Unicorn planning: Lessons from the rise and fall of an American 'smart' mega-development

Abstract

Over the past two decades, 'smart' urban mega-developments built from scratch have proliferated across the Global South. More recently, similar techno-utopian enclaves are being planned in North America, including Union Point, a smart city project south of Boston announced in 2017. We use the case of Union Point to think through why public and private actors with conventionally competing interests, including local governments, international technology companies, and real estate developers, are collaborating enthusiastically to create smart mega-developments. This alignment of interests in the use of 'tech' to engineer the 'city of the future', and the pervasive idealism, entrepreneurialism, and 'high risk-high rewards' attitudes that enable 'instant' smart mega-developments, is characterized by what we term 'unicorn planning'. This article connects Union Point to the global phenomenon of tabula rasa smart city developments and suggests that Union Point reproduces problems of earlier smart city experiments built from scratch in the Middle East and Asia. We critically examine local officials' susceptibility to being seduced by smart city rhetoric, and highlight their troubling willingness to cede public land, power, citizen privacy, and data governance to corporate actors in their entrepreneurial quest to create an instant 'tech' hub.

Key words: smart city; Union Point; start-up unicorn; techno-utopian planning; fast cities; serial seduction

1. 'Unicorn planning' and smart city fever

Rapid global urbanization presents unprecedented opportunities for profit. Notably, information and communications technology (ICT) companies have found a new market for their products in cities, coining the phrase and launching the trend of the smart city (Hollands, 2008). Similarly, property developers are beginning to embrace 'smart' technologies as a way to add value to their projects and attract businesses to their developments (Watson, 2015).

Widespread confidence in technology to create fast, efficient, and digitally connected cities has gained momentum globally over the past decade, with significant implications for urban form and future urban governance (Söderström *et al*., 2014; Wiig, 2015). Like other trending labels used to promote urban developments such as 'green' or 'eco', the 'smart' city tag is fluid, ambiguous, and intimately tied to the rise of entrepreneurial urbanization (Datta, 2015).

In relation to this, recent studies show that smart urbanism, and its diversity of interpretations and applications, is also closely linked to the political economies of specific places (Karvonen *et al*., 2018). The many definitions of the 'smart city' make it difficult to assess claims of being 'smart' and to 'conduct a systematic examination of its strengths and weaknesses' (Datta, 2015: 12). While critics point out that the implementation of new technologies in cities reproduces and perpetuates inequalities of governance, society, and space (Leszczynski, 2016; McNeill, 2016), government officials around the world are nevertheless seduced by the possibility of a high-tech future and are actively advancing 'smart' visions of urban development and adapting regulations to facilitate tech-driven urbanism (Bunnell and Das, 2010; Datta, 2015; McNeill, 2016). The creation of brand new 'smart' developments built from scratch has proven particularly seductive in emerging economies, where they are perceived as an opportunity to address urgent urban challenges, showcase technological prowess, and gain visibility on the global stage (Watson, 2015). This paper's objective is not to offer a comparative analysis of smart city mega-developments, but rather to examine their global proliferation despite their widely demonstrated shortcomings and problematic implications. While we ground our reflections within broader critiques of the smart city, this paper suggests that the recent surge of smart city mega-developments should be investigated through the idealistic, entrepreneurial, and 'high risk-high rewards' attitude of local government officials towards urban technology that is enabling the proliferation of smart mega-developments built from scratch.

In this article, we introduce the term 'unicorn planning' to characterize such a techno-optimist approach to urban and economic development that prioritizes the creation of instant 'smart' urban mega-developments built from scratch. We borrow the term 'unicorn' from the venture capitalist characterization of private start-up companies that have achieved the rare and almost mythical accomplishment of reaching a $1 billion USD valuation. Applied to ex nihilo smart city mega-developments, we use the term unicorn planning to convey the idealized expectation of overnight success (Cugurullo, 2016), the potentially massive profits for tech and real estate companies, and the ambition to instantly invigorate local and regional economies. Unicorn planning projects are influenced by extremely diverse antecedents and take on many forms, yet they have many common features: they are entrepreneurial, techno-utopian, and 'fast'. Inspired by the ethos of Silicon Valley start-ups but applied to publicly funded projects, they are 'high risk-high rewards' endeavors that place primacy on the role of technology and the private

