THE "DIGITAL CITY": A CRITICAL EXAMINATION OF THE DISCURSIVE
PRACTICES OF URBAN DIGITALITY IN THREE U.S. CITIES

by

Kristin Scott
A Dissertation
Submitted to the
Graduate Faculty
of
George Mason University
in Partial Fulfillment of
The Requirements for the Degree
of
Doctor of Philosophy
Cultural Studies

Committee:

_____ Director

_____

_____

_____ Program Director

_____ Dean, College of Humanities and Social
Sciences

Date: _____ Spring Semester 2015
George Mason University
Fairfax, VA

The "Digital City": A Critical Examination of the Discursive Practices of Urban Digitality in Three U.S. Cities

A Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at George Mason University

by

Kristin Scott
Bachelor of Arts
George Mason University, 1999

Master of Arts
University of Chicago, 2004
Master of Fine Arts
Columbia College Chicago, 2004

Director: Denise Albanese, Professor
Department of Cultural Studies

Spring Semester 2015
George Mason University
Fairfax, VA

DEDICATION

This dissertation is dedicated to Carol Pelletier, as she has consistently been an amazing source of love, inspiration, and support as I've worked to complete this project.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

THE "DIGITAL CITY": A CRITICAL EXAMINATION OF THE DISCURSIVE
PRACTICES OF URBAN DIGITALITY IN THREE U.S. CITIES

Kristin Scott, Ph.D.

George Mason University, 2015

Dissertation Director: Dr. Denise Albanese

This dissertation examines the digital technological initiatives and programs of three
major cities in the U.S. (New York City, Seattle, and San Antonio) and how terms such
as "digital," "smart," and "cyber" city are deployed. Although each city's digital
technological initiatives focus on distinct goals, are implemented and function in different
ways, and emerge out of dissimilar socio-economic and historical contexts, each city—
either explicitly or implicitly—suggests that becoming "digital" will stimulate economic,
civil, or social growth and improve residents' quality of life; but even in those instances
where economic goals are not explicitly articulated, I contend that each city's goals for
urban digitality cannot be disarticulated from issues of political economy. Through an
examination of the various power structures that subtend and inflect the "digital city" –
particularly as these power relationships connect to the meaning of the contemporary city
and mobilize certain ideological discourses, such as that of open democracy, individual

liberty, and consumer sovereignty, I conclude that the "digital city" broadly construed, is

a neoliberal phenomenon.

INTRODUCTION

Phrases such as "digital city," "smart city," "cyber city," "intelligent city," and "networked city" have become ubiquitous within U.S. popular and public discourse. Although often used inconsistently, sometimes even interchangeably, all of these phrases seem to suggest a phenomenon of *urban digitality*—the condition or state of living in an urban digital culture that is characterized by continual use of or contact with digital technologies.[1] While these and similar terms have appeared within popular cultural texts for decades, abstractly describing futuristic visions of cities as radically transformed by digital technologies, a number of large cities within the United States have officially adopted such terms to help characterize how city officials perceive their cities as being qualified, enhanced, defined by, or contingent upon, a series of recently implemented digital technological initiatives and programs. Thus, under the aegis of the "digital city," I examine what distinct cultural, social, economic and political structures subtend and inflect the discursive practices of each city's digital technological programs, and how these factors together help to explain the phenomenon of the digital city.

Historically, both cities and digital technologies (primarily relying on the medium of the Internet) have held a unique place within the cultural imaginary. Both have been described as global centers, spaces of international, inter-class, or ethnically diverse

---

[1] Nick Negroponte, *Being digital* (New York: Vintage Books, 1995).

1

interaction; and both have held out promises of autonomy, freedom, connection, anonymity, community, and progress. I examine the digital technological initiatives and programs of three major cities in the U.S. (New York City, Seattle, and San Antonio) and how terms such as "digital," "smart," and "cyber" city are being deployed. My project focuses on Seattle, New York City, and San Antonio, because these cities, spread across several geographical regions of the United States, provide a diverse sampling of digital technological agendas, emerge from distinct historical, cultural, economic and political backgrounds, and have different positions within the digital economy. The cultural objects I interrogate are the actual cities (New York City, San Antonio, and Seattle), inasmuch as they are, and claim to be, "digital," while also acknowledging that concepts of the "digital," "cyber," or "smart" city are abstract and often ideological constructions used to frame each city's claim to digitality. My research into each city suggests that no one discursive practice of urban digitality exists. Thus, I examine the various digital technological goals and agendas of each city in its specific historical and socio-economic contexts, as well as each city's myriad claims to and manifestations of digitality, and interrogate how these goals articulate with digital practices. In my analysis of each city's digital initiatives, I also investigate what political, economic, and social conditions—or what combination of events—prompted major digital technological agendas in the first place, and how specific historical, demographic, institutional, and cultural factors gave rise to each city's digital agendas and programs.

I also examine the conjunctures at which various power structures subtend and inflect the "digital city" – particularly as these power relationships connect to the

2

meaning of the contemporary city and mobilize certain ideological discourses. Each city, for example, emphasizes the importance of providing all its residents with the technological tools to survive in what is often cast as an inevitably digitalized world, and this dissertation investigates those claims. Furthermore, while each city's digital technological initiatives focus on distinct goals, are implemented and function in different ways, and emerge out of dissimilar socio-economic and historical contexts, each city— either explicitly or implicitly—suggests that becoming "digital" will stimulate economic, civil, or social growth and improve residents' quality of life. New York City officials call their city "the world's greatest digital city" and claim to be using digital technologies to enhance open government, increase citizen engagement, and support the "health" of civic society. San Antonio, as "Cybercity, USA," asserts its role as the cyber-security hub of the nation. And Seattle, as a "smart city," claims that its digital technological programs will help to bridge the digital divide and bring about greater racial and economic equality.

I argue that the "digital city," in its various iterations and leaning heavily on ideals of open democracy, individual liberty, and consumer sovereignty, is a neoliberal phenomenon. Each city's collaborations with various corporations and local businesses, as well as the myriad programs implemented through multiple platforms for the purposes of expanding each city's economic base, are multiple and distinct. But even in those instances where claims to economic advantages are not explicitly articulated, or do not appear to undergird certain digital imperatives, I contend that each city's goals for urban digitality cannot be disarticulated from issues of political economy. Thus, analyzing each city's digital technological programs through both a Marxian and Foucauldian

3

perspective, neoliberalism as a form of ideological hegemony obfuscated by its discourse and neoliberal discourse as a tool of governmentality, I argue that abstract concepts and narratives of the "digital city" are ideologically coded and mutually constitutive and function as both rhetorical and discursive strategies to further the various neoliberal goals of each city's digital technological initiatives.

While many of NYC's digital programs and applications underscore a "healthier civil society and stronger democracy"[2] through the use of digital technologies, for instance, some of their technological programs critically complicate or problematize these claims. NYC's acquisition of a generic top-level domain (gTLD), for example, gives government greater control over public communications, favors capital investments over small businesses, enables massive corporate data-mining, and promotes search engine monopolization, all of which threaten net neutrality and an open, democratic Internet commons. Furthermore, while promoting open entrepreneurial competition and consumer sovereignty through public use of their open data platform and smartphone applications, particularly as these programs underscore social and economic "health," these applications function to manage and construct productive social bodies and become examples of new neoliberal techniques of power through social prescription.

At the national level, San Antonio, as "CyberCity, USA," foregrounds its role in national cyber-security, while on the local level, the city claims its digital technological programs will support increased citizen engagement and open democracy. I argue, however, that San Antonio represents an example of what Stephen Graham refers to as

---

[2] City of New York, *Road Map for the Digital City.*

4

the "new military urbanism," as the city's rhetoric around the use of digital technologies narratively shifts the perception of both public and private spaces, as well as civilians, into sources of threats, which then reinforces its 'need' to expand the city's economic growth through increased partnerships with cyber-security industries. Security and safety, in the pursuit of democracy and greater individual freedom, thus become ideological frameworks that not only justify the use of mass surveillance technologies and the securitization and militarization of cyberspace, but also a growing surveillance economy.

Seattle, as a "smart city," claims its digital technological programs generate economic, environmental, and social sustainability, but its smart city initiatives become more of an ideological project that work to conceal the city's larger neoliberal agenda. Rhetorically, the city leans heavily on its history of social progressiveness and liberalism to promote its digital technological programming; by bridging the digital divide and providing greater access to the Internet, for instance, Seattle officials contend that the city will reduce racial and economic disparities. And yet paradoxically, as I demonstrate, the city's burgeoning smart city economy compels increased privatization, major corporate investments, and urban revitalization, which then reinforces socio-economic divides, neighborhood profiling, and the construction of digital spatial fields of hegemony through the use of surveillance technologies and the digital visualization of crime.

In the following sections, I examine the scholarly significance of the question posed by my research project, highlight my methodological approach, discuss this project's contribution to related fields, and explain how a cultural studies approach is most productive. I conclude with brief chapter summaries.

Relevance to Cultural Studies and Contribution to Related Fields

Scholarly approaches to digital technologies range over a number of disciplines, including media studies, sociology, science and technology, and cultural studies. In recent years, scholarship on digital technologies seems to have been shifting from analyses of audience reception (brought about by early studies in mass media) and representation[3] to that of "users" and producers of digital technologies and content.[4] The largest body of research available has focused primarily on the intersections between digital technologies and communities, economies, political functions, interpersonal relations, identity formations, and everyday life, with the biggest emphasis, most recently, on the use of technologies by individuals and groups—whether as digital citizens, for interpersonal or broader social communications, for instance, or as tools of revolution.[5]

Although scholarship that addresses myriad formulations of our "digital" existence is increasing in number almost as rapidly as the technologies themselves, the existing body of work, which I later review, does not adequately address the question that I raise about what cultural, social, economic and political structures subtend and inflect the discursive practices of each city's digital technological programs, or how these factors help us to understand the phenomenon of the digital city. Little scholarship currently exists that provides analyses or theoretical inquiries into official governmental

---

[3] For example: Stuart Hall, "Encoding/Decoding," in Simon During, ed., *Cultural Studies Reader*, 2nd edition (New York: Routledge, 1993).
[4] For example: Henry Jenkins. *Convergence Culture: Where Old and New Media Collide* (New York: New York University Press, 2006).
[5] For example: Jason Gainous and Kevin Wagner, eds. *Tweeting to Power: The Social Media Revolution in American Politics* (Oxford: Oxford University Press, 2014).

and public discursive practices of urban digitality, nor a comprehensive theory of urban digitality. And to my knowledge, there is also no scholarship that interrogates the connections or disjunctures between the various city-sponsored regimes of "digital" discourse—the promises of urban digitality—and the digital technological initiatives and programs—the practices of urban digitality. This dissertation endeavors to fill some of these gaps by examining the socio-cultural, economic and political implications of urban digitality within three major U.S. cities, in their myriad discursive and material forms, and perhaps set the stage for broader examinations of urban digitality in the future.

My research draws from and contributes to a number of disciplines, including urban studies, media studies, science and technology, political economy, and cultural studies. This project is relevant to the field of urban studies, for example, since I examine the impact of digital technologies on the physical and virtual infrastructures of cities, the role of digital technologies in each city's urban planning and development, and the lived (digital) experiences of urban dwellers. Additionally, this dissertation addresses the fields of science and technology studies and media studies because it examines how digital technologies are built into the logic and organization of urban public spaces, are used or shaped collectively by residents.

This dissertation, however, ultimately highlights the importance of cultural studies methods as a primary mode of inquiry, as this field's interdisciplinary attention to socio-economic and historical conditions, meaning-making, and practices of everyday life helps to explain how various power dynamics and institutions structure each city's digital technological discursive practices. While scholarship from fields such as urban

studies, media studies, science and technology, and political economy helps to inform my research, the disciplinary protocol, theoretical frameworks, and methodologies of each field, independently, resist a fully contextualized analysis. In order to answer the question I raise about the distinct cultural, social, economic and political structures that subtend and inflect the discursive practices of each city's digital technological programs, a multiperspectival cultural studies approach[6] allowed me to draw from a broader range of critical strategies and offer a more comprehensive critique.

I began my research with the assumption that all urban planning initiatives, which are motivated by historical, political, social, cultural, and commercial interests and take place through both discourse and practice, are inherently ideological, because they constitute a dominant agent's vision for what urban changes or perceived improvements to public space should be implemented. While the revitalization of cities are generally perceived by leading civic and commercial entities as in the best interests of the public, such urban projects are typically driven by a smaller number of dominant, privileged agents (politicians, corporate executives, financial entrepreneurs, and institutional leaders, for instance) with access to considerable economic, social, cultural, and political capital. And yet, as major urban centers comprised of demographically diverse, pluralized cultures that must constantly (re)negotiate with each other, the city has become, for many, the ideal (and perhaps, at times, idealized) space for inter-class contact and various (though sometimes competing) formulations of community that, at least ideologically,

---

[6] Douglas Kellner, *Cultural Studies, multiculturalism, and media culture*. In G. Dines & J. Humez, eds., *Gender, race, and class in media: a critical reader*. (Thousand Oaks, CA: Sage, 2011), 7-17.

promise autonomy and social, economic and cultural opportunities and enrichment.[7] My

interrogation into each city's discursive practices of digitality not only adds critical depth

to recent scholarship that addresses similar concerns about the role of digital technologies

in our everyday lives, but also offers new critical analyses of how each city's digital

technological goals and initiatives—driven simultaneously by larger cultural narratives of

both cities and digital technologies and each city's real historical, economic, social and

cultural factors—articulate with the local institutions, economic structures, models of

government and community, and consumer practices that comprise the various elements

of the "digital city." I hope my project also will be of interest to IT professionals, urban

developers and planners, and governmental officials.

Data Sources

In accordance with my research questions and through a cultural studies approach,

this dissertation draws from a wide variety of evidence and considers a number of

methods and theoretical approaches, as outlined below.

Digital Public Works: By examining public records made available by each city

and their respective departments, particularly those of Information Technology and

Telecommunications (DoITT) departments, such as annual reports, published digital

initiatives, executive orders, and progress reports, I explored what city-owned, operated,

or contracted digital public infrastructures currently exist in each city (broadband

capacities, open source platforms, high-speed data networks, open data information

---

[7] See: Delaney, *Times Square*; David Fleming, *City of Rhetoric: Revitalizing the Public Sphere in Metropolitan America* (New York: SUNY Press, 2008); Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects* (New York: Harcourt, Inc., 1989 [1961]).

access and resources, high-capacity digital facilities, telecommunications structures and services, etc.), in an effort to better analyze the larger-scale goals of each city, as well as the significance of current and proposed future projects. Looking at the current state of digital infrastructures through the examination of various public data made available also enabled me to better understand who is currently invested, as well as who has, thus far, benefitted from the digital infrastructures in place and which institutions stand to benefit in the future, enabling me to respond to one of this project's sub-questions that seeks to identify each city's primary objectives and digital technological initiatives and how each city attempts to actualize its goals.

Public Projects: I also examined governmental websites that promote and describe these programs, published digital technological initiatives, news reports, and press releases, as well as resident blogs, comments made by residents on governmental websites that elicit feedback, and social networking sites—from Facebook to Twitter, for instance—that discuss, critique, or provide information about the various programs. Through an analysis of these and other available documents, I considered the public projects and programs currently in place and in development, from educational and social programs designed to eliminate the "digital divide" and accessible public data (crime statistics and neighborhood data sets, for example) to smart phone applications, and public Wi-Fi spaces. I performed a contextual analysis of the documents and programs, by assessing these texts within their historical and cultural contexts, as well as an examination of language used to determine what themes surfaced; I then interpreted and analyzed the discourse—from intended goals and agendas to public feedback—of these

programs. Additionally, I examined available data and statistics—from governmental and other sources—that provided information about the accessibility of these programs and to whom, as well as how these programs function; my aim was to better understand how various groups of people are demographically impacted and who are still on the periphery of—or marginalized from—purported digitality. I also interrogated the claims made within these documents to the inevitability and desirability of urban digitality, and examined how digital regimes of power were employed or functioned to manage residents and produce politically or commercially-desired subjects. In combination with various public documents that promote these programs, such data enabled me to determine targeted demographics and the (perceived and real) beneficiaries of such programs.

City partnerships and collaborations: I researched what digital initiative partnerships and collaborations exist between each city and commercial, non-profit, and community organizations, to help determine which entities or groups have invested economic, political or social interests in the digitalization of city spaces, infrastructures, and programs by looking at various departmental documents made available, corporate, educational and non-profit sponsor web sites, news items, press releases, and other similar documents. Part of my research also involved an investigation into how residents of such programs or applications can become (or are elicited to become) co-producers or collaborators through the production of data and information. I furthermore examined how these collaborative agents engage with various digital programs or applications and their roles in the creation or co-production of smart phone applications (such as through

NYC app competitions) and other digital technological programs, to determine, in combination with other gathered data and analyses, how these user-producers benefit, and if so, how their labor may be potentially exploited. I was particularly interested in revealing what, if any, commercial interests are served, by and for whom, to reveal what political economic structures subtend and inflect each city's discursive practices. I therefore examined these partnerships to assist me in identifying and analyzing which tactics and strategies are generated and employed through various discursive practices and function as tools and instruments of governmentality.

Publicly Available Digital Applications, Tools, and Software: In an effort to assess each city's digital technological programs and services on the ground and theorize the broader cultural and social implications of these programs, I assessed various city-sponsored applications, tools, and software available for general public use, such as those that attempt to visually represent and (virtually) structure each city, including global positioning systems (GPS), digital maps, walking tours, and smart phone applications (such as 3-D city applications, NYC 311, tourist guides, restaurant or business location finders, and so forth). I also examined statistics and data available within these actual programs (such as various digital mapping or visualizing tools) in order to help me analyze each city's discursive practices. This evidence helped me better understand the ways in which these cities attempt to (re)construct their cities visually and categorically through digital technologies, what cultural and social factors and structures exist, and the broader implications of these digital technological programs on civil society, broadly defined.

Methodology

This dissertation project began with an assumption that the digital city is a discursive formation with significant material consequences. Thus, in examining the discursive practices of each city's digital technological initiatives and programs, I employed two overarching methodological approaches during the course of my research and writing: critical social theory (CST), which relies heavily on historical materialism, and critical discourse analysis (CDA). Below is a discussion of each methodology and the major theoretical perspectives that inform each. Additionally, this section demonstrates the value of each these methodological approaches to my project.

Critical Social Theory

Within this dissertation, I deployed both Frankfurt School and post-structuralist models of critical social theory. Critical social theory, as originally based on the theories of its founders, Horkheimer, Adorno, Fromm, and Marcuse,[8] offers a methodological approach that is in line with the field of cultural studies, as its focus is to take into account various human constructions of social forms and meaning-making processes. Recognizing that people have the power to change their socio-political environment, that theory and practice is interwoven, and that a critical social theoretical approach requires reflexivity, it enabled me to perform a contextualized examination of urban digitality through the use of critical strategies from both the social sciences and humanities. The main tasks of critical social theory are to question and challenge all dominative

---

[8] See: David Held, *Introduction to Critical Theory: Horkheimer to Habermas* (University of California Press, 1980) and *Herbert Marcuse, Negations: Essays in Critical Theory* (Beacon Press, 1968).

formulations and relations of inequality, identify and expose exploitations, and make

evident the real material conditions that are often concealed within various dominative

and hegemonic practices and social structures. For my dissertation, I employed a critical

social methodological approach that not only draws significantly on theories of historical

materialism, but that also makes use of the tensions that have historically existed between

a number of different theoretical frameworks and methodologies, such as that of

historical materialism[9] and discourse analysis. For instance, critical social theory,

combined with a critical discourse analysis (as discussed below), also assisted me in the

interrogation of truth-claims about social (and "digital") existence, as well as what

institutions, corporations and disciplines benefit from these digital technological projects.

Critical social theory, relying heavily on historical materialism, also provided me

with a methodological approach that helped me analyze the social and economic issues

embedded within the rhetoric and practices of digitality, determine what conjunctures and

disjunctures arise between each city's agendas and actual practices, and examine how and

why the production of knowledge, through the various discourse and programs in place,

takes specific forms. Thus, in keeping with an historical materialist tradition, I see this

project as a dialectical one. Placing the digital city in a dialectical model, which works

towards the negation of a negation, this project challenges the idea that there even is such

a thing as "the" digital city. Additionally, I sought to reveal what other alternative forms

of social relations and structures might be possible if we denaturalize and demythologize

---

[9] I adopt Laurence Neuman's theory of historical materialism as a philosophy that informs a critical
research approach and moves beyond surface appearances to reveal real, historical sources of social
relations and inequitable power structures within the material world. See: Laurence Neuman, *Social
Research Methods*, 3rd ed. (Needham Heights: MA: Allyn & Bacon, 1997).

the "digital city" and recognize its historicity, making possible a better understanding of how digital discourse and rhetoric functions in concrete social constructions of urban digitality.

In order to answer my primary research question about what distinct cultural, social, economic and political structures subtend and inflect each city's discursive practices, my application of critical social theory also helped explain how these particular social relations, formulated as they are within, and arising out of, complex economic, political and cultural contexts articulate with each city's dialectical and historically inflected digital technological processes and structures. While assuming that social reality is historically constituted, in the Marxian sense, and that people are capable of taking conscious action to change existing modes of power relations and social and economic inequities, critical social theory also acknowledges that various forms of economic, social, cultural and political domination can hamper or constrain praxis. I thus investigated the implications of each city's digital technological goals and programs, examined the everyday practices of urban digitality, and unpacked the density of (economic, social, and political) relations that inform these practices.

A more contemporary critical social theory approach that uses a Foucauldian framework, specifically that of governmentality, was also useful in my interrogation of the power-relations and systems of organization that help to create and sustain both the narratives and real material conditions of urban digitality. Employing also a Foucauldian framework assisted me in analyzing the ways in which digital technologies, particularly those promoted or offered through city initiatives and programs, such as public Wi-Fi

spaces, interactive crime maps, and other GPS-based applications, for example, are touted to provide greater collaboration between government and citizens, greater access to the city and its services, and yet also work to manage populations. I furthermore explored the concept and practices of sousveillance—or surveillance of the surveillors, surveillance from below (*sous*)—a phenomenon that has only recently found its way into scholarship and is suggested by some[10] to have the effect of a flattening of power relationships, a claim which I also scrutinize. Foucault's theory of power as all-encompassing—wherein everything and everyone is a source of power, and power exists in every relation—also was useful in helping me to identify and analyze what discursive and programmatic factors subtend or reinforce different manifestations of power and to what effect.

Critical Discourse Analysis

I adopted a concept of "text" as any written, verbal, data- or image-based product. For this project, I also assumed that texts are contextually-based social constructs produced in 'real-world' situations and inherently pointing to some social, legal, political, cultural, or economic condition of existence, rooted within "particular flows of power and knowledge," and comprised of "multilayered semantic organization[s]" that both establish and reflect social relations.[11] Norman Fairclough[12] insisted that any given text is

---

[10] Steve Mann, Jason Nolan, and Barr Wellman, "Sousveillance: Inventing and Using Wearable Computing Devices for Data Collection in Surveillance Environments," *Surveillance & Society*, Vol. 1, No.3 (2003), 331-355.

[11] John Frow and Meaghan Morris, eds., *Australian Cultural Studies: A Reader* (IL: University of Illinois Press, 1993), xix.

[12] Norman Fairclough and Ruth Wodok, "Critical Discourse Analysis," in T. van Dijk, ed. *Discourse Studies: A Multidisciplinary Introduction*, Vol. 2 (London: Sage, 1997), 258-84.

a product of three distinct discursive practices—production, distribution, and interpretation—all of which are embedded within a complex montage of social and cultural practices. As Frow and Morris point out, texts "exist only within a network of intertextual relations," and as such, they require an intertextual and interdisciplinary methodological approach that is both in the tradition of a cultural studies approach and best suited to critical discourse analysis.[13]

I incorporated into my critical discourse analysis a reading approach that focuses on the production of meaning and theories of signification, in the tradition of theorists such as Roland Barthes,[14] Clifford Geertz,[15] Stuart Hall,[16] and Jean Baudrillard.[17] Although each of the above theorists employed different methods of "reading," each sought to interpret enigmatic social expressions and meanings that are often intricately interwoven within a complicated and often deceiving configuration of signs and concealed within systems of dominance. For Barthes, cultural myths attached to objects were "second-order signs," connoting socially constructed meanings that helped to sell products and maintain the status quo; these second order signs, he insisted, became naturalized within popular cultural texts and images. Barthes' process of 'demystification' functioned to reveal how various discourses thus strengthen and reinforce dominative and hegemonic narratives and power structures. Thus, in the

---

[13] Frow and Morris, eds., *Australian Cultural Studies*, xiii.

[14] Barthes, *Mythologies*.

[15] Clifford Geertz, "Thick Description: Toward an Interpretive Theory of Culture," *The Interpretation of Culture* (NY: Basic Books, 1973).

[16] Stuart Hall, "Encoding/Decoding," in Simon During, ed., *Cultural Studies Reader*, 2nd edition (New York: Routledge, 1993), 166-176.

[17] Baudrillard, *Simulacra and Simulation*.

tradition of Barthes, I similarly worked to demystify (or, as Robins suggested, de-mythologize) the official, public and popular discursive practices of urban digitality.

CDA also enabled me to take into account recent and relevant social, historical, political and economic factors in which texts are produced, as well as acknowledge the context and history in my interpretation of any given discourse. Characteristically, CDA approaches[18] view discourse as a social practice, with an implied dialectical relationship between discursive moments and the various situations, social structures and institutions that frame them—hence, my focus on discursive practices. A CDA approach assumes that notions of power, ideology, and hierarchy exist in all discourse, an assumption that assisted me in discovering how the production of knowledge (of digitality) through discourse gives meaning to the real material conditions, objects, and social practices of urban digitality.

Primarily concerned with issues of power and the hidden dialectical relationships that exist between social practices and discourse, a critical discourse analysis also helped me to identify and analyze ideological constructions, as well as what social, economic, and political power relations are being produced, created, and maintained through the various digital technological programs in place. For Barthes, who is concerned with how marks of difference and binary oppositions are crucial to the construction of meaning, demystification works to reveal larger political and dominative structures. Stuart Hall, on

---

[18] Such as that of Fairclough and Wodak, "Critical Discourse Analysis"; Thomas Huckin, "Social Approaches: Critical Discourse Analysis," *Bureau of Educational and Cultural Affairs* (2011), accessed October 11, 2011, http://eca.state.gov/education/engteaching/pubs/BR/functionalsec3_6.htm; T.A Van Dijk, *Discourse Studies: A Multidisciplinary Introduction*, vol. 2. (London: Sage, 1997); Gilbert Weiss and Ruth Wodak, eds., *Critical Discourse Analysis: Theory and Interdisciplinarity* (NY: Palgrave Macmillan, Ltd., 2003).

the other hand, argues that the decoding of texts is a subjective and individual process.[19]

Hall contends that while mass media has the ability to shape and reinforce hegemony, the audience also has the power to resist it. Although I did not examine mass media content in the way Hall did, his theories nevertheless helped me to think about what similar processes of encoding and decoding exist within the digital discourse—the technological agendas and program descriptions provided by each city. While various communicative moments are all part of the same system, according to Hall, they also act independently of one another and within specific contexts—a concept that addresses a key feature of my investigation: each city, while performing within larger systems and structures, are also distinct and unique in their programming. The meaning of a cultural text, Hall insisted, lies somewhere between the producer's encoding and the consumer's decoding; media texts—or by theoretical extension, texts and discourse about media and digital technologies—do not always simply reinforce dominant ideologies, but potentially constitute ideological battle grounds that this dissertation worked to identify and address.

Foucault, while often in theoretical tension with Hall and Gramsci's perspectives, was nevertheless useful within this methodological framework, as his work addresses how knowledge/power is produced through discursive formations. So while my work with Barthes assisted me in demystifying the signs—or the underlying mythological structure of meaning, and Foucault facilitated an identification and analysis of various discursive "regimes of truth," as well as how discourse produces and defines subjects and

---

[19] Hall, "Encoding/Decoding".

subject-positions, Hall helped me to contextualize each city's narratives of digitality and think about how these narratives are both coded and decoded.

A CDA approach also falls in line with historical materialism; for Marx, the commodity, like any sign, at first appears to simply refer to itself (as merely an object with a certain utility), but closer investigation reveals it as something "queer" and "transcendent" and constructed within historically informed social relations.[20] While Marx did not make explicit semiological arguments, he was essentially pointing to the ways in which economic and social relations were permeated and perpetuated by signs and constructed meanings and hidden within contexts of dominant culture. I therefore engaged a variety of CDA methods that recognize such connections and work to denaturalize and expose the ideological content and material practices of each city's urban digitality.

Chapter Summaries

In Chapter 1, "Existing Literature and Theoretical Concepts," I review and discuss some of the scholarly literature that helped to frame my analysis and discussion of each city. This chapter helps to identify the conjuncture at which each city arises as a digital, smart, or cyber city and what theories are pertinent to the larger conversation. While I examine each city in its specificity throughout this dissertation, some common themes and discursive practices begin to emerge, although often in distinct ways, which are usefully addressed through broader theoretical frameworks, such as digital

---

[20] Karl Marx, *Karl Marx, Selected Writings*, ed. David McLellan, 2nd edition (Oxford: Oxford University Press, 2000), 472.

utopianism, neoliberalism, security and surveillance, and digital citizenship. I discuss

how technological utopianism plays a role in the production of certain discourses, helps

to inform digital technological discursive practices, and functions to support the

ideologies of the ruling class. I also explain my use of both Marxist and Foucauldian

perspectives of neoliberalism, and how I adopted both approaches in my examination of

each city's digital technological initiatives. Lastly, I discuss theories of security, safety,

and surveillance that help me to better understand each city's programs and how I situate

my work, more broadly, within these theoretical contexts.

In Chapter 2, I introduce New York City's recent digital technological goals and

objectives to become the world's premier "digital city" and a global model for open

government, as outlined within their *Road Map for the Digital City*.[21] I then provide some

discussion of the relevant distinct, historical, political, and economic contexts out of

which NYC's digital technological initiatives arise. I explore a number of major features

of the city's digital programing: the city's project to provide free Internet access and the

acquisition of the .nyc top-level domain; NYC's use of social media, smartphone

applications, and alert notification services; the city's recent passing of the *Open Data*

Bill and its public open data platform; and NYC's use of aggregated data to inform urban

policy decisions. Despite NYC's claims that their use of digital technologies enhance and

support open government and provide greater opportunities for democratic engagement,

for instance, many of their digital technological programs give greater, mediating,

communicative power to government and corporate partners than residents, which in turn

---

[21] City of New York, *Road Map for the Digital City.*

21

threatens open democracy and an accessible public Internet commons. The city's use of

social media, smartphone applications, and alert systems, furthermore, are all articulated

as democratizing and protective forces; but these claims become complicated by not only

the city's role in the administration and regulation of people's everyday lives, the

existence of regimes of knowledge and intelligibility about residents' daily practices, and

the training of the social body through mechanisms of biopower, but also the use of

residents as user-producer laborers, the collection of data (knowledge) through

crowdsourcing, and neoliberal interests. NYC's use of the metaphor of a "healthy civic

society," I argue, becomes an ideological narrative that obscures the city's use of many of

its digital technologies as tools of governmentality, as they function to construct,

maintain, and control productive social bodies, while becoming also examples of

contemporary neoliberal techniques of power—or neoliberal governmentality, in which

the government crowdsources responsibility for the city's overall civic "health" to its

population.

In Chapter 3, "San Antonio—'CyberCity, U.S.A.' and the Cyber-security State," I

explore the tension that exists between San Antonio's claim to open government and

enhanced democracy, its intense focus on systems of surveillance and security, which

threaten to thwart democratic practices, and its neoliberal agenda to enhance its economic

base through the securitization of cyberspace. I argue that San Antonio represents an

example of what Stephen Graham refers to as the "new military urbanism," as city

literature narratively shifts the perception of its civilians, as they operate in both public

and private spaces, into sources of threats, to justify and bolster the city's focus on

surveillance and the cyber-security economy. The city's regime of securitization and militarization materializes, in part, through premediating what could happen and then offering affects of security through increased digital homogeneity. I therefore argue that for San Antonio, security and the protection of democracy become ideological frameworks that help to justify a growing surveillance economy and the use of mass surveillance technologies.

In Chapter 4, "Smart City Seattle and Geographies of Exclusion," I explore Seattle's claim to be a smart city and its use of digital technological programs and initiatives to work towards economic, environmental, and social sustainability. Seattle claims to be addressing racial and class disparities through programs that are geared towards digital inclusion and bridging the digital divide. But as I argue, the narrative of the "smart city" becomes more of an ideological than practical project, while the discourse of digital sustainability functions to conceal many of the city's larger neoliberal agendas and practices. The city's use of crime mapping, for instance, not only helps to further construct class divides, but also reinforces structural and institutional racism. Seattle rhetorically leans on its history of social progressiveness to market its digital technological programs and gain support of its public; but the anti-neoliberal atmosphere of the WTO protest era, I contend, persists as sort of myth. As I discuss, many of Seattle's "smart city" programs actually reinforce hegemonic geographies of economic and social exclusion, neighborhood profiling, and the use of surveillance. And Seattle's role in the smart city economy, as it works towards data collection, aggregation, and

urban revitalization, paradoxically intensifies corporate power, privatization, and the use of residents as free user-producer laborers.

Finally, in Chapter 5's "Conclusion," I reiterate my argument of the phenomenon of the digital city as a neoliberal project. I reexamine the main themes that guide this project: the cultural imaginary, myths, and rhetoric that inform and help to construct each city's initiatives; how each city's political economy is intertwined with their digital programs and reinforce existing power structures and class relations; how goals of security and safety articulate with systems of surveillance; and how the promises of democratic engagement and open democracy that inform many of these initiatives are often sacrificed for socio-economic goals.

CHAPTER ONE: EXISTING LITERATURE AND THEORETICAL CONTEXTS

To date, research that specifically addresses these cities' digital initiatives, programs, and accompanying discursive practices of urban digitality is very limited. Perhaps the scholarship that most directly speaks to my project comes from an interdisciplinary collection of papers published in three volumes from a series of "Digital Cities" conferences,[22] in which international scholars, computer scientists, and urban developers provided analyses of what constitutes a "digital city" and how various digital technological applications and programs help to enhance visualizations of urban spaces, offer mobile public resources, enrich knowledge sharing capacities, and build or support social and community interactions. Out of the three cities to be analyzed within this dissertation, however, only Seattle's community networking model, as it aims to further cultivate digital citizenship, and New York City's use of technologies for surveillance are discussed. And while a number of articles address a variety of digital technological programs and applications, none interrogate the official use of such terms as "digital," "networked," or "smart" city. Furthermore, no research exists that considers the discursive practices of each of city's digital technological programs or compares the goals of such initiatives to the actual manifestations and material conditions of urban digitality, leaving gaps in scholarship that my dissertation addresses.

---

[22] Peter Van den Besselaar and Satoshi Koizumi, *Digital Cities III – Information Technologies for Social Capital: Cross-cultural Perspectives*, Third International Digital Cities Workshop (Amsterdam: Springer, September 18-19, 2005); Toru Ishida and Katherine Isbister, eds., *Digital Cities: Technologies, Experiences and Future Perspectives* (Berlin: Springer, 2000); Makoto Tanabe, Peter Van den Besselaar, and Toru Ishida, eds., *Digital Cities II: Computational and Sociological Approaches*. Second Kyoto Workshop on Digital Cities (Berlin: Springer, October 18-20, 2011).

In discussing New York City, San Antonio, and Seattle's claims to digitality, it is necessary to contextualize the discourse within larger theoretical frameworks, as common concerns and issues arise; and yet, contextualizing the discourse also helps us better understand how each city's digital technological initiatives function in its own specificity within those larger frameworks. For example, in all three instances, albeit in myriad ways, each city highlights the inevitability of digitality and makes claims that the use of digital technologies are a solution to various urban problems; and yet, each city's digital technological goals and discursive practices are distinct. I therefore analyze the power structures that subtend and inflect the digital, cyber, and smart city, particularly as these power relationships connect to the meaning of the contemporary city, how these terms mobilize certain discourses—such as that of urban sustainability, digitalized security and safety, and digital citizenship, and how these discourses then articulate with each city's actual practices.

Although each city has its own specific historical, cultural, economic and political background, has a distinctive position within the digital economy, and conveys specific technological goals, common theoretical landscapes nevertheless emerge when investigating each city's digital technological initiatives and programs. I therefore work to identify the conjuncture in which each city emerges as a digital, cyber, or smart city and what theories and terms are relevant to understanding the phenomenon of the digital city. For instance, each city articulates a specific ideological narrative about how their use of digital technologies will benefit society, so it becomes important to discuss how ideology and myth inform the discursive practices of each city. Furthermore, while each

26

city claims that its initiatives operate in the best interests of the public and are driven by democratic and civic interests, each city's programs also operate within and are most often motivated and sustained by neoliberal interests, which then raises questions about the role of digital technologies in the functioning of each city's civic and consumer society. And while each city deals differently with the collection, dissemination, aggregation, and use of data, each city's specific use of data plays a significant role in the everyday lives and practices of urban residents and raises concerns about privacy, surveillance, and the relationship between knowledge (information) and power. Thus, it becomes important to consider these and other common landscapes that emerge, what theoretical frameworks become useful tools of analysis, and how.

Digital Utopianism and the Neoliberal Project

Although myriad narrative formulations of urban digitality have been part of the cultural imaginary for decades, few analyses exist that consider the ways in which cultural imaginaries of both cities and digital technologies intersect or function in contemporary public narratives and manifestations of the "digital city" or urban digitality. And while terms such as "digital city" and "smart city" have recently gained currency among city officials, urban planners, journalists, scholars, and architects, these terms tend to be ill-defined within current scholarship, and few scholars consider what social, economic or political institutions (re)produce or are invested in such phrases and narratives or why. While there exist some similar broader claims about each city's digital technological goals (such as using interactive websites, social media, or smartphone

applications to enable greater interaction between residents and government and enhance city services), each city manifests a specific ideological narrative about what its use of digital technologies will accomplish. I therefore examine each of these narratives and consider how such terms and cultural scripts are often mobilized as signifiers—or are ideologically coded and mutually constitutive—and function as rhetorical or discursive strategies to further the various neoliberal goals of each city's digital technological initiatives.

The rhetoric of the change brought about by digital technologies is ubiquitous, and at the core of technological utopianism, as can be discerned in all three cities, is a conviction that technologies are inevitable and progressive, offering solutions to society's problems. But as Roland Barthes argues, myths, naturalized within socially constructed narratives, tend to perpetuate the ideologies of the ruling class.[23] The ruling class evinces itself in myriad ways in each city and represents an often evolving and fluctuating set of alliances, as various actors, functioning both independently and collaboratively, pursue intersecting goals. As I discuss in each chapter, major corporations and software developers, for instance, work collaboratively with New York City and San Antonio to construct, maintain, and regulate certain digital technological initiatives and programs; and in Seattle, the divide between upper and lower income classes are exacerbated by some of their digital programs, particularly crime data and mapping. But in all three cities, ideological discourse expresses how each city's programming works towards the

---

[23] Roland Barthes, *Mythologies*, trans. Annette Lavers (London: Paladin, 1972 [1957]).

overall health and well-being of civic society, and the benefits to the ruling class are often obscured.

Myths, therefore, can be important to understand not only for what they reveal, but also for what they may conceal. Vincent Mosco stresses the importance of considering the cultural imaginary when interrogating the discursive practices of digitality, arguing that such technologies are mutually constituted out of political economy and culture, as well as the "interconnected realities of myth and social institution."[24] Myths, he contends, are stories that animate people by lifting them out of "the banality of everyday life" and into a perceived, though illusory, digital sublime.[25] Mosco highlights three primary myths associated with cyberspace and digital technologies: the ability to transcend *time* (marking an end to history), *space* (suggesting the end of geographical boundaries), and *power* (thus the end of politics); he argues that almost every wave of new technology has brought with it similar declarations, as we can discern from many of the narratives of each city.[26] By providing an analysis of how certain myths and ideologies intersect with the discursive practices of each city's digital technological programs and initiatives, I highlight mutually constitutive relationships between culture and political economy that provides a useful framework for this dissertation.

Utopian ideals of the "digital city" also become inextricably woven into the logic of neoliberalism; and ideals of neoliberalism provide important parallels to the sort of

---

[24] Vincent Mosco, *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge and London: MIT Press, 2004), 10.
[25] Ibid., 3.
[26] Ibid., 117-127.

digital utopianism often reflected within each city's technological goals. The rhetoric of

neoliberalism, as described by David Harvey,[27] advocates for minimal state intervention

and assumes that in the pursuit of free trade and the freedom of the market to operate

unencumbered by governmental regulation, individual freedom is guaranteed, but in

practice, as I discuss below, neoliberal policies are contingent upon coercive state power

through methods such as privatization and accumulation by dispossession. Merging

liberal philosophy with neoclassical economics, neoliberalism favors the rational and

sovereign individual consumer and posits that such practices will lead to personal liberty;

consumer freedom thus becomes, at least ideologically, the epitome of democracy. And

these notions of individual liberty and democratic freedom echo within the discursive

practices of most of these city's digital technological agendas, but in different ways, as I

discuss below and within each proceeding chapter.

In considering neoliberalism as a theoretical framework, it is important to note

that, for me, neoliberalism doesn't so much describe a particular set of economic policies

or practices – because economic practices are continuously evolving, but rather describes

a sort of political rationality. On the one hand, there are real material and economic

consequences of many of these digital technological programs (as I highlight, for

example, in my discussions of the collection and aggregation of data and how these

practices inform urban renewal policy decisions that then have real impact on

neighborhoods and people); and yet, "neoliberalism" is also an ideological discourse that

functions to rationalize various economic goals and imperatives. As Wendy Brown

---

[27] David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005).

suggests, neoliberalism doesn't just reduce social, cultural, and political life to some kind of economic calculation, but rather "develops institutional practices and rewards for enacting this vision."[28] The economy doesn't flourish when left alone, nor is it a natural process, as neoliberal rhetoric would have us believe; rather, both the market and economic behaviors are constructed—they have to be continually directed and organized—so there has to be some organizing political/social rationale.[29] I argue that many of these digital programs serve that purpose—to help organize certain economic practices and flows and entice us, as both consumers and producers, to function as primary actors within this system.

But just as the discursive practices of digitality are different in each city, so are the conditioning effects of neoliberalism. Therefore, as I analyze each city's digital technological initiatives, I make use of both a Marxian perspective of neoliberalism (as exemplified, for instance, by my use of Harvey), which focuses on materialism – the real material consequences of neoliberal practices, and a Foucauldian perspective of neoliberalism as a form of governmentality. While Harvey argues that discourse is often contradicted by practice, and he makes a clear distinction between discourse and practice, Foucault would argue that neoliberal discourse *is* a practice that reflects the archeology of knowledge. It is not merely expressions of neoliberalism (the promises of neoliberalism) that make it meaningful, but rather the knowledge/power structure that makes neoliberal discourse itself a discursive practice and a tool of governmentality. While a more

---

[28] Wendy Brown, *Edgework: Critical Essays on Knowledge and Politics* (Princeton, NJ: Princeton University Press, 2005), 40.
[29] Ibid.

Marxian approach would describe neoliberalism as a form of ideological hegemony

structured from the top-down (though acknowledging a degree of willing consent), and

helps me to understand how neoliberal practice and capitalist power is often obfuscated

by its ideological discourse, a Foucauldian perspective of neoliberalism as a bottom-up

formation uses discourse (and the cultural imaginary as it functions to construct lived

realities) as a tool of governmentality and helps me to understand how discourse, in itself,

is a discursive neoliberal practice that facilitates the acquisition of power through

knowledge production. As I explain in the case of residents' use of NYC-sponsored

smartphone apps in Chapter 2, for instance, neoliberal governmentality relies more on the

self-governing individual to help construct and maintain him/herself as a neoliberal

subject.

I adopted Simon Springer's argument that the "rupture" that exists between

Marxian and Foucaldian scholars in their theorization of neoliberalism as either a form of

governmentality or driven by hegemonic ideology, is supported by a "false dichotomy"

between the two.[30] Springer rather views neoliberalism as a discourse, a move which

allows analysts to apply a blend of political economy with poststructuralist approaches

without favoring either, and seeks to recast the debate in such a way as to offer a more

"flexible and circuitous" understanding of neoliberalism, which appears to be a "mutable,

inconsistent, and variegated process that circulates through the discourses it constructs,

justifies, and defends."[31] By approaching neoliberalism through multiple perspectives, as

---

[30] Simon Springer, "Neoliberalism as discourse: between Foucauldian political economy and Marxian
poststructuralism," *Critical Discourse Studies*, 9:2 (2012), 133-147, accessed January 19, 2015,
http://www.tandfonline.com/doi/pdf/10.1080/17405904.2012.656375.
[31] Ibid., 135.

I explain in the proceeding paragraphs, I am able to acknowledge both the transitory nature of the social (which heavily drives and manipulates digital technological neoliberal discourse and practice), while remaining also grounded in an understanding of neoliberalism as an ideological hegemonic process that has real material consequences. Examining each city's digital technological initiatives and goals, furthermore, within these theoretical frameworks of neoliberalism helps to better determine how specific goals actually articulate with the practices of each city's initiatives as they function within a larger neoliberal economy.

I drew upon several Marxist perspectives on immaterial labor, for instance, when thinking about the ways in which governments, using interactive technologies, gather content and data through the use of crowdsourced free user-producer labor. Through a Marxist framework, I also worked to make evident the real material conditions that were often concealed within various dominative and hegemonic discourse, practices, and social structures. A Marxist perspective of neoliberalism also gives me a materialist account of what's happening and helps me to expose formations of exploitation and alienation of labor, the way classes are constructed by the various market relationships – indicative of class antagonism, and the hegemonic power structures in place.

Whether explicitly or implicitly, the promises of neoliberalism, as David Harvey's work helps us to understand, are evoked throughout the digital narratives of all three cities, but to differing degrees and with varying consequences. For instance, NYC frequently claims that through a number of its digital technological initiatives (such as its recent acquisition of an .nyc TLD and its open data platform) that small businesses, tech

start-ups, and software entrepreneurs stand to earn financial gains.[32] San Antonio's

CyberCity, USA also frequently reports that its success as a national cyber-security hub

and protector of national security is due to its collaborations and connections to major

cybersecurity industries. I therefore use David Harvey's theoretical framework as a way

to better understand both the promises and practices of neoliberalism, in an effort to not

only put these cities' discursive practices into a larger context, but also to better

understand each city in its specificity.

For David Harvey, neoliberalism is problematically a "utopian project to realize a

theoretical design for the reorganization of international capitalism," as well as a practical

political project that comprises the reconstitution of class power in such a way as to favor

the elite and restore elite class power.[33] In theory, as previously mentioned, the project of

neoliberalism holds out certain "promises"—as it calls for more egalitarian models of

wealth distribution, such as free trade, minimal government intervention in the pursuit of

entrepreneurial capital, and individual liberty, a narrative that is echoed within many of

these city's digital initiatives; but in practice, Harvey argues, it functions to restore class

dominance through the redistribution of wealth—channeling capital from lower to upper

economic classes.

As I discuss in greater detail in the following chapters, we can discern this sort of

redistribution of wealth (and power) into the hands of the elite in some of these city's

digital technological programs, such as occurs in NYC's initiative to bring more "free"

---

[32] See: http://www.digital.nyc/?gclid=Cj0KEQiAiuOlBRCU-
8D6idaPz_UBEiQAzTagNAxnP00tGXiRuiyz7Ima4iWnYSoZQbaIYv6hs0SLHQoaAmsv8P8HAQ.
[33] Harvey, *A Brief History of Neoliberalism*.

Wi-Fi into public spaces, while simultaneously partnering with major media corporations, such as Time Warner, which then turn around and charge users for subscriptions for those same "free" public access sites. The use of NYC's and Seattle's open data by software developers, furthermore, often occurs through the collection of information from the average resident's use of various digital technological programs and applications, thus highlighting the free labor of the user-producer for others' financial benefit.

