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Joshua Drucker
The University of Illinois at Chicago

Carla Maria Kayanan
University College Dublin

Henry Renski
University of Massachusetts Amherst

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INNOVATION DISTRICTS AS A STRATEGY FOR URBAN ECONOMIC DEVELOPMENT: A COMPARISON OF FOUR CASES

Joshua Drucker

Associate Professor
Department of Urban
Planning and Policy
University of Illinois at Chicago

Carla Maria Kayanan

Post-Doctoral Researcher
School of Geography
University College Dublin

Henry Renski

Associate Professor
Department of Landscape Architecture
and Urban Planning
University of Massachusetts Amherst

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● ABSTRACT

Innovation districts are a relatively new strategy in urban economic development. They have been fast gaining attention and popularity, due in part to energetic third-party promotion and the apparent successes of two early adopters: Barcelona and Boston. As additional cities establish and promote innovation districts, it benefits policymakers to possess information regarding their characteristics and suitability as an economic development approach.

We conduct in-depth case studies of four innovation districts in the United States—located in Boston, Detroit, Saint Louis, and San Diego—that present contrasting settings, policies, and outcomes. The empirical information is drawn primarily from interviews with the innovation district creators and implementers and the entrepreneurs embedded within them. We assess the expectations, design, implementation, and operation of these innovation districts, with reference to stated and normative policy goals along with theories of regional economic development. Our purpose is to provide scholars and policymakers with guidance as to how, and how well, innovation districts may achieve the aim of urban economic development to generate economic dynamism and prosperity.

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● NOTE ON AUTHORSHIP

This report is a collaborative effort involving three coauthors. Joshua Drucker is the primary writer for Chapters 1, 2, 3, 4, and 7. Carla Maria Kayanan is the primary writer for Chapter 5. Henry Renski and Carla Maria Kayanan are the primary writers for Chapter 6. The organization was determined by the three coauthors jointly, and all three coauthors conferred and deliberated on the findings, interpretations, and conclusions throughout the report. No attempt was made to harmonize the writing styles of the authors, thus word choices and formatting conventions may differ across chapters.

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CHAPTER 1: INVESTIGATING INNOVATION DISTRICTS



1 INTRODUCTION

This study investigates the urban economic development strategy of innovation districts. As the phenomenon of innovation districts currently is flourishing and expanding across the nation, it commands rigorous attention from those interested in understanding economic development in the United States. Researching the design, opportunities, and pitfalls associated with the economic development strategy will be valuable to policymakers. By studying innovation districts, we aim to provide practical guidance to governments, nonprofit organizations, and other interested actors as they consider devoting substantial effort and resources toward improving their local and regional economies.

Because innovation districts are relatively new, this research does not claim to provide definitive empirical knowledge or results. Moreover, it is too early in the application of innovation districts to conduct widespread empirical evaluation. Instead, our approach focuses on examining four cases of innovation districts that present contrasting settings and policies. We assess the economic development efforts *as they have progressed so far* by drawing on existing theories of regional economic development and by relating the design and implementation of innovation district actions to stated and normative goals. In conducting this research relatively early in terms of innovation district applications, we anticipate the information to be opportune for the consideration of local economic development policy-makers and stakeholders.

The structure of this report is as follows. The remainder of this chapter is devoted to explaining the idea of innovation districts and outlining the aims of the study. The second chapter describes the research methods, both the selection of the comparative cases and the way in which information was obtained and compared for each case study. Chapters Three, Four, Five, and Six present detailed presentations and analyses of four innovation districts. Chapter Seven focuses on findings and implications that derive from comparing across the cases. Chapter Eight concludes with recommendations for economic developers and policymakers.

2 WHAT ARE INNOVATION DISTRICTS?

Innovation districts have been gaining attention during the past several years as a new strategy in American urban economic development. In a policy arena that has a history of crazes and follow-the-leader strategies, innovation districts may well be the next fad: cities across the United States are designating areas and enacting economic development policies under the rubric of innovation districts. Locations nationwide are claiming the establishment of innovation districts, from Buffalo to Chattanooga to Albuquerque to Seattle. In addition to the typical desire of city leaders to keep pace with the trend-setters, the proliferation of innovation districts has been buoyed by the enthusiastic promotion of Bruce Katz of the Brookings Institution along with several of his colleagues (e.g., Katz and Bradley 2013; Katz 2014b; 2015; Katz *et al.* 2015; Vey *et al.* 2018; Wagner *et al.* 2019).

The initial inspiration for innovation districts in the United States traces from the 22@ district of Barcelona, Spain (Katz and Bradley 2013). A former industrial area within the Poblenou neighborhood, the location had already experienced publicly-led redevelopment in the lead-up to the 1992 Summer Olympic Games that included the removal of obsolete infrastructure and abandoned factory buildings and the erection of landmark residential structures. In 2000, the city endowed a private legal entity, 22@BCN, with specific financing and investment authority and the charge to administer (and publicize) the transformation of approximately 115 city blocks into a center for innovative economic activity in five industrial sectors: media, information communications technology, medical technology, energy, and design. Ten universities and nine research and design centers are located within the industrial district. The area has drawn numerous start-up firms and witnessed major growth in employment in the ensuing couple of decades (Barnett *et al.* 2014; March and Ribera-Fumaz 2016).

The evident success of Barcelona's 22@ district has drawn the attention of economic developers and policymakers in the United States. Yet as interest in innovation districts has expanded, so has the meaning of the term broadened. Despite (or perhaps partly because of) their recent popularity, innovation districts are not well-defined as a concept or a policy approach. Instead, innovation districts have been identified in the United States primarily in an inductive manner—by recognizing a number of familiar features—as well as through self-declaration by those promoting the strategy locally. Katz and Bradley describe innovation districts by reference to their goals and supporting features in this way (2013, p.114): “innovation districts cluster and connect leading-edge anchor institutions and cutting-edge innovative firms with supporting and spin-off companies,

business incubators, mixed-use housing, office and retail, and twenty-first-century amenities and transport.” Without explicitly defining the setting, characteristics specified by Katz and Bradley such as spatial proximity, modern transportation, and mixed-use development suggest an urban environment. Katz and Wagner do add the descriptor “urban” in a subsequent report (2014a). Lawrence *et al.* (2019, p.2) similarly define innovation districts by their aims, as geographic areas “intended to attract and support creative and entrepreneurial people, institutions, and businesses”, also describing them as a component of regional innovation ecosystems, a concept explored below. Innovation, itself a complex and potentially contested concept, is referenced recursively in Katz’s descriptions, and locally authored explanations of particular innovation districts typically do little to identify the boundaries of what is being classified as innovation. From the perspective of policy design, action agents are crucially ambiguous in Katz’s and his coauthors’ descriptions.¹ Are private firms and anchor institutions responsible for the development of innovation districts?² What is the role of the public sector? Whereas Lawrence *et al.* (2019) explain that innovation districts tend to distribute control among multiple types of entities, the lack of detail in their discussion implies substantial variation in composition and administrative structures. Can innovation districts arise from market forces, in which case perhaps they are unsuitable as a target for purposive public direction (Feldman and Francis 2004)?

To conduct this study, it is important for us to define innovation districts in a manner that permits the selection of useful cases for detailed examination and supports comparisons both among these cases and with other relevant examples. A practical definition must set boundaries on the concept, which, in contrast to inductive descriptions or policymaker assertions, serve to include and also to exclude certain examples and possibilities. We define innovation districts to be spatially delineated urban areas in which firms connect with each other and with anchor institutions to foster innovation and entrepreneurship, with active support from policies and programs, effective infrastructure, attractive amenities, and conducive structured economic and social spaces.³ Physical demarcation restricts innovation districts to a particular urban space, either fixed initially or after the fact with some degree of intentionality. This supports the establishment or development of a particular identity for the district and carries implications (considered below) for garnering benefits from agglomeration and the concentration of political and policy attention. This component of our definition does not disqualify districts that undergo changes to their geographies, but is meant to exclude amorphous or fluidly-defined places (e.g., Silicon Valley in California).

The definition requires innovation districts, unsurprisingly, to focus on spurring or attracting innovation in entrepreneurial ventures and possibly in established firms as well. Anchor institutions serve to draw attention

¹ Katz *et al.* depict the involvement of some of the major organizations and actors without identifying particular roles or assigning responsibility for outcomes. For example, in condensing the observations of innovation district leaders, Katz and Wagner refer to the Triple Helix of industry, research universities, and government interacting in a structured manner being critical to the success of innovation districts but avoid digging into the specifics of such interactions or the allocation of duties (2014a, pp. 14-15).

² Anchor institutions are sizable, immobile organizations, often non-profits, that have vested interests in their surrounding local and regional economies (Initiative for a Competitive Inner City and Staples Foundation for Learning 2010; Birch *et al.* 2013).

³ We wish to distinguish innovation districts from two similarly-titled international concepts. (1) African innovation districts, also termed innovation hubs, are national programs aimed at jump-starting technology-intensive industry activity by establishing co-working spaces and business incubator and accelerator facilities. These efforts are normally sited in a primate capital city and many involve partnerships with international firms. (2) Urban innovation, sometimes labeled urban entrepreneurialism, refers to local development approaches that initiate rather than manage economic growth and that borrow approaches from the private sector such as risk-taking, innovation (in policy), and self-promotion. Urban innovation is a mode or framework for local economic development rather than a specific strategy.

and supply locally-committed assets and resources, with engagement approaches that tend to reflect local character and community goals. Universities are the most common type of anchor institution, but other knowledge producers, such as laboratories or research institutes, or cultural or civic institutions may also anchor innovation districts. There must be active policy or programmatic support, though the timing, design, implementation agents, scope, and robustness of action may vary tremendously. Local government may provide enabling infrastructure, redevelopment funding, or supportive land use and zoning regulations. Public or quasi-public agencies, anchor institutions, or other non-profit organizations may establish or ratify the physical boundaries of the district, supply marketing or promote visibility such as via signage to set the district apart from surrounding areas, or oversee the administration of the innovation district as an organizational entity. Any or all of these kinds of organizations may be involved in education and workforce training programs that impart knowledge and skills vital to innovation or entrepreneurship, such as STEM (science, technology, engineering, and mathematics) fields and business management.

Like the descriptions proffered by Katz and others, our definition maintains the breadth of the innovation concept. Innovation is the application of new ideas and technology to generate economically valuable production: this is the key to producing the economic growth and dynamism that is the stated rationale for many innovation districts.⁴ Innovation may also encompass cultural and artistic novelty, the driver of creativity-based urban development strategies. Or innovation may be confined to creations that are novel within a particular industry (for example, analytical methods and instruments within the financial sector). According to our non-scientific canvass of readily available material, innovation district organizations and promotional materials normally do not specify publicly their conceptualization of innovation.

This practical definition encompasses most, though not all, of the innovation districts examined by Katz and his co-authors, and many of the most prominent innovation districts in the United States. It excludes locations that operate without active policies or programs, including those in which cities or other organizations have sought to brand existing collections of innovative activities as “innovation districts” without engaging in additional actions to generate or attract innovation or entrepreneurship (e.g., Kendall Square in Cambridge, Massachusetts). The definition also omits non-urban sites, such as the Research Triangle Park in North Carolina despite its recent redevelopment efforts to increase density and broaden its mix of land uses (Katz and Wagner 2014a; Bracken 2015).

⁴ Our terminology follows the standard distinction between invention, which refers solely to discovery, and innovation, which encompasses commercialization (Schumpeter 1939; Arora *et al.* 2016).

3 JUSTIFICATIONS FOR INNOVATION DISTRICTS

What are innovation districts likely to achieve, and by what means? These questions are crucial for local elected leaders and policymakers who aspire to do more than blindly follow a popular policy trend. Evaluating the suitability of the strategy in a particular location, and tailoring the approach for local goals and circumstances, requires understanding how innovation districts operate to encourage and support innovation, entrepreneurship, and economic development. We identify and explain three primary rationales for innovation districts as an urban economic development strategy. Although these justifications are separate in terms of their theoretical explanations, they are not exclusive and ought to be able to operate in tandem.

3.1. The spatial economy: agglomeration, entrepreneurial ecosystems, and labor

Innovative enterprises benefit from locating in proximity to other innovative agents. A main reason is the capability to access and absorb useful knowledge produced externally to the firm. At least as far back as the late 19th century, the agglomeration advantage of knowledge spillovers has been accepted as a leading explanation for the spatial assemblage of innovative activity (Marshall [1890] 1910). Specialized knowledge diffuses among entities engaged in similar activities, knowledge that spills across organizations focusing on different problems and issues leads to original insights, and interaction and rivalry among competitors fuels the drive to innovate (these non-market influences often are termed Marshall-Arrow-Romer, Jacobs, and Porter externalities, respectively) (Arrow 1962; Jacobs 1969; Romer 1986; Porter 1990; Audretsch 2003).

The extent to which proximity is a necessary condition for knowledge spillovers to occur depends on the types of knowledge producers and recipients. Although there is no general consensus in the literature, a number of studies find that knowledge spillovers from major anchor institutions such as universities and research centers may spread over substantial regional (metropolitan-scale) distances, whereas firm-to-firm knowledge spillovers often seem to diminish much more rapidly with distance (Funke and Niebuhr 2005; Goldstein and Drucker 2006; Fu 2007; Sonmez 2015; Drucker 2016). As might be expected, innovation-intensive industries tend to be more dependent on nearby knowledge spillovers than are industries that rely less on innovation (Audretsch and Feldman 1996a; Drucker 2012).

In addition to knowledge spillovers, spatial propinquity among innovative actors facilitates face-to-face contacts and chance meetings that help to

establish professional and interpersonal networks (Storper and Venables 2004; Autant-Bernard *et al.* 2007; Christopherson *et al.* 2008). Informal and cross-sector networks, also known as “weak ties”, are particularly difficult to form and maintain across distances (Granovetter 1973).⁵ Yet it is such connections that are especially valuable in generating imaginative ideas (Sonmez 2015).

⁵ “Strong ties”, in contrast, are formal within-network connections.

Innovation activity, and thus the spillover and networking benefits that accrue from spatial concentration, may decline as firms mature or industry life cycles progress, raising the issue of whether innovation and entrepreneurship lead to substantial economic growth *in the same location* (Audretsch and Feldman 1996b). Rapid transportation and sophisticated telecommunication, enhanced firm and employee mobility, greater division of the product life cycle across firms or among sites of multi-establishment firms, and hindrances to scaling production in urban locations all are factors that may limit the ultimate impact of innovation districts on the politically critical metrics of jobs and income (Potter and Watts 2011; Shearmur and Bonnet 2011; Duranton and Kerr 2015). Moreover, if firm profits can be improved by relocating activity to less costly or more attractive locations once innovation intensity declines and proximity advantages diminish, then it may be the economically troubled, lagging, less-desirable cities and regions that are least likely to reap the long-term benefits from creating active and successful innovation districts.

The entrepreneurial (or innovation) ecosystem concept broadens consideration from knowledge spillovers to a wider set of advantages conferred upon entrepreneurs and innovators by the full set of actors, assets, and activities that constitute their surrounding environment. The elements of entrepreneurial ecosystems include knowledge producing organizations, human capital and workforce characteristics, financial capital, government regulations and supports, business services, interfirm networks, and local business climate and culture.⁶ The quality and particular features of these ecosystem components affect the likelihood of individuals choosing to become entrepreneurs, the type of businesses that entrepreneurs establish, and the probability of entrepreneurial success, and thus help to determine local competitiveness. Enhanced competitiveness, in turn, may support and augment the contributing elements of the ecosystem, generating a virtuous economic development cycle (Audretsch and Pena-Legazkue 2012).

⁶ The entrepreneurial ecosystem concept is akin to the regional innovation systems idea in common usage in Europe. Regional innovation systems consist of elements that influence innovation activity at the regional scale, namely the economic actors and institutions, regulatory environment, supportive programs and policies, and social attitudes and relationships concerning innovation (Cooke 2002; Moulart and Sekia 2003).

Entrepreneurial ecosystems are sturdier and more economically advantageous if they incorporate a variety of types of firms and organizations: not only start-ups but also established companies, not only small and vigorous ventures but also large and prudent firms (Isenberg 2014; Lawrence *et al.* 2019). Each type is capable of contributing something different to the mixture, from dynamism and inventiveness to stability and resourcefulness. Innovation outcomes tend to benefit from the coexistence

of entrepreneurial endeavors with older and larger firms (Cohen and Klepper 1992; Martin and Scott 2000; Feldman *et al.* 2002, Ch. 4; Agrawal *et al.* 2012). Companies with established products often pursue more incremental time- and cost-saving innovations, whereas start-ups are more likely to seek and find entirely new technological and market niches. In addition, the greater resources of large firms enable them to invest in projects that require lumpy investments or pose greater risk, in return for potentially large returns across long time horizons.

The measure of an entrepreneurial ecosystem's strength is not the quantity or density of its entrepreneurs (Isenberg 2014). Indeed, all else being equal, additional entrepreneurs implies more business attempts of marginal quality or potential (Shane 2009). More reasonable gauges of ecosystem quality are whether the system is self-sustaining over time and its degree of vibrancy, as ongoing activity and flux represent opportunities for entrepreneurs (Isenberg 2011; Stangler and Bell-Masterson 2015).

Labor is decreasingly contained within traditional firm boundaries. Employee mobility and flexible cooperative endeavors boost knowledge diffusion; these mechanisms are especially important in innovation-intensive industries (Saxenian 1994; Ter Wal and Boschma 2008; Serafinelli 2015; Sonmez 2017). In contrast to what was the norm for most of the twentieth century, many employees no longer expect to perform tasks on fixed schedules and in fixed locations. Workers engaging in innovation activities increasingly provide labor through the “gig” or “platform” economy, wherein tasks are accomplished through contractual arrangements outside of conventional employment (Davis 2016; Kenney and Zysman 2016). These arrangements are enabled and supported by modern information and communication technologies that permit work, including collaborative activities, to occur nearly anywhere and at any time. For some employees, this means engaging in work, or feeling pressure to work, everywhere and all the time (Mazmanian *et al.* 2013; Putnam *et al.* 2014; Kubicek *et al.* 2017).

As labor is performed in conjunction with other daily activities, built environments that support this overlapping and blending of life components are in demand. Employees and employers increasingly seek locations that offer convenient transportation infrastructure and speedy telecommunications; that host a variety of spaces suited for work, household chores, recreation, and socialization in close proximity; that offer alternative designs and types of workspace that are flexible and scalable; or that support in other ways the complex and frequently unpredictable calendars that accompany the modern economy. Designs that attempt to stimulate innovation are premised on the understanding that innovation is collaborative, technology-intensive, and inter-sectoral. Therefore, design, both physical and programmatic, prioritizes open and convergent environments that encourage face-to-face interactions in order to foster ideation and product commercialization.

The design of the district, in addition to the scale, is catalytic in ensuring this level of engagement and connectivity.

Innovation districts fit well with current understandings of the spatial geography of innovation, agglomeration, and labor. To the extent that innovation districts succeed in clustering entrepreneurial and innovative firms with each other and with knowledge-producing institutions they ought to yield increased quantity or quality of innovation outputs. Although their footprints vary in size, innovation districts aim to operate on a neighborhood scale that is walkable or permits efficient transportation options and, in conjunction with a varied mix of land uses and activities, offers the amalgamated “live-work-play” environment that matches the lifestyles of the innovation workforce. This scale is consistent with maximizing knowledge spillovers and supporting chance encounters, informal interactions, and networks. The programmatic design of innovation districts is double-layered, providing direct supports (e.g., incubators, anchor institutions, Wi-Fi connectivity) and fostering the networking opportunities critical for forming and strengthening both strong and weak ties. Industry-specific activities cultivate strong ties, whereas the weak ties essential for diffusing information, contacts, and business leads are kindled by diverse programmed events, from hack-a-thons and entrepreneur round tables to yoga and craft beer tastings. Innovation districts that bring together and build linkages among a variety of types of actors and institutions are more likely to generate a robust and enduring entrepreneurial ecosystem.

On the other hand, taking advantage of the knowledge produced in universities and research institutions may not require gathering potential recipients into their immediate vicinity. Locations across the city and region and even extending to neighboring metropolitan regions may be close enough for this particular purpose. Innovation district actors and networks can act to extend connections to institutions and assets located outside the district proper.

3.2. Placemaking

Regions compete with each other for firms, talent, and private investment, both within nations and against international locations as well. Cities often adopt placemaking strategies that involve developing and publicizing one or more smaller locations as subsets of the larger urban area in order to appeal to particular targets.⁷

As part of this approach, innovation districts present a combination of features that may be highly attractive to innovative enterprises and associated actors. Moreover, local governments and politicians can emphasize the salient features of these particular locations in order to

⁷ The current application of “placemaking” to mean the intentional design and advertising of attractive and distinguishing aspects of locations evolved from an earlier, narrower use of the term, primarily by landscape architects and urban designers, referring to the provision of public spaces (Schindler 2017).

cultivate a deliberate impression of the wider region, including its governance, institutions, and business culture.

Focusing on external promotion, innovation districts contribute opportunities to shape the outward-facing image or brand of a city or urban area (Clark *et al.* 2016; Saffron 2016). Firms that have the wherewithal to select initial sites or change their locations are responsive to the location preferences of their most highly valued (and difficult to replace) employees and executives. Relatively young, highly educated workers—and especially the millennial generation—are perceived to be among those most attracted to the dense, vibrant, mixed-use urban environments offered by innovation districts. Without delving into the many scholarly debates about the accuracy, utility, and social implications of creative class theory and its associated prescriptions for talent recruitment, inescapably it is true that numerous policymakers have adopted the imperative to make the city, or at least selected portions of it, attractive to the most talented and innovative members of society (Storper and Scott 2009; Perry 2010).

Innovation districts also constitute a device for redefining or remaking the image of a community from the perspective of current city residents and existing institutions. In some cases, innovation districts may supplant underutilized or derelict areas in a wholesale fashion; in other locations, ongoing and gradual investments in infrastructure, changes in residential and business populations, and intentional marketing efforts shift existing perceptions toward a new image of a neighborhood. Whether placemaking efforts accomplish their aims depends on the mix of building types created or preserved, the quality of the surrounding environment, the perceived distinctiveness and authenticity of the outcome, and the resulting area's attractiveness to the target audiences (Lawrence *et al.* 2019; Wagner 2019). As is also true for other types of placemaking efforts⁸, shaping the public impression of a locality through developing an innovation district can be directed by a collaborative and inclusive public process, can impose in top-down fashion a vision designed by political and business elites, or can fall anywhere in between these extremes.

⁸ Arts and cultural development and redevelopment strategies currently are popular (Grodach and Loukaitou-Sideris 2007; Sparks *et al.* 2012).

3.3. Urban revitalization

Although related to and indeed dependent upon the spatial economic geography and placemaking justifications described above, urban revitalization designates an additional rationale for innovation districts as an economic development strategy. Both economically booming and struggling cities are looking toward innovation districts as a mechanism for boosting the fiscal circumstances of local government (Wagner *et al.* 2019). Yet the ultimate impacts of a successful innovation district, as well as the implementation mechanisms likely to achieve such outcomes, may

be much different if it is sited in a location suffering substantial economic distress than in an area with growing population, activity, and demand for real estate. As a tool for revitalizing stagnant or declining areas, innovation districts ought to be evaluated not only on their prospects for supporting innovation and generating associated economic activity, but also regarding the variety and persistence of economic opportunities created, how well they integrate existing populations with such new opportunities, and how the innovation district once established will fit with its broader social and physical surroundings.

Katz and Wagner (2014a) delineate innovation districts in areas undergoing rapid development or that enjoy strong localized demand separately from those in cities seeking to harness innovation districts to redevelop underutilized locations.⁹ (They list Boston, Brooklyn, and Seattle among several other examples of the latter type.) Although Katz and Wagner do not detail the urban features or policies that distinguish the two kinds of innovation districts, they do note that redevelopment-focused innovation districts normally are sited in former industrial or warehousing districts that are not far from city centers and mass transportation facilities. Such locations possess some of the desirable characteristics that contribute to innovation districts but have yet to be repurposed via market forces or other government initiatives from lower-density land uses experiencing diminishing demand.

As with other strategies for urban revitalization, the specter of innovation districts as imposing a particular redesign on a location raises issues of inclusion and social equity (Flint 2016; Wagner *et al.* 2019). Processes that determine a community's future without involving current residents may be deficient in terms of fairness and adherence to democratic values; dominant visions of a future innovation district that do not demonstrate a feasible place for varied populations including current residents imply gentrification, displacement, and exclusion (Stehlin 2016; Lawrence *et al.* 2019). This is one aspect of the general problem in planning and urban development to find the appropriate balance of the new with the old, to accommodate the existing while enabling the incoming—a challenge that ultimately must defy any single comprehensive solution (Rittel and Webber 1973).

⁹ The first type encompasses those innovation districts identified by Katz and his co-authors that our working definition excludes for not having active support from the public sector or anchor institutions.

4 WHAT MAKES INNOVATION DISTRICTS DIFFERENT?

Are innovation districts something new in economic development? We contend that they are, but not because any of the individual components that comprise innovation districts are novel ideas or approaches. All sorts of neighborhood, community, and economic development strategies start with designating and promoting a particular area; there are a wide variety of policies employed to foster innovation and entrepreneurship, often at a region-wide scale; and numerous rationales justify the provision of efficient infrastructure, attractive amenities, and dense mixed-use neighborhoods. What distinguishes innovation districts from prior strategies is that they unite these features and approaches in a single location. Katz and Bradley declare innovation districts “a classic case of the whole being greater than the sum of its parts (2013, p. 115). It is the assembly of the assorted elements, and the emphasis on combining them to construct an environment that maximizes the potential for successful innovation and entrepreneurship, that make innovation districts a new approach in urban economic development.

To illustrate their distinctiveness, it is helpful to contrast innovation districts with economic development strategies that evidence similarities. Research and science parks, for instance, aim to supply a desirable location for research-intensive firms or the research function of multi-site firms, often near to one or more knowledge-generating institutions such as a university or a public laboratory. Co-location with other firms establishes the potential for agglomeration benefits as described above, and parks’ affiliations with research organizations can produce direct advantages such as preferred access to personnel and specialized equipment. To maximize spillover opportunities and the value of institutional relationships, many research parks are geared toward specific industries or sectors (Technology Partnership Practice 2007). Innovation districts are similar in aspiring to generate agglomeration advantages through proximity, and may provide preferential or exclusive access to the resources of associated institutions. Most innovation districts are intended to attract a broad range of kinds and sizes of innovative and entrepreneurial firms, often across different economic sectors, and in so doing construct a vibrant community that supports the Jacobs type of externalities as well as Marshall-Arrow-Romer and Porter externalities. Yet there are research parks that are open to innovative firms broadly defined, and there are innovation districts planned for particular industries or types of firms, so this distinction is not complete. Clearer differences between the two strategies become evident in considering physical characteristics and the mix of uses. Research parks provide bucolic and soothing settings, separated from bustle and commotion in support of clarity of thought for researchers and innovators. Suburban or exurban locations and attendant

building styles and layouts often are a part of this approach¹⁰, but more important is the uniformity of uses, focusing on traditional work spaces situated in park-like campuses and offering only minimal commercial or other uses as conveniences so as to minimize distractions (Mozingo 2011). Innovation districts adopt the opposite approach, touting the “live-work-play” fusion of life components and the active energy or “buzz” they fashion, particularly promoting this aspect toward the more youthful generations of workers and entrepreneurs (Wagner *et al.* 2019). Indeed, some research parks are attempting to remake themselves into more urbanized, mixed-use environments to entice the millennial workforce (e.g., Research Triangle Park in North Carolina; see Katz and Wagner 2014a; Bracken 2015).

¹⁰ Locations on the periphery of urban areas and building styles that separate enterprises and distribute space at relatively low densities are more common in the United States than in Europe or Asia and are more common in research parks founded in the 1980s or earlier.

As another example, incubators are organizations or programs that provide services and assistance to fledgling businesses to nurture them toward self-sufficiency (Tornatzky *et al.* 1996; Qian *et al.* 2011). An incubator may provide a building or a portion of a building to congregate early ventures physically, or may operate “virtually”. Research parks often contain one or more incubators; incubators may form a part of the programming of innovation districts as well, since the function of incubators is to encourage and sustain innovative activity. On their own, however, incubators do not encompass a physical area offering uses and amenities beyond entrepreneurial space and associated support services.

Innovation districts are distinct from but can overlap with several other approaches to urban development. Mixed-use development has seen a resurgence in popularity in the United States since the early 1990s, due to the realization of benefits such as shorter commutes, efficient infrastructure provision, and distinctive neighborhood character. Municipal and county planning departments can encourage mixed-use development through mixed zoning, negotiated density bonuses, and planned urban developments, among other tools (University of Delaware Institute for Public Administration 2018). Mixed-use development is one of the characteristics (or, from the perspective of planners, one of the tools) that can supply the mix of spaces, amenities, and opportunities to make innovation districts attractive. Transit-oriented development focuses on creating compact communities centered around mass transportation and pedestrians, offering one approach for achieving the land use, density, and amenity aspects of innovation districts. Placemaking, discussed above, can feed into the marketing strategies of an innovation district, or the innovation district may serve as one element of a wider placemaking effort; the same is true of the relationship of innovation districts to other types of cultural development strategies.

Cluster policy may also correlate with innovation district strategies. Cluster-led economic development organizes the activities of a municipality

or region in economic development around a set of interrelated industries or firms, with potential agglomeration benefits as a key justification (Perry 2010). An innovation district focused on select industries, or designed to accommodate certain types of innovative activities, fits well with the cluster development framework.

Innovation districts often are confused with or not clearly separated from these and other economic and urban development strategies. In some instances this occurs due to the lack of definitional clarity, but it also arises from the breadth of scope of innovation districts. The conceptual distinctiveness of innovation districts is not found in the elements that comprise the strategy, but in their confluence as a multi-faceted yet cohesive approach to urban economic development.

5 WHY STUDY INNOVATION DISTRICTS?

We intend this study to result in an improved understanding of the strategy of innovation districts and its potential application in urban economic development. The spread of innovation districts across the country indicates the practical value of deliberately considering their design, features, and potential achievements. Scholars of urban policy may find innovation districts especially intriguing as they present a convergence of ideas gathered and validated across several theoretical and policy domains. Furthermore, because the strategy builds on broader social, economic, and cultural trends, its implementation and consequences help to illuminate the continuing evolution of location decisions from both the firm and employee perspectives. Across all of these arenas, we hope that our findings provide guidance useful to policymaking and prove informative to those interested in better understanding the processes of economic development.

It is too soon to be able to evaluate the ultimate successes or failures of innovation districts in generating innovation, entrepreneurship, and economic development. Of course, this is a characteristic drawback of empirical evaluation research—by the time outcomes are apparent and measurable, the policies that generated those outcomes often are entrenched: in plans, in budgets, and in the physical and social features of communities. To the extent that the economic development field is propelled by the actions of competitors and tempted by the latest fashions, innovation districts may be well-rooted in the economic development policies of cities nationwide before we can ascertain their effectiveness in a comprehensive manner. By conducting this study now, in an admittedly constrained manner, we aim to get in front of (or at least alongside) the incipient trend, and in so doing deliver opportune information for the consideration of local and regional economic development stakeholders and decision-makers.

6 EXISTING LITERATURE

Bruce Katz of the Brookings Institution has been encouraging innovation districts as applied to urban economic development in the United States for a number of years.¹¹ His monograph co-authored with Jennifer Bradley (2013) explores the ways in which cities and regions have been approaching the severe economic challenges exacerbated by the lack of federal leadership and funding in the aftermath of the Great Recession of 2007 through 2009. Katz and Bradley devote one chapter to the emerging approach of innovation districts, presenting Boston, Detroit, and the Research Triangle region of North Carolina as illustrative examples.¹² Reports issued in the following two years focus solely on innovation districts. The first updates the description, categorizes the locations and assets of various innovation districts, and curates strategy suggestions culled from interactions with practitioners (Katz and Wagner 2014a); the second, published one year later, extends the list of categories of innovation districts and describes related issues such as the involvement of intermediary organizations and concerns over inclusivity (Katz *et al.* 2015). Intermixed with the major publications, a number of issue briefs and articles issued by the Brookings Institution describe individual cities' innovation district policies and the strategy's potential to further particular economic development goals such as advancing interregional competitiveness and curbing "brain drain" (Katz 2014b; 2014a; Katz and Wagner 2014b; Katz 2015; 2016).

The Urban Land Institute authored a report that extrapolates from the experiences of the I.D.E.A. (Innovation + Design + Education + Arts) district in San Diego (examined in detail in Chapter 4 of this report) to proffer policy guidelines (Clark *et al.* 2016). Reed examines four innovation districts, identifying advantages and challenges from the perspective of real estate development and management (2016).¹³ Flint cautions against cities adopting an innovation district strategy without critically examining its suitability for local circumstances (2016). The Brookings Institution produced an "audit guide" for assessing a local innovation ecosystem in order to locate or direct policies for an innovation district, drawing most heavily on examples in Oklahoma City, Philadelphia, and Pittsburgh (Vey *et al.* 2018). Most recently, RTI International published an overview of innovation districts aimed toward policymakers and practitioners (Lawrence *et al.* 2019), and the Global Institute on Innovation Districts, a new organization that boasts Bruce Katz as a founding partner, issued an update on innovation district strategies and implementation (Wagner *et al.* 2019). All of these texts are composed primarily in a journalistic manner, emphasizing descriptive examples and general policy recommendations, in order to be accessible and possibly inspiring to local decision-makers and members of the general public. This is a constructive way to approach a legitimate audience, yet it does leave open the opportunity for more rigorous research.

¹¹ Katz has accompanied his writing with considerable consulting to municipalities and regional organizations.

¹² The Research Triangle Park in North Carolina does not meet our working definition of innovation districts; see *What Are Innovation Districts?* and *What Makes Innovation District Different?* above.

¹³ Only one of Reed's cases qualifies as an innovation district according to the working definition we apply—the Cortex Innovation Community of St. Louis, the subject of Chapter 3.

In the scholarly arena, all of the very limited quantity of research examining innovation districts pertains to the 22@ district in Barcelona, presumably because its relative maturity affords perspective and permits some degree of empirical assessment. One article appraises the effect of the innovation district on the internationalization of business, highlighting the conflict between attracting multinational firms and supporting the growth of local ventures (Leon 2008). A few works explore the association of the Barcelona innovation district with other development and planning frameworks such as social inclusivity, global competition, and low carbon economies (Battaglia and Tremblay 2011; Charnock and Ribera-Fumaz 2011; March and Ribera-Fumaz 2016). We find no academic study that assesses an individual innovation district outside of 22@ in Barcelona or that compares multiple innovation districts systematically.

The chief conclusion of this section is that the literature on innovation districts is sparse. Of course, many newspaper articles and items in other media relate the progress of individual innovation districts and occasionally critique those efforts. Aside from such reporting, there are the earnest efforts of Bruce Katz, his colleagues at the Brookings Institution, and a few other authors and organizations to describe, categorize, and promote innovation district strategies in the United States, but there has been no serious attempt at systematic or rigorous comparative evaluation. As far as we are aware, this study is the first.

7 RESEARCH QUESTIONS

The goal of this research is to better understand the settings, influences, design, and implementation of industrial districts in the United States, primarily through the close examination of four selected cases, and in so doing provide useful guidance to local policymakers currently implementing or considering engaging in an innovation district strategy. We focus our investigation around four interrelated questions:

- 1. What are the goals of innovation districts from the perspective of their creators, implementers, and stakeholders?**

Obtaining a detailed accounting of the intended outcomes of innovation districts as a local or regional economic development strategy enables us to compare the different examples according to their own rationales. Moreover, elucidating the intentions of individual districts provides a basis upon which to judge the potential effects of the districts' policies and actions.