sector to engineer potentially lucrative cities of tomorrow. Focusing on the context of Union Point, this article is animated by the following questions: How are actors with conventionally competing interests including local government officials, international technology companies, and real estate developers collaborating to create massive smart districts from scratch? How can Union Point help us understand these types of collaborations and how they are enabled, and how does the concept of 'unicorn planning' help us to explain the recent global proliferation and appeal of new smart city mega-developments built from scratch? Why are unicorn planning schemes being adopted so enthusiastically in completely different political, social, and economic contexts, despite the extremely diverse antecedents of smart cities, despite mounting critiques of smart urbanism and evidence of the failures of smart city mega-developments?

Drawing on recent scholarship that examines early iterations of 'smart cities' built from scratch, we suggest that new techno-utopian districts and cities pioneered in the Middle East and Asia have now made their way to North America[1], where projects such as Union Point are reproducing the utopian visions and failures of earlier smart city experiments. Smart city projects built from scratch in South Korea, Abu Dhabi, Kenya, Ecuador, and more have not lived up to expectations, are behind schedule, and have scaled back many initial plans. We suggest Union Point's use of 'smart' and innovative urban planning discourse is marketing hype and argue that this 'city of the future' is a next-generation suburb that serves the interests of property developers and high-tech companies, rather than those of citizens. While the project devolved quickly following great fanfare and state investment, Union Point illustrates the ease with which local government officials with little digital literacy were seduced by techno-utopian rhetoric and the promise of overnight economic transformation. Using the example of Union Point, we reflect on changing attitudes surrounding urban development when both tech companies and private developers are involved and highlight the broader normalization of the logic that underpins unicorn planning.

2. The rise of an American smart mega-development

Advocates see smart master-planned urban projects as unique opportunities where digital technologies can be built into the urban fabric during construction. ICT companies argue that their products can increase the transparency and efficiency of public office while reducing waste

[1] We explore the networks of transnational smart city urban policy mobility in detail in a forthcoming article.

in services and utilities. Smart city supporters also argue that harvesting residents' data through digital technologies can offer better connectivity with citizens, service providers, stakeholders, and local governments, thus improving the quality of services, and offering better citizen representation (Anthopoulos, 2017).

Emblematic of the global optimism surrounding smart cities and presenting a paradigmatic case of what we term 'unicorn planning' is Union Point, a 'smart' high-tech enclave that was planned for Boston's South Shore. Spearheaded by LStar Ventures, Union Point was marketed as the 'city of the future' (Union Point, 2017a). Located on a former naval air base south of Boston, Union Point was planned to span 1,500 acres at the intersection of three towns: Abington, Rockland, and Weymouth. The site experienced decades of disinvestment and mismanagement (United States Environmental Protection Agency, n.d.) before its acquisition in the spring of 2015 by LStar Ventures, a suburban developer whose previous projects consist largely of gated golf communities and condo complexes in the Carolinas (LStar Ventures, n.d.). In July 2016, the site was rebranded as 'Union Point' in order to showcase how the project would unify the three towns while attempting to erase years of negative press on the site (Seltz, 07/15/2016a). After the rebranding, LStar developed a plan with Sasaki and Elkus Manfredi Architects to build a smart 'city' from scratch for around 10,000 residents.

In February 2019, following protracted legal and financial challenges, including the inability to pay back creditors, the Redevelopment Authority that oversaw the project voted unanimously to terminate the development agreement (Trufant, 03/29/2019). Union Point represents an example of how smart city rhetoric seduced local officials who were dazzled by the possibility of having an instantly lucrative, tech-focused 'smart' city, with little awareness of the underwhelming antecedents and the many potential costs to their constituents. Through a discussion of Union Point's rapid rise and fall, we position the project as a cautionary tale for local governments and conceptualize the new development as part of a broader trend of high-risk 'smart' real estate developments[2].

