal. It disempowers people when you give them roles – it can screw up their interaction with the place, as it requires a lot more organization. It'll stop being a working board and will be a decision-making board" (Madison, 2012).

The DOT plans to at least mitigate this problem by launching a city-wide non-profit organization which aims to break cycles of philanthropic and government dependency, especially in less-resourced neighbourhoods. The entity would incubate new project partners, offer access to cost-reduced maintenance services, as well as outreach and information support services. Wiley-Shwartz, intends for it to bridge a significant and complex gap: "the development of partnership is the final piece… of the puzzle, because we need the external pressure and help to generate new partners and sustain them in the long term. So that's key. Capital reconstruction processes are very difficult. Streets are very difficult places to affect change. They're a lot more than the three inches of asphalt that are lying on top of them…"(Latorre, 2012). What we note here, is that a social innovation at one scale may become undermined upon securing institutional support and having to conform to structuring pressures from larger institutional systems. One way to mitigate this effect has been the use of online tools. Applicants to the plaza program increasingly use Facebook to rally support, interest and share information about their project – effectively growing an online community in support of, or together with, their community of practice (Wiley-Schwartz, 2012). As the following case study shows, online tools can actually play a fundamental role in compelling urban commons to emerge.

4. 596 Acres

Over the past 12 months, the fences of Brooklyn's vacant lots have become increasingly adorned with beautifully illustrated maps of the borough, rising above barbed wire. They entice passers-by with a simple proposition: 'There's Land If You Want It: 596 Acres', followed by a by-line: 'Find the lot in your life. Contact the owner. Work out a deal. Grow Something. We can help,' and the contact details of an organisation called 596 Acres.

Some fences have also become the canvas for a similarly illustrated flow-chart, 'You've found the Lot in Your Life: Now What?', with the designated goal: 'Get the Key: Grow Something'. This campaign is evidence of 596 Acres' highly effective education project; a response to a public and bureaucratic perception that New York City lacks the public land and green spaces to adequately service its communities. The non-profit aims to raise awareness about local land resources and cultivate systemic change via a block-by-block transformation of the urban environment. Its tools involve a broad range of urban outreach and on-and offline community-organizing and support mechanisms, which, when coupled with a decidedly bespoke visual design (some fence postings are even handwritten), make significant urban transformation an accessible and achievable venture for local communities (Fig. 4).