2. Which industries or economic activities are considered innovative or otherwise are targeted by innovation district policies and actions?

The economic targets of innovation districts provide a point of comparison across cases that remains authentic to the internal justification as a localized strategy. The scope of the economic development effort also impacts the resources required and influences the potential for economic success.

3. How do differences in the constitution, design, administration, setting, and resources of innovation districts affect their operations and likelihoods of achieving positive outcomes?

We link the details of the innovation districts and their implementation to their consequences to the extent possible at the current stage of development of each innovation district.

4. What observations from the efforts of the innovation districts studied can inform comparable economic development efforts underway or being planned elsewhere?

With this study we anticipate providing constructive feedback to those engaged in the innovation districts examined, but even more so we aim to instruct and assist economic development policymakers seeking to implement the strategy in other locations.

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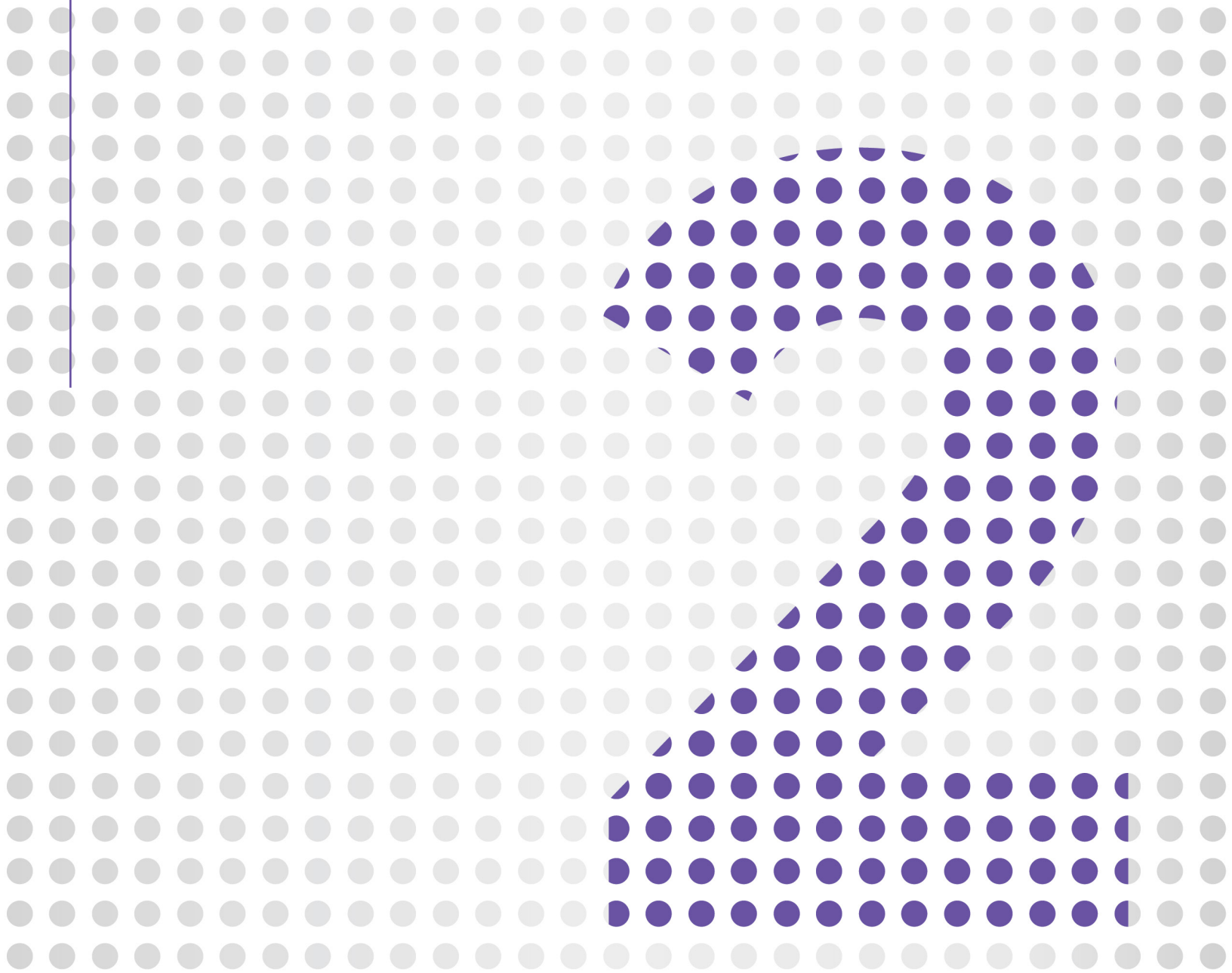
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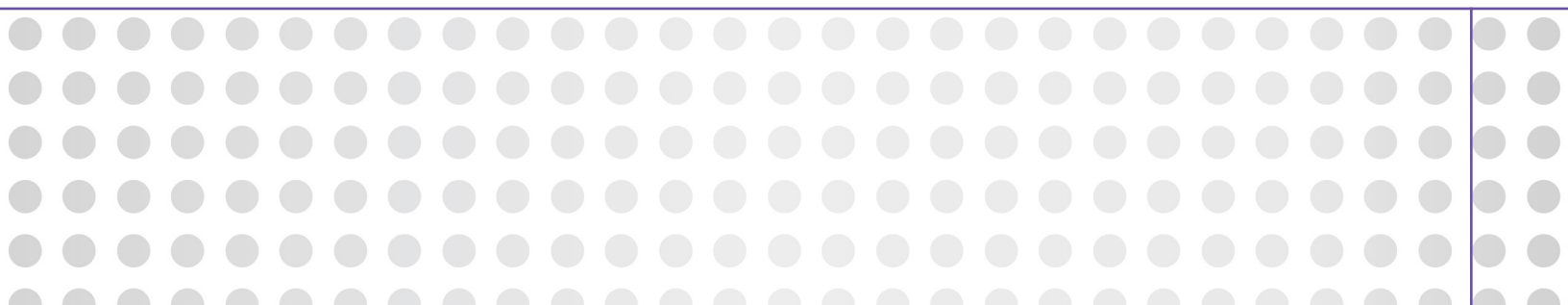
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CHAPTER 2: RESEARCH METHODS



1 OVERVIEW

This chapter explains the way in which we conducted this study. We describe the methods, including the study design, the selection of four comparative cases, and the collection and analysis of information.

As mentioned in Chapter 1, the urban economic development strategy of innovation districts is not ripe yet for a thorough and comprehensive empirical evaluation. The prototype that inspired many of innovation districts in the United States, the 22@ district of Barcelona, was established officially in 2000. Although some efforts can trace antecedents substantially further back, formal innovation district policies have been in place in American cities only since 2010.

This study is primarily exploratory in nature, but does also involve aspects of explanatory research. It is exploratory in that we seek to discover and refine the description of the characteristics, settings, and procedures of innovation districts that are key to their operation and that generate the potential for them to achieving their aims. We do this through investigating selected individual cases closely and by drawing contrasts among these cases. Even though the study is not comprehensive regarding innovation districts in the United States, we selected the cases so as to supply as broad a foundation as possible for learning about the policy strategy in general terms. The research is explanatory in that we assess the likelihoods of innovation district policies accomplishing distinct outcomes by engaging the rationales for urban economic development described in the previous chapter, in essence testing the substance of each case separately against the prescriptions of established and hypothesized theories (Yin 1994).

2 COMPARATIVE CASE STUDY DESIGN

Four case studies of innovation districts form the empirical basis of this study. To address the research questions thoroughly, it is necessary to delve deeply into the particulars of innovation districts, examining not only the public-facing messages and promotional efforts but also their histories; their economic, financial, political, and social underpinnings; and their evolutionary development. The comparative case study approach is well-suited to conducting in-depth investigations, and provides an appropriate foundation for reliable judgments concerning the internal attributes and logic of the chosen examples. Although the particular number of cases is a function of the resources available for the study, the four cases exhibit a wide range of features and settings that are instructive for innovation district efforts throughout the country.

3 SELECTION OF CASES

To the extent possible, we selected cases to maximize variation along several relevant dimensions: the geographic location, the predominant regional economic structure and trajectory, the organizational ownership of the innovation district initiative, and the degree of anchor institution engagement and leadership.

The four innovation districts range in size from 94 acres in San Diego to 2,750 acres (more than four square miles) in Detroit. All are sited within a few miles of the central business district, or, in the case of Detroit, encompass the central business district. The innovation district effort in Boston was initiated and managed by the city's Office of the Mayor, in St. Louis by a consortium of anchor institutions, in Detroit by the non-profit community with substantial anchor institution involvement, and in San Diego by private sector interests. Boston and San Diego are coastal cities with long histories of innovation-led development that in recent years have experienced strong economic growth, tight real estate markets, and soaring costs of living. Their innovation districts, at least initially, targeted start-up and small entrepreneurial ventures. Detroit and St. Louis, on the other hand, represent the Rust Belt of the Midwest; both region's economies were dominated traditionally by large original equipment manufacturers (OEMs) and have experienced central city employment and population decline through the last three decades. The innovation districts in these two cities are aimed at established as well as start-up businesses.

These features of the four cases are summarized in Table 2-1. Further detail regarding each case is explored in the chapters that follow; here we emphasize their apparent differences. Together, the four cases offer comparisons and contrasts that are meaningful with respect to the assortment of circumstances in which innovation districts are being considered, designed, and implemented nationwide.

Table 2-1. Elements of Case Studies Innovation Districts.

CITY:	BOSTON	DETROIT	ST. LOUIS	SAN DIEGO
name:	Seaport (Boston Innovation District)	Detroit Innovation District	Cortex Innovation Community	I.D.E.A. (Innovation + Design + Education + Arts)
designation:	2010	2014	2002; 2010 *	2011
physical delineation:	1,000 acres in South Waterfront	2,750 acres in Downtown, Midtown, and New Center	187 acres in Midtown	93 acres in East Village
innovation and entrepreneurship emphasis:	Focus on start-ups	Mix of established firms and start-ups	Mix of established firms and start-ups	Focus on start-ups
initiative leadership:	Public (city)	Non-profit community and anchor institutions	Anchor institutions	Private sector
regional economy:				
→ industrial strength:	Innovation	Traditional manufacturing	Traditional manufacturing	Innovation
→ entrepreneurial mix:	mix of large and small entrepreneurial firms	large firm dominance	large firm dominance	small entrepreneurial focus
→ trajectory:	boom	decline	decline	boom
→ land prices and living costs:	high	low	low	high

* Founded in 2002 as Cortex, the technology district was reimagined as an innovation district and renamed the Cortex Innovation Community in 2010.

4 DATA COLLECTION AND ANALYSIS METHODS

We collected information for each case study through a review of primary and secondary documents and by conducting a series of interviews. We toured each innovation district and its environs. We constructed parcel inventories for the two smaller innovation districts, those in St. Louis and San Diego. In a couple of cases, members of the research team attended local meetings or events related to the development of the district.

The sources of relevant documents vary by case. For each, we researched news items and other media publications, along with reports authored by

organizations involved with the innovation districts and archival references as available. These provide background, context, and sometimes specify sequences of historical events. Except for Detroit, none of the innovation districts have formally prepared plans, though we did obtain access to a number of relevant ordinances, earlier or related plans, and internal conceptual and policy documents.¹

Semi-structured interviews were conducted with local actors and stakeholders: those involved in planning and implementing the innovation district, economic development officials, local planning experts, and residents and business owners involved with the activities of and/or located near to the district. We identified initial subjects from the document review and by perusing websites and publications promoting the innovation districts. We solicited suggestions for further interview subjects from the interviewees. Almost all of the interviews occurred in person; a handful took place by telephone. In Boston, St. Louis, and San Diego, most of the interviews occurred during one or two site visits. In Detroit, the interviews were distributed across a longer time period and some respondents were interviewed multiple times. (Additional information regarding the interview methods for the Detroit case is included in Chapter 4.) We conducted the majority of interviews singly, but also hosted a few multiple-respondent interviews and one focus group.

We requested clarifications or additional documents from some interview respondents who agreed to follow-up contacts. In addition, in the St. Louis and San Diego cases, several months after the interviews occurred we sent a concise compilation of preliminary high-level findings to each respondent, and solicited corrections or additional comments.

Table 2-2 documents the number of respondents for each case study and the approximate time frame during which the interviews transpired. Note that because the identities of all respondents are confidential, interviews and focus groups are referenced as personal communications or interviews. The interview guide, recruitment script, and the study information sheet that was provided to each respondent are included as Appendices 1-3. (These documents differed slightly and immaterially across the cases).

¹ There are separate plans for the four neighborhoods that comprise the Boston innovation district area, but no consolidated master plan for the entire district.

Table 2-2. Case Study Interviews.

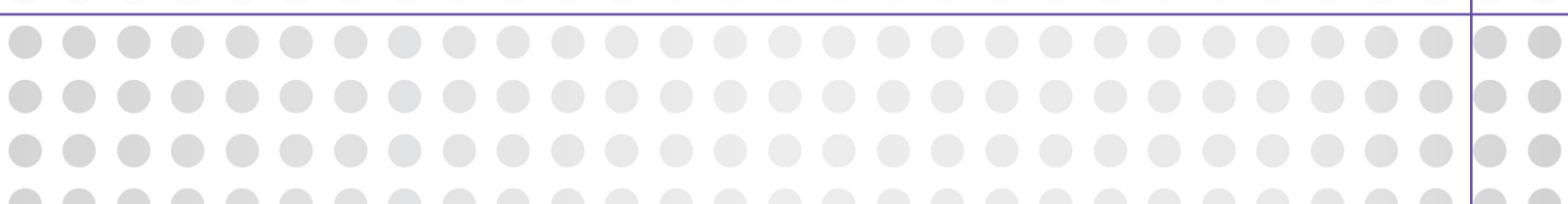
CITY:	BOSTON	DETROIT	ST. LOUIS	SAN DIEGO
Respondents:	24	33	38	24
Time period:	August, 2016 – May, 2017	March, 2015 – August, 2017	June – August, 2016	April, 2016

WORK CITED

Yin, R. K. 1994. *Case Study Research*. 2nd Ed. Thousand Oaks, California: Sage Publications.



CHAPTER 3: THE CORTEX
INNOVATION COMMUNITY
IN ST. LOUIS, MISSOURI



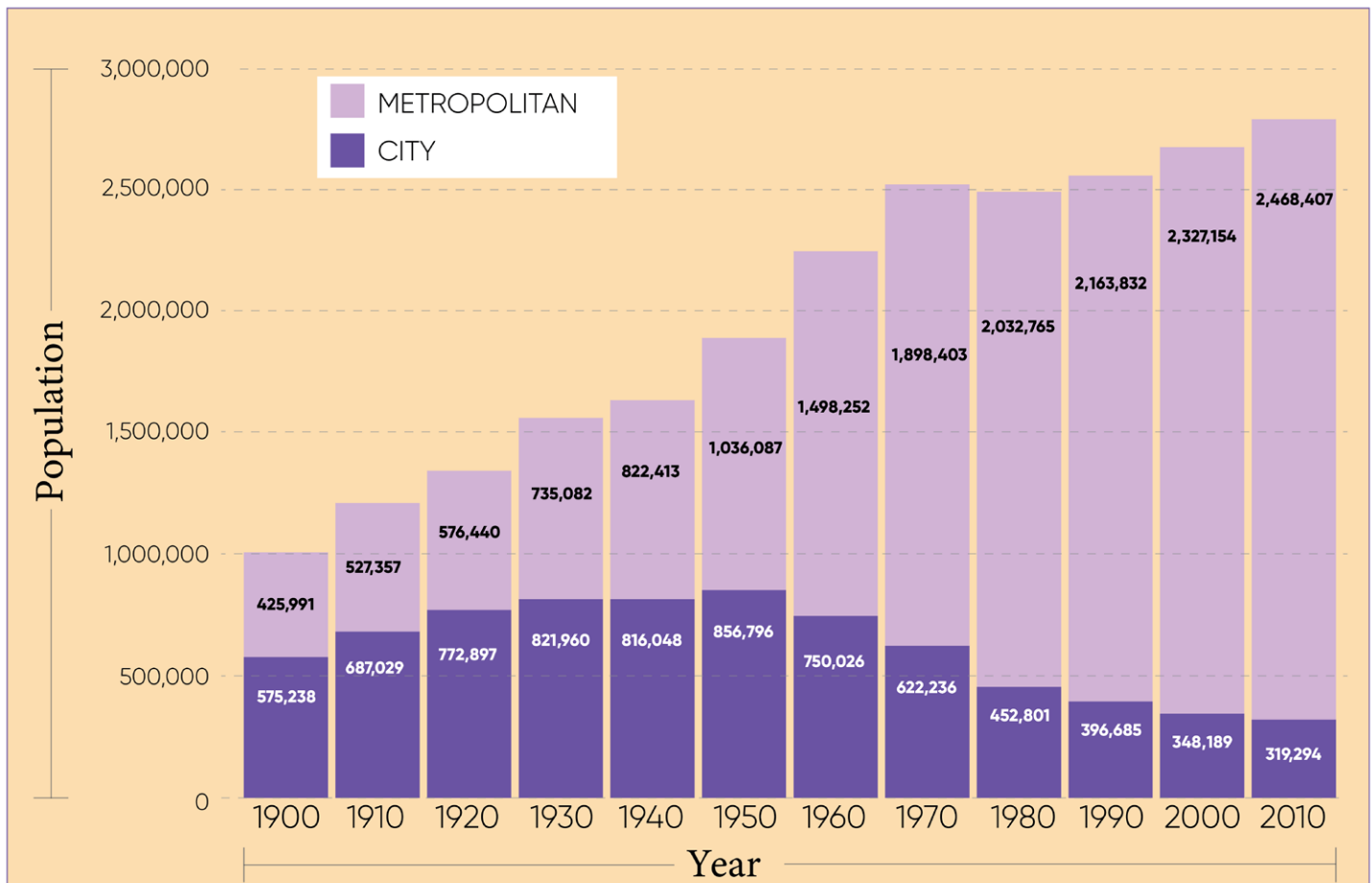
1 OVERVIEW

This chapter describes the regional setting, background, origin, and development path of St. Louis's innovation district, the Cortex Innovation Community. Special attention is paid to the particular actions and circumstances that played a central role in positioning the innovation district to prosper and achieve its current situation. The final section considers concerns that are likely to arise with the continued growth and development of the innovation district in the near future.

2 REGIONAL BACKGROUND AND SETTING

The trajectory of development that occurred in St. Louis is more akin to Detroit than the other two case study cities of Boston and San Diego. The peak municipal population of the City of St. Louis was achieved as of the 1950 Census. Although the metropolitan area's total residential population has continued to expand, the city comprises a shrinking share of the region (Figure 3-1). This trend follows the steady decline of manufacturing as a share of employment and the suburbanization of residences and jobs witnessed in most sizeable cities in the American Midwest and Northeast throughout the second half of the twentieth century, but these changes were especially pronounced in certain cities such as Buffalo, Cleveland, Detroit, and St. Louis. The St. Louis region of today is decentralized, jurisdictionally fragmented, and racially and economically segregated more so than most other major American urban areas (personal communications).

Figure 3-1. St. Louis city and metropolitan population.



Source: United States Census Bureau (1900-2010).

Note: This figure consistently uses the recent United States Office of Management and Budget (2013) definition of the St. Louis metropolitan area: the City of St. Louis in Missouri; Franklin, Jefferson, Lincoln, St. Charles, St. Louis, and Warren counties in Missouri; and Bond, Calhoun, Clinton, Jersey, Macoupin, Madison, Monroe, and St. Clair counties in Illinois.

St. Louis used to be considered a corporate city, with professional occupations dominating the workforce and hosting headquarters and/or major research and development operations for large manufacturers such as Anheuser Busch, Boeing, Mallinckrodt, McDonnell-Douglas, Pfizer, and Ralston Purina among others (Motoyama and Knowlton 2017). Along with the general decline of manufacturing employment, corporate mergers and acquisitions took a heavy toll. By 2016, only nine companies on the Fortune 500 list were headquartered in St. Louis, down from 23 in 1980, with consolidations continuing (Feldman 2016). For example, in 2017,

the aerospace giant Boeing relocated its defense unit to Washington, D.C., and brokerage firm Scottrade shed more than half of its 1,800 St. Louis jobs after being acquired by Ameritrade (Weisgerber 2016; Benjamin 2018).

One of St. Louis's traditional industry strengths is the biological and life sciences, headlined by international companies including Monsanto, Pfizer, Sanofi, and Sigma-Aldrich.¹ This economic concentration has not been immune to the pattern of corporate contraction and restructuring. For example, Pfizer eliminated most of its 1,000 positions in St. Louis after acquiring fellow pharmaceutical company Wyeth in 2009, releasing a sizable share of the area's highly skilled life science employees into a labor market unable to absorb most of them (Volkman 2009; personal communication). Mallinckrodt, KV Pharmaceuticals, Monsanto, Sigma-Aldrich, and even Anheuser Busch (which conducts research into yeast fermentation processes) have laid off large numbers of workers with biological expertise over the past two decades (personal communication).

The legacies of St. Louis's rich corporate history include wealthy elite families (famous names include Busch, Danforth, McDonnell, and Pulitzer), world-class cultural and recreational institutions (such as the Missouri Botanical Garden; see below), and a pervasive corporate ethos. Until relatively recently, St. Louis would not have been considered to possess much of an entrepreneurial culture (personal communications). This characterization appears to be in the process of changing, with the establishment of multiple formal and informal networking and mentoring programs; St. Louis corporations increasingly supporting entrepreneurship and innovation as part of a growth-oriented local business culture, including seeking local purchasing arrangements; and a general recognition and banding together of the business community around entrepreneurship as the economic path forward (Motoyama and Knowlton 2017).

St. Louis enjoys a reputation as an easy city in which to do business and in which to live (personal communications). Partially arising as another outcome of its corporate history, the characterization also is boosted by its Midwestern location. Distant from the coasts, St. Louis offers affordable housing, high quality amenities, and far less congestion than many other U.S. cities.

¹ MilliporeSigma is the current name of the life science branch of Merck following its purchase of Sigma-Aldrich in 2015.

3 EARLY ENTREPRENEURIAL ECOSYSTEM DEVELOPMENT EFFORTS

The waning of St. Louis' traditional economic strengths eventually incited reactions from the region's economic and civic leadership. As in many other Rust Belt cities, including Detroit, such responses and engagement did not arise quickly, with business and political leaders perhaps slow to recognize the shifting economic landscape, maybe loath to accept the changes as more than temporary, possibly needing a crisis to galvanize action (personal communications). Certainly what to do about the challenges facing the region was not obvious. Nevertheless, a variety of efforts, both public and private, ultimately were initiated, including visioning exercises, commissioned studies, development plans, and fundraising for specific projects.

In 1997, for instance, several prominent civic and business leaders sponsored a research report that was published in serial form in the *St. Louis Post-Dispatch* newspaper. Collectively called the Peirce Report after Neal Peirce, one of the prominent authors, the research examined the economic challenges and analyzed the future prospects of the St. Louis region (Winter 2006). This public inspection buoyed the activities of an eight-year initiative begun in 1996, called St. Louis 2004, that aimed to generate or enhance a wide variety of approaches to reposition the future of the region, ranging from economic development to recreational opportunities, from neighborhood and housing redevelopment to access to medical care. (The initiative was named and timed for the 100th anniversary of the St. Louis World's Fair in 1904). Although not focused directly on entrepreneurship or innovation, these activities represent concerted efforts to steer the public debate about the future of the region, and they also mark an active attempt to coalesce elite actors and organizations behind regional economic development.

Efforts to develop an entrepreneurial ecosystem in the region also trace back to the late 1990s and early 2000s (Harrington 2016). The Center for Emerging Technologies (CET) began in 1998 as one of a statewide collection of business incubators started by the University of Missouri system with support from the State of Missouri Department of Economic Development. CET was chartered as a nonprofit organization, operated by the University of Missouri-St. Louis, and directed by a board that also included representatives from Washington University and St. Louis University. The incubator provided space and business support for fledgling bioscience firms, including but not limited to ventures started by the faculty and alumni of the three universities involved, giving them the opportunity to thrive and grow locally rather than move elsewhere (Mellitz 2009;

² CET is located at the eastern edge of what is now Cortex; see below.

³ The Regional Chamber and Growth Association is the Chamber of Commerce of St. Louis. The name of the organization has since been simplified to the Regional Chamber.

⁴ The Danforth Foundation was established in 1927 by William H. Danforth, the founder of Ralston-Purina, along with his wife, Adda (Bush) Danforth (Danforth Plant Science Center 2011). Before closing in 2011, the philanthropy focused on higher education, religion, and development of the St. Louis region. Civic Progress is a coalition of the chief executives of major St. Louis region employers, founded in 1953 (Civic Progress n.d.).

personal communications). The location of CET in a renovated warehouse building between St. Louis University and the medical campus of Washington University fit with an earlier idea to redevelop this location as a “technopolis”, a haven for technology-intensive innovation (Melcer 2002; personal communication).² Extracting some of its formerly internal activities, the Regional Chamber and Growth Association spun out Innovate St. Louis as a non-profit organization devoted to operating educational and networking programs for local entrepreneurs.³ The Coalition for Plant and Life Sciences formed in 2001 to advocate for bioscience activity regionwide, with a particular focus on promoting entrepreneurial activity in the sector. The coalition was spearheaded by Dr. William H. Danforth, an academic cardiologist and the grandson of the founder of Ralston Purina who was the Chancellor of Washington University from 1971 through 1995 (Washington University n.d.).

An influential report by the Battelle Memorial Institute, commissioned by the Regional Chamber in 2000 with funding from the Danforth Foundation and Civic Progress, evaluated the position of the St. Louis region in the biological and life sciences fields.⁴ The Battelle report proposed numerous specific strategies and actions designed to develop St. Louis as “BioBelt: the Center of Plant and Life Sciences” for the United States (Battelle Memorial Institute 2000). One strategy pointed to the importance of more effectively leveraging the substantial intellectual resources of the region. These include the three research universities located in the city: Washington University, a leading private university internationally renown in science and medicine among other fields and recognized by Battelle as the predominant life sciences research anchor for St. Louis and the State of Missouri; St. Louis University, a Jesuit institution that also operates a well regarded medical school and life sciences departments; and the University of Missouri-St. Louis, established in 1963 as the newest campus in the University of Missouri system and known for standout programs in business and optometry. The report references the large stock of highly educated and skilled life science workers engaged in the private sector, many of whom are interested in entrepreneurial opportunities or wish to avoid having to leave the region following corporate employment cutbacks. A second strategy focused on building entrepreneurial culture and infrastructure, both in order to attract and retain innovators and other talent, and to be able to ensure that more of the economic benefits from intellectual property stay within the region. Not coincidentally, in the same year the Danforth Foundation announced the establishment of the Donald Danforth Plant Sciences Center, a scientific research, testing, and training institute to be located some 14 miles west of downtown St. Louis in the suburb of Creve Coeur, following in 2003 with a \$124 million commitment in support of plant and agricultural sciences (Tranel 2004, p.65).

These attempts to transform the St. Louis economy were not immediately successful: they forced introspection, compiled and promulgated

information, generated new organizational and programmatic infrastructure, and generally advanced the cause by small steps. On the other hand, the efforts lacked coordination and the full commitment of the various regional institutions and power brokers (Harrington 2016; personal communications). The decentralization of the St. Louis region, the inertia of the historically dominant corporate business culture, and divergent opinions about the most beneficial ways to proceed kept the construction of an entrepreneurial ecosystem from being a clear region-wide priority. Some of the organizations no longer exist, others remain active or have merged into newer efforts.⁵

⁵ Two of the major components of Innovate St. Louis have become separate organizations that pursue the original missions (personal communications). The Gateway Venture Mentoring Service (VMS) operates business-tobusiness mentorship programs. The IT Entrepreneurship Network (ITEN) supplies direct mentorship, business planning assistance, and networking to information technology startups. The Coalition for Plant and Life Sciences evolved into the current BioSTL Coalition, adopting the name change in 2011 (BioSTL n.d.; personal communications).

4 THE FIRST STAGES OF CORTEX

Shortly after its inception, the Coalition for Plant and Life Sciences established several subcommittees to investigate topics deemed important to installing a healthy and active bioscience industry in the region, such as local venture capital and supplementary forms of funding for start-up ventures. One subcommittee, tasked with assessing the region's need for wetlab space and other facilities specific to life sciences research and industry, visited Boston in 2002 to learn about the successes of that leading city. The members of the subcommittee found their interest spurred by a presentation given by the director of real estate for the Massachusetts Institute of Technology that extended well beyond wetlab facilities to describe the investments that the university was making in Cambridge (personal communication). These investments were generating improvements to surrounding neighborhoods (such as Kendall Square), encouraging the development of suitable locations for entrepreneurial ventures, and also creating vibrancy and street-level appeal (Nine Network 2018). That the university was realizing a financial return while benefitting the community augmented the appeal.

Convinced that a similar approach could flourish in St. Louis, the Coalition decided to develop a site to support the operation and growth of life sciences innovators and startup firms. A new subcommittee stocked with local real estate professionals was charged with evaluating the space needs of fledgling biotechnology ventures and assessing the prevailing market. A nonprofit corporation was formed in 2002 to handle land assembly and management, named Cortex.⁶ The site selected was a wedge of land of almost 190 acres located in close proximity to BJD HealthCare, St. Louis University, and the medical campus of Washington University. The land was zoned primarily for industrial use, and the location hosted mainly obsolete warehouses and manufacturing buildings designed to be

⁶ The appellation, intended as a placeholder, initially stood for Center of Research, Technology, and Entrepreneurial Expertise, with Exchange soon replacing Expertise (personal communications). The name stuck, however, and the acronymic expansion later was dropped. More recently the district gained the fuller title of Cortex Innovation Community.

⁷ Cortex operates 187 acres, of which some 30-35 acres are public right-of-way (i.e., streets) (personal communication).

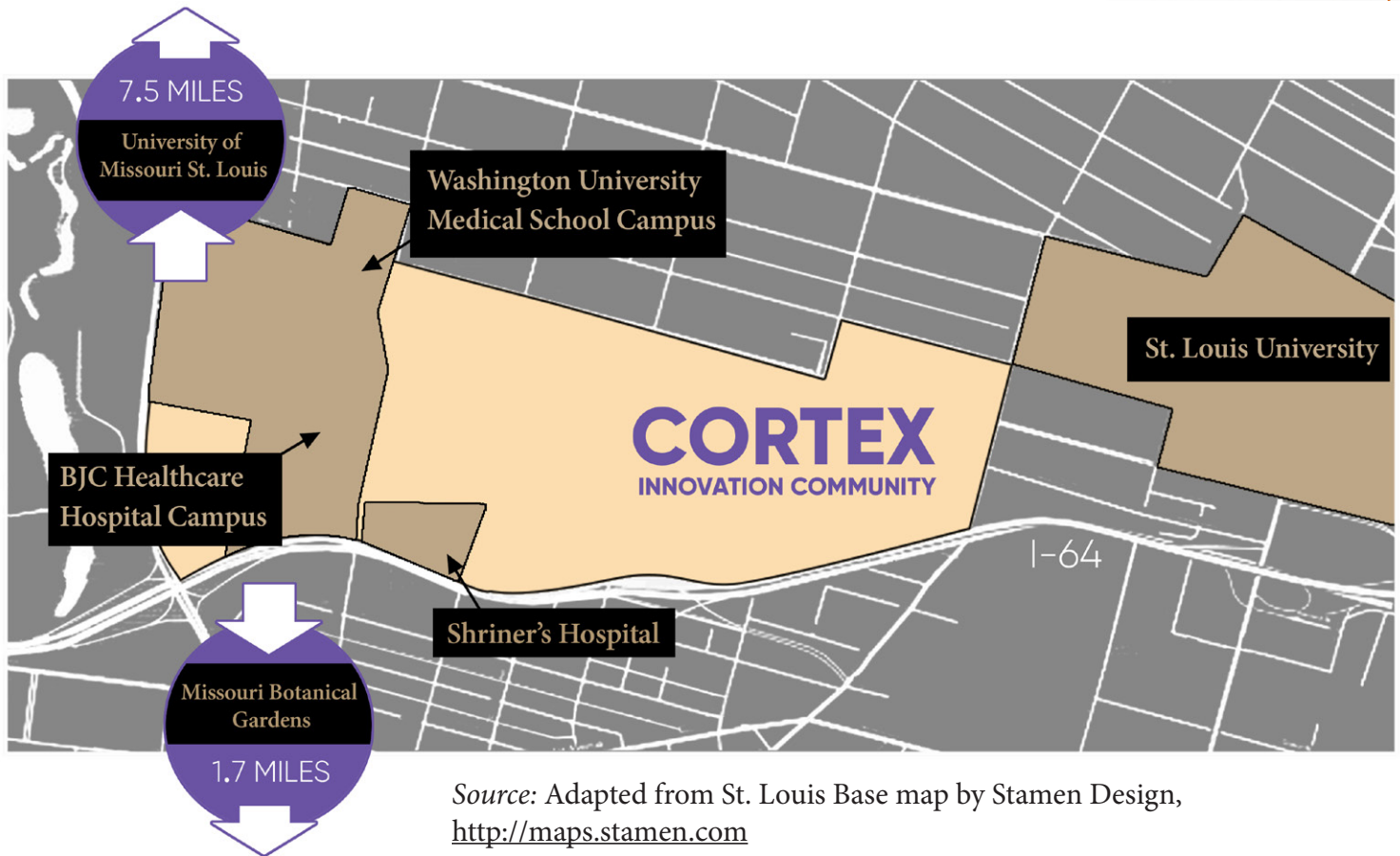
⁸ BJC HealthCare is a nonprofit health care organization that operates 12 hospitals in Missouri and Illinois along with numerous other medical services including a physicians group, home care, behavioral health, hospice care, and medical equipment provision. BJC runs two academic hospitals—Barnes-Jewish and St. Louis Children’s—that are affiliated with the Washington University School of Medicine (BJC HealthCare n.d.). The Missouri Botanical Garden operates 79 acres of horticultural garden and a butterfly house, along with a large natural reserve some 35 miles west of St. Louis. The Garden is active in plant science and conservation, and maintains the second largest scientific collection of plant specimens in the United States (Missouri Botanical Garden n.d.).

supported by rail service that no longer existed (City of St. Louis, 2012 manufacturing buildings designed to be supported by rail service that no longer existed (City of St. Louis, 2012)).⁷

Five institutions joined together to support the initial development of the fledgling entrepreneurial district: Washington University, St. Louis University, the University of Missouri-St. Louis, BJC HealthCare, and the Missouri Botanical Garden.⁸ All are nonprofit research-based organizations, all conduct and are heavily invested in the biological sciences, and all are anchor institutions respected for their commitment to St. Louis. Three of the institutions directly adjoin the Cortex location; the other two are positioned within a few miles’ distance (Figure 3-2). Despite this proximity, the alignment of the five anchor institutions behind the Cortex effort was exceptional, with little prior history of joint activity among them and scant tradition of St. Louis non-profit institutions directly reinvesting in their city (personal communications).