[2] This intervention piece is part of a broader research program on new master-planned city developments in the Global South carried out by two of the authors, through which they have conducted interviews with various actors involved in building new cities and have examined the rhetoric, vision, and ambitions that underpin new 'smart' master-planned mega-developments in a number of recent publications. Based on the content of these interviews conducted in other new cities with a 'smart' rhetoric, we draw parallels to interviews and site visits that we conducted in Union Point.

3. A world of techno-utopian failures

Only recently has 'smart' tabula rasa development been attempted in North America, most notably in Toronto's experimental enclave known as Quayside, funded by the conglomerate Alphabet Inc., Google's parent company, and in Bill Gates's futuristic plans for Belmont, a new smart city in Arizona. The most ambitious smart city experiments have been initiated in Asia, the Middle East, Africa, and Latin America over the past two decades, where 'smart' urban enclaves are being built from scratch with the goal of sparking economic development and attracting investment. India alone has enthusiastically announced its intention to build 100 smart cities (Das, 2019) and other aspiring smart cities are being built from scratch in Kenya, Saudi Arabia, Ecuador, Egypt, India, China, and more. The current wave of experimental master-planned 'smart cities' emerged first in Cyberjaya, Malaysia in 1997 (Bunnell, 2015), Songdo, South Korea in 2001 (Shwayri, 2013), and Masdar, Abu Dhabi in 2006 (Cugurullo, 2016), all of which had substantial political support and attracted international media attention. While few publications have compared new smart cities in the Global South with more recent smart city projects in the Global North, we suggest that there are parallels between the attitudes of local government officials towards urban technology that require further critical attention.

Smart cities built from scratch are 'supersized relatives of elite enclaves, gated communities and other exclusive zones' that are architecturally distinct and socio-economically removed from their surrounding environment (Moser, 2015: 33). They are a marked contrast to the high modernist new city experiments of the 1960s, which, despite their many flaws (Scott, 1998), were government-funded projects with no corporate partners, were driven by a socialist ethos, and sought to include a wide spectrum of citizens. While modernist cities like Brasilia and Chandigarh experimented with new building materials and then-leading edge mobilities to increase efficiency, contemporary new cities rely on embedded digital technologies in their quest for efficiency, resulting in unprecedented corporate involvement in city building.

Contemporary smart cities are laboratories where technology companies can experiment and perfect their products before selling them on the global market. Current techno-utopian projects deploy smart city rhetoric while showcasing futuristic innovations from leading multinational technology corporations, including General Electric (GE), Cisco, and IBM, which are major advocates globally for smart city development (Côté-Roy and Moser, 2019; McNeill, 2015). For example, Konza Technology City in Kenya has received investments from prominent

tech companies with interests in smart city building including GE, IBM, Cisco, Google, and Huawei (*Daily Nation*, 2015; 2018). Dholera, a 'smart' city project in India, has received investments from Hitachi and Toshiba, among others (Datta, 2015). In South Korea, the new city of Songdo is virtually synonymous with Cisco, as the company wired 'every square inch of the city with synapses' in order to create the 'experimental prototype community of tomorrow' (Lindsay, 02/01/2010).

To date, no new smart city has been completed according to its original claims and visions, and while they have inspired the creation of new city projects internationally, they have fallen short of population targets. The 'smart city' label has been used frequently 'for marketing purposes, to advance a new vision of modernity and urbanity' that has yet to materialize as promised (Côté-Roy and Moser, 2019: 2). Master-planned smart city projects around the world have been dogged by mismanagement, controversies related to service sharing with local governments, corruption charges, the inability to attract tenants, and insufficient or illegal sources of funding. In the cases of Konza, Dholera, and Masdar, construction has been significantly delayed with little accomplished to date, despite extensive promotion, the attention of global investors, and seductive simulations (Datta, 2015; Jha, 2017; Mwanza, 12/10/2018; Onyango, 03/07/2018; Cugurullo, 2016). Masdar's ambitious sustainability targets and top-down authoritarian planning misrepresent the messy reality in which the development process is controlled by a variety of competing political actors and is far less systematic than developers claim, generating a fragmentary 'Frankenstein urbanism' of incongruous parts forced together (Cugurullo, 2018). Songdo's highly lauded 'state of the art' technology built into the city during its development is now 'somewhat ordinary' (Shepard, 03/19/2018), highlighting the inevitable obsolescence of 'cutting-edge' technology implemented in smart cities. The widespread fetishization of high-tech urban solutions and the normalization of smart cities has prompted critique of these urban spectacles as deeply flawed models for urban development (Datta, 2015; Shearmur, 2016).