4.1. Distributed intervention

Driving 596 Acres are two Brooklynites, founder Paula Z. Segal (Director and Lead Facilitator) and Eric Brelsford (Lead Software Developer and Data Analyst). Following longstanding efforts to convert a city-owned site into a park, Segal became interested in a Department of City Planning database detailing publicly-owned vacant property. With assistance from the Center for the Study of Brooklyn at Brooklyn College, Segal totalled raw data which listed all public, vacant land in Brooklyn, which, as of April 2010, was 596 acres. In June 2011, with just $324 raised through Ioby, 596 Acres' volunteers printed 1000 newspaper-sized maps, took to the streets and distributed them locally – posting them on 25 lots, putting them in the hands of community activists, in storefronts and spread through social media. As noted by Segal, the use of social media allowed Segal to reach both "the people who access their world by walking around the block and the people who access their world by checking Facebook" (Meriwether, 2012). 596 Acres' networking capacity has also been enhanced by an award-winning website (Brustein, 2012) with an excellent mobile version, closely bridging online efforts with on-ground experience. To date, 85 public vacant sites are being organized around, groups have access to seven public vacant sites, and three private vacant sites are being used by communities (596 Acres, 2012).
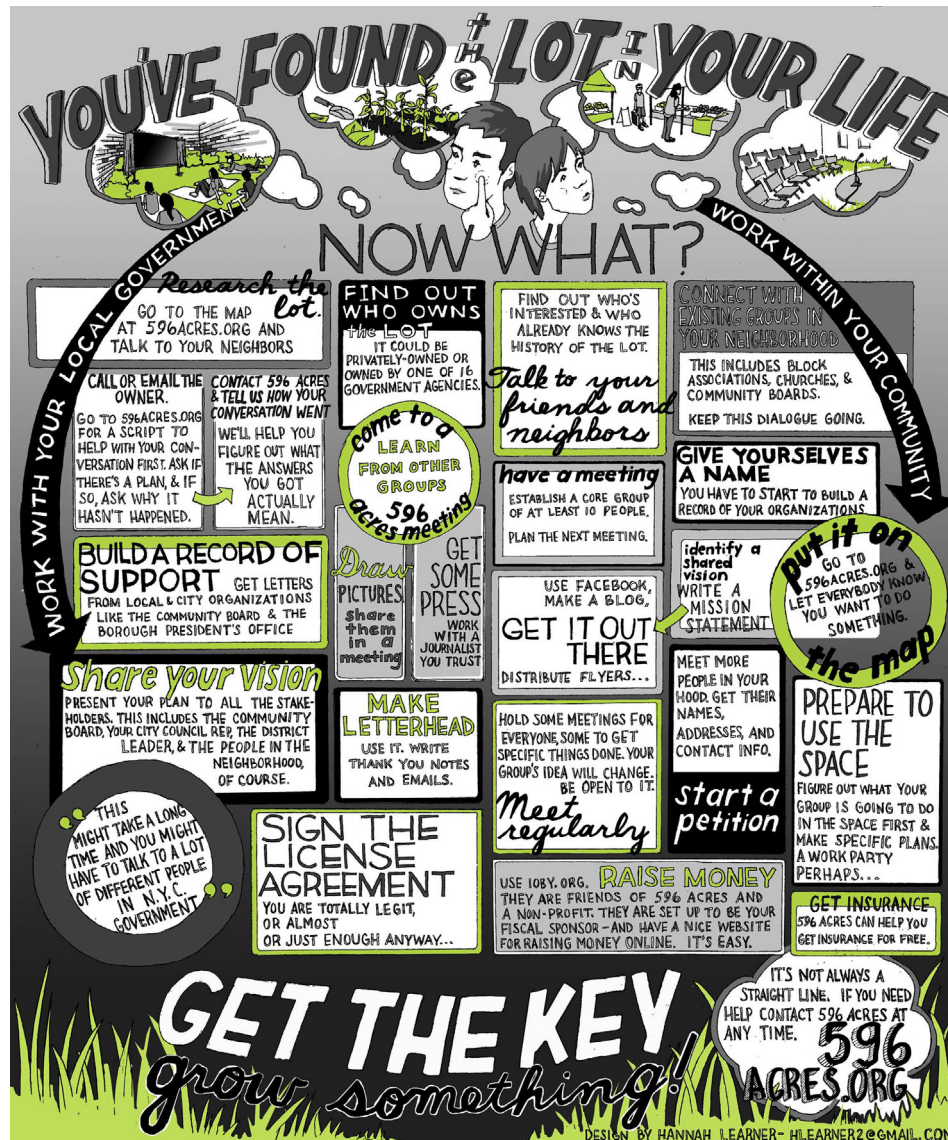
Fig. 4. A 596 Acres poster used around Brooklyn with information and ideas on how to claim vacant lots − Design by Hannah Learner, credit 596 Acres, 2012.

As with Times Square and the 78th Play Street, 596 Acres relies on a strategy of playful intervention to leverage urban change. However, the organisation seeks to influence the urban environment well beyond a single site. Its work is more akin to the DOT's Public Plaza program in the way it facilitates distributed points of urban intervention. Yet, 596 Acres goes one step further − or rather, one step earlier − than the DOT for it helps individuals with the very first stages of self-organisation, as their strategies of mentoring and support direct individuals into communities of practice from the very first expression of interest. This is possible because of the way individuals serendipitously encounter urban signage, and are drawn by common values to transform their neighbourhoods. As Brelsford notes, "Our focus is still on our print posters because we know that they're the best way to get in touch with people who live near lots… a significant chunk of the lots that are active had posters on their fences" (Nonko, 2012). Like Jackson Heights, these tend to include a strong recognition that a shared public resource serves a common good.