Four of the five organizations contributed substantial financial resources for Cortex to move forward: Washington University proffered \$15 million, St. Louis University and BJC HealthCare allocated \$5 million apiece, and the University of Missouri-St. Louis added \$4 million. These contributions were pitched as investments, with the institutions expecting eventual returns. Yet it was not the chance for monetary gain that motivated the research organizations, but the prospects of being better able to attract and retain talent in the region (including following corporate employment cutbacks); of connecting researchers, clinicians, and students to exciting entrepreneurial opportunities that could succeed and expand locally; and of transforming the image and the reality of the regional innovation economy (personal communications).

Figure 3-2. Cortex location.



Much of the credit for garnering the support from the five institutional anchors and their financial backing is accorded to Dr. William H. Danforth, who more so than any other single individual involved was universally respected for his intellectual prowess, powerful leadership, vision for the region, and devotion to civic improvement (Nine Network 2018; personal communications). Multiple interviewees independently affirmed that Dr. Danforth's extraordinary reputation, personal integrity, vision of civic betterment, and vigorous persuasion, along with his influence with Washington University, the strongest and wealthiest of the five organizations, were responsible for coalescing the assembly and propelling the effort forward. That the Chancellor of Washington University, Mark S. Wrighton, had previously been a professor at and then Provost of the Massachusetts Institute of Technology surely helped as well (personal communication).

The \$29 million capital investment permitted Cortex to move forward with acquiring, developing, and marketing land. The City of St. Louis and the State of Missouri contributed as well, after much lobbying and coaxing by the Coalition and its institutional supporters. The state, via the Missouri

Development Finance Board, awarded up to \$12 million in tax credits over five years to assist Cortex in land purchase and assembly. This was the first time that such state incentives had been allocated to a long-term development concept rather than a discrete building or project (Melcer, 2003). The Board purportedly was convinced in part by the fact that the public, in the form of the University of Missouri-St. Louis, was already invested (personal communications). The pool of tax credits was structured to support a revolving fund designed to leverage additional private and non-profit donations, many of which were secured from locally-headquartered corporations including Monsanto, Energizer, and Edward Jones (personal communication).

In 2006, the City of St. Louis granted Cortex extensive authority over the site, including eminent domain, tax abatement, and zoning powers. Through these actions, the city essentially delegated *de facto* governance of the location to the Cortex organization. With Cortex developing and operating the location, the name soon became applied equally to the nonprofit corporation, its first building (the Cortex building), and to the district itself. This nomenclature parallels the conception of Cortex by its leadership and backers as “an idea, an organization, and a place” (City of St. Louis, 2006).

Expending a sizeable share of its available resources, Cortex developed the first new building on the site, Cortex 1. This \$36 million multitenant facility opened in 2006 and contained more than 150,000 square feet of office and life sciences research space (Wexford Science and Technology, n.d.). Although Washington University committed early on to being an anchor tenant for the building, acting as the developer and constructing the facility without a full complement of committed tenants represented a considerable speculative risk by Cortex. The bold move was justified as a necessary leap of faith to build “buzz” around the new district and to be able to seize opportunities that might arise to secure innovative firm tenants (personal communications). The gamble paid off when Stereotaxis, a medical technology company incubated at the Center for Emerging Technologies that reportedly was planning to move to San Diego within a year or so, decided to stay in St. Louis instead and anchor the new multitenant facility (personal communications).

Cortex built a second building specifically to retain the headquarters of another St. Louis firm considering relocation (personal communication). Solae, a supplier of soy protein products that began as a joint venture between DuPont and Bunge (it is now fully owned by DuPont), moved from its downtown St. Louis location on the campus of Nestle Purina PetCare to the new 160,000 square foot Cortex facility in 2008 (Brown, 2006).

5 FROM BIOSCIENCE PARK TO INNOVATION DISTRICT

Cortex was envisioned as a place to spark innovation and provide St. Louis with an attractive and conducive setting for local entrepreneurs. Its first building was intended to house university spin-outs and other entrepreneurial firms interested in commercializing the research being produced by the anchor institutions, but a good portion was occupied by Washington University itself (personal communication). The second Cortex facility housed an established, sizable local company. Both the Cortex 1 and Solae buildings were designed and constructed with a suburban office park character, including ample parking (Figures 3-3 through 3-7); the developments were overseen by real estate professionals experienced with that style (personal communication).

Figure 3-3. Cortex 1.



Source: Author. (June 5, 2019).

Figure 3-4. Cortex 1, rear view with portion of parking lot.



Source: Author. (June 13, 2016).

Figure 3-5. Cortex shared parking, rear of Cortex 1 building at left, @4240 and Solae building in background right.



Source: Author. (June 13, 2016).

Figure 3-6. Cortex shared parking, rear of @4240 in background.



Source: Author. (June 15, 2016).

Figure 3-7. Solae Headquarters.



Source: NextSTL. <https://nextstl.com/2011/11/cortex/> (accessed May 23, 2019)

At the end of 2007, the onset of the Great Recession brought development in Cortex to a halt (personal communication). The board of directors, which consisted mostly of real estate professionals from the five anchor research institutions, soon realized that attracting large tenants to secure buildings would not be viable as a continuing strategy. Moreover, they recognized that the emerging development pattern of Cortex was not suitable for creating a vibrant Cambridge-like environment for entrepreneurship and innovation.

In 2010, Cortex conducted a national search for a Chief Executive Officer (CEO) to manage its operations. Up to this point, Cortex had carried no operating staff, with the Cortex board of directors subcontracting and overseeing the building developments. Perhaps more importantly, the board sought a full-time dedicated leader capable of offering new development strategies and steering Cortex toward achieving the vision of its founders (personal communication). The search concluded successfully with the hire of Dennis Lower, an economic development professional who had guided the development of two science and technology parks previously.

Lower, in addition to hiring a modestly sized staff, made a number of changes to Cortex's development approach that reflect the components of an innovation district strategy. Rather than focusing solely on the plant and life sciences, Cortex expanded its targets to a much broader scope of innovation-intensive and entrepreneurial ventures in order to widen its potential appeal, diversify its industrial portfolio, and expand opportunities for cross-disciplinary connections. Unlike most science parks or incubators, Cortex sought to become attractive to companies at all stages in their lifecycles, with the goal of cultivating extensive networks and producing an articulation between entrepreneurial ventures and established organizations, including the anchoring research institutions (personal communications). Mechanisms toward this end included supplying a variety of space options and transforming the office park character of Cortex into a more amenity-rich and mixed-use environment, often termed "live-work-play."

Cortex assembled a master plan in 2012 that emphasized developing additional buildings to host a greater variety of activities. Total buildout called for 4.5 million square feet of space designed for a variety of uses and more than 13,000 jobs (Read 2016). The master plan also encompassed the "live" and "play" elements through the installation of bicycle paths and greenways, a new light rail transit (MetroLink) stop⁹, and a 3.5-acre public park that doubles as an arts and gathering space (Figure 3-8).¹⁰ A 16-silo grain elevator, prohibitively expensive to relocate, remains in operation in the middle of Cortex, lending visual distinctiveness as well as a reminder of the link to region's agricultural economy (Figure 3-9) (personal communication). Occasionally, light projections have turned the elevator into a temporary art exhibit (Fowler, 2017).

⁹ The Cortex MetroLink station received a \$10.3 million TIGER (Transportation Investment Generating Economic Recovery) grant from the U.S. Department of Transportation in 2014 and opened in July 2018 (United States Department of Transportation 2014; Schlinkmann 2018).

¹⁰ At least so far, the "live" element of live-work-play in Cortex includes fitness and dining but not residences. Several individual development plans that have incorporated apartments in mixed-use buildings have failed to come to fruition.

As a financing component of the plan, St. Louis approved Cortex as a tax-increment financing (TIF) district, permitting it to issue bonds worth up to \$160 million in order to fund further acquisition, infrastructure provision, and development of the site. In addition, the TIF designation further cemented Cortex's site governance role.^{11,12} Cortex retains the eminent domain authority delegated by the city, and though it has not yet used this power, its ability to do so if necessary is a useful tool of persuasion (personal communication). Instead, Cortex has purchased properties from landowners, resulting in the displacement of a handful of active industrial or warehousing businesses and the denizens of two small residential enclaves (City of St. Louis, 2006).

Figure 3-8. Cortex Commons.



Source: Author. (June 16, 2016).

¹¹ Missouri law (Chapter 353 of the Revised Statutes for the State of Missouri 2000) permits municipalities to assign the operation of tax-increment financing districts only to for-profit urban redevelopment corporations (Missouri Department of Economic Development, n.d.). In 2004, Cortex had created just such an entity, the CORTEX West Redevelopment Corporation, as a subsidiary organization, demonstrating how long the idea had been percolating of requesting tax-increment financing authority from the City of St. Louis (City of St. Louis, 2006). It should be noted that the bonds issued by Cortex (rather, the CORTEX West Redevelopment Corporation) are supported solely by the anticipated property tax increases in the district and are not guaranteed by the City of St. Louis—Cortex accepted the financial risk along with the bonding authority (personal communication).

¹² The TIF district was divided into eleven areas (RPAs, or redevelopment plan areas), which permitted Cortex to activate each independently and thus stage bonding and development activity over time (personal communication).

Figure 3-9. Ray-Carroll County Grain Growers Elevator “D” grain silos.



Source: Author. (June 5, 2019).

Building construction resumed with the recovery from the recession (Figures 3-10 through 3-12). Wexford Science and Technology, a developer specializing in research parks, was brought in as a partner to manage the expanding real estate portfolio, with Cortex continuing as the master developer of the site as a whole. A renovated AT&T/Bell Labs facility, renamed @4240, opened in 2013. It houses several Washington University offices, remote locations for major firms such as Boeing and Square, and numerous small firms, as well as Venture Café and the Cambridge Innovation Center (described below). The IKEA St. Louis store was inaugurated in September of 2015, adding retail to the Cortex portfolio and signifying the broader commercial appeal of the district (Schremp Hahn 2016). The newest building in Cortex, 4220 Duncan, contains Microsoft, Accenture, a public fitness center operated by BJC Healthcare, and a restaurant, among other tenants. The facility, which opened in 2018, also hosts “Innovation Hall”, a free meeting and event space modeled after the Boston innovation district’s District Hall (Kukuljan, 2018; personal communication). A boutique hotel is scheduled to open toward the end of 2019 (Bolinger 2018; personal communication).

Figure 3-10. @4240 building, Cortex Commons in foreground.



Source: Author. (June 5, 2019).

Figure 3-11. 4260 Forest Park.



Source: Author. (June 5, 2019).

Figure 3-12. 4220 building.



Source: Author. (June 5, 2019).

Under Lower's leadership, Cortex attracted, created, or reinforced a number of entrepreneurial supports, termed "innovation centers" (Cortex 2014). BioGenerator, a bioscience-focused accelerator and investor created by the Coalition for Plant and Life Sciences in 2002, relocated to Cortex, occupying lab space in the Cortex 1 building (BioGenerator, n.d.; personal communications).¹³ The Center for Emerging Technologies incubator, located across the street, merged into Cortex. Encouraged by Wexford, the Cambridge Innovation Center (CIC), a "full-service" co-working space, selected Cortex in St. Louis as its first location outside of the Boston area (Harrington 2016; Read 2016; personal communication). CIC has since expanded in Cortex and also operates the co-working, office, and laboratory space contained in the CET building under contract, freeing CET's personnel to focus on programming and services.¹⁴ CET delivers several entrepreneurship training programs of differing lengths and intensities, as well as continuing education for more established companies, in the areas of biotechnology, information technology, and consumer and manufactured products (personal communication). Workshops, seminars, and mentorship events are also offered on a regular schedule. Venture Café, supported financially by Cortex management, operates weekly gatherings intended to network entrepreneurs and businesses as well as the broader regional innovation community (Harrington 2016). Venture Café also schedules concerts, food trucks, special events, and handles programming for the new Innovation Hall. Idea Labs, created and administered by Washington University students, is an organization that matches interested entrepreneurial students with health care challenges identified by practitioners and researchers. Together with Med Launch, a similar venture affiliated with St. Louis University, Idea Labs performs dozens of consultations and leads to the launch of several new ventures each year (Harrington 2016; personal communications). Not all of the innovation centers have been successful: TechShop, a chain membership-based maker space and fabrication workshop, closed in 2017 as the company abruptly went bankrupt. It had been in operation in Cortex fewer than 18 months. Yet, supported by advice and encouragement from Dennis Lower, a new maker space opened one year later, less than a mile distant from Cortex in the Academy neighborhood, using equipment acquired from the St. Louis TechShop (Schremp Hahn, 2018).

Together, these shifts in direction in Cortex also describe a different approach toward economic development. Instead of focusing exclusively on the provision of affordable wetlab and office spaces, real estate assets are promoted as one facet of a multi-dimensional appeal to innovative enterprises that also includes varied entrepreneurial and business supports, networking, and more (Cortex 2014). The improved aesthetics, mixed-use environment, and "live-work-play" atmosphere inculcated by building renovation, shared spaces, and diverse events serve to attract entrepreneurs and skilled workers. Ultimately, rather than being the next "shiny object"

¹³ BioGenerator assists promising bioscience startups in advancing to self-sufficiency by channeling venture capital investments, providing business advice and mentoring, and offering flexible and affordable laboratory space along with access to specialized equipment, thus fulfilling the role of commercialization center in the terminology of the Battelle report (Battelle Memorial Institute, 2000; personal communications).

¹⁴ Some of Cortex's "innovation centers" operate under externally opaque management and ownership structures in relation to Cortex proper and Wexford Science and Technology, mainly to satisfy financial and legal requirements while maintaining coordination and continuity.

that for a limited time can lure firms and entrepreneurs, the innovation district aims to provide an enduring “value proposition” in developing and strengthening an entrepreneurial ecosystem (personal communications).

By the end of 2016, the Cortex Innovation Community has swelled to encompass more than 250 companies, compared to about 35 in 2010, and more than 4,000 workers (Barker and Bryant, 2016). More than half of these firms operate in the area of information technology, though these firms represent considerably less than half the total employment and floor space (personal communication). Cortex has garnered national attention as a model for innovation district development, with its personnel reporting that they present the history of the district and the ideas that underpin its development to companies, site selectors, and economic development practitioners four or five times per week on average (personal communication).

6 KEY ENABLING FEATURES

Cortex was a departure in several ways from earlier efforts to establish and promote the entrepreneurial ecosystem in St. Louis. First and foremost, Cortex is a deliberate and direct effort to shape a particular physical location, primarily via site governance and active real estate development and management. Although its inception preceded the application of the innovation district concept in the United States and its first iteration did not embrace all of the elements that now identify an innovation district, Cortex presaged the innovation district concept as employed in other cities with its focus on support for entrepreneurs, continual engagement among actors, and spatial clustering of innovative activity. The early start on these features enabled Cortex to fill in the other aspects of innovation districts such as a mix of activities and varied amenities later in its development.

Second, the coalition of anchor institutions that came together to support and oversee the Cortex development was a new phenomenon in St. Louis. There was little history of St. Louis institutions reinvesting in their city, and certainly not doing so together. Indeed, as far as the authors are aware, the substantial and continuing sponsorship of the five anchoring

research organizations, both financially and through ongoing leadership and participation, is unique among innovation districts in the United States.¹⁵ For the most part, the returns on the investments to these institutions have not been direct, but rather have come in the form of commercialization and entrepreneurship opportunities for faculty, staff, and students; employment for graduates; physical and economic improvements to the area adjacent to several of the institutions; and the “buzz” of excitement around the Cortex innovation district.

¹⁵ Wagner, Katz, and Osha opine that innovation districts in Cleveland, Ohio, and Indianapolis, Indiana, have the capacity to pursue a comparable sponsorship and participation model (2019, p. 24).

Third, Cortex was established early on as a non-profit entity distinct from its parent organizations and financial backers. Partly because of this status, Cortex was able to garner the legal authority to operate TIF districts, purchase and convey land, and enact zoning decisions despite owning very little of the site outright. Furthermore, its administrative and legal structure provides Cortex the advantage of being able to segregate day-to-day operations from strategic planning and financing (Read 2016). The organization’s staff enjoys an independent operational flexibility advantageous for real estate marketing and firm recruitment while progress toward achieving long-term economic development goals is tracked and guided by the directing board—and the CEO bridges the two perspectives. The arrangement has been effective in minimizing clashes between the dual innovation district roles of real estate developer and economic development organization, and between approaches that support entrepreneurial ventures and those that cater to mature corporations (personal communications).

7 CORTEX: A PROVISIONAL SUCCESS

As explained in Chapter 1, it is too early to be able to judge the final success or failure of innovation districts. Even considering its extended history, Cortex did not begin as an innovation district and continues to evolve as it expands. Nevertheless, as its national reputation attests, the Cortex Innovation Community boasts substantial achievements so far, namely the development of an active and growing innovative and entrepreneurial ecosystem, centered around the primary disciplinary strengths of its founding institutions, that helps retain the intellectual property and human capital produced within the region.

Cortex certainly appears to present a good fit with the rationales justifying innovation districts explored in Chapter 1. Sited in a relatively well-defined area, of a size that assures internal proximity and within easy reach of five research institutions, the innovation district is positioned spatially to contribute to and benefit from knowledge spillovers. As Cortex developed from

a concentration of research offices to a more comprehensive entrepreneurial ecosystem and mixed-use environment, with concomitant increases in the scale and variety of economic activities and supporting organizations, the potential value of the location increased and Cortex's distinctiveness in comparison to competitor locations intensified. Yet there is doubt regarding the degree to which the ecosystem will be self-sustaining in the long term (see below).

Certainly, the innovation district has transformed a formerly underutilized and blighted neighborhood into a flourishing location for innovation and employment in bioscience and other technology-intensive fields.¹⁶ Cortex is referred to as an exemplar of how economic development policy can amplify innovative activity within both entrepreneurial and established firms. The name Cortex has become associated with the area surrounding the site proper, contributing to refashioning the economic image of St. Louis regionally and nationwide, which is quite close to the definition of effective place-making.

¹⁶ As in many states, the predicated conditions of "blight" that the State of Missouri considers to constitute a public interest in redevelopment in order to justify a TIF designation are inexact and vulnerable to manipulation (e.g., dilapidated structures, substandard appreciation of taxable assessed value). In 2007 and 2008, the Missouri state courts ruled against a challenge to Cortex's TIF authority that contested the determination of blight (Missouri Court of Appeals Eastern District, 2008).

8 CHALLENGES FOR THE CORTEX INNOVATION COMMUNITY

As Cortex continues to expand, both spatially and in its influence on surrounding residential communities, its socioeconomic inclusivity and impacts on land development, living costs, and neighborhood character are likely to present ongoing challenges. The record of Cortex with regard to inclusion and diversity is less than clear, and generally has received little attention despite the pervasive regional racial segregation and income inequality that have garnered national publicity (personal communications). Some part of the appeal that persuaded the City of St. Louis to delegate extensive fiscal and regulatory authority to the innovation district was the potential of Cortex to couple physical revitalization and job creation with social policies such as workforce and community development. Cortex supports financially and contributes to the leadership of the Park Central Development Corporation, a non-profit organization to which the cash-strapped city of St. Louis has devolved substantial responsibility (and provides some funding) for planning and city management in the residential neighborhoods surrounding the innovation district (personal communication). The Cortex organization actively promotes STEM (science, technology, engineering, and mathematics) and entrepreneurship

education in schools across the region, as do many of the innovation district's companies (personal communications). On the wider scale, Cortex and its leadership collaborate in diverse efforts among leading St. Louis organizations to strengthen the city and region as a whole (personal communication). Regarding workforce, the innovation district maintains an internal inclusion goal and conducts outreach efforts to encourage diversity in contracting (personal communication). Yet as non-public entities, Cortex, Wexford, and their subsidiaries need not follow or provide data regarding city workforce regulations, such as a City of St. Louis mandate of minimum labor hour shares for women, racial and ethnic minorities, apprenticeship program participants, and city residents that applies to sizable public works projects (Kurtovic 2012; Read 2016). (Cortex claims to have exceeded the shares voluntarily.) Are the efforts and activities of Cortex and its constituent firms sufficient to spread the benefits of the innovation district widely, particularly to disadvantaged populations?

Another topic in flux is the impact of Cortex on nearby residential communities. The Forest Park Southeast and Central West End neighborhoods about the innovation district, and together offer an assortment of historically prosperous and up-and-coming locales. Cortex's growth has triggered substantial development in both communities, much of it residential (personal communications).

Whereas this activity provides housing options nearby for Cortex workers—likely enhancing the “live” aspect of “live-work-play”—not all current residents are receiving reciprocal benefits. Most of the attractive employment opportunities in the innovation district require considerable skills or experience and may be inaccessible to many people living in the neighboring communities. A vigorous real estate market does not advantage all, and Forest Park Southeast, in particular, contains a substantial low-income population. There exist no ready satisfactory redresses for the issues of living cost escalation, displacement, and change in community character that can come with economic growth and development.

Moreover, as Cortex continues to grow, it may soon consume all of the land under its jurisdiction (personal communications). Sustained expansion may push the innovation district into the adjoining neighborhoods and their invigorated development markets. Some social service providers formerly located near to the hospitals and transportation links were ousted by Cortex developments; the potential for lower market-value uses to be displaced is real (personal communication). “Town-gown” discord is part of the equation as the research universities expand as well, extending their physical footprints and activities further into the surrounding communities.

¹⁷ The opposite issue of tempering unrealistic expectations also was mentioned, but infrequently (personal communication; also see Reed 2016).

¹⁸ Technology-neutral innovation districts are not uncommon, though some are located within larger and more varied innovation-based economies than St. Louis (e.g., Barcelona, Boston).

¹⁹ Other concentrations of innovative activity in the region include the western suburb of Creve Coeur, centered around the Danforth Plant Science Center; Washington Avenue in downtown St. Louis, including the software and computing technology incubator T-Rex; the North Park business center adjacent to the University of Missouri-St. Louis; and the OPO (“Old Post Office”) co-working center for digital startups in St. Charles.

The challenges described above can be perceived as positive in that they reflect consequences of the successful development of an innovation district. A different type of challenge is to maintain momentum.¹⁷ Multiple interviewees asserted that despite Cortex’s accomplishments to date, continuing boosts in the form of supportive policies, funding, and ongoing engagement of institutional and regional leadership are crucial to the future success of the entrepreneurial ecosystem. Common concerns are that St. Louis has insufficient locally-sourced venture capital, still lacks a self-sustaining entrepreneurial and startup culture, and may not be able to maintain effective and supportive leadership at the organizational and governmental levels over the extended time period necessary. The lengthy buildup that led to relatively recent successes, paired with traditional local conservatism, may cause regional actors to become satisfied or complacent (personal communications).

There may be risks associated with Cortex’s diversification of its portfolio to include more technologies and industries outside of the plant and life sciences arena (Read 2016). Cohesion and complementarity among actors and service providers may diminish. Companies that are not engaged in bioscience activities may not realize as much advantage from locating near to some of the anchor institutions.¹⁸ To the extent that the St. Louis region offers a limited pool of potential entrepreneurs and innovative firms, the innovation district could find itself in competition with other St. Louis area centers of innovation.¹⁹ On the whole, interview respondents do not observe much evidence of these problems. Nevertheless, Cortex could benefit from stronger connections to the hubs of innovative activity around the region, to form a more cohesive regional-scale entrepreneurial ecosystem and avert intraregional rivalry inasmuch as possible (Nine Network 2018; personal communications). Multiple efforts in this regard are ongoing (personal communications).

Dennis Lower, who brought the vision of the St. Louis innovation district to its current fruition, recently announced that he will retire from Cortex at the end of 2019 (Rubbelke 2019). Recruiting an equally capable and enthusiastic leader and implementing an efficient leadership transition will be a primary task of the Cortex directing board and institutional sponsors in the coming year.

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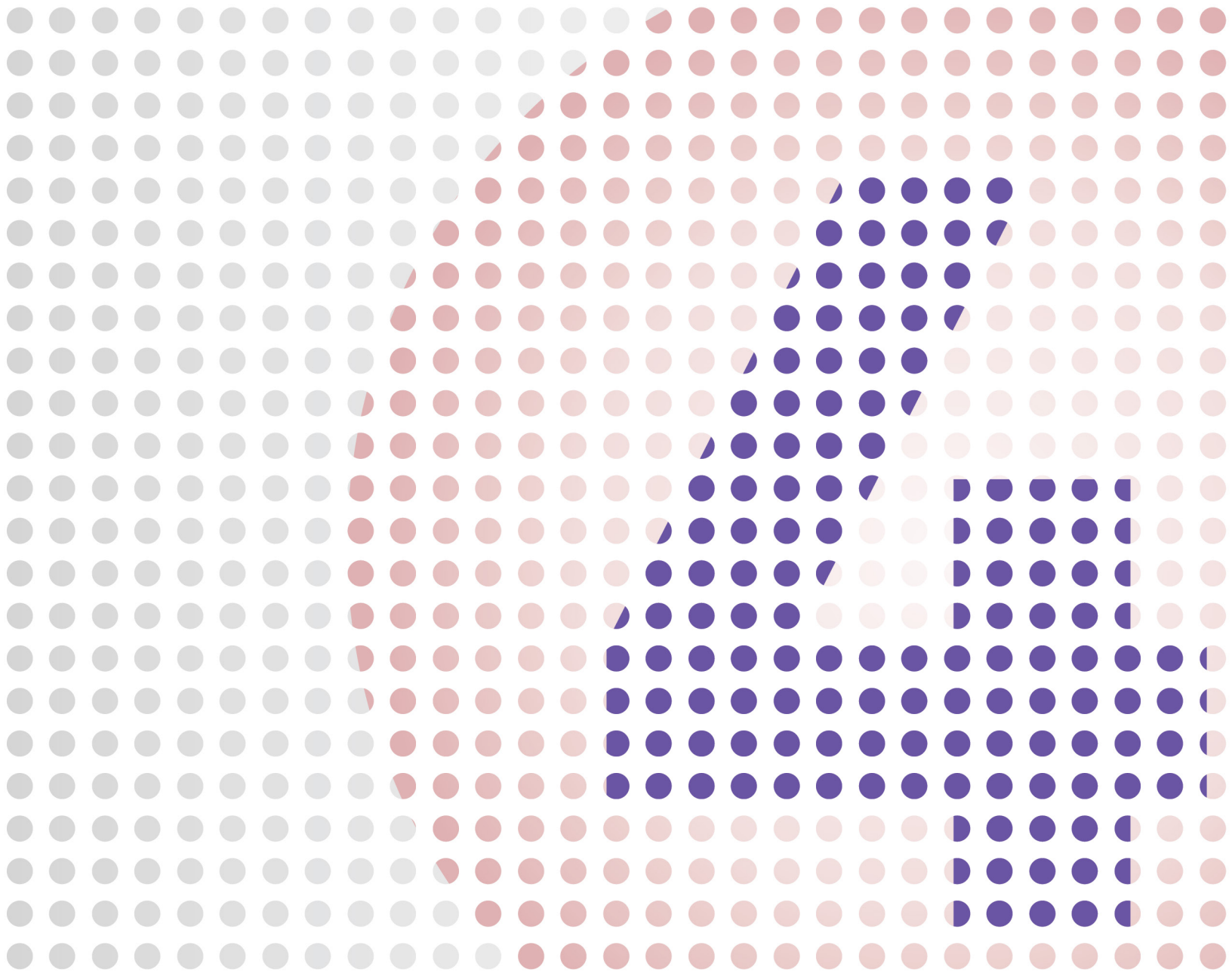
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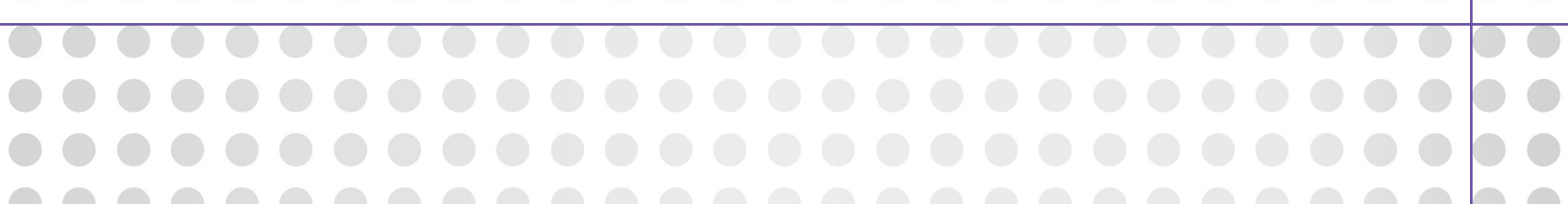
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CHAPTER 4: THE I.D.E.A.
DISTRICT OF SAN DIEGO,
CALIFORNIA



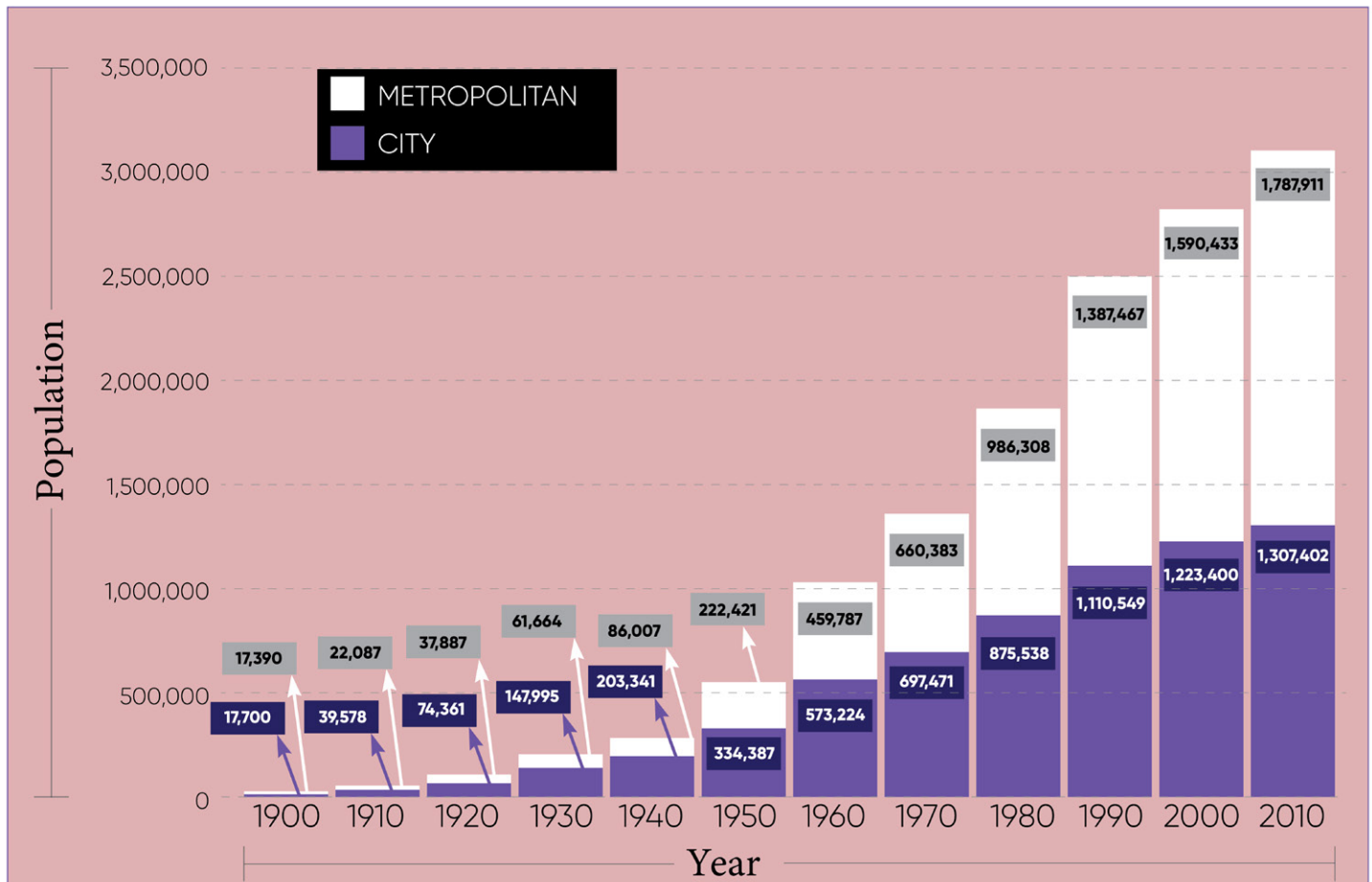
1 OVERVIEW

The I.D.E.A. District is an emerging innovation district located in the East Village neighborhood of San Diego. This chapter explores the local and regional setting, the motivations behind the innovation district, and its current status and accomplishments. After gauging the progress made so far, the closing section describes the uncertainties and concerns that may affect the future development of the I.D.E.A. District.

2 REGIONAL BACKGROUND AND SETTING

Both the city and the metropolitan region of San Diego have been expanding rapidly in population for decades. More than half of the region's residents live in the city proper, with suburbs and unincorporated areas accounting for a sizable minority (Figure 4-1). This fits a common city-metropolitan pattern among major urban centers in the West and Southwest of the United States that have become popular destinations for both domestic and international migration.

Figure 4-1. San Diego city and metropolitan population.



Source: United States Census Bureau (1900-2010).

Note: This figure consistently uses the United States Office of Management and Budget (2013) definition of the San Diego metropolitan area as consisting of San Diego County in California.

The economic strengths of the San Diego region historically have been in transportation and logistics, trade, and the military (City of San Diego 2014). All of these are linked to the geographic location of the city near to Mexico and on the Pacific Rim and distinct from the activities that form the core of the entrepreneurial ecosystem (see below). San Diego claims the largest mainland concentration of military personnel in the United States, with about 110,000 members on active duty (most of them assigned to the Navy, Marine Corps, or Coast Guard) and another 33,000 reserves and civilian employees (San Diego Military Advisory Council 2018). Military retirees frequently remain in the region; veterans comprise about 9

percent of the regional population (San Diego Regional Chamber Foundation 2017). Private sector industries that are linked to defense activities and spending include construction, civil and electrical engineering, transportation, metal fabrication, shipbuilding and repair, health care, and security (San Diego Military Advisory Council 2018). For example, the National Steel and Shipbuilding Company is the largest new-construction shipyard on the Pacific Coast of the United States, serving construction and repair needs for both the United States Navy and private oil and cargo carriers. The company has operated in San Diego since 1960 and today is part of General Dynamics (NASSCO 2019).

More recently, San Diego has hosted a burgeoning tourism sector (personal communication). The city's picturesque oceanside cliffs, mountains, and beaches draw many tourists, as does the pleasant climate. Much economic development effort, especially in downtown San Diego, has focused on catering to both business travelers and vacationers by providing or enhancing visitor attractions and amenities, including a convention center, entertainment and hospitality services, and sports venues (personal communication). The local craft brewing industry has expanded greatly during the previous decade (personal communication).

Sizeable portions of San Diego's downtown area impart an impression less of a traditional employment-focused central business district and more of an entertainment destination: an abundance of residences targeted for well-to-do and childless households, jobs and establishments that provide entertainment and other services as opposed to productive industries, and a perception of impermanence. Interview respondents proffered suggestive descriptions such as "lack of family atmosphere", "more dogs than children", and "hollowed-out economy" (personal communications). Most of the large corporations and research drivers in the region are located in suburbs or outlying areas of the city, including the Interstate 8 corridor several miles north of downtown and further north near the campus of the University of California, San Diego. Some interviewees mentioned the prevalence of reverse commuting—downtown residents traveling to work locations elsewhere. Indeed, whereas Census Bureau estimates show the adjacent neighborhoods of Civic/Core and Gaslamp absorbing heavy commuting inflows, the East Village neighborhood and especially the the I.D.E.A. District evidence a much different pattern (Table 4-1).