Union Point has met the fate of other stalled or struggling high-tech smart city real estate ventures. In the fall of 2018, the original CEO of Union Point was ousted for mismanagement of funds, resulting in the suspension of a water contract with one of the host municipalities (Trufant, 11/19/2018). Shortly after, Union Point's anchor tenant ProDrive Technologies, a Dutch robotics company that had planned to base its U.S. headquarters in the development,

backed out, citing higher than anticipated costs of operation in the development (Baker, 11/30/2018). The master plan was also downsized amid the foreclosure of forty business lots in Union Point, with an extended buildout date of 2030. Finally, after putting LStar on default notice, the redevelopment authority unanimously voted to terminate the agreement with LStar in February 2019 (Trufant, 03/29/2019).

Next generation suburb?

In promotional materials, Union Point was advertised as an eco-conscious, sustainable, artistic, and innovative smart city. Official representations of the project depict sleek architecture set in a forested landscape (Union Point, 2017a). Young residents, presumably members of the 'creative class', stroll in pedestrianized areas among futuristic buildings with green roofs, while autonomous vehicles ply the streets.

A key part of LStar's smart city strategy was to establish partnerships with several tech corporations to supply cutting-edge technology to the city and attract their headquarters. GE signed on to become the sole provider of ICT in Union Point, with the intention of using the city as a 'living laboratory' for testing new technologies such as streetlights that track sound, light, and traffic (Chesto, 10/26/2017; Koselka, 12/11/2017). Union Point was also intended to host a pilot project to test commercial autonomous vehicles on site that would be available to be hailed by residents and local employees (Vaccaro, 11/23/2017). Based on these tech-focused partnerships and the infusion of their technology within the city, LStar's marketing presented Union Point as an innovative and pioneering 'city of the future' (Koselka, 12/11/2017).

As has been pointed out in other contexts, Union Point's emphasis on 'smart' technology in marketing material exceeds actual 'tech-focused' urban planning innovations implemented on the ground. While the high-tech and experimental aspects of Union Point initially appeared to be a departure from LStar's staple of low-density golf communities, there are more similarities than marketing would suggest. Promotional materials reveal that LStar targeted middle to upper-middle class professionals with an average household income of US$104,000 (Union Point, 2018), significantly higher than the average income in the surrounding area (U.S. Census Bureau, 2016). As a private project, Union Point would never be bound to state affordable housing requirements imposed on public projects (Mass. Gen. Laws Ch. 291, § 32, 2014),

ensuring a homogeneity of residents. Hardly emblematic of a dynamic ‘city of the future’, Union Point appears to be a technologically enriched, high-end suburb.

A visit to Union Point reveals that it has a lackluster suburban aesthetic with cul-de-sacs and dispersed residential neighborhoods of single-family homes and townhouses, a significant departure from the futuristic promotional images of a dense and walkable community. The lively commercial and cultural street life featured prominently in advertising is absent, as are the promised green roofs and any sign of ‘smart’ technology.

Union Point reproduces problems found in earlier smart city projects in the Global South, indicating that few lessons have been learned. Investors and high-rent corporate tenants failed to materialize, the developer’s promises were unmet, and ambitions were dramatically scaled back. Special features promised in marketing materials such as living roofs and a sports stadium were quickly abandoned, while residents were left in a largely empty, underserviced enclave with a dearth of supporting businesses like cafes or grocery stores. The main actors involved assumed that Union Point’s fate would somehow be different from all prior smart city projects without changing the city-building ‘recipe’ that relies on attracting investment and tenants with futuristic visions. It is this blind optimism, incoherence, expectations of overnight success, and willingness to take unprecedented risks to gain unprecedented financial rewards that is at the heart of unicorn planning, all masked in techno-utopian rhetoric and radiant images of a prosperous future.