Where initial street closures in the previous case studies required licencing before proceeding, 596 Acres intervenes directly through guerrilla campaigning. Lot fences become billboards and even 'pop up' vertical gardens, as volunteers spend afternoons distributing flyers and hanging make-shift flower pots along fences − a temporary vision of the garden that 'could be' (Segal, 2012a). These unsanctioned activities can intervene in the physical and cultural public arena much faster and 'lighter' than would be possible via formal bureaucratic processes, and reflects Segal's ethos that "it's better to beg forgiveness than ask for permission" (Segal, 2012b). Yet, beyond activating the community's urban imagination through local street intervention, 596 Acres also compels immediate engagement by layering this experience with information resources and a 'call to action'. The map's instructions instil a belief that actionable steps can be taken by ordinary people, with the illustration highlighting that an individual can do so by becoming part of a much broader community of borough-wide change. The provision of online details also compels spatial and temporal scaling, as passers by can immediately use their mobile devices to check the site online. In short, 596 Acres hastens the potential speed and reach of local urban reconfigurations by integrating public space with an information commons.

4.2. Integrating online and offline practices

The online platform has been integral to building this community, as it activates a nascent community of practice by making the relationships people already have with their neighbourhood visible. It connects people to each other, and highlights the value of being jointly invested in the process. 596 Acres' online environment doubles as an organizing tool, with its central feature a searchable, interactive map of vacant lots. Each lot's 'pop-up up box' lists basic descriptive details (size, municipal information such as zoning), provides the contact details of the city agency responsible for it, gives 'next steps' with advice about gaining city agency permission for temporary use of the property, and recommends organisations who could assist with this process (Fig. 5). Visitors to the site have the option to either 'watch' the lot for activity, or register as an organizer to lead its transformation. In essence, the site reduces the transaction costs involved with building networks of action. For example, by generating community mailing lists based on people's interests and skills, making it easier to match needed skill-sets, helping grow volunteer teams more quickly, and creating a supportive city-wide network of community organizers.

The bridging of on-and offline commons also allows for an innovative, simultaneous scaling of multiple communities of practice. At one level, 596 Acres supports potential and existing groups to develop a community of practice through its outreach and education efforts, including workshops, direct liaison with NYC agencies and mentorship to help secure funding. This ensures that before the first soil is turned or seed sown, lot-specific communities of practice have built their internal capacity by learning how to navigate city bureaucracy and lobby effectively, develop their on- and offline communication mechanisms and become familiar with avenues of support. As Brelsford describes, giving pause to bureaucratic process allows for a group's internal social cohesion and self-organization to form, and is an essential systemic intervention: "You're sharing time, space, and food with your neighbours before you even get access to the target space. You're making decision together, and too often you're starting from scratch because decision-making has largely been taken away from the community…[this] provides an avenue for neighbours to get to know each other and work through issues directly… This is an avenue mostly absent in this city"(Nonko, 2012).

At another level, 596 Acres' investment into a distributed network of communities doubles as a self-investment for the organization as a whole, as it is essentially growing a broad community of skilled practitioners from which new groups can draw experience and ideas. It is therefore proactive in expanding its membership (and hence reach) into multiple neighbourhoods, and uses this opportunity to refine its own practices. For example, it has a 'Tell us about your lot' online form, where individuals regularly update the database by reporting mislabelled lots, or noting lots that haven't been identified. 596 Acres' online media environment is now rapidly becoming a knowledge commons for lot-specific communities and a 'home' for a growing distributed community of practitioners dedicated to repurposing vacant lots for community use to connect with each other. Lot organizers are able to connect with one another for support and to grow resource kits. Individuals who may never meet share formal and informal knowledge, skills and develop social relationships. At a city-wide scale, the collective on- and offline presence of active citizens wanting to 'build a better lot in their life' has therefore horizontally and vertically scaled the legitimacy of vacant lot appropriation into a substantial social movement.