Table 4-1. San Diego city and metropolitan population.

	Downtown Neighborhoods				
	Downtown	Civic/Core	Gaslamp	East Village	I.D.E.A.
Employed	75,807	19,837	7,901	10,144	1,041
Residents	14,941	627	461	5,060	1,525
Net commuting inflow	60,866	19,210	7,440	5,084	-484
Net commuting share of residents	407%	3,064%	1,614%	100%	-32%

Source: United States Census Bureau (2015).

Note: Neighborhood and downtown boundaries follow San Diego Downtown Partnership (2016, p. 3).

3 THE SAN DIEGO ENTREPRENEURIAL ECOSYSTEM

In addition to its strengths in tourism and defense- and transportation-related industries, San Diego also boasts a robust innovation sector, with concentrations in biotechnology and information technology. Biotechnology activity in the region centers around the University of California, San Diego (UCSD), an institution that boasts an exceptionally strong reputation in the natural sciences, computer science, and engineering. A vigorous pharmaceuticals and life sciences industry cluster has developed adjacent to the campus in the La Jolla and Torrey Pines neighborhoods, located about 15 miles north of the city center; numerous San Diego-native startups operate next to prominent international firms such as Novartis, Pfizer, and Vertex Pharmaceuticals.

¹ Qualcomm is one of only two Fortune 500 companies headquartered in San Diego. The other is Sempra, the energy company parent of the San Diego Gas and Electric utility (Gomez 2018).

² Amazon's activities in San Diego include software development, machine learning, cloud computing, and digital entertainment (Bravo 2018).

³ The San Diego Department of City Planning periodically has been merged into the Development Services Department, which is responsible for building inspections and permitting, the last time being from 2011 to 2013 under Mayor Jerry Sanders (Sutro 1992; Showley 2011; Keatts 2013; Showley 2013).

⁴ Monumental changes made to the legal authority and tools used by California development agencies have encumbered public sector engagement in economic development activities during the past eight years (see, for example, Muller 2013, Webster 2017, and Beyer 2019).

Several major information technology firms operate in the Torrey Pines area as well, including chipmaker Qualcomm¹, Amazon², and GoPro, a mobile camera designer founded by a UCSD graduate (personal communication). In downtown San Diego, numerous buildings and co-working venues house many more information technology ventures, together comprising a sturdy but geographically scattered mix of recently founded and more mature innovation-oriented companies. One hot spot spreads along Broadway and includes the former NBC Building, a 25-story local landmark that was repurposed in 2016 as office space and accommodates a variety of different size firms (personal communications).

On the whole, the San Diego entrepreneurial ecosystem tends to be championed and led by the private sector, both by startups and established companies in technology fields and by business support and development industries such as real estate, banking, and construction (personal communication). Local government, from City Council to the Mayor's Office and the Planning Department, typically plays a low-key and often informal role, such as extending behind-the-scenes support, approving submitted development plans, and promoting the city's entrepreneurial activity to external investors (personal communications).^{3,4} Multiple interviewees opined that the current political climate makes it difficult for San Diego politicians to appear friendly toward business and real estate development interests. The mostly hands-off treatment produces a void in terms of public leadership, at the same time leaving plenty of opportunity for grassroots activity, promotion by nonprofit and business associations, and the active involvement of the entrepreneurial community (personal communications).

Although the entrepreneurial ecosystem in San Diego is dynamic and vibrant, the region is in some ways overshadowed by its larger neighbors to the north, namely Los Angeles and the San Francisco Bay Area. There is a perception, corroborated anecdotally, that larger firms and especially investors are diverted from considering San Diego, and that many successful home-grown entrepreneurial companies eventually will be lured northward along the coast by richer funding (i.e., venture capital) and networking opportunities.

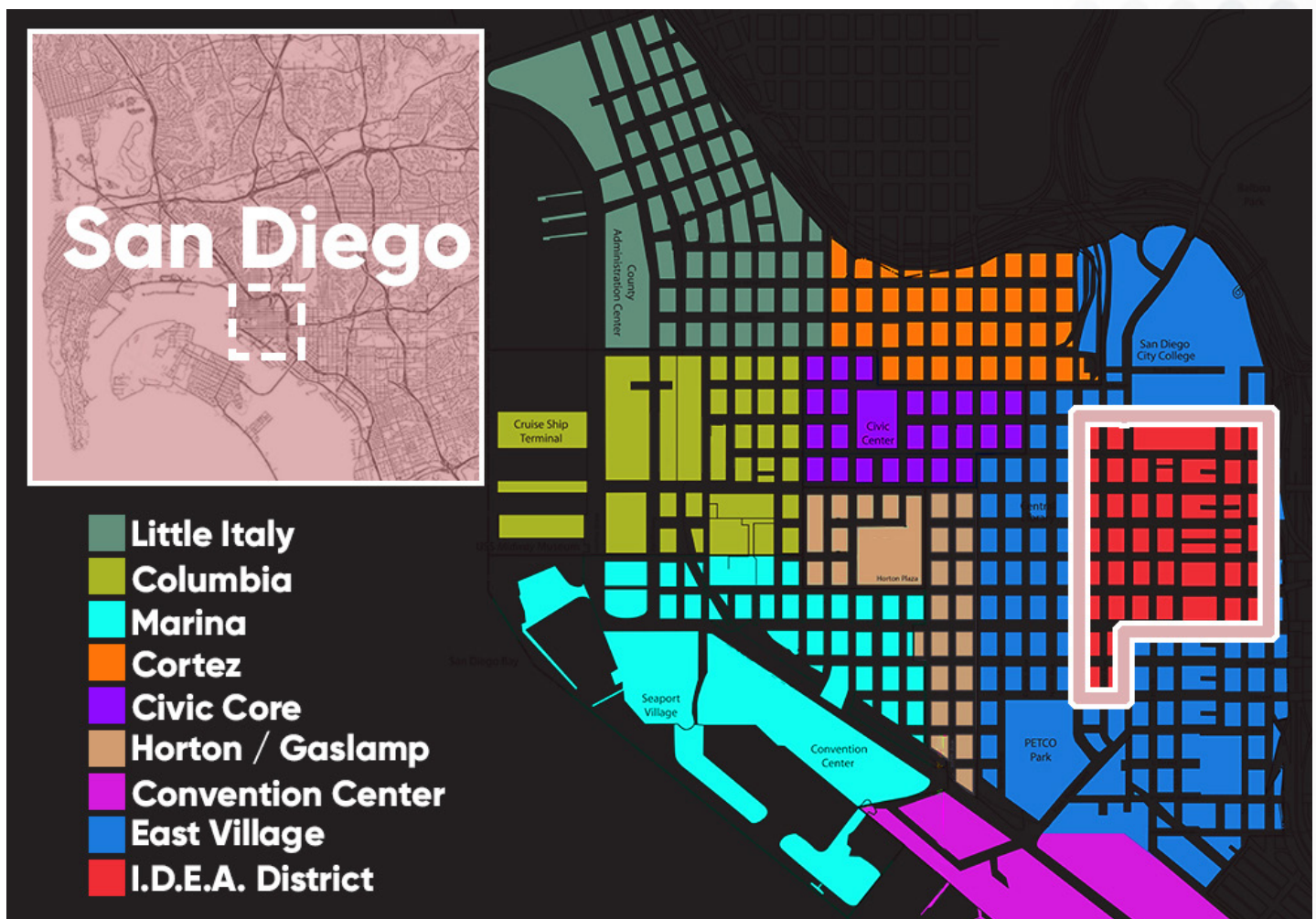
4 INNOVATION DISTRICT ORIGIN AND LOCATION

I.D.E.A. is the brainchild and project of real estate developers David Malmuth and Pete Garcia (I.D.E.A. District n.d.). The district encompasses approximately 93 acres on 35 city blocks in the East Village neighborhood at the eastern edge of San Diego's downtown area, abutting a north south

section of Interstate 5 (Figure 4-2).⁵ The primary aim of the I.D.E.A. District is to enlarge and enhance the innovation economy in downtown San Diego, and in so doing generate job opportunities, expand economic activity, and inject vibrancy into the area (personal communications). The initials stand for Innovation, Design, Education, and Arts, reflecting the intention for the innovation district to help to integrate arts and design disciplines and educational programs into the local innovation ecosystem. The ultimate realization of the district after 10 or 15 years would be to reach 3 to 4 million square feet of office and commercial space, 13,000 jobs, and housing for 10,000 residents (I.D.E.A. District n.d.; personal communications).

⁵ Whereas the innovation district has occupied the same general spatial position since its inception, its boundaries have been modified over time to a small degree to incorporate new elements and to accommodate changes in the surrounding environment. The branding and identity of the I.D.E.A. District do not rely on a precise geographical definition.

Figure 4-2. I.D.E.A. District and San Diego downtown neighborhoods.



Source: Adapted from base map found on I.D.E.A. website;
<http://www.ideadistrictsd.com/>

Note: San Diego's downtown neighborhoods are not officially designated, so the boundaries vary somewhat according to the source.

⁶ Qualcomm Stadium, known as San Diego Stadium from 1967 to 1981, as Jack Murphy Stadium from 1981 to 1997, and renamed SDCCU Stadium in 2017, is located at the intersection of Interstate 8 and Interstate 15 some six miles northeast of downtown San Diego.

⁷ The Chargers relocated to Los Angeles in 2017.

⁸ The NewSchool of Architecture is located at F Street and Park Boulevard, within the boundaries of the I.D.E.A. District.

⁹ Respondent interpretations differed, but some perceived the innovation district as driven primarily by the desire for development in the East Village neighborhood to benefit the general public, with the nature of that development decided secondarily as an innovation district (personal communications). In this, there are similarities to the Boston Innovation District (see Chapter 6).

¹⁰ FRED, which stands for Free Ride Everywhere Downtown, is subsidized through downtown parking revenue (Van Grove 2019).

I.D.E.A.'s origin was in response to various plans being floated by and for the National Football League franchise San Diego Chargers in 2010 (personal communication). At the time, the team owner was seeking to move from Qualcomm Stadium to a new downtown venue that would be the centerpiece of a larger tourist-oriented development.⁶ He ultimately threatened to relocate the team in the absence of an agreement for a new stadium.⁷ The primary sites suggested for the new stadium were at the south end of the Gaslamp Quarter and East Village neighborhoods of downtown, near to Petco Park, the home of the San Diego Padres of Major League Baseball. Both Malmuth and Garcia, however, believed that further entertainment-and tourism-led development was not the best economic development option for the adjacent communities or for the city as a whole.

At around the same time, Malmuth visited Barcelona, Spain, and toured the 22@ innovation district. Impressed with the inventiveness of that endeavor, he decided to try to apply the innovation district approach in San Diego (personal communication). Malmuth and Garcia subsequently agreed to work together, and they drafted a vision statement, refined and adapted the notion by workshoping it in a class taught by Malmuth at the NewSchool of Architecture, and solicited opinions and backing from local residents and property owners.⁸

Siting the I.D.E.A. District in the East Village was a natural choice, as the neighborhood was one of the last locations in downtown San Diego that was not densely occupied, with a sufficient quantity of land available for purchase and redevelopment (personal communications).⁹ East Village offers proximity to civic institutions and the downtown innovation ecosystem, supporting linkages to existing entrepreneurial ventures, networks, and business services (personal communication). The neighborhood is readily accessible via highways and the Metropolitan Transit System's light rail trolley and bus routes. FRED, an on-demand shuttle service, offers free transportation around the downtown area.¹⁰ East Village is close to residential communities that present variety in character and demographic composition, including racially mixed and moderate income Golden Hill to the northeast and Barrio Logan to the southeast, predominantly white and moderate-to-upper income Balboa Park and Bankers Hill to the north, and lower income and heavily Hispanic Grant Hill, Logan Heights, and Sherman Heights to the east and southeast (personal communication).

While still perceiving the innovation district as an alternative to a new football stadium and expanded entertainment district, the developers drew the I.D.E.A. District boundaries a little further north to avoid direct competition (personal communication). In 2010, the area that would be incorporated within the innovation district contained mainly low-density retail and industrial operations (e.g., warehouses, automotive sales and repair), along with quite a number of vacant parcels. The remainder of

the East Village neighborhood interspersed these uses with small single- and multiple-unit residences, art studios occupying repurposed residential or warehouse spaces, and a few social service providers. Many residences and business establishments occupied historic buildings in need of maintenance but fundamentally sound and suitable for renovation. The neighborhood as a whole offered a “gritty vibe” that to locals signaled impending gentrification (personal communications). Prior to the establishment of the innovation district, some East Village land owners had already razed structures in anticipation of rising land prices, though the Great Recession briefly tempered expectations.

5 DEVELOPMENT OF THE I.D.E.A. DISTRICT

The innovation district is not a single unified development project. There is no overall master plan for the location nor a development plan submitted to or approved by the city government. The land is owned and managed by various parties, who have come together via agreement, cooperation, and a commitment to the vision first introduced by Malmuth and Garcia.

Because the innovation district does not receive financial or in-kind support from local government agencies, nonprofit institutions, or other anchoring establishments, its development and implementation must follow the mechanisms of the private sector land market (personal communications). This has meant seeking investors, ensuring a competitive or at least an adequate return on investment, and staging development with early proceeds applied to later phases. The expanding population, relatively expensive land, and consistently strong real estate market in San Diego limit the flexibility of market-driven development.¹¹

Although a positive return is necessary for the feasibility of the private sector land development process, the development partners Malmuth and Garcia contend that profit is not their chief motivation (personal communications). An innovation district is not the easiest or most lucrative development opportunity for the location, but has the potential to generate lasting public benefit for the East Village neighborhood and for the City of San Diego. At least one of the major East Village landowners who supports the innovation district project is credited with a similar determination to pursue a lesser remuneration in order to benefit the community (personal communications).

¹¹ Some interview respondents suggested that city permitting and other regulatory processes may occur less smoothly and quickly than would be the case with direct public involvement (personal communications).

To implement and manage their building projects, Malmuth and Garcia partner with a real estate development company. The first agreement that the two developers entered into, with the local firm Lankford and Associates, dissolved (amicably) once it became clear that the parties entertained different development goals. Their current real estate partnership is with Lowe Enterprises, which is based in Los Angeles (I.D.E.A. District. n.d.; personal communication). Other activities within the innovation district, such as the Makers Quarter (described below), proceed independently with voluntary coordination.

The I.D.E.A. District ostensibly is agnostic regarding kinds of innovation, technology, and industrial sectors. Its proponents recognize, however, that information, design, and arts ventures are the most likely occupants (personal communications). These are the industries best aligned with the knowledge and skill bases of other downtown employers, and whose employees may be most attracted to the urban amenities, dense built environment, and “live-work-play” lifestyle opportunities of an innovation district. By way of contrast, life science firms typically require more extensive and expensive space, and already concentrate in La Jolla and Torrey Pines to benefit from the research activity and expertise at UCSD. There are no plans to assemble wet lab space in the innovation district.

The development of the innovation district is proceeding in stages (personal communication). The first two to three years were aimed mostly at publicization and community engagement through repurposing and activating some of the underutilized sites within the district (personal communications). This part of the effort has focused on the Makers Quarter, a six-block section of the innovation district that currently houses, among other activities, an information systems consultant; a charter elementary school; a handcrafted furniture company; a graphic design company; a co-working space; a coffee shop; a combination karaoke bar, video game arcade, and bowling arena; and an independent brewery.¹² The Fab Lab, launched with funding from the American Recovery and Reinvestment Act of 2009, is a small-scale and relatively low-cost custom fabrication facility geared toward amateurs in the community (personal communication). Most of these establishments have opened in the last five years. Several are housed in rehabilitated buildings, such as the former Snowflake Bakery on 16th Street. The Makers Quarter is centered on the SILO open space, a formerly vacant lot that now accommodates a wide variety of outdoor events, including concerts, plays, dances, do-it-yourself workshops, art shows, and food festivals; and the SMARTS Farm, a community and educational garden (personal communications).

¹² These establishments are, in order, Fuse Integration, the Urban Discovery Academy, the Moniker Group (which includes the furniture manufacturer, the graphic designer, the co-working space, and the coffee shop), Punch Bowl Social (part of a chain based in Denver), and 10 Barrel Brewing (Makers Quarter n.d.; Johnson 2018).

As a component part of the innovation district, the Makers Quarter is intended to gather public support while also providing the broader community with a linkage to the district, an awareness of neighborhood continuity and authenticity, and a voice in directing development (personal communications). The planners of Makers Quarter have from its beginning solicited ideas from nearby residents, patrons, and visitors, and are continuing to request feedback regarding the form that the spaces in the area eventually should take. Unlike the I.D.E.A. District as a whole, the Makers Quarter does have a master plan, created in part by the development firm Lankford and Associates, mentioned above. This plan calls for a buildout that includes 1 million square feet of office space, 140,000 square feet of retail, and at least 800 housing units (Van Grove 2018).

Now, several years into the development of the innovation district, building construction has become a major focus. The first new building, IDEA1, held its grand opening ceremony in December of 2017. It provides 42,000 square feet of office space that is largely flexible and reconfigurable (personal communication). The mixed-use structure also contains 295 apartments, 12,000 square feet of retail space for several restaurants and other service establishments, a fitness center, and a rooftop clubhouse and spa. “The Hub”, an open-air atrium that includes a film projection system and an indoor conference space on the second floor, is designed to host various entertainment and networking events (Showley 2017). Malmuth and Garcia’s original intention was for this building to be devoted much more heavily to office space, with some ground-floor retail but no residential component. Because they could not obtain financing for speculative office construction, however, more than half of the leasable space in IDEA1 is residential, though the construction method permits future conversion to office use. The San Diego Community College District owns the building, signing a 99-year lease agreement. The two developers are working on the next building (preliminarily named IDEA2), which they hope will include housing units offered at below market rate (Showley 2017).

The Makers Quarter also has developed a new building, Block D, containing 53,000 square feet of office space with restaurant and other retail space on the ground floor (Van Grove 2018). The construction of this building emphasizes minimized energy use through ventilation, passive cooling, and active shading systems (BNIM n.d.).

6 ASSESSMENT AND CHALLENGES

The I.D.E.A. innovation district is still in its nascent stages. Thus far, the bulk of the effort has been directed toward placemaking and the first couple of building construction projects. The programming and services that exist are oriented chiefly toward makers and millennials—activating spaces, encouraging visitors, and promoting the innovation district and especially the Makers Quarter widely. The approach is to craft a location that is attractive to entrepreneurs and innovators rather than to create or financially subsidize entrepreneurial and innovative businesses. The actions have been effective in repurposing spaces and drawing interest and attention, but also have incurred fears of displacement, as discussed below.

Several serious challenges to the continued progress and development of the innovation district are evident. There is no institution anchoring the district. With the San Diego city government unwilling or unable to participate directly, the possibilities are restricted to private or non-profit establishments. Malmuth and Garcia initially contemplated the NewSchool of Architecture as an anchor institution. The design expertise and facilities of the school could be helpful resources, but the institution lacks size and stature, does not conduct very much research, and its for-profit status has produced unstable enrollment and finances (personal communication). San Diego City College, one of three main campuses of the San Diego Community College District, is located just north of the innovation district, but it also is not a suitable anchor (personal communication). City College conducts a minimal quantity of research, and its students and faculty tend to restrict their off-campus activity to food and small retail purchases.

The University of California, San Diego is a more promising prospect for an anchor institution. Although the campus is not close to downtown San Diego, some of the numerous startups generated from the university's substantial research activity might consider a downtown location, especially as the innovation district becomes more attractive with further development. In addition, UCSD anticipates a Spring 2021 opening date for an extension site located at the intersection of Park Avenue and Market Street, just inside the southern boundary of the I.D.E.A. District. This building will house lectures, performances, continuing education classes, and workshops, and will adjoin a 426-unit residential tower. The university site will bring a light rail extension connecting to the main UCSD campus (University of California, San Diego 2018; University of California, San Diego 2019). It remains to be seen how strong a link the downtown extension will deliver between the innovation district and UCSD's cutting-edge research.

In order to access financing, the developers of the innovation district work within the confines and dictates of the private market. That market is strong in San Diego, including in the East Village neighborhood as an anticipated site for near-term development. Without public support, and lacking one or more sizable tenants to stabilize the venture from the real estate perspective, many desirable options are out of reach (personal communication). Suitably housing startup firms and entrepreneurial establishments requires adjustable rental timing arrangements and malleable space configurations, yet the construction approach of IDEA1 is less flexible than could have been achieved with a greater up-front expenditure (personal communications). The development partners have been compelled to compromise on the balance of office with residential and retail space, with the latter helping to subsidize the former (personal communication). It is not clear how the developers will be able to achieve their objective to include below-market-rate housing in the next building. More generally, the divergent time horizons for the aims of economic development (relatively long) and those of real estate development (typically much shorter) cause friction, such as led to the dissolution of Malmuth and Garcia's partnership with Lankford and Associates.

As with most local economic development, the innovation district likely is causing residential displacement. The denizens of East Village largely seem to be supportive of the changes that are accompanying ongoing development, but this may be because the current residents already represent a shift in the population of the neighborhood. Rising costs and the popularity of the placemaking efforts have had the consequence of pushing out low-income individuals, such as artists and those who had located in the neighborhood to receive social assistance. The rough edge to the neighborhood has mostly evaporated; this transformation of the character of East Village had seemed inevitable for most of the past decade (personal communications).

The potential impacts on nearby San Diego communities are also concerning, particularly the demographically diverse and relatively affordable neighborhoods of Barrio Logan and Golden Hill (personal communications). Though the prospect of rapid stadium-led tourist development fled with the football Chargers, the slower-paced office, commercial, and residential expansion currently occurring in East Village also carries the propensity for boosting property values and adding pressure for redevelopment over a wider geographic area. This is one reason for Malmuth and Garcia's aim to include accessibly-priced housing units in new construction. More importantly, if the innovation district is able to incorporate a wide variety of activities that support employment at multiple skill levels as well as provide educational and advancement opportunities, it will mean more chance of integration with and benefit to surrounding communities.

San Diego's strong real estate market and the lack of public involvement in the development process, however, yield a dearth of specific tools available to combat gentrification and displacement (personal communication).

Overall, the development of the innovation district to date largely fits with the reasoning described in Chapter 1. The I.D.E.A. District is situated close enough to contribute to and intermingle with the entrepreneurial community scattered throughout downtown San Diego, and the modest size and compact layout of the innovation district ensure internal proximity as it matures. The mixed-use aspect of the newly constructed buildings, the event and networking spaces, the multiple transportation options, and the variety of amenities available in the district and particularly in the Makers Quarter, generate the "live-work-play" environment to attract entrepreneurs and other workers and residents.

Other aspects of an effective entrepreneurial ecosystem, though, seem to be beyond the influence of those developing the innovation district. There are no tools or inducements in place or feasible to introduce in the near term to make sure that the innovation district contains a mix of companies in terms of size and stage of development (personal communication). The desired blend of residential and employment space is proving difficult to achieve. The goal of a research anchor depends on whether the combination of individually insufficient local institutions with a research university extension proves to be adequate.

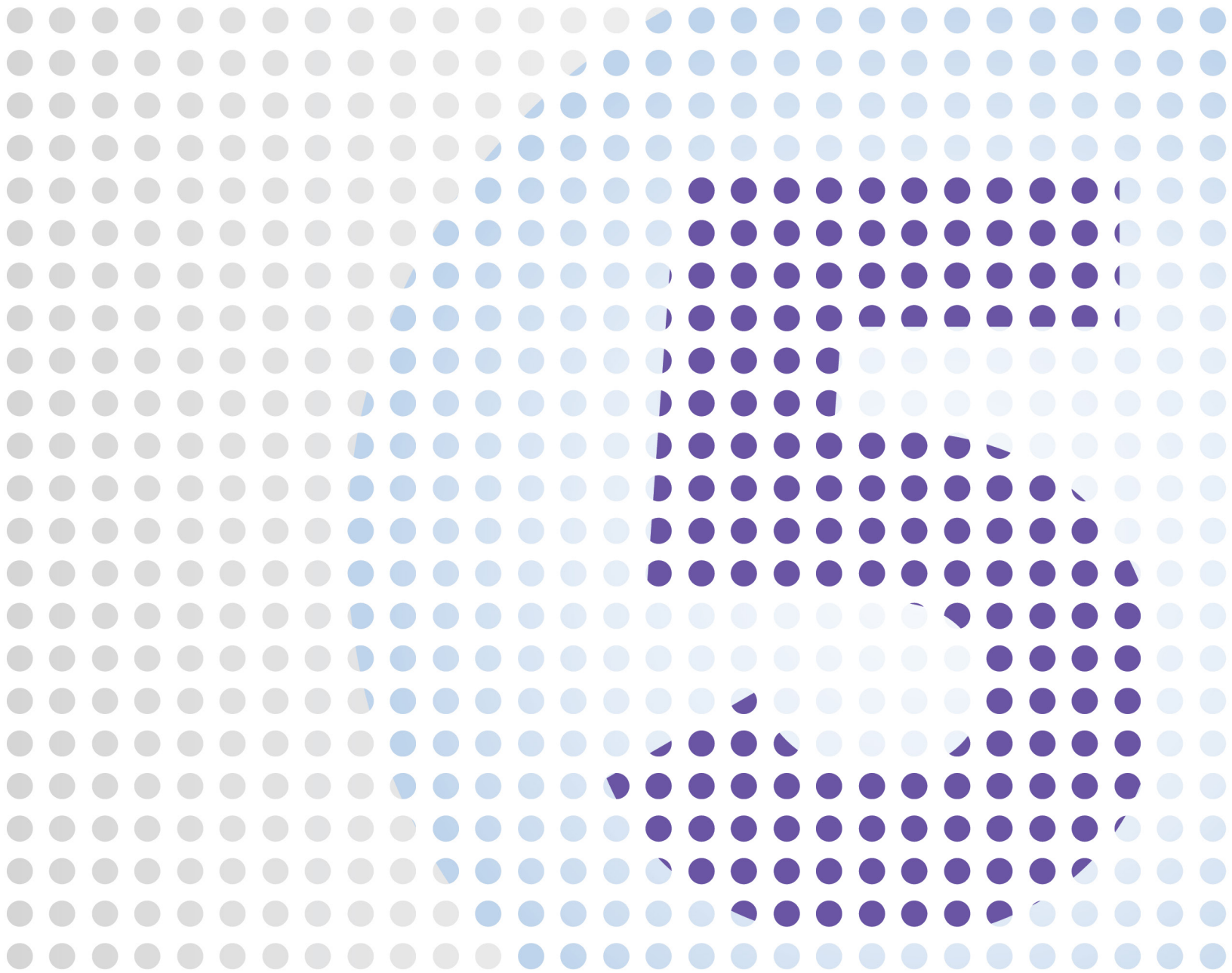
Finally, the decentralized leadership and ownership of the I.D.E.A. District may constitute a vulnerability in the future. No central agency or person possesses authority and oversight over the entire innovation district, and no formal mechanisms exist to prevent or resolve disputes. The operation and progress of the district depend on the committed participation and voluntary cooperation of multiple actors. This structure has worked fairly well so far. Nevertheless, there is no guarantee that shared interest, community-oriented altruism, and mutual goodwill will continue indefinitely to secure coordination and maintain commitment to the vision of the innovation district.

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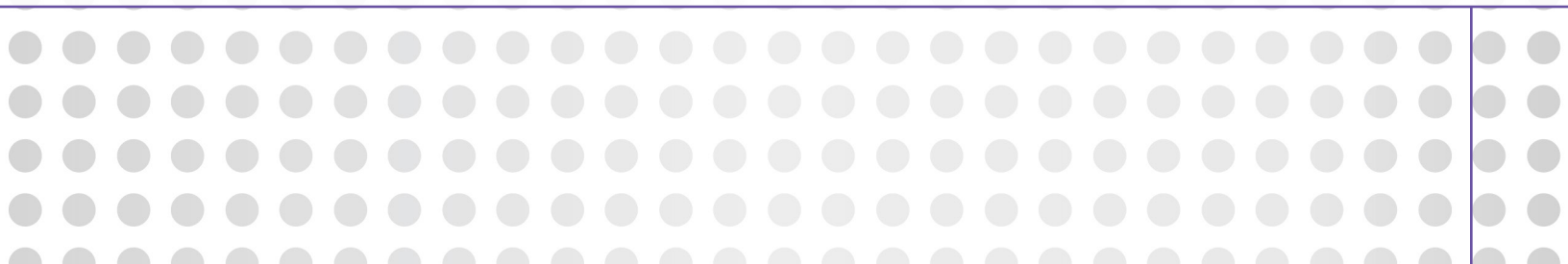
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CHAPTER 5: THE DETROIT INNOVATION DISTRICT



1 INTRODUCTION

On June 2014, Detroit's Mayor Mike Duggan officially declared and designated the Detroit Innovation District, a 2,750-acre designation for the Downtown, Midtown, and New Center -neighborhoods (see Figure 5-1). The event launch, held in TechTown, a business innovation hub located in Midtown Detroit, included an invite list of prominent community leaders from anchor institutions and supporting foundations. Bruce Katz, previous vice president and director of the Metropolitan Policy Program at the Brookings Institution in Washington D.C., was in attendance as an invited speaker. Only three days earlier, Katz, and colleague Julie Wagner, released their report, "The Rise of Innovation Districts: A New Geography of Innovation in America" (Katz & Wagner, 2014), a report which continues to influence innovation district policy. Anticipating success for the Detroit Innovation District, Katz, who featured prominently in the strategic design of the Detroit Innovation District, stated, "What's going to happen is we're going to have a two-plus-two-equals-five effect. Collaboration and synergy in this district are going to have unanticipated discoveries for the market" (Broda, 2014).

Figure 5-1. Map of the Detroit Innovation District used in public brochures.



Source: Subbiah, 2014

This paper documents the deployment of the Detroit Innovation District as an economic development strategy and its subsequent slow demise. Two principal reasons contribute to this demise. The first is the lack of a clear and agreed upon understanding of the intention of the model. Turf battles and power dynamics revealed internal disagreement between stakeholders on the purpose of the innovation district and that complicated its implementation. This led to a division within the leadership. While some favored isolating the innovation district to a high-tech, high-growth business development cluster strategy, others questioned how to convert it into a more inclusive strategy with outreach into the neighborhoods outside the boundaries of the innovation district. The second reason is that the absence of basic infrastructure in Detroit –such as sewerage, lighting, and roads– shifted the focus from harnessing innovation and attracting capital investments in the technology and entrepreneurial sector to attracting investment for economic development. Feeling the pressure of time and the need to yield immediate results, stakeholders gravitated toward easily implementable measures more closely associated with traditional city building than fostering an innovation district. Findings from the case of the Detroit Innovation District contribute to larger over-arching discussions on the challenges of harnessing a knowledge economy in Detroit and in similar post-industrial cities with shrinking populations and declining resources.

That the Detroit Innovation District strategy is no longer a leading economic development effort is not necessarily a negative conclusion of this study. The experiences of the leaders guiding its implementation and the challenges they faced speak to the importance of local context. The excitement for the innovation district strategy held particular sway in Detroit as Katz and Wagner publicly featured the city's innovative potential in their national report, in addition to personally consulting with Michigan and Detroit leaders on the implementation of the Detroit Innovation District strategy. From the onset this mounted the pressure to implement a successful strategy. At the same time, among locals there existed a concerned undercurrent of an exclusionary strategy focused on a growing central business district surrounded by severely declining neighborhoods. In many respects, this Detroit case study provides a different example from our other cases on the dynamics of strategy formation, approach to implementation, and the consequences thereof.

2 METHODS

In the absence of a formal regulatory environment and the historic lack of a functional planning department, individuals in various capacities (such as someone in a private corporation, an investor, or a foundation head) may collaborate to fulfill the role generally assigned to city government (Kinder, 2016; Peck, 2012). As such, a small contingent of people serve as decision makers within the area encompassed by the Detroit Innovation District. This means that a variety of elite individuals armed with the power to influence change are in charge of the decisions that impact the downtown core. These are the people I interviewed.

From April 2015 to March 2016, I conducted interviews ranging from one to two hours each with the most visible and key figures spearheading the development of the Detroit Innovation District. This list included 27 interviews with individuals at the state and local level and is comprised primarily of individuals who sat on the Detroit Innovation District Advisory Committee (see Figure 5-2).

Figure 5-2. Detroit Innovation District Advisory Committee.

Name	Position
Nancy Schlichting	CEO, Henry Ford Health Systems
Joseph Mullany	CEO, Detroit Medical Center
Matthew Cullen	President and CEO, Rock Ventures LLC
M. Roy Wilson	President, Wayne State University
Lou Anna K. Simon	President, Michigan State University
Rip Rapson	President and CEO, The Kresge Foundation
David Egner	President and CEO, Hudson-Webber Foundation, and Executive Director, New Economy Initiative
Faye Nelson	President, DTE Energy Foundation, and Vice President of Public Affairs, DTE Energy
David Blaszkiewicz	President, Invest Detroit, and President and CEO, Downtown Detroit Partnership
Susan Mosey	President, Midtown Detroit Inc.
Leslie Smith	President and CEO, TechTown
Jean Redfield	President and CEO, NextEnergy
Mark Coticchia	Chief Innovation Officer, Henry Ford Health System
F. Thomas Lewand	Group Executive for Jobs and Economic Growth, Office of the Mayor, City of Detroit
Paula Sorrell	Vice President of Entrepreneurship and Innovation and Venture Capital, Michigan Economic Development Corp
Cynthia Wilbanks	Vice President for Government Relations, the University of Michigan
Alicia George	Owner, Motor City Java House
Espy Thomas	Sweet Potato Sensations

Source: Adapted from Broda, 2014.

Through snowball sampling, my list grew to include state and local level representatives, prominent economic developers, real estate agents, developers, architects, and consultants to the project. Because of their high profiles and public visibility, interviewees signed letters of consent guaranteeing their anonymity. I recorded and transcribed all interviews. I read the transcripts several times, coding and recoding them for re-occurring themes. These themes informed the argument presented in this paper.

My understanding of the situation was broadened through four unpublished drafts outlining the Detroit Innovation District strategy. I received copies of these drafts from my interviewees. Consultants in Lansing drafted policy recommendations for the state of Michigan prepared the first draft; a committee consisting of a local representative, a representative from a state consultancy, and a representative from a national consultancy prepared the second draft; and Detroit representatives prepared the third and fourth drafts. In addition to these drafts, I used promotional brochures, media sources, and printed and online materials of the Detroit Innovation District to contextualize my findings.

3 REGIONAL BACKGROUND AND SETTING

From Henry Ford's Detroit, a city bustling with industrial activity and an influx of labor that reached a population peak of 1.85 million in 1953, to its current population, which hovers below 700,000 with more than 40% of the residents living in poverty, the history of Detroit's founding, its rise during industrialization, bankruptcy, and its ultimate "death" is well rehearsed (Bomey, 2017; Galster, 2018; Manning Thomas, 2013; see also special issue Sugrue, 2014; Tabb, 2015).

A wide variety of scholars discuss the factors that contributed to this Detroit's decline, some concentrating on larger global forces, others focusing on changes at the local level. Numerous retellings simplify Detroit's growth and its demise to the reliance on a single industry: the automobile. The story is more multifaceted and complex, which makes it challenging to pinpoint the reasons that led to the adoption of an innovation district strategy and shaped its scope. Regardless, certain historical events and economic development strategies to deserve highlighting due to their relation to Detroit's innovation district strategy.