4. Yielding to the smart city: Government concessions for an instant tech hub

Facing intense inter-city competition for investment and seeking ways of increasing tax revenue, local government officials involved in the Union Point project demonstrated a troubling willingness to cede power, citizen privacy, and data governance to a private developer and to technology companies, seduced by the possible economic benefits of creating a ‘smart’ enclave. At the start of the project, the CEO of LStar said of Union Point that ‘we're building from scratch, so we can be one of the most innovative cities in the U.S. or the world’ (Lambert, 10/27/2017). In turn, the mayor of Weymouth, which provided the largest portion of land, expressed hope that ‘[Union Point] could become a Mecca for high-tech activity’ (Lambert, 10/27/2017).

The creation of Union Point as a high-tech enclave was enabled by the investment of state and local funds in the project. Various levels of government were willing to heavily

subsidize the development and prospective tenants, even though the proximity to the Route 128 technology corridor and the city of Boston made the land valuable already. The state government of Massachusetts invested tens of millions of dollars in the project through the addition of a major new road through the development and committed to continue allocating money in the form of tax abatements for potential future businesses (Seltz, 12/08/2016). The developer, however, was relieved of some of the larger municipal responsibilities. The three surrounding municipalities were to provide services, including education and emergency personnel response, to Union Point residents whose homes fell within respective municipal boundaries, in exchange for property taxes paid to the respective municipality (Baker, 08/21/2014; Mass. Gen. Laws Ch. 291, § 19B, 2014). Furthermore, all three surrounding municipalities agreed to change existing legislation and to remove zoning restrictions to provide LStar with more flexibility to build their 'smart' development (Jacobs, 01/14/2019). Beyond the attractiveness of ubiquitous technology for a 'smarter', more efficient city, local governments were seduced by the opportunity for increased tax revenue from residential and commercial tenants in a development permitted to be denser than the surrounding areas thanks to variances in zoning. LStar publicly estimated that commercial tenants alone would generate $20 million in annual tax revenue solely for the Weymouth portion of the development (Trufant, 2016).

Shaped by the interests of tech companies, the city is re-envisioned as a 'scalable commodity', conceptualized within a systems analysis paradigm that compels companies to 'reduce and simplify the "city" in order to achieve economies of scale' (McNeill, 2015: 571). Visions of the smart city are thus backed by a new planning model bolstered by tech companies in which the role of technology is no longer to support the city, but in which the city is rather expected to support and facilitate the development of new technology (see McNeill, 2015 on the role of IBM in this process). The subservience of cities towards tech companies and their products can be seen in Union Point's attempt, along with over 200 other cities, to win Amazon's headquarters. Union Point's leadership claimed it could provide Amazon with incentives totaling US$500 million, offered by the three towns, including 100 acres of developable land at potentially no cost. A fast-track permitting process would allow immediate development (Union Point, 2017b). Similarly, LStar initially attracted its star techno-tenant ProDrive Technologies by gifting it land (Jacobs, 01/14/2019; Trufant, 09/23/2016). Union Point served to funnel local and state funds via land giveaways and tax incentives to multinational corporations like GE, while

public space itself was offered as a site for research and development of market-making urban technologies.

The implications for democracy and governance cannot be overstated. Like the builders of similar smart city projects, Union Point's developers were enabled by their partnership with local government, an arrangement that normalizes corporate control over urban space. However, in the unique case of Union Point, multiple local governments were involved, suggesting even more problematic implications for governance and citizen representation. While public funds from the state and three towns were poured into the development, the public was not involved at any stage. Decision-making took place at high levels behind closed doors, with no other 'local' representation than the presence of the towns' and Redevelopment Authority's lead decisionmakers (Trufant, 03/29/2019). As the land was under the ownership of LStar, and the property was not required to undergo review beyond site plans, the selection of businesses and other installments remained exclusively with LStar. At what point during the integration of sensors and curation of a private urban enclave with public funds were nearby residents to be allowed a seat at the table and the chance to provide input? Is the 'city of the future' one designed exclusively by private interests? Union Point exemplifies the ease with which tech and real estate companies are increasingly able to sell a utopian 'smart' vision to credulous government officials eager to boost their tax base and the land values of constituents.