A Foucauldian perspective allows me to better explain how neoliberal subjects are constituted through everyday mundane digitalized practices – or self-constituted, as the case may be, and also helps me to better describe the ontological process in which social reality is materially produced. For Foucault, within the rationality of neoliberal governmentality, *Homo economicus*, or the "economic man," [34] is not an inherently predictable being, but is rather indicative of a form of subjectivity that is brought into being and sustained through certain social mechanisms and coercive state practices. Foucault's theory of governmentality is not simply about a dominant force that has direct control over individuals or their conduct, but rather provides an opportunity for us to determine the conditions in which individuals are—or are not—free to conduct their own behaviors. For Foucault, neoliberal governmentality involves the shifting of responsibility from the state to the population, as government outsources (or, in these instances, "crowdsources") civic responsibility. Thus Foucault helps me to examine the ways in which each city's residents, in their engagement with the discursive practices of each city's digital technological initiatives and programs, play a role in the re-creation

---

[34] Michel Foucault, *Birth of Biopolitics: Lectures at the Collège de France, 1978-1979*. Graham Burchell, tr., Arnold I. Davidson, ed. (New York: Palgrave Macmillan, 2008).

and maintenance of themselves as neoliberal subjects. While neoliberalism ideologically dictates a minimization of state power, the "economic man," as a neoliberal subject, must be produced through a coercive state and the various forms of knowledge and relations of power that are aimed at supporting and reinforcing social mechanisms of subjectification. Neoliberal government, Foucault argued, "is no less dense, frequent, active, and continuous than in any other system," but it uses new instruments and technologies of control that operate within the interstices of the state and the market, largely within the social realm.[35] Because the health of the markets implies the health of the population, neoliberal governmentality extends into biopolitics, producing a new kind of entrepreneurial subject. Within these three cities, the neoliberal approach, filtered through a certain kind of technological utopianism, is to suggest that becoming "digital" will improve residents' quality of life. As Foucault suggests, within the apparatus of neoliberalism, each person is considered "equally unequal;" and social inequities become invisible when each individual's social situation is viewed as the result of his or her own free choices. Thus, neoliberal rationale avoids responsibility for such inequalities.

Neoliberal citizenship, as well as the discursive practices of urban digitality, in all three cities, focuses on ideas of personal freedom and autonomy; and as I argue, consumer sovereignty, neoliberalism, and neoliberal citizenship become mutually reinforcing and constitutive. Sustaining the ethos of neoliberalism and neoliberal citizenship, consumer sovereignty, a point highlighted most explicitly by NYC, becomes the primary means by which individual liberty is promised. And NYC and Seattle (to

---

[35] Ibid., 145.

lesser extent) both draw parallels between consumer sovereignty and e-democracy. But as Don Slater points out, contemporary models of neoliberal thought also positions "the market as the only means of social coordination" that can also secure freedom and progress and forgo questions of social responsibility, while making consumption practices of the sovereign consumer and neoliberal citizen priority.[36] Each city's digital technological landscape provides a pervasive source of both discursive and material power that reiterates these ideas of neoliberal and digital citizenship. Multiplatform digital convergence, on the one hand, offers the average citizen opportunities to create, produce, and distribute messages in new and more powerful ways, such as we see in a variety of city-sponsored mobile and social media networks; and yet, as I argue – particularly in the cases of NYC (with collaborations with mega-media conglomerates like Time Warner) and San Antonio (as the city increasingly partners with private cyber-security industries), control over these public platforms are becoming increasingly privatized.

On the one hand, Robert McChesney contends, neoliberalism posits that the marketplace is most effective in the presence of democracy; and yet, in practice, this occurs especially at the expense of the working class and primarily when the state is weak, ineffectual, and highly depoliticized.[37] And perhaps what is most dangerous is the way in which neoliberalism discourse informs existing social and commercial media and digital technological platforms—in the name of democracy and individual freedom, as is

---

[36] Don Slater, *Consumer Culture and Modernity* (Malden, MA: Blackwell Publishing, 1997).

[37] Robert McChesney, "Global Media, Neoliberalism, and Imperialism," *Monthly Review*, Vol. 52, Issue 10 (March, 2011), accessed on November 15, 2014, http://monthlyreview.org/2001/03/01/global-media-neoliberalism-and-imperialism/.

the case to some degree in all three cities—to generate a depoliticized and "bogus political culture that permits business [and governmental] domination to proceed."[38] Additionally, as Harvey insists, neoliberalism, as a "hegemonic […] mode of discourse," has become assimilated into the ways we "interpret, live in, and understand the world."[39] Neoliberalism has become naturalized—so deeply embedded in our everyday lives and practices and part of "commonsense understandings," that we tend to take its fundamental concepts for granted.[40]

While Foucault would possibly agree that the discourse of neoliberalism can be both hegemonic and naturalized, he would likely suggest that neoliberalism and its discursive practices are articulated through a continual process that (re)imagines and (re)interprets socially constructed realities, influencing the production of knowledge through the "conduct of conduct"—the paradox of liberal government that asserts the free will of the consumer on the one hand, and yet the regulation of individual behavior by the government, on the other. I therefore analyze these city's digital technological narratives to help identify the ways in which each city leans on various versions of neoliberal discourse to advance its specific digital agendas and examine how neoliberal practices are then intertwined with each city's digital agenda and often concealed within everyday discursive practices.

As McChesney argues, we also must take a close look at the political economy of contemporary media in order to cut through much of the "mythology and hype" of our

---

[38] Ibid.
[39] Harvey, *A Brief History*, 3.
[40] Ibid., 24.

current era.[41] Neoliberalism, McChesney contends, is "almost always intertwined with a deep belief in the ability of markets to use new technologies to solve social problems," and while neoliberal policies call for media and communication markets to be deregulated, what invariably happens, he argues, is that they are "re-regulated to serve corporate interests."[42] We see this occurring, for instance, as the Internet Corporation for Assigned Names and Numbers (ICANN), which is responsible for managing the global acquisition of the Internet's domain name system (DNS), increasingly works to deregulate top-level domain (TLD) ownership, allowing cities, such as NYC, to acquire their own .nyc TLD and then turn around and sell access to that domain to city businesses and, in the process, (re)regulate major communication networks—a problem that I address in greater detail in Chapter 3.

McChesney, of course, speaks primarily about the impact of mega-media conglomerates to control the media market, as well as the ideological messages that are delivered within these various platforms. While this dissertation is certainly concerned with some of the partnerships being formed between such media giants and government—such as is the case with NYC and social media giants such as Facebook and Twitter, or the increasing reliance on media firms such as Time Warner to provide low-cost broadband in Seattle, many digital technological initiatives and partnerships raise similar concerns. McChesney's argument that the media system is not the result of "free markets" or "natural law," but rather the consequence of multiple state policies that

---

[41] Robert McChesney, "Global Media, Neoliberalism, and Imperialism," *Monthly Review*, Vol. 52, Issue 10 (March, 2011), accessed on November 15, 2014, http://monthlyreview.org/2001/03/01/global-media-neoliberalism-and-imperialism/.
[42] Ibid.

helped to create the system, has particular resonance in each of these three cities. As governments, such as NYC, Seattle, and San Antonio, for instance, increasingly collaborate with large players in the digital economy, from telecommunications companies and Internet providers to cybersecurity industries, concerns emerge about how neoliberal interests undergird many of these city's digital technological claims and oftentimes function to undermine the articulated goals of each city, particularly those that make claims to use digital technologies for open government and e-democracy.

As McChesney suggests, the "notion that the Internet would 'set us free,' and permit anyone to communicate effectively," or as many of these cities claim—pave the way towards greater democratic engagement—is somewhat of a myth.[43] While some movements, such as the push for net neutrality, certainly lead to greater access to media platforms and offer greater opportunities for democratic engagement, there are also often a number of political and economic policies, as I demonstrate within each chapter, that function to constrain access and thus limit, rather than enhance, digital democracy. And McChesney's concerns about the emergence of such a concentrated media system in the hands of a few private institutions become perhaps even more alarming when considering the ways in which some of these governments increasingly collaborate with corporate giants in the digital economy, such as we see with NYC's multi-million dollar partnership with Time Warner to expand the city's fiber optic broadband network infrastructure, calling into question the freedom of and access to the Internet that the city purportedly wants to protect.

---

[43] Ibid.

As Harvey also argues,[44] capitalism finds its "spatial fix[es]" to alleviate moments

of crises of overaccumulation by investing in certain infrastructures; urbanization is one

example of absorbing capital surplus. And with the creation of the built environment, he

suggests, comes increased technological innovation, such as we discern in all three cities.

And yet the effects of such innovations also function to significantly change or

reconfigure (not necessarily altogether destroy) previous economic models. We can see

this happening, for instance, in both NYC and Seattle's new "app economy," wherein

unpaid-laborer producers are becoming increasingly naturalized forces of labor, as they

continually produce data, which is then aggregated and used by software developers to

create profitable smartphone apps. We also discern changes in previous models of labor

occurring in NYC, for example, as the city shifts to much less expensive channels for 311

reports—moving towards an increase in the use of technology, such as websites and

smartphone reporting, while working to minimize the use of human labor (call center

workers). The creation of new technological innovations creates new needs and spurs

capitalists to respond to those needs; and yet, in the process, new formations of

production and labor ensue that function to further exacerbate the economic divides.

"Innovation," Harvey also contends, "exacerbates instability, insecurity, and in

the end, becomes the prime force pushing capitalism into periodic paroxysms of crisis,"[45]

a theory that I consider when examining such digital technological initiatives and

programs such as Seattle's crime maps, San Antonio's consistent reference to the

vulnerability of cyberspace to terrorist attacks, or New York City's early warning text

---

[44] David Harvey, *The Enigma of Capital and the Crisis of Capitalism* (London: Profile Books, 2010).
[45] David Harvey, *The Condition of Postmodernity* (Oxford: Oxford University Press, 1989), 105-106.

systems. But whereas Harvey argues that in the continual process of creative destruction, old models of production and labor are being frequently replaced by new ones, and capitalism responds to crises by simply moving its operations around geographically, I contend that in the new digital economy, new *virtual* geographies of production and labor are being created that are perhaps even more insidious and imperceptible. Consider, for instance, the large amounts of data produced and collected in all three cities; the amount and kind of information collected and the ways in which the data are aggregated and used—whether by city officials or partner corporations—is almost impossible to fully quantify, and yet we can discern in many instances, such as neighborhood profiling that occurs as a result of data aggregation in NYC and Seattle, the potential deleterious effects. The shift towards crowdsourcing and free labor are not so much making jobs obsolete, but rather rendering fewer paid positions. All the digital data that residents often unknowingly provide, as they go about their daily lives, for instance, provide massive amounts of information about behaviors, habits, choices, and activities that can be captured, stored, mined, and aggregated for a variety of purposes that are beneficial to state or corporate interests.

Furthermore, in the digital economy, accumulation by dispossession, which Harvey describes as a primary technique of neoliberalism, often appears to be concealed within promises of technological possession. In the case of New York City and Seattle, for instance, citizens are promised free or accessible Internet, open data, open government, and equal access to the political public sphere; and residents are provided the digital technological tools or applications that purportedly allow them greater

communicative freedom. And yet, as each city also operates, conversely, to privatize, commodify, or regulate Internet access, by partnering with major corporations, and collect data for the benefit of the state or its corporate partners, the redistribution of wealth and power occurs through an accumulation of dispossession. The greater the uses of technology, in some cases, the more residents are dispossessed of their privacy, access to information, and communicative and financial capital. Take for example San Antonio's collaboration with the military and cyber-security industries in an effort to secure Internet channels from cyber-attacks; this kind of surveillance and militarized "digital enclosure"[46] of cyberspace is presented as necessary for the conduct of everyday life. Andrejevic defines "digital enclosures" as privatized control over large networks; the model of digital enclosure "seeks to explain why much still depends on who owns and controls the networks, who sets the terms of entry, and who gathers and sorts this information for what ends."[47] As a result of these privatized networks, such as Google, residents become increasingly coerced to accept the corporations' conditions in order to gain access; and, as a result, freedom of choice and privacy become increasingly limited. Mega-media conglomerates and large capital venture corporations are other examples of how monopolization of Internet services impact access to the Internet in ways that dispossesses digital citizens of their rights, by forcing them to accept the terms and agreements of privately owned "digital enclosures"[48] and, in the process, also give up

---

[46] Mark Andrejevic, "Surveillance in the Digital Enclosure," *The Communication Review*, 10: 295-317, 2007, accessed February 19, 2015, http://sspa.boisestate.edu/communication/files/2010/05/Andrejevic-Surveillance-in-the-Digital-Enclosure.pdf; Mark Andrejevic, *iSpy: Surveillance and Power in the Interactive Era* (Kansas: University of Kansas Press, 2007).
[47] Andrejevic, "Surveillance in the Digital Enclosure"
[48] Ibid.

their private information in order to access basic Internet platforms. These companies not only profit from user-producer laborers who produce information and data, but also benefit from the increasing privatization, securitization, and mediation of public Internet commons, as I discuss with all three cities.

In many of these cities, the use of social media to meet many of its larger digital technological goals also raises concerns about what may be one of the latest manifestations of neoliberal practice—the use of social networks and mobile communication technologies to facilitate a new form of power. E-governance is a fairly new phenomenon, in which governments increasingly use various forms of electronic media to provide government services to residents more cost-effectively, improve overall performance, support citizen empowerment through more direct communicative channels with government, and interact more efficiently and quickly with its residents. The latest iteration of e-governance relies heavily on social media and mobile communication technologies, in an effort to reach citizens in the virtual spaces they most often frequent. NYC, in particular, has been heavily aggressive with its use of social media. But as social media and mobile technologies have provided platforms for protests, the formation of political networks, and greater communicative potential, it has also been increasingly mediated by governments, regulated, and monitored. And as Lawrence Lessig[49] points out, architecture (the way the internet is structured, as for example with NYC's new .nyc TLD) and the market (such as the new app economy or city-wide broadband initiatives)

---

[49] Lawrence Lessig, "The Laws of Cyberspace," accessed August 21, 2014, https://cyber.law.harvard.edu/works/lessig/laws_cyberspace.pdf.

are two ways in which constraints can be placed on Internet communications and increase regulation.

As William Davies argues, while neoliberalism was initiated as an attack on socialism and was, from the beginning, "a movement that was partly defined in opposition to the very idea of the 'social,' the increased use of social media may indicate that "neoliberal government no longer places quite so much emphasis on the market, as a mechanism for organizing knowledge, regulating freedom and achieving transparency."[50] The "social" nevertheless "hovers as a paradox, between a space of state coercion governed by law, and a space of market spontaneity governed by individual incentives and price;" when being "social," he contends, we are both bound by rules and free at the same time.[51] We see this paradox playing out in all three cities, as government and neoliberal interests vie for resident/consumer attention. Davies also contends that this "new mutation of neoliberalism" is being "reinvented in ways that incorporate social logic, as a means of resisting critique and delaying crisis,"[52] such as we see occurring in NYC and Seattle, for instance, as these cities increase their "digital reach" to residents via mobile technologies and social media channels because, as digital natives, that's where they are most comfortably engaged on their own terms.[53] Recognizing the ubiquity of mobile media, each city claims to use this platform of social engagement to provide residents with greater access to city services and enable a greater voice in the democratic

---

[50] William Davies, "Neoliberalism and the revenge of the 'social,'" *Open Democracy*, July 16 (2013), accessed November 15, 2014, https://www.opendemocracy.net/william-davies/neoliberalism-and-revenge-of-%E2%80%9Csocial%E2%80%9D.
[51] Ibid.
[52] Ibid.
[53] City of New York, *New York City's Digital Roadmap, 43.*

process; and yet, these tools are also used to increasingly mediate and regulate information and take advantage of crowdsourcing to gather more data.

Andrew Barry[54] has proposed that interactivity is a means to counter disciplinary power, allowing for new forms of agency and subjectivity that disrupt the "knowledge/power nexus," as argued by Foucault, perhaps such as we have seen demonstrated by citizens who upload YouTube videos of police brutality. Indeed, the increased number of interactive smartphone and Internet users seem to logically lead to a decrease in Foucauldian discipline and surveillance; and yet, as Kylie Jarrett[55] argues, while interactivity may provide a solution to Foucault's description of discipline and how it helped formulate the political landscape of the 19th century model of a liberal state, in the 21st century, interactivity becomes a disciplinary tactic of the neoliberal state. And as Andrejevic also points out, the "model of digital enclosure suggests that ubiquitous interactivity also has the potential to facilitate unprecedented commodification of previously nonproprietary information and an aggressive clamp-down of centralized control over information resources."[56] Jarrett furthermore argues that the interactive user in today's society, particularly as we see in the case of New York City and Seattle, is being shaped into and reinforced as an active entrepreneurial citizen of neoliberalism. Interactive users, as I discuss within the ensuing chapters, thus together help to further construct the disciplinary force of the neoliberal state.

---

[54] Andrew Barry, *Political Machines* (New York: Continuum International Publishing Group, 2001).
[55] Kylie Jarrett, "Interactivity is Evil! A critical investigation of Web 2.0.," *First Monday*, Vol. 13, No. 3 (March 3, 2008).
[56] Marc Andrejevic, "Surveillance in the Digital Enclosure," *The Communication Review*, 10: 295-317, 2007, accessed February 19, 2015, http://sspa.boisestate.edu/communication/files/2010/05/Andrejevic-Surveillance-in-the-Digital-Enclosure.pdf.

Digitalized Security, Safety, and Surveillance

Stated goals concerning increased security, safety and surveillance in the public literature also appear to subtend many of these initiatives, but in myriad and distinct ways and with greater or lesser emphasis. San Antonio, for instance, focuses primarily on security and surveillance initiatives, such as its SAPD Fingerprint system, library media security, enterprise and web content management, and a human services tracking system.[57] Framed as a needed service in the interests of general security and safety, NYC has deployed the Personal Localized Alerting Network (PLAN), a nationwide alert system that immediately sends text alerts about large-scale emergencies to all mobile cell phone users within targeted geographic locations. Though not articulated within a clearly discursive rubric of digital surveillance, PLAN relies on an interactive Geospatial Information Systems (GIS) database that is most frequently used, in various commercial and governmental sectors, as a tool for surveillance. And Seattle's My Neighborhood Map is an online interactive application that uses similar technologies to visually chart reported crime in the city and designates categories of and information about police and fire calls and activity to 911 within the last 48 hours.

In all three cities, some more explicitly than others, security, safety, and surveillance are addressed within a number of digital technological initiatives and programs. As each city's digital technological programs take a variety of forms, they also

---

[57] European Travel Commission, "San Antonio's CVB use QR codes, social media and mobile phone app to develop the city's online presence," *NewMedia TrendWatch*, (2011), accessed October 3, 2011, http://www.newmediatrendwatch.com/news/834-san-antonios-cvb-use-qr-codes-social-media-and-mobile-phone-app-to-develop-the-citys-online-presence.

elicit different concerns when considered within the contexts of each city's distinct historical, political, cultural, and economic positions and articulated digital technological goals. In an effort to encourage a "healthy" and safe society, for instance, New York City makes available a number of city-sponsored smartphone applications, such as the NYC Condom Finder, which allows residents to locate free condoms anywhere in the city using their smart phones and encourages "safe sex," articulate larger goals of resident safety. And NYC's PLAN system that sends out early warning text alerts, as earlier mentioned, also has been deployed in an effort to secure the safety of its residents and visitors. And yet, because both programs use GIS software that simultaneously sends and collects information and data, or tracks one's geographical position, such programs raise questions about data collection, the use of digital technologies for surveillance, the city's role in the administration and regulation of sexual (or other) activities, and the existence of certain regimes of knowledge and intelligibility about residents' whereabouts and sexual practices. Additionally, San Antonio's explicit role in and partnerships with the military and major cybersecurity agencies and corporations, as well as the interpellation of residents into a growing digital panopticon in all three cities, raise questions about how surveillance and heightened cybersecurity measures articulate with democratic practice. And in an effort to keep Seattle residents safe by highlighting crime maps and crime density within the city, the digital visualization of crime and one's proximity to the criminal raises concerns about how, under the auspice of security and safety, the city helps to construct geographies of exclusion and fuel deleterious effects on certain neighborhoods.

The kind of up-to-the hour, interactive, GIS-based, digital mapping and tracking

tools, in the case of both Seattle and NYC, and as proposed with San Antonio's human

services tracking system, also provoke questions about how tracking and visual mapping

systems potentially function as tools of governmental, political, and disciplinary power.

And yet, considered within larger initiatives and what each city distinctly foregrounds as

its primary goals—whether "open government" or bridging the "technological divide,"

for example—different questions emerge. If, for instance, New York City makes "open

government" and "transparency" a central concern, does the use of GIS surveillance

systems become concealed within these applications and the discourse about them, or

unacknowledged components of the city's overall agenda? Conversely, if San Antonio

explicitly foregrounds its security systems and surveillance initiatives, does this clarity

indicate a lack of concern for the democratic use of digital technologies for open

government or governmental transparency?

The use of digital technologies for (interactive) communications with residents is

discerned in a growing number of city-sponsored websites, social media sites, and

smartphone applications, particularly in NYC and Seattle, and reflects each of these city's

goals for e-governance and greater interaction with residents. Indeed, many urban

activities are increasingly mediated through these various digital information and

communication channels. In NYC, for instance, 311 complaints can be submitted through

smartphone applications or on the city's 311 website and residents can follow city

updates and make suggestions on Twitter and Facebook. In Seattle, as earlier mentioned,

residents can pull up a number of different crime map websites in order to get

information about crime hotspots or what kinds of criminal activities are taking place in real-time. And NYC's recent acquisition and implementation of its own .nyc generic top level domain (gTLD) enable registered NYC businesses and organizations to be easily located and filtered through search engines; but by owning its own gTLD, New York City now has greater control over larger urban communication networks. The effects of these digitally mediated relationships between government and residents, however, are not yet fully understood, and the boundaries between public and private are becoming increasingly blurred as a result. While such digital channels enable citizens to more directly challenge or question government practices and authority or be used to mobilize protestors or activists, these technological channels can also be used for surveillance and data collection.

Therefore, to help better articulate the larger implications of these kinds of programs and practices that appear to address or engage digital technological formations of security, safety and surveillance, I deployed theories that draw upon Foucault's concept of governmentality to understand the ways in which state-sponsored use of digital technologies can employ various regimes of power.[58] By merging the concepts of government and rationality into *governmentality*, Foucault examines how governments manage their populations and produce politically-desired subjects. For Foucault, governmentality is simultaneously internal and external to the state, "since it is the tactics of government which make possible the continual definition and redefinition of what is

---

[58] Michel Foucault, "Governmentality" (Lecture at the Collège de France, Feb. 1, 1978), in: Graham Burchell, Colin Gordon, & Peter Miller (eds.), *The Foucault Effect: Studies in Governmentality*, Hemel Hempstead: Harvester Wheatsheaf, 1991, pp. 87-104.

within the competence of the state and what is not, the public versus the private, and so on."[59] Elaborating upon his theory of the "microphysics of power," Foucault approaches the study of governmentality not through laws, which are more obvious attempts to control populations, but rather through an investigation into what would appear to be more subtle or seemingly inconsequential instruments or technologies of government and their "multiform tactics,"[60] generated through a number of smaller processes and discursive practices, providing ways to think about the processes and applications of each city's digital technological programs.

Theories that draw upon Foucault's concept of governmentality also assist me in considering the various institutions of power, how digital applications and programs are developed and function, which (visual) formations of new digitally augmented or hybrid urban spatialities arise, and how subjects are constructed and mediated through digital technologies. Digital technologies have become increasingly significant forces in how governments function, as they help to manage, track, and visualize urban populations, such as through various interactive GPS and GIS-based technologies that are employed in all of these cities. This dissertation therefore examines how these cities are invested in the development of urban digitality and how the use of such technologies helps regulate the "conduct of conduct."[61]

---

[59] Ibid., 103.
[60] Ibid.
[61] Graham Burchell, Colin Gordon, and Peter Miller, eds. *The Foucault Effect* (Chicago: University of Chicago Press, 1991).

51

In the tradition of Foucault, others, such as Katj Aas, David Lyon, and Armand Mattelart,[62] have interrogated the social and political significance of surveillance technologies in cities and public institutions offering useful theories from which to examine the role of security, safety, and surveillance within a number of digital technological practices. Whereas Henry Jenkins, Yochai Benkler, and Clay Shirky[63] promote the politically transformative possibilities of enhanced autonomy provided by digital technologies, the bottom-up structuring of digital collaborations and "collective intelligence," open source economics, and participatory digital democracy, others, such as Mark Andrejevic[64] and Alexander Galloway and Eugene Thacker[65] point to the productive aspects of surveillance, sousveillance, and control offered by interactivity and digital monitoring. Andrejevic, however, also suggests that the use of certain interactive technologies, collected data, and various digital networks, such as we see in the case of NYC's smartphone applications or NYC and Seattle's Open Data programs, can generate a lot of personal data that can then be aggregated, commodified, and sold to or shared with city agencies and corporate partners, as discussed in the previous section.

As I also discuss within each chapter, massive collection, aggregation, and use of data can become problematic in all three cities. On the one hand, for instance, San

---

[62] Katj Franko Aas, *Technologies of Insecurity: The Surveillance of Everyday Life* (NY: Routledge-Cavendish, 2009); David Lyon, *Surveillance Studies: An Overview* (Cambridge, UK: Polity Press, 2007); Mattelart, *The Globalization of Surveillance.*

[63] Yochai Benkler, *The Wealth of Networks: How Social Productions Transforms Markets and Freedom* (New Haven, CT: Yale University Press, 2006); Henry Jenkins, *Convergence Culture: Where Old and New Media Collide* (New York: NYU Press, 2006); Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organization* (NY: Penguin Press, 2008).

[64] Andrejevic, *iSpy*; Mark Andrejevic, *Reality TV: The Work of Being Watched* (Maryland: Rowman & Littlefield Publishers, 2004).

[65] Alexander Galloway and Eugene Thacker, *The Exploit: A Theory of Networks* (Minnesota: Minnesota Press, 2007).

Antonio claims that the massive collection of personal data is used to help secure the Internet and the nation; and yet, journalists, scholars, and the public-at-large increasingly argue that individuals' privacy and freedom, as well as democracy itself, is at great risk as a result of such considerable data collection. As a result of its recently passed *Open Data Bill*, New York City collects and makes public an unprecedented amount of data collected by city departments. The aggregation of this data, as I explore in Chapter 3, is then used by both the city and corporate entities; for example, while the city uses its aggregated data to inform major policy decisions and respond to certain social problems (such as identifying high-risk neighborhoods for increased services, surveillance, or monitoring); corporations and for-profit software developers use aggregated city data to create profitable smartphone apps. We see this phenomenon also playing out in Seattle, as that city works to collect and publicly disseminate collected data (with a particularly heavy emphasis on crime data) within the city. Furthermore, along with publicly available datasets in both NYC and Seattle, privacy also becomes a concern, as I discuss in more detail in each chapter. And in all cases, the collection and aggregation of data lends itself to the creation of state knowledge and the knowledge economy, which then raise concerns about surveillance, privacy, and the co-constitutive relationship between knowledge and power.

Rather than specifically designed architectural elements, information systems, as we see in all three cities, now provide automated, continuous, optionally retrievable (and often aggregated) data. This process, Zuboff adds, occurs in three ways, all of which are echoed within NYC, San Antonio, and Seattle's initiatives and programs: First, whatever

can be automated is automated (or as is the case with San Antonio, streamlined); second, whatever can be turned into digital data is converted (aggregation of raw data); and third, any technology that can be used to monitor and control, regardless of the technology's original purpose, will be used for that purpose (human tracking, fingerprinting, etc.). Because San Antonio is so explicit about the role of digital surveillance and collection of data with its partner institutions, the public is aware of the ever-present gaze of the government; but because this kind of surveillance operates, for the most part, invisibly, it becomes naturalized as a part of everyday life.

While the actual data gathered (the information thus acquired) is of potential concern, so are the methods used for data collection and aggregation. Foucault's theories about the relationship between knowledge and power and how this combination can be used for social control helped me to consider the various institutions of power in place and the effects of each city's data collection and aggregation practices. In my investigation, certain instances of disciplinary and security apparatuses of power emerged within each city's digital technological initiatives and helped me to determine how some of these digital tools and practices were functioning to regulate and/or deploy certain regimes of power over the body politic. Take for example NYC's use of smartphone apps to prescribe healthy social behavior, whether encouraging residents to eat healthy, recycle, or have safe sex. As I discuss in more detail in Chapter 3, the NYC Condom Finder becomes a particularly useful example in exploring how new digital technological mechanisms of biopower have emerged and function to use disciplinary power by

prescribing an obligatory social act (such as having safe sex), while encouraging the population to self-regulate.

And it is the "power over life," or "bio-power," as Foucault reminds us, that appears in both disciplinary and regulatory forms to help control and determine the usefulness of the body to society. As Foucault argued, with the change from monarchies to bourgeois democracies, liberal governments needed a new modality of power. Emerging as a mechanism of power within democratic states, bio-power helped to both discipline and regulate the social body. Because governments need the support of its people, subtler forms of governmental power are necessary; democracies are meant to be self-governing, so the new power model that emerged was one in which we essentially tell ourselves how to behave. Governmental initiatives, such as exemplified by the kind of city-sponsored smartphone apps provided by NYC and Seattle, thus work to minimize public health issues and make governance of the public body more efficient and collaborative, thus increasing the overall productivity of its population with the help of its population.

Although Grusin primarily addresses media content, his theory of premediation was also useful in my examination of the discursive practices of heightened digital technological security and programs that emphasize safety and security through the use of digital technological infrastructures, mobile devices, and applications. Richard Grusin's (2010) concept of "mediality," which has similarities to Foucault's theory of "governmentality," also helped me to explain how digital technologies offer compensatory affects of safety and potentially function as governing apparatuses of

citizens. Grusin argues that new modes of technology today represent a contextualized regime of security—a national imperative that attempts to quell the fear of the unknown. Grusin use of the term "premediation" helps to describe a recent media shift in a larger cultural logic—a logic that is deployed in many of these cities' technological initiatives, particularly with NYC and San Antonio—from a mediation of the past to a pre-mediation of the future. By warning the public of potential future disasters and catastrophic events—whether that of a major oncoming weather event, as in the case of NYC, or impending cyberspace attacks by San Antonio, such pre-mediations function to instill and promote collective insecurity and heighten public fear of what *may* happen, while simultaneously offering an affect of security through promised governmental intervention. We see how Grusin's theory of premediation functions perhaps most clearly in San Antonio. The city's literature consistently reiterates the existence of cyber-threats, forewarning residents of immanent Internet dangers, which then promotes a broader public fear about the lack of cyberspace security. The city then offers an affective sense of security by affirming its commitment to support the military and the cyber-security industry's efforts at the war against cyber-terrorism, and thus secures public consent for an increase in the securitization and militarization of cyberspace.

Furthermore, within the digital panopticon, such as arises out of most surveillance states, it becomes clear that disciplinary mechanisms function primarily to make subjects *visible* as an object of power. But what happens when the state functions *explicitly* as a security state, as in the case of San Antonio? Shoshana Zuboff explains that in Bentham's panopticon prison occupants behaved as if under constant supervision, thus internalizing

their status as constantly observed; within the information panopticon, however, while a similar compliance exists, it operates on a such a subtle level with the gathering of information, that it soon leaves our consciousness.[66] The difference between the *informationspanoptikum* (information panopticon) and Bentham's panopticon, argues Zuboff, is that in Bentham's model, the gaze of surveillance is often an unverifiable possibility (and this is what thus keeps prisoners in line); whereas within the information panopticon, the gaze is known to exist and has become an anticipated entity, constant and continuous.[67] The panopticon effect, however, can only work if whomever is aware that they may be monitored at any time, but never quite sure when and how it is being done.

Conclusion

In examining the power relationships inherent within the "digital city," certain key themes and concerns emerge. Although each city's digital technological initiatives and programs transpire out of distinct cultural, economic and political landscapes, and while each city articulates a specific narrative about what its digital programs will accomplish—always in the best interests of its public, certain common ideologies and myths inform the discursive (neoliberal) practices of each city. Furthermore, utopian ideals about digital technologies are interwoven into the logic of neoliberalism, as each city claims that their use of digital technologies will encourage democratic engagement, enrich consumer sovereignty, support greater economic equality, and enhance personal

---

[66] Shoshana Von Zuboff, "Widerstand Gegen Datenschnüffelei: Seid Sand Im Getriebe!"," *Frankfurter Allgemeine Feuilleton* (June 25, 2013), accessed June 8, 2014, http://www.faz.net/aktuell/feuilleton/debatten/widerstand-gegen-datenschnueffelei-seid-sand-im-getriebe-12241589.html.
[67] Ibid.

liberty. But as earlier stated, just as each city's discursive practices vary, so do the material effects of neoliberalism. Thus, using both a Marxist and Foucauldian perspective enables me to not only examine each city's claims against its practices and focus on the real material consequences of each city's digital technological programs, but also reveal how neoliberal discourse in itself becomes a tool of governmentality. I therefore examine each city's discursive practices with a clearer understanding of neoliberalism as a both a form of ideological hegemony that functions to reconstitute class power into the hands of the elite, as well as a bottom-up formation that relies on autonomous individuals to reify their positions as neoliberal subjects through their engagement with certain digital technological programs and social mechanisms. Although neoliberalism, in practice, is hegemonic and often naturalized within everyday activities, Foucault's perspective of neoliberal governmentality suggests that neoliberalism and its discursive practices also continually reimagines socially constructed realities and influences the production of knowledge through the paradox of liberal government, which simultaneously asserts the free will of the consumer and the regulation of individual behavior by the government. The use of both perspectives therefore helps to explain how neoliberalism and neoliberal citizenship are co-constitutive and become intertwined within the discursive practices of digitality in each city.

Also within each city, a number of digital technological programs elicit concerns about privacy, surveillance, and the relationship between knowledge (information) and power. As discussed, each city's digital technological initiatives, whether explicitly or implicitly, also engage methods of surveillance, using a common subtext of security and

safety, and often reference democracy or civic health as the larger goal. As a result, ideas of security and safety become naturalized, ideological frameworks through which the use of mass surveillance and data collection is justified. The collection of data becomes concerning in all three cities for various reasons, such as the use of aggregated data to inform major urban policy decisions in NYC, or the use of data to visualize crime in Seattle; both occurrences, as I discuss in forthcoming chapters, can have deleterious effects on lower-income neighborhoods. Additionally, as Andrejevic argues, the use of popular digital technological platforms, such as social media, crime maps, and city-sponsored mobile applications, as encouraged primarily by NYC and Seattle, can "downplay the surveillance implications of emerging forms of networked interactivity."[68] And part of the usefulness of collected data to the state lies within its vague, social ubiquity, as major shifts in control over information are increasingly obscured by the naturalization of these cities' digital technological programs.[69] Going back to Andrejevic's model of "digital enclosure," we can discern, in each city, how power relationships emerge out of the construction of privatized or city-sponsored networked, interactive environments. Digital enclosure is not just a metaphor, but rather a "geographic process involving the reconfiguration of physical space in ways that structure relations of control over access to information of all kinds," as is evidenced most clearly, perhaps, by the use of aggregated data to construct certain geographies and (cyber)spaces of power.

---

[68] Andrejevic, "Surveillance in the Digital Enclosure"
[69] Ibid., 296.

CHAPTER TWO: NEW YORK CITY—SOCIAL MEDIA(TED) GOVERNANCE

In 2011, NYC Digital, a newly formed branch of the Mayor's Office of Media

and Entertainment, published the *Road Map for the Digital City: Achieving New York

City's Digital Future*,[70] which outlines the city's strategy to become the world's "leading

Digital City."[71] The stated mission of NYC Digital is to improve New Yorker's "quality

of life"[72] and "create a healthier civil society and stronger democracy through the use of

technology that engages, serves, and connects New Yorkers."[73] A self-proclaimed

"pioneer in Open Government," New York City claims to be "redefining the nature of

government"[74] through its digital technological initiatives and programs, offering

unprecedented governmental transparency, unparalleled opportunities for citizens to

interact with government officials, and unfettered access to the city's collected data.

Digital technologies, the report suggests, are the backbone of 21st century democracy and

the driving force behind NYC's goal to become "the world's most comprehensively Open

Government."[75] The following year, in August 2012, NYC published an update entitled,

---

[70] City of New York, *Road Map for the Digital City.*
[71] City of New York, "Year in Review: 2011," (2012), accessed October 21, 2012,
http://www.nyc.gov/html/digital/html/about/yearinreview2011.shtml.
[72] Gerry Smith. "Rachel Haot, New York's Tech Czar, Is The Woman Behind Bloomberg's Digital
Vision," *The Huffington Post*, Tech section. (October 10, 2012), accessed December 31, 2012,
http://www.huffingtonpost.com/2012/10/10/rachel-haot-new-york-chief-digital-officer_n_1955150.html.
[73] City of New York, *Road Map for the Digital City,* 5.
[74] Ibid.,7.
[75] Ibid., 38.

New York City's Digital Roadmap: Progress & Innovation, and reported the city's

progress on its initial set of goals, as well as introduced new "innovations" in its overall

digital technological agenda.

I examine what emerge as two principal sets of objectives articulated within New

York City's digital city agenda. First, I consider assertions that NYC's digital

programming offers unprecedented governmental transparency, enriches open

government, and enables greater citizen engagement—claims that all signal democratic

ideals and practices that rely heavily on digital technologies as intrinsically liberatory and

egalitarian, and yet—often paradoxically—emerge out of and help to sustain a

burgeoning neoliberal digital economy. I then interrogate claims that the city's digital

technological initiatives and programs will provide a healthier city, a better quality of life

for its residents, and enrich social interaction—assertions that, while ambiguously stated,

attempt to address residents' everyday lives, urban sustainability, and an overall sense of

social and civic well-being. I also discuss how NYC's digital technological initiatives and

programs complicate and problematize current debates about digital public spheres and

what it means to be a (digital) citizen. Additionally, I examine the city's digital strategies

for urban renewal, in an effort to better understand how NYC works toward creating a

certain kind of (digital) city. I analyze these larger goals and practices primarily within

the theoretical framework of neoliberal governmentality to help me better understand

how NYC attempts to produce a certain kind of citizen or governable subject through

specific digital technological strategies and practices. I examine, for instance, the city's

use of GIS (geographical information system) software—embedded within a number of

its sponsored mobile applications, to reveal how these applications collect data, foster

systems of knowledge/power through the use of surveillance technologies, help regulate

the city's population, and work to produce desirable (neoliberal) citizen subjects.

This chapter argues that such digital initiatives, as they function to manage

residents' activities and construct 'healthy' and productive social bodies, contradict the

city's concomitant claim of building a stronger democracy and raise concerns about the

city's role in the administration and regulation of people's activities, the existence of

certain regimes of knowledge and intelligibility about residents' everyday practices, the

training of the body through mechanisms of biopower, and the interpellation of residents

into an increasingly pervasive digital panopticon. Operating as new neoliberal techniques

of power that rely on the metaphor of a healthy society, many of these digital applications

threaten, rather than support, an open, democratic Internet commons, favor mega-

corporations over small businesses, and feed big data and app economies through the use

of crowdsourcing and free user-producer labor.

Mediate(d) Democracy: Internet Access and .NYC Top-Level Domain

According to NYC's *Digital Roadmap*, "universal access to the Internet is the

foundation of a truly connected city" and thus essential to the city's digital technological

agenda,[76] allowing individuals "opportunities to participate in democracy," and nurturing

a "more informed, engaged citizenry."[77] But as Lessig[78] argues, mere access to the digital

---

[76] City of New York, *New York City's Digital Roadmap: Progress & Innovation*, (August 2012), 5, accessed May 12, 2014, http://www.nyc.gov/html/digital/downloads/pdf/digitalroadmap2012.pdf.
[77] Ibid., 35.

sphere does not guarantee a democratic process. Various forms of corporate and governmental regulation and control are always embedded within the digital sphere, and we must make visible such constraints in order to better understand and interrogate the democratic possibilities.

One of NYC's stated goals for increased democratic potential includes digital inclusivity via multiple points of free public access to the Internet, but the city's programs and partnerships aimed to provide free WiFi are somewhat misleading. One of the city's major "access" initiatives, for instance, includes bringing more Wi-Fi into public spaces, "at no cost to taxpayers."[79] And to achieve this goal, NYC has partnered with a number of major corporations that have invested millions of dollars,[80] such as AT&T, Time Warner Cable and Cablevision (TWC&C), T-Mobile, and Google. On closer inspection of these programs, however, several limitations exist, and Wi-Fi is by no means always "free." For example, while AT&T provides "unlimited free public Wi-Fi"[81] to 20 city parks, and one does not have to be an AT&T customer to log in, this is not the case with over half the newly public Wi-Fi sites. In partnership with TWC&C, while Wi-Fi access has been provided to over 50 additional parks and public spaces, this access is only "free" and unlimited for TWC&C subscribers; for everyone else, Wi-Fi

---

[78] Lessig, "The Laws of Cyberspace"
[79] City of New York, *New York City's Digital Roadmap,* 5.
[80] Between AT&T and Time Warner, for instance, over $15 million has been allocated by these corporations towards the expansion of public Internet access in NYC. See: City of New York, *New York City's Digital Roadmap: Progress & Innovation*, 5.
[81] City of New York, *New York City's Digital Roadmap,* 5.

access is only provided for up to 30 minutes per month,[82] after which one would have to

pay $.99 a day thereafter for Wi-Fi access in those locations or become a TWC&C

subscriber.

Additionally, Time Warner Cable Business Class (TWCBC), a division of Time

Warner Cable, recently committed $25 million dollars to expand NYC's fiber optic

broadband network infrastructure,[83] but the plan is to expand networks in underserved

business districts, rather than for the general public, in order to generate urban economic

growth. The city's contract with TWC&C is anticipated to produce approximately $60

million in revenue, which includes $20 million to upgrade the city's institutional fiber

network for city employees and agencies, Citynet.[84] Thus, if Internet access is what

enables greater democratic potential, as the city claims, then this route to democracy

comes at a cost. NYC could have provided WiFi through a public utility model, but the

city chose instead to partner with private corporations that then shape access to public

WiFi to fit their own priorities; the city's claims of enriched democratic engagement thus

are complicated by capitalist agendas.

Another one of NYC's major goals is to pursue a generic top-level domain

(gTLD). While an .nyc TLD has the potential to open up spaces of communication, it also

could function to *dissolve* myriad forms of digital expression and work in opposition to

---

[82] J. Gonzalez, "City parks to get free Wifi, but limited to 30 minutes per user per month,"
NYDailyNews.com. (September 14, 2010), accessed January 19, 2013, http://www.nydailynews.com/new-york/city-parks-free-wifi-limited-30-minutes-user-month-article-1.438792.
[83] "Time Warner Cable expanding fiber broadband coverage in NYC, only businesses to benefit,"
Engadget. (August 29, 2012), accessed January 19, 2013, http://www.engadget.com/2012/08/29/twc-expanding-fiber-broadband-coverage-in-nyc/.
[84] "New York City to Expand Access to Public Broadband, Wi-Fi," *Government Technology*. (August 19,
2011), accessed January 19, 2013, http://www.govtech.com/wireless/New-York-City-Expand-Access-Public-Broadband-Wi-Fi.html.

many of NYC's articulated digital goals of open government and building a stronger democracy. On the one hand, NYC claims that greater control over communication networks will lead to greater *self*-governance and heightened democratic potential; and yet, the city's plan to adopt an NYC gTLD suggests that the control over communication would be primarily in the hands of the city and its vested collaborators, not the people. Several scholars[85] who advocate for net neutrality and open Internet commons that serve the public interest also have pointed out that while gTLD's may, on the one hand, set the stage for greater decentralization, the acquisition of a gTLD also carries with it potent socio-economic and political power; whichever institution has control over a gTLD also has the authority to control, monitor, and regulate the communication within its domain hierarchy. Governmental control over a gTLD therefore raises some significant concerns about who has access and power over what communicative resources, how information is distributed, and among what institutions, as well as which entities are vested economically in the control or possession of such resources and information.

The first proposal for a city gTLD originated from the city's Queens Community Board 3 in April of 2001, when the board passed the "Internet Empowerment Resolution."[86] The resolution calls for NYC to acquire the top-level domain address, .nyc, and suggests that in order for "a people to be independent and self-governing, they must control the basic communication tools of the society they inhabit."[87] The resolution

---

[85] Laura Denardis, *Protocol Politics: The Globalization of Internet Governance*, (MIT Press, 2009) and Lorrie Faith Cranor and Shane Greenstein, *Communications Policy and Informatin Technology: Promises, Problems, Prospects*, (MIT Press, 2002).
[86] City of New York. "Internet Empowerment Resolution," Queens Community Board 3. (April 19, 2001), accessed on January 19, 2013, http://www.cb3qn.nyc.gov/page/62506/.
[87] Ibid.

goes on to assert that as communication increasingly takes place over the Internet, a

"self-governing community" must "control the fundamental elements of that

communication network," and the attainment of an .nyc domain provides a "key part of

that *control*."[88] Although it is not clear to whom the Queens Community Board refers to

as "they," what becomes clear, with further investigation, is that the acquisition of an .nyc

gTLD address actually would take communicative power *away* from residents. The

resolution also suggests that having a top-level domain name will put NYC on par with

other global cities that have acquired gTLD's and "make [the city of New York] *more*

governable,"[89] a remark that, while somewhat vague, more accurately clarifies the city's

agenda to achieve greater control.

As the Queens Community Board resolution highlights, while "quality of life"—a

rather ambiguous term that is repeatedly referenced in the city's publications about its

digital agendas—is cited as a benefit, "control" over communication and financial gains

are clearly key motivations for pursuing a gTLD. Citing the issuance of country codes

such as .us, .ca, .ru, and .uk, the board insists that if NYC can gain control of an .nyc

domain, the city and its residents will be "Internet empowered," draw in tens of millions

of dollars in revenue (by hosting city businesses, organizations, and non-profits), secure

greater marketing power,[90] and enhance residents' "quality of life" through easier

---

[88] Ibid, my italics.
[89] Ibid, my italics.
[90] An .nyc gTLD would enable city-wide businesses, organizations, and services to be more easily located and filtered in search engines; for instance, rather than having to sort through millions of Internet search results for "New York City restaurants," an .nyc sub-domain name such as www.restaurants.nyc would provide one with a much more focused way of locating NYC restaurants.

searching and navigation of city resources, offices, programs, and businesses.[91] In

addition to the huge financial potential, what the city of New York stands to gain from a

gTLD acquisition is the ability to then sell or assign second and third level domains (for

instance, tourism.nyc or restaurants.downtown.nyc) and thus obtain greater regulation

over urban digital communications.

The resolution was sent to city officials, but did not resurface again in any

significant official manner until October 17, 2008, when Thomas Lowenhaupt, founder

and director of the advocate organization, connecting.nyc Inc.[92], offered a presentation

entitled, "The .nyc gTLD - Creating Space on the Internet for a More Livable New

York," and gave testimony before the New York City Council's Technology in

Government Committee on October 17, 2008,[93] appealing to the city council to assist

connecting.nyc Inc. in applying to the Internet Corporation for Assigned Names and

Numbers (ICANN)[94] and acquiring the .nyc gTLD. NYC paid the $185,000 fee and

applied for a new gTLD in June, 2012 and announced shortly thereafter that city officials

would form a community advisory board to provide feedback with the planning of the

new gTLD that was approved by ICANN in 2013.

---

[91] City of New York. "Internet Empowerment Resolution".

[92] See: http://connectingnyc.org/. Lowenhaupt and other Queens Community Board 3 members initiated the advocate organization shortly after the "Internet Empowerment Resolution" was passed, but the events of 9/11 in that same year took precedence, and the resolution to acquire .nyc TDL was deferred.

[93] See: "City Council Reso. #1495: The .nyc TLD – Creating Space on the Internet for a More Livable New York," (October 17, 2008), accessed January 19, 2013, http://www.coactivate.org/projects/campaign-for.nyc/city-council-hearing-on-reso-1495. Additionally, the full webcast of the hearing can be viewed at http://isoc-ny.org/441.

[94] ICANN is the global organization tasked with coordinating domain name systems (DNS), Internet protocol (IP) addresses, allocating Internet space, and assigning top-level domains (TLDs) world-wide. More information about ICANN can be found at http://www.icann.org/.

Lowenhaupt raised a number of concerns about the .nyc gTLD acquisition process

that remain relevant; not only was the official city application to ICANN not open for

public review, he points out in an interview in January, 2011, there was no provision in

the NYC charter for such a review because the charter has not been updated since the era

of the Internet began.[95] And at a public discussion forum in the summer of 2011 about the

new gTLD, Lowenhaupt raised public interest concerns when, to the panel of city

officials and digital media experts, he suggested that the city was covertly monopolizing

this resource: "I hear about collaboration and public input into processes. But it seems

that the departments have already made decisions as to how the economic development

aspect of the .nyc gTLD will be done. But there's been no public input. The entire

process is secret to this point."[96] Lowenhaupt's organization, connectingnyc.org,

reiterates this point: "City Hall is operating behind closed doors [...] and missing the

advantages that transparency and public engagement provide," and ICANN, the

organization argues, is not considering "the special needs of cities;" thus, New Yorkers

must work together to make sure that the "public interest is served."[97]

The larger public good is often cited as a primary reason to build a city gTLD. For

instance, the non-profit organization connecting.nyc Inc., which has spearheaded NYC's

gTLD acquisition, states in its mission that preparing "the city for the networked future"

and helping NYC develop a gTLD is in the city's "public interest." Lowenhaupt and

Michael Gurstein (2007) further developed their ideas about the necessity of TLDs

[95] Thomas Lowenhaupt, Quoted in Hutchinson, Kate E. "An In-Depth Look at .NYC," *United Domains*. (January 21, 2011), accessed January 19, 2013, http://blog.ud.com/2011/01/ntld-news-an-in-depth-look-at-nyc/.
[96] Ibid.
[97] NYC.org, accessed January 19, 2013, http://connectingnyc.org/.

serving the public interest in a white paper entitled, "Towards City-TLDs in the Public Interest,"[98] arguing for the creation of a category of Global City (GC) TLDs that would follow the infrastructure patterns of country level TLDs, but with regulations and principles in place that would ensure that city TLDs "operate in and support the broader public good" and be free of traditional commercial, institutional, or sectional interests.[99] Lowenhaupt and Gurstein point to the United Nations Development Program's "Governance for sustainable human development"[100] project as an example of "good governance" philosophies and policies for GC TLDs to follow; using the UNDP's guidelines for sustainable human development, the authors outline eight general principles for the management of city TLDs: transparency, effectiveness and efficiency, participation, equity, rule of law, accountability, responsiveness, and consensual orientation. Keeping city gTLDs geared towards public interest in mind, they argue, is crucial to democracy.