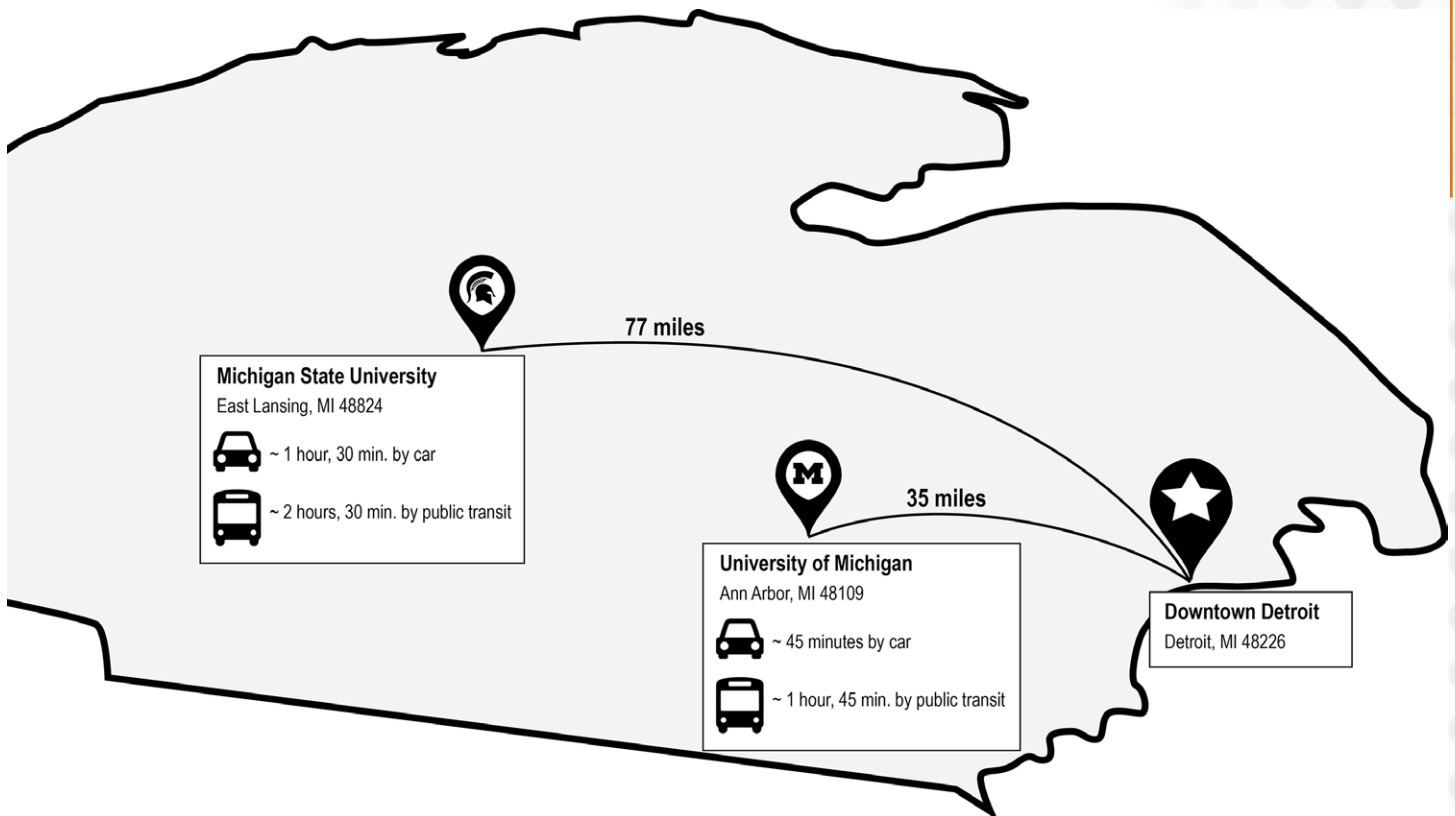
3.1 The automobile industry

Detroit's domination by the automobile industry and related spin-offs is as relevant today as it was during the height of industrialization, though for different reasons. In the early 1900s, General Motors, Ford, and Chrysler, the "Big Three" formed Detroit's economic base and had a tremendous effect on the urban landscape (Ryan, 2008). The presence of the oligopolistic giant automakers had a tremendous effect on the urban landscape. At the height of industrialization, the automotive sector dominated the urban landscape with their superblock factories and suburban-type housing for manufacturing labor (Ryan, 2012; Ryan & Campo, 2013).¹ To alleviate the increased presence of the increased presence of automobiles on the road, street facing store fronts were pushed back to widen streets (Ryan, 2008). What was once a city with smaller parcels of land and concentrated populations, was slowly consumed by the super-block factory footprints, roads, highways, and parking lots that broke up the density and transit oriented development on which innovation district strategy depends (see Chapter 1, especially section 4).

¹ Ryan and Campo (2013) argue for the importance of preserving the automobile heritage to ensure the city of Detroit and its inhabitants remain connected to their historic path. In this article, they state that the contemporary landscape is not reflective of its automotive past because many of the automobile factories have been demolished. I differ from this perspective in that I focus on the ways the automobile industry affected the density of the city, the creation of highways and parking lots.

The departure of automobile factories and operations from the city center is also an important contribution to the challenges of implementing the Detroit Innovation District. The large abandoned factories certainly affect density, but in addition, the outcome of companies moving their operations away from downtown to the outskirts of the city (Garreau, 1992; McCarthy, 1997), and later to greenfield sites in the suburbs (Hyde, 1982; Neill, 1995), resulted in the decentralization of people and large demographic changes. Edge cities grew to become self-sufficient, with commuters traveling between edge cities, rather than from the edge to the core (McCarthy, 1997). Despite the slight resurgence of the central business district, this is a pattern that persists today with commuters holding 70% of the jobs in Detroit (*Detroit Future City: 2012 Detroit Strategic Framework Plan*, 2013). In addition, two of Michigan's largest research campuses (University of Michigan and Michigan State University) reside outside of the city center resulting in spin-offs growing with the cities of their respective locations or outside of the state rather than locating in the greater downtown (see Figure 5-3).

Figure 5-3. Commute times from Downtown Detroit (Zero Mile) to Michigan State University and the University of Michigan.



Source: Author, 2019.

Despite the loss of the automotive manufacturing and direct competition with other cities and countries in the vehicle market, the automotive legacy continues with this sector seeking to corner the market in automated vehicle technologies. The legacy of the automobile industry remains present not only in the amount of blight caused by decentralization, not only in the abandoned factories that take up massive amounts of space, nor in their demise that left gaping swaths of derelict land, but also in the innovation district strategy. The respondents I interviewed firmly believe in the capacity to tap into the innovative energy that existed in Henry Ford's Detroit and to compete against other regions on the cutting edge of autonomous vehicle technologies.

3.2. Placemaking efforts and planning techniques

Many efforts to reverse decline in Detroit focus on remaking the built environment through placemaking, many of which targeted the revitalization of the greater downtown. Adopted tactics, such as waterfront redevelopment, casino construction, and sports-led regeneration, are congruent with urban revitalization efforts to harness a tourist economy (Eisenschitz, 2010; Grodach & Loukaitou-Sideris, 2007; Klingmann, 2007). In the 1970s, beginning with the five-term tenure of Mayor Coleman Young and continued throughout Mayor Dennis Archer's two terms in office, revitalization was always closely tied with the physical environment. When Young entered office in 1974, Detroit-based corporations were in the process of building coalitions to address causes ailing the city. Two influential organizations included the New Detroit Committee of 1967 and the Detroit Renaissance Inc., of 1973 (Benyon & Solomos, 1987). Mayor Young leveraged support of the business community through these coalitions, particularly under his initiative, *Moving Detroit Forward: A Plan for Urban Economic Revitalization* (Manning Thomas, 1990). This bold initiative sought to finance \$3 billion worth of improvements through federal and state funds allocated over a five-year period (Neill, 1995). From this fund, Detroit's riverfront slowly developed through flagship projects such as the Renaissance Center, a collection of towers for office, hotel, and retail use, funded through private-public partnership with the Detroit Renaissance Inc.; the Joe Louis (Hockey) Arena; the extension to Cobo Hall, Detroit's convention center; and other smaller projects such as the Max Fisher Riverfront Apartments and Hart Plaza. To connect the major riverfront establishments to the entertainment neighborhood known as Greektown, Young secured funding for the Detroit People Mover, a two-mile ring light railway (Eisinger, 2000).

During Mayor Young's tenure, the Michigan legislature developed state-based intervention approaches focused on targeting delineated boundaries. A series of public acts were enacted to create boundaries with jurisdictional authorities (DiGaetano & Klemanski, 1999). PA 198 enacted the Plant Rehabilitation and Industrial Development District. PA 575 enacted Downtown Development Districts, Development Authorities, and Tax Increment Finance Districts (Bieri & Kayanan, 2014). Three additional legislative acts created the Economic Development Corporation, the Downtown Development Corporation, and the Detroit Economic Growth Corporation (DEGC). The establishment of the DEGC ushered in an era of project-led approach to development with tax breaks and incentive packages (McCarthy, 2002). In 1994, President Bill Clinton implemented empowerment zone policies specifically to address issues that produce economic, environmental, and social improvements. That same year, under the Dennis Archer Mayoral Administration, Detroit secured \$100 million

in federal funding over ten years dedicated to increase economic development within a geographic span of 18 square miles, an overlay that includes the property of the Big Three automakers, financial institutions, and an additional 80 programs scattered across the space (Boyle & Eisinger, 2001).

These efforts contributed to the beautification of the downtown core, but they could not stop population decline. Facing increased levels of poverty within the central city, higher taxes were imposed to compensate for the eroding tax base. These were not sufficient to compensate for the loss of population and income and resulted in a decline in services. This cycle of disinvestment and Detroit's ongoing borrowing practices to pay off debts reached its climax in 2013, the year Detroit filed for bankruptcy, the largest filing in US history. One direct connection between bankruptcy and the strategic aims of the Detroit Innovation District was the focus generated on blight removal. The final Plan of Adjustment prepared by Emergency Manager Kevin Orr secured \$1.4 billion for public services and blight removal (Bomey, Helms, & Guillen, 2014). This reinvestment of unsecured debt funded Detroit's Blight Removal Task Force Plan, a multilevel strategy to address and/or demolish the 84,641 blighted structures and vacant lots (*Blight Removal Task Force Plan*, 2014).

The re-envisioning and remapping of Detroit through the Blight Removal Task Force Plan, as well as other extremely detailed documents, such as the Detroit Future City Strategic Framework Plan (*Detroit Future City: 2012 Detroit Strategic Framework Plan*, 2013), build on the momentum of collaboration and influenced the siting for the innovation district in a pre-imagined boundary already targeting growth strategies and increased land values. The Detroit Future City Strategic Framework influenced targeting the neighborhoods which were ultimately included within the border of the Detroit Innovation District. Detroit Future City, an extensive report that served for many years as a strategic framework for the city, divides the city into five planning elements: economic growth, land use, city systems, neighborhoods, land and building assets. The report does not remove the focus on manufacturing, but it does suggest diversifying the economic base to include the food processing sector, medical technology, and education and digital/creative industries, while emphasizing the need for targeted education and training programs. Within the plan is a specific focus on increasing the value of land and investments in the city in places with the highest potential of jobs. This undergirds reasoning to focus on the central business district for the Detroit Innovation District but also leads to critiques that economic development efforts target the downtown while the remainder of the city continues to shrink (Moskowitz, 2015).

3.3 Race and Racism

Detroit's trajectory cannot be separated from the role of race in its formation and racism in its decline (Benyon & Solomos, 1987; Darden, Hill, Thomas, & Thomas, 1987; Newman & Safransky, 2014; Sugrue, 2014). During the decentralization of Detroit, racist policies preventing African Americans from moving into the burgeoning white suburbs forced segregation and resulted in the concentration of African Americans within the city center faced with employment, housing, and police treatment discriminations (Neill, 1995; Sugrue, 2014; Vose, 1959). The 1967 rebellion, which killed 41 people and destroyed 1,300 buildings, further exacerbated white flight. By the 1990s, 78% of Detroit's population was African American (Neill, 1995). As of the US Census 2010, African Americans make up 83% of Detroit's population. However, in the Greater Downtown, which encompasses the Detroit Innovation District, black residents account for 69% of the population, down 5%, with whites accounting for 22%, up 3% from the 2000 Census (7.2 SQ MI: A Report on Greater Downtown Detroit, 2015). The increased racial diversity of the Greater Downtown is not in itself negative, but it is necessary to question the reasons for the decline in black residents and the connections between innovation district strategies that cater to higher skill sets that black residents may not possess.

Attention to class and race issues is of critical importance in the development of the downtown Detroit. The Brookings report on innovation districts discusses the proximity of innovation districts to low-income neighborhoods as a "focus on expanding opportunities to disadvantaged populations" (Katz & Wagner, 2014). Gesturing to side-by-side co-location invokes the image of trickle-down economics, the image that benefits accrued within the bordered space of the innovation district will spill-over to the remaining neighborhoods, already less fortunate for their lack of inclusivity within the boundary. The problem with this line of reasoning is that real estate prices in close proximity to the innovation district are rising. The low-income neighborhoods purported to house the service labor are slowly becoming unaffordable to that demographic. Telling from the increased diversity of the downtown core is that high skilled, college-educated individuals are occupying the jobs that located in central business districts, or their vicinities, since these areas are targeted for the growth of the knowledge economy. The long-term result, particularly in cities with sustained population loss attempting to reinvigorate downtowns, is the "uncoupling" of the economic city (Mallach, 2014), where a spatial redistribution between economic and residential activity is occurring.

4 HISTORY OF ENTREPRENEURIAL ECOSYSTEM DEVELOPMENT EFFORTS

The declaration of the Detroit Innovation District occurred in the summer of 2014, but foundational elements of a renewed interest in the city appeared over a decade earlier. In 2000, Wayne State University, Henry Ford Health System, and General Motors funded the creation of an entrepreneurship hub called TechTown. Though initially residing within the university campus, in 2004 it incorporated as a non-profit and Sasaki Associates designed a new space for it near Wayne State University's campus. TechTown's initial focus was technology-based spinoffs. However, with time leadership decided that the focus needed to work with businesses at all stages and include small businesses and commercial corridors outside of the central business district (personal communication, 2016). In this way, TechTown's trajectory parallels the Detroit Innovation District strategy.

The momentum of tech-based developments relocating in Detroit continued with the Compuware World Headquarter's move to the heart of downtown in 2003, followed by Dan Gilbert, one of Detroit's largest property owners, relocating Quicken Loans in 2010. In 2012, Henry Ford Hospital opened the Henry Ford Innovation Institute to develop and commercialize the hospital's intellectual assets. The space, located within the hospital, provides a fabrication laboratory, engineering services to prototype ideas, 3D printers, learning seminars, resources and support to scale an idea. The target for the institute is to use innovation to improve health-care and to improve the experience of the patients. The Model G Patient Gown, a product that emerged from a collaboration between the hospital and design students from the neighboring College for Creative Studies, put the Institute on the map and demonstrated the importance of cross-sectoral collaboration and the role of place in fostering a creative and supportive environment ("Model G Patient Gown," 2015).

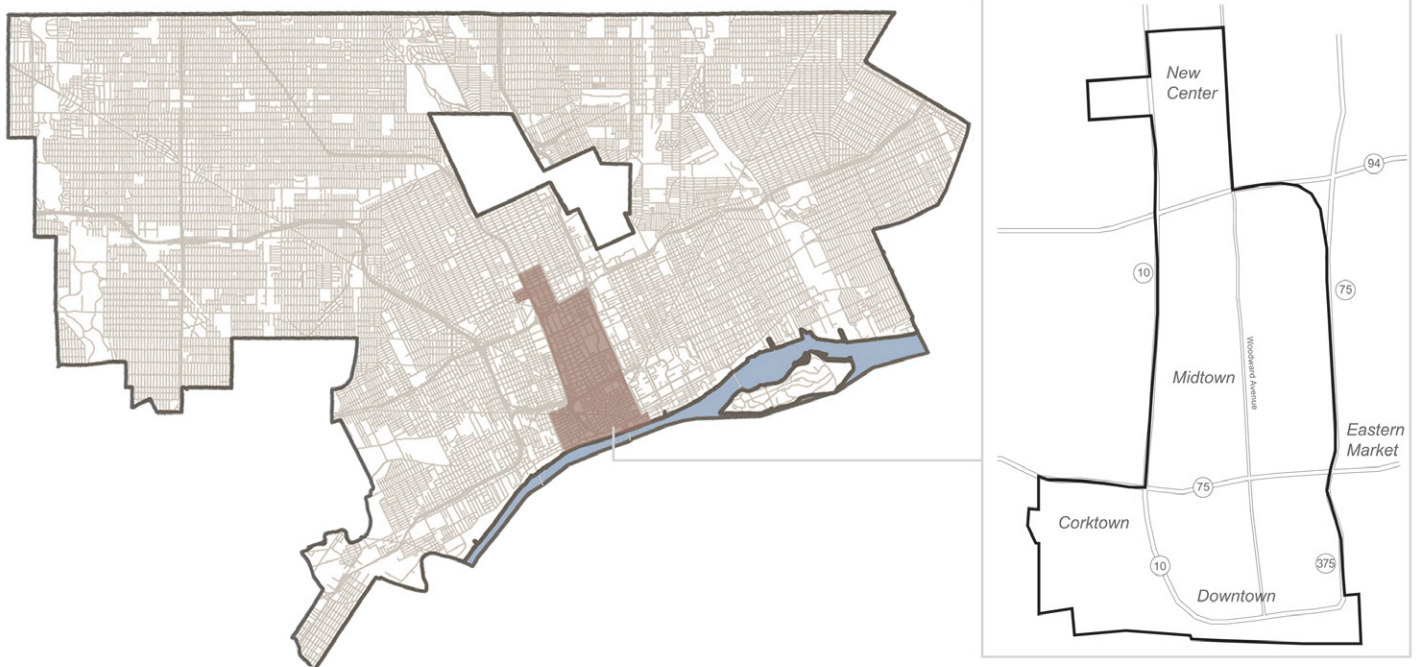
Redevelopment was also underway in Corktown, a neighborhood that is not incorporated in the Detroit Innovation District maps until later renditions. The existence of makerspaces in Corktown, most noticeably Ponyride (established 2011) were fodder for a possible relationship between Corktown and the activity in the innovation district. Though Ponyride has since relocated to New Center, Corktown continues to see a real estate boom due to Ford Motor Company opening The Factory, a dedicated space for engineers to focus on business models for electric and self-driving vehicles, as well as the recent purchase by the Ford Motor Company of the abandoned Michigan Central Depot, a former train station that has been vacant for 30 years and serves as a landmark for the Corktown neighborhood (Gallagher, 2018; Livengood, 2018).

Finally, the role of Midtown Inc., a non-profit economic development organization formerly known as the University Cultural Center Association, to revitalize Midtown is important because of the organization's focus on building the cultural component of the district, ensuring the right amenities to attract knowledge workers, and providing services such as extending Wayne State University policing services to the neighborhood and adding bike share systems (Doucet & Smit, 2016).

5 HISTORY OF LOCAL DEVELOPMENT EFFORTS TO ESTABLISH DISTRICT STRATEGIES

The Detroit Innovation District spans 4.3 square miles encompassing much of the greater downtown, including the Central Business District, Midtown, and Corktown. The borders of the Detroit Innovation District remain in contention, but generally, the Detroit riverfront creates the southern boundary, interstates 75 and 375 form the eastern boundary, and interstate 94 the northern boundary, with an additional northern extension to include the Henry Ford Health System just north of Grand Boulevard. M-10 forms the western border with an extension to include the Corktown neighborhood (see Figure 5-4).

Figure 5-4. Detroit Innovation District.



Source: Author, 2019.

The origins of the Detroit Innovation District strategy began at the state level. According to individuals driving the development of the Detroit Innovation District, Bruce Katz played a role in highlighting existing assets and resources that could be leveraged to create an innovation district in 2008, years before the 2014 official announcement. In December of 2013, the Brookings Institution, in tandem with Business Leaders for Michigan, a non-profit consulting and research arm of the state of Michigan; The Reinvestment Fund, a community development institution with offices in Philadelphia and Baltimore; Public Sector Consultants, a research and program management firm; and the Michigan Municipal League, a non-profit business management consultant organization, collaborated to develop firm aims and objectives for the district. Four main goals were outlined (*The Detroit Innovation District: Recommendations for State Alignment and Investment*, 2013):

1. Create a dense and vibrant residential environment
2. Increase the number of small businesses
3. Upgrade infrastructure and public spaces
4. Support the development of space and talent to grow emerging clusters in the digital and creative industries, healthcare industries, and small-batch manufacturing

The committee selected Detroit as the location for the first innovation district fearing that a faltering Detroit would negatively impact the remainder of the state. As one individual on the advisory committee expressed, “Detroit has to do well, or the rest of the state will not do well when it comes to international commerce” (personal communication, 2015). Therefore, the committee agreed that Governor Snyder would formally declare the district, determine a team to deploy the idea, and then officials in Lansing would step back to allow local Detroit leaders to implement the district.

The move of the innovation district strategy from the state level to the city level implicated local Detroit foundations. Foundations in Detroit had a rich history of funding revitalization efforts in Downtown and Midtown. The New Economy Initiative (NEI), the strategic grant-making branch of the Hudson-Webber Foundation, has been instrumental in this respect investing over \$50 million in the area since 2010. The mayor, with input from the NEI and Mass Economics, the organization hired by the NEI to consult on the development of the Detroit Innovation District, created an advisory committee of 18 individuals as the public face and steward of the Detroit Innovation District. This star-studded cast represented home grown entrepreneurial initiatives and leaders of all the major public institutions and private corporations within the Detroit Innovation District boundary.

Three working groups sat below this advisory committee, each focused on a specific area of development: 1) Physical Place, 2) Innovation and Commercialization, 3) Building Detroit's Knowledge Economy. These groups, made up of ten to twelve people, were tasked with presenting concrete plans for their respective areas to the advisory committee (*Detroit Innovation District Strategy Document to Advisory Committee*, 2015).

By May 2014, a new committee had revised the state-level draft and were working on a second more context-specific version. Of interest between this second draft versus the state level draft, was that the fourth goal, focused on supporting the emergence of clusters, was moved to the top of the list. This is congruent with the aim of creating a globally recognized place by fostering an entrepreneurial and innovation ecosystem. The stated goals of this locally derived draft were to reignite the innovation potential of Detroit, a city with an historic past of innovation, and to move away from the post-World War II model of innovation as closed-off and secretive with intellectual capital housed in industrial centers and laboratories. The wording of this document frames the opportunity to develop an innovation district in Detroit in the language of the new spatial geography of innovation and the trends of young urbanites seeking urban living and transit-oriented development as a way to underpin the need for density. The overarching vision in this document is that the innovation district would raise the status of Detroit to “be a globally recognized center of ideation, commercialization, and talent that powers economic opportunity for the residents of the city and repositions Detroit’s role in the national and global economies” (Lewis, Lynch, & Vey, 2014: p 8). This local draft aims to provide a firm governance structure and leadership platform to target reform within the district and calls for a Detroit Innovation District manager to oversee development in the district and to formalize economic, physical, and networking asset development while having a direct line to the Mayor, as the city is the lead actor in the Detroit Innovation District effort.

In February 2015, a third draft, *Detroit Innovation District Strategy Document to Advisory Committee*, was presented (2015). This document laid out the strategy to highlight tangible and visible outcomes in the Detroit Innovation District. In this document there exists recognition for the attraction of new talent, but also to create pathways for existing residents. The initial phase of this implementable strategy is to derive a short list of initiatives to implement within a 24-month time frame. Here we see the establishment of a tangible metric, one that begins to ground the concept of the innovation district into a more feasible idea of what can be accomplished as an organized district. The number one recommendation is to focus on infrastructure. Once again, this demonstrates the shift away from growing specific clusters to a focus on density. The argument in focusing on infrastructure is that only 4% of the buildings in the district were built after 1980, while the remainder were not conducive to current

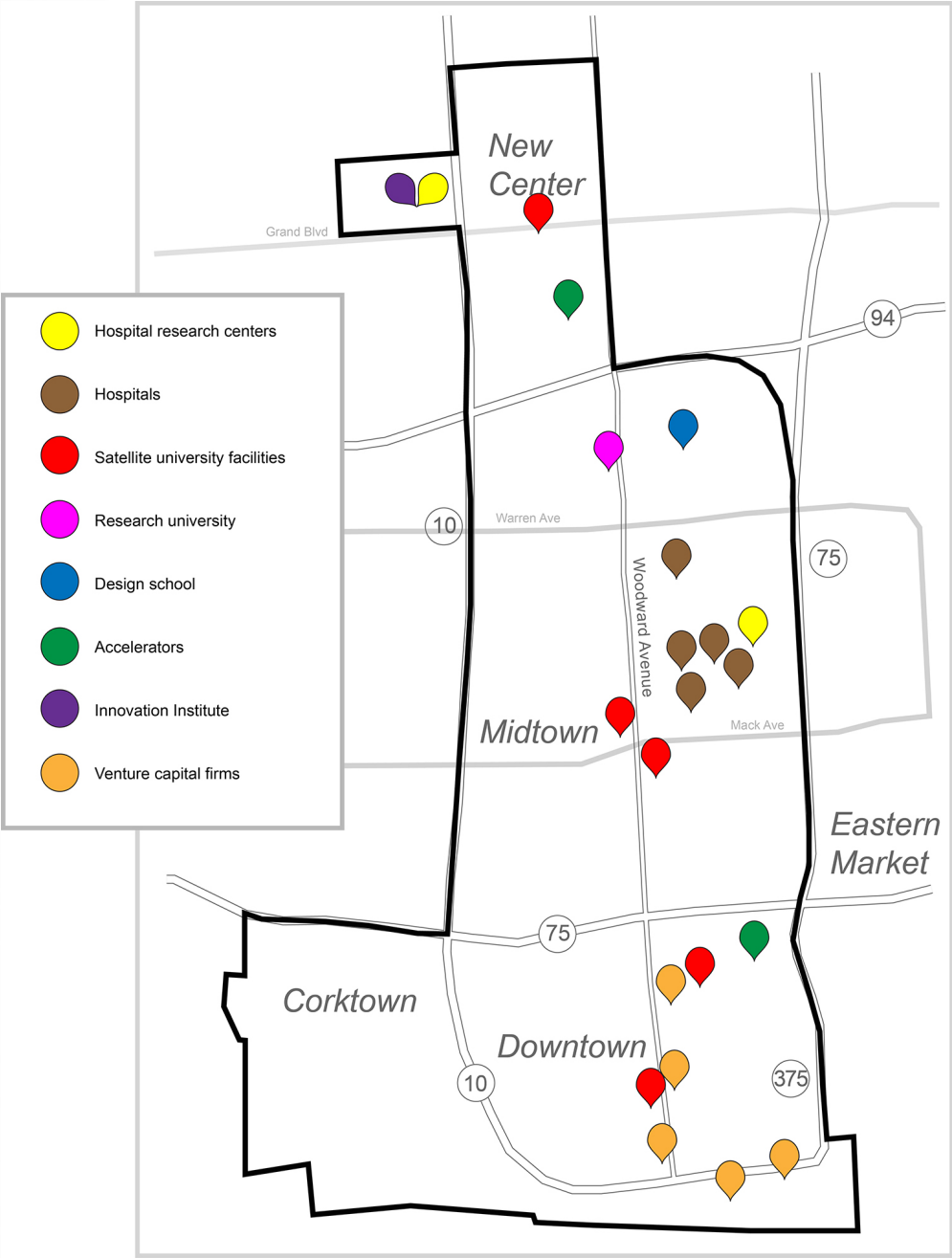
technology needs. A few elements have remained consistent regarding the understanding of what an innovation district would mean for Detroit. The first is that the district would function as a special zone for funding priorities of the state, as well as provide the justification for additional financial support from the federal government in the concentrated area. Additionally, the Detroit Innovation District would become an experimental area for the Mayor to advance changes in zoning regulations.

Part of the work that emerged from early Detroit Innovation District advisory and working group meetings was deriving an asset inventory for Detroit. The assets highlighted as part of the Detroit Innovation District include (see Figure 5-5):

- Two hospital research centers (Henry Ford Health System, Detroit Medical Center)
- Five hospitals (Children's Hospital of Michigan, Karmanos Cancer Center, Rehabilitation Institute of Michigan, Harper University Hospital, John D Dingell VA Medical Center)
- Five satellite university facilities (University of Michigan Detroit Center, Michigan State University Detroit Center, Grand Valley State University, Lawrence Technological University Detroit Studio, Central Michigan University)
- One Research One (R1)² University (Wayne State University)
- One design school (College for Creative Studies)
- Two accelerators (TechTown Detroit, TechStars Mobility)
- One innovation institute (Henry Ford Innovation Institute)
- Five venture capital firms headquartered in Detroit (Detroit Venture Partners, Renaissance Venture Capital Fund, Fontinalis Partners, GM Ventures, LLC, Rock Ventures)

² Research One is a university classification by the Carnegie Foundation indicating the highest category of research activity.

Figure 5-5. Detroit Innovation District Asset Inventory.



Source: Adapted from Kresge, 2016.

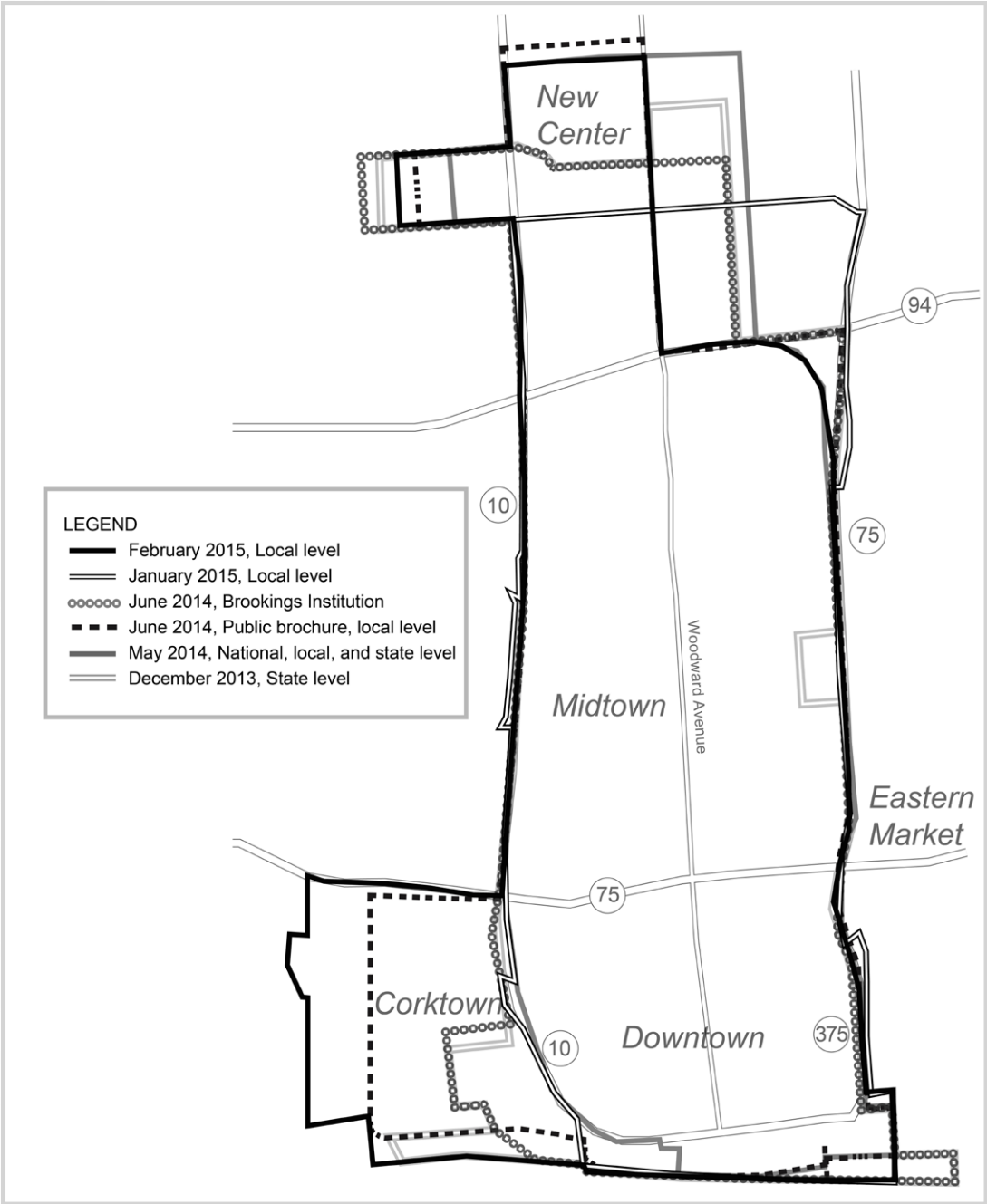
The concentration of these institutions in the greater downtown impacted the decision to overlay an innovation district in that area (The Detroit Innovation District: Recommendations for State Alignment and Investment, 2013). According to drafts for the innovation district, the decision to focus on the New Center, Midtown, and Downtown neighborhoods was also a result of the demographics. While most of Detroit was losing its population, the targeted area of the Detroit Innovation District comprised 3.1 percent of the city's land area, a little over 3 percent of the city's population (22,018), 52 percent of the city's employment base, and 9 percent of its business establishments (4,700) (Lewis *et al.*, 2014). Despite employment decline in the city, the Central Business District was demonstrating growth. Investments were also concentrating in that area with over \$880 million invested in the Central Business District, Lafayette Park, and Rivertown areas between 2010 and 2012 (*7.2 SQ MI Report: A Report on Greater Downtown Detroit*, 2013).

Considering these upward trends in growth and investments, accelerating this revitalization became the central justification in labeling the space an innovation district. As one respondent at the state level stated when asked the purpose for an innovation district in Detroit:

"[T]his should be something where we are unabashed and unafraid to say, we're gonna double down in this area because it is important, because we cannot fail. And so, it doesn't mean we're screwing over the rest of the state, it doesn't mean we are not going to invest anywhere else, but we are absolutely going to prioritize some commitments here" (personal communication, 2015).

In the 2014 public declaration of the Detroit Innovation District, officials did not specify the exact geographic boundaries of the district, preferring instead to name general areas it would encompass, thus foreshadowing internal disagreements on the official boundary. Consistent across all maps is the Woodward Avenue corridor as a focal point of the innovation district. The main differences between the various iterations are the fluctuations with the Corktown neighborhood line on the western border and the New Center neighborhood on the northern border (see Figure 5-6).

Figure 5-6. Detroit Innovation District borders from 2013 – 2015.