This case study shows that lot-by-lot interventions can replicate rapidly when communities are motivated, and when the process of
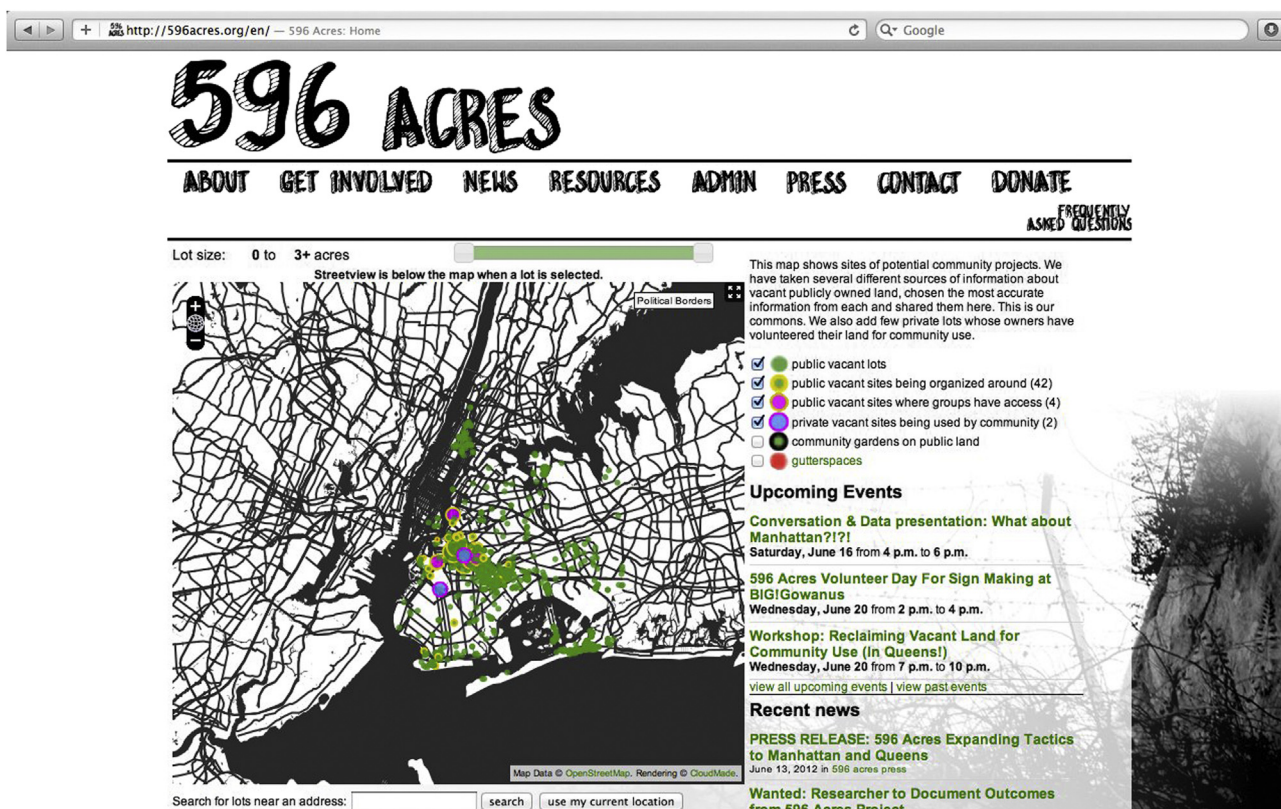

Fig. 5. A screenshot of 596 Acres' website.

forming local commons is facilitated by tools for community building and knowledge-sharing. Critically, and in contrast to Jackson Heights, 596 Acres is not just legitimising the public appropriation of public spaces with higher authorities (vertical scaling); it is also normalising the process laterally through the rapidly growing network of communities it has spawned. At one level, each lot-specific community may traverse a similar course to the 78th Play Street, gaining neighbourhood legitimacy and value as lots are cultivated, and instil community-wide custodianship through outreach efforts such as food distribution and educational programming. As the 78th Play Street demonstrated, this neighbourhood-wide backing is critical for lot-specific communities to prove wider legitimacy with authorities and avoid re-appropriation. Perhaps more importantly, though, the distributed and networked nature of the community of practice enabled by 596 Acres ensures that individual lot failure won't undermine the community as a whole, since the majority of resources required for replication - knowledge, social connections, community legitimacy, for example - is shared by the wider community. This represents a much more resilient organisational structure (Biggs et al., 2010) and one more likely to support a diversity of innovative practices aligned with sustainability than those cultivated through the DOT's Plaza program.

In June 2012, 596 Acres announced its expansion into Queens and Manhattan, following the system which they had seeded and grown in other boroughs by commencing with a distribution of printed maps and signs (Segal, 2012b), and thereby setting a model for broader city-wide impact. In only a few short years, and with few resources, 596 Acres has also gained widespread support and legitimacy from a range of urban stakeholders, including (having won the Mayor's Green App competition) the city itself. It also demonstrates the relative ease with which stable urban configurations can be shifted, seeing urban (spatial) resources redirected to support the growth of communities and nascent commons that are ultimately contributing back to their wider neighbourhood. Yet, while legitimacy may not be a challenge, 596 Acres is still developing the maturity of an institutional structure that can support itself. Like many non-profits, it struggles with funding — particularly the capacity to support the organisations' workers. Clearly, despite generating community benefits and leveraging resources for the potential formation of commons, it faces the same struggle as the Green Alliance. In short, it seems that tactical approaches driven from a grassroots level find it hard to break from niche confines to scale, while retaining their contextual appropriateness and agility.