With similar concern for the public interest, David Bollier, author, activist, and co-founder of the Commons Strategies Group, called for occupy protesters to petition their local governments to acquire gTLDs; he insists that city gTLDs "could provide enormous new opportunities for citizens to transform their local political cultures, economies, and everyday life,"[101] by providing citizen groups with free domains, direct

---

[98] Thomas Lowenhaupt and Michael Gurstein, "Towards City-TLDs in the Public Interest – A White Paper," *CoActivate.org*., (Version 1.0, July 2007), accessed January 19, 2013, http://www.coactivate.org/projects/campaign-for-nyc/towards-city-tlds-in-the-public-interest.
[99] Ibid.
[100] Ibid.
[101] David Bollier, "Occupy Protesters: Lay Claim to the New Top-Level Domains for Cities!" (October 26, 2011), accessed January 19, 2013, http://bollier.org/occupy-protesters-lay-claim-new-top-level-domains-cities.

connections to the city and its residents, and opening up more channels for public

discussion and engagement. But Bollier also maps out the potential dangers:

> We've seen how opportunities to use public assets can be squandered
>
> through the kind of backdoor privatization that city governments love to
>
> promote (the famous 'public/private partnerships'). Just look at Zucotti
>
> Park itself, a 'privately owned public space' that is mostly controlled by
>
> its private owner, and only indirectly by the city—and hardly at all by
>
> New Yorkers except through their extraordinary 'occupation' of the
>
> site.[102]

Governmental control over public communication, capitalist investments in city-wide

Internet communications, and corporate data-mining for personal information and search

engine monopolizing (such as burying local businesses into the dark void of search

engine results with more focused second-tier domain names), all could have deleterious

effects on an open and democratic Internet commons, argues Bollier.[103] ICANN

To be democratizing, gTLDs should exist as open-source commons and not be

monetized, privatized, or outsourced to corporate partners. Bollier and Tim Watts argued

that the Internet commons is perhaps one of the most significant public interest

phenomena of our era, and increased public-private partnerships and corporate interests

threaten to "transform the open architecture of the Internet into a more closed and

controlled system," erecting "proprietary walled gardens" through cable broadband

---

[102] Ibid.
[103] Ibid.

systems. If these trends are left unchallenged, the authors contend, the Internet will

"morph into a pay-per-use vending machine and a privatized public square."[104]

One of the more compelling, but under-reported, controversies around the .nyc

gTLD involved Paul Garrin, an East Village internet activist and artist who claimed that

his company, Name.Space, has owned the .nyc domain name since 1996, has a "civic

agenda" for the TLD, and is not selling it to NYC.[105] In June, 2012, as stated earlier, the

City of New York applied to the ICANN for the .nyc gTLD and received approval in

2013, but Garrin has launched a public and legal campaign to challenge ICANN's rights

to the .nyc gTLD and charges both NYC and ICANN with "corrupt practices."[106]

Receiving no official recognition from either NYC or ICANN of Garrin's claim to

ownership of the .nyc gTLD, Garrin filed a federal anti-trust trademark-infringement

lawsuit against ICANN in October, 2012.[107] Though only ICANN is named as a

defendant in the litigation, Garrin's suit claims that the gTLD assignment program is

dominated by "industry titans" and "ICANN insiders."[108] In filing this lawsuit, Garrin

also issued a legal challenge to ICANN's purported control over the "entire worldwide

Internet Domain Name System ('DNS')"[109] and the way the Internet is organized. As of

---

[104] David Bollier and Tim Watts. "Saving the Information Commons: A New Public Interest Agenda in Digital Media," *New American Foundation Public Knowledge*. (Washington, DC.), accessed January 19, 2013, http://www.newamerica.net/files/archive/Pub_File_866_1.pdf, 3.
[105] Lincoln Anderson, ".nyc cyber struggle pits local pioneer vs. city and Koch, too," *The Villager* (Vol. 79, No. 19, October 14-20, 2009), accessed January 19, 2013, http://www.thevillager.com/villager_337/nycscberstruggle.html.
[106] Clayton Patterson, "Net pioneer needs help in fight for rights to .nyc," *The Villager* (May 17, 2012), accessed January 19, 2013, http://www.thevillager.com/?p=4548.
[107] A copy of the filed lawsuit can be viewed at: "Complaint," ICANN, accessed January 19, 2013, http://www.miniurl.com/s/44D.
[108] Ibid., p. 3.
[109] Ibid.

this writing, the case has yet to be resolved.[110] But the result of this lawsuit could set

precedence for how future gTLDs are assigned and managed. Furthermore, when

considering the recent United Nations General Assembly motion that was passed in June,

2012, that declares that Internet access is a basic human right,[111] ICANN's role becomes

even more crucial. While ICANN's TLD assignments have the potential to expand

human expression and provide more people with Internet access, the increased number of

governmentally assigned TLDs, as previously discussed, could also serve to narrow the

spaces for communication and provide governments (and their corporate partners) with

more opportunities to control and filter Internet communications.

As New York City now works towards developing its recently acquired gTLD

and producing a hierarchical digital assemblage of governmentally-owned and controlled

.nyc domain tiers, it also is important to note that the city does so in partnership with two

of the most powerful economic institutions: Time Warner's Global Media Group and the

NYCEDC.[112] Whether or not NYC at some point follows through with its promise to

solicit public feedback into its new gTLD remains to be seen; but clearly, there are many

reasons to be concerned. While the acquisition of an .nyc TLD appears to be only one

small goal on a very long list of the city's digital technological initiatives, this particular

---

[110] All stages of the litigation, including copies of all court orders, can be obtained at
http://www.icann.org/en/news/litigation/namespace-v-icann.
[111] See: "A/HRC/20/L.13," *United Nations General Assembly* (June 29, 2012), accessed January 19, 2013,
http://www.regeringen.se/content/1/c6/19/64/51/6999c512.pdf.
[112] See the video of a panel discussion with city officials: "Setting the Digital Standard: Open Government
in NYC," New York City Media, (June 8, 2011), accessed January 20, 2013,
http://www.nyc.gov/html/nycmg/nyctvod/html/home/minyinsider_digitalpanel.html. Discussion of TLD
begins at 44:30. A transcript of that part of the discussion can be found at: ".nyc TLD 'Huge Milestone'
Public Collaboration Assured," Socio-libre, accessed on January 20, 2013,
http://www.coactivate.org/projects/campaign-for-nyc/blog/2011/06/12/nyc-tld-huge-milestone-public-
collaboration-assured/.

agenda item requires a great deal more public attention and discussion than has taken place thus far. Additionally, a newly acquired gTLD will no doubt become the primary infrastructure for many of the city's other digital initiatives, from social networking and GIS mapping of the city to open data collection and exchange; thus, how NYC's gTLD is structured, by and for whom, sets the foundation for how other digital technological programs operate and function.

Urban Health and Sustainability: NYC's Got an App for That

NYC government relies heavily on social media tools as part of its overall public-engagement strategy and to meet many of its digital technological goals geared towards open government and enriching residents' quality of life. Social media engagement is articulated as a democratizing force; rather than simply publishing information, these channels allow residents to become content publishers and thus have a voice in government. Therefore, as a part of its overall initiative, NYC promises to expand "citizen-centric digital resources" through new media channels and platforms that "support City goals of transparency, engagement, participation, and access to information."[113]

In a self-assessment of its "digital reach" in 2011, the city calculated that New York City's government reached over 25 million people a year through its website, NYC.gov, 311 online, and more than 200 social media channels.[114] For the 2012 progress report, NYC reported that its initiatives substantially increased its digital engagement to

---

[113] City of New York, *New York City's Digital Roadmap,* 46.
[114] City of New York, *Road Map for the Digital City,* 7.

reach more than 5 million individuals a month through more than 280 social media

channels, including Facebook, Linkedin, YouTube, Twitter, Tumblr, short message

service (SMS) subscriptions, and Foursquare, as well as through city-sponsored

smartphone applications and the NYC.gov website.[115] NYC furthermore claims to use

social media "more than any other region in the country;"[116] and, assuming most New

Yorkers are accessing their information on-the-go, the city works to engage "members of

the public on their terms and their most comfortable, native digital environment,"[117]

primarily through *mobile* social media. Highlighting research from the Pew Internet and

American Life Project (2010) that shows that lower-income adults are more likely to

access the Internet through mobile devices, and recognizing the "ubiquity of mobile

technology,"[118] the city claims that providing more access to government through mobile

devices (i.e. through smartphone apps and mobile friendly websites) will increase the

likelihood of engagement with these populations.

As part of its digital technological strategy to optimize its mobile social media

presence, provide residents with increased access to city services, and solicit feedback

and reportage through what the city calls "crowdsourcing tools,"[119] the city hosts two

online categories of smartphone apps: the "official" NYC apps and those created through

the NYC Big Apps contest. As of its 2012 digital progress publication, NYC reported that

---

[115] City of New York, *New York City's Digital Roadmap,* 20.
[116] Ibid., p. 23.
[117] Ibid., p. 43.
[118] Ibid., p. 49.
[119] Jeff Howe of *Wired Magazine* defines crowdsourcing as outsourcing functions once performed by employees or representatives of an organization or company to an "undefined (and generally large) network of people in the form of an open call." The "crucial prerequisite" of crowdsourcing, Howe suggests, is "the use of the open call format and the large network of potential laborers." See: Jeff Howe, "Crowdsourcing: a Definition," *Crowdsourcing* (June 2, 2006), accessed February 15, 2013, http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html.

there were over 77,000 smartphone application downloads.[120] Hosted by the Economic

Development Corporation (EDC), DoITT, founding partner ChallengePost, and BMW i

Ventures, a venture capital company that invests in location-based mobility services, the

city invites the public to compete[121] in a weekend-long, round-the-clock, Big Apps

"hackathon" to develop apps using raw city data made available by its departments. To

encourage competition for submissions to the Big Apps contest, the city and its partners

offer incentives such as cash prizes totaling $50,000 and the chance to receive venture

capital funding. Some recent winners of the contest, which have since garnered corporate

support and millions of dollars in revenue, include: Don't Eat At – an app that will text

message you when you've checked into a restaurant on Foursquare that is at risk for

being closed for health code violations, as well as the comprehensive commuter app,

Roadify and the city-guide, MyCityWay, both of which quickly developed beyond

serving NYC and now cover dozens of cities nationally.

As previously mentioned, NYC's primary mission is to "create a healthier civil

society and stronger democracy." [122] Exactly what is meant by the use of such terms as

"healthy" or "healthier" is not altogether clear, but a closer investigation into NYC's

narratives of digitality and city-sponsored programs and applications reveals that the

narrative of urban health is a strong rhetorical thread. Many of the city's "official apps,"

for instance, are sponsored by the Departments of Health, Sanitation, Transportation, and

Environmental Protection; described as collaborative tools of social, public, and urban

---

[120] City of New York, *New York City's Digital Roadmap,* 20.
[121] The competition is open to the public (individuals, corporations and businesses with less than 50 employees, and non-profit organizations).
[122] City of New York, *Road Map for the Digital City*, 5.

"health" and well-being, these smartphone applications also underscore the city's urban sustainability efforts.[123]

Such digital applications, however, raise concerns about the city's role in the administration and regulation of people's activities, the existence of certain regimes of knowledge and intelligibility about residents' whereabouts and everyday practices, the interpellation of residents into an increasingly pervasive digital panopticon, and the training of the body through mechanisms of bio-power. Framed as a needed service in the interests of general security, safety, and overall "health" of the city, for example, NYC's smartphone apps encourage urban residents to have "safe sex," eat healthy, recycle, work and be more productive, volunteer, drive sober, read books from the city's library, and exercise. In 2010, for example, the NYC Department of Transportation launched the "You The Man" app, which identifies the closest taxi and public transportation options nearest the user, in an effort reduce drunk driving incidents in the city and to help "make New York City's streets even safer."[124] The WaterOnTheGo.NYC app is advertised as a "healthy alternative" to sugar-sweetened beverages;[125] and the NYCEats app allows diners to check a restaurant's safety record.[126] There is even an app called Work+ that

[123] For more information about NYC's urban sustainability goals, see PlaNYC: http://nytelecom.vo.llnwd.net/o15/agencies/planyc2030/pdf/planyc_2011_planyc_full_report.pdf.

[124] City of New York, "NYC DOT Launches "You The Man" iPhone App to Reduce Drunk Driving in New York City," Press Release (September 8, 2010), accessed February 15, 2013, http://www.nyc.gov/html/dot/html/pr2010/pr10_039.shtml.

[125] City of New York. "DEP Announces More than 500,000 People Visited Water-On-the-Go Fountains in 2012." (September 6, 2012), accessed February 15, 2013, http://www.nyc.gov/html/dep/html/press_releases/12-62pr.shtml.

[126] Tina Moore, "Mayor Bloomberg touts app-y meals for healthier choices in city eating," *New York Daily News* (March 6, 2012), accessed February 19, 2013, http://www.nydailynews.com/new-york/mayor-bloomberg-touts-app-y-meals-healthier-choices-city-eating-article-1.1034351.

locates places to work in the city with free WiFi. By signing in, the app description

suggests, users can "become part of the nomadic worker movement."[127]

One of the city's most popular apps, the NYC Condom Finder, exemplifies how

many of these new digital mechanisms of bio-power have most recently emerged and

function towards the control or management of life. Expanding upon on a safe-sex

campaign the city launched to distribute free NYC-designed condoms[128] to the public in

2007, the Department of Health and Mental Hygiene, which refers to Valentine's Day as

"Condom Awareness Day," NYC released the world's first condom smartphone app[129] on

February 14, 2011. [130] Complimenting the city's NYC Condom Facebook page (with

nearly 20,000 likes), its official website,[131] and NYC Condom on Twitter @NYCcondom

(with nearly 300 followers), the NYC Condom Finder not only uses GPS technology to

pinpoint the user's location and a map of NYC condom distributors nearby, it also offers

a list of "do's" and "dont's" for proper condom use.[132]

In the first year, the app was downloaded more than 25,000 times, according to

the NYC Department of Health and Mental Hygiene.[133] Dr. Thomas Farley, the New

York City Health Commissioner, remarks that because New Yorkers are "mobile," the

city needs to "reach them both with sexual health information and easy access to service

---

[127] See: https://itunes.apple.com/us/app/work%20/id493637707?ls=1&mt=8.
[128] See Figures #3 & 4.
[129] "New York City Launches the World's First Condom App," *Good Magazine* (February 14, 2011), accessed February 15, 2013, http://www.good.is/posts/new-york-city-launches-the-world-s-first-condom-app/.
[130] "New York City Launches".
[131] http://www.findnyccondoms.com/.
[132] See Figures #3 & #4.
[133] City of New York, "Health Department's NYC Condom Finder Available on All Smartphones in Time for National Condom Awareness day, Feb. 14." Press Release #003-12 (February 13, 2012), accessed February 19, 2013, http://www.nyc.gov/html/doh/html/pr2012/pr003-12.shtml.

information wherever they are."[134] The NYC Condom Finder, insists Sweeney, takes the city "two steps closer to making safer sex the norm."[135] Although there is no evidence to suggest that NYC keeps track of who picks up free condoms through the NYC Condom Finder, the city has been criticized for giving away free condoms, and then, on the other hand, seizing them from suspected prostitutes.[136] "One arm of the government is giving people condoms," remarks Dwyer, while "another arm is confiscating them from the very people who are most vulnerable […]."[137]

---

[134] Ibid.
[135] Ibid.
[136] Jim Dwyer, "Giving Away, and Then Seizing, Condoms," *New York Times* (April 24, 2012), accessed February 15, 2013, http://www.nytimes.com/2012/04/25/nyregion/in-new-york-city-giving-away-and-taking-away-condoms.html?_r=0.
[137] Ibid.

Figure 1: Two differently designed official NYC Condom wrappers (top); Screen shots from iPhone NYC Condom Finder App (bottom).

Furthermore, early in 2013, the NYC Department of Health and Mental Hygiene released another similar official app for city teenagers. The Teens in NYC Protection+ smartphone app[138] allows teenagers to search for sexual health clinics, where they can then obtain free condoms, STD and HIV testing, pregnancy testing, emergency contraception, and birth control. The app also provides a plethora of information about what kind of contraception to obtain and for what purposes, as well as what to expect at a clinic. To make it more teen user-friendly, one can even log into the application via their Facebook account. Additionally, as soon as one opens the smartphone app, there is a

---

[138] See Figure #5.

message from the City of New York that proclaims: "Teens in NYC… have the right to sexual health services without getting permission from parents, girlfriends/boyfriends or anyone else."

Figure 2: Screen shots from iPhone Teens in NYC Protection+ App.

Both disciplinary and security apparatuses of power, as Foucault might suggest,[139] are embedded within smartphone applications such as the Teens in NYC Protection+ app and the NYC Condom Finder and further heightened by the contradictory act of giving away free condoms, but then using the possession of 'too many' condoms as a punitive tool, as the "condoms are also used to mark people for arrest on prostitution charges."[140] On the one hand, both applications engage modes of discipline and population control by

---

[139] Michel Foucault, *Security, Territory, Population: Lectures at the Collége De France 1977-1978*. (New York, NY: Palgrave Macmillan, 2004).
[140] Dwyer, "Giving Away." As the article explains, NYC police often arrest suspected prostitutes based on the number of condoms one has in one's possession.

prescribing an obligatory act (safe sex) in an effort to prevent the spread of

communicable diseases and lower rates of teen and unwanted pregnancies. On the other

hand, both applications also engage modes of security, as NYC government attempts to

work within the reality of social experiences by allowing the natural course of events to

take place (people and teenagers *will* have sex). These kinds of smartphone apps are

examples of the new, more subtle, digital mechanisms of bio-power that have most

recently emerged and function towards the cultivation of "healthy" citizens and social

body. When conjoined with New York's HIV Reporting and Partner Notification

(HIVRPN) Law,[141] the combination of all of these mechanisms work in tandem to

regulate and manage certain (diseased) bodies.

Characteristic of Foucault's concept of neoliberal governmentality, the

responsibility for the well-being of the urban population is shifted from the government

to the residents through a more diffuse power structure, and strategies of governmental

control are exercised through the digital technological apparatuses of a (digital) citizen's

everyday life. The democratic idea of freedom, or freedom of circulation and consumer

sovereignty, is a crucial component in this particular mode of power. According to Dr.

Monica Sweeney, the assistant health commissioner, city officials "want New York City

to be the safest city in the world to have sex," since "*A lot of people come here for

that.*"[142] As opposed to earlier forms of sovereign rule, where absolute rule over

---

[141] New York State requires that all persons diagnosed with HIV and AIDS must name all sexual and needle-sharing partners to their medical provider, so that these people can be notified of their risk of having been potentially exposed. See:
http://www.health.ny.gov/diseases/aids/regulations/partner_services/index.htm.
[142] Monica Sweeney quoted in "New York City Launches Mobile Phone App for Free Condoms," *Huffington Post (*February 14, 2011), accessed February 19, 2013,

individual subjects entailed saying "no" to various actions and managing details of people's lives, modern society is posed with the problem of how to say "yes" to the desires of individuals, in such a way, though, as to still function towards the management of populations and productive bodies.[143] As Foucault argued, the "conduct of conduct"[144] has become one of the central problems of modern governance, in part because it involves this paradox. Residents, of course, have the freedom to have sex and to look for condoms or not, as well as then navigate to whichever free condom distribution center or clinic they choose. On the one hand, liberalism evokes and asserts the freedom and rights of the individual; and yet, government functions to regulate that individual behavior, or at least compel its population to self-regulate.[145]

Furthermore, as can be discerned from NYC's use of mobile applications that underscore "health," the social is "brought back as a way of providing support, such that individuals can continue to live the self-reliant, risk-aware, healthy lifestyles that neoliberalism requires of them;" and this phenomenon of "social prescribing," Davies argues, becomes indicative of new neoliberal techniques of state power.[146] Furthermore, new "techno-utopian policy visions, of 'smart cities' and digital tracking of health behaviours," Davies suggests, along with the increased collection, aggregation, and use

---

http://www.huffingtonpost.com/2011/02/14/new-york-city-launches-mo_n_823250.html and "Safe Sex and the City: New York Launches Condom App," *The Guardian* (February 14, 2011), accessed February 19, 2013, http://www.guardian.co.uk/world/2011/feb/14/new-york-condom-app, my italics.
[143] Foucault, *Security, Territory, Population*, 102.
[144] Foucault, "Governmentality".
[145] Michel Foucault, 'Governmentality' (Lecture at the Collège de France, Feb. 1, 1978), in: Graham Burchell, Colin Gordon, & Peter Miller (eds.), *The Foucault Effect: Studies in Governmentality* (Hemel Hempstead: Harvester Wheatsheaf, 1991), 87-104.
[146] Davies, "Neoliberalism"

of data, create a foundation for a new sort of neoliberal government management.[147] But all this is indicative of a supplement to neoliberal logic, he contends, rather than its replacement; the "new form of sociality" that emerges, as in the case of NYC with its reliance on social media, does not necessarily represent a buffer between the economic individual and the coercive state, rather may indicate how the two are "firmly cemented together."[148] Furthermore, as Davies points out, where neoliberalism integrates the "logic of the social,"[149] within the emerging technical apparatus of government, the focus is less on the actors than on the relationships between them—correlations and patterns that arise as a result of big data.

According to Richard Grusin,[150] contemporary technologies also train us to become affective cyborgs; as we interact every day with our media devices, he argues, we tend to embody a perpetual, cyclical and affective relationship that then perpetuates the same feedback loops. And it is this sort of media hybridity that Grusin argues is "one of the defining conditions of contemporary mediality."[151] Grusin's concept of "mediality," which in many ways parallels Foucault's model of governmentality, helps to explain how these digital technological applications employ regimes of power—heterogeneous social and political networks that function as governing apparatuses of citizens through collective affect. Because media messages—in this case those delivered by the City of New York—are no longer confined to one particular medium, but rather distributed across varying media (smartphones, social networks, and governmental websites, for

---

[147] Ibid.
[148] Ibid.
[149] Ibid.
[150] Grusin, *Premediation*.
[151] Ibid., 90.

instance), these messages combine to "construct and maintain assemblages of humans, technologies, and nature," becoming, in the process, mutually constitutive.[152] And the modern state, as Foucault reminds us,[153] works with the autonomous individual to co-constitute each other's existence; power produces specific regimes of knowledge, which then in turn function to authorize and constitute that power.

Digital Technological Affects of Security and Safety

Although the city does not explicitly outline goals of security—not once, in fact, is the word "security" even used in the city's digital initiatives—many of the city's digital technological programs nevertheless implicitly employ assurances of security, primarily through the rhetoric of safety and rapid dissemination of crucial information to the public. Considering the terrorist attacks on the World Trade Center just a little more than a decade ago, it seems at first somewhat surprising that NYC's *Digital Roadmap* is completely devoid of any references to security. But then given the collective trauma and grief of New York City residents, international criticism of the United States' invasion of Iraq and Afghanistan, and widespread concerns over the creation of Homeland Security, USA Patriot Act, and The Total Information Awareness (TIA) program—renamed the Terrorist Information Awareness program after intense public criticism,[154] perhaps becoming so "social" [155] is precisely the international public image boost that NYC needed.

---

[152] Ibid.
[153] Foucault, 'Governmentality,' 87-104.
[154] Sally Ramage, *Privacy: Law of Civil Liberties*. (iUniverse, 2007).
[155] This makes reference to the city's focus on social media and NYC having a strong social media presence.

The city does, however, portray an *affect* of security through various digital

technological programs and applications, such as SMS notification services, which are

then underscored by the discursive practices of public well-being and overall "health" of

the city. This affect of security is analogous to what Grusin calls mediated systems of

"premediation." Employing the term "premediation" to describe a recent shift in a larger

cultural logic—a logic that is deployed in some of San Antonio and NYC's technological

initiatives—from a (re)mediation of the past to a (pre)mediation of the future, Grusin

asserts that while media describe potential future disasters and catastrophic events,

promote collective insecurity and heighten public fear of what *might* happen, media(ted)

messages also concurrently offer an affect of security through the sense of a connection

to a larger network—in this case, a connection to important city services and information.

Grusin's theory of premediation helps to explain how some of these digital technological

programs and applications that underscore safety and security function to allay public

fear and thus maintain "a low level of anxiety as a kind of affective prophylactic."[156]

Frequent social media updates and emergency notifications that reach people on their

mobile phones offer compensatory affects of safety.[157]

In addition to the plethora of city-run social media sites that provide constant

updates about impending city threats, NYC currently has three programs that make use of

SMS notifications: Notify NYC,[158] the Personal Localized Alerting Network (PLAN),

---

[156] Ibid., 46.

[157] Richard Grusin, "Premediation, Economic Crisis, and the Post-9/11 Security Bubble," *Premediation Blog* (March 10, 2009), accessed March 9, 2013, http://premediation.blogspot.com/search?q=premediation+9%2F11.

[158] See: https://a858-nycnotify.nyc.gov/notifynyc/.

and NYC 311.[159] Notify NYC, hosted by the Office of Emergency Management (OEM) and the Department of Information Technology & Telecommunications (DoITT), was launched in 2007 in an effort to provide residents with immediate alerts about public emergencies and important information and notifications. In the event of large-scale, public emergencies, however, text messages are subject to wireless congestion delays or failures. Recognizing these limitations, the City of New York, in a public-private partnership with the Federal Emergency Management Agency (FEMA), the Federal Communications Commission (FCC), [160] CTIA,[161] and major commercial wireless carriers, was the first city in the United States to adopt a geo-targeted mobile emergency notification system called the Personal Localized Alerting Network (PLAN).[162] PLAN enables NYC to notify all individuals within a targeted geographical location of an emergency on their mobile phones, regardless of whether they are NYC residents or visitors.

The NYC alert network is part of the national Wireless Emergency Alerts (WEA) system, also known as Commercial Mobile Alert System (CMAS) or Personal Localized Alerting Network (PLAN), established pursuant to the Warning Alert and Response

---

[159] See: http://www.nyc.gov/apps/311/.

[160] The FCC issued orders in 2008 to adopt requirements for the use of CMAS, which will allow commercial mobile service (CMS) providers to send alerts to their subscribers. The rules for CMAS adoption can be found at: "Commercial Mobile Telephone Alerts (CMAS)," *Public Safety and Homeland Security Bureau*, accessed February 2, 2013, http://transition.fcc.gov/pshs/services/cmas.html. Additional information about CMAS, in general, can be found on the Federal Communication Commission's website at: http://www.fcc.gov/guides/commercial-mobile-alert-system-cmas.

[161] CTIA, the Cellular Telecommunications Industry Association, is an international, non-profit trade association that represents the wireless communications industry and advocates on behalf of wireless data providers and manufactures at all levels of government. More about the organization can be found at: http://www.ctia.org/.

[162] "New York first in nation to deploy PLAN emergency alert system," *Homeland Security Newswire*. (12 May, 2011), accessed February 3, 2013, http://www.homelandsecuritynewswire.com/new-york-first-nation-deploy-plan-emergency-alert-system.

Network (WARN) Act signed into law in 2006.[163] As of April 2012, three different kinds

of alerts can be sent to WEA-capable mobile devices by authorized federal, state, and

local agencies:[164] presidential, imminent threats, and AMBER alerts. Nationally, alerts

can be issued by the National Oceanic and Atmosphere Administration's (NOAA)

National Weather Service (NWS) and targeted to any region in the country. Federally

approved state and local officials, FEMA, and the president of the United States can issue

imminent threat alerts.[165] The WEA system is an updated version of the Emergency Alert

System (EAS) instituted in the 1950s, when radio and television broadcast alerts were the

best ways to warn the public of emergency situations. And all mobile users with WEA-

capable devices are automatically notified in the case of any one of these three types of

events.

Standing in front of the World Trade Center site, and underscoring this digital

affect of security, Mayor Bloomberg publically announced the city's adoption of PLAN

in May, 2011, and reiterated the need for this kind of governmental intervention,

remarking that "…given the kinds of threats made against New York City at the World

Trade Center, Times Square, and other places popular with visitors and tourists, we'll be

even safer when authorities can broadcast warnings to everyone in a geographic

---

[163] H.R. 5785 (109th): Warning, Alert, and Response Network Act was introduced to Congress on July 13, 2006. See: http://www.govtrack.us/congress/bills/109/hr5785 for more details on the bill.

[164] Not all mobile phones are yet WEA-capable, but almost all phones manufactured by the major wireless carriers (AT&T, Verizon, Sprint, T-Mobile, etc.) in or after 2012 will be equipped with this system. The iPhone 4s and 5, for instance, is WEA-capable.

[165] For more information, see "Commercial Mobile Alert System," FEMA: http://www.fema.gov/commercial-mobile-alert-system#1. The localities approved to issue WEAs are also listed on FEMA's website: http://www.fema.gov/alerting-authorities/integrated-public-alert-warning-system-authorities.

area...".[166] Thus, in the event of an emergency and the city's issuance of a PLAN alert, cell towers broadcast the emergency notification to all mobile devices in the threat area; someone from California visiting NYC, for instance, would receive an alert on their mobile device should that person be in the threat area at the time of the emergency, while a New Yorker visiting Florida at the time would not receive an alert. The City of New York first used this emergency notification system in October, 2012, when Hurricane Sandy began to flood streets in Manhattan.[167] These notifications, while they may look similar to text messages, are not texts, but rather use a different technological interface to push notifications to any mobile phone in the impacted area.[168]

---

[166] City of New York, "Mayor Bloomberg, the Federal Communications Commission, the Federal Emergency Management Agency and Wireless Provider Executives Unveil New, First-In-The-Nation Emergency Notification Service That Will Reach Mobile Devices Located in Affected Areas," Press Release (May 10, 2011), accessed February 3, 2013, http://tinyurl.com/akn524b.

[167] Alex Howard, "NYC's PLAN to alert citizens to danger during Hurricane Sandy," *O'Reilly Radar* (October 30, 2012), accessed February 3, 2013, http://radar.oreilly.com/2012/10/hurricane-sandy-mobile-text-alert-plan.html.

[168] See Figure #6 for an image of a PLAN alert.

Figure 3: An emergency alert sent out via NYC's PLAN on October 29, 2012, as Hurricane Sandy began to make landfall. Photo posted at: http://radar.oreilly.com/2012/10/hurricane-sandy-mobile-text-alert-plan.html.

Grusin actually references local governmental response to Hurricane Sandy as an example of premediation.[169] Hurricane Sandy, Grusin argues, was not in and of itself the "sole agent or origin or cause of catastrophic disaster," but rather the "disaster" preceded Sandy's arrival.[170] Prior to the hurricane's landfall, schools were cancelled, offices shut down, roads were closed, people were evacuated, and emergency alerts were sent out. Grusin argues that while the hurricane itself had real material impact and acknowledges the necessity of such warnings, its premediation—through various social media channels—had similarly powerful effects, produced before anything even happened, "in anticipation of their happening."[171] We saw this occur, also, with the 2015 winter storm, Juno, as NYC broadcast over multiple social and mobile channels warnings about the

---

[169] Richard Grusin, "Premediating Sandy," *Premediation Blog* (October 29, 2012), accessed March 9, 2013, http://premediation.blogspot.com/2012/10/premediating-sandy.html.
[170] Ibid.
[171] Ibid.

impending blizzard. But the media and city's premediation of events such as these help to structure the event, not just represent it. The intent and significance of premediation, Grusin argues, is to capitalize on the emotion of fear, emphasize the rhetoric of inevitability, and make the public believe they need such protections and early warnings, which then often result in the justification of far more surveillance and less resistant citizens.[172]

However, I argue that such digital technological applications and services, while certainly working to create an affect of governmental security, are less focused on surveillance, and more focused on constructing the ideal, autonomous neoliberal subject. Not only do such emergency preparedness strategies rely on a certain level of crowdsourcing, as the effectiveness of emergency messages often occur through the multiplication of warnings through various social media channels, they also encourage residents to fend for themselves by stocking up on supplies and then taking cover until the emergency event is over. The ideal citizen that is being interpellated here, while perhaps to some degree disciplined through such digital technological apparatuses, is not a docile one, but rather one who is rational and self-reliant and does not depend upon the government to come to his/her rescue, providing yet another example of how neoliberal governmentality functions.

The City of New York also helps to construct its desired (crowdsourced) public by soliciting residents to provide feedback to city government through its social media channels and tools—from smartphone apps and SMS to a variety of social media

---

[172] Grusin, *Premediation.*

platforms. As part of its overall mission to engage the public through more digital

channels, for instance, the city urges residents to send text-messaged inquiries, questions,

and service reports to 311 through SMS, its online website, Facebook, Twitter, and

smartphone application. NYC also highlights its 311 Service Request Map, hailing it as

an "unparalleled tool for government transparency" that visually represents all of the

geotagged 311 service requests in a variety of service categories.[173] In September, 2008,

Mayor Bloomberg announced that both 311 and 911 would be able to receive pictures

and video as text messages from mobile phones and computers.[174]

NYC puts considerable effort into developing the digital technological services of

311, in great part due to budget constraints. 311 service calls require human labor, in

addition to the operating costs of the center; and as the largest such center in the nation,

the operating costs for NYC's 311 call center almost quadrupled from $17 million in

2003 to nearly $60 million by the end of 2008.[175] For this reason, many cities, including

NYC, have been shifting to less expensive ways for citizens to report 311 issues, such as

through websites, text messages, email, and smartphone apps. In the first year of the

launch of the 311 text-message service, 311 averaged approximately 200 text message

---

[173] City of New York, *Road Map for the Digital City*. The NYC 311 Service Request Map can be viewed at: http://www.nyc.gov/apps/311srmap/.

[174] City of New York, "Mayor Bloomberg, Commissioner Kelly, Commissioner Cosgrave, and Criminal Justice Coordinator Feinblatt announce that 911 and 311 can now receive pictures and video from cell phones and computers," Press Release (September 9, 2008), accessed February 3, 2013, http://tinyurl.com/6nd3yj.

[175] City of New York, "311 Customer Service Center: More Calls and a Growing Budget," *New York City Independent Budget Office* (April 2008), 4, accessed February 15, 2013, http://www.ibo.nyc.ny.us/iboreports/311Apr08.pdf.

requests per day.[176] Text message 311 requests reached almost 138,000 SMS contacts in

2012.[177] And over 3,000 requests were submitted through the smartphone app, NYC311,

in its first year.[178] Bloomberg describes these services as "bringing government

accountability – and crime-fighting – to a whole new level."[179] John Feinblatt, the

Mayor's Criminal Justice Coordinator, suggests that the 911 and 311 smartphone apps

give the "public the power […] meaning they can be the City's eyes and ears."[180]

But becoming the "eyes and ears" of the city is also suggestive of a form of

"sousveillance"[181] that, while potentially helping to hold city officials accountable, also

functions as a crowdsourced digital panopticon. Furthermore, whereas the term,

surveillance, denotes the act of watching from above, typically by state authorities, the

proliferation, mobility, and easy access to the Internet that smartphones provide makes a

new form of *sousveillance* possible; ordinary residents walking about the city or

performing their normal daily tasks are able to quickly capture and record incidents in

ways that may not only confront and challenge officials and authority figures, but also

one another. Steve Mann, who originally coined the term and developed the concept,

posits that sousveillance, widely construed, explores the technological, social, and

philosophical issues that arise from the capture and transmission of sensory information

---

[176] New York City Global Partners, "Best Practice: Call Center for Non-Emergency City Services," (June 13, 2011), 6, accessed February 15, 2013, http://www.nyc.gov/html/unccp/gprb/downloads/pdf/NYC_Technology_311.pdf.

[177] City of New York, "Mayor's Management Report," (September 2012), 201, accessed February 15, 2013, http://www.nyc.gov/html/ops/downloads/pdf/mmr0912/0912_mmr.pdf.

[178] Koa Beck, "311: The Agency That Never Sleeps," *Destination CRM.com* (January 2011), accessed February 15, 2013, http://www.destinationcrm.com/articles/Editorial/Magazine-Features/311-The-Agency-That-Never-Sleeps-72864.aspx.

[179] Ibid.

[180] Ibid.

[181] The term refers broadly to a mode of surveillance of the surveillors, surveillance from below (*sous*).

by the average observer; he describes sousveillance, more simply, as "watchful vigilance from underneath."[182]

NYC311 and 911 smartphone apps also are yet another example of how some of NYC's digital programs function in such a way as to put the responsibility of the government's work on its residents. Encouraged through the rhetoric of "open government," "access," citizen-centric engagement, and making city government "accountable," these city-sponsored technological tools and applications solicit residents to become surveyors of one another—by reporting everything from a rat seen in a restaurant to disorderly conduct. Not only are citizens encouraged to simply report these issues, they are solicited to upload images and their specific locations can be easily tagged and reported by locating one's geographical position via the smartphone they use to report. Mark Andrejevic[183] and Alexander Galloway and Eugene Thacker[184] point to the productive aspects of sousveillance offered by citizen digital interactivity and monitoring; and Mann, Nolan and Wellman[185] argue that sousveillance has the ability to flatten power relationships. Ethan Zukerman[186] suggests sousveillance is an active, purposeful method of monitoring by engaged and technologically-equipped citizen reporters. I contend, however, that the average mobile smartphone user is not as

---

[182] Steve Mann, Jason Nolan, and Barr Wellman, "Sousveillance: Inventing and Using Wearable Computing Devices for Data Collection in Surveillance Environments," *Surveillance & Society* 1 (3), (2003): 331-355.
[183] Mark Andrejevic, *Reality TV: The Work of Being Watched* (Maryland: Rowman & Littlefield Publishers, 2004) and Mark Andrejevic, *iSpy: Surveillance and Power in Interactive Era* (Kansas: University of Kansas Press, 2007).
[184] Alexander Galloway and Eugene Thacker, *The Exploit: A Theory of Networks* (Minnesota: Minnesota Press, 2007).
[185] Mann, Nolan, Wellman, "Sousveillance," 331-355.
[186] Ethan Zuckerman, "Draft paper on mobile phones and activism," *Ethan Zukerman's weblog* (2007), accessed March 14, 2013,
http://www.ethanzuckerman.com/blog/index.php?s=%22vastly+exceeds+internet+usage%22.

decisively or politically motivated while reporting a broken parking meter or making a noise complaint to NYC 311, for instance, or uploading photos to an app that rates local restaurants; the kind of sousveillance that most often occurs with the use of these city-sponsored apps is the non-organized, more individuated, and unintentional type, which nevertheless use narratives of good citizenship and the rhetoric of autonomy, individual liberty, interactivity, and control to encourage compliance.

Open Data / Open Government?

As Foucault points out, with the increased movement from rural to urban centers, the use of statistics rose and birth and mortality rates, as well as information about longevity and various political problems, became "objects of knowledge." And the collection of demographic data has become an increasingly significant force in how governments function to manage, track, and visualize urban populations. Historically, data collection and record-keeping practices began as early as ancient Babylonia.[187] Statistics[188] initially referred to specific 17th century German political analyses and practices of collecting data and "inquiring into the state of a country," in such a way as to ascertain its "political strength" and "the quantum of happiness enjoyed by its inhabitants," as well as provide information that could help governments ensure the

---

[187] Maria Brosius, *Ancient Archives and Archival Traditions: Concepts of Record-Keeping in the Ancient World* (Oxford University Press, 2003).

[188] "statistic, adj. and n," *OED Online* (Oxford University Press, September 2012), accessed November 3, 2012, http://www.oed.com.proxygw.wrlc.org/view/Entry/189317. As the entry notes, the word, statistic, has its etymological origins from the late 17th century German words, *statistisch* (adjective) and *Statistik* (noun); the German word, *statistik*, was used by G. Achenwall in his *Vorbereitung zur Staatswissenschaft* (1748) to describe a growing body of knowledge known as "state science" or science of the state.

potential of the state's future. [189] These data collection practices continued in Europe

throughout the seventeenth and eighteenth centuries and helped state officials

approximate population trends such as birth, death, and marriage rates in an effort to

garner other categories of information deemed significant to the state—from estimations

of future populations and how many men could be called up during military drafts to the

amount of taxes that could be collected and what illnesses or diseases were primary

causes of death. However, it was not until the Italian Renaissance that a systematic

method of data collection on populations was actually instituted—though clearly built

upon the concepts introduced by the Germans of gathering information of "interest to the

state."[190] Statisticians, however, were unconcerned with drawing conclusions or making

inferences with the data collected until the late 1800s, at which point different methods

and models of statistics were created to quantify and qualify the gathering of a variety of

information for assorted reasons.[191]

   Of importance here, for the purposes of this study, are not the details of the

evolution of the field (and sub-fields) of statistics or data collection; rather, I offer this

brief overview in order to establish an historical connection between the gathering of data

and "state interests"—between information collection and the creation of state

"knowledge." And as Foucault conceptualized and articulated, various knowledge-

gathering methods have a co-constitutive relationship with power.[192] For Foucault, data

(or any quantitative measurements) are historically contingent upon knowledge-gathering

---

[189] "statistic, adj. and n," *OED Online.*

[190] Sheldon Ross, *Introductory Statistics*, Third Edition (MA: Academic Press, 2010), 7.

[191] Ibid., 8-9.

[192] Michel Foucault, *The Order of Things: An Archeology of the Human Sciences* (Routledge: New York, NY. 2005).

and knowledge-making methods and approaches—not just contingent upon *what* data are gathered or what choices are made to collect what information, but rather *how* data collected are then categorized and interpreted, as well as how phenomena are then identified and perceived as a result of such data. Therefore, while data collection for the purposes of the state or municipality is clearly not a new phenomenon, the amount of data and the numerous means by which it is collected and made publically available by the City of New York is unprecedented.

As a result of the city's use of mobile technologies, smartphone apps, and social media, for example, NYC collects an extraordinary amount of information, all of which is then recycled back through the city's data system. What makes this data particularly powerful is not just the volume of data being collected, but the ways in which data are made public and aggregated. Because city planners and governmental officials, in the broadest sense, rely upon data collected from and about NYC residents to inform policy and urban project decisions, it's important to understand what data are collected and publicly disseminated, for what purposes, and to whose benefit. This section thus considers the various institutions of power in place, how digital applications and programs are developed and function, which (visual) formations of new digitally augmented or hybrid urban spatialities arise, how subjects are constructed and mediated through the aggregation and interpretation of all this "open" data, and how residents become unpaid user-producer laborers of the state.

To support the city's claims of open government, governmental transparency, and increased democratic engagement, NYC highlights the numerous ways in which the city

"unlocks," visualizes, aggregates, and makes publically available its collected data. In

February 2011, for instance, NYC311 unveiled its 311 Service Request Map, which

visually represents geotagged 311 service requests in 15 categories, many of which come

from the 311 smartphone app and is updated every 24 hours. The DoITT also maintains a

citywide GIS digital map called NYCityMap3,[193] a multi-layered map system that

integrates information received from a wide variety of sources, such as other city

departments and cultural and historical institutions. NYCityMap3 is an "information-

rich" hybrid map that aggregates a variety of overlaid data, including 311 service

requests, property records, and green infrastructure, and functions to support various city

operations, data analysis, public safety and policy-making.[194] The map also provides

historical information and visual aerial photographs with views dating back to 1924.[195]
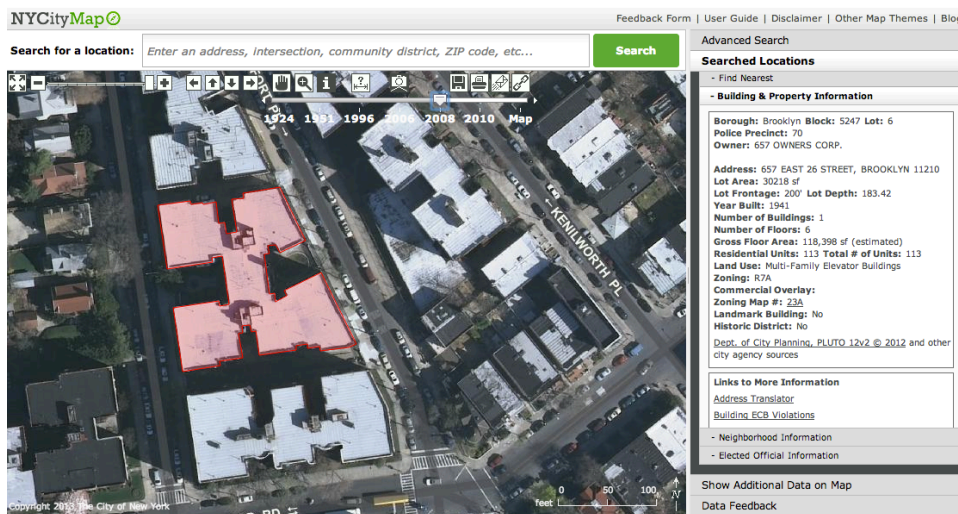
Figure 4: A screen shot of NYCityMap, zoomed in on an entered address in Brooklyn.

---

[193] See: http://gis.nyc.gov/doitt/nycitymap/.
[194] City of New York, "About NYCityMap," *NYCityMap Blog*, accessed February 15, 2013,
http://nycitymap.wordpress.com/about/.
[195] See Figure #5.

The city also hosts NYCStat, a website that offers links to "all essential data, reports, and statistics related to City services" and "quality of life" conditions in the city.[196] Some examples of data sets hosted by the city of New York include CPR (Citywide Performance Reporting system with updates about the performance of 45 city agencies), the Mayor's management report, NYC*SCOUT (data collected from the Street Conditions Observations Unit),[197] NYCStat Stimulus Tracker (tracks city's use of federal stimulus/recovery funds), [198] City of New York Data Mine catalogue (NYC Open Data), and 311 Service calls and status updates. The city even highlights a "Rat Information Portal."[199]

Most notable, however, is the recently passed legislation to make open data an official city directive. On March 7, 2012, the New York City council signed legislation creating a citywide comprehensive open data policy that Mayor Bloomberg suggests is "the most ambitious and comprehensive open data legislation in the country."[200] Called the *Open Data Bill*, the new legislation requires all city agencies to make the data they collect and produce available online to the public and structured in such a way as to make it easily accessible and useable. *NYC Open Data*[201] is the city's public website that makes available the data collected from these various city agencies and offices, often (but not always) in its *raw* form and exported or downloaded into various types of machine-

---

[196] City of New York. "Welcome to NYCStat," *NYC Stat: Mayor's Office of Operations*, accessed March 3, 2013, http://www.nyc.gov/html/ops/nycstat/html/home/home.shtml.
[197] See: http://gis.nyc.gov/moo/scout/index.htm.
[198] See: http://www.nyc.gov/html/ops/nycstim/html/home/home.shtml.
[199] See: http://gis.nyc.gov/doitt/nycitymap/template?applicationName=DOH_RIP.
[200] City of New York, "Mayor Bloomberg Signs Legislation Creating a Citywide Comprehensive Open Data Policy," Press Release, accessed March 3, 2013, http://tinyurl.com/7z7l47z.
[201] To view the city's Open Data website, visit: https://nycopendata.socrata.com.

readable files. Each city agency will be required to convert all data from "locked" to open format; and DoITT will help each agency develop and publish a compliance plan and a description of their public data.

This trend towards open and aggregated data, however, also represents a shift from remediation to premediation; as Grusin contends, premediation has been in great part "fueled by the proliferation of big data, of computing technologies that aggregate massive amounts of information in order to mine them for indications of futures that are or might be coming."[202] City Council Speaker Christine Quinn, in fact, asserts that the availability of such data, as it is aggregated in large part by for-profit entities—most often in the production of smartphone apps, will enhance the city's ability to detect trends and analyze information, which will then lead to greater ability to streamline governmental efforts, utilize resources, and improve agency oversight and government functionality.[203] And it is in this way, too, that another related strain of bio-power is potentially exercised—through new technological mechanisms of power, created by knowledge that comes from aggregated data, that then allows the government to exercise greater management or control over the life (and death[204]) of current and future populations.