5. Lessons from Union Point: An example of 'unicorn planning'

Union Point and other 'smart' enclaves represent the widespread euphoric optimism about the power of tech corporations to create 'cities of the future' that are smart, highly profitable, and can be built over night, an approach to development that we call unicorn planning. As the world becomes increasingly littered with failed techno-utopian smart urban mega-developments, and as the smart enclave idea gains popularity in North America, it is vital to critically examine *why* these projects are still being replicated, despite the lack of success stories. The concept of unicorn planning can be productively applied to other contexts to describe the approach, the mindset, and the eager public-private collaborations driving smart mega-developments built from scratch and to explain why such projects are adopted enthusiastically and fast-tracked. Union Point demonstrates that it is not just actors in Asia and the Middle East that are seduced by smart city rhetoric and the idea of smart mega-developments

built from scratch. Unicorn planning schemes are proliferating worldwide and rely on the seduction of cash-strapped local governments by tech companies and real estate developers collaborating to promise profitable 'cities of the future'. The prospect of an instant economic generator and additional housing in a 'smart' development is tantalizing for local officials in so-called 'developed' countries in North America, who face increased pressure to be entrepreneurial (Harvey, 1989) while lacking the knowledge and expertise required for a level discussion in public-private 'smart' collaborations (Wylie, 2018), a dynamic that gives the upper hand to technology companies. Union Point illustrates the troubling willingness of local officials to outsource urban development and governance, in the name of greater tech-empowered efficiency, absolving themselves of their managerial responsibilities. Union Point also highlights the ease with which corporations are able to extract conditions and financial support from the state for high-risk smart mega-developments. While Union Point ultimately failed, it offers lessons for local governments tempted by unicorn planning schemes that promise instant smart urban development and economic vibrancy.

Unicorn planning embodies the increasingly cavalier attitude surrounding urban and economic development when tech companies and private developers are closely involved in the design and implementation of urban mega-projects. In contrast to state-driven urban projects that often require some level of public consultation, tech-driven smart city developments spearheaded by private actors carry the expectation that great risks will yield great rewards and that failure is an acceptable outcome of the process. Although this relationship to risk is intrinsic to venture capitalism and start-up businesses, gambling with public assets in an attempt to engineer high-profit cities of the future runs counter to conventional state planning and hampers democratic representation and the management of public assets, including land and water. As the recent global proliferation of smart-mega-developments demonstrates, the normalization of unicorn planning schemes deserves critical attention so that the benefits of the smart city model can be shared more equally amongst those participating in the city's development (Anthopoulos, 2017).

The ascendance of major techno-corporate players as new service providers and urban developers and the growth of the so-called sharing economy have 'opened up all sorts of complex regulatory, rights, and financial issues which were entirely new to city and state regulators' (McNeill, 2016: 506). Citizens and their representatives should be wary of public benefits that real estate and tech companies claim to provide, and how such schemes often

‘exacerbate existing social divides and create new spaces for the “digerati”, corporate executives, and other elites’ (Moser, 2015: 33). As illustrated by the recent Facebook congressional hearings, legislators remain out of touch with new technologies, their rapid development, and their broader implications for the population (Lewallen, 2018). In this context, we can speculate about whether local government officials and the public possess a sufficiently strong digital literacy to weigh the benefits of implementing new technology against its potential to undermine their privacy, privatize urban development, and facilitate surveillance capitalism (Wylie, 12/05/2017). While the pursuit of technological innovation is a key dimension of smart cities, these innovations are determined by self-interested private corporations, rather than by any pre-existing ‘need’ for this technology articulated by democratically elected local governments.

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