5. Conclusion

Drawing upon three case studies in New York City, we have argued that public space can be an important 'entry-point' for disruptive innovation (Tukker et al., 2008) towards sustainable urban transformation. We have charted three distinct instances where systemic disruption was achieved through urban intervention. To conclude, we look at these case studies collectively to enquire into their long-term potential as a pragmatic solution towards urban sustainability.

At the basis of systemic change towards sustainability is a need for the resilience of existing systems to be disrupted and weakened (Harich, 2010; Westley et al., 2011). As occurred with Times Square's physical transformation, this may be precipitated at a 'macro' level, through economic crises — highly relevant in the current economic climate. However, tactical urbanism offers a mechanism for instigating more targeted disruptions within urban systems. It represents particular value as a short-term process for instigating long-term change and which mitigates political or

financial risks while engaging the public at a normative, values-based level by making the value of public space as a common asset visible and explicit. These opportunities for the public appropriation of space are important for driving a more equitable redistribution of power and resources (Oldenburg, 2010), as a participatory culture of access and membership are the first steps towards turning a public space into an urban commons. Legally-sanctioned, bureaucratic support can create 'buffered' environments which social innovations can form within, and institutional practices cultivated. Here, New York City's DOT has shown leadership by devolving agency and recognising the role of shared experimentation. Therefore the combination of prototyping, iterative experimentation and institutional facilitation prove a critical combination for creating disruptions that can lead to permanent reconfigurations within urban systems, in a variety of contexts. We therefore strongly advocate for a culture of regulatory experimentation and people-focused tactical urbanism by institutions (designers, non-profits, policy-makers) to help build capacity and agency at a street level and give communities the capacity to engineer their own emergent change by developing communities of practice.

5.1. From public space to urban commons: communities of practice

Each of the case studies revealed how a commons comes to be defined — both culturally and physically — according to the community of practice which works collectively to develop custodianship. As we have shown, an overwhelmingly commercial ethic underlying the stakeholders' expertise and interests results in a weak civic space. This commons could be defined as a 'Sharing Platform' (Bauwens et al., 2012) where, despite the space's public legal stature, users' activity primarily benefits private 'custodians'. However, in instances where shared community and neighbourhood values compel individuals to use practices as user-contributors, we can see how significant the process of spatial and organization iteration is. The strengthening of the commons as a resource is not only represented in the physical domain as an active play street or growing garden, but also in the institutionalisation of custodianship and the growth of social cohesion between community members and their neighbourhood. These are more aligned with burgeoning 'Peer-to-Peer' commons that involve a "community of contributors … co-constructing a common object of value" (Bauwens et al., 2012). The sharing of formal and informal knowledge is a gradual and collective process, and social roles and expertise therefore need time to consolidate enough to form a coherent community, gain legitimacy and make a lasting urban impact.

Clearly, while shared values give a community of practice coherency, the commons will reflect the degree to which these values are broadly inclusive and civic. Khawarzad suggests that urban transformation "should be a values-based strategy, a part of a conversation about social values, and then decide which tools are best to help establish the process" (Khawarzad, 2012). Therefore in the interest of creating a civic, sustainable commons, it would seem that values need to be explicitly identified, shared, celebrated and challenged. This is a process of constant negotiation, particularly as a commons 'scales' and the cohort of stakeholders grows. Perhaps the biggest barrier, and driver for achieving a wider (city-wide) shift in sustainable urban transformation is the participatory process through which values-based, mutual understanding between stakeholders can cultivated and retained. As Lave et al. write in reference to growing communities of practice (Lave and Wenger, 1991), "shared participation is the stage on which the old and the new, the known and the unknown, the established and the hopeful, act out their differences and discover their commonalities,

manifest their fear of one another, and come to terms with their need for one another. Each threatens the fulfilment of the other's destiny, just as it is essential to it."