It is important to note at this point that NYC's open data sets and all of the smartphone apps that are generated from the use of this open data operate primarily

---

[202] Grusin, "Premediating."
[203] City of New York, "City Council to Pass Groundbreaking Open Data Bill," *The Council of the City of New York Office of Communications*. Press Release (February 29, 2012), accessed March 9, 2013, http://council.nyc.gov/html/releases/022912stated.shtml.
[204] Foucault also asserts that bio-power can also cause death: "When I say 'killing,' I obviously do not mean simply murder as such, but also every form of indirect murder: the fact of exposing someone to death increasing the risk of death for some people, or, quite simply, political death, expulsion, rejection, and so on." (256). In Foucault, *Society Must Be Defended.*

through GIS (geographical information system), as opposed to GPS (global positioning system). GIS describes a more complex system that uses technology, connected to a particular database, to map or view data about certain geographical locations and spatial correlations amongst certain points, so that other informational data is then affiliated with specific geographical locations. So whereas GPS simply allows us to locate and view a specific geographic coordinate, GIS enables us to view, interpret, and visualize data in a way that reveals patterns, relationships, and trends—thus enabling even more powerful possibilities for knowledge creation than GPS. Because these smartphone apps use GIS software (and not just GPS location software), information collected increases exponentially, as the new data created through users' input and feedback is constantly being collected, distributed back into the system, aggregated, analyzed, and visualized (through interactive data maps).

All of the data that have been generated since NYC launched its digital technological initiatives, as Steven Johnson suggests, represents a "huge pool of data to be collected, parsed, and transformed into usable intelligence"[205] and thus reinforces NYC's goal to utilize crowdsourcing to its benefit. As part of its overall digital technological agenda, NYC also plans to develop a Data Analytics Center (DAC) that will analyze all city data collected to improve the effectiveness of service delivery and help the city make decisions about public resource allocations. New York City residents, as discussed earlier, now have multiple channels through which to acquire information, as

---

[205] Steven Johnson, "What a Hundred Million Calls to 311 Reveal About New York," *Wired Magazine* (November 1, 2010), accessed February 15, 2013, http://www.wired.com/magazine/2010/11/ff_311_new_york/.

well as document and report their concerns, issues, and problems. And all the "meticulous urban analysis" generated from such data collection, Johnson argues, "points the way toward a larger, and potentially revolutionary, development: the city built of data, the crowdsourced metropolis."[206]

Now that the *Open Data Bill* has passed and a " 'tsunami of data'" will be made available, NYCFacets, a private for-profit entity, hopes to be a lead developer that helps to push NYC's Digital RoadMap to fruition.[207] Currently, NYCFacets uses all the open source data made available by NYC.gov, works to make all the data a "smart" open data exchange platform. While this particular "app" is still in development, the company has received full support of NYC government, as well as capital venture funding; this partnership provides an excellent case study example for how private for-profit entities are using city data. Eventually, the developers hope to make all of the city's data more visually and narratively accessible, on smartphones, to the public at large through a process they call "crowdknowing"—what NYCFacets describes as a "human-powered, machine-accelerated, collective knowledge system" that aggregates all available data.[208] Although their end goal is to make data easily accessible to the average person, they first want to make the data more readily accessible to developers, governmental agencies, and larger state and federal agents. In this era of pervasive connectivity and "Everyone as a Publisher," the NYCFacets developers suggest, "we have long crossed the threshold from

---

[206] Johnson, "What a Hundred Million Calls".
[207] Jennifer Zaino, "NYCFacets Wants To Be the Key to the Digital City of New York's Future." *Semanticweb.com* (March 7, 2012), accessed March 6, 2013, http://semanticweb.com/nycfacets-wants-to-be-the-key-to-the-digital-city-of-new-yorks-future_b27205#more-27205.
[208] NYCFacets: Smart Open Data Exchange. "FAQ," accessed March 3, 2013, http://nyc.pediacities.com/facets/index.php/FAQ.

Information Scarcity to Information Overload;" thus data represents the "lifeblood of the Information Economy," and "data transparency," alone, the developers argue, isn't enough.[209] Their goal is therefore to assist NYC in its *Roadmap to the Digital Future* by making all available NYC data more productive and accessible through a "Smart City Open Data Exchange" platform—creating a "hyperlocal 'River of Data'—a 'Data Subway' of sorts."[210] They go on to suggest that by creating a "Smart City," the major stakeholders will be "localized" and domain boundaries identifiable; they then will be able to help create and sustain a "viable data innovation ecosystem within and across cities."[211]

As of this writing, *NYC Open Data* has over 1200 data sets available, though these data sets are primarily interpretable by or only functional for developers, data scientists, and researchers. Out of the data sets currently available, the average person can nevertheless retrieve a variety of information about the city and its residents, such as the location of Wi-Fi hotspots, sewage systems, and cultural events to parks, water fountains, bathrooms, city parking, trees, and current construction projects. The city also makes readily available statistics on electric consumption, 311 service requests and complaints, building permits issued, school enrollment and attendance, crime, and educational test scores by district, just to name a few examples. Other data set examples include, restaurant inspection results, parking tickets issued (including violator's license plate), historical crime data, graffiti locations and complaints, popular birth names, inmate

---

[209] Ibid.
[210] Ibid.
[211] Ibid.

stabbing incidents, disciplinary actions against unlicensed electricians and plumbers, open summons—including offenders' driver license numbers, and birth rates— categorized by age, demographics, and race or ethnicity of mother. While most of the more easily accessible current data sets provide information in spreadsheets or text formats, many of these data sets include maps that allow you to zoom in and not only view addresses, but oftentimes recorded information associated with a specific geographical location. While not much public discussion has been yet generated around how NYC's open data sets are potentially problematic in terms of accuracy, privacy, or the use of unpaid user-producer laborers, these are all issues that necessitate closer examination.

Because much of the more recent raw data is collected through resident self-reporting, it is difficult to determine its accuracy; the accuracy of the data is potentially further obscured by hybrid data architecture and map and data overlays,[212] as well as how various pieces of information are interpreted and recorded by city officials. The data set "311 Service Requests from 2010 to Present," for example, offers nearly 400 different "views" of the information that is compiled, and complaints are categorized by the city agency reporting and the complaint "type;" but how are the agencies collecting and interpreting the information that they then report, and how often are complaint types (such as "taxi complaint") accurately described or potentially overlapping (with "blocked driveway" for instance)? How are data from the "Quality of Life Indicators" collected

---

[212] These terms essentially refer to how data are either integrated or consolidated in such a way as to produce a hybrid composition of information or "overlayed" to produce a multi-layered composition of information.

and interpreted?[213] And how much data are replicated in multiple data sets? Additionally,

many of the data sets appear to be outdated or missing crucial information, according to

numerous complaints and comments left on the Open Data platform by developers.

Privacy is also a potential issue, as in the case of the "Parking Tickets" data set

that lists NYC parking tickets sorted out, in part, by license plates, or the teacher

evaluation data publically released, despite a lengthy legal battle initiated by the teacher's

union to suppress the public ranking of teachers based on students' scores on state

exams.[214] While "data that is deemed to pose a security risk will be excluded,"[215] NYC

officials have yet to determine which data will fit this category or what kind of data will

be considered too sensitive or private for public consumption. One of the greatest

challenges of such new open data legislation, admits Carol Post, NYC's former Chief

Information Officer, is to release all public data collected by the city without revealing

personal or sensitive data, such as social security numbers, or representations about

people's private income, or health status.[216] Currently, the city has an "open by default"

policy;[217] when asked how NYC will identify such "sensitive" data, Post responded that

[213] See: https://nycopendata.socrata.com/Statistics/Quality-Of-Life-Indicators/8hkx-uppz.

[214] Nancy Scola, "Now that open data is law in New York, meet Carole Post, the enforcer." *Capital: New York* (March 21, 2012), accessed March 9, 2013, http://www.capitalnewyork.com/article/media/2012/03/5524037/now-open-data-law-new-york-meet-carole-post-enforcer.

[215] Tyler Falk, "New York City passes landmark open data bill." *SmartPlanet* (March 1, 2012), accessed March 12, 2013, http://www.smartplanet.com/blog/cities/new-york-city-passes-landmark-open-data-bill/2190.

[216] Scola, "Now that open data is law in New York."

[217] In accordance with Local Law 11 of 2012, NYC policy dictates that all data be made available and considered "open" unless designated as sensitive, confidential, or private, as defined by the current Citywide Data Classification Policy or any other local, state, or federal classification, law, or regulation. More information about the city's Open Data policies can be found at: City of New York, "NYC Open Data," *City Policies: Technical Standards Manual*, accessed May 13, 2014, http://cityofnewyork.github.io/opendatatsm/citypolicies.html.

the city has not yet determined what data will be considered too sensitive or private or made public.[218] Post also acknowledges concerns that have been raised about the way in which data sets made available often lack context or narrative, making the analysis and interpretation of such data conceivably damaging or inaccurate. Misinterpretations of data are not only concerns for residents; the NYC police department, for instance, is required to release its "stop-and-frisk data,"[219] which potentially makes the department more vulnerable to criticism and accusations of racial profiling, suggests *Washington Post* reporter, Nancy Scola.

Former Mayor Bloomberg is cited as saying that "sometimes people don't want to look at what the data says or don't believe what the data says, [but] it's the public's data."[220] First, Bloomberg seems to suggest that the data belongs to the public, and is in some way controlled by the public, and yet, the data is mostly inaccessible, available primarily as machine-readable data sets or data that can only be interpreted by technology experts. Second, Bloomberg's remark implies that data are always reliable and accurate sources of information, as if data are being heralded as some model of truth (such as the adage, 'numbers don't lie'); and yet, data is clearly interpretable.

NYC claims that another benefit of open data, particularly as software developers use the data to create mobile apps, is the creation of jobs. And indeed, a recent national study shows that half a million jobs have been created as a result of mobile and web apps

---

[218] Scola, "Now that open data is law in New York."
[219] Ibid.
[220] Mayor Mike Bloomberg quoted in Scola, "Now that open data is law in New York."

in what's now being called the "App Economy."[221] In an effort to make its data more

readily available to the public in the form of various visualization models, from pie charts

to graphs to maps, NYC relies heavily on local software developers, primarily BigApps

competition winners, to create mobile apps or separate data sets and visualizing and

aggregating the raw data, which means that the city's data are becoming, in great part, not

simply free accessible data to the public, but also feeds into the growing "App

Economy."[222] The solicitation of local developers to enter the Big Apps contest also

provides an excellent example of how the city uses unpaid labor (though with the promise

of financial rewards to top winners) to help further its broader economic goals.

For example, Carole Post cites MyCityWay[223] as an example of a small start-up

that, after winning the 2011 Big Apps contest, has since garnered investor capital and

expanded its market to 70 cities worldwide.[224] Of course, part of MyCityWay's financial

success is in also collecting the GPS location of its users to store and then (re)use that

information to provide users with location-based information and advertising. Thus, the

production of apps from NYC's raw city data, generated by the public and collected by

public city agencies, has the potential to yield substantial revenue for those individuals

and companies that develop successful mobile apps, whether through selling advanced

versions of the mobile app, inserting ads from paying advertisers into the app, or earning

---

[221] Lance Whitney, "Study credits 'app economy' with 500,000 U.S. jobs," *CNET News* (February 7, 2012), accessed March 19, 2013, http://news.cnet.com/8301-1023_3-57372623-93/study-credits-app-economy-with-500000-u.s-jobs/.
[222] Michael Mandel and Judith Scherer. "The Geography of the App Economy," *South Mountain Economics, LLC* (September 20, 2012), accessed March 9, 2013, http://southmountaineconomics.files.wordpress.com/2012/11/the_geography_of_the_app_economy-f.pdf.
[223] See: http://www.mycityway.com/.
[224] Scola, "Now that open data is law in New York."

venture capital from popular apps that then launches smaller software entrepreneurs into more profitable opportunities.

Furthermore, as highlighted throughout this chapter, average residents are being solicited to provide feedback and information, much of which is then used to help develop major urban projects that generate revenue for the city and its corporate partners. One such example is a program launched in the spring of 2013 called "Citibike" (with Citibank logo over "citi"), which relies heavily on digital interaction with the public and crowdsourcing to generate important information that will help make the program successful. Citibike is a self-service system that aims to provide over 10,000 bicycles for public use from 600 stations, spread throughout three boroughs (Manhattan, Brooklyn, and Queens). The first phase of the new program, which uses $41 million to fund the program for five years, launched approximately 7,000 bikes at 420 stations in March of 2013.[225] The program is sponsored by Citi and Mastercard and privately operated by NYC Bike Share LLC, with no public funding. The city used data gathered (some of which revealed that 54% of all New Yorkers make trips that are less than 2 miles) and crowdsourcing maps to create this planned program. According to the City of New York[226], NYC's DOT (Department of Transportation) held 33 bike share demonstrations and open houses throughout NYC between September, 2011 and April, 2012, in three different languages, and collected almost 10,000 individual station locations from the

---

[225] See city press release about the program at: "NYC DOT, NYC Bike Share Announce March 2013 Citi Bike Launch," NYC DOT (August 16, 2012), accessed March 16, 2013, http://www.nyc.gov/html/dot/html/pr2012/pr12_42.shtml.
[226] "Suggestion Archive," New York City Bike Share: NYC's new transit option. NYC DOT (2012), accessed March 16, 2013, http://a841-tfpweb.nyc.gov/bikeshare/suggestion-archive/.

public, as well as over 60,000 "support votes" on the suggestion map.[227] Additionally, a Citi Bike app has been made available for smartphone users to locate stations and see availability of bikes. The city has a contract with NYC Bike Share to split any profits earned.[228] Thus, in this instance, the city relies on both its citizens and a private corporation to offer a public service. This program offers an example of how data collection (and the use of crowdsourcing) influences urban planning efforts and functions as yet another form of neoliberal governmentality, as the responsibility for public transportation gets shifted increasingly away from the city and towards residents, as they are encouraged to purchase rental plans (use bike transportation over public city transportation) and suggest locations for bike share stations. Residents pay higher costs for alternative forms of low-cost public transportation, which not only takes some of the burden off the city, but also leaves residents to do the jobs of corporate marketers, as they voluntarily offer up suggestions as to where bike share stations are most needed.

While NYC's programs purportedly serve to support the city's quest for increased democratic and civic engagement, this assertion becomes problematic when considering the mega-corporations that collaborate with the city, as well as the use of the general public as user-producer laborers. According to Robin Mansell, the political economy of new media must be as concerned with "symbolic form, meaning and action as it is with structures of power and institutions."[229] Even if the Internet or various mobile applications are "free" or considered to be public domain, she argues, these media are

---

[227] Ibid.
[228] http://citibikenyc.com/faq#.
[229] Robin Mansell, "Political economy, power and new media," *New Media and Society* 6 (1), (2004): 96-105.

always susceptible to commoditization and conditioned by powerful structural

institutions and cultural ideologies, and consequently have potent effects on us as

consumers. Arturo Escobar[230] and Kevin Robins[231] insist that such utopian narratives of

community and virtual public sphere democracy, as we see repeatedly throughout NYC's

Digital Roadmap, given strength through the various cultural digital myths at work, tend

to obscure power relations and corporate conglomerates' increasing control of

knowledge, information, and access—concerns that remain relevant in the wake of so

many recent city-sponsored digital initiatives and programs. And as Escobar succinctly

argues, we must "examine these technologies from the perspective of how they allow

various groups of people to negotiate specific forms of power, authority, representation

and knowledge."[232]

For a while, it seemed the Internet was to be freeing, providing us with a space

outside of public and work hierarchies (since so much was personal). We suddenly had so

many ways to express ourselves and articulate our individual thoughts, network with

others, and surpass the previous boundaries and barriers. However, a completely new

economic and social logic emerged, according to Soshana Zuboff, which she refers to as

"decentralized capitalism,"[233] which recognizes the user as the real source of economic

capital. This user offers us a variety of products at a less expensive price and directly,

bypassing traditional structures of capital; this is the promise of so many entrepreneurial

---

[230] Arturo Escobar, "Welcome to Cyberia: Notes on the anthropology of cyberculture," In David Bell and Barbara M. Kennedy (Eds), *The Cybercultures Reader* (London: Routledge: 2000), 56-76.
[231] Kevin Robins, "Cyberspace and the World We Live In," in David Bell and Barbara M. Kennedy, *The Cybercultures Reader.*
[232] Escobar, "Welcome to Cyberia," 62.
[233] Soshana Zuboff, *In the Age of the Smart Machine: The Future of Work and Power*, (New York: Basic Books, 1988).

enterprises (like iPhone apps). And the users who thought they were safe and small entrepreneurs are now all casualties, she argues; and the most important assets to major information companies have been devalued. Google, Facebook, various email software systems, other corporate social networking systems, and the collection of information and data for marketing and advertising purposes, all have put us increasingly in the position of "devices" to the information machine of power. Instead of rebuilding a new capitalist user-friendly structure, users became unpaid laborer data-suppliers. Not only do we now work for these companies that then earn profits from the use of our supplied data, we work also for the state institutions that seek to crowdsource our free labor for the administration of government.

Digital Urban Planning and Renewal

In a shift from an emphasis on physical, public space to that of its virtual, digitalized public, NYC's *Digital Roadmap* declares: "NYC.gov is New York City government's face to the world."[234] One of the questions that surfaces is how these seemingly intangible digital elements of smartphone apps, social media, and open data platforms all interact with the actual urban environment and what kind of relationships are formed; in other words, how do these digital technologies and programs inform or augment citizen interactivity and participation within public spaces, or function to enhance community and social engagement, as the City of New York claims? It is therefore important to discuss NYC's digital initiatives within the framework of urban planning, because many of its digital goals speak to the ways in which power is

---

[234] City of New York, *New York City's Digital Roadmap,* 44.

110

systematically organized through various efforts that shape not only the city's digital, but also physical, environment.

In *The Death and Life of Great American Cities*,[235] and in response to post-WWII American urban renewal projects, Jane Jacobs attacked[236] the strategies, policies, and practices of modern urban planners and developers, arguing that these city planners not only misperceive how cities actually function, but also undermine the vitality of the city by demolishing the historicity of urban neighborhoods and residents' connection to place. Jacobs furthermore criticized modernist urban planners for relying too heavily on projects of spatial form to alleviate social problems. Concerned with the everyday lived experiences of urban dwellers, she strongly believed that cities were organic, self-sustaining, and dynamic ecosystems. And her arguments resonate with later neoliberal critiques of state planning that argued that only self-regulating markets can produce economically viable results for neighborhoods.

Jacobs maintained that modernist urban planners developed, rather, the "anti-city," because the modernist template for urban renewal functioned to destroy, rather than invigorate, city neighborhoods—both economically and politically. Jacobs insisted that diversity and accidental encounters between strangers are key elements of a thriving urban environment and that the most productive and valuable of ideas about how to approach the planning and (re)development of cities originates from a close and intricate study of everyday urban life. Shortly after WWII, and in great part sparked by Jacob's

---

[235] Jane Jacobs, *The Death and Life of Great American Cities* (NY: Vintage Books Edition, 1992).
[236] Jacob writes, "This book is an attack on current city planning and rebuilding," and then adds, "It is an attack, rather, on principles and aims that have shaped modern, orthodox city planning and rebuilding," 3.

text, these physical revitalization and renewal projects began to elicit postmodern laments of the "death of the city."[237]

A brief historical review and discussion of some of the major debates within urban planning since Jacobs enables me to situate New York City's plan to become the world's "leading Digital City"[238] within the context of an historically informed tradition of urban planning. Although Jacob's book was published more than fifty years ago, the concerns she raised about the possible deleterious effects of urban planning and development on the social, cultural, and economic vitality of urban neighborhoods remain relevant and are often problematized within recent discourses of gentrification, urban sprawl, or urban renewal projects.[239] Jacob's seminal text also set the stage for a plethora of ensuing anti-modernist urban planning theories, and since has become a foundational text for the current wave of new urbanism or urban sustainability, movements and practices that underscore NYC's digital city agenda.

While Jacobs spoke specifically about changes in the physical urban landscape—streets and city blocks that were being redesigned and renovated and older buildings that were being leveled to make way for newer, more modern and abstract architecture, the incorporation of digital technologies into the urban built environment signals the latest

---

[237] For more discussion of the perceived "death of the city," a term used more frequently in the 1970s and early 1980s, after Jacob's book was published, see William Saunders and Alex Kreiger, eds. *Urban Design*. University of Minnesota Press: MN. p. 261 and Palen, John. 1984. *Gentrification, Displacement, and Neighborhood Revitalization* (State University of New York Press, NY, 2009), 4. In *Urban Design*, the authors discuss how, in the "wake of 1960s urban crises," the "modern metropolitan metamorphosis" that followed led to all sorts of new negative descriptors, from the "death of the city" to "posturbanism," as well as a "comforting retreat to an idealized past," 261.

[238] City of New York, "Year in Review: 2011," (2012), accessed October 21, 2012, http://www.nyc.gov/html/digital/html/about/yearinreview2011.shtml.

[239] Jacob's book was focused primarily on the impact that urban planning was having on New York City's neighborhoods.

112

development in contemporary urban planning. And within the past decade, there also has

been a notable increase in scholarship that addresses issues of urban revitalization, the

privatization of public space, and the socio-political impact of and unequal access to

basic urban networked infrastructures,[240] as urban public spaces are increasingly

privatized and digitalized. Furthermore, as urban environments have become increasingly

digitalized, and information infrastructures woven into the physical environment,

networked systems have become, for many, the new "arteries" and "veins" of the city.[241]

When considering the ways in which spaces are socially—and increasingly

digitally—constructed, and that many spaces often coexist within the same space, it

becomes all the more crucial to consider the various discursive strategies of inclusion and

exclusion that exist. Perhaps precisely because of urban digitality's inherent invisibility,

it becomes even more crucial to think about how these kinds of digital initiatives inform

urban renewal. Foucault was very much concerned with the social and political

construction of urban spaces, particularly as they were concerned with bio-politics and

the confinement of "deviants" in places such as psychiatric hospitals, asylums, and

prisons. And his analyses of how power functions in tandem with space have often been

interpreted by urban planning theorists as "negative institutionalized oppression," most

---

[240] See: Samuel Delaney, *Times Square Red, Times Square Blue* (NY: NYU Press, 1999); Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition* (New York: Routledge, 2001); Don Mitchell, *The Right to the City: Social Justice and the Fight for Public Space* (NY: The Guilford Press, 2003); Neil Smith, *The New Urban Frontier: Gentrification and the Revanchist City* (NY: Routledge, 1996); Sharon Zukin, *The Cultures of Cities* (Blackwell Publishing, 1995); Sharon Zukin, *The Naked City: The Death and Life of Authentic Urban Places* (New York: Oxford University Press, 2010).

[241] As Richard Sennett (1996) points out, this metaphor, of city streets as the life-blood system of the body of the city has historically informed the urban designs of many planners and also is reflected in numerous descriptions of cities, since the eighteenth century. See: Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (Norton & Co., NY, 1996).

convincingly expressed within his work on the regime of the prison in *Discipline and Punish*.[242] As John Pløger[243] argues, however, while Foucault focused on various apparatuses that functioned to discipline and order the environment, part of Foucault's understanding of urban planning was the use of a *spatial dispositive* to 'reform the moral.'[244] A spatial dispositive, Pløger insists, is "more than a regulatory apparatus, a material installation or (spatial) ontology;" its effect depends "on its relation to a free individual, that is, of how it is read, but also its relations to performance and hence the body." One thus becomes a subject of power mechanisms through a multilayered system of epistemological fields, including the ways in which 'moral' behavior and determinations of good elements of society are produced and visualized through quantitative (data) and qualitative (analyses) divisions of space.

In a similar fashion, the use of aggregated data to create neighborhood profiles for the purposes of "fixing" various problems can have a comparable effect. In what the city calls "efficiency through strategic data analysis," a number of data sets from across local, state, and even federal agencies are being combined and analyzed in an effort to provide city officials with "insight into public conditions and trends" and to help predict neighborhood problems.[245] Through "aggressive data mining and analysis" the city seeks to reveal the "complete 'digital fingerprint' of just about any complex urban problem," information that purportedly will assist city officials in determining how to address these

---

[242] Philip Allmendinger and Mark Tewdwr-Jones, eds., *Planning Futures: New Directions for Planning Theory* (London and New York: Routledge, 2002), 44-62.
[243] Pløger, "Foucault's Dispositif".
[244] Ibid., 54.
[245] City of New York, *New York City's Digital Roadmap,* 43.

issues.[246] An analysis compiled from aggregated city data, for instance, enabled the city

to identify a larger number of cigarette tax violators—increasing drastically from 29% tax

violators identified to 77%.[247] And in another instance of the city's use of aggregated

data, health inspectors now have a 95% "hit rate"[248] of catching restaurants suspected of

dumping grease illegally into sewers.[249] Inevitably, these kinds of data analyses, and the

city's response to identified problems, have significant impact on local neighborhoods.

While the use of all this data may assist city officials to identify high need or high

risk areas for increased city services and funding, for instance, the aggregation of such

data by the city, as well as its developers and planners, also leads to a form of

neighborhood and building profiling that is not much different in nature or results than

racial or ethnic profiling. NYC, for example, has had major problems with illegal

conversions of rental properties, in which apartments were being altered to illegally and

unsafely cram tenants into smaller spaces, a practice that often resulted in a large number

of fires and loss of life and property. Facing great difficulty monitoring or predicting

these occurrences, the city conducted an analysis of aggregated data collected from

various city agencies—information collected about fires in the city, property owners'

financial records, history of building complaints, construction dates, and neighborhood

demographics—and began to identify a pattern of neighborhoods at high risk for illegal

---

[246] Ibid., 44.

[247] Ibid.

[248] In other words, 95% of the time that investigators visit a suspected restaurant, they catch that restaurant actually dumping grease into city sewers, which then highlights the supposed accuracy of the aggregated data and its interpretation.

[249] Sharon Machlis, "How New York data analysts not only boost efficiency, but save lives," *Computerworld* (September 19, 2012), accessed March 9, 2013, http://blogs.computerworld.com/business-intelligenceanalytics/21017/how-new-york-data-analysts-not-only-boost-efficiency-save-lives.

conversions.[250] The strategic identification of these areas then helped officials target

certain buildings for more immediate and increased inspections. As a result of the city's

ability to analyze and interpret such data—aggregated from individual data sets that,

independently, were not particularly revealing of future problems—the rate for vacating

illegal conversions rose from 13% to 80% in one year.[251]

While the use of this kind of aggregated data, on the one hand, is credited with

preventing fires and thus saving lives,[252] it is also an example of how economically

disadvantaged persons can become further marginalized by exclusionary data-driven

measures. In this instance, those found to be living in illegal conversions, most likely due

to a lack of affordable housing, are displaced and become a part of the larger state

apparatus that functions, through the interpretation and use of aggregated data, to regulate

its population. Unlike racial or ethnic profiling, however, this kind of neighborhood

profiling is somewhat masked; "the focus of and basis for the profiling," in the case of

spatial or community profiling, argues Stephen Rice and Michael White, "is officially

lifted from the demographic variables of race and placed on related but less controversial

variables."[253]

Furthermore, when considering the open data sets that are used to predict future

population trends, such as those data sets that track birth rates, ethnicity, property values,

and so forth, the aggregate of information that becomes available, in great part through

unpaid user-producer labor, reflects the efficiency of the government to then manage and

---

[250] City of New York, *New York City's Digital Roadmap,* 44.
[251] Machlis, "How New York."
[252] Machlis, "How New York data analysts".
[253] Stephen Rice and Michael D. White. *Race, Ethnicity, and Policing: New and Essential Readings* (NYU Press. 2010), 248.

control the population and exercise its "disciplinary power;" such disciplinary practices, the body and its activities, therefore, are also under constant surveillance and examination. This also highlights the two sets of mechanisms in modernity that speak to Foucault's theory of bio-power, "one disciplinary and the other regulatory,"[254] that, as discussed earlier, function to discipline the body on the one hand, but altogether works to regulate the population in the interests of the state.

These open data sets, and many of the apps that are created from them, also suggest a proliferation of a "political engagement" of the citizenry in state or institutional racism.[255] By using aggregated data to target specific low-income neighborhoods for greater surveillance and policing, NYC runs a greater risk of racial or ethnic profiling. As Foucault argues, "racism justifies the death function in the economy of biopower by appealing to the principle that the death of others makes one biologically stronger insofar as one is a member of a race or population, insofar as one is an element in a unitary living plurality."[256] And it is this emergence of bio-power, Foucault goes on to argue, particularly "when racism is inscribed as the basic mechanism of power, as it is exercised in modern States," that "the modern State can scarcely function without becoming involved with racism at some point, within certain limits and subject to certain conditions."[257]

Conclusion

---

[254] Foucault, *Society Must Be Defended,* 250.
[255] Ibid.
[256] Ibid., 256.
[257] Ibid., 254.

As discussed within this chapter, NYC's digital programs and initiatives articulate ideals and practices that rely on digital technologies as intrinsically democratic and egalitarian; and yet, through programs that narratively emphasize the overall health of social and civic society, the city relies on the self-regulating neoliberal subject to help construct and manage themselves as socially and economically productive to the larger social body. NYC's *Road Map for the Digital City* outlines its strategies to leverage digital technologies for greater quality of life, a healthier civic society, and stronger democracy, but become indicative of a form of neoliberal governmentality that crowdsources many of the city's social responsibilities out to its residents. While the rhetoric of NYC's digital technological initiatives and programs promise consumer sovereignty, open government and democratic freedom, and greater interactivity and control within the political state, the structuring mechanisms of neoliberal governmentality, as discussed throughout this chapter, blend both principles of freedom and (self)regulation to maximize human capital, reinforce hegemonic assemblages of power, and further the city's economic goals.

Maintaining open and free "digital spaces," is emphasized to be as important as maintaining physical public spaces; the city makes this point by drawing a parallel between Central Park, where approximately 35 million people visit yearly, and nyc.gov, with an almost equally projected visitation number.[258] However, while NYC's agenda clearly emphasizes Internet access and a digital public commons as key components of open government and increased citizen engagement, the acquisition of the .nyc gTDL and

---

[258] City of New York, *New York City's Digital Roadmap,* 43.

118

the increasing privatization of public WiFi access points, threatens the open exchange of discourse in what are supposed to be public digital spaces. The city's efforts to provide free WiFi to the public and build a top-level domain is further complicated by the city's partnerships with mega-media corporations, such as Time-Warner and AT&T, and increased control over digital communications. While greater access to city services and information certainly has the potential to open up more spaces of interaction between residents and government, increased privatization and greater governmental control over primary digital avenues of communication threaten to dissolve myriad forms of public expression. In order to achieve democratizing net neutrality and an open Internet public commons, as the city claims to (want to) do, communicative power must be distributive, not consolidated in the hands of government and special interest groups.

In an effort to enhance democracy through open government and enrich residents' quality of life, the city has created multiple social media channels, mobile apps, and open data platforms designed to support its goals of increased transparency, access to information, and citizen participation in various urban planning strategies. Such digital applications, however, also highlight the city's role in the administration and regulation of people's everyday activities. Many of the cities mobile applications, furthermore, function as disciplinary and security apparatuses of power, as exemplified by many of the city's mobile applications. On the one hand, the city prescribes certain obligatory acts (safe sex, recycling, or not drinking and driving, for instance), while also training the individual body to be productive to the larger social body.

As highlighted by my discussion of many of the city's digital technological programs, the City of New York works to achieve much of its governance through crowdsourcing. By relying on its residents and corporate firms to do its work, through tools and practices such as its smartphone apps, social media, bike share program, and use of aggregated data to meet the city's administrative, policing, health, and safety goals, the city is able to govern with less effort and at a lower cost. The concept of freedom, of course, plays a crucial role in the management of productive social and economic bodies, and part of the success of neoliberal governmentality arises from the interpellation of residents into this system. Liberalism evokes the rights of individuals, while several of these digital programs function to also regulate (and prompt self-regulation of) individual behavior.

Some of NYC's digital programs, such as the NYC311 app and other digital reporting applications, also operate as a digital panopticon and mode of sousveillance, by soliciting residents' surveillance and reporting of one another. Through premediation, many of the city's digital technological applications—such as the Personal Localized Alerting Network and other SMS notification systems—employ various regimes of power through an affect of security. Through a premediation of catastrophic or disastrous events, the city promotes a collective sense of insecurity in order to then provide an affect of security.

Framed as instruments of open government, many of these applications also become instruments and technologies of governmentality. NYC Digital's initiatives and programs consistently underscore a commitment to provide and foster "open" governance

through an "open" flow of information and data exchange; however the city's use of data sometimes functions to exclude certain populations from the digital public sphere. NYC, on the one hand, makes openly available the city's data, while also using that data to inform policy decisions that can deleteriously affect lower-income and already marginalized populations. This trend towards open data represents a shift towards a proliferation of information that is often used to regulate and manage bodies. As Zuboff (2013) asserts, "Man is used as a pure data provider," and, in the process "forced towards conformity thinking."[259] As data collection, dissemination, and aggregation produces certain modes of intelligibility, data then in turn function to authorize and constitute city governmental power and reinforce social compliance.

Considering NYC's digital technological programs within the framework of urban planning, it is clear that these technologies also have real material impact on urban spaces. The incorporation of digital technologies into the urban environment, whether as seemingly benign smartphone apps or information and communication technology (ICT) infrastructures, help shape the physical environment and also construct spaces of exclusion. The use of data for purposes of urban renewal efforts has also often led to neighborhood profiling that can have deleterious effects on lower socio-economic groups who, in most cases, are already socially marginalized. Furthermore, the city's use of

---

[259] Translated from: "Der Mensch wird als reiner Datenlieferant genutzt und zu vorauseilendem Konformitätsdenken gezwungen." Von Zuboff, Shoshana. "Widerstand Gegen Datenschnüffelei: Seid Sand Im Getriebe!"." *Frankfurter Allgemeine Feuilleton*, June 25, 2013. http://www.faz.net/aktuell/feuilleton/debatten/widerstand-gegen-datenschnueffelei-seid-sand-im-getriebe-12241589.html.

unpaid user-producer labor (in generating mobile apps and public data) also makes the city's quest for increased democratic and civic engagement problematic.

Such digital technological initiatives, therefore, move beyond virtual community building in the earlier theoretical sense of McLuhan, Reingold or Negroponte, all of whom theorized that virtual spaces would allow for an imaginative re-construction of one's 'real' world. The open city data made available, and the smartphone apps that use this data to collect even more information, rather collectively assemble digital layers of everyday life that then can be visualized, categorized, aggregated, analyzed, and used for a multitude of purposes – such as for government to forecast population and social and criminal behavioral trends with more accuracy than ever before and inform crucial policy decisions and strategies of governing. Rather than functioning as digital methods of "transcending" realities, these applications perhaps work more towards grounding us deeper into our material realities.

CHAPTER THREE: SAN ANTONIO—"CYBERCITY, U.S.A." AND THE
CYBER-SECURITY STATE

In 2010, the City of San Antonio, Texas, published its "Information Technology Strategic Plan, FY10-FY13," outlining its tactical plans for how information technology and a number of digital technological initiatives will support the city's overall goals to become the "security center of excellence"[260] for the state of Texas and the nation. I use the word "tactical" purposefully, because the city's digital goals are not merely strategies, as the report suggests, for improved or enhanced information infrastructures or attempts to realize the city's overall digital technological potential; rather, as this chapter illustrates, San Antonio relies heavily on its long military history to inform its digital technological vision and maintains a militaristic and security-focused approach to (e)governance. "Military City,"[261] as San Antonio has long been called, for hosting one of the largest concentrations of military bases in the U.S., is now frequently referred to as "CyberCity USA."[262] Although city government itself does not appear to habitually use this title, in a press release on August 18, 2009, Mayor Castro publicly recognized the city's moniker.[263] The city furthermore publicly acknowledges and supports its position as such, and the government's initiatives reflect San Antonio's goals to become the center

---

[260] City of San Antonio, "With Activation of Cyber Command".
[261] There is, in fact, an entire website dedicated to the "Military City": http://www.militarycityusa.com/.
[262] City of San Antonio, "With Activation of Cyber Command".
[263] Ibid.

of national cyber-security. In the process however, ideas of security and safety become ideological frameworks through which the city justifies not only the use of mass surveillance technology, but also its role in a growing surveillance economy.

To give my examination of CyberCity, USA broader contextualization, I also examine how the securitization of cyberspace fits into a larger global movement that Stephen Graham[264] calls "urban militarization." Drawing upon Stephen Graham's work in *Cities Under Siege*,[265] I contend that CyberCity, USA provides a representative example of what Graham refers to as the "new military urbanism."[266] "Fundamental to the new military urbanism," Graham contends, "is the paradigmatic shift that renders cities' communal and private spaces, as well as their infrastructure—along with their civilian populations—a source of targets and threats," a narrative that is clearly echoed within San Antonio's digital initiatives and programs, the Chamber of Commerce's publications, and the 24th Air Force Cyber Command Division's reports, all of which help to construct CyberCity, USA.[267]

In order to better understand what political and economic structures subtend and inflect the discursive practices of "CyberCity, USA," I examine not only San Antonio's information technology strategies and other major digital technological goals, as outlined by the city's Information Technology Services Department, but also the city's close collaboration with other organizations and governmental institutions, such as the San Antonio Chamber of Commerce, the 24th Air Force Cyber (AFCYBER) Division, and

---

[264] Stephen Graham, *Cities Under Siege*. (New York: Verso, 2010).
[265] Ibid.
[266] Ibid., xiv.
[267] Ibid.

124

various commercial defense and security industries. In my examination of the city's digital technological claims, I consider some of the key institutions that contribute to this joint effort to construct San Antonio as "CyberCity, USA."

San Antonio's perceived role in national cyber-security becomes a primary focus of this chapter, as I examine how its programs function both ideologically and on the ground. When one considers that defense, a thriving biotechnological and biodefense market, and cyber-security corporations are among San Antonio's top industries, all of which operate—to varying degrees—in tandem with local government and U.S. military goals of cyber-security, the combined work of these entities elicits the need for careful investigation into the city's claims of democratic e-governance. San Antonio's city leaders explicitly foreground its security systems and surveillance goals, while making brief nods towards the concept of "open government;" yet often there exists a lack of concern for the democratic use of digital technologies or governmental transparency.

Additionally, while San Antonio's stated goals seem to imply the necessity of urban digitality to both local and national health, CyberCity, USA operates more through preventative, rather than generative, measures. One of the city's largest and most comprehensive goals is to define and implement an information security system that meets the standards of the National Institute of Standards and Technology (NIST) to protect the city's infrastructure from "unauthorized access, use, disclosure, duplication, modification, diversion, or destruction."[268] Although the use of specific strategies and tools vary in local versus national technological goals, the overall theme of cyber-security

---

[268] City of San Antonio, *Information Technology Strategic Plan, FY10-FY13* (2010), accessed June 2, 2014, http://www.sanantonio.gov/itsd/pdf/SanAntonioInformationTechnologyStrategicPlan_v1.pdf.

is prevalent in all the city's documents, whether making reference to risk and security management on the local level, or operating as a center for cyber-security on the national level. Repeatedly, throughout a variety of city and city-sponsored documents and unlike New York City and Seattle, the need for preparedness against cyberattacks is consistently reiterated. Echoing the 24th Air Force Cyber Command Division's goals to protect and defend national security information and build and enhance its "cyber forces," for instance, the Chamber of Commerce consistently insists that San Antonio needs to protect its "sensitive information systems" and equip its "next generation of cyberwarriors" with the right IT tools to defend against "cyberattacks."[269]

Within San Antonio's literature, the city also consistently references its residents as "customers," which raises questions about how the city views its role in the governance and administration of local civil society, as well as the relationship between citizenship and an emerging security state. I therefore examine how the interests of the United States military and the national security commercial industry have become woven into the city's digital and political economy. Furthermore, in light of recent public awareness and criticisms of the practices of the National Security Agency (NSA), which houses a major center in San Antonio, and the increasingly heated debate about the rights of citizens to private communications, data collection and surveillance also become key points of discussion throughout this chapter, as they function to sometimes subvert democratic practice.

---

[269] "San Antonio Can Lead in Cyberspace," *Cyber City USA*, (2013), accessed July 7, 2013, http://cybercityusa.org/news/san-antonio-can-lead-cybersecurity.

San Antonio as an Historically Contested Space

The city's focus on national security can be historically situated. One of the most fought over cities in the United States,[270] San Antonio has long been an historically embattled region, with the most infamous battle occurring at the Alamo in 1836. The city began as a Spanish colonial city in 1717 with a fort as its center[271] and also served as a strategic center of military operations during the wars between the U.S. Calvary and the Native Americans. While the nationally drawn borderlines of the state of Texas were clearly defined in 1845, when the United States annexed the then independent Republic of Texas, the state of Texas remained a contested space. Immigration movements from Mexico between the early 1960s onwards, for instance, produced an increasingly volatile atmosphere; with the increase of Latino gangs in the San Antonio area, Mexican immigrants were often categorized and described as lawless and violent drug addicts, leading to increased border security efforts.[272] Nevertheless, by 2012, the number of Hispanics represented almost 40% of the entire population of Texas[273] and more than half of San Antonio's inhabitants.[274] Today, as the second largest city in the border state of Texas, San Antonio also possesses one of the highest rates of undocumented immigrants in the country, most of whom migrate from Mexico, making the issue of illegal

---

[270] *San Antonio, TX*. A Digital Gateway to Texas History. Texas State Historical Association (2013), accessed July 2, 2013, http://www.tshaonline.org/handbook/online/articles/hds02.

[271] Adina De Zavala, *History and Legends of The Alamo and Other Missions in and Around San Antonio* (San Antonio, Texas, 1917), accessed June 7, 2014, https://archive.org/stream/historylegendsof00dezarich#page/6/mode/2up.

[272] Samuel Huntington, *Who Are We?: The Challenges to America's National Identity*. (New York, NY: Simon & Schuster, 2004).

[273] "Texas," State & County Quick Facts, United States Census (2014), accessed June 2, 2014, http://quickfacts.census.gov/qfd/states/48000.html.

[274] In 2010, the United States Census Bureau listed Hispanic and Latino populations in San Antonio as just slightly over 63% of the entire population. See: *San Antonio*, State & County Quick Facts, United States Census (2014), accessed June 2, 2014, http://quickfacts.census.gov/qfd/states/48/4865000.html.

immigration a top priority for city officials. Although the plan ultimately failed, by signing a measure to authorize and construct a 700 mile-long fence along the border in 2006, President George W. Bush endeavored to fortify Texas state borders, along with those of other southwestern states, to keep immigrants from entering illegally.[275]

While San Antonio's history and unique geographical location within a border state helps to explain its focus on security, the perception of national and state integrity in need of protection is an ideological framework that also informs the city and state's security efforts. Situated less than 150 miles from Mexico's border, the San Antonio branch of the U.S. Department of Homeland Security Customs and Border Protection is tasked with "maintaining the *integrity* of the nation's boundaries."[276] Of course, such a mission assumes that a certain integrity exists; but given the significantly large Latino population that now resides in both the state and the city of San Antonio, the region is far from being either a physically or culturally homogenous one. San Antonio's borders, furthermore, now extend to cyberspace, as recent governmental discourse advocates for increased cyber-security to ward off what appears to be the most recent looming geo-spatial threat—cyber-attacks.

Since the early 1980s, around the beginning of the information era, San Antonio has been one of the leading cities for cyber-security in the country that works to identify

[275] Michael Fletcher and Jonathan Weisman, "Bush Signs Bill Authorizing 700-Mile Fence for Border," *Washington Post* (October 27, 2006), accessed July 2, 2013, http://www.washingtonpost.com/wp-dyn/content/article/2006/10/26/AR2006102600120.html.
[276] My italics, "About CBP," *U.S. Customs and Border Protection* (2013), accessed June 2, 2014, http://www.cbp.gov/about/history.

and address the national threat of cyber-attacks.[277] San Antonio's prominence as a cyber-security center was strengthened in 2006, when the National Security Agency (NSA) decided to locate a satellite office in the city, and again in 2009, when the 24th Air Force Cyber Command Division chose San Antonio for their headquarters.[278] Located on "Security Hill," these entities also employ thousands of residents, thus becoming a significant part of San Antonio's larger cyber-security economy. A recent influx of private security companies, cyber-security start-ups, and government security contract firms has made San Antonio one of most cyber-security saturated cities in the nation. At least eighty businesses currently operate within San Antonio's "Defense Technology Cluster."[279] San Antonio, as one of the fastest growing cities in the United States, has become a central location to host emerging security industries.[280]

San Antonio's "CyberCity" Initiatives

San Antonio's *Information Technology Strategic Plan, FY10-FY13*[281] is designed to provide a roadmap to support the city's overall goals; but rather than offering the city's larger overall digital technological vision, the city hones in on specific local IT goals. On the national level, San Antonio[282] aims to become *the* cyber-security center for the United States, but this goal is not clearly articulated within its primary report. Therefore, in my

---

[277] Chris Warren, "Cyber City USA." *San Antonio Magazine* (August 2013), accessed June 7, 2014, http://www.sanantoniomag.com/SAM/August-2013/Cyber-City-USA/.
[278] Ibid.
[279] Ibid.
[280] United States Census Bureau, *Population Distribution and Change 2000 to 2010* (March 2011) 9, accessed June 7, 2014, http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf.
[281] City of San Antonio, *Information Technology.*
[282] City of San Antonio, *With Activation of Cyber Command, San Antonio Emerges As 'Cyber City USA,* (2009), accessed October 2, 2011, http://sanantonio.gov/mayor/Media/Cyber%20Command%20press%20release%208%2018%2009.pdf.

investigation of what constitutes the city's claim to "CyberCity, USA," the city's strategic plan becomes only the portal through which I launch a larger inquiry into a number of public initiatives and programs that, combined, help piece together San Antonio's national cyber-aspirations.

In following the roadmap to the city's national cyber-security objectives, two major entities emerge as significant collaborators in San Antonio's quest for national cyber-security recognition: the San Antonio Chamber of Commerce,[283] which also sponsors the CyberCity, USA[284] website for cybersecurity industry news, and the 24th Air Force Cyber Command (AFCYBER) Division.[285] I therefore examine some of the key discursive practices of these entities and their relationships to one another to help explain how they function together to articulate the goals and practices of "CyberCity, USA."

The heavy emphasis on everything "cyber" further emphasizes the city's focus on digital technologies and the government's economic investment in the cyber-security industry. The word "cyber" saturates the Chamber of Commerce's "CyberCity USA" brochure and website[286] and acts as an adjective—a repeated qualifier—for almost every other word, such as "cyber education," "cyber security," "cyber workforce," "cyber business," and "cyber research." Former San Antonio Mayor Julián Castro was quoted as saying: "What Silicon Valley is to software and San Diego is to biotech, San Antonio is

---

[283] See: http://www.sachamber.org/.

[284] See: http://cybercityusa.org/home.

[285] See: Gregory Ball, "A Brief History of Twenty-Fourth Air Force," *24th Air Force (AFCYBER)* 12 (October 2012), accessed June 8, 2013, http://www.24af.af.mil/shared/media/document/AFD-121219-034.pdf.

[286] San Antonio Chamber of Commerce, "Information Technology Committee" (2013), accessed on July 4, 2013, http://www.sachamber.org/cwt/external/wcpages/getinvolved/IT_Committee.aspx.

to cyber."[287] Disarticulated from education, business, and the military, however, the term cyber is an ambiguous term that functions ideologically and points to a certain technological determinism; in the city's discourse, the prefix cyber not only indicates the inevitability of urban digitality, but also emphasizes the use of digital technologies to solve various economic, social, and political problems.

Despite assertions to use digital technologies to help provide an "open government," San Antonio endeavors to share its data primarily with other governing entities and select organizations in a highly secure and streamlined environment. And while the city claims to provide the public with open data, the city also seeks to restrict and secure its data, both operationally and legislatively. San Antonio's "Open Government" website,[288] with its portal to "public information," for example, provides no listings of data sets or information available, as in the case of both NYC and Seattle; the process one has to go through in order to obtain any kind of public records requires registering and creating an account, and then filling out a form with a written request. One would need to know exactly what kind of information one is requesting, and there is no guarantee that one will receive the requested information, since it is impossible to tell what information is even available to the public. The city also provides its residents with the most rudimentary of public websites and offers little direction as to how to go about the process. Furthermore, because the city purports to "own" public information, a

---

[287] City of San Antonio, *With Activation of Cyber Command, San Antonio Emerges As 'Cyber City USA* (2009), accessed October 2, 2011,
http://sanantonio.gov/mayor/Media/Cyber%20Command%20press%20release%208%2018%2009.pdf.
[288] "City of San Antonio, "What is Public Information" (2013), accessed July 4, 2013,
http://www.sanantonio.gov/opengovernment/RecordsCenter.aspx.

number of strict regulations and laws make accessing information even more difficult.[289]

These challenges to access call the city's claim to open data—and by extension, open

government—into question because it appears, rather, to *limit* public access to

information.