Source: Author, 2019

In all maps, Eastern Market also remains outside of the district. Unlike the formerly bustling urban agriculture markets in Chicago and New York with warehouse structures now converted into trendy lofts or office spaces, Detroit's Eastern Market maintains its economic vitality as an operating market in the heart of the city. Depending on whom you ask, Eastern Market sits either on the periphery or within the boundaries of Detroit's Innovation District. This is an important distinction. Proponents for its inclusion argue that urban agriculture is a growing sector with opportunities to demonstrate innovation through leadership and new conceptions of agricultural production. In addition, as a popular destination for a diverse array of people, Eastern Market epitomizes the type of spontaneous interaction innovation district boosters proclaim as necessary for innovation. In fact, in 2013, the Massachusetts Institute of Technology, a university that has significantly invested in developing the area surrounding its urban campus, recognized Eastern Market as a prime example of urban placemaking (Silberberg, Lorah, Disbrow, & Muessig, 2013). However, opponents' concerns center on the health and sanitation issues posed by an industry that slaughters animals on site. This raises questions about the idea of what innovation is and what it is supposed to do and if agriculture and livestock too closely connote an antiquated model of production not suitable for the tech economy. Furthermore, some respondents believe the layout of the Eastern Market impedes the ability to build around density.

6 CHALLENGES THAT CONTRIBUTED TO ITS DEMISE

6.1 Lack of definitional clarity

Spatially, a tension exists in determining the hard lines between where the innovation district begins and where it ends. But this same tension is evident in terms of the types of knowledge that can exist within the space. Whereby one individual adamantly believes that it is incorrect to target specific sectors because it will limit the possibility for new innovative and emergent sectors, another feels strongly that “[MSU’s] music school, isn’t necessarily helping in the innovation space” (personal communication, 2015). When asked what elements do not belong within the space, one respondent’s answer included the jail residing in the Downtown, heavy manufacturing, and a single-family house on 50 acres enclosed by a white picket fence, specifying:

“So I think that there are a number of different things and not all of them negative, they just don’t belong in the area, if you define it as a dense, vital, connected environment, just intuitively as you go through the list, you say, ‘ok, this makes sense and this doesn’t”
(personal communication, 2015).

Another respondent said, “I think that there are innovative things that are going on in [sic.] the craftsman side as well [that] probably don’t fit most people’s definitions, but they do from an asset building perspective for us” (personal communication, 2015). The lack of agreement among invested stakeholders between what ought and what ought not to exist in the space challenges the dissemination of the strategy. This issue is not easily resolved as fundamental disagreements exist among stakeholders on whether creating limits curtails the possibility for new innovations or if it is imperative to set clear cut boundaries.

A clear definition for the term innovation never appears in any of the unpublished drafts documents describing the Detroit Innovation District. This holds true for the state level organizing committee, the advisory committee, and the working groups. The ambiguity of the term purposefully leaves open space for interpretation of the term. Individual actors can strategically position the definition of innovation and the purpose of the district relative to their own personal interests so to marshal people and resources to achieve particular goals. At the same time, the purported flexibility in how the term is interpreted and how it is meant to indicate a welcoming of novel ideas or approaches is actually constrained in practice because the lack of agreement kept the strategy at a standstill.

6.2 Regional inclusion

One point of contention is the frustration among the local innovation district stakeholders on the lack of regional collaboration between those charged with the implementation of the strategy and nearby research universities. Take for example this comment: “I think the third stream of work, which to me is more interesting and potentially compelling in the long run, but is harder to land, is how do we get the three universities doing more in the city. The three, meaning Wayne [State], and [University of] Michigan, and Michigan State, and if you look at them as the largest producers of knowledge in the region, how do we translate that to more actions like commercialization within the city of Detroit? I think that is not an easy question to answer” (personal communication, 2015).

The University Research Corridor, an alliance between the three R1 research universities in Michigan (Wayne State University, University of Michigan, and Michigan State University), works to mediate such divisive comments. From its perspective, the tools to accommodate the knowledge economy are not changing fast enough: “policy makers aren’t on the cutting or the bleeding edge, they’re thinking on the trailing edge” (personal communication, 2016). The organization is quick to point out that Michigan’s regional health is demonstrated in the 32,000 students that graduate yearly from Michigan universities. Whereas in the early 2000s Michigan did not have enough job opportunities to capture these graduates, forecasts are demonstrating growing possibilities due to Amazon, Google, and Microsoft having operations in Michigan, as well as Ford hiring programmers and software engineers to accommodate its new identity as a mobilities company. However, these job opportunities are primarily located outside of the Detroit Innovation District and outside of Detroit. Even those that are not would still complicate the problem of people commuting to work rather than living within the city, negating aspirations to create a contained live-work-play environment.

6.3 Placemaking

The pressure to compete with other cities for talent circumvents a tactic to build a knowledge economy. The Detroit Innovation District stakeholders readily acknowledged what they stand to lose in the “war for talent” (personal communication, 2015) if “they need to be running but are actually moving at a very slow pace” (ibid.). Acquiring talent and addressing the immediate needs of the residents becomes the prime consideration, while fostering an innovation ecosystem is considered the responsibility of others: “I’ll let the Mayor figure those things out, I’ll let the federal government figure those things out, my job is to get people the things they want now” (personal communication, 2015). “[C]reating distinctions between innovation and entrepreneurship is unnecessary for this position because I just need to focus on the pragmatic side of developing the city” (ibid.). This sentiment is a reoccurring theme among stakeholders and highlights the problems of visibility and funding. As one respondent expressed, the complication of building an innovation district is that it first requires an element of success before people will actually stand behind the concept and “wave the flag” (personal communication, 2015). This is true for economic development and planning endeavors necessitating proof of initial success in order to expand (Myrdal, 1957).

Standing behind the concept requires two things. The first is the obstacle of demonstrating the purpose of focusing on innovation. However, as more than one respondent stated, the “innovation concept is still very squishy”

(personal communication, 2015). The second is the need to demonstrate success, or at least progress, and this is most readily accomplished by physical changes to the environment. Therefore, as repeatedly expressed by respondents, among government it became apparent that the concept was more about activating blighted areas and less about the innovation piece for the city (see below).

There exists a fervent belief in the importance of experience of place to attract talent. Here I do not refer to having the right funding sources or the right types of research, I am precisely referring to the experience of place as the focal point respondents gravitate toward so that these types of comments became common:

“Placemaking is critical to create the culture and reviving the density for the people doing the innovating. The innovating itself comes from the creativity of the individual doing the work. But without the placemaking they don’t want to be in that space to do the work. So that is why you’re seeing growth in the region happen in areas that have superior placemaking” (personal communication, 2015).

“[T]ake the place and make it more receptive and welcoming” (personal communication, 2015).

“[T]he most important thing is not so much the development of the individual patent or issue but can the culture of the district be one where it is walkable, bikeable, and hyper caffeinated. Cause that is where creativity happens” (personal communication, 2015).

Stakeholders firmly believe creating a welcoming and safe place to live is sufficient to attract the talent and firms that are integral to fostering a knowledge economy. The goal becomes creating a physically compelling site because, as one respondent vehemently argued, “people aren’t going to decide to live here because it is an innovation district. I mean, they are going to decide to live here cause it’s like a cool classic mixed-use district, they want the bars and restaurants, they’re not moving here because there is some worker space on the corner” (personal communication, 2015).

This demonstrates another example of the innovation component as too “squishy” since, for one, people are skeptical, and two, it is challenging for Detroit to focus on innovation when basic needs such as lighting, sewer, and safety take precedence in the declining city and stakeholders are working to cast Detroit’s image in a more favorable light.

6.4 Space and Funding

Space and funding persist as problems. At the local level, there is more demand for incubators and accelerators than supply. There is a lack of physical and cheap space for high-tech/high-growth firms. As for funding, there is a disconnect between the actual versus the perceived access to capital and talent. Thus, funding for smaller enterprises is readily available, but the awareness of its availability, in addition to the procedural knowledge on how to access it, is also lacking. The same funding pockets are not available for larger ventures. Because the current Duggan Mayoral Administration is focused on small business development, securing growth capital at the \$5-10 million level is challenging. In addition, resources are concentrated in specific clusters, rather than spread out across sectors.

Many respondents attribute the lack of funding for later stage development and the reticence to spread resources across sectors to an overarching risk-averse attitude of Detroit investors. A byproduct of such risk aversion and the comfort of investing in more established endeavors results in a lack of access for experimental capital, another critique expressed of Detroit’s innovation district strategy. Entrepreneurs attribute the lack of experimental capital to a dearth in “new money,” as opposed to the handful of foundations that are continuously circulating capital that is highly structured and controlled (personal communication, 2016).

The lack of funding is also equated with the inability of city government to hire forward-thinking leadership with an entrepreneurial mentality. The city has made a few prominent hires, such as Beth Niblock, poached from her position as the Chief Innovation Officer (CIO) of Louisville, Kentucky, to serve as Detroit’s first CIO and Jill Ford, an entrepreneur turned angel investor working in the tech scene (“City’s new star hire is a self-starter,” 2014). However, in the eyes of many of the Detroit Innovation District stakeholders, the city has a long way to go in acquiring the types of experts needed to create a well-functioning innovation ecosystem.

6.5 Expertise

The information technology (IT) talent gap posed a hefty challenge for the Detroit Innovation District stakeholders. The factual reality is a brain drain punctuated by the destitute secondary public education system, which does not prepare graduates for jobs in the IT sector. Some training programs are underway, but by and large the concern remains the inability to find individuals with proper skills to fill the demand for jobs.

Two other challenges in relation to expertise were mentioned by respondents. The first is the critique that Detroit lacks the generational knowledge in managing a startup venture. This lack of expertise is also evident in infrastructural challenges. Small businesses face undue complications in obtaining required permits to upgrade the existing infrastructure because a system is not in place to accommodate non-traditional operating procedures. Common examples include zoning codes restrictive to mixed-use developments argued as necessary to attract a talented class, as well as obstructions to high-tech infrastructure development. One hospital executive, focusing on the need for speed in an innovative economy questioned the possibility of moving fast in the absence of experts on legal matters related to patenting an innovation, or a human resource department that can put together a job description for a production designer (personal communication, 2015).

7 MODIFICATION OF STRATEGY

The Detroit Innovation District strategy in Detroit is under constant flux and, by most accounts, is no longer an active strategy. At the leadership level, one main division occurred between the advisory board members with ties to the Detroit Economic Growth Corporation (DEGC) and NEI leadership. The former was interested in moving toward a high-tech, high-growth business development cluster strategy targeting the food sector, medical health, and mobility, while the latter wanted a broader, more inclusive implementation to benefit a wider range of neighborhoods and residents.

In 2017, the Hudson-Webber Foundation, its parent organization, succeeded in a second round of funding (Raising 2.0) to sustain NEI initiatives through 2020. As NEI leads the charge on the Detroit Innovation District, this has resulted in increased efforts to redefine the concept and streamline objectives. The last proposal on the table (2015) entailed creating three

funds tied to specific deliverables (Detroit Innovation District: Update for DiD Advisory Committee, 2015). The first is the Detroit Innovation Real Estate Fund (DIRT). Its purpose is to activate the role of place for innovation and entrepreneurial uses. NEI funds \$0.5 million, in addition to \$3.5 million contributed by Midtown Detroit, Inc., and Invest Detroit. Funding from NEI is dedicated to acquiring properties for commercial purposes, while \$3.5 million is dedicated to assist entrepreneurial and business ventures in obtaining property and adequately preparing it for use.

The second fund (Challenge) is outwardly focused on improving the lives of the residents in any of the Detroit neighborhoods; in other words, it is not confined to the geographical boundaries of the innovation district. The purpose of this fund is for residents of Detroit to address problems in their neighborhoods. It is explicitly not intended for industries or commercial enterprises. The model for Challenge is to emulate pitch challenges. Residential pitches are confined to addressing problems faced by Detroit residents with innovative solutions. It is perceived as a way to incorporate a characteristic of the innovation culture (the pitch) but limiting it to improving communities. NEI funds this program with a \$1 million budget and would also own the delivery of the product, which can later be added to its portfolio.

The third and final fund is the Project Grant Fund. This \$250,000 per year fund exists to help broker projects already under way or to seed projects that NEI identifies as focusing on community needs. An example of a project that it is funding is Community Fiber, an extension of Gilbert's Rocket Fiber, an internet service provider, to two designated Detroit communities outside of the Detroit Innovation District. This fund operates on an open call grant submission basis or through requests for proposals.

Yet to be determined are the administration, management, and governance of the three funds. One possible solution is to establish three fellows to each oversee a fund: A fellow from NEI would oversee the Challenge Fund. Two others from two other organization would tend to the DIRT and the Project Grant Fund.

As it relates to the advisory committee, the last advisory committee meeting was held in December 2015. Two years after the formal declaration, three of the original advisory group members were longer on the committee. In addition, the working groups no longer convene.

One of the reasons attributed for the lackluster commitment was the absence of wholesale support and buy-in from the city government and administration. In addition, outside of the Brookings Institution and major Michigan stakeholders, the public was hardly cognizant of the strategy and the attempts to rebrand the greater downtown. In other words, at the local

level, the Detroit Innovation District did not function as a brand or as a signifier of targeted development within a particular geography. As two people expressed:

“Well, one piece of feedback that I heard from a couple of leaders was that our innovation district was, is, this huge lie, this huge box on a map. And while everyone agrees that there are different pockets of innovation going on, like the hospitals or up by Wayne State, or Downtown, everyone is like, ‘This is huge! Our innovation district is forced for miles.’ And I heard some people say it was actually like, five times the size of the biggest innovation district...why don’t we just circle the whole city while we’re at it, you know?” (personal communication, 2016)

“Some people felt like this stuff, some of it’s already happening and it’s just another brand to throw on top of a pile of brands that are all doing the same thing. So, there was definitely some skepticism. I’m not saying that it was deserved, but that was the challenge that I saw” (personal communication, 2016).

Based on many similar comments, one way to spin the outcome of the Detroit Innovation District is to proclaim that it failed as a high-tech innovation strategy. However, another way to frame its contemporary state is to recognize that the stakeholders adopted a global strategy and contextualized it to better match Detroit’s reality. Like other economic development strategy fads, the buzz about innovation districts can be harnessed or co-opted to serve local needs. From the onset, the Detroit Innovation District strategy was largely criticized for concentrating on a downtown core that was already in the process of growing. The Detroit Innovation District strategy gradually shifted its focus to include the neighborhoods outside of the innovation district boundary and moved away from high-growth innovative startups to include smaller neighborhood-type businesses.

8 CONCLUSION

This chapter documents the complications of implementing the Detroit Innovation District and provides necessary empirical evidence for a relatively young urban strategy rapidly adopted by economic developers and urban elites across the globe. I argue that the idea of an innovation district, especially with such an aspirational and promising name, makes it an easy and enticing strategy to grasp. In Detroit, a city with an obvious landscape of abandonment, this translates to stakeholders focusing primarily on aesthetic changes to the city to create lively spaces where residents can feel safe and buy into the narrative of Detroit's comeback.

Like many other cities seeking solutions to compete on the global scale, over the past several decades, Detroit has embraced a long string of fad-driven economic development strategies. The innovation district is no different. Interviews with economic developers, elected officials, philanthropists, and other urban elites navigating the development Detroit's Innovation District indicate how the innovation district rhetoric is adopted to target development within a delineated geography. These boundaries create a space that allows the Detroit stakeholders to rationalize pro-growth policy despite the shrinkage occurring in the remainder of the city. And yet, even within the bounded space, the line between building for innovation and standard city development is blurred in practice, meaning that stakeholders recognize how grasping up and coming trends is useful to receive funding for basic city provisions.

There are benefits from Detroit's attempt to implement an innovation district that can be separated from the many parallel initiatives occurring in Detroit not directly tied to the innovation district strategy. The first is that the Detroit Innovation District served as a platform to coalesce leadership around a table to collectively discuss a tech-based economic development strategy for Detroit. An asset inventory and categorization of stated aims was one outcome that materialized from advisory board and working group meetings. The second is that Detroit was given national attention due to the Brookings report and the amount of time Bruce Katz and his team dedicated to the city. This partnership also contributed to the above-mentioned asset inventory and provided a direct link for Detroit leaders to brainstorm strategies with innovation district and economic development consultants across the nation. The third, and most important, is that it highlighted the importance of inclusive city-wide development.

Considering the history of development favoring greenfield sites (vacant land on the suburban fringe) and the detriments that has caused to the city, the innovation district's attempt to focus on creating density and retaining a job base in the city is positive. However, the boundaries of the Detroit Innovation District neglected outlying neighborhoods that constitute majority of the city. The focus of an innovation district, based on Brookings' definition, is the growth of the tech-based economy. But the issue of the neighborhood inclusion diluted the strategy or made it less focused on tech and more focused on ensuring the inclusion of low-income communities.

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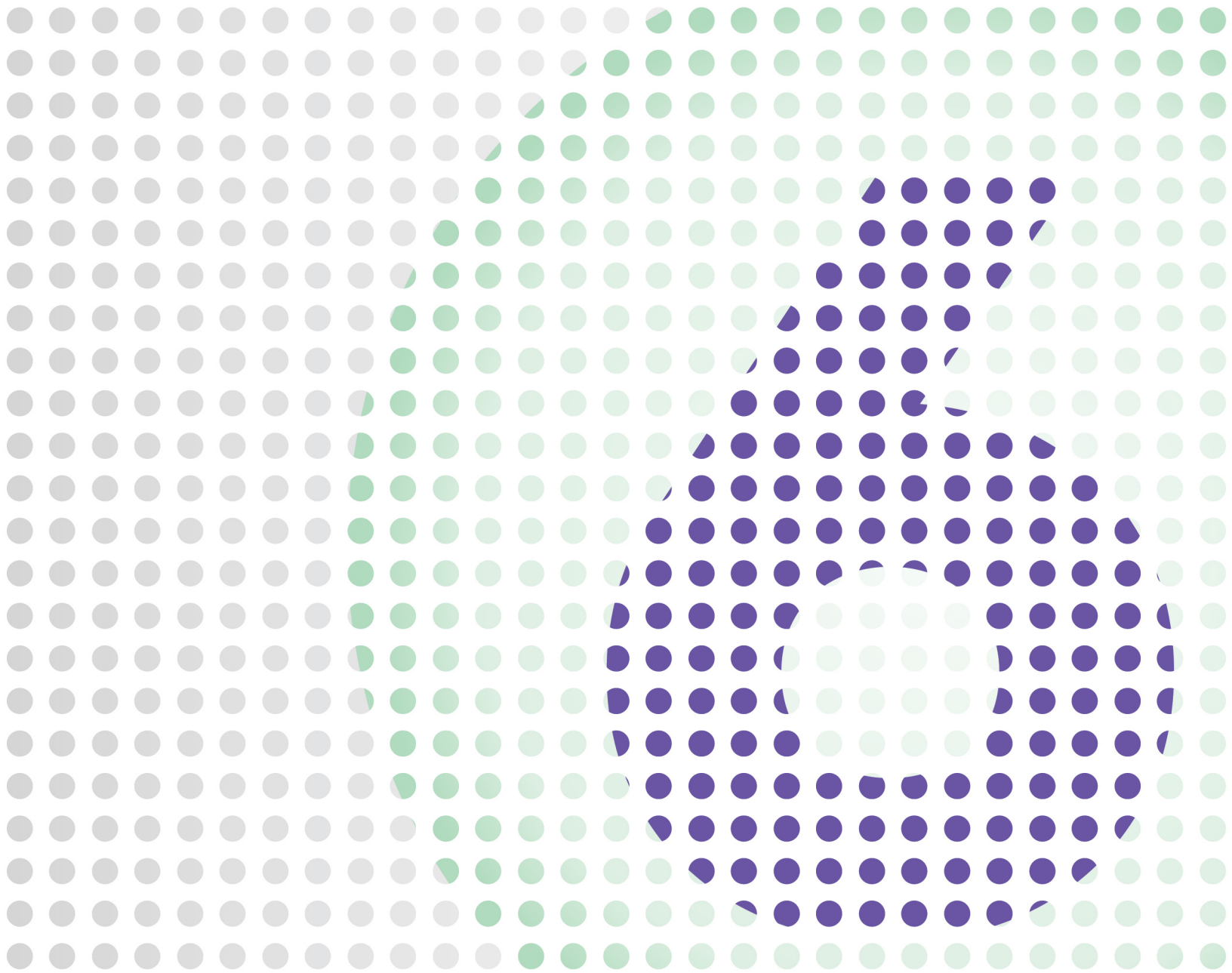
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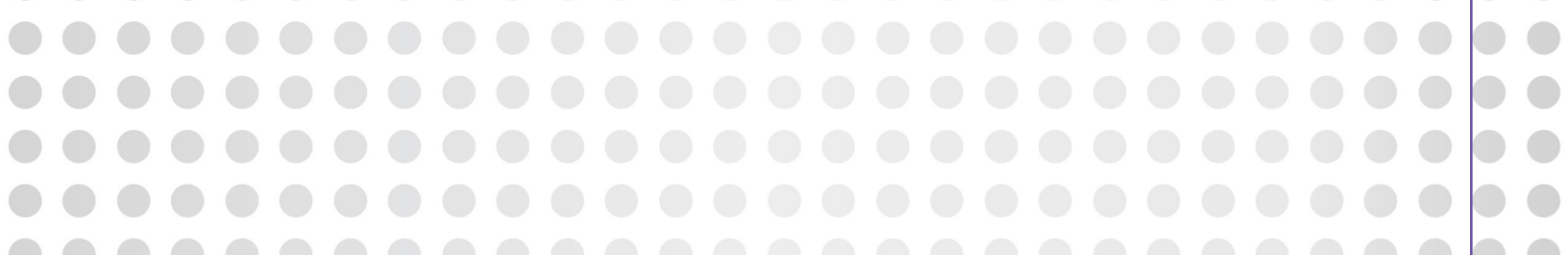
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CHAPTER 6: THE BOSTON INNOVATION DISTRICT



1 INTRODUCTION

On January 4, 2010, the Honorable Thomas Menino delivered the inaugural address for his sixth, and final, term as Boston's Mayor. He announced the creation of what would ultimately come to be known as the South Boston Seaport Innovation District:

A new approach is called for on the waterfront – one that is both more deliberate and more experimental. Together, we should develop these thousand acres into a hub for knowledge workers and creative jobs. We'll define innovation clusters – in green, biotech and health care, web development, and other industries. And there, we'll experiment with alternative housing models. We will test new ideas that provide live/work opportunities to entrepreneurs and affordable co-housing for researchers.

Mayor Thomas Menino, Inaugural Address, January 4th, 2010

The announcement was met with excitement among some, and apprehension among others. Few were privy to the mayor's plans for the waterfront beforehand, and the announcement left City Government officials wondering what steps to take, and businesses and residents in and around the district wondering what changes this might mean for their neighborhoods.

Within just few short years, the South Boston waterfront witnessed a nearly unprecedented boom of construction and job creation. The first of its kind in the United States, Boston's Innovation District became a poster child for innovation-led economic revitalization. The pace of development was staggering. A 2013 promotional flyer boasts the addition of over 200 new businesses and 4,000 new jobs to the Seaport since 2010, with over \$1.8 billion in new construction. By 2016 the number of new jobs was estimated at nearly 6,000 with even more development still under construction or permitted. The District attracted tech incubators (e.g. Greentown Labs, DryDock), co-working spaces (WeWork, Space with a Soul), a private college focused on entrepreneurship (Babson College), while the Cambridge Innovation Center (CIC, later renamed Community Innovation Center) took over management and event programming for District Hall. Old warehouses were rehabilitated and flipped into condos and studio apartments, with the Seaport notably becoming the fastest

growing neighborhood in the entire Commonwealth of Massachusetts between 2010 and 2015. Boston Mayor's Office staff reported hosting weekly delegations of development officials from around the world, all vying for similar transformations. Perhaps the District's crowning achievement was the 2017 announcement that General Electric (GE) would move its corporate headquarters from Connecticut to the Seaport, bringing over 500 high-end executive jobs.

However, the Seaport's tenure as home to scrappy tech start-ups was rather short, and the original vision of a 24-7 live-work-play laboratory for start-ups and millennial tech-workers never fully materialized. By 2017, commercial leases had risen from above \$50 and in some cases \$80 per square foot—effectively pricing out start-ups in favor of banks, law firms, and corporate giants seeking to rebuild their brand image and attract young talent. The City was more than eager to modify its original vision to accommodate. After mayor Marty Walsh took office in 2014, the City formally pulled back its singular attention to the Seaport to instead support several “Innovation Hubs” in different neighborhoods around the City. They even abandoned the Innovation District moniker and formally rescinded its branding campaign. As one staff respondent claimed, “Nobody calls it the Innovation District anymore...”(personal communication).

Today, the Innovation District is quickly becoming an enclave for “the empty nesters, investors, and people who live there five months of the year” (personal communication). Unlived in condos that sell for an average of \$2,117 per square foot are flipped for at least \$500,000 above the original price (Logan, 2016). Affordable housing is non-existent and rents in the District have skyrocketed (McMorrow, 2013), exacerbating gentrification pressures in South Boston and other nearby working class neighborhoods. High-end boutiques and destination restaurants line the waterfront and luxury vehicles navigate the streets. And although some innovative start-ups still exist in the nooks and crannies of Fort Point, the foci of entrepreneurial energies have pushed further east to the Marine Industrial Park.

Was the South Boston Innovation District successful or a victim of its own success? Or perhaps the Seaport was always destined to become a high-end luxury “Downtown South” regardless of initial efforts to steer it in a different direction? The answer likely depends on whom you talk to. Nary would an economic developer turn down the opportunity to claim home to the likes of Vertex and GE. Yet, the Seaport no longer exemplifies the live-work-play model for sustainable urban development as strongly touted by the Brookings Institution and others. Instead, it has become more of an “edge city” or urban office park that just happens to be a stone's throw from one of the most historic downtowns in the nation.

This chapter considers the Boston Seaport, in terms of its successes and shortcoming, as a model of urban revitalization built on entrepreneurship and innovation. We begin with a brief orientation to the geography and neighborhoods of the Seaport, considering both the Seaport's history as well as the relevance of the context of the broader Boston regional entrepreneurial ecosystem. We then quickly turn to profiling pivotal events that laid the modern foundation for the development of the Innovation District and its eventual transformation. We argue that although the Mayor's support may have contributed to the initial recognition of the District as an innovation hub, once the idea took hold, the pace of development ultimately overtook the ability of public officials to buttress the district from market forces.

2 THE SEAPORT, ITS HISTORY AND REGIONAL CONTEXT

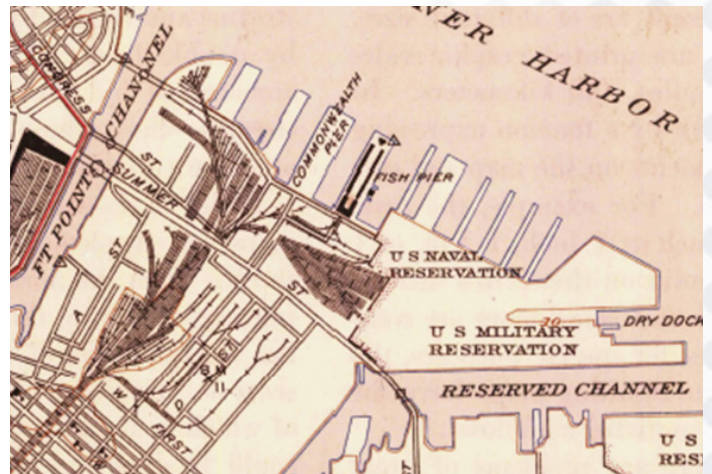
What is now referred to as the South Boston Seaport did not exist in Boston's Colonial era. It is landfill created through the dumping of sludge and sediment from the dredging of Boston Harbor during the 1800s and into the early 1900s (Figure 6-1). The modern shape of the Seaport began to take shape by the twentieth century with the western portion becoming the city's hub for commercial shipping and rail transportation and the eastern portion becoming a U.S. military base acting as a key transport hub for the Army and Navy through the First and Second World Wars (Figure 6-2).

Figure 6-1. South Boston Seaport, circa 1838.



Source: United States Geological Survey.

Figure 6-2. South Boston and Seaport, circa 1946.



Source: United States Geological Survey.

2-1. The Neighborhoods of the South Boston Seaport.

The South Boston Seaport is not a stand-alone district with a homogeneous identity. It is rather a collection of four distinct neighborhoods—each with its own history and character, but whose past and future are intertwined through proximity and a series of deliberate actions to bind them together: Fort Point, Fan Pier, Seaport Square, and the Marine Industrial Park (Figure 6-3). To these traditional four, we add a fifth: Convention Center/D Street.

Figure 6-3. South Boston Seaport, circa 2018.

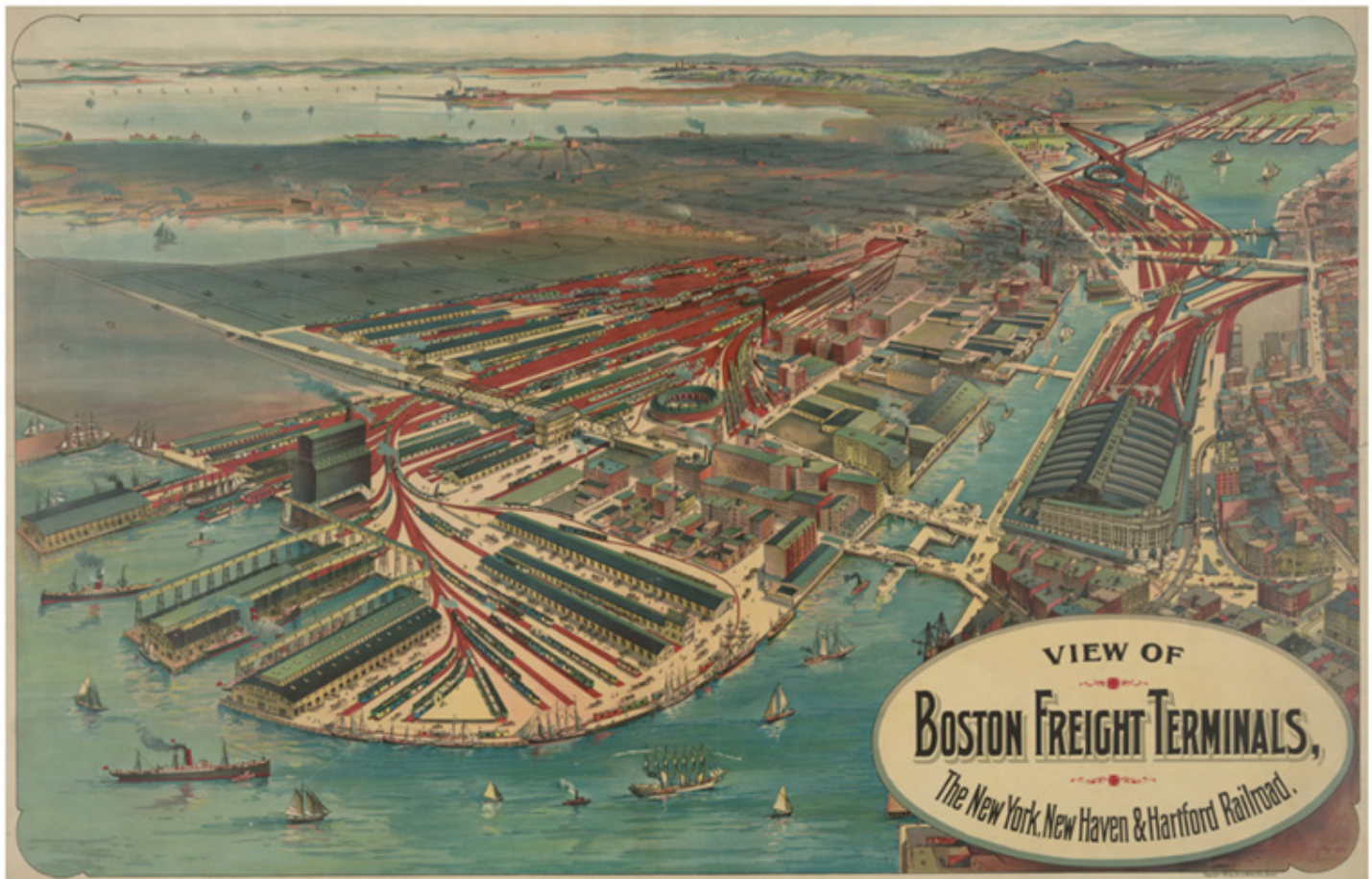


Source: Google Maps, authors labeling.

Fan Pier

The Seaport has its roots as one of the premier hubs for shipping and transportation on the East Coast, and it was Fan Pier that connected Boston to the rest of the world. At the turn of the 20th Century, rail yards covered much of the Seaport, with the Hartford, Boston and New York railways all terminating at the Fan Pier terminal. Trains would enter the terminal, fan out, and connect to different shipping births (Figure 6-4).

Figure 6-4. The Fan Pier Rail and Shipping Freight Yards (approx. 1900).



Source: U.S. Library of Congress.

As the shift to containerization favored deep water ports in other locations and the demand for rail waned, so did the fortunes of the Fan Pier terminal. Rail companies eventually sold their interests and the property lay dormant. This changed with the completion of the John Joseph Moakley Federal Courthouse in 1999 – the first tenant of the new Fan Pier. The Institute of Contemporary Art (ICA) was the next major tenant. At the time, much of the area was owned by the Pritzker family of Chicago, who intended for

a \$1 billion hotel, condominium, and office complex. They put out a bid for a cultural component of their development on a donated 0.75-acre parcel of land, Mayor Menino selected the ICA (Flint & Abraham, 1999) and the ICA opened in 2004 following a massive fundraising campaign (Leblanc, 2003). The building, features a large public patio with contemporary bleacher-like seating prominently facing the water, is one of the few remaining low-rise buildings on the site.

With the city's vision for a new center of innovation and the Big Dig opening up new avenues for development along the harbor, two major projects—Fan Pier, which was initially owned by the Pritzker family, and the planned BCEC [Boston Convention and Exhibition Center]—helped usher in a new era of progress for waterfront development.

Joseph Fallon, president of The Fallon Co. as cited in The Story of Fan Pier, a Catalyst for Boston's Waterfront

Jumping on the speculation bandwagon, in 2005, developer Joe Fallon, purchased the 21-acres of land on the waterfront between the ICA and the Federal Courthouse from the Pritzker family of Chicago for \$115 million. The Fallon Company was already involved in three other major Seaport projects in the: a luxury condo development known as Park Lane Seaport (2005), as well as two hotels with connections to the Boston Convention and Exhibition Center (BCEC), the Westin Waterfront (2007) and the Marriot Renaissance (2008). His plan for Fan Pier was to build a \$3 billion mixed-use development of office buildings, five-star hotels, luxury condominiums, and high-end retail.

Figure 6-5. View of Fan Pier from Downtown Harborwalk.



Source: Renski. (April 6, 2017).

Fort Point

The warehouses and brick factories of Fort Point once served and were served by the shipping and rail connections of Fan Pier. However, deindustrialization and modernization of freight shipping took its toll leaving the neighborhood largely abandoned by the 1970s when its older brick urban fabric and warehouses were turned into studios and galleries by squatting artists. Fort Point later became the initial hub of start-up culture in early days of the Innovation District (Figure 6-5).

Figure 6-6. Warehouses turned Innovation Space in Fort Point.



Source: Renski. (March 18, 2017).

At the western edge of Fort Point is the Gillette manufacturing facility, one of the few remaining large-scale traditional manufacturing uses left in the neighborhood. To the east of the Gillette factory is where GE proposed its 2.7 acre “Innovation Point” global headquarters. The original plan for Innovation Point called for the rehabilitation of two historic six-story buildings (formerly owned by the New England Confectionary Company) and the construction of an entirely new 12-story office tower. Plans for the office tower have since been scrapped, as GE recently announced it would be scaling back its Boston headquarters from an 800 to a 250-person workforce.

Seaport Square

Seaport square was once a rail switching yard for the Fan Pier terminal, turned parking lot (Figure 6-7). It is now in the next phase in the development of a high-end mixed-use community in the middle of the Seaport.