Scalability: movement towards sustainability

As we have seen, public space can act as a critical conduit between urban systems nested at different scales. It represents an environment that links people, practices, institutions and supports the transfer of knowledge and ideas transfer from individual to municipal level. As network hubs they can assist in propagating disruptive social innovations within, both horizontally and vertically, urban environments. This capacity for cross-scale influence is critical for allowing small-scale innovations to create disruptive pressures at larger scales (Gunderson et al., 2002; Moore and Westley, 2011). Public spaces are one of the few mediums through which niche innovators can make their concerns visible to both people and institutions which they have no direct association with. Yet, as illustrated by Brelsford in his account of 596 Acres' formation, a mediating body is often required to make this possible: "We weren't sure what would happen, but the people who live around those lots got in touch with us really quickly, we put those people in touch with each other, and the project started to form." What happens in the urban commons has significant capacity to shape public opinion, attract attention and influence powerful institutional actors. However cross-scale interaction involves major risks for local communities who are reliant on niche resources. For example, the community in Jackson Heights faces considerable 'isomorphic' pressures (Dimaggio and Powell, 1983) as it engages with the DOT and Parks agencies. These pressures to conform have only grown with the maturity of Jackson Heights' commons. This suggests the approach taken by 596 Acres, in facilitating diverse, distributed urban interventions, may be necessary to lay the broader cultural and institutional foundation that in turn drives systemic changes within the state and municipal institutions regulating public space.

5.3. Future directions

The case studies examined in this investigation feature very recent instances of systemic transformation, with scaling still a somewhat nascent or niche process. Reflecting the limitations this perspective involves, we wish to highlight a number of further issues for examination. A key question relates to the risks arising from the maturation of urban interventions as they increasingly confront more powerful stakeholders. Iteration offers a powerful way to leverage legitimacy from regulating authorities, but the cases explored are yet to see a radical change within those institutions as a result of this legitimacy. Continued 'success' of commons within public space is also likely to attract more commercially-oriented stakeholders with interest in co-opting the benefits derived from vibrant community assets. This is often seen in the gentrification of creative neighbourhoods within cities. Fundamentally, this is a challenge of ensuring those who contribute to a new urban commons benefit proportionally. However current regulations do not adequately support this. In NYC we have seen the DOT provide some protection for the formation of new commons, but not yet seen those commons permanently enshrined as shared resources for shared benefit. Therefore a challenge facing many communities cultivating new commons is the lack of institutional protection and the time and resources required to consolidate and strengthen their commons practices. There are also serious questions to be asked as to how communities in less dense, or less civically-engaged neighbourhoods may be engaged when urban interventions are unlikely to attract an audience (particularly in car-dependent cities), and there are no policy mechanisms or regulatory interest in fostering this possibility.

This investigation also strongly indicates that urban transformation requires a radical rethink of the role urban professionals and decision-makers play in urban change processes. Success in each of the three cases arose from change agents playing facilitator and provocateur. This suggests the most important role for institutions shaping the urban environment is to act as first-follower of innovative community. As Jerome Chou, former program manager for Design Trust for Public Space noted "There's all this inbuilt uncertainty. You've got no idea what's going to happen in 20–25 years, who's going to be the major, what are the environmental conditions going to be like?... On any given public space, the best thing you can do is provide a blank canvas, that people can occupy it, and appropriate it, in any number of different ways…that is appropriate to that space, and always being open to any possibility" (Chou, 2012). The examples we have highlighted are all transpiring concurrently in NYC. Like the Occupy movement, they appear part of a broader, cross-scale dynamic of social change involving communities increasingly identifying themselves as producers and contributors. This strongly suggests the future trajectory of positive urban transformation will arise from within this broader 'zeitgeist'.

As we have argued throughout, one of the most important preconditions for successful reconfiguration is the cultivation of provocative interventions in urban space, when an encounter in a street, park, or plaza is enough to inspire the public imagination. As Grace Lee Boggs, life-long social activist once commented, "…You can look at a vacant lot and, instead of seeing devastation, see hope; see the opportunity to grow your own food, see an opportunity to give young people a sense of process, that's very difficult in the city, that the vacant lot represents the possibilities for a cultural revolution" (Democracy now, 2011).

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