The City of San Antonio, furthermore, does not solicit its residents' input into its

digital technological initiatives, nor does the city even appear to address its citizenry,

suggesting a lack of concern for the use of technologies for open government or public

civic engagement. San Antonio's reference to its citizens and residents as "customers," [290]

rather, emphasizes the city's economic goals. In the city's *Information Technology*

Strategic Plan, for instance, the executive summary explains that because governments

are increasingly under pressure to deliver "more for less" and citizens are demanding

service levels typical of the private sector, San Antonio seeks to "deliver tangible

business value" by improving the city's productivity at reduced costs.[291] Overall, the

city's information technology initiative is meant to help govern the selection,

prioritization, and funding of its various IT projects. Furthermore, the technical

terminology and business language used within San Antonio's strategic report and other

public documents that speak to its larger digital goals also make it clear that this city's

agenda is geared not towards its residents, but rather city leaders, Internet technology

staff, the military, and business partners and vendors within technological and security

industries. Within San Antonio's strategic plan, there also exists a clearly articulated

---

[289] Ibid.

[290] City of San Antonio, *Information Technology.*

[291] Ibid.

reliance on large-scale businesses and industries to support (and "direct") city governance, making more explicit corporate investment in the city's strategic technological plans.

Building upon the city's legacy as a national cyber-security hub, San Antonio has fostered an environment that is beneficial for major private security industries. One of the primary entities that works with the city towards its economic goals is the San Antonio Chamber of Commerce, the first organization that publicly called San Antonio "CyberCity, USA." Advocating for increased economic development, the Chamber has an Information Technology Committee[292] that works towards promoting cyber-education, workforce development, cyber-research, and facilitates collaborations between local cyber businesses and city government. The Chamber also began the development of the *San Antonio Cyber Action Plan* (SACAP), a document meant to "serve as the community's long-term vision for supporting cyber missions in San Antonio" and help expand and support the cyber defense and security industries.[293] Though the SACAP is yet to be completed and published, or made available to the public, the SACAP position statement[294] cites several reasons for the necessity of such a plan, pointing primarily to the economic benefits for the city, and suggests that the city's increasing dependence on cyber security industries makes it more necessary to engage security corporations. The Chamber even went so far as to suggest that San Antonio, as a "Cyber Government,"

---

[292] San Antonio Chamber of Commerce, "Information Technology"
[293] *Cyber Action Plan Position Statement*, San Antonio Chamber of Commerce (2009), accessed July 4, 2013, http://sanantoniotxcoc.weblinkconnect.com/cwt/external/wcpages/wcwebcontent/webcontentpage.aspx?contentid=1197.
[294] Ibid.

must appoint a "city cyber *'czar'* to work with state/federal officials," in order to meet its CyberCity goals.[295]

As discussed earlier, the history of San Antonio is closely connected to military history; and its mission as a "military city," as San Antonio has been called for decades because of its high concentration of military installations, strongly informs its current cyber-security focus. The city hosts a number of cyber-security focused military entities such as the Air Force Intelligence, Surveillance and Reconnaissance Agency, the 688th Information Operations Wing, the Navy Information Operations Command Texas, and the Air Force Electronic Warfare School. Like San Antonio's government, the Chamber of Commerce also cites the activation of the 24th Air Force Cyber Command as the primary event that launched the city into national cyber-recognition and strongly emphasizes, throughout all of its documents, the prominence of the military in its overall digital technological goals. In the *CyberCity USA* brochure,[296] for instance, the graphic and the placement of the text (see the green circle below: "Military/ Government") implies what is more clearly articulated in most of the city's public documents—the close relationship between the military and government.

---

[295] "Education, Business, Military & Workforce," *Cybercity, USA: San Antonio, Texas* (2013), accessed July 6, 2013, http://cybercityusa.org. My italics.
[296] "Education, Business, Military & Workforce"

Figure 5: "Education, Business, Military & Workforce" brochure

Such a graphic, along with most of the city's discourse, is indicative of how San Antonio's digital technological agenda is strongly driven by the needs of the military. Consistently, the Chamber of Commerce emphasizes this tripartite "partnership," as visualized above, between Military/Government, Business, and Academic sectors, but most heavily emphasizes the role of the military and security industries to support the city's technological security goals.

The San Antonio Chamber of Commerce furthermore suggests that these kinds of connections create "common ground between Washington, D.C. and San Antonio," and that it is "imperative" that San Antonio, a "pillar of cyber-preparedness," has input in national dialogue and public/private partnerships.[297] The Chamber outlines three primary goals for CyberCity USA,[298] all of which revolve around the support of local military: to support the 24th Air Force Cyber Command by creating a modern and high-tech facility;

---

[297] San Antonio Chamber of Commerce, "Information Technology"
[298] Ibid.

135

to increase funding for the Air Force budget in cyber defense and offense; and to facilitate partnerships between local businesses, academic institutions, and the 24th Air Force Cyber Command. Other goals of the Chamber of Commerce that reiterate the significance of the military to the city's digital technological agenda include attracting more "federal cyber missions" to San Antonio, seeking Department of Homeland Security funding to support private and corporate cyber security initiatives, and expanding programs that will assess and prepare for "cyberattacks."[299]

The overlap between the military/government with academic sectors is also indicative of the city's relationship to the academic sector, which is heavily geared towards the education of cyber-security professionals, or what the Chamber often calls "cyberwarriors." At the university level, a number of programs in San Antonio aim to educate the nation's emerging security experts and promote the study of cyber-security. Most recently, Hewlett Packard, recipient of numerous multi-million dollar defense contracts, named the University of Texas at San Antonio the top school in the country for cybersecurity.[300] These programs provide a "pipeline of talent to lure and retain companies and organizations" to San Antonio that are "devoted to cyber security," as well as benefit corporations such as Hewlett Packard that seek to bolster their security capabilities and earn defense contracts by becoming incubators of talent and advanced cyber-security programs and applications.[301] And as the demand for cyber-security

---

[299] City of San Antonio, *Information Technology.*
[300] "University of Texas at San Antonio Ranked Top U.S. Cybersecurity School," *Homeland Security NewsWire* (February 28, 2014), accessed June 7, 2014, http://www.homelandsecuritynewswire.com/dr20140228-university-of-texas-at-san-antonio-ranked-top-u-s-cybersecurity-school.
[301] Warren, "Cyber City USA." *San Antonio Magazine.*

professionals grows (based on numerous projected cyber-threats), so does the cyber-security industry.[302]

Although the 24th Air Force Cyber Command Division, nicknamed AFCYBER, is less vociferous about its role in the city's politics and digital technological agendas, the consistent reference to this division within the discursive practices of San Antonio's governing bodies calls for a closer examination to determine the full extent of the relationship between the military and city government. According to the Air Force, on December 2005, the Air Force was tasked with the federal mission of extending its defense into cyberspace[303] (adding "cyberspace" to its previous mission to fly and fight in "air and space")—a point that I shall explore in more theoretical depth later in the chapter. This mission led to the creation of the first cyber operations unit in the Air Force; although the Air Force had previously been involved in cyber operations, this was the first full command unit to be dedicated solely to the task. In 2009, and just outside of downtown San Antonio, Lackland Air Force Base was chosen to house the new unit. Created to conduct "cyber missions," as well as provide "cyber forces" to support other military operations, 24th Air Force Cyber Command began to assume its role in 2011 as "the single command and control authority for Air Force cyber forces."[304] This development also became an opportunity for San Antonio to further capitalize on its growing position as a national center for cyber-security.

---

[302] Ibid.

[303] Gregory Ball, "A Brief History of Twenty-Fourth Air Force." *24th Air Force (AFCYBER)* 12 October (2012). http://www.24af.af.mil/shared/media/document/AFD-121219-034.pdf.

[304] Ibid., 9.

The Militarization of Cyberspace

San Antonio's connection to the 24th Air Force Division, other military institutions, and a growing private cybersecurity sector, reinforces the city's military-centric approach to cyberspace. San Antonio's digital landscape is one to secure and protect; and risk and security management are major goals of the city's overall IT strategic plan. One of the city's largest and most comprehensive plans thus includes defining and implementing an information security system that will protect the city's infrastructure from "unauthorized access, use, disclosure, duplication, modification, diversion, or destruction."[305] And in order to keep a competitive cybersecurity edge, the city works in tandem with national programs such as the USCC – US Cyber Challenge,[306] which works to identify the next generation of cybersecurity professionals and is sponsored by four major entities: The Air Force Association (CyberPatriot), the Center for Internet Security, the Department of Defense Cyber Crime Center, and the National Collegiate Cyber Defense Competition. As discussed earlier, the city draws upon its connections to the larger cybersecurity industry, governmental entities, such as Homeland Security, the NSA, and the military to justify and support its goals to become the cybersecurity hub of the nation.

Of greater concern than San Antonio's local technological initiatives that seek to protect its cyber-infrastructure is the city's self-identification as "CyberCity, USA" and its broader ideological project—the militarization and securitization of cyberspace. While

---

[305] City of San Antonio, *Information Technology*, 22.
[306] See: http://www.uscyberchallenge.org/

advocates for net neutrality fight for freedom of communication and Internet privacy

rights, and access to the Internet has been declared—by the United Nations—as a basic

human right, there exists a growing national effort towards heightened securitization and

militarization of the Internet.[307] In a recent 70-page document from the Department of

Defense, for instance, General Martin Dempsey stated that the U.S. government

"intended to treat cyberspace as a military battleground."[308] CyberCity, USA leads these

national cybersecurity efforts; and thus, examining its role in this movement towards

greater militarization becomes crucial. The rise of cyber-attacks on critical governmental

and corporate infrastructures of course calls for increased security, but as I discuss

throughout this chapter, the rhetoric of CyberCity, USA reinforces this national

imperative to (re)militarize cyberspace and, in the process, the city interpellates its

citizens into this agenda.

As Graham[309] argues, the new military urbanism—the recent shift in military and

governmental thinking that conceptualizes private spaces as sources of threats—often

relies upon the rhetoric of war, such as ongoing wars against crime or terror, or tends to

highlight a general sense of insecurity—all of which help to justify the securitization of

cyberspace through "the colonization of the norms of everyday life," a theme that

provides strong narrative elements within the articulations of CyberCity, USA. The city's

consistent use of battle and war metaphors, for instance, function to not only describe its

permeable (cyber)boundaries, but also substantiate its call to digital arms and its mission

---

[307] Nick Hopkins, "Militarisation of cyberspace: how the global power struggle moved online," *The Guardian*, April 16 (2012), accessed October 23, 2014,
http://www.theguardian.com/technology/2012/apr/16/militarisation-of-cyberspace-power-struggle.
[308] Ibid.
[309] Graham, Cities Under Siege.

to defend the city and the nation against immanent cyberattacks. The nation, the Chamber of Commerce suggests, faces new threats, and these threats come from "anyone armed with a keyboard, a sophisticated knowledge of IT and a determination to exploit systematic weaknesses."[310] The Chamber of Commerce even articulates the need for a new generation of "cyberwarriors" armed with the right skills and tools; training new talent at the college level, the Chamber suggests, but does not elaborate upon, is the equivalent to the "20th century military boot camp," and can help reduce "cyber incidents" and "cyberrisk," while additionally taking necessary measures for the "survival" of their "most vital institutions."[311]

One of the problems, however, is exactly this level of ambiguity in the city's narratives; and, as I discuss throughout, the city's lack of transparency actually becomes a feature of its digitality. While CyberCity, USA consistently articulates the dangers of cyberspace and the need for greater collaborations with the military, cyber-security training, and securitization of the Internet, and makes reference to a number of larger projects, the city rarely elaborates upon these projects or explains what elements would structure such projects. Thus, the articulation of cyberspace as a battleground, its residents, paradoxically, as both cyber-threats and cyber-warriors, and the overall need for survival of immanent cyber-attacks, become ideological frameworks used to not only justify increased cyber-security measures, surveillance, and citizen-training, but also create a larger affect of insecurity amongst the population, all of which then compels

---

[310] San Antonio Chamber of Commerce, "Information Technology"
[311] Ibid.

residents into greater compliance with the city's partnerships with the military and its goals to increase its cyber-security industry.

Though Graham does not speak, specifically, about Internet networks, his theory about the new military urbanism is relevant to our understanding of the phenomenon of the cyber-city. Cities become prime targets of such militarization, Graham suggests, because they are perceived as areas in which terrorists can more easily hide, lurk invisibly among citizens, and exploit the city's "conduits and arteries"—from city streets to urban information infrastructures.[312] As populations begin to explode, becoming for the first time in history more urban than rural, Graham argues that cities "are becoming the main 'battlespace.'"[313] And it is within this context, wherein urban inhabitants—nationwide—are being increasingly monitored, surveyed, tracked, and controlled, that the boundaries between private/public, war/peace, and local/national are becoming reimagined and rearticulated; furthermore, as a result, the boundary between military/police and civilian governance is also becoming increasingly blurred. Drawing parallels between Graham's urban militarization and the increased securitization of cyberspace, which is one of San Antonio's primary goals, the open channels of the Internet are similarly perceived (and articulated as) containing exposed conduits for invasion, insurgence, and "infrastructural terrorism."[314]

Thus the new military urbanism, in this instance, is connected to another growing phenomenon—the (re)militarization of cyberspace, wherein control over cyberspace

---

[312] Ibid.
[313] Ibid., xv.
[314] Ibid., xxiv.

seems to be heading back into the hands of the military. In order to fully understand how CyberCity, USA is becoming a primary staging ground for this kind of new military urbanism, it is also necessary to examine the military's cyberspace agenda and the increasing colonization of cyberspace, since it undergirds the city's claim to the necessity of increased cybersecurity industry within San Antonio. According to Colonel Richard Szafranski and Dr. Martin Libicki of the U.S. Air Force, the battleground is no longer space, in and of itself, but also cyberspace.[315] "Understood in its broadest sense," Szafranski and Libicki argue, "cyberspace is the great confluence of all the various bits and information streams which, together, generate the strategic topsight prerequisite for victory."[316] Thus, in December 2005, the United States Air Force was officially tasked with the mission of extending its defense, adding cyberspace to its original mission to fly and fight in air and space. Cyberspace, the new mission implies, has become the newest geo-spatial territory and the biggest threat to national security—a space to be defended and protected as much as the more tangible regions of earth, air, and space. Not only does this larger military mission reflect new spatial territories and San Antonio's commitment to becoming the most cyber-secure state in the nation, it also reinforces cyberspace as a militaristic zone—a cyberspace battlefield. In the activation ceremony of the newly launched 24th Air Force Cyber Command division, in San Antonio, General Webber remarked that this new division would continue the "evolution of cyber as a potent war fighting capability."[317] The city's claim to be CyberCity, USA and a sort of national

---

[315] Gregory Ball, "A Brief History," 2.
[316] Ibid.
[317] Ibid., 6.

gatekeeper for cyber-security measures is thus supported by its relationship with the

military, in general, and the 24th Air Force Cyber Command, more specifically.

In San Antonio's literature, cyberspace is not, as is often generally characterized

by other cities, an egalitarian internet commons; rather, the city works with the military

and cybersecurity industries to help frame the Internet as a space of danger. General

William Shelton, for instance, commander of Air Force Space Command, calls the

Internet the "Wild West;" with cyber attacks against the U.S. multiplying rapidly, it

becomes all the more urgent for the Air Force to expand its cyber defense capabilities.[318]

One of the four major developments of the 24th Air Force Cyber Command unit has been

to change the perception of cyberspace from a "'force enabler to a warfighting force,'"[319]

illuminating a purposeful public campaign to ideologically alter public perception of

cyberspace from that of a democratizing space to a public threat. For instance, the Air

Force Command's *Social Media Guide*, which characterizes social media as a "target" for

criminals and those seeking to gain access to sensitive information, "in order to

impersonate, blackmail, or intimidate" the user.[320] Social media users are furthermore

cautioned to "be wary" when using the Internet.[321] And, in another document geared

towards the general public, AFCYBER Command suggests that home networks are

particularly vulnerable to cyber-threats and that home users must "maintain a basic level

---

[318] Mike Thomas, "Air Force looking to hire 1,000 cyber-security professionals," San Antonio Business Journal, January 31 (2013), accessed October 26, 2014, http://www.bizjournals.com/sanantonio/blog/2013/01/air-force-looking-to-hire-1000.html?page=all.
[319] Gregory Ball, "A Brief History," 3.
[320] Air Force Public Affairs Agency, *Air Force Social Media Guide*, (2013), 5-6, accessed October 26, 2014, http://www.af.mil/Portals/1/documents/SocialMediaGuide2013.pdf.
[321] Ibid.

of network defense and hygiene" when accessing the Internet.[322] This effort to criminalize cyberspace is of particular interest on the heels of recent national and global social protests that often have derived from and been sustained through social media, such as the Arab Spring, or more recently, the "Black Lives Matter" campaign on the heels of the Ferguson shooting, which has largely relied upon on the Internet and various social media platforms to garner public support.[323]

Thinking about the ways in which cyberspace seems to be reverting back into a militarized zone, and how the military is campaigning to change public perception of cyberspace by capitalizing on fear and highlighting risk, the lived space of the Internet becomes invested with a particular meaning—cyberspace as a perilous space. Cyberspace and its borders also become less tangible because such securitization mechanisms are invisible, and possibilities for praxis then become more difficult. An investigation into these new spatial practices helps to reveal the obscurity of newly constructed spatial territories—re-territorializations and refigurations of social relations, as they produce new political subjects within new ideological fields. As Barney Warf argues, "all this utopian hype about the borderlessness of the Internet is illusory;"[324] while we cannot always discern where the borders are, the militaristic mapping of cyberspace networks and the heightened securitization of flows of information within these "digital data-driven cartographies, borders [. . .] are being delineated, reified, and at times

---

[322] Air Force Public Affairs Agency, *Best Practices for Keeping Your Home Network Secure*, (2013), accessed October 26, 2014, http://www.24af.af.mil/shared/media/document/AFD-110722-051.pdf.
[323] This event references the public response and protests that have arisen out of the shooting of an unarmed black teenager, Michael Brown, in Ferguson, MO by a local police officer, Darren Wilson, on August 9, 2014.
[324] Barney Warf, "From Surfaces to Networks," In *The Spatial Turn: Interdisciplinary Perspectives*, edited by Barney Warf and Santa Arias (Routledge, 2008), 67.

[re]constructed."[325] Thus, while CyberCity, USA seeks to fortify its cyberspace borders, it also works to construct them; the territorialization of cyberspace (CyberCity, USA) thus arises out of the deterritorialization of physical space (San Antonio).

As also evidenced by the CyberCity narrative, security concerns become naturalized, a part of everyday life, and the securitization of cyberspace assimilates all facets of urban life, from public policy, urban infrastructures, education, business, and residents to the larger cultural imaginary. To make the role of San Antonio's academic sector supportive of its cyber-security agenda, for instance, some of the major educational goals of the San Antonio Chamber of Commerce include bringing more "cyberdisciplines" to area universities and colleges and expanding the oldest Catholic University in Texas (St. Mary's University) to become the "Center for Terrorism and Cyber Law."[326] The city of San Antonio also hosts the Cyber Patriot program, a national high school cyber defense competition that is designed to motivate students towards cybersecurity careers. Additionally, a number of city-sponsored programs are geared towards children and the general population, interpellating residents into a larger digital panopticon and a growing security state. The Chamber of Commerce, for instance, recommends that a "Cyber Domination Education" program be started that will train children, as young as kindergarten age, to become cyber-aware citizens.[327] Exactly how this program works is vague, as are many of the city's digital programs. Highlighted as necessary educational programs to train citizens to protect themselves and others against

---

[325] Ibid.
[326] San Antonio Chamber of Commerce, "Information Technology"
[327] Ibid.

145

what are often described as inevitable cyber-attacks, these programs are nevertheless

framed within larger security and safety interests and help to reify the Internet as a

dangerous space in need of securitization, which then in turn helps to reinforce the 'need'

for San Antonio to deepen its relationship to the cyber-security industry and reinforce its

place within the larger surveillance economy.

The Hegemony of Digital Homogeneity

While NYC emphasizes its digital heterogeneity, San Antonio works to

standardize and naturalize the cyber-secure state, in part, through an homogenization of

its internet resources and information sharing. NYC, for instance, offers a vast array of

digital technological services, multiple social media outlets and channels through which

residents can engage city officials (in over 50 languages[328]), and emphasizes public

collaboration and diversity. In San Antonio's digital technological goals, words and

phrases such as "uniform," "consistent," "unifying," "common format," "controls,"

"alignment," and "standard"[329] are repeatedly used and accentuate the city's commitment

to an homogenous, streamlined, organized, and regulated digital technological

environment. A streamlined digital environment, city literature suggests, is a more secure

one. Because "technology is ubiquitous"[330] and threats purportedly immanent, open

information portals create more opportunities for vulnerability and attacks; and it is this

vulnerability—moreover, government created public *fear* of such vulnerability, in

---

[328] City of New York, *New York City's Digital Roadmap: Progress & Innovation*, August (2012), 22, accessed June 13, 2013, http://www.nyc.gov/html/digital/downloads/pdf/digitalroadmap2012.pdf.
[329] City of San Antonio, *Information Technology*.
[330] San Antonio Chamber of Commerce, "Information Technology Committee"

partnership with the military and security industries—on which the city capitalizes. San

Antonio claims that the secure sharing of data will also increase the city's information

leverage and fortify its "cyber-preparedness." According to the Chamber of Commerce,

one of the keys to being prepared to defend against cyberattacks, which the city

consistently articulates as an immanent threat, is the secure sharing of information

between governmental and other "appropriate" agencies, as well as better IT integration,

automation, and risk management.[331]

Communication networks, information, and information systems are not

inherently either politically or socially progressive nor always offer opportunities for

democratic participation;[332] rather, these systems, as illuminated by San Antonio's digital

initiatives, can be hierarchical, segmented, centrally located, and controlled. Historically,

San Antonio's IT infrastructure was built only in department-specific silos; the

fragmentation of its architecture, the city purports, resulted in a lot of inefficiency,

duplication, unnecessary complexities, an inability to collaborate, and thus posed an

increased threat to security. San Antonio is therefore working to establish a digital

foundation that "requires the sharing and reuse of a common, standards-based IT

infrastructure."[333] San Antonio's plan furthermore suggests that because data is its "most

valuable asset," the city's strategy should include acquiring and maintaining "control

over how [data] are organized and exchanged."[334] More specifically, the city is

---

[331] Ibid.

[332] Manuel Castells, "End of Millenium," In *The Information Age: Economy, Society, and Culture*, Vol. 1 (Malden, MA: Blackwell Publishing, 2000); Jan Van Dijk, *The Network Society* (London: SAGE, 2006); Michael Hardt and Toni Negri, *Empire* (Cambridge, MA: Harvard University Press, 2000).

[333] City of San Antonio, *Information Technology*, 6.

[334] Ibid., 9.

implementing a system that works to combine and share information between the city's "silo" and other agencies, systems, and organizations, though not with the public.

But "organized networks," as Geert Lovink argues, such as those that San Antonio aspires to create and maintain, are always "infected by power."[335] While most cities, of course, work to secure IT infrastructures from hackers and cyber-attacks, this kind of fortification and securitization of public data operates differently than in NYC and Seattle. Whereas NYC and Seattle work to make their data public (and also open up data to software and corporate developers), San Antonio rather seeks primarily to share its data internally—or with partner military and cyber-security industries. In all cases, different ideological narratives underscore each city's data goals (whether that of open government and egalitarianism, or, as in the case of San Antonio, security); but what does emerge as a unifying theme is the use of data for political and economic benefit, as I argued in the case of NYC in Chapter 2 and discuss in more detail later in this chapter and in Chapter 4. According to the San Antonio Chamber of Commerce, governments worry about what information to share with the public and how to best share it; but while the city's initiatives to streamline and better secure its information supposedly puts San Antonio "in a position to drive future solutions to these cyber-problems,"[336] such goals can also induce a cyber-hegemonic environment that contradicts the city's claims to open government and digital transparency.

---

[335] Geert Lovink, "The Principle of Notworking," In *Concepts in Critical Internet Culture*. (Amsterdam: Hogeschool van Amsterdam, 2005), 18, accessed on June 2, 2014, http://www.hva.nl/wp-content/uploads/2012/01/ol09-050224-lovink.pdf.
[336] San Antonio Chamber of Commerce, "Information Technology Committee"

San Antonio also uses economic policy to secure consent, as the articulated need for increased securitization and movement towards digital homogeneity furthers the city's security agenda. The Digital Convergence Initiative (DCI), a project of both Austin and San Antonio, for example, began as an effort to combine existing and future digital "markets, technologies, and functions" to promote economic growth within what is referred to as the Waco-Austin-San Antonio corridor.[337] Digital convergence, described as a "coalescence of all the functions for the acquisition, storage, distribution and utilization of all present and future human knowledge," becomes the primary aim of San Antonio and its partners in an effort to "create wealth through expanded uses of capitalism for the purpose of maintaining a stable and civil society."[338] Through the rhetoric of a healthy and stable civil society, and as San Antonio works towards "digital convergence," the governing organizations and states "that capture controlling positions within digital convergence" are positioned to have unprecedented competitive advantage in the global market.[339] This movement towards digital homogeneity therefore becomes an economic imperative. And using typical neoliberal rhetoric, a healthy security market, in this instance, is equated to a healthy civic society. Furthermore, as Kamal Fatehi and

---

[337] *Digital Convergence Initiative: Creating Sustainable Competitive Advantage in Texas*, Digital Convergence Initiative (DCI) Task Force (2005), 2, accessed February 12, 2014, http://dcitexas.org/DCI_report.pdf.
[338] http://dcitexas.org/about.php.
[339] *Digital Convergence Initiative: Creating Sustainable Competitive Advantage in Texas*, Digital Convergence Initiative (DCI) Task Force (2005), accessed February 12, 2014, http://dcitexas.org/DCI_report.pdf.

Jose Sanchez argue, information convergence and economic imperatives function together to bring about increased standardization and homogeneity.[340]

Residents are interpellated into the city's larger cyber-security agenda through city-highlighted programs that emphasize the need for each person to be a part of the cyber-aware public community; such programs also help to manage the body's usefulness to the security state, as good digital citizenship is encouraged.[341] One national program promoted by the city, for example, is Stop.Think.Connect,[342] a "cybersecurity awareness campaign" that functions to "help all digital citizens stay safer and more secure online."[343] As soon as one visits this site, large letters immediately "hail" the cyber-resident in large, bold letters: "Do Your Part to Make The Internet Safer for Everyone," "Get Involved!" and "Did you Know?"[344] Furthermore, the header image, of what appears to be a family with a somewhat frail looking grandmother-type, also functions to solicit one to help keep "the web a safer place for everyone."[345] Another (refreshed) version of the same website calls upon residents to "Be A Good Cyber Citizen."[346]

---

[340] Kamal Fatehi and Jose Sanchez, "Convergence Forces: The Slow March Toward Homogeneity, or De Facto Standardization?" *Competition Forum* 10, no. 2 (2012), 80: 80-85.
[341] "Stop / Think / Connect" (2014), accessed June 7, 2014, http://www.stopthinkconnect.org/.
[342] Ibid.
[343] Ibid.
[344] Ibid.
[345] Ibid.
[346] Ibid., See Figure #9 &10.

Figure 6: Screen shots

Digital homogeneity, as the city seeks to streamline, organize, and maintain

control over its digital environment, is clearly a key feature of CyberCity, USA; and

digital hegemony, the power that government achieves in great part through consent of its

population, is achieved in a variety of ways. These kinds of programs work together to

manipulate social views of the Internet as a dangerous space in need of greater

governance and control and function also to substantiate the city's close partnerships with

the military and its central role within the cyber-security / surveillance economy.

Furthermore, through the allusion of autonomy, freedom, democracy, and choice to

become part of the solution by becoming good cybercitizens, residents give both political

and economic power to those entities that together comprise CyberCity, USA.

Meanwhile, this entire process conceals the hegemony of increasing securitization and

homogenization of cyberspace and the digital data that is produced by users.

As discussed earlier, many of San Antonio's public cyber-security initiatives

work to simultaneously raise concerns—warning residents of the immanent dangers of an

unprotected cyberspace—and also quell those concerns by offering educational programs

151

and assurances of security. The heavy emphasis that San Antonio also puts on the Internet as a dangerous space also functions to justify whatever security measures are necessary to secure the nation and protect democracy. Richard Grusin's theory of premediation[347] also can be useful in helping to explain how these digital technological programs that emphasize safety and security function to quell public fear—from a (re)mediation of the past to a (pre)mediation of the future. The city's contextualized regime of security materializes, in part, through the use of consistent premediations as narratives of cyber-threats and cyber-disasters that *could* happen abound. San Antonio first creates the fear of the future unknown (cyberattacks), thereby promoting a collective sense of insecurity and heightened public fear, and then works to offer an affective sense of security through increased digital homogeneity—a sort of collective digital umbilical cord that ambiguously attaches each resident to a larger, more secure, streamlined information network.

Surveillance and Internalized Colonization

Although San Antonio's role is somewhat peripheral, the city becomes a staging ground for what Graham suggests is a greater Western phenomenon of "internal colonialism." With increased urbanization, the securitization of the global south informs emerging security policies in cities in the global north, Graham argues,[348] resulting in urban securitization tactics that seek to control everyday life and become indicative of internal colonialism. Recent examples include the militarized policing of public

---

[347] Richard Grusin, *Premediation: Affect and Mediality After 9/11.* (Palgrave Macmillan, 2010).
[348] Ibid.

demonstrations, as exhibited by the 2013 resistance movement in Gezi Park in Istanbul; internal "spying," such as revealed by Edward Snowden in the case of the NSA; and, the securitization of (cyber)security zones, such as we see in CyberCity, USA. Such fortifications not only function to limit the free flow of information and thus, democratic potential, but also become indicative of an internalized or self-administered (cyber)colonization. Through the identification and targeting of specific cyber-war zones and increased cyber-securitization, there occurs a parallel "resurgence of explicitly colonial strategies" that becomes another key feature of the new military urbanism.[349]

As discussed earlier, San Antonio's larger goals of security and surveillance are explicit, frequently referenced, and clearly play a central role in the city's digital, political, and economic development. Whereas NYC's *Digital Roadmap* avoids any discussion of surveillance and mentions security only briefly and in relationship to the "health" of the city and its residents, San Antonio's published digital agendas rely heavily and openly on the theme of cyber-security, beginning with the security of its own informational systems and extending to its role within national cyber-security. Part of the city's information technology agenda, however, also includes a number of programs aimed at population control, which become a threat to democratic practice and, as I explain below, examples of internalized colonization.

Federal, state, and local initiatives to incorporate biometrics and human service tracking devices[350]—to track immigrants, students, and the city's homeless population—

[349] Graham, *Cities Under Siege*, xvii.
[350] City of San Antonio. *ITSD Initiatives* (2011), accessed July 7, 2013, http://www.sanantonio.gov/itsd/initiatives.aspx.

are also indicative of the new urban militarism. In the fall of 2012, San Antonio, for instance, was at the center of national controversy when a number of public schools required its students to wear micro-chip embedded identification cards, which had a bar code associated with students' social security numbers and tracked the students' movements on campus from the time they arrived until they left.[351] The program was initiated in order to track and help increase student attendance, in an effort to secure greater state funding, but many argued that the program violated students' privacy rights.[352] One student who refused to wear the badge due to religious reasons filed a lawsuit after being threatened with expulsion, but a San Antonio judge ruled against her, stating that her choice not to wear the identification badge was a secular decision, not a religious one.[353] Eventually, the San Antonio school district decided it would drop the program, but insisted that doing so had nothing to do with increased protests, but rather because the increase in attendance did not justify the costs of the program.[354]

On the national level, *The Gang of Eight Bill*, an immigration reform bill that provides provisions for allowing an estimated 11 million undocumented immigrants to work towards U.S. citizenship, was passed on June 27, 2013.[355] Currently on the table is an amendment to the *Gang of Eight Bill*,[356] introduced by Texas Republican Senator John

---

[351] "Schools' Tracking Devices Causes Controversy," *CBSHouston*, November 25 (2012), accessed October 26, 2014, http://houston.cbslocal.com/2012/11/25/schools-tracking-devices-causes-controversy/.
[352] Ibid.
[353] Nathan Koppel, "Texas School District Drops Microchip-Tracking System," *The Wall Street Journal*, July 16 (2013), accessed October 26, 2014,
http://online.wsj.com/articles/SB10001424127887323664204578609943665353714.
[354] Ibid.
[355] For more information about the passage of the bill, see: Elise Foley, "Senate Immigration Reform Bill Passes With Strong Majority," Huffington Post, June 27 (2013), accessed July 2, 2013,
http://www.huffingtonpost.com/2013/06/27/senate-immigration-reform-bill_n_3511664.html.
[356] Foley, "Senate Immigration"

Cornyn, that would include heightened monitoring of the border for illegal crossings; as nearly 40% of all immigrants to the U.S. overstay their visas, a biometric entry and exit system at all U.S. borders (land, air, and sea ports) is purported to be a strong preventative measure against illegal violations.[357] Texas, the largest border state with the biggest influx of undocumented immigrants, leads these kinds of national efforts. And San Antonio, along with the U.S. Department of Homeland Security Customs and Border Protection branch and its numerous military installations and partnerships with private security industries, becomes the state's primary center of (cyber)security to support such measures.

Examining the newly launched e-Borders project in the UK (the systematic surveillance and tracking of all leaving or entering British territory using data mining, sophisticated computer algorithms, and biometric visas), Graham remarks that these and similar initiatives, such as we see in many cities across the United States, are "based on a dream of technological omniscience," in part because these programs use records of past activity to identify future risks and threats before they even happen.[358] Graham furthermore argues that this kind of "massive global proliferation of deeply technophilic state surveillance" indicates a move towards an increasingly militarized society, wherein

[357] Anneke Green, "Immigration Reform Needs to Take a Page from Jeb Bush's Book," *U.S. News and World Report*, June 11 (2013), accessed July 2, 2013, http://www.usnews.com/opinion/blogs/anneke-green/2013/06/11/bush-and-bolicks-immigration-wars-points-the-way-on-reform; Jordon Fabian, "Inside the Amendment That Could Threaten Immigration Bill," *ABCNEWS*, June 12 (2013), accessed July 2, 2013, http://abcnews.go.com/ABC_Univision/Politics/inside-amendment-threaten-immigration-bill/story?id=19385977#.UdM0ED4adjY; Alexander Bolton, "ICE Agents: Strengthen Enforcement Measures in Senate Immigration Bill" (2013), accessed July 2, 2013, http://thehill.com/homenews/senate/305233-ice-agents-strengthen-enforcement-measures-in-senate-immigration-bill-.
[358] Graham, Cities Under Siege, xi.

military protocol and surveillance begin to saturate everyday life.[359] Graham argues that these types of surveillance programs are not merely a response to various security threats, but rather, "in a world marked by increasing globalization and urbanization," become building blocks for the weaving of urban militaristic logic into civil society and "dreams of high-tech omniscience."[360] And it is this shift, Graham argues, that threatens "to re-engineer ideas of citizenship."[361]

While many of the city's security plans and programs are not unique to San Antonio, the combination of multiple security agenda items point to a focused attention on security and surveillance, particularly as they are foregrounded as primary city goals. San Antonio thus becomes a more explicit example of what is happening in other cities across the United States. In addition to its goals to fortify the city's IT infrastructure and increase information security, for instance, the city aims to upgrade the San Antonio Police Department's fingerprint system, to more quickly and correctly identify unknown offenders, speed up the process of arrest records, and thus increase public security. The city furthermore plans to enhance its immunization registry system, so that it can manage all immunization records in the city, and consolidate its information with that of local universities. Library security has also become an agenda item, as the city plans to place security cameras in "sensitive areas" to deter theft, vandalism, and "protect the well being of citizens and city assets."[362] More concerning is the city's plans to implement a Human Services Tracking System through *ClientTrack*, a web-based human services data

---

[359] Ibid.
[360] Ibid., xii.
[361] Ibid., xv.
[362] City of San Antonio. *ITSD Initiatives.*

tracking application.[363] The city purports to need it to manage homeless populations and to track client assessments, program enrollment and other services, but the idea of tracking humans via any method or for any reason is problematic, as it not only targets the most economically and socially disadvantaged, it sets a precedence for the surveillance, tracking, and management of human bodies.

Though it is not clear what data is collected by the city or how it is used, some of these programs that track people's movements and behaviors could be cause for concern, and is therefore worth examining. And this kind of opacity, in much of the city's digital programming, also becomes a key feature of CyberCity, USA. The collected data itself, especially in its raw and aggregated form, could be the structural or informational architecture that then implicates us into an even larger, less visible, information panopticon. While data gathered is no doubt used by the city to improve its communication, revamp departments, and facilitate a more streamlined way of operating—at least internally and with its chosen partners, the data is not made available to the public. Rather than offering raw city data to the public on an open data platform, as does NYC and Seattle, the city publishes only select reports.[364] Only the city thus can use collected data for the purposes of aggregating it; and through these reports, the city also provides only its own interpretation of the data. Therefore, despite its claim to want to "demystify data and get it into the hands of people,"[365] the city tightly controls what data is made available and in what form.

---

[363] Ibid.
[364] Now Data, *Data Explorer* (2011), accessed June 8, 2014, http://nowdata.cinow.info/.
[365] Now Data, About NOWData (2011), accessed June 8, 2014, http://nowdata.cinow.info/about/.

What is clear is that the collection, aggregation, and securitization of data have become both a national imperative[366] and big business in San Antonio, as it hosts the second most concentrated data centers in the nation.[367] Recognized as a national leader in cybersecurity, San Antonio's information security industry generates more than ten billion dollars a year.[368] Furthermore, as home to a large and growing segment of centers under the National Security Agency (NSA), including the NSA's Texas Cryptology Center and an NSA data center and campus, San Antonio provides a national context for the increasingly secret collection and aggregation of data. The 94,000 square foot data center, which became operational in 2012, is one of the primary hubs of intelligence gathering and data storage in the United States.[369] Details and information *about* the data center, however, have become largely "shielded by a level of secrecy that is uncommon even for the NSA," since June, 2013, when Edward Snowden publically leaked details about the NSA's intelligence gathering (or "spying") practices.[370]

By working to harness and secure information, re-territorialize and secure its boundaries (both on the ground and in cyberspace), and limit and control communication, CyberCity, USA seeks to fortify, rather than expand, local and national boundaries. If

---

[366] Mark Weber and Carina Veksler, *The Federal Mandate for Data Center Consolidation*, NetApp (February 2012), accessed June 8, 2014, http://www.fdcciconnect.com/Portals/0/pdf/WP-7156.pdf.
[367] Megan Horner, "San Antonio: Growth in High-Tech Is on the Horizon," *Rivard Report* (February 5, 2013), accessed June 8, 2014, http://therivardreport.com/san-antonio-growth-in-high-tech-is-on-the-horizon/.
[368] "Information Technology / Cybersecurity," *San Antonio Economic Development Foundation* (2013), accessed June 8, 2014, http://www.sanantonioedf.com/industry-clusters/it-a-cyber-security.
[369] Nolan Hicks, "NSA Plant in San Antonio Shrouded in Secrecy," *Houston Chronicle* (June 16, 2013), accessed February 17, 2014, http://www.chron.com/news/houston-texas/houston/article/NSA-plant-in-San-Antonio-shrouded-in-secrecy-4604109.php; Ben Shapiro, "Massive San Antonio NSA Data Center Raises Eyebrows," *Breitbart.com* (June 17, 2013), accessed March 2, 2014, http://www.breitbart.com/Big-Government/2013/06/17/NSA-center.
[370] Hicks, "NSA Plant"

globalization can be categorized by a certain stretching of social relationships, networks, and an enlargement or malleability of borders within space-time,[371] then it would appear that San Antonio, in its efforts to fortify its physical boundaries and delineate and control specific cyber-territories, is working towards *de*-globalization. Although I would not go so far as to suggest that San Antonio is part of an anti-global movement, its strict attention to the securitization of information on the local and national level suggests a bit of a retreat from global information society. And if information flows in such a way as to largely be perceived as transcending national borders, intensifying global communications,[372] creating time-space distantiation of social relationships[373] that then lead to a sort of supraterritoriality[374] and time-space compression,[375] then San Antonio's goals of information securitization can be seen as an attempt to reverse some of these trends.

But by imitating what are essentially colonial models of "pacification, militarization and control, honed on the streets of the global south," and reflected in the contemporary "post-colonial" era, the deployment of such techniques into urban environments and everyday life functions as a sort of internalized colonization, argues Graham.[376] These techniques, furthermore, operate through what Foucault called

---

[371] Christian Fuchs, "Strategies and Forms of Capital Accumulation in Transnational Informational Capitalism," *Transform!at: Verein Zur Förderung Linker Diskurse Und Politik* (2007), accessed June 8, 2014, http://www.transform.or.at/images/Accumulation.pdf.
[372] Roland Robertson, *Digital Capitalism* (Cambridge, MA: MIT Press, 1992).
[373] Anthony Giddens, *The Consequences of Modernity* (Stanford: Stanford University Press, 1990).
[374] Jan Aart Scholte, "Globalisation: Prospects for a Paradigm Shift," In *Politics and Globalisation*, edited by Martin Shaw, 9–22 (London: Routledge, 1999).
[375] David Harvey, *The Condition of Postmodernity*. Oxford (U.K.: Oxford University Press, Inc., 1989).
[376] Graham, *Cities Under Siege*, xvi.

"boomerang effects."[377] According to Foucault, while European models of colonization were clearly implemented and brought into other countries, these "political and juridical weapons" also had a "considerable boomerang effect on the mechanisms of power in the West," as well as on the various institutions, apparatuses, and techniques of Western power—such as has arisen through and in conjunction with the Internet and the information economy.[378] These boomerang effects, Foucault suggested, were focused on the maintenance of populations, bio-power, and biopolitics, rather than securing territory. As discussed earlier, we can see many of these mechanisms of biopower operating in many of San Antonio's programs, such as its digital citizen training programs and human tracking services, that seek to maintain and control the body and its productiveness to the larger political and economic body.

The Political Economy of Urban Securitization & Digitalized Human Capital

As technologies connect markets, producers, and consumers all over the world, the overall global economic flows of production are strengthened; in this global economy, at least from the perspective of many who work from behind a computer screen, national and geographic borders become seemingly abstruse, as business operates increasingly within what seems to be the borderless spaces of the Internet. This notion of a borderless global space persists today, but San Antonio, in many ways, appears to be working towards fortifying its boundaries. What's particularly interesting is the way in

---

[377] Michel Foucault, *Society Must Be Defended: Lectures at the Collège de France 1975-1976* (New York, NY: PIcador, 2003), 103.
[378] Ibid., 123.

which this fortification of boundaries operates within a neoliberal environment that has

been geared towards greater economic and information flow.

I argue that the extensive role of commercial security industries and technology

enterprises in the military sphere, a phenomenon that is clearly evident in San Antonio, is

a neoliberal practice that is intimately linked to the information economy and contradicts

the open democracy that San Antonio claims to protect. San Antonio's relationships with

the Chamber of Commerce and the 24th Air Force Cyber (AFCYBER) Division reveal

compelling intersections and tensions between ideologies of national security and

democracy. On the one hand, the city claims its focus on national security is motivated by

the desire to protect our democratic freedoms; and yet, the discursive practices of

CyberCity, USA suggest that the city's focus on cyber-security is more economically

than democratically motivated. Technology has historically informed military operations;

with the current trend towards high-tech warfare, however, the military also has become

heavily dependent upon private contractors.[379] Increasingly complex technological tools

of warfare and security, furthermore, drive military privatization.[380] According to the San

Antonio Economic Development Foundation,[381] San Antonio is a national center for

major IT security corporations, including approximately eighty defense contractors, as

well as one of the largest concentrations of military and intelligence agencies charged

with information intelligence missions. While military privatization is not a new

phenomenon, this trend is becoming increasingly pervasive.

---

[379] Armin Krishnan, *War as Business: Technological Change and Military Service Contracting* (Burlington, VT: Ashgate Publishing, 2008).
[380] Ibid., 2.
[381] "Information Technology / Cybersecurity."

"Big data," as it is often called, has become a valuable commodity on the world market, so much so that the World Economic Forum has deemed it a new kind of economic asset, "like oil."[382] According to the European Consumer Commissioner, Meglena Kuneva, personal data is "the new oil of the Internet and the new currency of the digital world."[383] This data, however, must also be safeguarded; "There will never be a time in the future when the cyber domain isn't critical to everything you do," argues Art Wachdorf, senior advisor for intelligence and cyber operations for the 24th Air Force division, and "the amount of information available will be a powerful asset for good or evil, and it has to be protected."[384] For San Antonio, the securitization of data is generating enormous economic value.

As Jean-Francois Lyotard argued, "knowledge" has become the primary "force of production."[385] Lyotard also predicted that information that is increasingly transformed into a commodity would be made accessible to the public, and inevitably, within postmodern society, break up the grand narratives of centralized structures of information and knowledge. While to some degree this may be true, the accessibility of increased information and data also is having the exact opposite effect—as governments and commercial industries work more vigorously than ever towards centralization, streamlining, and control of information and aggregated data. Information sharing, in San Antonio's case, is almost always articulated as happening primarily between and across

---

[382] Ariana Eunjung Cha, "'Big Data': Trend-watching, to the Nth Degree," *Seattle Times* (June 9, 2012), accessed June 8, 2014, http://seattletimes.com/html/businesstechnology/2018382234_bigdata10.html.

[383] World Economic Forum, *Personal Data: The Emergence of a New Asset Class* (2011), accessed June 8, 2014, http://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf.

[384] Chris Warren, "Cyber City USA." *San Antonio Magazine* (August 2013), accessed June 8, 2014, http://www.sanantoniomag.com/SAM/August-2013/Cyber-City-USA/.

[385] Jean-Francois Lyotard, *The Postmodern Condition* (Manchester: Manchester University Press, 1984), 5.

local cyber businesses, the military, and government offices, making residents' access to information the lowest priority. San Antonio has an open data website, but offers very little in the way of information,[386] and the data it does make available (as discussed in an earlier section) is already interpreted. This, of course, is also assuming that people even have access to the Internet and to city websites. There exists a strict hierarchy of inclusion in what information is shared; the public is often excluded from access to what should be public information. And with increased digital administration comes a remediation of new methods of control; digital governance, in this instance, as the city collaborates extensively with and relies heavily upon the cyber-security industry, becomes part of an increasingly privatized knowledge economy.

As Marx argued, the origin of the commodity—in this case that of information— and the process that generates its production often remain obscure, and this obscurity enables commodities to be 'fetishized,' appearing to have some sort of intrinsic value, while concealing the power relationships involved in their production.[387] Fetishization of information takes place in myriad ways, and the mystification of such a commodity does not, as Marx insisted, originate in its use value, but rather in its social value. We can see this playing out in numerous ways within San Antonio, as the social value of the Internet and information is heralded as a democratizing force, but one that needs protection. To protect cyberspace, CyberCity, USA literature suggests, is to protect one's family members, society, and the democratic way of life. But contemporary society, Fuchs

---

[386] City of San Antonio, "Open Government" (2013), accessed June 8, 2014, http://www.sanantonio.gov/opengovernment/.
[387] David, McLellan, ed. *Karl Marx, Selected Writings*. 2nd ed. (Oxford, U.K.: Oxford University Press, Inc., 2000).

insists, is still, above all, a capitalist one, oriented towards the accumulation of economic, cultural, political—and, most recently, information capital.[388]

San Antonio's process of information capital accumulation, furthermore, stands in opposition to the flexible accumulation of NYC, which relies heavily on outsourcing, crowdsourcing, decentralization of information, flattening of hierarchies (or at least the appearance of such), and attempts to organize information capital in a collaborative, participatory manner. For residents of San Antonio, capital accumulation is transformed by the rise of the cyber-security industry into an even more diffuse and intangible form. Information technology—and information, specifically—is lauded as providing an alternative to the classical Marxist model of a gift economy; however, a comparison between NYC's approach to information and that of San Antonio describes a new form of antagonism between the productive forces and the relations of production. Information, on the one hand, is a commodity that, most clearly in the case of San Antonio, is heavily guarded through claims to intellectual property rights; on the other hand, the productive forces behind information, most exemplified by the city of New York, represent an alternative economic model of the gift economy—a somewhat utopian vision of information as open, accessible, and shared for the common social good. As informational productive forces, such as articulated by NYC, clash with the capitalist relations of information production as represented by San Antonio, "the open or proprietary character of [any or all] information is contested."[389] In both cases, furthermore, claims to "open government" through information collection and sharing are

---

[388] Fuchs, "Strategies and Forms," 4.
[389] Ibid., 1.