Figure 6-7. The view of Seaport Square, Fort Point, and Fan Pier circa 1999.



Source: Boston Redevelopment Authority. *The Seaport Public Realm Plan*, (1999).

Note: Financial District skyscrapers in background.

In 2006, John Hynes, a Boston millionaire, purchased 23-acres to the East and South of Fan Pier with the intention of developing a mix of luxury condominiums, boutique shops, upper floor office space and restaurants in the area immediately south of Fort Point and abutting Fan Pier to the east. This development, now known as Seaport Square, is currently seeing the completion of its early phases along Seaport Boulevard. When finished, it will mark the completion of much of the original development for the Seaport initiated under the Menino Administration. By its expected completion date in 2020, the 23-acre development is anticipated to include retail, offices, hotel space, underground parking, open air plazas, and over 3,000 high-end residential units (Figure 6-8). District Hall, the envisioned hub for the entrepreneurial community in the Seaport, was the first building constructed for Seaport square and remains the most striking example of the city's 30-percent innovation uses set-aside.

Figure 6-8. Artist Rendering of Seaport Square's Pedestrian Commons.



Source: Epsilon Associates, Inc, 2017.

The Marine Industrial Park

The 190-acre Marine Industrial Park was originally the location of the South Boston Army base, which was decommissioned in 1974. In 1983, the city created the Marine Industrial Park by purchasing the Bronstein Industrial Center, a massive eight-story 1.4 million square foot complex once used to store military supplies, as well as some of the neighboring properties from the U.S. Army and Navy (“The Innovation and Design Building,” 2018) (Figure 6-9). The lease on the Bronstein building was split into two halves. The eastern side eventually became home to the Dry Dock—an incubator specializing in bio-pharma, marine and other businesses needing a shared wet-lab facility—as well as a number of other innovation-based companies. The western side was eventually renamed the “Innovation and Design Center,” first becoming home to the Boston Design Center (a showcase and workspace for design professionals) and later to ventures like the MassChallenge Accelerator, the Autodesk Building, Innovation, Learning, and Design (BUILD) space, a testing facility for Reebok, and numerous other start-ups including some MassChallenge graduates.

Figure 6-9. The Innovation and Design Center / Bronstein Building.



Source: Grillo, Thomas, *The Boston Business Journal*, May 27, 2014.

D Street / Boston Convention and Exhibition Center

Although not typically considered one of the four primary “neighborhoods” of the Seaport, the area around the BCEC is slated to be the next major site for redevelopment in the Seaport. Like Seaport Square to its north, much of the 60-acre property where the BCEC now sits was originally used for rail yards and supporting warehouses. The BCEC was authorized in 1997 by an act of the Massachusetts legislature in light of growing concerns that Boston lacked a facility to adequately host major conventions and events. Along D street, abutting the convention center to the east, a number of old warehouses were recently redeveloped into condos, restaurants and boutique hotels. The western portion of the BCEC parcel remains a parking lot, but master planning is underway and may include some form of mixed commercial and residential space.

Figure 6-10. The Boston Convention and Exhibition Center and D street (pre-redevelopment).



Source: David L. Ryan. *Boston Globe*, “Baker halts \$1b expansion of Boston convention center.” April 29, 2015.

3 SETTING THE STAGE FOR DEVELOPMENT

The seeming meteoric transformation of the Seaport from parking lots to global innovation hub undermines the importance of the several decades of massive investments set in one of the most vibrant knowledge economies in the nation. In fact, one could reasonably argue that even in the absence of Mayor Menino’s efforts, high-end development of the Seaport would have happened anyway.

3.1. Regional Context and the Boston Area Entrepreneurial Ecosystem

The success of the Seaport cannot be disentangled from the larger Boston region. Boston is unique among our case studies in that it represents a market with deep innovation economy and a vibrant entrepreneurial ecosystem. For example, the Boston metropolitan areas consistently ranks in the top five for Venture Capital in the U.S., representing 10% of all U.S. venture capital investments in 2017.¹ It ranks third among all large metros (population 1 million+) in its share of the adult workforce with a graduate degree, and is home to leading educational institutions such as the Massachusetts Institute of Technology (MIT), Harvard University, Boston University, Tufts and many, many more.² The Boston Metro area has 12th highest share of online job postings in technology-related jobs.³ There are weekly entrepreneur meet-ups groups, established mentoring clubs and networks, numerous educational seminars hosted by area companies, universities, and incubators. This is opposed to the more the common case where policy leader view Innovation Districts as the means for building a positive entrepreneurial climate by concentrating the scattered bits of an ecosystem so the might benefit from knowledge spillover and other scale economies.

¹ National Venture Capital Association / Pitchfork data, <https://nvca.org/research/pitchbook-nvca-venture-monitor/>.

² U.S. Bureau of the Census, American Community Survey, 2017 Five Year Estimates.

³ Based on an analysis of 2018 Indeed.com job posting data. Available from <https://www.hiringlab.org/2019/04/18/tech-hubs-2019/>.

Although true that the Seaport was an underutilized industrial zone that suffered from years of disinvestment and neglect, the foundational entrepreneurial infrastructure existed in the region long before Menino proposed the Seaport. In fact, several of our interviewees mentioned that the Seaport was conceived as a means for the City of Boston proper to tap into the entrepreneurial energy of the region that had largely eluded it. As one interviewee put it “...with so much talent and entrepreneurial energy, why not direct construction to the blanket of parking lots and empty warehouses that covered much of the South Boston Waterfront?” (personal communication).

In particular, Boston officials looked at Kendall Square in the neighboring City of Cambridge with more than a fair bit of envy. Kendall Square is a mixed-use neighborhood to the north of MIT that attracted several early bio-technology research labs. Eventually, Kendall Square morphed into a start-up haven, claiming home to the Cambridge (now Community) Innovation Center (CIC). The CIC provides co-working and incubation space for over 400 start-ups, as well as research offices for many leading tech companies, including Hubspot, Apple, IBM, Google, Amazon, and Microsoft.

Despite the noted rivalry, the economies of Cambridge and Boston are closely intertwined. The booming entrepreneurial economy in Cambridge directly and indirectly seeded many start-ups that eventually landed in

Fort Point seeking cheaper space or entered the MassChallenge accelerator program. Others, like Vertex, found the Seaport a far superior location to scale up operations and signal to the world that they were now a major player (personal communications). While not right next door, the deep entrepreneurial ecosystem of meet-ups, mentoring networks, co-working spaces, and the like, that developed to support and sustain the start-up culture of Cambridge could easily be accessed by Seaport firms. Although it was not long before similar activities and support networks migrated to the Seaport with District Hall serving as the hub. Finally, the deep pools of young talent that attracts tech companies and venture capitalists to the region are not limited to a Cambridge address.

There is also symbiosis between innovation in the historic core of Boston, Cambridge and Somerville, and the Route 128 corridor that now serves as the region's inner ring. Route 128 was among the first technology corridors in the U.S. and became home to early tech-giants such as Digital Equipment Corp (DEC), Wang Laboratories, EMC, GTE, Raytheon, and many others. While technological and cultural shifts favored rival regions, such as Silicon Valley, the knowledge, talent and capital emanating from Route 128 continues to fuel the region's knowledge and innovation economy. The Seaport has particularly benefited as established companies like Autodesk, Reebok, and GE recolonize the urban core in order to access youthful talent and ideas. Smaller and scaling companies in the Seaport also find this location advantageous for easily accessing some of their corporate clients located along the 128 corridor and beyond.

3.2. The Big Dig and the Clean-Up of Boston Harbor

The single largest factor influencing the ultimate development of the South Boston Waterfront was the Central Artery/Tunnel Project, a megaproject commonly referred to as the Big Dig. Listed as the most expensive highway project in the United States, the Big Dig connected central Boston to the South Boston Waterfront through the construction of two underground tunnels (I-93 and I-90) and the extension of the Silver Line connecting the peninsula to the airport.⁴ The Big Dig broke ground in 1982 and was completed in 2006. The project continuously ran behind schedule and was rife with cost overruns that inflated its cost from an original estimate of \$2.6 billion to \$14.6 billion.

Nevertheless, the Big Dig has dramatically reshaped the city of Boston and played a major role in opening the Seaport for further development. With a dedicated exit ramp off the MassPike (I-90) and direct connections to Logan International Airport, the Seaport is now arguably the most accessible location in Boston. Its accessibility to distant locations was cited

⁴ The Silver line is a bus-based rapid transit system connecting Roxbury and downtown Boston to the Seaport and Logan Airport. From South Station to the Seaport operates along a dedicated underground right of way and circulates above ground on city streets for the remainder of its route.

several times as a key critical advantage of the Seaport in many of our interviews, and likely played a key role in transforming the district into downtown office park for corporate headquarters (personal communications).

The cost overruns and continual disruptions and delays associated with the Big Dig may have also indirectly contributed to the elevated pace of development upon its completion. Richard A. Dimino, the president of the Artery Business Community, stated that the efforts of the Big Dig, “demonstrates a wonderful story about how Boston’s new central highway system sets the stage for economic growth going into the next millennium” (Daniel, 2006).⁵ Of course, this could only happen “as long as development continues” (ibid). As a seeming financial boondoggle, it was imperative that the city and the state recoup investments from the project and the South Boston Waterfront presented that opportunity. This, in turn, may have led the city to favor larger, luxury residential developments, hotels, and glass office towers over more “neighborhood scale” treatments, such as walk-up townhouses, schools, and markets.

The clean-up of the Boston Harbor in the 1980s and 1990s was another pivotal event in making the Seaport an attractive place to live, work and visit. The Boston Harbor was widely recognized as the dirtiest harbor in the nation, surrounded by brownfields and suffering from over a century of contamination of sewage and sludge from Boston and neighboring communities. Nobody wanted to be near the water, and the public was advised to immediately go to a hospital if they fell into it. By 1985 a federal judge ordered the United States Environmental Protection Agency to oversee the clean-up of the harbor, culminating in one of the largest public works projects in New England and one of the nation’s greatest environmental achievements. Thirty years of litigation and billions of dollars later, U.S. Court officers officially declared the clean-up complete in 2016.

⁵ The Artery Business Community, now known as A Better City (ABC), is a non-profit with a governing board of business and institutional leaders. Recognizing the benefits that would result from the new connection, ABC banded together to represent the interests of the business community and to involve themselves as the key intermediary between project officials and the City of Boston, convening meetings on everything from construction mitigation to the number of highway ramps that would serve the downtown (“Our Origins: The Artery Business Committee,” n.d.). To date, ABC continues to work with the Massachusetts Department of Transportation and the City of Boston and is in the process of working on a proposal for a long-term transportation plan that will alleviate some of the congestion issues already evident in the commute in and out of the South Boston Waterfront (Powers, 2013).

3.3. Precedent Plans, Waterfront Regulation, and Overlapping Authorities

Menino’s proposed Innovation District included 1,000 acres covering Fort Point, Seaport Square, Fan Pier, and the Marine Industrial Park. The Innovation District was not the first time these 1,000 acres were cobbled together, and these predecessor plans laid much of the fabric for Menino’s ultimate vision for the Innovation District.

In 1999, the Boston Redevelopment Authority (BRA), under Menino’s orders, developed the Seaport Public Realm Plan. This was followed a year later by the South Boston Waterfront Municipal Harbor Plan. Both documents seek to guide development and land use on the 1,000 acres of

the southern peninsula with an emphasis on residential, commercial office, hotel, retail, and tourist-based developments. It is worth noting that the term “innovation” is largely absent from these plans, as are other contemporary concepts, such as the 24-7 neighborhood, that features prominently in later planning documents. However, these plans do outline the importance of mixed-use construction that underlies a vibrant 24-7 community. This would be accomplished mainly through the inclusion of housing, which comprises 40-percent of development activity under the Seaport Public Realm plan. Punctuating this, Thomas O’Brien, director of the BRA, stated, “The new housing to be developed must also have a sizable affordable component, and the BRA will not allow only the affluent to have the opportunity to live in this area” (*The Seaport Public Realm Plan*, 1999: p. i).⁶ Planning and development in Seaport is further complicated by state regulations governing waterfront development. Of particular importance is the Massachusetts Department of Environmental Protection Public Waterfront Act, more commonly referred to as Chapter 91. Chapter 91 is a public trust that grants jurisdiction over land uses in state tidelands and waterways to the state Department of Environmental Protection (*Environmental Permitting in Massachusetts*, 2003: p. 35-36). Much of the Seaport are considered tidelands and any structures and other forms of physical development along the waterfront must adhere to Chapter 91.

Development within the Seaport is even more complicated because of the overlapping interests of local and state governments, not to mention the many well-heeled private concerns. While the BRA owns many of the key parcels in the Marine Industrial Park, most of the land is controlled by MassPort, a state transportation authority. MassPort-controlled parcels include the ship maintenance dock, the marine passenger terminal, and most of waterfront property east of D street. The 70-80 acres comprising the BCEC and its abutting properties along D Street also fall under the jurisdiction of a state authority – the Massachusetts Convention Center Authority.

The practical relevance of Chapter 91 and the web of public control has likely been to slow the pace of private sector development, although it also ultimately favors larger developers with the legal staff and political capital needed to navigate the complex regulatory waters and curry favor with public officials in order to get projects permitted and approved. Although most interviewed said that the City and the state generally have a cordial relationship, it is also clear that they do not always share in the City’s vision for redevelopment. MassPort favors keeping parcels relatively underutilized for the sake of preserving the working waterfront and retaining the option for future use of its land for transport. This is exemplified by the current Chapter 91 license, which limits activities in the Park to marine industrial, transport and related uses. The City prefers a more expansive interpretation of permitted uses, including options for mixed used development

⁶ Following the Seaport Public Realm and the South Boston Waterfront Municipal Harbor Plan, a wide variety of planning documents were generated and approved by the BRA for development of the Seaport, but none encompass the complete 1,000 acres of the Innovation District. Each neighborhood has its own sub-plan that builds on the maiden documents: the Fort Point District 100 Acre Master Plan (2006), the Fan Pier Master Plan (2007), the Seaport Square Master Plan (2010), and the Raymond L. Flynn Marine Park Master Plan Update (2017).

and pedestrian scale retail and service, citing low demand for traditional waterfront uses (Raymond L. Flynn Marine Park Master Plan Update, 2017). Further inland, the BCEC's primary interests for its parcels along D street are for additional lodging and restaurants to accommodate event guests, not necessarily to provide additional residential housing options, public spaces, or other neighborhood-scale public amenities.

3.4. Control over Development

Mayor Menino's relationship to the powerful BRA was another critical factor that influenced the development of the South Boston Waterfront. Created in 1957, the BRA controls all economic development planning and real estate permitting in Boston. Any new development in Boston requires its approval. The BRA also owns much of its own land, collects its own revenues, and manages its own budget (McMorrow, 2014). For much of its history, the Mayor had nearly full reign over the BRA, namely by appointing all members of its five-person oversight board. Past Mayors opportunistically used the BRA's power of eminent domain to raze neighborhoods and build signature skyscrapers (ibid.). For the Innovation District, all development required a final sign-off by the Mayor himself. Menino used his power over the BRA to steer development toward the South Boston Waterfront, while, at the same time, drawing key concessions from developers in order to advance his vision of a 24-7 live/work community. Furthermore, it is a poorly kept secret that Menino played favorites. He facilitated development in the Seaport for his friends while rejecting applications from those not in his favor (Diesenhouse, 2015; McMorrow, 2014).

4 BUILDING AN INNOVATION DISTRICT

4.1. Previous Developments

In 2010, when Menino declared the Innovation District, the peninsula was not completely barren. However, the 1,000 acres were dotted with a variety of ad hoc building and parcel developments with no real coherence or connective tissue. Many start-ups had also already begun to take up residence in old warehouses of Fort Point, attracted by the gritty vibe of the artist colony and the abundance of cheap and flexible space. Even as late as 2010, large swaths of the Seaport were still empty parking lots while the shiny new office buildings going into Fan Pier largely remained vacant.

While much of the waterfront was projected for luxury development, the Marine Industrial Park on the far east side of the peninsula was to be protected for marine activity. In the early 2000s, development favored the maritime industry with thirteen seafood processors, and marine industrial terminals, dry docks, and warehouses located on-site. The Big Dig transformed a 35-60-minute journey into a 10-minute trip for transporting seafood. The Marine Industrial Park was a center for skilled blue-collar jobs and new innovations related to marine activity that were occurring at the time. But maritime and industrial uses never generated enough employment to fully insulate them from the pressure of wealthier development interests. In the mid-2000s, Menino considered selling off the Marine Industrial Park. Yet when an opportunity arose for Cargo Ventures to convert the building into office spaces, Menino rejected the proposal fearing that it would trigger office development across the South Boston Waterfront and that the proposal would not sufficiently support industrial and blue-collar jobs (Palmer, 2008).

Except for the uncertainty of the Marine Industrial Park, many believed that high-end development would eventually overtake the South Boston Waterfront, extending the downtown south of the Fort Point Channel. Speculations on the benefits of the Big Dig had spurned development activity from private interests and from Menino. However, Menino was concerned that private interests were dictating the growth direction, proposing high-rises and sport stadium developments. Considering that federal, state, and local government coffers funded \$20 billion to prime the peninsula (i.e., cleaning of the Boston Harbor, the construction of the Central Artery, the Silver Line Transitway, the Third Harbor Tunnel, and the Boston Convention and Exhibition Center), Menino felt it imperative that a doctrine protecting the public use of space and dictating private development was in order (*The Seaport Public Realm Plan*, 1999: p. i). More than anything, this order functioned as a way for Menino to ensure he had the final say on unfolding development.

In 1997 Menino began promoting the idea of creating a Cyber District in the South Boston Waterfront—a short-lived predecessor to the Seaport Innovation District. The Fort Point neighborhood was already starting to demonstrate the formation of a technology cluster, with some dot-coms, new media, technology companies, web design shops, and internet consultancies moving in. Even a Computer Museum was operating in the space. There was reason for Menino to be hopeful. Development in Boston was flourishing. The office vacancy rate was 1.3 percent. Buildings in the South Boston Waterfront were leasing for \$42 – 47 a square foot in the area compared to roughly \$65 a square foot just a few short blocks away in the financial district (Krasner, 2001). The eventual completion of the Big Dig could only accelerate the development of the South Boston Waterfront. It seemed an opportune time to push development in the South Boston

Waterfront. That is, until the tech bubble burst in 2000 (personal communications). This was a definite set-back for Menino's vision, but he did not give up on it.

In the mid-2000s speculative developers Joseph Fallon and John Hines purchased and planned for high-end residential and office space in Fan Pier and Seaport Square. But when the great recession hit in 2008, the City Hall halted all construction and marketing on the South Boston Waterfront, once again challenging Menino's visions for the peninsula (personal communications).

Still, the Mayor remained persistent, and in 2009 founded Boston World Partnerships in order to recruit and retain growth-minded businesses in Boston. Boston World Partnerships was initially funded by \$1 million from the BRA and \$400,000 in seed funding from Procter & Gamble. Later, Boston World Partnerships received an additional \$170,000 from a foundation run by State Street Corporation and Fidelity Investments (Kisner, 2010, Boston.com). In 2009, Boston World Partnerships claimed responsibility facilitating the move of Retail Convergence, an e-commerce company, from Downtown Crossing to the Seaport (US Fed News Service). Boston World Partnerships calculated that their connection translated to \$14 million in immediate salaries for the 100 new employees the company hired (Psaty, 2010).

When these connections were brokered, Fidelity was active in the Seaport and Procter & Gamble's Gillette factory sat right on the edges of what was to become the western boundary of the innovation district. State Street Corporation, though not located in the Seaport at the time, moved there soon after the announcement of the Innovation District. These organizations had vested interests in the ongoing development of the South Boston Waterfront as, at this point, they were still surrounded by parking lots and limited amenities.

4.2. Menino's Innovation District: Setting the Plan in Motion

"Imagine a place where an entrepreneur creates a new product while drinking coffee with a friend from the nearby university. After developing her vision with the help of local talent, the venture capitalist across the street funds her vision, allowing it to become a reality. In collaboration with the anchor firm down the street, that product is scaled and changes the face of the industry."

Hammar, 2015.

Whereas previous development was fragmented and saw a series of fits and starts, the innovation district was Menino's opportunity to build a neighborhood and leave an enduring physical legacy. Menino had a long-standing desire to "leave his fingerprints all over the Seaport" (McMorrow, 2014) and had approached his staff not long before his inauguration seeking 'big ideas' to mark his final term (personal correspondence). Andrew Feiberg, then advisor to the Mayor, suggested the idea of an innovation district, having been previously exposed to Barcelona's efforts with 22@bcn. He felt that Boston's environment for innovation-led development was ripe in many respects: college graduates who wanted to stay in the area; budding entrepreneurs lacking start-up space; an excess of underutilized and relatively affordable derelict warehouses; among other things (personal communications).

In the weeks and months to follow, the Mayor's Vision began to take shape. The general approach was to focus on a handful of innovation-related elements and then allow the market to take over. The Mayor's office dedicated a fulltime staff-position to act as Innovation District Director/Liaison. They made accelerated permitting and redevelopment in the Seaport a top priority of the BRA and used their extensive permitting and review powers to mandate that new development include a 30% set aside of space for "innovative uses." They negotiated the creation of District Hall to serve as the communal anchor for entrepreneurs in the District. In an attempt to keep rents affordable, the City permitted "micro"-unit apartments and further required 15% of new residential units be affordable by middle- and lower-income households. They recruited the pioneering accelerator program MassChallenge and the up and coming pharmaceuticals giant Vertex to move into the largely vacant office towers of Fan Pier, the former for no rent. They also actively recruited restaurants, food trucks, breweries and other entertainment venues to set-up shop and help give the district more of an identity as a 24-7 "live-work-play" destination.

After Menino publicly declared Boston's Innovation District, he insisted that the BRA and all efforts moving forward brand the neighborhood with the new name (personal communications). The rebranding of the South Boston Waterfront is starkly evident in the marketing materials that followed his announcement. For example, the initial master plan for the Seaport Square neighborhood was developed in 2008, two years before the innovation district announcement, by the New York-based firm Kohn Pedersen Fox Associates (KPF) with Hacin + Associates acting as the local urban design consultant. Not once in the 1,354 page version of the 2008 master plan does the word innovation appear. However, in 2010, following the public declaration of the innovation district, Hacing + Associates in collaboration with the real estate agency, Boston Global Investors, released a new executive summary of the master plan. This document is rife with innovation district rhetoric. Fueling this momentum, Menino assigned his

staff to continuously deliver presentations on his Innovation District. These documents, too, are filled with the promise of how space can fuel innovation (personal communications).

Establishing MassChallenge in the Seaport was perhaps the single most pivotal event that helped sell the brand of the South Boston Waterfront as a 1,000-acre cubicle for innovation. MassChallenge began in 2009, attracting start-ups from around the globe to participate in its Boston-based accelerator competition. When the 2008 recession hit, John Fallon could not advance on his \$3 billion destination neighborhood vision. When Menino received the tip that MassChallenge was looking for new space, Menino negotiated with Fallon for free rent space in the 14th floor of One Marina Park Drive in Fan Pier (personal communications). A venture capital firm, Spencer Trask & Co., and MassChallenge launched the start-up competition promising to award \$25,000 for a business willing to locate in the Seaport Innovation District. Menino publicized this award at during his keynote speech at Boston Globe's annual Globe 100 breakfast at the New England XPO for Business conference (Denison, 2010). From this competition, one hundred and ten entrepreneurs won free office space, access to business mentors, and legal advice. An example of the winning selections included a bottle-top water filter, a convertible stiletto high heel (from high heel to comfortable walking shoe), and a floating wind turbine that generates electricity (Ryan, 2010, July 26). This activity signaled that the new part of the city was going to be focused on innovation. It also signaled flexibility in the space and growth in creating a cluster.

Three years into its development, Menino recognized the need to meet the demands for affordable housing. To incorporate Menino's vision for a 24-7 neighborhood inclusive of artists, Menino created new zoning ordinances approved for the development of new houses, called InnoHousing, that are much smaller in size than the average apartment and include shared kitchen and communal living spaces.

Menino approved a \$150 million housing development with micro-units, as small as 300 square foot dormitories with shared living spaces and elements for communal lifestyles (Casey, 2010). West Coast development firm Gerding Edlen Inc. agreed to build these micro-units, stating of the neighborhood that the area is "a unique place where art, creativity, and innovation all collide" (Kelly Saito, president of Gerding Edlen, cited in Casey, 2011, October 20). The first units were designated for the Fort Point Channel neighborhood. They cost \$150 million to build and they replaced a 5-story warehouse. Of the 200 units to be built, 19 were to be rented below market rates. "They were designed for a startup crowd but are actually targeting a richer demographic, perhaps one that lives in the suburbs but may want a place to stay overnight now and again" (personal communication).

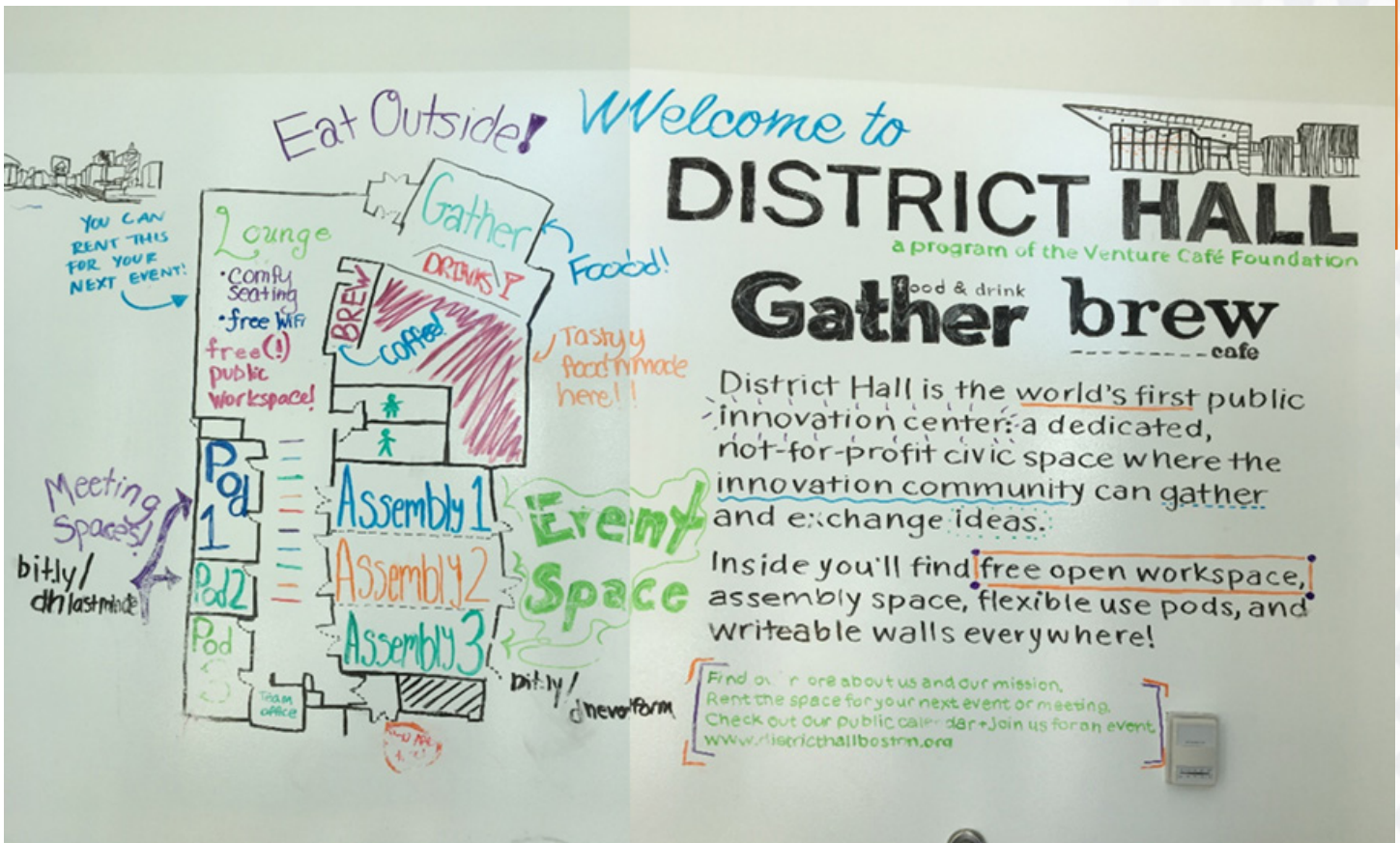
4.3. District Hall: Productive Public Space

Menino commissioned the development of District Hall in an effort to include civic space to anchor the district. District Hall, a \$7 million, 12,000-square-foot, free-standing public innovation center, was built “to foster collaboration among the young businesses and entrepreneurs” providing a “place or them to gather, innovate, and create jobs”(Farrell, 2013). Billing itself as the first public-private partnership focused on creating a civic space targeting innovation, District Hall is a dedicated civic space where the innovation community can gather and exchange ideas, its homepage proudly hailing it as “a new home for innovation in Boston” (“District Hall Webpage,” 2018). Unlike other innovation spaces in the district that are not easily accessible and guarded by private security, one of the benefits of District Hall is that it is open to the public and contains conference space, labs, classrooms for budding entrepreneurs. The building was built by Boston Global Investors a part of its 23-acre Seaport Square development and was leased to the city for \$1 a year for five years. Community Innovation Center (CIC) currently holds the lease and has ongoing responsibility for its operation (ibid.).

The design of District Hall seeks to convey the feeling of a “public library meeting a community center” (Hacin + Associates designer, personal interview, 8/02/16). Shaped by conversations with Kahn Pederson Fox, the lead designers behind the Seaport Innovation District’s master plan, the design of District Hall required flexibility to accommodate a number of possible eventualities. The aim was for the architecture to provide a “hack aspect” feeling through enclosed outdoor space to capture people’s imagination and attract millennials.

Classrooms and assembly spaces line the front structure of the building leaving the back structure available to accommodate an open floor plan co-working space (Figure 11). Clusters of two-person or four-person tables, couches with low-lying coffee tables, and a long rectangular table to accommodate eight people sit in the center of the room. Additional workspaces line windows that look out into the backyard. All the furniture is moveable and the plethora of floor or wall electrical outlets ensure batteries are constantly charged. Two retail establishments located in the building serve to keep the space open for 16 hours per day: Brew, a coffee shop that opens its business at 8 am and Gather, a full-service restaurant and bar that closes its doors at 2 am.

Figure 6-11. Entry Banner for District Hall, showing basic floor plan on the left



Source: Kayanan. (March 18, 2017).

However, District Hall is more than a building. Within District Hall there was initially an office for an Innovation District Manager who served under Menino's administration. The role of this position was to both manage events within the building, but also to create networking opportunities for users of the space and the public to attend. In this way, District Hall was to serve as an "anchor" for the innovation district concept (personal communications). In addition to its monumentality, District Hall is a good example of the centrality of innovation in society, as well as what design reveals about the new world of work. The benefits provided by District Hall include social connectivity, blazing fast Wi-Fi and Internet access, and easy access to transportation (personal communications). District Hall both serves as a space to congregate a nexus of activity in cheap space while also marketing and framing the vision for the Seaport Innovation District.

District Hall's BRA agreement states that the purpose of a public innovation center is to make the city more competitive in attracting emerging innovations, businesses, and jobs to Boston, retaining starts and innovations, and promoting innovation in existing Boston-based businesses (District Hall 121B Agreement, 2013). Within the agreement, activities that qualify as innovation related and are accepted on premise include:

1. Storytelling, idea generation, research, design, product development/improvement, demonstration, entrepreneurship, new business formation, access to business and market opportunities;
2. Create opportunities for conversation, mutual learning, interdisciplinary collaboration, open-ended exploration, problem-solving, and networking;
3. Improve access to and development of talent and access to capital;
4. Create or improve opportunities for collaboration within or across the education, business, government, and civil society sectors;
5. Seek to improve the cultural, urban, physical, institutional, and policy environment for innovation.

To date, District Hall has hosted events such as Rock Band competitions, parties on the street, weddings and receptions, and galas. That these events meet the specifications for the use of space points to the complication of pinning down the inputs of innovation as well as how public space is often commodified.

Nevertheless, the city and many others hail District Hall as widely successful. As the first public innovation center in the United States, it put Boston on the map and today serves as a model for the development of public innovation centers. It is an established template where entrepreneurs can connect with other startups for resources and where the general public can continuously access Wi-Fi. District Hall, its name a prominent representation of civic centrality, serves as a branding mechanism to heighten the reputation of the Seaport Innovation District.

4.4. From Start-ups to Giants

By square footage, most of the commercial space in the Seaport is not part of the innovation economy. Rather, it serves traditional business tenants, many in law and finance, hotel rooms, upscale condominiums, and high-end retail (personal communications).

Even many in former Mayor's office admit that the innovation district brand was primarily a way to get momentum going. However, the reality of the location meant that the Seaport would eventually require larger, more established legal and financial firms to bankroll the development. In turn,

large corporations looked to the seaport to tap into the innovation potential and start-up culture of the urban core, rebrand themselves as cutting edge, as well as attract and retain a tech-savvy workforce who increasingly favor urban amenities and lifestyles.

Vertex's (2011) move to the South Boston Waterfront served as a signal that Menino's vision was coming to fruition but also sent an early signal of things to come. Vertex had recently received U.S. Food and Drug Administration approval for a new drug, which shifted their status from a funky creative research and development lab in Kendall Square to a major pharmaceutical company (personal communications). When Vertex had the opportunity to build, it could not find enough space in Kendall Square. Vertex also wanted to show the world that it had a business model that could scale up. People taking off from Logan Airport could see a shiny building with the Vertex logo (personal communications). Vertex also received tax breaks for moving to the Seaport. Thus, when Menino declared the innovation district there was not much money in city coffers for additional development (personal communications).

GE provides another example. In 2016, GE announced its plans to move its global headquarters to the Seaport as a way for to rebrand its image to aligned with its Internet of Things direction. The move would also allow GE access to young talent as well as benefit from localized knowledge spillovers for smaller tech start-ups. When Jeff Immelt, the CEO of GE was asked why he decided to relocate the company from the suburbs of Connecticut to the Seaport, he replied, "I want [employees] to walk out of our office every day and be terrified. I want to be in the sea of ideas so paranoia reigns supreme. To look out the window and see deer running across? I don't care about [that]" (cited in Logan, 2016, March 25). The deal was sweetened by \$150 million in state and local incentives for its promise to bring 800 jobs (Logan, 2018, May 2).

Moving to the South Boston Waterfront also made sense for established companies due to the available large open parcels conducive to new construction, as well as space for bigger floor plans. As a case in point, Procter & Gamble, the parent company of Gillette, agreed to sell GE 2.5 acres of the 44-acre Gillette campus for GE's move to the Seaport. GE promised to rehabilitate two empty brick warehouses that used to house the New England Confectionary Company (NECCO), and to construct a new building that BRA would own and lease back to GE rent free for up to 20 years (Logan, 2016, March 25). But by February 2019, the declining statue of GE forced a major shift in its plans. While still planning to relocate to the Seaport, GE announced it would downsize its HQ workforce to just 250 jobs instead of the initial 800 and would no longer build its 12-story office tower. Instead it would lease space in one of the two recently renovated NECCO buildings. Nevertheless, GE intends to complete construction

⁷ Failing to live up to its promised employment goals, GE recently agreed to forego \$87 million of Massachusetts' relocation incentives package.

on its promised public spaces along the harbor (Harrison, Feb 14, 2019).⁷ Today, there are few large parcels left available in the Seaport. Whether that means the larger companies will continue to buy out smaller companies to expand their operations remains to be seen.

5 ANYWHERE AMERICA: THE MODERN DOWNTOWN OFFICE PARK

“Walking around the SID you feel you are surrounded by Goliath building. It is not built at a human scale. It is built for a square footage and a dollar and capacity amount to make a certain amount of cash”

(personal communication).

Six months into his declaration of an innovation district, looking out onto the opportunity to convert clamshell flats into a new development, Menino stated, “Everybody expects us to build high-rise condominiums, offices, and retail in the South Boston waterfront; that’s anywhere America. I don’t want to be that location of anywhere America. I want it to be a special part of our city, a leader in the new economy” (Mayor Menino, cited in Ryan, 2010). Almost ten years into its development, Boston’s Innovation District has effectively priced out the possibility for startups and virtually eliminating the possibility for a true neighborhood. The Seaport has become exactly what Menino said he would not build: high-rise condominiums, Class A offices, and luxury retail.

5.1. Entrepreneurship Priced Out

When Menino branded the South Boston Waterfront as Innovation District, the main objective was to resurge the real estate market. To put it in the words of Dot Joyce, Menino’s spokeswoman in 2014, they wanted the Innovation District to “create a big tent to encourage more businesses to consider Fort Point Channel, the waterfront, and the Marine Industrial Park” (cited in Kirsner, 2014). This immediate drew the concern of many residents of the Fort Point Channel and the artist communities who had worked hard to retain the gritty and authentic character of their neighborhood. In the words of one respondent, “[they were] pissed that young bros

were going to be put in the neighborhood.” It took a series of community meetings and door-to-door explanations to communicate the right message to the Fort Point community (personal communication).

Some expressed the concern that a district based on startups was a doomed idea from the start because it was missing the academic leg. One business management consultant discussed the challenges of a lack of satellite offices, university anchors, or anything to suggest connection to the Boston/ Cambridge area institutions. Plus, it was obvious to this consultant that the South Boston Waterfront would suffer from cheap space deficit as the area was designed to be an extension of downtown and Back Bay. In other words, it was always meant to be high-end and expensive (personal communications). Some respondents, critical of the themed development of the Seaport, emphasized that Boston’s economy was already innovation-related and that rebranding any one component of the city as innovative was unnecessary.

While Fort Point and Fan Pier served as the initial spark, the Marine Industrial Park now anchors the core of entrepreneurial innovation in the Seaport. The Bronstein Center has been rebranded as the Innovation and Design Building and outfitted with flexible floor plans and over 1.5 million square feet for smaller start-ups looking for space in an incubator and scaling companies looking for room to expand. MassChallenge moved there in 2013, after Fallon decided not to renew its lease in his Fan Pier building. Other start-ups moved in soon after, including several graduates from MassChallenge. The Innovation and Design Center also houses the research arms of larger companies, such as Adobe’s Autodesk and Reebok, but also carves out flexible floor plans for wet labs, maker spaces, and food and retail amenities (“The Innovation and Design Building,” 2018).

Almost ironically, many of the smaller startup and high-tech firms that have been priced out of the Seaport are now moving into the spaces in the traditional downtown, namely the Financial District and Downtown Crossing. Places the legal and financial companies are leaving vacant in their relocation to the more glamorous Seaport. Some see this fabric as more representative of the live-work-play lifestyle in that it offers cheaper space (around \$30 to \$40 per square foot versus \$70+ for space in the new Seaport office buildings), it is better connected through transit-oriented development, there are more residential options, and new restaurants are continuously opening (personal communications). Discussing the existence of any regrets in moving his company from the Seaport to Downtown Crossing, Art Pappas, the CEO of Bullhorn, said, “I like being where the next up-and-coming neighborhood is. I’m calling it Innovation Crossing. The Innovation District is kind of crossing the channel” (cited in Chesto, 2017).

5.2. Not an Innovation District nor a Neighborhood

The Innovation District model is predicated upon the belief that dense, mixed-use, transit-oriented developments will attract the right mix of creative and talented individuals. These individuals will, in turn, collaborate in an environment conducive to the spontaneous interaction that leads to ideation and, ultimately, commercialization. Despite the planning documents that hail a narrative of protecting the public realm, ensuring diversity in housing, and promoting community, the focus on any form of inclusion has fallen short—particularly with respect to diversity of housing and work opportunities.

It is telling to compare Hynes' initial master plan for Seaport Square (completed in 2009) with the budding reality on the ground. An article in the Boston Herald ran the heading: "Rising tide for Seaport; Hynes scheme foresees homes, church, parks, visitor center" (Grillo, 2010). The same article cites "Hynes plans to add playgrounds and ballfields, which will contribute to making it a home for families" (Grillo, 2010).

The built environment tells a different story. The church was demolished and moved across the street from Hynes' development, the amount of park space is seriously under question, and a visitor center was never built. WS Development, the commercial arm of the Seaport Square, proposed supplanting a 1.25 acre park with a new office building (Logan, 2017a, 2017b). For a while, within these same plan alterations, the permanence of District Hall remained in question. One idea included razing the structure to make space for an office building. When adamant support for District Hall came forward, Joseph Fallon suggested building a new center inside of another building. These proposed changes triggered an outpour of letters both supporting and opposing the idea. The discrepancy with District Hall points to the lack of investment in keeping the Seaport an affordable and flexible space for innovation. Despite the fact that the developer ultimately agreed to extend District Hall's lease for another 10 years (Logan, 2017c), attempts to retain the Seaport as an innovation district are long gone.

There are no schools, libraries, or grocery stores on site in the South Boston Waterfront. The area lacks the feeling of community. This might be understood from the perspective that the South Boston Waterfront is in early stages of development. However, if existing plans do not include these amenities, then time will not increase the feeling of community. Menino wanted a lively 24-7 neighborhood, but this outcome is precluded by the lack of public space and community amenities.

In terms of housing, one- to two-bedroom condominiums are the primary stock. Rare is it to find three-bedroom options, the type most conducive to families. Housing diversity also falls short in the lack of affordable options.

In the innovation district there is a 30-percent affordable housing requirement for all new residential developments. However, developers can pay to not build affordable units on their parcel but to have the city put the units elsewhere (personal communications). Once the market took over, developers were able to circumvent inclusionary development policies. Developers contributed a total of \$12 million toward affordable housing and linkage funds generated by commercial properties brings the total to \$31 million, but those monies have been spent developing affordable housing in lower-cost areas of the city rather than the waterfront (Collins & Forry, 2017). The live-work-play component of the innovation district is only for the wealthy. The rest must commute.

While it remains highly accessible for those coming in from Logan or east-bound on I-90, the South Boston Waterfront suffers from ever-worsening internal congestion. Mayor Walsh's administration's Go Boston 2030 plan seeks to decrease reliance on vehicular transportation, yet City Hall is addressing congestion by building more parking in the Seaport. One engineering firm will design a 550-space addition to an existing garage in the Marine Industrial Park, plans are already underway for 2,100 new parking spaces, and the Massachusetts Port Authority is constructing a 1,550-space garage for \$85 million near the Boston Convention and Exhibition Center (Ramos, 2017a). The heavy reliance on cars, minus the incorporation of schools, libraries, or large parks, leads some to state that the Seaport looks more like a suburban office park than a neighborhood. Speaking to this, Ramos (2017) described the Seaport as having a suburban office park vibe: "there's hardscape everywhere —surface parking lots, concrete sidewalks, overly wide streets." The increased focus on cars and parking garages also begs the question of how this contributes to a dense and connected innovation ecosystem.

Blue-collar jobs and those in the service sector cannot exist in the peninsula. A few indications point to the Marine Industrial Park slowly losing its grip on maritime industry. Jamestown Properties, an investment and management real estate company, purchased the master lease to the Boston Design Center and Bronstein Center in 2013 for \$120 million. Incorporating the price of upgrades into the rent means that long-time tenants, such as Design Communications, a 40,000 square foot sign making company working over three-decades out of the Bronstein Industrial Center, will be pushed out (Logan, 2015). Furthermore, the recently completed master plan for the Marine Industrial Park strongly advocates for a greater mix of uses by integrating residential, office, industrial and other uses into the many city-owned buildings in the park. Meanwhile, the Boston Planning and Redevelopment Authority is already looking to new neighborhoods for industrial uses and blue-collar jobs for Walsh's Imagine Boston 2030 city-wide master plan.

Back at City Hall, the general consensus under Mayor Walsh's administration is that innovation need not be confined to one location. In fact, a series of neighborhood innovation district initiatives are currently underway throughout the city (Mayor's Office, 2014). District Hall, while initially only managed by an in-house Innovation District Manager, is now also tied directly to the Office of New Urban Mechanics and the Startup Manager, two offices within city government. The Mayor assigns a representative from New Urban Mechanics to rotate through the Seaport and the other neighborhood innovation districts. Overshadowed by glass façade high rise condominiums, the single floor District Hall seems to have done what it could for the Seaport Innovation District: namely, raise real estate prices.

6 CONCLUSION AND LESSONS LEARNED

On the one hand, Boston offers an excellent case study in what to do to promote innovation districts. On the other hand, it provides an equally valuable study of what not to do to if one wishes to remain true to the vision of an innovation district as a continually and self-renewing hub for new companies and new ideas. The importance of strong leadership cannot be over stated. The strong support of Mayor Menino and insistent promotion and branding efforts were pivotal in establishing the Seaport as an Innovation District. The mayor's early efforts advocating for live-work-play friendly policies (such as permitting micro-unit apartments, requiring set-asides for innovation and public space, hiring a district liaison to work with existing residents) all held considerable promise in crafting an environment in which entrepreneurs and innovators could flourish.

Yet, despite these efforts, the Boston Seaport eventually transformed into what many believed was always its true destiny – a shiny suburban office park that just happened to be in the heart of the city. The Big Dig re-opened the Seaport to the rest of the city and the rest of the world, and the clean-up of the Boston Harbor made it one of the most beautiful. The 2008 recession hastened major high-end developments, such as Seaport Square and Fan Pier, allowing entrepreneurs seeking cheap and flexible space to fill the empty warehouses of Fort Point and develop roots in the District. But once the market picked-up, these developers brushed-off their plans and continued to pursue their original visions. The city either lacked the power or the will to curtail these powerful market forces, and the election of a new mayor, with a new vision, put a formal end to Menino's plans.

The vision for a live-work-play district in the Seaport is not entirely gone, however. Fort Point remains the home for many enterprising small and medium sized technology companies. Some of these tenants moved to the District as struggling start-ups when it was an entrepreneurial frontier and have since found the Seaport a useful space to grow. As one interviewee explained, when the company was starting out, Fort Point provided affordable rents in informal spaces and was relatively easy to access from areas in Boston. Furthermore, the youthful adherents to 24-7 coder-culture liked the gritty vibe and co-locating with the artist and artisan studios – even absent places to eat or get coffee. As other small tech companies moved in, they benefited from the agglomeration of ideas and the general buzz of being part of a vibrant growing neighborhood wrapped in a cultural movement. As the company expanded, their needs changed. The internal accessibility to the city lessened with increasing congestion, the external connections to clients along Route 128 or access to Logan became more prominent. They added marketing and accounting staff who preferred to commute in from the suburbs. Some directly benefited from the influx of corporate headquarters and other well-heeled companies, who eventually became clients and partners. In short, the district evolved along with the needs of its some of its tenants.

It is also possible that the vision for a live-work-play community might be realized at the far end of the peninsula in the Marine Industrial Park. The covenants limiting development to marine and related uses under Chapter 91, coupled with state ownership of the drydock, marine terminal and several key parcels make high-end development highly unlikely. There is also considerable space for small and medium sized companies in the colossal Innovation and Design Center and its neighboring building. Furthermore, the recent update to the master plan clearly advocates for an increased mix of uses in the abundant city-owned parcels, including retaining some industrial uses while adding more amenities along with upper floor residential and flex space (Raymond L. Flynn Marine Park Master Plan Update, 2017). It also calls for developing a more pedestrian-scale street network and additional public green space. Unfortunately, the fulfillment of this vision would be at the direct loss of some of the last remaining and dedicated industrial spaces in the city.

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CHAPTER 7: COMPARATIVE LESSONS AND CONCLUSION

1 OVERVIEW

Chapters 3 through 6 describe the innovation district case studies, supplying detailed descriptions and assessments to help policymakers better understand and contemplate the economic development application of innovation districts in these four and other potential locations. This final chapter briefly reviews five key themes by examining contrasts across the cases. For these subjects, the direct comparison across multiple innovation districts acts to sharpen distinctions and clarify insights valuable for policy development. The last section of the chapter concludes the report.

2 COHESIVE AND EFFECTIVE LEADERSHIP

For all that it is a cliché of economic development and policymaking in general, leadership has been critically important in the development of the four innovation districts. Although leadership may not refer to quite the same thing across each of the cases, as a broad characteristic its presence and effectiveness relate directly to the progress and positive outcomes we observed. The varying types of leadership on display and the different contributions of the individuals spearheading or managing the innovation district projects illustrate the diverse functions of leadership in innovation district policy development and operation.

Cortex, the St. Louis entrepreneurial district begun in 2002 that later evolved into an innovation district, was backed from its inception by an association of elite actors representing respected nonprofit institutions and organizations. The substantial resources controlled or steered by this group and the reputations of many of its members certainly contributed to its influence; however, earlier efforts to develop the entrepreneurial community advocated by many of the same individuals and organizations did not flourish in anywhere near comparable fashion. One difference may have been swelling anxiety over the continuing decline of the region's corporate strengths and traditional industries. Yet comparable economic circumstances did not maintain efforts in the same way in the case of Detroit. The achievements of Cortex owe a great deal to its early champions' capabilities to persuade, cajole, and maneuver to secure substantial institutional, political, and financial support.

A different aspect of leadership is exemplified by the transformation of Cortex into an innovation district in the early 2010s. Dennis Lower, the CEO hired by the board of directors to rescue the then faltering effort, reimagined the site as a modern innovation district, then designed and led the implementation of tactics that accomplished the makeover. Without these two types of leadership, it is unlikely that the Cortex Innovation Community would exist in the form and with the momentum that it boasts today.

The trajectory of Boston's innovation district can be traced through its leadership as well. Initiated by a strong mayor, the early development of the district was directed by the machinery of city government to generate a location explicitly and distinctly geared toward entrepreneurs and innovation. The thriving entrepreneurial ecosystem of the Boston region ensured interest in the new district, including from plentiful potential tenants, yet it is hard to imagine that the particular site would have developed as it did lacking active city management. By the same token, the change in leadership that occurred with the mayor's retirement and replacement with a successor who was more agnostic toward the type and characteristics of development in the Boston Seaport proved to be decisive. Absent the leadership that had guided the Boston innovation district along its narrow, targeted development path, the critical entrepreneurial ecosystem components of the area could not be maintained.

The Detroit and San Diego cases also demonstrate the crucial role of leadership in establishing and sustaining innovation district policies. The Detroit innovation district effort boasts the involvement of many local leaders and organizations, importantly achieving an unusual agreement regarding the need for a technology-based economic development strategy for Detroit. Yet this leadership group lacks unity in direction and commitment to a common vision. The particular issue of how wide to spread the umbrella of the innovation district, including whether and how to emphasize neighborhood inclusion, has split and undermined the innovation district project.

The I.D.E.A. District in San Diego illustrates both the importance of leadership and some of its limitations. Private sector actors, two real estate developers in particular, have led the development of the district by supplying the vision, persuading landowners and other stakeholders, and hiring planners and development partners. They brokered a consensus on both the end goals of the innovation district and how best to make progress toward those goals. Nevertheless, the structure of the project is tenuous in depending on informal voluntary cooperation; relying solely on personal leadership for cohesion makes the future of the innovation district susceptible to deviating opinions on aims or tactics or to the departure of principal participants.

3 FUNDING

Financial resources constitute a second major theme manifested through the case study narratives. Even though the four innovation districts exhibit starkly contrasting funding models, each case corroborates the significance for effective development of obtaining secure and sufficient funding.

The Boston city government provided considerable institutional support and staff resources to help guide the early development of the Seaport, but relatively little in direct funding. Instead, its strategy was to leverage public resources in order to catalyze private sector investment, such as expanding public transit and issuing master leases while letting private entities conduct and manage redevelopment. Although this approach allowed the mayor's office to guide much of the initial progress of the innovation district, control was lost with the pace of development and the shift of focus with the new mayor.

In St. Louis, it was the substantial initial contributions from the surrounding research institutions that furnished Cortex with the resources to begin acquiring land and developing structures. This early activity signaled progress and potential to politicians and other outside observers, convincing the City of St. Louis and the State of Missouri to delegate public land use regulation and financing authorities. The sharp contrast between the well-funded nonprofit organization and the chronically resource-starved city government assisted in persuading the governments to empower Cortex.

The Detroit Innovation District does not manage programmatic funding itself, but rather operates on the basis of resources available for component aspects such as small business development and targeted industry clusters, leading to inconsistent financial support across the entrepreneurial ecosystem. Furthermore, with the City of Detroit slowly recuperating from insolvency, most of the funding for the innovation district originates with and is relatively tightly directed by foundations. These philanthropic organizations generally are disinclined toward experimentation and risk-taking, which are activities integral to a healthy entrepreneurial ecosystem.

Distinctively, the San Diego innovation district possesses no long-term or committed funding, and thus operates according to the strictures of private sector land development. Combined with a strong real estate market that offers attractive competing opportunities (see below), the requirement to secure market financing forecloses some options available in other

innovation districts. The consequences so far include compromise on the mixed use composition of development and a slower than desired pace of development, both of which may damage perceptions of progress and thereby hamper efforts to acquire additional financing.

4 ENGAGING WITH THE REAL ESTATE MARKET

We deliberately selected the four case studies to provide variety in regional economic environments (see Chapter 2). The two innovation districts located in strong real estate markets, propelled by dynamic innovation-oriented economies, enjoy opportunities and face challenges distinct from the innovation districts in relatively weak real estate markets.

Rapid-paced market development practices, escalating land values, and robust competition from development alternatives jointly constrain the possibilities accessible to the innovation districts in Boston and San Diego. Approaches that do not match the rate of return that accrues from developing the “highest and best” land uses are more financially costly and thus require more resources. Moreover, continuous vigorous real estate pressure makes it difficult to control the pace and direction of development. The Boston Innovation District demonstrates how the local entrepreneurial ecosystem designed to include resource-constrained entrepreneurs and startup firms was overwhelmed and quickly subsumed by high-end development and facilities occupied by large corporations. This extreme fate is unlikely to befall the innovation district in San Diego, at least in the near future, as the smaller regional economy and tourist-oriented downtown do not generate as much real estate pressure as in Boston. Yet the lucrative nature of residential development, luxury housing in particular, leads us to question whether the I.D.E.A. District will be able to create space attractive to entrepreneurial and innovative ventures in sufficient concentration to realize the economic advantages of an innovation district.

The much weaker real estate markets in St. Louis and Detroit permit a greater degree of control over development with fewer up-front expenditures of resources.¹ The Detroit Innovation District largely has been unable to embrace this advantage due to some of the other circumstances

¹ As a much more extensive example, the billionaire Dan Gilbert has achieved an unprecedented density of ownership and control of land in downtown Detroit and adjacent neighborhoods by investing in a multitude of properties purchased at extremely low prices following the city’s bankruptcy (Feloni 2018).

surrounding its operation, including the absence of an agreed-upon strategy direction and funding sources that lack fungibility. Cortex's ability to purchase and control development and construction on its site is related directly to the scarcity of development pressure and restrained land costs in the St. Louis region, even for a swath of underutilized land directly adjoining several prominent research institutions.

The opposite consequence of a weaker real estate market is that it provides fewer market-driven development opportunities upon which to build, including in the area surrounding an innovation district. Economic development efforts in Detroit concentrate heavily in the downtown and immediately adjoining residential neighborhoods while most other sections of the city continue to wither. Consequently, the innovation district was perceived not just as a strategy for revitalization inside its own borders, but as a catalyst for remaking the surrounding areas as well. Cortex depended on its supporting research institutions as tenants and generators of entrepreneurial ventures until its progress was sufficient to attract outside attention and more diverse sources of demand.

5 ENGAGING WITH THE LOCAL COMMUNITY

The interface between the district and the surrounding community impacts the ability of the innovation district to gather public and political support, to expand over time, and to convey benefits to residents. The four innovation districts have followed varied paths with regard to community relationships, ranging from cautious distance to coaxing to direct assistance, and these have yielded mixed outcomes.

The Detroit Innovation District's extensive boundaries encompass much of the downtown and midtown areas of the city that were already experiencing population growth and investment. Part of the leadership group pushed to extend the activities and benefits of the district beyond its borders into surrounding needy communities. Disagreement over the efficacy of this approach precipitated a rift. At this point, the strategy has shifted toward actions likely to benefit the broader Detroit community—in effect, abandoning the attempt to create a functioning innovation district in favor of more inclusive economic development policies.

Throughout its development, Cortex in St. Louis has been buffered from the surrounding communities by several features: its control over the land within the district, the large institutional campuses and an interstate highway that border the district on three sides, and the residential preferences of district workers that predominantly entail commutes of at least several miles. Yet the innovation district has been forward-looking in engaging with residential communities. Cortex has cross-appointed advisory board members and contributed financially to the community development corporation working for the adjoining neighborhoods, and has been actively involved in numerous local and regional outreach and education efforts. As the innovation district's activity increases and diversifies, and its impacts on prices and community character expand, it remains to be seen how the nature and scope of its engagement efforts shift.

The city government in Boston initially engaged the occupants of the area to gain support for the innovation district, seeking to generate community trust and dissuade organized opposition following long-term neglect for the sector of the city. The local residents, however, largely artists and artisans, favored cheap space over posh amenities, and many were skeptical of the mayor's innovation district plans. Unfortunately for them, assurances from the mayor's office were short lasting. Soaring prices unsurprisingly accompanied the progress of the innovation district, and there proved to be no will to enact the robust policies that would have been necessary to protect residents from gentrification and displacement.

The San Diego I.D.E.A. District has sought involvement from and with the surrounding community from the start. The first phase of its development focused on engaging nearby residents through activating under-utilized land and involvement in designing the future vision of the Makers Quarter. Without any of the traits that insulate Cortex from its residential neighbors, the relationship of the San Diego innovation district with the community mirrors a more general conflict between current residents and regional growth interests. Real estate speculation already has resulted in displacement of low-income residents within the innovation district proper. As in St. Louis and Boston, residents of nearby neighborhoods, particularly those of low-to-moderate income, worry about rising prices and changing community character. Despite sharing these concerns, the leadership of the innovation district mostly feel powerless to address the issue.

6 BUILDING COMMUNITY

Justifications for innovation districts that invoke placemaking and urban revitalization may relate to fashioning a functioning and effective community. Unfortunately, none of the four cases examined in this research demonstrate this aspect of innovation district policy very well.

The effect of San Diego's I.D.E.A. District is more to redefine the local character than to create or improve the functioning of its community. The originators and proponents of the district argue that gentrification in East Village was inevitable, and would have occurred with or without the innovation district. They may very well be the case, with continuing population growth and extensive real estate development throughout the region. The innovation district, and the rest of the East Village neighborhood, will keep only a physical resemblance to the community that existed previously. The community being shaped in its place has not progressed far enough yet to reveal its eventual characteristics. Will the innovation district achieve its aims of dense occupancy, mixed land use, diverse income levels, and a healthy balance of jobs and residences?

Boston's innovation district strategy sought to establish a new community and connect it to existing and new job opportunities. The city wholeheartedly embraced the live-work-play mantra, promoting the creation of active, dense, mixed use neighborhoods as part of the innovation district. Yet accomplishing this aim was problematic in the face of swiftly increasing demand and mounting prices. As development gained in momentum, much of it became rushed, with insufficient attention placed on forming a functioning community. The newly constructed areas are short on civic amenities such as parks and other communal spaces and feel inauthentic. A vicious cycle emerged in which the lack of effective community building boosted insular luxury developments over more community-friendly alternatives, pulling development farther away from the community aspects originally desired.

The Cortex Innovation Community in St. Louis features a constrained live-work-play aspect, emphasizing "work" and "play" far more than "live". From its origin as a park for bioscience entrepreneurs, the district has catered to the preferences of life science researchers, many of whom are in family-oriented life stages, and who tend to appreciate a college campus-like environment. Most of the recently added amenities—a boutique hotel, a signature restaurant, a fitness club—follow the pattern of enhancing the desirability of an upmarket place to work and recreate. The challenges and

benefits of building a fully functioning community may come to the forefront as the innovation district continues to expand and intensify its influence on and interactions with the neighboring communities.

The story in Detroit may be the most straightforward. The area encompassed by the innovation district simply is too large and dispersed to function as a single community. Although desirable locations are understood to be integral in attracting talent and innovative firms, innovation district policies have not focused on the community scale. In a city that cannot reliably provide basic services over much of its jurisdiction, community building efforts might have further emphasized the development chasm between the innovation district and the remainder of the city.

7 CONCLUSION

These five themes contrast the efforts and experiences of four very different innovation districts. Economic developers and policymakers seeking to establish or develop innovation districts may recognize similar features or challenges of their own locations. Although we consider these themes to be especially salient, they are just a few selected from the many detailed observations and topics contained in the four case-specific chapters that constitute the heart of the report. We urge readers to consider how understandings of the events and circumstances of each of the cases may be applied to improve policy efforts elsewhere.

As a final recommendation, we encourage researchers to return to the subject of innovation districts. As stated in Chapter 1 and elsewhere in this report, it is too early to conduct a systematic appraisal of the achievements of innovation districts with regard to urban economic development. In this study we have focused on distinguishing pertinent features of the selected districts and their environments, relating their design and implementation approaches to economic development goals, revealing looming challenges, and discerning emerging consequences for the encompassing communities and regions. We have not attempted to estimate the outcomes and impacts of innovation districts in a manner that is generalizable across locales. With their popularity continuing to spread across the United States and the rest of the world, we anticipate there will be much future value and interest in judging the effectiveness of innovation districts, along with abundant choices for empirical evaluation.

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APPENDICES

APPENDIX 1: INTERVIEW GUIDE

OVERVIEW

Focus	To solicit the informant's views regarding the formation, goals, operation, and achievements of the innovation district and its constituent operations.
Targets	Innovation district planners and implementers, local economic development officials and experts, residents and businesses within the innovation district
Number	anticipate 20-25 per case
Length	approximately 60 minutes
Record	written notes

GENERAL INSTRUCTIONS

Provide a clear statement of project subject and purpose and objectives of interview:

- study explores design, justifications, features, operation of innovation districts
- interview will gather respondent views on features of innovation districts and factors that affect implementation and effectiveness of innovation district policies

Identify researchers:

- study is conducted by a research team led by University of Illinois at Chicago
- introduce interviewer(s)

Remind interviewee of confidentiality rights:

- no information or views will be released in a way that identifies interviewee or his or her organization with subsequent explicit permission.
- interviewee may decline to respond to any question or portion of a question.

Thank interviewee for his or her time and willingness to help!

QUESTIONS

The questions below are guides; the interviewer(s) should modify appropriately as each interview develops while also attempting to cover all relevant principal topics.

Part I: For Economic Developers and Policymakers

A. *Scope: Innovation District, Innovation*

1. What is the mission or predominant purpose of the innovation district?
2. Does the innovation district formally define what is considered innovation?
3. What kinds of economic activities are being sought for the innovation district?

APPENDIX 1

B. Rationales

1. What is the purpose or justification for the innovation district?
2. What can the innovation district uniquely accomplish that could not be achieved through other means?
3. What do you hope the innovation district achieves?

C. Innovation District Development and Features

1. What are the key features of the innovation district that encourage innovation?
2. What policies and programs encourage and support innovation?
 - a. Are these policies specific to the innovation district (as opposed to city- or region-wide)?
 - b. Which of these policies and programs are most important and why?
3. What current developments are occurring with the innovation district?
4. Which features and programs of the innovation district...
 - a. are fully in place
 - b. are partially in place
 - c. are planned but are not yet in place
5. What is the anticipated sequence or schedule for policies and features to be put into effect?
 - a. What are the reasons behind this sequencing?
 - b. Are portions of this sequence dictated or constrained? If so:
 - i. which portions and why?
6. Are there other features that would be desirable that are not yet planned?
7. Are you familiar with other innovation districts? If so:
 - a. How is this innovation district similar to those?
 - b. How is this innovation district distinct from those?
 - c. What are the reasons for the differences?

D. Financing

1. What features and programs of the innovation district require financing?
 - a. initial capitalization
 - b. funding on an ongoing basis
2. How was the innovation district financed initially?
3. How are the various programs of the innovation district anticipated to be funded on an ongoing basis?

E. Outreach and Involvement

1. For whom is the innovation district aimed?
2. How and by whom has the involvement of different organizations been determined?
 - a. Are specific individual organizations targeted?
3. Have any organizations rejected participation? If so:
 - a. Why did that rejection occur?
4. Have any organizations themselves requested participation?

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5. How is the innovation district promoted and marketed?
6. How are firms, innovation workers, and other entities targeted or selected?
7. How do organizations participate in the innovation district?
 - a. What are some of the different roles played by different types of firms and organizations?

F. Outcomes

1. What do you envision the innovation district being like in 5 years? In 10 years?
2. What outcomes or measures are being used to judge progress or success?
3. Are there other ways to measure the success of the innovation district that you think would be suitable or preferable?
4. What is the time frame for ascertaining success?
5. What would an ideal surrounding environment for supporting the success of the innovation district be like?

G. Challenges

1. Are there any issues or circumstances that have been particularly challenging with the innovation district?
2. Are there or have there been discrepancies in the vision for or implementation of the innovation district? If so:
 - a. Have they been resolved? If they have been resolved:
 - i. how were they resolved?
 - ii. are they resolved satisfactorily?

H. Follow Up

1. May we contact you again later [in 4-6 months] to ask how some of the responses you gave us may have changed?
2. Can you suggest particular issues or developments we ought to consider to better understand the innovation district?
3. Are there any additional individuals you suggest we speak with?
4. Is there anything else you wish to tell us?

Part II: For Organizations and Stakeholders

A. Scope: Innovation District, Innovation

1. What do you consider to be innovation within the intentions of the innovation district?
2. Is your [firm / organization] innovative? Why or why not?

B. Innovation District Development and Features

1. What are the key features of the innovation district that encourage innovation?
2. What policies and programs encourage and support innovation?
 - a. Are these policies specific to the innovation district (as opposed to city- or region-wide)?
 - b. Which of these policies and programs are most important and why?

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3. What current developments are occurring with the innovation district?
4. Which features and programs of the innovation district...
 - a. are fully in place
 - b. are partially in place
 - c. are planned but are not yet in place
5. What is the anticipated sequence or schedule for policies and features to be put into effect?
 - a. What are the reasons behind this sequencing?
 - b. Are portions of this sequence dictated or constrained? If so:
 - i. which portions and why?
6. Are there other features that would be desirable that are not yet planned?
7. Are you familiar with other innovation districts? If so:
 - a. How is this innovation district similar to those?
 - b. How is this innovation district distinct from those?
 - c. What are the reasons for the differences?

C. Outcomes

1. What do you envision the innovation district being like in 5 years? In 10 years?
2. What outcomes or measures are being used to judge progress or success?
3. Are there other ways to measure the success of the innovation district that you think would be suitable or preferable?
4. What is the time frame for ascertaining success?
5. What would an ideal surrounding environment for supporting the success of the innovation district be like?

D. Involvement and Benefits

1. What does the innovation district provide in general?
2. How did you find out about the innovation district?
3. In what ways have [you / your organization] been involved with the innovation district?
4. What do you expect to gain from your [involvement with / location within] the innovation district?
5. Does the innovation district aid your interactions with other firms / organizations at the regional, national, or international scales?
6. How responsive are innovation district policies and designs to the needs of your [business / organization]?
7. How responsive have innovation district [administrators / policymakers / economic developers] been to the needs of your [business / organization]?

E. Challenges

1. Are there any circumstances that have been particularly challenging with regard to the innovation district?

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2. Are there any issues currently preventing [you / your organization] from participating fully or gaining the most possible benefits from your involvement with the innovation district?

F. Follow Up

1. May we contact you again later [in 4-6 months] to ask how some of the responses you gave us may have changed?
2. Can you suggest particular issues or developments we ought to consider to better understand the innovation district?
3. Are there any additional individuals you suggest we speak with?
4. Is there anything else you wish to tell us?

APPENDIX 2: RECRUITMENT SCRIPT

For initial telephone or email contact with potential interviewee.

Dear [name of potential respondent],

My name is [Joshua Drucker]. I am a [professor] of urban planning at the University of Illinois at Chicago. I am conducting a study of innovation districts as a new strategy for urban economic development. The study is being funded by the Ewing Marion Kauffman Foundation, which is the nation's leading foundation in support of entrepreneurship and innovation research.

I am hoping that you would be willing to be interviewed by me or my research team regarding your involvement, experiences, and perspectives on the [name of Innovation District]. We are interested in finding out how local participants and stakeholders view innovation district policies and how they feel innovation districts might best be able to support innovation and local entrepreneurs. Any information you give us will be treated so as to maintain your confidentiality.

I will be in [city] on [dates] and preferably we could schedule a time then. If those dates are not convenient, perhaps we could find a different time to talk with you by telephone, Skype or other communication method.

I look forward to your response.

Thank you in advance.

[Joshua Drucker]

APPENDIX 3: STUDY INFORMATION SHEET

Information about:

Assessing Innovation Districts as a Strategy for Urban Economic Development

What is this study about?

This study examines innovation districts in light of the urban economic development strategy becoming increasingly popular in the United States. The goal is to better understand the design, implementation, governance, and features of innovation districts, in order to provide information and guidance to help existing and potential new innovation districts achieve economic development goals while minimizing damaging inter-regional competition.

Who is conducting the study?

The project is being led by researchers at the University of Illinois at Chicago, with additional team members at the University of Massachusetts-Amherst and the University of Michigan-Ann Arbor. The research is funded by the Ewing Marion Kauffman Foundation of Kansas City, Missouri. The Principal Investigator is Dr. Joshua Drucker, Assistant Professor of Urban Planning and Policy at the University of Illinois at Chicago. If you have any questions about the project, please feel free to contact him at (312) 413-7597 or jdruck@uic.edu.

Why are you being contacted?

The project involves case studies of selected innovation districts in the United States. We are soliciting the views of participants and informed observers of the innovation district—economic development officials, business leaders, entrepreneurs, other participants and stakeholders—who can help us understand the rationales, development, and operation of innovation district programs and policies. We identified you through background research or through a reference from another local individual.

Is your participation required?

No. Your participation is entirely voluntary. We hope that you will agree to be interviewed by members of the research team to share essential information for the study.

Why should you help in this study?

This kind of research is essential in producing sound understanding of urban economic development policy and providing guidance for policymakers and economic development actors. Without the knowledge and perspectives you can provide, the study could not be a success. We will be glad to share our findings with you when they become publicly available.

Is the confidentiality of your responses protected?

Yes. The study is focused on innovation district policies and the factors that enable them to be successful in supporting local businesses and organizations, not on the people or businesses involved in the innovation district. No information will be attributed to you or your organization and no information will be released that could be used to deduce your identity or the identity of your organization without your explicit permission. Once we organize the information you provide, all items that identify your identity or your specific organization will be removed.