164

problematic. While NYC residents become unpaid user-producer laborers of the state through information production, San Antonio residents, through capital accumulation, are dispossessed of public information that they, themselves, in great part help to (unknowingly) generate through unpaid user-producer labor.

Through the privatization of public information, the creation and management of (predicted) crises (such as the city's articulated cyber-security threats), and the redistribution of information "wealth," a centralization of information capital and power occurs through the dispossession of public information and access. The government, along with local cyber-security industries, thrives on an over-accumulation of information that is then secured and distributed only to select groups or institutions. Furthermore, the City of San Antonio, paradoxically, defines "public information" as: "Information that is collected, assembled, or maintained under a law or ordinance or in connection with the transaction of official business by a governmental body or for a governmental body and *the latter owns the information* or has a right of access to it"[390] San Antonio's digital technological agendas and programs thus function to dispossess the public of its information commons, as well as the modes of production of that information. This process furthermore becomes exemplary of a form of primitive accumulation; the state first dispossesses residents of what they have produced (their information) and then, in an effort to stimulate new cycles of accumulation, transfers ownership of that information to private corporations.

---

[390] City of San Antonio, "Open Government"

As these two forces of information production and capital relations collide, the

nature of information (whether open to the public or under the control of government or

security industries) becomes highly contested. As San Antonio works towards

streamlining, standardizing, unifying, and controlling its information and informational

infrastructures, these new strategies of capital accumulation make even less visible the

ways in which *human capital* is integrated into the system. San Antonio articulates its

development of human capital in terms of developing clear performance expectations,

skills, and knowledge; filling vacant positions first by recruiting from within; and

aligning performance goals with departmental and city objectives. What the city does not

articulate, however, is its use of human capital specifically garnered through flows of

information collection, exchange, and dissemination. Referring to its residents

(individual, entrepreneurial and business leaders, altogether) as "customers," rather than

citizens, the report nevertheless goes on to suggest that *human capital* development and

management is the "lifeblood" of a highly productive organization.[391] I use the term

digitalized human capital to describe how informing bodies inevitably become income

generating for the city and its cybersecurity industry partners. I differentiate this type of

human capital from the user-producer laborer model because while in the instance of the

user-producer laborer people are actively, freely, and often knowingly generating data

through devices and programs that collect data, digitalized human capital materializes in

part through investments in a cyberworkforce; but human capital can also be generated

through surveillance technologies and the gathering of human knowledge, attributes, and

---

[391] City of San Antonio, *Information Technology.*

behaviors through digital systems. The production of data—all the ways in which residents are monitored, tracked, recorded, and coded—becomes, in itself, a form of digitalized human capital.

The city of San Antonio has a huge investment in its development of digitalized human capital. As briefly explored earlier, and as the San Antonio Economic Development Foundation (SAEDF) suggests, information technology and cybersecurity industries play a major role in San Antonio, generating billions of dollars a year, with an expectation to generate $15 billion a year by 2015.[392] Furthermore, the more that security is privatized and contracted out to corporate security firms, the more information technology and cyber-security industries continue to grow in San Antonio. For these reasons, the city seeks to benefit "from a collaborative investment in people, processes, and technologies across the business, academic, and governmental sectors."[393] By coordinating cyber-education (through both primary and secondary educational institutions and programs), promoting cyber-business development, and developing a strong cyber workforce, the city strives to "provide highly trained, educated, capable Cyber Talent" in an effort to enhance city, state, and national security.

Additionally, considering that in 2011 the military generated an estimated $27.7 billion to the city's economy and awarded over $4 billion in local contracts, $3.3 billion of which was for cyber-security and IT initiatives and programs, it comes as no surprise that the city of San Antonio would adopt the military's goals as its own (City of San

---

[392] "Information Technology / Cybersecurity."
[393] San Antonio Chamber of Commerce, "IT Panel Discusses the San Antonio Cyber Action Plan" (January 26, 2010), accessed June 8, 2014, http://www.sachamber.org/cwt/external/wcpages/wcnews/NewsArticleDisplay.aspx?ArticleID=895.

Antonio, 2013a). As the San Antonio Economic Development Foundation (SAEDF) aptly

quotes Major General Suzanne M. Vautrinot, "San Antonio provides the 'center of

gravity' for the 24th Air Force and its mission to provide cyber security in defense of the

United States and its interests" (2013). Both the city and the Chamber consistently

reiterate this message. For instance, the Chamber also recently initiated the development

of the *San Antonio Cyber Master Action Program* (MAP) (2010), stating that the primary

mission of this program is to "posture San Antonio for rapid growth as a national leader

in cyber security" (CyberCity, USA, 2010).

Graham argues that one aspect of the new military urbanism is the "surveillant

economy."[394] Colonization of urban practices, as discussed earlier, does not arise only

from notions of security, but is also supported by a multitude of other industries, such as

technologies, surveillance, 'corporate' universities, and even entertainment. The political

economies that sustain the new military urbanism, suggests Graham, "inevitably focus on

the role of an élite group of so-called 'global' cities as the centres of neoliberal

capitalism," while also hosting large corporate security industries.[395] The surveillance

economy, as it materializes within many of these industries, is a lucrative market. San

Antonio city leaders are clearly attempting to position the city as a central hub of cyber-

security, securing both national and global flows of information from (real or imagined)

cyber-threats. As part of the larger network of global cities competing in the information

and surveillance economy, and "through which neoliberal capitalism is primarily

orchestrated […]," the city's quest to securitize cyberspace and boost its cyber-security

---

[394] Graham, *Cities Under Siege*, xxii.
[395] Ibid.

industry, and as it also works closely with the military and its private contractors, helps to produce "new logics of aggressive colonial acquisition and dispossession."[396]

Conclusion

San Antonio, as this chapter explores, relies heavily (and historically) on the military and cyber-security industries to inform its digital technological initiatives and agendas. Nicknamed CyberCity, USA, San Antonio claims to be the central hub for national cyber-security. In examining what constitutes CyberCity, USA and to better understand the political and economic structures that subtend and inflect the city's digital discursive practices, I explored the intersections between the city, the military, and cyber-security industries. There exists a tension between the city's claim to open government and enhanced democracy, its intense focus on systems of surveillance and security, which threaten to thwart democratic practices, and its neoliberal agenda to enhance its economic base through the securitization of cyberspace.

In January, 2009, President Obama declared that his administration was "committed to creating an unprecendented level of openness in government," and suggested that transparency, public participation, and collaboration were all necessary elements for a strong democracy.[397] Despite the San Antonio's claims to offer its public open data, which has become a hallmark of open government, the city rather closely guards its information. In addition to the lack of information available to residents, the city publishes only interpretive reports from some of its data, rather than offering raw

---

[396] Ibid., xxiii.
[397] "Open Government Initiative," accessed June 9, 2014, http://www.whitehouse.gov/open.

data online. San Antonio's digital goals also underscore the city's commitment to creating and maintaining an homogenous, highly regulated, and streamlined digital environment, while data, its most "valuable asset,"[398] is strictly controlled. Limited access to information thus further challenges the city's claim to open government.

Historically, San Antonio has served as a central military hub within a state that has struggled to maintain the integrity of its borders. Increased illegal immigration and numerous threats to national security, along with tremendous economic opportunities, have prompted San Antonio to become a leader in the cyber-security industry. And its position as a major cyber-security hub has been strengthened by military installations that have, as their primary directive, the cyber-security of the nation. Endeavoring always to fortify its boundaries, for San Antonio, the idea of democracy—or more specifically, the protection of democracy—becomes an ideological framework that helps to fortify its growing role in the surveillance and cyber-security economy.

In the post-911 era, cyberspace is often "entrenched in media hype depicting the constant threat posed by terrorists."[399] San Antonio's literature helps to create and sustain this fear and then capitalizes on the need for cyber-security. A sort of technological determinism also drives many of the city's initiatives and helps to support military discourse, particularly as they rely upon public narratives of immanent threats. Since "anyone armed with a keyboard"[400] is a possible threat, the need for surveillance and cyber-preparedness against these immanent attacks is consistently reiterated. The

---

[398] City of San Antonio, *Information Technology*, 9.
[399] Enrico Fels, Jan-Frederik Kremer, and Katharina Kronenberg, eds. *Power in the 21st Century: International Security and International Political Economy in a Changing World* (New York: Springer, 2012), 140.
[400] San Antonio Chamber of Commerce, "Information Technology"

defining element of cyber-threats, however, is that they are largely unsubstantiated, as none of the worst-case scenarios described have materialized.[401] Such threats to Internet security are nevertheless at the top of most national security agendas and undergird San Antonio's commitment to cyber-security.[402] Citizens, furthermore, are interpellated into the security state and called upon to become cyberwarriors and good cyber-citizens, underscoring the city's attempt to manage and control its population through soft mechanisms of biopower.

Furthermore, as Graham points out, right wing politicians and military institutions tend to perceive cities as intrinsically problematic spaces—sites of subversion, resistance, protest, demonstrations, and mobilizations that challenge local and national security.[403] Such cities, he argues, are thus characterized as needing political and military control, or radical securitization. While there is no evidence to suggest that the City of San Antonio, specifically, is characterized this way, we can extend Graham's theory into the city's articulation of cyberspace, as it repeatedly is described as a vulnerable space in need of political and military control. San Antonio narratively shifts the perception of both public and private spaces, as well as civilians, into sources of threats, and the dangers of cyberspace are clearly articulated within San Antonio's digital initiatives and programs, the Chamber of Commerce's publications, and the 24th Air Force Cyber Command Division's reports.[404] The creation of CyberCity, USA is therefore, in great part, a response to these perceived threats, which helps the city to premediate future cyber-

---

[401] Fels, Kremer, and Kronenberg, *Power in the 21st Century.*
[402] Ibid.
[403] Ibid., xviii.
[404] Ibid.

attacks and reinforces the need for greater digital securitization—a need that also justifies increased growth of the city's cybersecurity industry.

Cities, in general, have often been perceived as dangerous spaces, sites of subversion, and more recently, hiding places for terrorists.[405] The city's regime of securitization and militarization materializes, in part, through premediating what could happen and then offering affects of security through increased digital homogeneity. A streamlined and controlled virtual environment, city literature suggests, is a more secure one. By working to secure and re-territorialize national boundaries, particularly within the boundarylessness space of the Internet, the quest for securitization result in tactics that are indicative of internalized colonialism. Furthermore, while the digital panopticon functions to make subjects visible, as objects of state power, the information panopticon functions to naturalize surveillance and make invisible existing power relations.

The constant reference to the city's citizens as "customers" furthermore highlights the way in which the information economy blurs the lines between government and industry. The business of war, and especially that of cyber-security, has become a central focus of San Antonio, as they host numerous military contractors and security companies. The political economy of cyber-security furthermore highlights the shifting balance between democracy and the securitization of the state and between military and government.

---

[405] Grusin, *Premediation: Affect and Mediality*, xviii.

CHAPTER FOUR: SMART CITY SEATTLE AND GEOGRAPHIES OF EXCLUSION

Introduction

Seattle refers to itself as a "smart city" and asserts that its digital technological programs work towards overall economic, social, and environmental sustainability; but its smart city initiatives, I argue, reflect an ideological project that functions to conceal the city's larger neoliberal agenda. Narratively, the city leans on its history of liberalism to promote its digital technological programming; by bridging the digital divide and providing greater access to the Internet to underprivileged residents, Seattle claims that the city will eliminate racial and economic disparities. And yet paradoxically, as I discuss within this chapter, the city's emerging smart city economy relies upon major corporate investments, increased privatization, and urban revitalization policies that reinforce, rather than help to eliminate, socio-economic divides.

Unlike NYC's claims to be the world's greatest digital city or San Antonio's assertion that it is the cybersecurity center of the United States, Seattle has not published any comprehensive digital technological report or expanded set of digital objectives. Although city publications often refer to Seattle as a "smart city," there exists no specific published smart city initiative or set of goals. Rather, characteristic of its somewhat eccentric, casual culture, Seattle has a small catalogue of seemingly

pragmatic, yet loosely connected and often vaguely defined local technological

initiatives that aim to address urban sustainability. Overall, the city's technological

efforts are rather fragmented because they rely heavily on neighborhood and

community grassroots efforts that are often only tangentially related to specific

citywide initiatives. From the digital technological programs that do exist, two crucial

yet loosely articulated goals emerge: the collection, dissemination, and aggregation of

data through open data platforms and a push towards bridging the digital divide and

"digital inclusion." This chapter examines these two agendas, particularly as they

conflict with one another, and explains how the city's smart city rhetoric often lies in

contradiction to or is incongruous with its digital technological programs and practices.

Seattle highlights a number of programs aimed specifically at providing digital

technological access, education, and training to underprivileged residents. The

Community Technology Program, for example, which aims to "ensure digital inclusion

for all" by providing residents with "the information technology capacity needed for

civic and cultural participation, employment, lifelong learning, and access to essential

services," is one such effort to bridge the "digital divide."[406] But such initiatives, as

explored throughout this chapter, function to address the symptoms of inequality rather

than the actual problems.[407] Seattle claims that by bridging the digital divide and

providing access to computers and the Internet to underprivileged residents, individual

economic growth and social equality will proliferate; but as this chapter argues, not

---

[406] City of Seattle, "Digital Inclusion and the Seattle Community Technology Program," http://www.seattle.gov/tech/about.
[407] City of Seattle, *Department of Information Technology.*

174

only is this narrative reflective of a specific historical technological utopianism, the city fails to acknowledge that such solutions are only viable when economic disparities are addressed at a more fundamental level.

Furthermore, as I argue later within the chapter, and drawing upon Foucault's theories of governmentality and biopower, some of Seattle's digital technological programs function as technologies of panopticon surveillance. Building upon Foucault's work on the biopolitics of spatial knowledge that suggests that maps are bound up in political efforts to manage urban space, for instance, I argue that Seattle's use of crime data and crime mapping help to both construct and reinforce existing topologies of power. Breaking down and categorizing criminal activity through hundreds of different data sets and crime maps, Seattle publicly constructs specific regimes of knowledge that then function to mediate both resident and police conduct and reauthorize and maximize governmental power. As I demonstrate, the city's persistent visualization of crime maps out racial and economic boundaries and helps to prescribe certain social and policing behaviors that reinforce these geographical socio-economic divides.

Although Seattle's literature does not articulate the democratic potential of its digital initiatives and programs as strongly as the digital programs of NYC, the city nevertheless implies that digital technologies are democratizing and the driving force behind an equitable society. In Seattle's "Department of Information Technology: 2010 Annual Report," (2010) many of the city's websites, and other city-sponsored published literature, officials claim that the City of Seattle is committed to promoting a

"technology healthy community with digital inclusion for all" and "ensuring that residents have the technological training and access needed to ensure civic and cultural participation."[408] City literature furthermore suggests that such programs, geared towards digital inclusion, will "level the playing field of opportunity" by serving low-income and high-risk residents, immigrants, refugees, and people of color.[409] These claims however are largely unsubstantiated; a number of city-sponsored digital technological programs and tools, conversely, not only obscure the city's larger neoliberal agenda, but also work toward digital *exclusion* and further exacerbate and deepen class and racial divides.

Seattle's Techno-Utopianism

In order to fully understand the impact of Seattle's technological initiatives, as the city seeks to leverage digital technologies to transform its socio-political landscape, advance its democratic potential, and address issues of racial and economic disparity, it becomes important first to look at Seattle's current programs within an historical context, as it helps to explain what emerges as a persistent technological utopian myth. Seattle's political leaders have long aspired to make the city a major hub for scientific and technological innovation and a major player in the global economy, while simultaneously clinging to its egalitarian identity. And yet, as this chapter explores, there has long existed a palpable tension between Seattle's self-purported egalitarianism and grassroots (environmental and social) politics and its scientific and

---

[408] City of Seattle, *911 Incident Responses*. My Neighborhood Map (2013), accessed November 9, 2014. http://web6.seattle.gov/mnm/.
[409] Ibid.

digital technological initiatives, which have heavily relied upon the neoliberal economy.

Shortly after World War II, and echoing a larger national "glorification"[410] of science and technological advancements, the city of Seattle nebulously claimed that advancements in science and technologies, as a 'universal language,' would improve life for everyone.[411] Presented as a panacea to all of the world's problems, science and technological advancements were predicted to "minimize world tensions" and "contribute to peace" by making material needs abundant and wars unnecessary.[412] In 1962, and in the context of the cold war and the space race, the city hosted the Century 21 Exposition—a world fair and "national festival of science."[413] Promising a better "World of Tomorrow," and exemplified by an exhibit hosted by the state of Washington that attempted to predict daily life by the year 2000, Seattle city officials highlighted and consistently underscored the importance of technological innovation for the future.[414] With a focus on themes of science, space, and the future, and echoing McLuhan's technological optimism for a technologically driven global village, Seattle built its Space Needle and "ostensibly celebrated the triumph of American Cold War-

---

[410] Howard McCurdy, *Space and the American Imagination*. 2nd ed. (Baltimore, Maryland: The Johns Hopkins University Press, 2011), 103.
[411] "Lesson Twenty-five: The Impact of the Cold War on Washington, 1962 Seattle World's Fair," *Center for the Study of the Pacific Northwest* (2013), accessed November 9, 2011, http://www.washington.edu/uwired/outreach/cspn/Website/Classroom%20Materials/Pacific%20Northwest%20History/Lessons/Lesson%2025/25.html.
[412] "Lesson Twenty-five"
[413] Sharon Boswell and Lorraine McConaghy, "A Model for the Future," *The Seattle Times* (September 22, 1996), accessed November 9, 2011, http://seattletimes.com/special/centennial/september/future.html.
[414] "Lesson Twenty-five"

era science in technology."[415] This vision, however, heavily relied on the advancement

of capitalist ideals and America's "eager consumers," as well as a continued fear and

loathing of communism.[416] While the city was not unique in this regard, as many cities

in the U.S. were seeking to become similarly technologically progressive, Seattle

becomes an historical example of emerging technological utopianism.

Seattle also becomes an historical example of the conflicts that emerged

between liberal agendas (such as environmentalism) of the 1960s, which gained early

national traction in Seattle, and an emerging neoliberal economy. In the midst of

growing national environmental efforts, for example, the Century 21 Exposition was

criticized for not "living up to its muddled environmental image." [417] Concerned about

the rhetoric of technological determinism and the 21 Exposition exhibits that extolled

human "mastery over nature and the universe,"[418] environmental groups censured the

fair for its overt disregard for environmental issues. According to the *New York Times*,

not a single major environmental group showed up at the exhibition, and some groups

called the event a "'disgraceful commercial sellout.'"[419] Craig Sanders suggests,

furthermore, that even if environmental groups wanted to come, they could not afford

booth space in what was a largely corporate-dominated fair.[420] Meanwhile,

---

[415] Timothy Gibson, *Securing the Spectacular City: The Politics of Revitalization and Homelessness in Downtown Seattle* (Lanham, Md: Lexington Books, 2004), 36.
[416] "Lesson Twenty-five"
[417] Craig Sanders, *Seattle & The Roots of Urban Sustainability: Inventing Ecotopia* (Pittsburgh, PN: University of Pittsburgh Press, 2010).
[418] "Lesson Twenty-five"
[419] Sanders, *Seattle & The Roots*, 132.
[420] Ibid.

environmentalists also complained that the Boeing, Ford Motor Company, and General Motors' exhibits sent the wrong environmental messages.[421]

The fair also generated huge financial gains and demonstrated that there was big business in technological idealism. Not only did Seattle draw nearly ten million visitors, a number of major corporations such as Bell Telephone, the Ford Motor Company, and Boeing (which made Seattle its home in 1916) sponsored futuristic exhibits.[422] Among the hi-tech marvels were full-scale models of space rockets from NASA and a "Spacearium" cinematic space exploration experience by Boeing. The U.S. Government also gave the city of Seattle over $9 million to fund the fair.[423] The Minoru Yamasaki's "lavishly funded" U.S. Science Pavilion, which was hailed as a "technological wonderland" put Seattle on the map as a place of "technological innovation."[424] And a private investor spent $6.5 million dollars to build the Space Needle.[425] Seattle also publically displayed one of the first super-computers—Sperry Rand's $1 million, 100 square foot computer.[426] But while the fair proved lucrative for the city of Seattle, many middle-to-lower-class residents were pushed out of their homes, as landlords converted their buildings into expensive daily rentals for fair-goers, pricing out thousands of long-term tenants in the process.[427]

---

[421] Ibid.
[422] City of Seattle, "Century 21 World's Fair," *Seattle.gov*, accessed June 10, 2014, http://www.seattle.gov/cityarchives/exhibits-and-education/digital-document-libraries/century-21-worlds-fair.
[423] Ibid.
[424] Boswell and McConaghy, "A Model for the Future" and "Lesson Twenty-five"
[425] City of Seattle, "Century 21 World's Fair."
[426] Boswell and McConaghy, "A Model for the Future"
[427] City of Seattle, "Century 21 World's Fair."

Seattle also provides an historical stage for multiple racial, ethnic, and class conflicts, beginning perhaps most significantly with the anti-Chinese riot, which was led by working-class Caucasians, and ensuing expulsion of Chinese labor immigrants in 1885-86 after the city's economy went bust. [428] This riot, John Putnam contends, [429] "marked the beginning of modern Seattle history;" and the Seattle General Strike in 1919, the first urban general strike in the country, has been credited with beginning an era of post-World War I labor conflict.[430] For many decades, and reflecting the growing significance of class politics, Seattle had a robust number of active working-class unions. With the decline of an industrial economy, however, the power of unions also began to dwindle.

With the rise of the information society also came a weakening industrial economy, which then resulted in a decline of unionized labor.[431] By the mid-1990s, Seattle had turned into one of the world's most digital, hi-tech, information rich global cities.[432] Making Seattle its home base in 1979, Microsoft played a significant role in this transformation and attracted many software companies and major corporations in the business of high-tech. By the turn of the millennium, Seattle had ranked third in the United States as the most advanced city within the digital economy.[433] As Morrill and

---

[428] Harvey O'Connor, *Revolution in Seattle: A Memoir* (Chicago: Haymarket Books, 2009).

[429] John Putman, *Class and Gender Politics in Progressive-Era Seattle* (Reno, Nevada: University of Nevada Press, 2008), 12.

[430] "Seattle General Strike Project," *Pacific Northwest Labor & Civil Rights Projects*, accessed June 13, 2014, http://depts.washington.edu/labhist/strike/index.shtml.

[431] Robert Neubauer, "Neoliberalism in the Information Age, or Vice Versa?: Global Citizenship, Technology and Hegemonic Ideology," *tripleC* 9, no. 2: 195–230, accessed June 5, 2014, http://www.triple-c.at/index.php/tripleC/article/viewFile/238/250.

[432] Ibid.

[433] R. Atkinson, *The Metropolitan New Economy Index* (Washington, DC: Progressive Policy Institute, 2003).

Sommers suggest, this transformation into a digital economy corresponds with the change from an egalitarian city to a "far more unequal city," displacing the traditional blue-collar worker with a new "creative" class.[434] Knowledge and information professionals, earning higher pay and fragmented by occupation, had little desire and fewer opportunities to organize as a class.[435] In many ways, this decline in industrialism and organized labor led to a palpable individualism that challenged the coherence and power of governments; given the necessity, in the new information era, for open flows of information to support economic development, governmental regulation became increasingly counterproductive because most governments were not well-equipped to respond flexibly to the 'rapid demassification of society.'[436] At the forefront of the new information economy, Seattle city officials were confronted with having to negotiate its dominant, unionized, liberal history with an emerging neoliberal landscape.

The evolution of Seattle into a high-tech digital city also has had a significant impact on its demographics, transforming the city into one with a highly educated and specialized assemblage of human capital, which has further exacerbated the class divide.[437] This change has fostered gentrification within the city, inflated the housing market, and displaced many low-income minorities—primarily blacks.[438] The cost of living in the city of Seattle is now approximately 22% over the national average, making it one of the most expensive cities in which to live in the United States, further

---

[434] Morrill and Sommers, "Seattle as a Digital City," 364.
[435] Nick Dyer-Witheford, *Cyber-Marx. Cycles and Circuits of Struggle in High-Technology Capitalism* (Chicago: University of Chicago Press, 1999).
[436] Neubauer, "Neoliberalism in the Information Age," 199.
[437] Morrill and Sommers, "Seattle as a Digital City"
[438] Gibson, *Securing the Spectacular City*; Morrill and Sommers, "Seattle as a Digital City," 7.

exacerbating class divides and homelessness.[439] In the City of Seattle, the overall

population rose by approximately 100,000 people in the last two decades.[440] Between

2011 and 2012, Seattle's population jumped by nearly 10%, making it not only more

populated than at any point in the city's history, but also one of the fastest growing

cities in the U.S.[441] In 2008, Seattle also was listed as the second most expensive

metropolitan area in the United States.[442] As in most cities with booming population

increases, homelessness has been an increasing and persistent problem. In King County

there exist, on average, around 10,000 homeless people, with "tens of thousands more

barely able to keep themselves afloat."[443] Seattle is listed as having the fourth largest

urban homeless population in the country.[444] Thus, while Seattle's digital economy is

booming, the gap between the wealthy and the poor continues to grow at substantial

rates.

The city's density is also increasing, making it all the more crucial for the city

to come up with sustainable development plans. While the greatest population growth

between 2000-2010 occurred within the inner suburbs of Seattle, accounting for more

[439] "Seattle, WA," *Forbes* (August 2013), accessed February 22, 2013,
http://www.forbes.com/places/wa/seattle/.
[440] Office of Intergovernmental Relations, *The Greater Seattle Datasheet* (Seattle, WA: City of Seattle,
2011), accessed January 18, 2013, http://www.seattle.gov/oir/datasheet/Datasheet2010.pdf.
[441] Gene Balk, "Census: Seattle Among Top Cities," *Seattle Times Blog* (May 23, 2013), accessed June 8,
2013, http://blogs.seattletimes.com/today/2013/05/census-seattle-among-top-cities-for-population-growth-
2/; U.S. Census Bureau, *Seattle, Washington*. U.S. Department of Commerce (June 27, 2010), accesed June
8, 2013, http://quickfacts.census.gov/qfd/states/53/5363000.html.
[442] Kristi Heim, "Homeless Are Economic Assets, Says Gates Foundation CEO," *Seattle Times* (September
25, 2009), accessed December 31, 2013,
http://seattletimes.com/html/thebusinessofgiving/2009944773__photographersource_jeff_raike.html.
[443] Ibid.
[444] "Homelessness in America 2013," *Town Bubble* (2013), accessed June 10, 2014,
http://www.townbubble.com/info/homelessness-in-america-2013.

than 90% of overall metropolitan growth,[445] the population in Seattle's downtown area increased by more than 70 percent and grew five times as fast as the whole of Seattle between the years 1990-2010, making Seattle's downtown area the third most residentially dense downtown area in the country.[446] In 2010 alone, Seattle's population increased by 2%, bringing the city's overall population to over 620,000 people.[447] The Puget Sound Regional Council (PSRC) furthermore predicts a projected growth of 1.7 million additional Seattle residents and an additional 1.2 million jobs in Seattle by 2040, a large percentage of which are within the digital economy.[448] And because of the increased demand for residential homes downtown, developers built more than 10,000 apartment units and condos between 2005 and 2012; as of this writing, an additional 5700 units were under construction,[449] making downtown housing four times more dense than the rest of Seattle, putting additional strain on the city's resources, and making the need for the continued development of Seattle as a "smart city" all the more crucial. And yet, as discussed below, these social and economic changes have also challenged the equitable and sustainable viability of the smart city model.

Seattle as Smart City

---

[445] Wendell Cox, "The Evolving Urban Area: Seattle," *New Geography* (June 30, 2011), accessed December 31, 2014, http://www.newgeography.com/content/002312-the-evolving-urban-area-seattle.
[446] *The Benefits of Density in Downtown Seattle*, Downtown Seattle Association (2013), 1-2, accessed December 31, 2013, http://www.downtownseattle.com/assets/2013/08/2013-Downtown-Density-Report1.pdf.
[447] "Seattle Population Grows 2% in a Year," *Puget Sound Business Journal*, Morning edition (August 9, 2012), accessed December 21, 2013, http://www.bizjournals.com/seattle/morning_call/2012/08/seattle-population-grows-2-in-a-year.html.
[448] Ibid.
[449] Ibid.

By 2050, approximately 70% of the world's population will live in cities;[450] currently, enormous migrations into urban environments are occurring at unprecedented rates.[451] These large migrations into cities place a tremendous amount of burden on urban infrastructures, and cities no longer are able to sprawl out as they did in the 20th century. Urbanization, in and of itself, is not inherently bad on ecosystems. Indeed, there often exists more biodiversity in urban areas than the increasing trend of rural monocultures; but because urban infrastructures are being increasingly strained, many cities and urban planners seek more eco-friendly solutions, the most promising of which appears to be the development of "smart" or "intelligent" cities.

Thus, global trends of rapid urbanization, combined with global warming and increased climate deterioration, have prompted many cities, such as Seattle, to embrace smart city models of governance and urban planning. Seattle has been heralded as one of the world's top smart cities and consistently ranks amongst the top ten smart cities in the world because of its green technology and sustainability efforts.[452] More recently, based on an analysis of recent data that examined a number of elements from creativity in sustainability to governmental transparency, Fast Company named Seattle the smartest city in North America, moving the city up from its previous third place

---

[450] Boyd Cohen, "The Ten Smartest Cities in North America," *Fast Coexist*, November 14, 2013, accessed January 27, 2015, http://www.fastcoexist.com/3021592/the-10-smartest-cities-in-north-america. Actual predicted percentages of future urban populations vary, but existing literature has clearly established a significant trend towards massive urban population increases worldwide.
[451] Ibid.

[452] "10 Most Impressive Smart Cities on Earth," *Freshome: Design & Architecture* (February 7, 2013), accessed November 9, 2013, http://freshome.com/2013/02/07/10-most-impressive-smart-cities-on-earth/; Shawn Lesser, "Top Ten Smart, Sustainable Cities," *Green Chip Stocks* (March 16, 2012), accessed November 9, 2013, http://www.greenchipstocks.com/articles/sustainable-cities/1632; "Seattle Makes List of 'Smart Cities'," *MYNorthwest* (March 20, 2012), accessed November 9, 2013, http://mynorthwest.com/11/648368/Seattle-makes-list-of-smart-cities.

position in 2012.[453] The key factors that bumped the city up to first place were the

city's "smart economy" and ability to attract creative and entrepreneurial talent.[454] Thus

from this perspective, the model of the smart city is meant to generate urban economic

growth, and the role of corporate actors in the creation and conception of the smart city

must be considered.

Overall, the concept of the smart city is somewhat abstruse. Around the turn of

the millennium, the term "smart city" began to appear in various academic and trade

publications to ambiguously describe a city that successfully addresses a variety of

urban problems, such as occurs from overpopulation and increasing strain on urban

infrastructure.[455] While most cite efficiency and creativity towards sustainability efforts

as key components, there are variations on people's understanding of the term, "smart

city." Smart cities, Boyd Cohen contends, must become more efficient, better utilize

mobile technologies, optimize existing infrastructures, and make use of citizen

participation to stimulate creative and innovative approaches to urban sustainability.[456]

Many tend to adopt a broad view of smart cities as cities that are successfully

addressing a variety of urban problems through the use of technologies, as well as

providing models for urban sustainability, equity, and economic transformation.[457] And

---

[453] Boyd Cohen, "The Top 10 Smartest Cities in North America," *Co.Exist* (December 3, 2012), accessed November 9, 2014, http://www.fastcoexist.com/1680967/the-top-10-smartest-cities-in-north-america; Cohen, "The Ten Smartest Cities in North America," *Fast Coexist* (November 14, 2013), accessed November 14, 2013, http://www.fastcoexist.com/3021592/the-10-smartest-cities-in-north-america.
[454] Cohen, "The Ten Smartest Cities"
[455] Suha AlAwadhi and Hans J. Scholl, "Aspirations and Realizations: The Smart City of Seattle," (Wailea, Maui, HI: IEEE Computer Society, 2013). doi:10.1109/HICSS.2013.102.
[456] Cohen, "The Ten Smartest Cities"
[457] Hafedh Chourabi, Ramon Gil-Garcia, Theresa Pardo, Taewoo Nam, Sehl Mellouli, Hans J. Scholl, Shawn Walker, and Karine Nahon. "Understanding Smart City Initiatives: An Integrative and Comprehensive Theoretical Framework" (Maui, Hawaii: IEEE Computer Society, 2012).

185

as Chourabi suggests, information technology tends to be at the core of most smart city initiatives.[458] Regardless of how one would describe the specific elements of a "smart city," or what broadly constitutes a city as "smart," the overall idea of the smart city emerged from a very specific set of problems and needs, as urban populations began to rapidly increase and put strain on city resources.

New urbanism, as briefly mentioned within Chapter 2, in my discussion of NYC's urban planning goals,[459] is an urban development movement that began in the early 1980s as a response to what many considered to be the deleterious effects of urban sprawl (the spreading out or dispersion of a population from city-center). Problems that developed from urban sprawl included various environmental threats, the destruction of natural habitats, increase in public service costs, pollution intensification, and heavy reliance on automobiles and higher traffic density, as many who live on the outskirts of a major city drive into the city to work. New Urbanist philosophy and practice thus worked to channel people back into city-center by revitalizing downtown areas and offer housing options that promote environmental sustainability. But as stated earlier, migrations into urban centers are now occurring at unprecedented and overwhelming rates, and thus necessitates "smart growth" or intelligent "growth management."[460]

---

doi:10.1109/HICSS.2012.615; Lesser, "Top Ten Smart, Sustainable Cities;" L. Leydesdorff and M. Deakin, "The Triple-Helix Model of Smart Cities: A Neo-Evolutionary Perspective," *Journal of Urban Technology* 18 (2011), 53–63; Taewoo Nam and Theresa Pardo, "Conceptualizing Smart City with Dimensions of Technology, People, and Institutions" (College Park, MA, 2011), 282–91.

[458] Chourabi, et al., "Understanding Smart City Initiatives"

[459] Robert Freilich, Robert Sikowski, and Seth Mennillo, *From Sprawl to Sustainability: Smart Growth, New Urbanism, Green Development, and Renewable Energy* (ABA Publishing, 2010).

[460] Ibid., 11.

"Smart growth," therefore, is an urban planning theory and set of practices that advocate for specific urban initiatives aimed to create greater urban sustainability, such as the (re)construction of compact, walkable cities, which encourages residents to use more public transportation and reduce carbon emissions, offer more equitable housing options and promote small businesses, make efficient use of public spaces, and foster and strengthen communities—socially and economically. While smart growth theories and practices may be the impetus for "smart city" initiatives, there exists some uncertainty about whether and how a smart city, particularly through the use of digital technologies, actually embodies smart growth. While I have no doubt that the use of certain digital technologies and initiatives (such as integrating smart technologies into the city's infrastructure to help regulate and manage traffic flow or the use of sensors to trigger traffic or street lights only when vehicles or pedestrians are nearby) can be useful tools of smart growth, one of the questions raised by my investigation into Seattle's claims is whether and how much of this "smart city" discourse is substantiated by actual policies and principles that support smart growth and urban sustainability.

It is also important to note that the three "pillars" of sustainability include not only environmental and social sustainability, but also economic sustainability; and most experts agree that social and economic equity are necessary elements of any sustainability project.[461] While the idea of sustainability dates back to 1969, when the

[461] W.M. Adams, *The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*, The World Conservation Union (2006), accessed January 20, 2014, http://cmsdata.iucn.org/downloads/iucn_future_of_sustainability.pdf; Robert Kates, Thomas Parris, and Anthony Leiserowitz, "What Is Sustainable Development? Goals, Indicators, Values, and Practice," *Environment: Science and Policy for Sustainable Development* 47, no. 3 (April 2005), 8–21, accessed January 20, 2014, http://www.hks.harvard.edu/sustsci/ists/docs/whatisSD_env_kates_0504.pdf; *Report of*

International Union for Conservation of Nature (IUCN) adopted it as a new mandate, and sustainability became the primary theme of the 1972 United Nations Conference on the Human Environment in Stockholm, the concept was originally meant to address economic and industrialized growth without doing environmental harm.[462] It wasn't until the late 1980s that the definition of sustainability evolved to include the need for environmental conservation to help alleviate poverty; thus, the core of today's understanding of sustainability, a key feature of smart growth, includes the three dimensions of environmental, social, and economic sustainability.[463]

I argue that Seattle, as a smart city aiming to leverage digital technologies for smart growth, unfolds within a contradictory arena—struggling to emerge within the spaces between the local and the global, its egalitarian, liberal history and the persistent presence of neoliberalism, in which an expanding smart city economy is anticipated to produce huge economic values.[464] Furthermore, in its increasingly techno-rationalized state, Seattle officials continue to evoke liberalism as a key component of the city's programs and goals, as it aims to bridge the digital divide; and yet, the city also relies heavily on its "symbiotic" relationship with the information technology industry (ICT) to advance its position in the global market.[465] For instance, Pike Research predicts that

the *World Commission on Environment and Development: Our Common Future*, United Nations General Assembly (1987), accessed January 20, 2104, http://www.un-documents.net/wced-ocf.htm; Stephen Wheeler, *Planning for Sustainability: Creating Liveable, Equitable and Ecological Communities*, 2nd ed. (London: Routledge, 2013).
[462] Adams, *The Future of Sustainability.*
[463] Ibid.
[464] "Global Investment in Smart City Technology Infrastructure to Total $108 Billion by 2020," *Fierce Energy*, 2014, accessed July 22, 2014, http://www.fierceenergy.com/press-releases/global-investment-smart-city-technology-infrastructure-total-108-billion-20.
[465] City of Seattle, "Information and Communication Technology," *Office of Economic Development* (2014), accessed June 14, 2014, http://www.seattle.gov/economicdevelopment/industry_infotech.htm.

188

by 2020, capital investments in smart city infrastructures will reach around $108

billion, while yearly expenditures in industries related to smart city technologies will

reach approximately $16 billion.[466] Ranking third in the nation for its concentration of

all ICT occupations, Seattle's ICT sector is comprised of over 850 companies, which

contribute more than $3.5 billion to the city's economy.[467] Smart city models rely

heavily on corporate and private sector investments to help deliver tangible

improvements to city services such as network infrastructures, public wireless access,

and data management; thus, public-private partnerships with major technology

corporations (such as broadband companies or computer technology corporations)

become essential building blocks of any smart city initiative. The development of a

smart city thus necessitates also a business approach that opens up more and more city

infrastructures to privatization.[468] These neo-liberal based capital collaborations,

however, can often clash with liberal principles of social welfare, and many decisions

around smart city initiatives are profit- rather than socially- motivated.

Indeed, anti-neoliberal resistance, as seen most compellingly in the 1999 World

Trade Organization protest movement, becomes increasingly obscure within

contemporary digitally mediated geographies of power. As Sanders suggests, the World

Trade Organization protests exploded as a result of historical changes that had been

occurring since World War II, as the activists—speaking to themes of ongoing

inequalities—were drawing upon an earlier era of "profound spatial disruptions" and

---

[466] Ibid.
[467] Ibid.
[468] "Smart Cities and Smart Citizens," *Sustain Magazine* (May 1, 2013), accessed June 14, 2014, http://sustainmagazine.com/smart-cities-smart-citizens/.

uneven urban development in the postwar city that continues today.[469] On the one hand, the Seattle WTO protests, as comprised of numerous anti-globalization groups, drew upon myriad strategies and tactics, and the use of cell phones and the Internet played a crucial role in organizing protestors and mapping out spatial enclaves of resistance; however, as I explore within the following sections, those same technologies are being used by the city of Seattle to construct and maintain ecologies of fear, visually mapping out our proximity to the criminal, and further reify the city's socio-economic spatial divisions. Seattle's smart city initiatives and goals thus become as much of an ideological project as an actual one.

While grassroots protesters challenged various urban renewal and gentrification efforts, drew public attention to neighborhood poverty and segregation, and consistently contested the privatization of public spaces, the tensions inherent in these early urban movements continued to grow and persist. These problems, furthermore, are rooted in an historical tradition of uneven urban development. Seattleites visions of more public "green space," such as the Seattle Commons project[470] that never came to fruition, became a driving force behind urban redevelopment in the late 1980s and 1990s.[471] However, as new urbanism took root within the program of "sustainable development," affordable housing became increasingly scarce and homelessness skyrocketed. For all its "liberal cachet and green credentials," argues Justin Henderson,

---

[469] Craig Sanders, *Seattle & The Roots of Urban Sustainability: Inventing Ecotopia* (Pittsburgh, PN: University of Pittsburgh Press, 2010), 5-6.
[470] See http://www.historylink.org/index.cfm?DisplayPage=output.cfm&File_Id=8252.
[471] Sanders, *Seattle & The Roots of Urban Sustainability.*

"Seattle is and has always been mostly about money and business."[472] It is out of this conflicted history that Seattle, as a "smart city" emerged.

A successful "smart city," I contend, also necessitates high levels of citizen engagement and equity, and Seattle is struggling on this front. Smart cities, as they attempt to address environmental issues, rely heavily on the role of human capital, education, and social and relational capital, as they are significant drivers of urban (re)development and sustainability.[473] Considering the evolution of the city into a high-tech hub of innovation, Seattle clearly has quite a bit of intellectual human capital; but not all benefit from the city's 'smart' approach. As Stephen Wheeler points out, equity often is the least developed of the three Es that make up the foundational elements of urban sustainability (economy, ecology, and equity).[474] "Equity goals," Wheeler contends, "are often poorly understood and articulated by decision-makers, unlike concerns for environment or economic development.[475] Not only is there often little concern for equity at most levels of government, Wheeler argues, powerful governmental and economic forces tend to work towards greater *inequity*—or a "greater concentration of wealth and power."[476] Many of these inequities occur not only through more clear-cut economic or earnings disparities, but also through economic spatial divides and inequitable distributions of city services, affordable housing, and the availability of basic urban infrastructures (such as transportation, internet access, and

---

[472] Justin Henderson, *Grunge Seattle* (Berkeley, California: Roaring Forties Press, 2010), 4.
[473] Patrizia Lombardi, Silvia Giordano, Hend Farouh, and Wael Yousef, "Modelling the Smart City Performance," *Innovation - The European Journal of Social Science Research*, 25, no. 2 (June 2012), 137–49.
[474] Wheeler, *Planning for Sustainability.*
[475] Ibid., 27.
[476] Ibid.

other basic resources). While Seattle has many "smart city" initiatives in place, the city falls short on meeting the needs of all its residents, as evidenced by the growing gap between the classes; and its programs, as discussed below, also often function to reinforce existing inequalities and economic-social monocultures.

Seattle's smart city initiatives claim to work towards increasing downtown density, in an effort to "facilitate efficient transportation systems and create walkable neighborhoods;" and in theory, increased urban density should lead to greater urban sustainability.[477] If managed well, many consider the recent trend towards dense urban settlement to be a more environmentally friendly approach to dealing with swelling populations. Downtown density, many governmental officials and urban planners argue, also increases economic viability; such densities are purported to foster a higher concentration of spending, increased economic productivity, and decreased costs for local businesses and government.[478] And yet, while increased urban density can promote sustainability and conservation of land use and resources—from transportation to a more efficient delivery of city services, such improvements only work for those who live downtown or within the core of the city and its services.[479] According to a recent demographics report, while downtown Seattle, which represents only 3% of Seattle's total urban landmass, has grown in population more than 72% since 1990, Seattle's downtown demographic groups consist primarily of white, college-educated,

---

[477] *The Benefits of Density in Downtown Seattle*, Downtown Seattle Association (2013), 2, December 31, 2014, http://www.downtownseattle.com/assets/2013/08/2013-Downtown-Density-Report1.pdf.
[478] Ibid., 7.
[479] Ibid., 1.

single, young professionals between the ages of 25-34.[480] In addition, the Downtown

Seattle Association, a member-based organization whose stated mission is to

"champion a healthy, vibrant urban core,"[481] has but one primary purpose—to increase

the value of downtown property and promote increased urban economic activity.

While city publications often tout Seattle's increasing diversity and claims that

the downtown area has "a more diverse racial makeup than the city, county, and state,"

white residents actually comprise more than two-thirds of the total downtown

population, with Asians being the fastest rising non-white residential population.

Working-class blacks, on the other hand, comprise less than 20% of the total downtown

population.[482] Furthermore, while the city highlights its downtown median income at

around $34,000, making the downtown area appear to be a working-class

neighborhood, the majority of its residents (single, educated young professionals, most

of whom work for the information economy) also have higher disposable incomes and

fewer financial obligations.[483] The city's concentration of young white professionals

and information specialists, furthermore, exacerbates this divide, as the city

increasingly caters to its creative class. The city's downtown density policies, geared

towards greater urban sustainability, are therefore reinforcing existing hegemonic

economic and social trends, rather than working towards bridging economic divides

and making the city more equitable.

---

[480] *2011 Downtown Demographics Report: The Changing Face of Downtown Seattle*, Downtown Seattle Association (2011), accessed January 20, 2014, http://downtownseattle.com/files/file/Demographics2011_WEB.pdf.
[481] "About DSA," http://www.downtownseattle.com/dsa/.
[482] Ibid.
[483] Ibid.

For these and other reasons, some critics suggest that the term "smart city" has been more of an idealistic term than a practical one, often used in a celebratory way or as a marketing hype that attempts to mask a larger neoliberal agenda.[484] Robert Hollands explored the emerging global phenomenon of the smart city and contends that all too often, cities that claim to be "smart" neither define what they mean or offer evidence to support their claims.[485] Hollands goes so far as to suggest that the smart city is a neoconservative scheme that sacrifices progressive social and political endeavors, while rewarding entrepreneurial enterprise.[486] While he actually argued for neoliberal solutions, Hollands made a good point when he insisted that for any city to claim to be "smart," it must base its claim on something other than its use of digital technologies. Many of these claims, he suggests, are little more than marketing hype and attempts at image building in the midst of capital competition.

Even a few Seattle governmental officials have suggested that the term "smart city" was nothing more than a fad or a marketing buzzword.[487] Examining Seattle's smart city aspirations, Suha AlAwadhi and Hans Scholl interviewed a number of Seattle officials, asked them to explain the term, and then compared those explanations with the city's actual programs. AlAwadhi and Scholl found that Seattle government officials tended to view the term 'smart city' as one that describes a city heavily reliant on modern information technology and operates primarily through conjunctions of

---

[484] Justin Henderson, *Grunge Seattle* (Berkeley, California: Roaring Forties Press, 2010); Robert Hollands, "Will the Real Smart City Please Stand Up?" *City* 12, no. 3 (2008), 303–20. doi:10.1080/13604810802479126.

[485] Robert Hollands, "Will the Real Smart City Please Stand Up?" *City* 12, no. 3 (2008): 303–320. doi:10.1080/13604810802479126.

[486] Hollands, "Will the Real Smart City Please Stand Up?"

[487] AlAwadhi and Hans J. Scholl, "Aspirations and Realizations"

194

technologies, inter-governmental participation, proactive government action, and interactions with citizens.[488] City officials also perceived the smart city as relating to smart grids—or urban patterns of traffic, electricity, and so forth that are characterized by effectiveness, efficiency, and mobility.[489] Furthermore, when talking about the smart city, most Seattle officials referred primarily to smart city government—government focused initiatives; but only a few of the city officials that the authors interviewed characterized a smart city as one that provides an open and transparent government and open data, two concepts that at least, on the surface, attempt to address equity.[490]

AlAwadhi and Scholl then looked at Seattle's digital technological initiatives and asked city officials to rank them according to purpose. Contrary to much of Seattle's published literature, most city officials responded that becoming a smart city was lowest on the government's scale of priorities.[491] While "service improvement," "cost savings," and "efficiency" were most frequently ranked as the three highest motivations behind the city's digital initiatives, according to government officials, "citizen engagement" and "improving accountability," which undergird Seattle's claims to open government, were two of the city's lowest priorities.[492] In fact, not a single city official listed "citizen engagement" as a priority at all.[493] Furthermore, despite the rhetoric that Seattle government makes citizen engagement, social and racial equity, and governmental openness priorities, only 8.3% (2 projects) of the city's programs

---

[488] Ibid.
[489] Ibid.
[490] Ibid.
[491] Ibid.
[492] Ibid., 1701.
[493] Ibid.

actually address open and transparent government, and only 16.7% (4 projects) of the

city's programs are geared towards cultural- and people-centric programs.[494]

While Seattle places a great deal of emphasis on acquiring and making use of

"intelligence" or "intelligent systems" for the purposes of "digital inclusion," these

systems do not necessarily work towards an improved quality of life for all its

residents.[495] Shawn Lesser describes a smart city as one that "uses technologies in the

field of information and communication" to become more "intelligent" in the way it

conserves resources, minimizes environmental impact, and improves resident's quality

of life.[496] A stated key factor of many of the city's digital initiatives, intelligence

gathering and data distribution is made evident by the city's hundreds of crime, fire,

and mental health databases, which, similar to NYC's Open Data site, are made

publicly available. Data.seattle.gov, the city's data platform, designed to collect and

publish datasets generated by city departments, is purported to "offer public access to

high value data [that then] increases openness and transparency."[497] But in most

instances, one would need to be a software developer or an extremely data-savvy user

to even make use of this information. Thus "the public" that purportedly has access to

increased governmental openness and transparency are those who are the most digitally

fluent, *not* the average resident, less mind those who could be considered digitally

illiterate or with little to no access to the Internet. Furthermore, as discussed in Chapter

2, the concentration of data that is collected and aggregated by cities represents a form

---

[494] Ibid., 1702.
[495] City of Seattle. *Department of Information Technology*, 2.
[496] Lesser, "Top Ten Smart, Sustainable Cities"
[497] Ibid.

of power and control that, as Marc Andrejevic argues, "differentiates the haves from the have-nots and thereby undergirds new forms of hierarchy and inequality,"[498] as various formulations of predictive power generated by data mining and aggregation can (and often do) inform urban policy decisions that economically empower the elite to the detriment of lower-income classes.

Many of these systems also function to expand the surveillance state and, as in the case of NYC, raise concerns about Seattle's role in the construction and maintenance of certain regimes of knowledge and intelligibility about residents' everyday practices. Seattle, for instance, hosts a number of live webcams throughout the city, allowing residents to gather near and real-time intelligence on the various mechanisms of their city 24/7. Harkened as "a leader in intelligent transportation systems," one specific example of Seattle's smart city intelligence systems is the *Traveler's Information Map*,[499] which provides congestion information, traffic alerts, and trafficcams. In addition to providing minute by minute visual updates to over 130 city intersections, the city also hosts a live traffic video site, which allows anyone to "select a neighborhood" and watch live streaming video of automobile and pedestrian traffic in that area.

---

[498] Mark Andrejevic, *Infoglut: How too much information is changing the way we think and know* (Routledge, 2013).
[499] http://web6.seattle.gov/travelers/

Figure 7: Screen shot, City of Seattle, Traveler's Information Map, Department of Transportation, 2014, accessed July 15, 2014, http://web6.seattle.gov/travelers/.

While these webcams and traffic maps may be helpful for determining traffic conditions at any particular location at a specific time, they also function to naturalize an increasing digital panopticon. The line, however, between becoming digitally intelligent and using technologies for intelligence gathering, seems tenuous, at best. Framed as technological tools to make residents' lives easier and work towards smart urban sustainability, such technologies move beyond the scope of intelligent systems and become technologies of governmentality, regulating and managing the flow of people in such a way as to be productive to the larger social body, because people modify their behavior when they know they are being watched.[500] These trafficcams provide selective areas of the city and shape the ways in which those areas are perceived. In their everyday function, these cameras help residents to determine which intersections are most clear or most congested, so they can plan their route. In this way, these cameras can be

---

[500] Michel Foucault, "Governmentality," in Graham Burchell, Colin Gordon, and Peter Miller, eds., *The Foucault Effect* (Chicago: University of Chicago Press, 1991), 87-104.

empowering. But these representations of real-time material space can also impact social behavior.[501] Collisions in Seattle, for instance, have steadily declined within 17 of the 20 intersections where cameras have been installed; these cameras, furthermore have generated more than 250,000 citations and over $24 million in revenue.[502] The virtual representation of place can contribute to the "production of space in the material realm."[503] By making available live streaming trafficcams, residents both monitor others and manage their own movements within the city, so as to streamline and make more efficient the traffic flow. The logic of surveillance, thus, becomes inscribed into the logic of the "smart city."

Bridging the Digital Divide?

As previously discussed, the success of a smart city necessitates equity. Throughout the city's reports and websites, the ideology of digital inclusion provides a strong rhetorical thread for the city's literature and is closely woven into many of the city's other digital agendas, but how does this digital inclusion and equity actually materialize? Seattle literature, leaning heavily on the city's liberal and progressive ideals, has repeatedly articulated that bridging that digital divide is one of the city's primary digital technological objectives. However, echoing Lisa Servon, while Seattle has perhaps gone farther than most cities in attempting to address the digital divide, the

---

[501] Hille Koskela, "'The Other Side of Surveillance': Webcams, Power and Agency," In *Theorizing Surveillance: The Panopticon and Beyond*, edited by David Lyon. (Portland, Oregon: Willan Publishing, 2006), 169.
[502] "Editorial: Traffic cameras have proved to save lives," *Seattle Times*, Editorial section, December 30, 2014, accessed January 27, 2015,
http://seattletimes.com/html/editorials/2025347997_trafficcameraseditorialxml.html.
[503] Ibid. 171.

city needs to push beyond the idea that access to the Internet is some great equalizer and ask rather, "technology for what purpose?"[504]

The term, "digital divide" (sometimes also referred to as the "technological divide") has often been cited by many scholars[505] as the primary impediment to economic and social development and is often described as the technological gulf between the wealthy and the poor, the north and the south, and white and non-white populations. Those who exist within an increasingly information-driven society and economy without Internet access are considered to be digitally disadvantaged. As discussed earlier in the chapter on New York City, Internet access has become such a global concern that the United Nations declared access to the Internet as a basic human right.[506] Furthermore, it is argued that digital illiteracy, lack of access to hardware and software, and other linguistic, sociocultural, economic, or geographic factors that impede full engagement in the information society widen the digital divide. Thus, many cities such as Seattle have placed a great deal of emphasis on "bridging" that divide. Of course, the rhetoric of "bridging the digital divide" is not Seattle-specific and highlights, rather, a larger global phenomenon of technological optimism.

The Race and Social Justice Initiative (RSJI), coordinated by the Seattle Office for Civil Rights, envisions "a city where racial disparities have been eliminated and

---

[504] Lisa Servon, *Bridging the Digital Divide: Technology Community and Public Policy* (Malden, MA: Black, 2002), 216.

[505] Benjamin Compaine, ed. *The Digital Divide: Facing a Crisis or Creating a Myth?* (MA: Massachusetts Institute of Technology, 2001); Jeffrey James, *Technology, Globalization and Poverty* (Northampton, MA: Edward Elgar Publishing, Inc., 2002); Karen Mossberger, Caroline Tolbert, and Mary Stansbury, *Virtual Inequality: Beyond the Digital Divide* (Washington, DC: Georgetown University Press, 2003).

[506] Human Rights Council, "A/HRC/20/L.13," United Nations General Assembly (June 29, 2012), accessed August 24, 2013, http://www.regeringen.se/content/1/c6/19/64/51/6999c512.pdf.

racial equity achieved," in part through the use of digital technological programs.[507]

The RSJI's mission is to end "institutionalized racism in City government" and

promote city-wide multiculturalism.[508] The city of Seattle claims that digital

technological programs and greater technological access will help alleviate the

problems of racial inequality; higher rates of digital literacy and access, it is hoped, will

translate into more employment opportunities. Thus, by bridging the digital divide, it is

anticipated that both racial and economic inequalities will be partially addressed. While

the city has recently reaffirmed its commitment to the RSJI by putting into effect an

executive order that "now requires the City to take important steps to partner with the

community to build racial equity,"[509] the executive order does not address the digital

divide, nor does it discuss any digital technological initiatives. One program that does

attempt to address the digital divide is the Information Technology Equity Project

Management tool.[510] This tool is a project management checklist geared towards

applying certain race and social justice principles to technology projects to ensure

equity and inclusiveness for both internal and external customers.[511] The checklist has a

rather comprehensive set of race and social justice related questions that must be

[507] City of Seattle. *Department of Information Technology*, 17; Julie Nelson, *Race & Social Justice Initiative*, (Seattle, WA: Seattle Office for Civil Rights, December 2008), 1, accessed November 20, 2014, https://www.seattle.gov/rsji/docs/Jan20FINALExecSummary.pdf.

[508] Nelson, *Race & Social Justice*, 1; *Racial Equity in Seattle: Race and Social Justice Initiative Three-Year Plan 2012-2014*. Race & Social Justice Initiative (2012), accessed January 24, 2014, http://www.seattle.gov/Documents/Departments/RSJI/RSJI-Three-Year-Plan_2012-14.pdf.

[509] "Mayor Ed Murray Expands Seattle's Race and Social Justice Initiative," News Release, Seattle, WA: City of Seattle, April 3, 2014, accessed July 20, 2014, https://www.seattle.gov/rsji/mayor-expands-seattles-rsji.

[510] City of Seattle. *Department of Information Technology*, 17.

[511] *Information Technology Equity Project Management Tool*, Seattle, WA: City of Seattle, accessed July 20, 2014. http://www.seattle.gov/Documents/Departments/Tech/SeattleSocJustice_IT_Project_Management_Checklist.pdf.

considered for each IT project the city implements. For example, some questions include asking how management will engage members of a diverse community or whether any staff members exist who would be responsible for monitoring and facilitating RSJ principles of diversity.[512]

However, in my examination of most of the city's programs that are geared towards bridging the digital divide, I repeatedly came across broken links, outdated websites, lack of further information, or failed projects. For example, on the city's Department of Information Technology "Technology Initiatives & Long-Term Projects" page, the city lists five major initiatives, one of which is "Digital inclusion;" and yet, this is the one link out of all five that is broken.[513] One of Seattle's major set of digital technological initiatives centers on what the city calls "Community Technology: digital opportunities for all."[514] Some of these programs, such as "Get Online Day" and "Neighborhoods on the Net" aim to help develop and provide technological skills, literacy, and access for underserved communities to foster digital literacy, opportunities for employment, and civic engagement.[515] And yet, it appears that the city actually only hosted one "Get Online Day" in 2011 in only nine participating centers;[516] currently, the published website for this event, http://http//www.seattle.gov/getonline/, is a broken link. The "Neighborhoods on the Net" program, which seems to consist primarily of a list of neighborhood blogs, websites, twitter feeds, and Facebook pages that are

---

[512] Ibid.
[513] City of Seattle, "Technology Initiatives & Long-Term Projects," *Department of Information Technology*, accessed July 20, 2014, http://www.seattle.gov/information-technology/initiatives.
[514] City of Seattle. *Department of Information Technology*, 14-17.
[515] Ibid., 14.
[516] "Get Online Day 11/18," *ConnectUp* (November 16, 2010), January 26, 2014, http://connectupkc.blogspot.com/2010/11/get-online-day-1118.html.

generated through the data.seattle.gov website, also hosts a number of broken links and outdated web pages, hindering, rather than enhancing, access to city programs and suggesting that digital inclusion is actually quite low on the city's priority list.[517]

The City of Seattle also set up the Citizens Telecommunications and Technology Advisory Board (CTTAB), the broadly articulated charge of which is to help "guide the digital future for the City of Seattle."[518] The board is responsible for making recommendations to the Mayor and City Council in regards to broadband and economic development, digital "inclusion," and the use of technologies for public engagement; according to the committee's meeting notes and PowerPoint presentations available online, however, the major focus seems to have been on acquiring more reliable broadband options for Seattle and expanding the city's overall broadband infrastructure ("CTTAB" 2014).[519] Given the board's primary focus on working in conjunction with major commercial entities such as Comcast to create better broadband options for the city's technological infrastructure, the city's claims about community engagement and digital equity appear to be more economically than socially motivated.

---

[517] "Neighborhoods on the Net," *Seattle Communities Online* (2014), accessed January 24, 2014, http://www.seattle.gov/communitiesonline/neighborhoods.htm/.

[518] City of Seattle. *Department of Information Technology*, 16.

[519] "CTTAB," *Seattle Citizens Telecommunications and Technology Advisory Board* (2013), accessed January 26, 2014, http://cttab3.rssing.com/chan-25936361/all_p1.html.

THE CITIZENS' TELECOMMUNICATIONS AND TECHNOLOGY ADVISORY BOARD

**Figure 8: Screen shot, City of Seattle, "The Citizens' Telecommunications and Technology Advisory Board,"
Seattle.gov, 2013, accessed November 3, 2013. http://www.seattle.gov/cttab/.**

The city nevertheless points primarily to the work of the CTTAB as aiming to achieve these goals and repeatedly suggests that its community technology projects will help achieve race and social justice; and yet, there is little evidence to support this claim. As suggested by the photograph above, for instance, the board itself shows little racial or ethnic diversity, calling into question the city's commitment to digital technological equity. Furthermore, while one of the major listed agendas for the CTTAB is the "Digital Inclusion Committee Workplan," which aims to promote "digital inclusion for all" so that all Seattle residents can "fully participate in society," the board's claims that it is working towards digital equity are not well articulated.[520] Despite this ambiguity, the city's community technology projects nevertheless recently received more than a quarter of million dollars in matching fund grants in an effort to

---

[520] Ibid.

204

provide "digital inclusion," bridge the "digital divide," encourage "civic engagement," and further the city's commitment to "race and social justice."[521] How this grant is being used to achieve digital inclusion, however, is unclear.

Digital inclusion, the committee declares, includes access to technologies and Internet content, as well as training for digital literacy skills; but aside from this generalized agenda, there are currently no clear plans outlined for achieving this kind of digital inclusion. Nor does the board or city fully explain what "digital inclusion" even means. Beyond making broad rhetorical gestures towards employment, civic engagement, and access to digital technological services, the city has no clearly articulated path towards achieving such goals. According to the City of Seattle, and echoing NYC's emphasis on urban health, their digital inclusion and community technology programs purportedly promote a "technology healthy community,"[522] but city literature fails to explain how it plans to achieve this, or even what it means to have a technologically healthy community.

The few city-sponsored digital inclusion programs that do appear to exist pose access challenges. There are two programs, for instance, that could potentially help low-income families access the Internet, one of which offers free computer and Internet access,[523] and another that offers low cost Internet in the home.[524] The first program, which the city highlights in its annual report is the development of community

---

[521] "Community Technology Projects Receive Grants in Seattle," *Sustainable City Network* (July 30, 2012), accessed November 9, 2013, http://www.sustainablecitynetwork.com/topic_channels/finance/article_58462eb6-dab4-11e1-84f1-0019bb30f31a.html.

[522] City of Seattle, "Goals for a Technology Healthy Community".

[523] See: http://www.seattle.gov/tech/publicInternet.

[524] See: http://www.seattle.gov/tech/LowCostInternet.

technology centers (CTC's), is designed to provide underserved residents with needed

access to computers and the Internet, these centers are claimed to be "stepping stones to

opportunity, equality, and civic participation" and a key element of the city's overall

sustainability efforts.[525] Without access to technologies and the Internet, the city

suggests, many of its residents are deprived of a healthy and equitable economic, social,

and political environment. However, if one does manage to locate a public center that

offers free Internet access, such as one of the few Neighborhood Service Centers[526] that

are listed online, access to the Internet is limited to one 30-minute session per day.[527] It

becomes difficult to imagine how anyone could be at all productive in a job search

online, for instance, when limited to a 30-minute session. The other program lists a

number of service providers who offer low-cost Internet access in low-income homes.

Access to this list, however, not only requires Internet access to learn about the

programs, but also consists of a web of layered information links and no easy or direct

way of signing up for these programs. Additionally, the requirements for each of these

low-cost Internet programs seem highly complicated and the application steps appear to

be buried in administrative red tape.

Institutional racism, which Julie Nelson, former director for the Seattle Office

for Civil Rights, defines as organizational and institutional programs and policies that

work to the "benefit of white people and to the detriment of people of color," is not

---

[525] City of Seattle, *911 Incident Responses*.

[526] These Neighborhood Service Centers are also referred to as "little city halls" because they offer a variety of other city services, such as obtaining pet licenses or paying traffic tickets; access to the Internet is just one service available, but it is unclear whether the centers offer actual access to computers or just free Wifi for thirty minutes.

[527] As an example of one city community center that offers free Internet access, see: http://www.seattle.gov/neighborhoodservices/university.htm.

only at the root of the "digital divide," but also is aggravated by some of the city's

digital technological programs.[528] One problem is that the city's claims to "bridge the

digital divide" through its technological initiatives and programs are often either

unsubstantiated, poorly articulated, or poorly executed. Second, as the next section

explores, the city's intense focus on data collection, aggregation, and crime mapping

functions to not only undermine efforts towards racial equality, but also exacerbates the

problem. As the next section discusses, many of the city's digital technological

programs function to exclude certain populations from its smart city future, as well as

the larger digital economy.

Crime Mapping and Digital Exclusion

As Seattle burgeoned into a central hub of high-tech innovation, and as the class

divide grew, increasing numbers of homeless and panhandlers inhabited downtown

Seattle; city officials thus turned their efforts towards cleaning up city streets. As

Timothy Gibson argues, the city's transformation from an industrial to an information

economy, as the city pursued its image as a global high-tech metropolis, transpired in

great part as a result of welfare state devolution, increased privatization, and public

exclusionary measures.[529] While downtown Seattle became "revitalized," racial-spatial

divides deepened. Indeed, as Gibson contends, the spectacularity of the new urban

center sought to make the disadvantaged and impoverished increasingly invisible.[530]

But the more deeply inscribed the divides, the more that lower socio-economic classes

---

[528] , *Race & Social Justice*, 1.
[529] Gibson, *Securing the Spectacular City.*
[530] Ibid.

were pushed to the margins, the higher the rates of crime.[531] Thus, while Seattle, on the one hand, sought to conceal its economically disadvantaged populations from those visiting and inhabiting the city's center, Seattle officials also worked to make increasingly visible one's proximity to the criminal through a variety of digital technological tools and programs—most notably, crime maps.

While Seattle, in many ways, appears to be a politically and socially liberal city, a study[532] conducted on the changes in segregation between 1976 and 2005 reports that Seattle continues to be highly segregated. African Americans in Seattle remain "highly segregated from whites,"[533] much more so than other ethnic minorities, such as Asians or Latinos, for instance. Davis goes on to suggest that the primary reason for this racial segregation lies in neighborhoods; not only are white preferences for "same group" neighborhoods seemingly stronger, higher housing prices in predominantly white neighborhoods present a barrier for low-income minorities.[534] African Americans make up less than 4% of Washington's population[535] and 7.9% of Seattle's population,[536] and yet account for approximately 20% of the state's prison population; African Americans also are 70% more likely to be targeted by police than whites,[537] which is just roughly

---

[531] Ruth Peterson and Lauren Krivo, *Divergent Social Worlds: Neighborhood Crime and the Racial-Spatial Divide* (New York, NY: Russell Sage Foundation, 2010).

[532] Kate Davis, "Housing Segregation in Seattle: An Update of A Study and Data on Segregated Housing in Seattle," University of Washington (2005), accessed June 16, 2014, http://www.seattle.gov/civilrights/documents/housing_seg_in_seattle-2005.pdf.

[533] Ibid.

[534] See: City of Seattle, *Percentage of the Population Who Are Black or African American Alone*, 2010, accessed July 21, 2014, http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd016866.pdf.

[535] Ibid.

[536] U.S. Census Bureau. *Seattle, Washington*.

[537] Gaines, "Discrimination"

over the national average.[538] Seattle drug arrests are hugely racially disproportionate; in 2006, African Americans were arrested 13 times more often than whites.[539] And these race disparities continue at prosecution. In 2010, African Americans in Washington State were convicted nearly five times more often than white offenders.[540] And in Seattle, furthermore, African Americans are not only more likely to be prosecuted, but typically receive longer sentences than whites charged with similar crimes.[541] Harris and Beckett attribute these disparities, in great part, to both structural racism and criminal justice bias.[542] The RSJI, furthermore, has found a strong correlation between race and poverty in Seattle; the poverty rate for blacks in the city, in 2009, was nearly three times that of whites.[543] These findings echo a recent Pew Research Center report that declares that black households in the U.S. only earn about 59% of what white households earn.[544] I argue that the digital visualization of crime functions to reinforce these socio-economic divides, and the city becomes implicated in the reproduction of existing geospatial and socio-economic inequalities.

---

[538] While national data statistics show that African Americans were stopped just slightly more often than Caucasians, they were three times more likely to be searched. See: Christine Eith and Matthew Durose, *Contacts Between Police and the Public, 2008*, Special Report, U.S. Department of Justice, October 2011, accessed July 21, 2014, http://www.bjs.gov/content/pub/pdf/cpp08.pdf.

[539] Alexes Harris and Katherine Beckett, *Racial Disparities in Criminal Justice*, accessed January 23, 2013. http://www.law.washington.edu/about/racetaskforce/Harris_Becket_Sup_Ct.pdf.

[540] Harris and Beckett, *Racial Disparities.*

[541] Gaines, "Discrimination"

[542] Harris and Beckett, *Racial Disparities.*

[543] *Racial Equity in Seattle: Race and Social Justice Initiative Three-Year Plan 2012-2014*, Race & Social Justice Initiative, 2012, 4, accessed July 20, 2014, http://www.seattle.gov/Documents/Departments/RSJI/RSJI-Three-Year-Plan_2012-14.pdf.

[544] *King's Dream Remains an Elusive Goal; Many Americans See Racial Disparities*, Pew Research Social & Demographic Trends, Pew Research Center, August 22, 2013, accessed July 20, 2014, http://www.pewsocialtrends.org/2013/08/22/kings-dream-remains-an-elusive-goal-many-americans-see-racial-disparities/.

A review of some of the city's technological programs and applications reveals a robust online public database and multiple public crime maps. Like NYC, Seattle also hosts an online database of nearly 1100 machine-readable datasets generated by some of Seattle's governmental departments, called data.seattle.gov. The site is similar to NYC's Open Data platform and even uses the same software, but with a much greater focus on criminal activity and public safety information. The site, for instance, includes near real-time fire and police calls, which NYC does not. Fire data are updated every five minutes; and the Police Department's 911 incident dataset is refreshed every four hours. The database also has several similar kinds of datasets available as NYC, such as a "Seattle code violations database," "Building Permits," and "Seattle assaults and homicides map."[545]

However, unlike NYC, this database contains many more datasets that are focused on crime incidents—categorizing crime in nearly 300 different ways. While NYC's "Public Safety" database contains more information about locations of precincts, race and gender of substantiated allegations (against both police and civilians), as well as demographic data about victims, the Seattle database focuses more on criminal activity and offenders, breaking crime down by area, date, types of crime, and incident calls. Given the city's attention to crime and public safety, it comes as no surprise that the Seattle police department's 911 incident response dataset is the most viewed on the open data platform. Furthermore, there exist over 200 unique maps and charts to visualize crime in Seattle's neighborhoods. Seattle, for example, hosts *My*

---

[545] City of Seattle, "The Citizens' Telecommunications and Technology Advisory Board" (2013), accessed November 3, 2014, http://www.seattle.gov/cttab/.

Neighborhood Map,[546] an online multilayered set of maps that visualizes and

categorizes the city's criminal activity.

Figure 9: Screen shot, City of Seattle. *911 Incident Responses*, My Neighborhood Map, 2013, accessed June 28, 2013, http://web6.seattle.gov/mnm/.

Using a crime index, with 100 being the safest and 0 being the least safe,

Neighborhood Scout ranks Seattle as number 4 in terms of safety, which suggests that

Seattle is one of the most dangerous places to live.[547] Furthermore, according to this

site, violent crimes in Seattle are approximately 80% greater than the national average

and more than double the violent crime rate in Washington, DC.[548] And crimes per

square mile in Seattle purportedly are over 6 times greater than crimes per square mile

---

[546] See: http://web6.seattle.gov/mnm/.

[547] "Crime Rates for Seattle, WA." *Neighborhood Scout* (2013), accessed January 27, 2015, http://www.neighborhoodscout.com/wa/seattle/crime/.

[548] "Crime Rates for Seattle, WA." *Neighborhood Scout*; *Crime in the United States 2012*, The Federal Bureau of Investigation (2012), accessed January 27, 2015, http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/violent-crime/violent-crime.

in the nation.[549] The Federal Bureau of Investigation's crime data supports

Neighborhood Scout's numbers, in terms of actual reported cases of crime (in their

variously reported categories); but a comparison to other major cities in the FBI's

report makes it less clear that Seattle is, in fact, more crime-ridden than most.[550]

Nevertheless, the city has been struggling with high crime rates for decades. Lisa Miller

refers to Seattle's crime reduction strategy in the 1990s as "Weed and Seed," an official

policy of the Department of Justice, which gave funding to cities that had particularly

high-crime rates.[551] The goal of Weed and Seed was to first weed out the criminal

element and then seed the neighborhood with social service programs and work to

revitalize the community. Currently, the City of Seattle's crime reduction strategy

seems to rely heavily upon certain regimes of knowledge—as generated by datasets and

crime maps.

"Crime is very concentrated in the city of Seattle," Cynthia Lum contends.[552]

The results of Lum's study on Seattle crime suggested that crime was geographically

centered.[553] But the perception or anticipation of crime is as palpable, if not more so,

than actual crime. Although a city report suggests that "these maps should not be used

to determine the general level of safety in a neighborhood," it would be difficult to look

at such maps and statistics and not come away with perceptions about which

---

[549] "Crime Rates for Seattle, WA." *Neighborhood Scout*.
[550] See: http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/tables/6tabledatadecpdf.
[551] Lisa Miller, *The Perils of Federalism: Race, Poverty, and the Politics of Crime Control* (Oxford, U.K.: Oxford University Press, Inc., 2008).
[552] City of Seattle, *Statistics*, My Neighborhood Map (2013), 00:19-00:22, accessed November 9, 2013, http://web6.seattle.gov/mnm/statistics.aspx.
[553] Ibid., 00:51-00:54.

neighborhoods are unsafe.[554] These kinds of reports can absolutely influence rental rates and property purchases, tourism, consumer choices, and business investments.

I argue that both disciplinary and security apparatuses of power, as Foucault[555] would suggest, are embedded within these crime datasets and maps and help regulate and deploy regimes of power over the body and population. Foucault's treatment of space is connected to what he argued was the construction of certain geographical knowledges driven primarily by governmental concern over social health and crime.[556] And Foucault explicitly drew parallels between mapping and surveillance, arguing that mapping provided governments with ways of knowing and recording, which then helped governments to keep certain spaces manageable and develop more rigorous policing techniques.[557] Derek Paulsen, for instance, examined the impact of maps on police officer's perceptions of crime patterns and how these perceptions then influenced their patrol activities; Paulsen determined that the use of such maps did, in fact, change officers' perceptions about where crime rates were highest, which then resulted in increased policing in those areas.[558] The implication, therefore, is that crime maps have the ability to alter how one thinks of crime geographically; crime becomes both

---

[554] City of Seattle, *See How SPD Is Policing Crime Hot Spots* (2013), accessed November 20, 2013, http://www.seattle.gov/police/crime/.

[555] Michel Foucault, *Security, Territory, Population: Lectures at the Collége De France 1977-1978* (New York, NY: Palgrave Macmillan, 2004).

[556] Jeremy Crampton and Stuart Elden, *Space, knowledge, and power: Foucault and geography* (Ashgate Publishing, 2007).

[557] Ibid.

[558] Derek Paulsen, "To Map or Not to Map: Assessing the Impact of Crime Maps on Police Officer Perceptions of Crime," *International Journal of Police Science and Management* 6, no. 4 (2004), 234–46.

spatialized and racialized. And the "overpoliced, disadvantaged world of marginalized offenders victimizes mostly other poor people, especially those of color."[559]

Similar to NYC, Seattle's emphasis on urban health and sustainability—in this instance represented through its crime mapping efforts—becomes a way of constructing and maintaining power through a socio-spatial affect of security.[560] Created under the auspice of public safety, these digitalized divisions of space help to further construct what are perceived to be dangerous places, or "bad" neighborhoods, and help to (re)constitute greater socio-economic divides. And city news outlets and local blogs reinforce the dangerousness of certain areas, based on these crime statistics and crime maps. For example, KIRO 7 TV news online, which published an article in 2013 about the most dangerous streets in Seattle, reviewed the last three years of city Seattle police reports and named the block of Third Avenue between James and Yesler Streets the most dangerous in Seattle, making sure to note that the area was also home to a center that "helps the homeless who have major mental disorders and addiction problems."[561] The article then goes on to provide a link to the city of Seattle's crime mapping tool, with links to a long list of dangerous intersections, so that readers can visually locate the most crime ridden blocks in Seattle (and thus avoid them). These kinds of social categorizations and sorting processes not only serve to construct how residents conceive of themselves, but also subtend the structures of ethnic and racial relations.

---

[559] Greg Barak, Paul Leighton, and Jeanne Flavin, *Class, Race, Gender, and Crime: The Social Realities of Justice in America* (Plymouth, United Kingdom: Rowman & Littlefield Publishers, 2010).
[560] John Pløger, "Foucault's Dispositif and the City." *Planning Theory* 7 (March 2008), 51–70. doi:10.1177/1473095207085665.
[561] Henry Rosoff, "Where Are Seattle's Most Dangerous Streets?" *Kirotv.com*, November 13, 2013, accessed July 22, 2014, http://www.kirotv.com/news/news/where-are-seattles-most-dangerous-streets/nbrjC/.

The city's Neighborhood Scout website,[562] furthermore, not only maps out and reinforces the spatialization of crime, but also shows neighborhood appreciation rates, demonstrating direct correlations between high crime areas and low property values. Further investigation into these crime-ridden neighborhoods, comparing My Neighborhood Map[563] with the City of Seattle's map of the percentage of population who are Black or African American,[564] shows also a correlation between race and criminal activity. Thus, the digital mapping of neighborhoods, while constructed for the overall benefit of all city residents, actually help to further delineate and aggravate existing racial-spatial divides and construct an entirely new "digital divide." Seattle's claim to want to use technologies to "level the playing field of opportunity" for the technologically underserved is contradicted by its intense focus on making visible its data on crime—marking the boundaries in those same areas that they city purports to support.[565] In the process, digitally constructed differentiations decompose the larger unit (the city of Seattle) into fragmented and heavily policed spatial fields of (less transparent) hegemony.[566]

Robert Sampson and Stephen Raudenbush, elaborating on the "broken windows theory of urban decline,"[567] argue that "visual signs of social and physical disorder in

---

[562] "Crime Rates for Seattle, WA," *Neighborhood Scout*, 2014, accessed July 22, 2014, http://www.neighborhoodscout.com/wa/seattle/crime/.
[563] City of Seattle, *Statistics*.
[564] City of Seattle, *Percentage of the Population*.
[565] City of Seattle, *911 Incident Responses*.
[566] Burchell, Graham, Colin Gordon, and Peter Miller, eds., *The Foucault Effect: Studies in Governmentality* (Chicago: University of Chicago Press, 1991), 170.
[567] Using the metaphor of a broken window, which draws negative attention to a particular space (and helps to construct the perception of that space as dangerous), James Wilson and George Kelling essentially argued that the perception of minor crime or criminal behavior not only signals a community's neglect or concern for a certain area, but then also begets greater criminal activity; thus, repairing the "broken

public spaces reflect powerfully on our inferences about urban communities" and helps

to further construct that disorder through our behavioral responses.[568] Seeing or

perceiving "disorder," Sampson and Raudenbush insist, is imbued with certain social

and cultural assumptions about race and class, generating meanings that then function

as "self-reinforcing processes that may help account for the perpetuation of urban racial

inequality."[569] This phenomenon appears to be occurring in Seattle, as a result of the

persistent digital visualization of crime. Investigating the relationship between

residents' perception of their neighborhood's crime and neighborhood racial

composition in Chicago, Seattle, and Baltimore, Lincoln Quillian and Devah Pager, for

example, argue that the "percentage of young black men in a neighborhood is positively

associated with perceptions of the neighborhood crime level," supporting the view that

racial stereotypes influence perceptions of neighborhood crime levels.[570] Quillian and

Pager interviewed over 5,000 residents in 100 neighborhoods in Seattle about their

sense of safety in their community and compared these perceptions to racial

demographics; the authors determined that areas with a higher density of young black

men were perceived by residents to be the most unsafe neighborhoods.[571] The city's

tendency to map out, correlate, and reinforce the lack of community safety furthermore

---

window" (or by working to restore more positive attention to a particular neighborhood or space) leads to improved safety and a better neighborhood. See: James Wilson and George Kelling, "Broken Windows: The police and neighborhood safety," *The Atlantic*, March 1, 1982, http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/.

[568] Robert Sampson and Stephen Raudenbush, "Seeing Disorder: Neighborhood Stigma and the Social Construction of 'Broken Windows.'" *Social Psychology Quarterly*, *67*(4), 2004, 319 –342, accessed January 27, 2015, http://www.asanet.org/images/members/docs/pdf/featured/67401-sampson.pdf.

[569] Ibid., 319.

[570] Lincoln Quillian and Devah Pager, "Black Neighbors, Higher Crime? The Role of Racial Stereotypes in Evaluations of Neighborhood Crime," *American Journal of Sociology* 107, no. 3 (November 2001), 717.

[571] Ibid.

reflects a defining characteristic of urban anxiety, or what Sharon Zukin refers to as the

"institutionalization of fear," a phenomenon that is inextricably woven into the fabric of

institutional racism.[572] Although the City of Seattle posts a disclaimer page on the site

that states that the city makes "no claims as the completeness, accuracy, timeliness, or

content of any data contained in this application," these datasets and maps, as supported

Quillian and Pager's study, nevertheless reinforce public perception and "knowledge"

of certain areas as dangerous,[573] which then exacerbates existing racialized urban

anxieties.

Zygmunt Bauman suggests that classification and taxonomies of people are vital

elements of modernity, particularly since the Enlightenment, and are intimately

connected to the idea of race, as evidenced by Seattle's crime maps.[574] Steve Garner

contends that, historically, race has become "politically inseparable from the project of

modernity due to the imbedded process of categorization" and that the State assumes an

integral role in the racialization of specific geographical areas.[575] The accompanying

divisions of power are furthermore reified by the proliferation of public digital

visualizations (primarily in the form of crime maps) that highlight and categorize city

neighborhoods, as we see occurring with the city of Seattle. Garner furthermore argues

that crime maps, such as published by the City of Seattle, can be interpreted as

examples of structural racism: "Areas in which minorities were concentrated thus

frequently appeared in red on the maps, indicating the highest level of risk, and

---

[572] Sharon Zukin, *The Cultures of Cities* (Cambridge, MA: Blackwell Publishing, 1995), 39.
[573] City of Seattle, "The Citizens' Telecommunications"
[574] Zygmunt Bauman, *Modernity and the Holocaust* (Cambridge, MA: Cambridge University Press, 1989).
[575] Steve Garner, *Racisms: An Introduction* (Los Angeles: SAGE, 2009), 52.

therefore, the smallest chance of obtaining loans, even for home improvements."[576] The

inability to obtain housing loans, Garner argues, "means that black and Hispanic

Americans remain primarily in cheaper neighbourhoods," and thus perpetuates

discrimination and limits mobility.[577] It would therefore appear that despite recent fair

lending and equal housing laws,[578] discrimination appears to be persistent. While this

phenomenon is not unique to Seattle, the city provides perhaps one of the clearest

examples of how such digital visualizations of crime can function to reinforce racial

and neighborhood profiling and institutional racism, but under the auspice of less

controversial variables, such as that of crime.

Additionally, the creation of crime maps such as these can also be financially

lucrative as crime becomes commoditized and racial and neighborhood profiling

becomes part of the larger digital economy. For example, the private company, Walk

Score, based in Seattle, has generated crime maps to help show potential renters and

buyers which areas of the city are safer than others and walkable.[579] Moreover, the

company attempts to predict one's chances of getting mugged, robbed, or assaulted in

certain areas by showing crime heat maps. According to the company's co-founder,

Matt Lerner, what's different about his company's crime map is that it does not simply

visualize crime based on available past crime statistics; rather, these maps are

"normalizing the statistics" by aggregating data in such a way as to predict the

---

[576] Ibid., 112.
[577] Ibid., 110.
[578] See: http://portal.hud.gov/hudportal/HUD?src=/program_offices/fair_housing_equal_opp.
[579] John Cook, "Avoid These Neighborhoods: Walk Score Adds Crime Reports," *GeekWire*, July 9, 2013,
accessed July 22, 2014, http://www.geekwire.com/2013/avoid-hoods-walk-score-adds-crime-reports/.

likelihood of being impacted by crime in certain neighborhoods.[580] Walk Score intends to make money from these crime maps by licensing the data they collect to other real estate sites.[581]
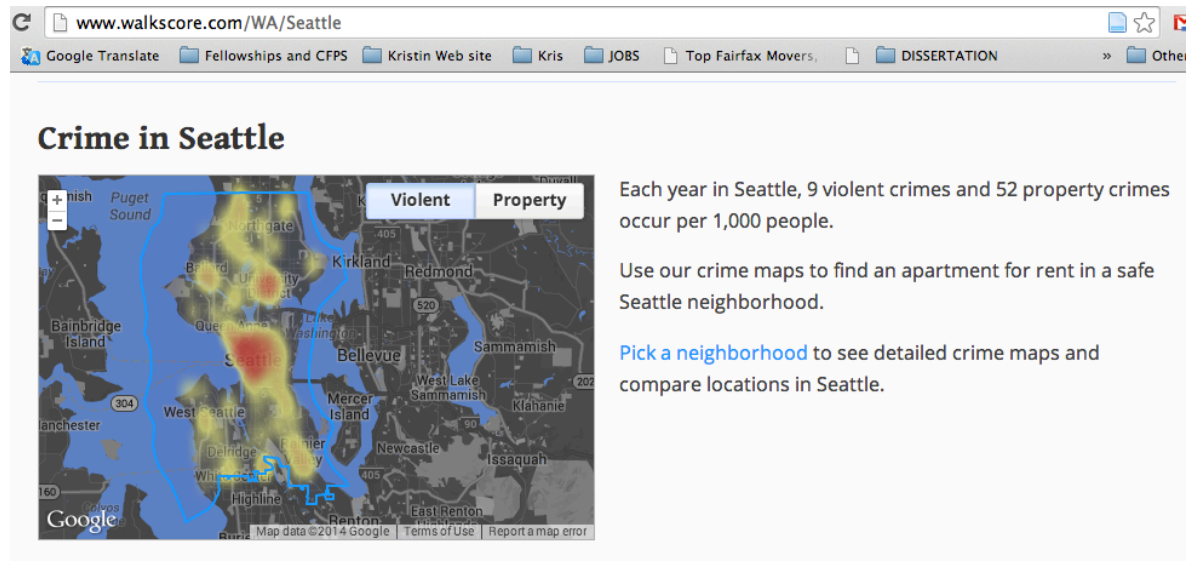
Figure 10: Screen shot of "Living in Seattle." Walk Score, 2014. http://www.walkscore.com/WA/Seattle.

Many of Seattle's digital technological initiatives and programs, therefore, are paradoxical; while the City of Seattle points to many of its applications—such as its crime maps, public data sets, and traffic cams—as progressive tools that can be used to foster equity and civic engagement—these systems function to regulate resident and police behavior, perpetuate neighborhood profiling, and mediate specific regimes of knowledge that (re)authorize state power and further constitute the disparities. By

---

[580] Ibid.
[581] Ibid.

making crime visible in so many different ways, the city maps out the racial and economic boundaries; these crime maps and statistical charts—as they form specific bodies of digital knowledge—thus become constitutive of a racialized socio-political and economic order, aimed to serve the state apparatus, in its management of population, and corporate interests, as the visualization of crime becomes increasingly commoditized.

Referring back to Gibson's discussion of the homeless in Seattle, every icon on the crime map and spike of crime on statistical charts also make visual both the material and symbolic threats to the city's ongoing revitalization efforts. However, unlike Gibson's model of a project of reassurance,[582] wherein places of consumption are "cleansed" of anything that potentially conjures images of danger, chaos, or decay, the city's crime maps function to simultaneously visualize and heighten general public insecurity, while providing reassurance from the state apparatus through an affect of security. The crime map, in this instance, becomes both the threat and the reassurance. As Grusin argues with his theory of premediation,[583] constructions of community fear provide the perfect opportunities for the state apparatus to then justify the use of surveillance, reinforcing hegemony through affects of security and safety that are tied to state-controlled modes of mediality.

Another form of premediation occurs through the city's use of predictive policing, which analyzes data from various sources (and aggregation of a variety of data sets) to predict and prevent future crime. Big data, furthermore, offers the city yet

---

[582] Gibson, *Securing the Spectacular City.*
[583] Grusin, *Premediation*, Chapter 3.

another method for policing the lower-class, since, as earlier demonstrated, higher

crime rates have been statistically correlated with lower-income neighborhoods. Seattle

most recently implemented a form of predictive policing when the city launched a new

digital program called SeaStat that uses data "to help wipe out 'crime hotspots' across

the city."[584] The purpose of SeaStat is to take historical and existing data, aggregate it,

and use "predictive analysis to forecast where [future] crimes might occur."[585] While

the program is fairly new and its effectiveness has yet to be fully determined, Seattle's

use of predictive policing is concerning, because, like crime maps and the use of crime

data, it targets lower-class neighborhoods and reinforces specific regimes of knowledge

and state power that then further constitute the socio-economic disparities. Aaron Cantú

goes so far as to suggest that predictive policing represents the "racial profiling of the

future."[586] Because any attempt to predict future crime will be based on crime data from

the past, and because its well-documented (as detailed earlier in this section) that blacks

and Latinos are arrested and convicted at much higher rates than whites, the use of

aggregated data to predict future crime and increase patrols in identified high-crime

neighborhoods, Cantú argues, will only perpetuate institutional racism.[587]

Conclusion

---

[584] John Cook, "Big data meets crime fighting: Seattle police launch SeaStat to quickly pinpoint 'crime hotspots'," *GeekWire*, September 17, 2014, accessed January 27, 2015, http://www.geekwire.com/2014/big-data-meets-crime-fighting-seattle-police-launch-seastat-quickly-pinpoint-crime-hotspots/.
[585] Ibid.
[586] Aaron Cantú, "Algorithms and Future Crimes: Welcome to the Racial Profiling of the Future," *Alternet*, February 28, 2014, accessed January 27, 2015, http://www.alternet.org/algorithms-and-future-crimes-welcome-racial-profiling-future.
[587] Ibid.

Seattle claims to be a "smart city," using its digital technological programs to produce greater social, economic, and environmental sustainability; and yet, the city's smart city initiatives and digital technological practices do not support this claim. Rather, through ideological rhetoric that relies on its perceived liberalism, Seattle's digital technological programs often conceal the city's larger neoliberal agenda and help to reify and construct, rather than break down, socio-economic divides. Furthermore, as I demonstrate throughout this chapter, Seattle's role in the smart city economy supports urban revitalization policies that actually increase privatization, decrease opportunities for the lower and working classes, and reinforce existing socio-economic inequities.

Furthermore, the city's increasing reliance on digital tools and technologies, particularly as demonstrated through open data collection and crime mapping, appears to often impede, rather than facilitate, equitable digital solutions. Racial and socio-economic inequities remain pervasive in Seattle, despite the promises of science and technology to "level the playing field." Advocating for greater Internet access for the underprivileged and inclusion into the new information economy, the community technology movement sprouted up in the interstices between the rapidly growing information society and high-tech capitalism, the new urbanism movement, and community-based activist organizations. Like wild weeds in an information rich landscape, however, the few programs that have aimed to achieve broader socio-economic goals have suffocated any real efforts towards sustainability.

Similar to NYC, Seattle claims that their digital technological programs foster increased citizen engagement, allow for greater access to government, and promote greater economic, political, and social opportunities for all. And Seattle appears to be following in the footsteps of NYC with programs and initiatives geared towards the collection and sharing of open data with the public and attempts to lure software developers into creating apps for the city through contests. Although the city offers an open data platform that uses the same web developer as that of NYC, Socrata.com, the city has been less successful with its attempts to have apps contests that then generate mobile applications from that raw data. The majority of data produced, rather, has been used to help visualize and map crime. Thus, Seattle's programs more frequently echo those of San Antonio's, as they most consistently attempt to address issues of security and safety. As a result of these crime maps and statistics, specific neighborhoods and groups of people are visualized as dangerous, targeted with special attention, and more aggressively policed; additionally, as I demonstrated, these maps and datasets further constitute the social, political, and economic hierarchies that currently exist.

Thus, Seattle's purported efforts towards digital inclusion actually reveal an increasing trend towards digital exclusion. Segregation and white preference for primarily white neighborhoods appears to be further exacerbated by low-income, high-crime neighborhood profiling, while neighborhood profiling is the result of digital exclusionary measures. On the one hand, Seattle claims to work towards digital inclusion and race equality through bridging the digital divide and providing greater access to the Internet; and yet, the city's use of digital technologies and programs also

223

serves to further construct the divide and continues the trends of structural and

institutional racism.

CHAPTER FIVE: CONCLUSION

At first glance, the digital technological programs and initiatives, as described by each of these three cities, may appear to be politically, economically, and socially progressive and empowering. But further investigation also reveals that such digital technological initiatives and programs, in practice, often work to reinforce existing power and class relations. While no one discursive practice of urban digitality exists, and such power structures are created or reinforced in myriad ways, as each city's discursive practices are more localized or distinctively characteristic of each set of articulated digital technological goals, discursive commonalities arise—such as claims made about the use of digital technologies to foster civic engagement, open government, or as necessary tools and practices for security or economic growth.

New York City, as this project explored, refers to itself as "the world's greatest digital city" and, using the metaphor of a healthy civic society to support its goals, claims to be using digital technologies to enhance open government, increase citizen engagement, and support a thriving democracy. San Antonio, also known as "Cybercity, USA" claims a central role in national cyber-security and suggests that increased digital surveillance and security protects the nation from cyber-terrorism and helps to protect democracy. Seattle, as a "smart city," asserts that its digital technological programs work

towards building a more sustainable city, help to bridge the digital divide, and equalize socio-economic disparities.

I therefore examined the various power structures that subtend and inflect these three versions of the "digital city," as presented by NYC, San Antonio, and Seattle— particularly as these power relationships help to constitute the meaning of the contemporary city and mobilize certain ideological discourses. I argued that the "digital city," while claiming to support ideals such as open democracy, individual liberty, and consumer sovereignty, is a neoliberal phenomenon; the "digital city," furthermore, is ideologically coded and its narratives function as both rhetorical and discursive strategies to further the various neoliberal goals of each city's digital technological initiatives.

New York City's *Road Map for the Digital City*, for example, outlines its strategies to leverage digital technologies for greater quality of life, a healthier civic society, and stronger democracy. While many of NYC's digital programs and applications enable more citizen input into the development and enhancement of government services and impact many policy decisions, the use of these technologies and the data collected also critically complicate or problematize the claims made by NYC that such digital tools support a thriving democracy. Through mechanisms of neoliberal governmentality, which rely heavily on the metaphor of a healthy society, as well as various regimes of knowledge gathered through its open data platform, many of the city's digital programs function to manage and construct (economically) productive social bodies and can sometimes contradict NYC's claims of enriched democratic engagement. Furthermore, many of the city's digital technological programs, as they serve neoliberal

226

interests, highlight concerns about distributive justice and equity in communication and information distribution.

In the case of San Antonio, I explored the tension that exists between the city's claim to open government and enhanced democracy, its intense focus on systems of surveillance and security, which threaten to thwart democratic practices, and its neoliberal agenda to enhance its economic base through the securitization of cyberspace. I argued that San Antonio represents an example of what Stephen Graham refers to as the "new military urbanism," as the city's rhetoric around the use of digital technologies narratively shifts the perception of both public and private spaces, as well as civilians, into sources of threats. The city's regime of securitization and militarization materializes, in part, through premediating what could happen and then offering affects of security through increased digital homogeneity. For San Antonio, security and the protection of democracy become ideological frameworks that help to justify the use of mass surveillance technologies and bolster San Antonio's role in the larger cyber-security economy.

Seattle, as a "smart city," asserts that its digital technological programs foster economic, environmental, and social sustainability, but the city's initiatives become more of an ideological project that conceal the city's neoliberal agenda. Seattle officials rely on the city's history of social progressiveness to promote its digital technological programming; by bridging the digital divide and providing greater access to the Internet, Seattle contends that racial and economic disparities will cease to exist. And yet paradoxically, as I demonstrate, the city's burgeoning smart city economy compels

227

increased privatization, major corporate investments, and urban revitalization, all of which then reinforce socio-economic divides, neighborhood profiling, and the construction of digital spatial fields of hegemony through the use of surveillance technologies and the digital visualization of crime.

Going back to the primary research question, which asks what distinct cultural, social, economic and political structures subtend and inflect the discursive practices of each city's digital technological programs, and how these factors help to explain what appears to be a larger trend towards urban digitality, the following subsections help to further synthesize my conclusions. These themes are neither exhaustive nor mutually exclusive, but rather offer ways to think about and frame the discursive practices of each city, as they address myriad concerns raised within my introduction.

Urban Digital Utopias

Myths of digitality, many argue, are often intricately intertwined with corporate and other private interests. Howard Segal, for instance, maintains that digital technological utopians favor corporate interests and are driven primarily by economic gain, not government or social change.[588] Armand Mattelart argues that much of the utopian and mythical discourse around media technologies is a repetitive phenomenon that is often initiated and sustained by governmental and corporate regimes in order to impose order on the general population.[589] Patrice Flichy also insists that the utopian visions that tend to surface with the burgeoning of new technologies come from both

---

[588] Howard Segal, *Technological Utopianism in American Culture* (Chicago: The University of Chicago Press, 1985), 177.
[589] Armand Mattelart, *The Globalization of Surveillance* (Cambridge, UK: Polity, 2010).

cultural and scientific discourses; and, whether technical or literary, prophetic or

pragmatic, these visions are integral to the actual development and implementation of

various technologies.[590] As Flichy also remarks, the "*imaginaire* is at the center of design

and use of the Internet."[591] I therefore considered the dialectical and mutually constitutive

relationships that exist between myth and discursive practice when examining each of

these three cities.

Indeed, what arose out of my examination of various discourses reflects a larger

cultural imaginary of urban digital utopias—or the perceived power of digital

technologies to offer solutions to variously articulated social, political or economic

problems. While not a new phenomenon, such articulations of the inevitability and

desirability of urban digitality find new and official voices within a particular set of

visions about what constitutes a progressive, healthy, and secure American society. And

yet, because each city emerges out of unique historical, economic, and social contexts,

the articulations and manifestations of these larger visions play out in distinct and myriad

ways and with different consequences.

As I discuss in Chapter 2, in New York City, which claims to be the world's

greatest digital city, digital technologies, and particularly the city's engagement in social

media, offer a way to re-envision or "redefine" government, enhance democracy, and

create and sustain a "healthy" society.[592] Furthermore, throughout NYC Digital's

---

[590] Patrice Flichy, "The Imaginary Internet: How Utopian Fantasy Shaped the Making of a New Information Infrastructure," *Business and Economic History Online*, Vol. 2., 1, accessed December 11, 2011, http://www.h-et.org/~business/bhcweb/publications/BEHonline/2004/Flichy.pdf.
[591] Ibid., 1.
[592] City of New York, *Road Map for the Digital City*.

publications, the city consistently reiterates the metaphor of openness,[593] more explicitly

through the use of repeated phrases such as "open data," "open source," "open

government," "open access," "open standards," "an environment of openness," and

processes that are said to be "open and collaborative."[594] The *Digital Roadmap* even

describes Mayor Bloomberg as welcoming governmental partnerships with major social

network companies with "open arms."[595] Less explicitly, but just as vigorously, New

York City reinforces the theme of openness—and its concomitant conceptualizations of

"progress" and "innovation"—by drawing upon a sort of historic nostalgia for the open

road and (digital) allegories of freedom and democracy.[596] NYC's *Roadmap*—at least

rhetorically—seems to function as a sort of digital superhighway that promises to pave

the way into an egalitarian digital future. As the most recent report claims, "Universal

access to the internet is the foundation of a truly connected city;"[597] NYC Digital

emphasizes every citizen's right to Internet access, asserting that Internet access "exposes

individuals to a wealth of information and new opportunities to participate in

democracy,"[598] a "digital gateway to City government."[599] The discursive practices of

both New York City and Seattle furthermore articulate certain democratic ideals that rely

on the assumption that digital technologies are inherently egalitarian and that open access

to the Internet leads to greater citizen engagement in the democratic process.

---

[593] The word "open" is used 76 times in the city's initial *Road Map for the Digital City* and 82 times within the city's most recent (2012) publication: *New York City's Digital Roadmap.*
[594] City of New York, *New York City's Digital Roadmap,* 38.
[595] Ibid.
[596] The city frequently uses phrases and terms such as, "free public spaces," "free public WiFi," "free events," "free" computers, centers, technological access, and so forth, within its publications.
[597] City of New York, *New York City's Digital Roadmap,* 6.
[598] City of New York, *Road Map for the Digital City,* 35.
[599] City of New York, *New York City's Digital Roadmap,*17.

In Chapter 3, as exemplified by my discussion of San Antonio, or "CyberCity, USA," digital technologies become both the threat and the solution. Unlike NYC or Seattle, San Antonio places little emphasis on technologies as either democratic or egalitarian; and the city's vision of its digitality is anything but utopian. Rather, the city's claims to a strong, healthy society rely primarily on its ability to protect the nation from what it deems to be immanent cyber-attacks. The city thus operates defensively, rather than generatively. And the city's emphasis on everything "cyber" not only functions ideologically, but also points to a certain digital technological determinism. In its quest to become CyberCity, USA, San Antonio furthermore interpellates its residents into its ideological vision of a secure cyberspace by calling upon them to act as "cyberwarriors" and cyber-citizens. The city's focus on security and safety in the pursuit of democracy and greater individual freedom, however, become ideological frameworks that help to justify the use of mass surveillance technologies, greater securitization and militarization of cyberspace, and a growing surveillance economy.

In Seattle, as explored in Chapter 4, a sort of technological utopianism has historically held a significant place in the city's cultural imagination. And digital technologies now are ostensibly the key to not only bridging the digital divide, but also eliminating racial and class divides, as city officials claim that digital technologies are democratizing and lead to a more equitable society. Relying heavily on its (perceived) progressive and egalitarian history, Seattle's current digital technological programs and goals often conflict with its position within the 'smart' economy. As a self-proclaimed smart city, Seattle actually struggles to position itself as sustainable and equitable within

231

an increasingly persistent neoliberal environment and the use of digital technological programs that often function to further exacerbate class and racial divides. Furthermore, as discussed earlier, Seattle, as a smart city, has been more of an idealistic than practical endeavor.

When thinking about these emerging digital cultural trends, Raymond Williams' theory about the "dominant, residual, emergent"[600] perhaps helps to explain the complex ways in which the cultural imaginary of urban digitality functions, especially as cities work to stabilize the socio-economic and political role of digital technologies. In order to fully understand the emergent, Williams argued, it is first necessary to understand that the emergent is part of a larger cultural process, arising out of what he called the dominant and residual. Dominant ideas and values refer to those that are embodied within the social sphere majority—such as the conviction that digital technologies are both inevitable and progressive. The residual refers to cultural ideas that are seamlessly integrated into our current ideologies and practices, ideas from the past that help to inform or substantiate contemporary, dominant ideologies, such as that of democracy.

What arises out of the discourse of the "digital city" then is the perception of the emergent, as a reinterpretation of the progressive and democratic nature of digital technologies, but are, in fact, dominant. While emergent ideas about technologies as liberatory and democratic promise to be oppositional to hegemony, these digital technological programs, on the ground, and as discussed throughout this dissertation,

---

[600] Raymond Williams, "Base and Superstructure in Marxist Cultural Theory," *Problems in Materialism and Culture* (New York: Verso, 1980), 31-49.

rather function to strengthen dominant practices and often are associated with class fractures that reinforce, rather than challenge, neoliberal hegemonic power.

Political Economies of the Digital City

As Foucault points out, "discipline increases forces of the body (in economic terms of utility) and diminishes these same forces (in political terms of obedience),"[601] reminding us, as well, of the economic value of residents within the digital city, such as the mobile app user as a user-producer laborer. As Herbert Marcuse argues, technological rationality diminishes "individual rationality" and autonomy; media technologies, driven by capitalism, create false needs, lead to one-dimensional thinking and behavior, and drain individuals of their "independence of thought, autonomy, and the right to political opposition."[602] Therefore, he asserts, claims that technologies offer more independence, enlightenment, or efficiency in everyday life activities reinforce conformity, rather than autonomy. Such technologies, however, are not inherently dominating, according to Marcuse, but also have liberatory potential; he imagined mass media could offer sites of resistance to hegemony and perhaps open up more democratic possibilities through cooperative, non-capitalistic forms of technological engagement. What Marcuse perhaps did not foresee were how the discursive practices of digital technological progress *in the name of* democracy, community, and increased social and political interaction could further fuel capitalist modes of production or how thoroughly the individual, in his or her autonomous production of content, for instance, could reinforce their roles as consumers.

---

[601] Foucault, *Discipline and Punish*, 148.
[602] Herbert Marcuse, *One-Dimensional Man* (2nd ed.). (New York: Routledge Classics, 2002), 4.

As Seattle entered the digital economy, for example, and the labor landscape

began to change, many blue collar workers were displaced by a new information class;

the demographics changed dramatically, and the city's class divide widened. Now at the

forefront of a growing digital and smart economy, Seattle has to negotiate its egalitarian,

heavily unionized history with contemporary neoliberal agendas. It is important to

recognize that while Seattle is still a class-conscious community of progressive activists

and continues to work towards social and economic equality (such as we discern in the

city's recent raise in the minimum wage to one of the highest in the country), Seattle's

history of liberalism or progressiveness also has been reimagined, redefined, and drained

of class antagonism. Now, as one of the fastest growing and most expensive cities to live,

displaced low-income minorities and the homeless are becoming an increasingly

persistent problem, especially for city officials and planners who are working to

revitalize, renovate, and gentrify the downtown area. Seattle also is poised to profit from

its position as an emerging smart city, as private and corporate investors seek to expand

into the smart city economy. Seattle, as I argued within Chapter 4, continues to evoke

liberalism within its discourse, but its digital programs often conflict with these goals,

functioning to reinforce neoliberal hegemony and widen the gap between socio-economic

classes, such as occurs through the city's digital visualization of crime.

In an attempt to understand the economic factors that help to create, structure, and

maintain a number of different digital technological programs, it also was important to

discuss the consumer-as-producer model of labor, as many of the products (smart phone

applications, for instance) and much of the digital data collected are often produced by

234

residents to the benefit of state and commercial institutions. To frame these discussions, I

referred to theorists that draw from Marxist perspectives on immaterial labor[603] to help

explain how cultural content and data gathered through the use of interactive

technological applications become commodities that are often produced by unpaid

laborers. As I discussed, examples of the use of unpaid labor, for instance, include the

smartphone apps that are created by competing residents for the city through the NYC

Big Apps contest and the citizens who use these apps to collect and report information on

anything from broken parking meters to restaurant violations, as explored in Chapter 2.

The City of San Antonio emphasizes the importance of a data-driven government and the

use of aggregated data to help reach its larger goals, as does NYC; but while NYC relies

heavily on the public to self-produce its data, through crowdsourcing and the use of

various social networking and mobile phone software systems, San Antonio relies

primarily on data that is often secretly or unknowingly collected through governmental

agencies.

I also drew upon Foucault's work to help explain how neoliberal discourse, in and

of itself, can be a tool of governmentality, as the democratic idea of freedom, or freedom

of circulation and consumer sovereignty, becomes a crucial component in this particular

mode of power. I also argued that governments often use certain digital technological

---

[603] Such as Nick Dyer-Witheford, *Cyber-Marx: Cycles and Circuits of Struggle in High Technology Capitalism* (Urbana, Il: University of Illinois Press, 1999); Nick Dyer-Witheford, "Empire, Immaterial Labor, the New Combinations, and the Global Worker," *Rethinking Marxism*, Vol. 13, No. 3 (2001), 70-80; M. Hardt, "Affective Labor," *Boundary*, Vol. 26, No. 2 (1999), 89-100; Andrew Ross, *The Celebration Chronicles: Life, Liberty and the Pursuit of Property Values in Disney's New Town* (New York: Ballantine Publishing, 1999); O. Sotamaa, " 'Have Fun Working with our Product!': Critical Perspectives on Computer Game Mod Competitions," *Proceedings of DiGRA 2005 Conference: Changing Views – World in Play* (Vancouver: University of Vancouver, 2005); T. Terranova, "Free Labor: Producing Culture for the Digital Economy," *Social Text* Vol. 18, Issue 2 (2000), 33-58.

programs to shift responsibility for the well-being of citizens and the overall "health" of civic society to its residents through crowdsourcing. Neoliberal governmentality, I argued, relies on the self-governing individual to help construct and maintain him/herself as a neoliberal subject; and this occurs through a more diffuse power structure, as strategies of governmental control are exercised through the digital technological apparatuses of a (digital) citizen's everyday life. We see this occurring perhaps most clearly in NYC, as many of its digital technological programs—such as the city-sponsored smartphone apps—attempt to produce a certain kind of citizen or governable subject through specific digital technological strategies and practices. NYC's programs often function to construct its ideal citizen, which, while to some degree may be disciplined through various digital technological apparatuses, is not a docile one, but rather is rational and self-reliant and does not depend too much on the government. A sort of dual process exists, however. Some of the city's digital technological programs induce residents to engage in more "healthy" and socially productive behavior (such as we see with many of the city's smartphone apps), while others, such as NYC311 and various apps that encourage residents to report restaurant health concerns, function through crowdsourcing and shift some of the responsibility of the government over to its residents.

Also, as I demonstrated, data has also become big business. The World Economic Forum describes the collection of personal data as heralding in a new era of

socioeconomic growth;[604] big data, particularly the aggregation of personal data, the report suggests, is the new oil—the most valuable emerging currency of the 21st century. According to their 2011 report, by 2020, the global volume of data could increase more than 40 times its current capacity.[605] Data, furthermore, is "becoming a new type of raw material that's on par with capital and labour."[606] We see this trend clearly manifested in the growing "App Economy," as smart phone apps are increasingly lucrative. But governments, the report also suggests, must work to balance the collection of data for economic growth with the protection of privacy rights.

In NYC, for example, using what the city refers to as "crowdsourcing tools," the city solicits information and reportage from its public through social media sites and smartphone apps. Similar to NYC, Seattle's open data platform is designed to offer the public access to the city's data in an effort to increase openness and transparency, and yet the data that is collected is often used by corporate entities to create and profit from commercial applications. But as residents increasingly supply information and data to both governmental and commercial entities, as well as become increasingly involved in the (co)production of digital technological programs, software, and applications, digital technology users become flexible (and often unpaid) laborers for the various commercial entities that profit from the increased sales and distribution of these data and technologies. Whereas NYC solicits and implements (often experimentally) residents' ideas and makes use of local developers' program and relies heavily on small-scale

---

[604] World Economic Forum, *Personal Data: The Emergence of a New Asset Class*, Bain & Company, Inc., January 2011, accessed September 4, 2014, http://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf.
[605] Ibid., 7.
[606] Ibid.

237

developers, public social networking systems, and entrepreneurially-designed software to help structure and market the city's larger digital technological goals and programs; San Antonio's programs, as discussed in Chapter 3, rely heavily on the military and security industries, and the securitization of cyberspace has become quite profitable. In San Antonio, and in conjunction with various national security industries, the collection, aggregation, and securitization of data have generated billions of dollars in revenue.

Security, Safety, and Surveillance

In the case of New York City, Seattle, and San Antonio, themes of security and safety became either explicitly or implicitly woven into the discursive practices of each city's digital technological initiatives and programs. In NYC, smartphone apps such as the NYC Condom Finder, You the Man, and Teens in NYC Protection+, raise concerns about the administration and regulation of individual bodies for the enhancement of the larger social body. Under the aegis of a healthy city, for instance, many of the city's smartphone apps, as I explored, function as contemporary mechanisms of bio-power, which aim to control or manage life, as they encourage residents to eat healthy, drive safely, exercise, work hard, and have safe sex. What is particularly problematic here is that the city does so by interpellating its residents into its system—encouraging residents to become increasingly self-regulating; such digital technological programs act as key regulating mechanisms of neoliberal governmentality, wherein residents become increasingly economically and socially productive to the state. Through many of NYC's smartphone apps, the government also works to thwart what the state does not want, such

as unwanted pregnancies, HIV, and drunk driving, and discipline prescribes what it deems desirable, such as exercise, safe sex, and healthy eating. As John Pløger[607] points out, Foucault made it clear that the emergence of a politics of urban "health" and the spatial mechanisms that ensue are not "due to a care for the population," but become rather a way of "maintaining power through socio-spatial order: that is security."[608] Seattle's crime maps have a similar function, as these maps work to monitor and regulate urban space; exclusionary data-driven measures, I argued, marginalize economically disadvantaged residents in Seattle, through crime mapping, and reinforce geographies of power. And San Antonio, as "CyberCity, USA," while highlighting its role in national cyber-security, claims that its digital technological programs will support increased citizen engagement and open democracy. As I argued, San Antonio becomes exemplary of what Stephen Graham refers to as the "new military urbanism," as the digital narratives of CyberCity, USA work to shift the public's perception of cyberspace from a democratizing force into a source of threats, reinforcing the city's need to expand its economic growth through increased partnerships with cyber-security and surveillance industries.

Richard Grusin's concept of "mediality,"[609] also was useful to explain how many of these digital technologies and programs function as governing apparatuses of citizens. Grusin argues that new modes of technology and the rhetoric about them, particularly since 9/11, represent a contextualized regime of security—a national imperative that

---

[607] John Pløger, "Foucault's Dispositif and the City," *Planning Theory*, 7 (March 2008): 51-70. doi: 10.1177/1473095207085665.
[608] Pløger, "Foucault's Dispositif," 64.
[609] Richard Grusin, *Premediation: Affect and Mediality After 9/11*. (Palgrave Macmillan, 2010).

attempts to quell the fear of the unknown. Grusin employs the term "premediation" to describe a recent media shift—from mediation of the past to a pre-mediation of the future. Such pre-mediations work to instill and promote collective insecurity by predicting disasters, while simultaneously offering an affect of security through a connection to a larger network. We see this happening clearly in all three cities. In NYC, through emergency SMS notifications and social media updates, the city broadcasts its anticipation of immanent threats while also offering an affect of security through rapid, personalized, digital communications about how to protect oneself through the course of the threat. Similar to NYC, Seattle's crime mapping efforts help to construct and maintain power through both threat and reassurance; socio-spatial visualizations of proximity to the criminal warn of the threat but also offer an affect of security. And in San Antonio, cyberattacks are premediated and the city works to promote concern of immanent threats to the security of the nation, while the use of mass surveillance and cyber-security measures, along with increased digital homogeneity, function to quell these fears.

And in all three cities, residents are interpellated into these regimes of security by being encouraged to be "good digital citizens" and report perceived threats. Through citizen reporting, data is produced that, when aggregated, can have real material consequences on urban planning and policy decisions. The use of aggregated data to inform urban planning decisions in NYC, for example, undergirds the city's stated goals of safety, but then functions to widen the gap between socio-economic classes. Residents are also solicited, in all three cities, to become monitors of one another, creating a

crowdsourced digital panopticon. Framed as tools of security, safety, and health, many of

these digital technological applications become exemplary instruments of

governmentality, as I discussed throughout, working to construct, mediate, and govern

politically-desired (neoliberal) subjects.

Democracy and the Functioning of Civil Society

Marshall McLuhan, of course, was one of the first to advocate for the

emancipatory and democratic potential of new media, in what he optimistically predicted

was a burgeoning global village of communications. This global interconnectedness is

"an aspect of the new mass culture we are moving into," McLuhan suggests, "a world of

total involvement in which everybody is so profoundly involved with everybody else and

in which nobody can really imagine what private guilt can be anymore."[610] While

McLuhan[611] argued for the democratic potential of new media, he located that potential

within the medium of technologies, suggesting they are akin to natural resources that

people individually and collectively should use to the benefit of society. More recently,

scholars such as Henry Jenkins,[612] Yochai Benkler,[613] and Clay Shirky[614] have promoted

the politically transformative possibilities of enhanced autonomy provided by digital

technologies, the bottom-up structuring of digital collaborations and "collective

[610] Marshall McLuhan, *The Medium is the Massage: An Inventory of Effects*. (Corte Madera: Ginko Press. 2005 [1967]), 61.
[611] Marshall McLuhan, *The Guttenberg Galaxy: the Making of Typographic Man*. (Toronto: University of Toronto Press, 1962).
[612] Henry Jenkins, *Convergence Culture: Where Old and New Media Collide*. (New York: New York University Press, 2006).
[613] Yochai Benkler, *The Wealth of Networks: How Social Productions Transforms Markets and Freedom*. (New Haven, CT: Yale University Press, 2006).
[614] Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations*. (NY: Penguin Press, 2008).

intelligence," open source economics,[615] and participatory digital democracy. These and similar claims abound in NYC's *Digital Roadmap* and Seattle's digital technological agendas; but along with media's increased potential for democratic participation, also comes the increased ability of those who control the information processes and platforms to use them for what Armand Mattelart describes as "social and productive order."[616]

Many scholars[617] also have focused attention on digital citizenship, the role of social media in the political process, the use of mobile cell phones for activism and political movements, and digital public sphere formations. Because media are distributed across varying platforms (iPhones, the Internet, and television, for instance), media and their messages combine to construct and maintain digitality, argues Grusin, and in the process, these media become mutually constitutive.[618] Grusin also argued that in the new media atmosphere of premediation, political agency is limited, but not foreclosed. He argued that "if premediation has or is to have political agency or efficacy,"[619] it cannot come from merely identifying and opposing capitalism or what Adorno and Horkheimer

---

[615] Open source economics refers to an economic platform that relies primarily on the collaborative production of software or services. Open source software is not individually owned, but is rather "open" to the public (to both produce and consume). Yochai Benkler refers to open source environments as "radically decentralized, collaborative, and non-proprietary," based on the sharing of resources and labor. See: Benkler, *The Wealth of Networks*, 60.

[616] Armand Mattelart, *The Invention of Communication* (Minneapolis, Minn.: University of Minnesota Press, 1996).

[617] See, for example: Lance Bennett, "New Media Power: The Internet and Global Activism," in N. Couldry and J. Curran, eds. *Contesting Media Power: Alternative Media in a Networked World* (Boulder, CO: Rowan and Littlefield, 2003); Manuel Castells, *The Rise of the Network Society* (Oxford: Blackwell, 1996); Richard Kahn and Douglas Kellner, "New Media and Internet Activism: From the 'Battle of Seattle' to Blogging," *New Media & Society*, Vol. 6, No. 1 (London: Sage Publications, 2004), 87-95; Howard Rheingold, *Smart Mobs: The Next Social Revolution* (Cambridge, MA: Perseus, 2002), *The Virtual Community: Finding Connection in a Computerised World* (London: Secker & Warbug, 1994), *The Virtual Community: Homesteading on the Electronic Frontier* (Cambridge, MA: MIT Press, 2000), and *Virtual Reality: The Revolutionary Technology of Computer-Generated Artificial Worlds – and How it Promises to Transform Society* (New York: Schuster & Schuster, 1991).

[618] Grusin, *Premediation*.

[619] Ibid., 141.

called the "culture industry;" rather, because politics, like the concept of premediation, is primarily "non-representational," premediation can only lead to political agency if people identify its potential and individually and collectively make use of it. These and similar theories helped me to explain how the digital technological practices of each city complicate or problematize recent debates about the emergence of a digital democratic public sphere.

Discursive practices of democracy, progress, and security, of course, are not new, but the burgeoning focus on the intersections between these ideas and digital technologies perhaps stem from an increasing sense of national *insecurity*, in turn, reinforcing both distinct (local) and broader (national) ideologies. While many instances of heightened democratic potential, social health, increased security, or economic gains may occur through engagement with various city-sponsored digital infrastructures, these instances transpire, at times, in unexpected and divergent ways. NYC, for example, as discussed in Chapter 2, claims that acquiring greater control over Internet networks—such as through the procurement and regulation of a new gTLD (generic top-level domain)—greater *self*-governance will occur and democratic potential will be enhanced; and yet, the city's acquisition of a gTLD also suggests that the control over communication would be primarily in the hands of the government and its corporate partners, not the people.

Furthermore, while resident interactions with various city-sponsored digital technological programs may certainly offer more access to government, greater security, heightened economic advantages, or increased possibilities of interaction, as Lessig (1998) points out, access to or interaction in the digital sphere does not guarantee a

243

democratic (nor economically or socially progressive) process; rather, various forms of corporate and governmental regulation and control are typically embedded within the digital sphere. Such access, although it proves in certain instances to be beneficial, is also often limited to certain socio-economic groups. While some city-sponsored digital technological programs may provide a *sense* of community and civic cohesion, or at least a perception of increased political agency through participatory city-sponsored blogs and applications, these tools and programs are not always accessible, particularly to residents within the lower socio-economic strata. As the digital programs and initiatives of each city work towards the benefit of residents, they also often function to limit, rather than enhance, discursive spaces, and at times decrease, rather than enrich, political and social potential.

NYC's claims to access, for example, rely heavily on its open data platform; and yet, because the majority of data on the platform is only functional through machine-readable software, the average citizen really does not have access to this data. Access to data, in the case of NYC, comes primarily in the form of reinterpreted and often commercialized data aggregation, visualized or accessed primarily through smartphone apps. Because software engineers and city officials interpret so much of the raw data, in ways that benefit their own goals, it is difficult for the average resident to determine its significance or accuracy. In the case of Seattle, as I argued in Chapter 4, the lack of access is representative of a larger problem, as it stands in contradiction to the city's claims to bridge the digital divide. Even if we are to assume that the city's entire population has access to the Internet, the problem of lack of access to governmental

services is exacerbated by numerous broken links, lack of information, and limited opportunities for digital interactivity.

City-sponsored data-collection programs and applications, as discussed earlier, also are becoming increasingly pervasive, though more fluid and often indiscernible, elements of a participatory panopticon, in which we become active participants in the observation and recording of each other. Such a phenomenon, I contend, can have an adverse effect on larger articulated democratic, economic, or social goals, particularly for those residents who live already in high surveillance areas or are negatively affected by various data that emerge—such as publicly available statistics that identify high-crime areas and, as a result, potentially discourage tourism, shopping, or business and housing investments or reify existing class structures and consciousness. This kind of surveillance furthermore degrades what some consider to be a key feature of urban life—anonymity, as well as potentially poses significant threat to those seeking to hide amongst the crowd, such as undocumented residents or those fleeing from abusive relationships.

Contemporary ideas of global citizenship tend to rely heavily on the existence of a thriving, accessible, and democratically informed information society; and yet, increased securitization and privatization of the Internet – as seen in San Antonio's quest for greater cyber-security and NYC's acquisition of a city TLD – threaten democratic engagement. In all three cities, "access" is cited as a primary tool of democracy, as it purportedly allows citizens to engage with city officials and possibly influence policy decisions; and yet, in all three cities, access is limited, regulated, and/or commoditized. Robert Neubauer argues that "the ascent of 'informational neoliberalism' has served to

undermine traditional citizenship in favor of market discipline and neoliberal hegemony."[620]

Neubauer also argues that citizenship is no longer based solely on active public participation within the political sphere, nor is democratic participation any longer dependent upon access to the state; rather, citizenship is now often described as a "performative" process (otherwise often described as slacktivism) "exercised through technologically enabled discourse" and the 'control of information.'[621] But the role of citizenship, I contend, is not mutually exclusive; while technologies are not, in and of themselves democratizing, technologies can certainly at times offer real opportunities for activism and help facilitate collective action. Indeed, ideas about citizenship have shifted in the era of globalization, as digital activism has emerged and networks of people attempt to exercise agency through increased connectedness. Proponents of the use of the Internet and mobile technologies as a tool of empowerment argue that the digital era has ushered in a new "transnational citizenry" that uses technology for meaningful, massive social change. While Nick Dyer-Witheford argues that "the only revolution spoken of in advanced capitalism is the information revolution,"[622] many have credited the use of

---

[620] Robert Neubauer, "Neoliberalism in the Information Age, or Vice Versa?: Global Citizenship, Technology and Hegemonic Ideology," *tripleC* 9, no. 2: 195, accessed June 5, 2014, http://www.triple-c.at/index.php/tripleC/article/viewFile/238/250.

[621] Robert Neubauer, "Neoliberalism in the Information Age, or Vice Versa?: Global Citizenship, Technology and Hegemonic Ideology," *tripleC* 9, no. 2: 195, accessed June 5, 2014, http://www.triple-c.at/index.php/tripleC/article/viewFile/238/250.

[622] Nick Dyer-Witheford, *Cyber-Marx. Cycles and Circuits of Struggle in High-Technology Capitalism* (Chicago: University of Chicago Press, 1999).

mobile technologies and social media as effective organizing tools during the Arab Spring uprisings.[623]

In most instances, we also can see territorial sovereignty and physical control of borders give way to transnational information exchange; meanwhile, however, a reverse movement is occurring, wherein some cities work towards a territorialization of cyberspace.[624] These efforts can be seen in both New York City, as it exercises power over a city-wide domain name (.nyc) and the allocation of secondary-level domains, and San Antonio, which works towards greater cyber-regulation and cyber-security.

Recalling Antonio Gramsci's discussion[625] about how political society (formal government) and civil society (mass media, universities, and other ideational agents) constitute each other through various processes of legitimation and articulation to construct and maintain hegemony, I suggest that the digital, cyber, and smart cities of New York, San Antonio, and Seattle are similarly constituted. In all instances, formal government works with various ideational agents to legitimate urban digitality and maintain neoliberal hegemonic systems of governance. Furthermore, the digital, cyber, and smart city are simultaneously ideological constructs and material practices; intertwined with the neoliberal project, such formations can undermine meaningful democratic practice or participation.

---

[623] Phillip Howard and Hussain Muzammil, Democracy's Fourth Wave?" *Digital Media and the Arab Spring* (Oxford, U.K.: Oxford University Press, Inc., 2013).
[624] Enrico Fels, Jan-Frederik Kremer, and Katharina Kronenberg, eds. *Power in the 21st Century: International Security and International Political Economy in a Changing World* (New York: Springer, 2012), 141.
[625] Antonio Gramsci, *Selections from the Prison Notebooks*. Edited and translated by Quintin Hoare and Geoffrey Smith. New York: International Publishers, 2005.

REFERENCES

".nyc TLD 'Huge Milestone' Public Collaboration Assured." *CoActivate*, June 8, 2011. http://www.coactivate.org/projects/campaign-for.nyc/blog/2011/06/12/nyc-tld-huge-milestone-public-collaboration-assured/.

"10 Most Impressive Smart Cities on Earth." *Freshome: Design & Architecture*, February 7, 2013. http://freshome.com/2013/02/07/10-most-impressive-smart-cities-on-earth/.

2011 Downtown Demographics Report: The Changing Face of Downtown Seattle. Downtown Seattle Association, 2011. http://downtownseattle.com/files/file/Demographics2011_WEB.pdf.

"About CBP." *U.S. Customs and Border Protection*. Accessed June 2, 2013. http://www.cbp.gov/about/history.

Adams, W.M. *The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*. The World Conservation Union, 2006. http://cmsdata.iucn.org/downloads/iucn_future_of_sustanability.pdf.

Adorno, Theodor, and Max Horkheimer. "The Culture Industry: Enlightenment as Mass Deception." In *The Dialectic of Enlightenment*, translated by John Cumming. New York: Continuum Publishing, 2000.

Agamben, Giorgio. *State of Exception*. Chicago, 2005.

AlAwadhi, Suha, and Hans J. Scholl. "Aspirations and Realizations: The Smart City of Seattle." Wailea, Maui, HI: IEEE Computer Society, 2013. doi:10.1109/HICSS.2013.102.

Alexander, Rachel. "Seattle Set To Destroy Economy With Highest Minimum Wage Increase In The World." *Townhall.com*, May 20, 2014. http://townhall.com/columnists/rachelalexander/2014/05/20/seattle-set-to-destroy-economy-with-highest-minimum-wage-increase-in-the-world-n1840442.

Anderson, Lincoln. ".nyc Cyber Struggle Pits Local Pioneer Vs. City and Koch, Too." *The Villager*, October 14, 2009. http://thevillager.com/villager_337/nycscberstruggle.html.

Andrejevic, Mark. *Infoglut: How Too Much Information is Changing the Way We Think and Know*. Routledge, 2013.

———. *iSpy: Surveillance and Power in the Interactive Era*. Kansas: University of Kansas Press, 2007.

———. *Reality TV: The Work of Being Watched*. Maryland: Rowman & Littlefield Publishers, 2004.

———. "Surveillance in the Digital Enclosure," *The Communication Review*, 10: 295-317, 2007. http://sspa.boisestate.edu/communication/files/2010/05/Andrejevic-Surveillance-in-the-Digital-Enclosure.pdf.

Atkinson, R. *The Metropolitan New Economy Index*. Washington, DC: Progressive Policy Institute, 2003.

Bakir, Vian. *Sousveillance, Media and Strategic Political Communication*. New York, NY: Continuum International Publishing Group, Inc, 2010.

Balk, Gene. "Census: Seattle Among Top Cities." *Seattle Times Blog*, May 23, 2013. http://blogs.seattletimes.com/today/2013/05/census-seattle-among-top-cities-for-population-growth-2/.

Ball, Gregory. "A Brief History of Twenty-Fourth Air Force." *24th Air Force (AFCYBER)* 12 October (2012). http://www.24af.af.mil/shared/media/document/AFD-121219-034.pdf.

———. *A Brief History of Twenty-Fourth Air Force*, n.d.

Balsamo, Anne. *Technologies of the Gendered Body: Reading Cyborg Woman*. Durham, NC: Duke University Press, 1996.

Barak, Greg, Paul Leighton, and Jeanne Flavin. *Class, Race, Gender, and Crime: The Social Realities of Justice in America*. Plymouth, United Kingdom: Rowman & Littlefield Publishers, 2010.

Barthes, Roland. *Mythologies*. Translated by Annette Lavers. London: Paladin, 1972.

Baudrillard, Jean. *Simulacra and Simulation*. Translated by Sheila Faira Glaser. Ann Arbor, MI: University of Michigan Press, 1994.

Bauman, Zygmunt. *Modernity and the Holocaust*. Cambridge, MA: Cambridge University Press, 1989.

Beck, Koa. "311: The Agency That Never Sleeps." *CRM Magazine*, January 2011. http://www.destinationcrm.com/articles/Editorial/Magazine-Features/311-The-Agency-That-Never-Sleeps-72864.aspx.

Benedikt, Michael. "Cyberspace: First Steps." In *The Cybercultures Reader*, edited by David Bell and Barbara M. Kennedy, 56–76. London: Routledge, 2000.

Benkler, Yochai. *The Wealth of Networks: How Social Productions Transforms Markets and Freedom*. New Haven, Ct: Yale University Press, 2006.

Bennett, Lance. "New Media Power: The Internet and Global Activism." In *Contesting Media Power: Alternative Media in a Networked World*, edited by N Couldry and J Curran. Boulder, CO: Rowan and Littlefield, 2003.

Bernstein, Peter. "New York City's Digital Mayor—Five Steps Program Announced to Secure the Future." *TMCNET*, June 22, 2012. http://www.tmcnet.com/topics/articles/2012/06/22/296071-new-york-citys-digital-mayor-five-steps-program.htm.

Best, Steven, and Douglas Kellner. "Debord, Cybersituations, and the Interactive Spectacle." *SubStance* 28, no. 3 (1999): 129–56.

Biocca, F, and B Delaney. "Immersive Virtual Reality Technology." In *Communication in the Age of Virtual Reality*. Hillsdale, NJ: Lawrence Erlbaum and Associates, 1995.

Bloomberg, Mike. "I've Officially Declared Feb 13 - 17 2012 to Be Social Media Week in NYC." *Twitter*, February 9, 2012. https://twitter.com/MikeBloomberg/status/167658727527301120.

Bollier, David. "Occupy Protesters: Lay Claim to the New Top-Level Domains for Cities!"." *David Bollier: News and Perspectives on the Commons*, October 26, 2011. http://bollier.org/occupy-protesters-lay-claim-new-top-level-domains-cities.

Bollier, David, and Tim Watts. "Saving the Information Commons: A New Public Interest Agenda in Digital Media." New America Foundation, May 2002. http://www.newamerica.net/files/archive/Pub_File_866_1.pdf.

Bolton, Alexander. "ICE Agents: Strengthen Enforcement Measures in Senate Immigration Bill." *The Hill*, no. June 12 (2013). http://thehill.com/homenews/senate/305233-ice-agents-strengthen-enforcement-measures-in-senate-immigration-bill-.

Boswell, Sharon, and Lorraine McConaghy. "A Model for the Future." *The Seattle Times*, September 22, 1996, Special to the Times edition. http://seattletimes.com/special/centennial/september/future.html.

———. "A Silicon Forest Grows." *The Seattle Times*, December 1, 1996. http://seattletimes.com/special/centennial/december/silicon_forest.htmlhttp://seattletimes.com/special/centennial/december/silicon_forest.html.

Brooks Olsen, Hanna. "Seattle Named the Smartest City in North America." *Komo News*. November 15, 2013. http://www.komonews.com/news/around-the-sound/Seattle-smartest-city-in-North-America-232070341.html.

Brosius, Maria. *Ancient Archives and Archival Traditions: Concepts of Record-Keeping in the Ancient World*. London: Oxford University Press, Inc., 2003.

Brown, Wendy. *Edgework: Critical Essays on Knowledge and Politics*. Princeton, NJ: Princeton University Press, 2005.

Buck-Morss, Susan. "Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered." *October* 62, no. Autumn (1992): 3–41.

Burchell, Graham, Colin Gordon, and Peter Miller, eds. *The Foucault Effect: Studies in Governmentality*. Chicago: University of Chicago Press, 1991.

Calhoun, Craig. *Critical Social Theory: Culture, History, and the Challenges of Difference*. MA: Blackwell Publishers, Ltd, 1995.

Cantú, Aaron. "Algorithms and Future Crimes: Welcome to the Racial Profiling of the Future," *Alternet*, February 28, 2014. http://www.alternet.org/algorithms-and-future-crimes-welcome-racial-profiling-future.

Carey, James. *Communication as Culture: Essays on Media and Society*. Boston, MA: Unwin Hyman, 1989.

Castells, Manuel. "End of Millenium." In *The Information Age: Economy, Society, and Culture*, Vol. 1. Malden, MA: Blackwell Publishing, 2000.

———. "The Informational City." In *Information Technology, Economic Restructuring and the Urban Regional Process*. Cambridge, MA: Oxford University Press, Inc., 1989.

———. "The Power of Identity." In *The Information Age: Economy, Society, and Culture*, Vol. 2. Malden, MA: Blackwell Publishing, 2004.

———. *The Rise of the Network Society*. Oxford: Blackwell, 1996.

Chan, Sewell. "N.Y.C. Condoms in Translation." *The New York Times*, February 13, 2008, U.S. edition, sec. N.Y./Region. http://cityroom.blogs.nytimes.com/2008/02/13/nyc-condoms-in-translation/.

Chourabi, Hafedh, J. Ramon Gil-Garcia, Theresa Pardo, Taewoo Nam, Sehl Mellouli, Hans J. Scholl, Shawn Walker, and Karine Nahon. "Understanding Smart City Initiatives: An Integrative and Comprehensive Theoretical Framework." Maui, Hawaii: IEEE Computer Society, 2012. doi:10.1109/HICSS.2012.615.

City of New York. *311 Customer Service Center: More Calls and a Growing Budget.* New York City Independent Budget Office, April 2008. http://www.ibo.nyc.ny.us/iboreports/311Apr08.pdf.

———. "About NYCityMap." *NYCityMap*, 2013. http://nycitymap.wordpress.com/about/.

———. "City Council to Pass Groundbreaking Open Data Bill." Press Release. *News from the Blue Room*, February 29, 2012. http://council.nyc.gov/html/releases/022912stated.shtml.

———. "DEP Announces More Than 500,000 People Visited Water-On-the-Go Fountains in 2012." Press Release. *Department of Environmental Protection*, September 6, 2013. http://www.nyc.gov/html/dep/html/press_releases/12-62pr.shtml.

———. "Health Department's NYC Condom Finder Available on All Smartphones in Time for National Condom Awareness Day, Feb. 14." Press Release. *News From the Blue Room*, February 13, 2012. http://www.nyc.gov/html/doh/html/pr2012/pr003-12.shtml.

———. "Internet Empowerment Resolution." Queens Community Board 3, April 19, 2001. http://www.cb3qn.nyc.gov/page/62506/.

———. "Mayor Bloomberg Announces Formation of the Mayor's Office of Media & Entertainment." *NYC Media*, July 30, 2010. http://www.nyc.gov/html/media/html/news/mome.shtml.

———. "Mayor Bloomberg Signs Legislation Creating a Citywide Comprehensive Open Data Policy." Press Release. *News from the Blue Room*, March 7, 2012. http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2012a%2Fpr081-12.html&cc=unused1978&rc=1194&ndi=1.

———. "Mayor Bloomberg, Commissioner Kelly, Commissioner Cosgrave, and Criminal Justice Coordinator Feinblatt Announce That 911 and 311 Can Now Receive Pictures and Video from Cell Phones and Computers." Press Release. *News from the Blue Room*, September 9, 2008. http://tinyurl.com/6nd3yj.

———. "Mayor Bloomberg, the Federal Communications Commission, the Federal Emergency Management Agency and Wireless Provider Executives Unveil New, First-In-The-Nation Emergency Notification Service That Will Reach Mobile Devices Located in Affected Areas." Press Release. *News from the Blue Room*, May 10, 2011. http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2011a%2Fpr146-11.html&cc=unused1978&rc=1194&ndi=1.

———. *Mayor's Management Report*, September 2012. http://www.nyc.gov/html/ops/downloads/pdf/mmr0912/0912_mmr.pdf.

———. "New York City's Digital Roadmap: Progress & Innovation." NYC Digital, August 2012. http://www.nyc.gov/html/digital/downloads/pdf/digitalroadmap2012.pdf.

———. "NYC 311 Service Request Map," 2013. http://www1.nyc.gov/apps/311srmap/.

———. "NYC DOT Launches 'You The Man' iPhone App to Reduce Drunk Driving in New York City." Press Release. *News from the Blue Room*, September 8, 2010. http://www.nyc.gov/html/dot/html/pr2010/pr10_039.shtml.

———. *NYC Open Data*. Accessed August 23, 2013. https://nycopendata.socrata.com/.

———. "NYC.gov Goes Social." *NYC Digital*, 2013. http://www.nyc.gov/html/digital/html/news/nycgovsm.shtml.

———. "PlaNYC: A Greener, Greater New York," April 2011. http://nytelecom.vo.llnwd.net/o15/agencies/planyc2030/pdf/planyc_2011_planyc_full_report.pdf.

———. "Reinvent NYC.Gov, New York City Government's First Hackathon,"." *NYC Digital*. Accessed January 13, 2012. http://www.nyc.gov/html/mome/digital/html/developercommunity/developercommunity.shtml.

———. "Road Map for the Digital City: Achieving New York City's Digital Future," Spring 2011. http://www.nyc.gov/html/media/media/PDF/90dayreport.pdf.

———. *Setting the Digital Standard: Open Government in NYC*, 2011. http://www.nyc.gov/html/nycmg/nyctvod/html/home/minyinsider_digitalpanel.html.

———. "Welcome to NYCStat." *NYC Stat: Mayor's Office of Operations*, 2013. http://www.nyc.gov/html/ops/nycstat/html/home/home.shtml.

———. "Year in Review." *NYC Digital*. Accessed August 23, 2013.
http://www.nyc.gov/html/digital/html/about/yearinreview2011.shtml.

City of San Antonio. *Information Technology Strategic Plan, FY10-FY13*, 2010.
http://www.sanantonio.gov/itsd/pdf/SanAntonioInformationTechnologyStrategicPla
n_v1.pdf.

———. *ITSD Initiatives*, 2011. http://www.sanantonio.gov/itsd/initiatives.aspx.

———. "Open Government," 2013. http://www.sanantonio.gov/opengovernment/.

———. *San Antonio Military Economic Impact Study*, 2013.
http://www.sanantonio.gov/Portals/0/Files/OMA/JBSAEconReportFINAL.pdf.

———. "What Is Public Information," 2013.
http://www.sanantonio.gov/opengovernment/RecordsCenter.aspx.

———. *With Activation of Cyber Command, San Antonio Emerges As 'Cyber City USA*,
2009.
http://sanantonio.gov/mayor/Media/Cyber%20Command%20press%20release%208
%2018%2009.pdf.

City of Seattle. *911 Incident Responses*. My Neighborhood Map, 2013.
http://web6.seattle.gov/mnm/.

———. "Century 21 World's Fair." *Seattle.gov*. Accessed June 10, 2014.
http://www.seattle.gov/cityarchives/exhibits-and-education/digital-document-
libraries/century-21-worlds-fair.

———. "Community Technology." *Department of Information Technology*, 2013.
http://www.seattle.gov/tech/ctc/.

———. *Data.seattle.gov*, 2013. https://data.seattle.gov/.

———. *Department of Information Technology: 2010 Annual Report*, 2010.
http://www.seattle.gov/DOIT/docs/2010AnnualReport.pdf.

———. "Digital Inclusion and the Seattle Community Technology Program," 2014.
http://www.seattle.gov/tech/about.

———. "Goals for a Technology Healthy Community." *Department of Information
Technology*, 2011. http://www.seattle.gov/tech/indicators/goals.htm.

———. "Information and Communication Technology." *Office of Economic
Development*, 2014.
http://www.seattle.gov/economicdevelopment/industry_infotech.htm.

———. "Latest News." *Department of Information Technology*, 2011. http://www.seattle.gov/doit/.

———. "Life Sciences." *Seattle.gov*, 2011. http://www.seattle.gov/economicDevelopment/industry_biotech.htm.

———. "Life Sciences." *Office of Economic Development*. Accessed January 10, 2012. http://www.seattle.gov/economicdevelopment/industry_biotech.htm.

———. *Percentage of the Population Who Are Black or African American Alone*, 2010. http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/dpdd016866.pdf.

———. *See How SPD Is Policing Crime Hot Spots*, 2013. http://www.seattle.gov/police/crime/.

———. *Statistics*. My Neighborhood Map, 2013. http://web6.seattle.gov/mnm/statistics.aspx.

———. "Technology Initiatives & Long-Term Projects." *Department of Information Technology*. Accessed July 20, 2014. http://www.seattle.gov/information-technology/initiatives.

———. "The Citizens' Telecommunications and Technology Advisory Board," 2013. http://www.seattle.gov/cttab/.

———. *Traveler's Information Map*. Department of Transportation, 2013. http://web6.seattle.gov/travelers/.

———. "What Is Digital Inclusion?" *Department of Information Technology*, 2013. http://www.seattle.gov/tech/digitalinclusion/.

Cohen, Boyd. "The Ten Smartest Cities in North America." *Fast Coexist*, November 14, 2013. http://www.fastcoexist.com/3021592/the-10-smartest-cities-in-north-america.

———. "The Top 10 Smartest Cities in North America." *Co.Exist*, December 3, 2012. http://www.fastcoexist.com/1680967/the-top-10-smartest-cities-in-north-america.

"Community Technology Projects Receive Grants in Seattle." *Sustainable City Network*, July 30, 2012. http://www.sustainablecitynetwork.com/topic_channels/finance/article_58462eb6-dab4-11e1-84f1-0019bb30f31a.html.

Compaine, Benjamin, ed. *The Digital Divide: Facing a Crisis or Creating a Myth?* MA: Massachusetts Institute of Technology, 2001.

Cook, John. "Avoid These Neighborhoods: Walk Score Adds Crime Reports." *GeekWire*, July 9, 2013. http://www.geekwire.com/2013/avoid-hoods-walk-score-adds-crime-reports/.

———. "Big data meets crime fighting: Seattle police launch SeaStat to quickly pinpoint 'crime hotspots'," *GeekWire*, September 17, 2014. http://www.geekwire.com/2014/big-data-meets-crime-fighting-seattle-police-launch-seastat-quickly-pinpoint-crime-hotspots/.

Cox, Wendell. "The Evolving Urban Area: Seattle." *New Geography*, June 30, 2011. http://www.newgeography.com/content/002312-the-evolving-urban-area-seattle.

Cranor, Lorrie Faith, and Shane Greenstein. *Communications Policy and Information Technology: Promises, Problems, Prospects*. MIT Press, 2002.

Crampton, Jeremy and Stuart Elden. *Space, knowledge, and power: Foucault and geography*, Ashgate Publishing, 2007.

Crime in the United States 2012. The Federal Bureau of Investigation, 2012. http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/violent-crime/violent-crime.

"Crime Rates for Seattle, WA." *Neighborhood Scout*, 2013. http://www.neighborhoodscout.com/wa/seattle/crime/.

CTIA. *The Cellular Telecommunications Industry Association*. Accessed October 20, 2013. http://www.ctia.org/.

"CTTAB." *Seattle Citizens Telecommunications and Technology Advisory Board*, 2013. http://cttab3.rssing.com/chan-25936361/all_p1.html.

CTTAB. "Digital Inclusion Community Workplan," October 13, 2013. http://cttab.seattle.gov/wp-content/uploads/2013/10/CTTAB_DigInclusion_Work-Plan_5-13.pdf.

Cyber Action Plan Position Statement. San Antonio Chamber of Commerce, 2009. http://sanantoniotxcoc.weblinkconnect.com/cwt/external/wcpages/wcwebcontent/webcontentpage.aspx?contentid=1197.

Davies, William. "Neoliberalism and the revenge of the 'social,'" *Open Democracy*, July 16, 2013. https://www.opendemocracy.net/william-davies/neoliberalism-and-revenge-of-%E2%80%9Csocial%E2%80%9D.

Davis, Kate. "Housing Segregation in Seattle: An Update of A Study and Data on Segregated Housing in Seattle." University of Washington, 2005. http://www.seattle.gov/civilrights/documents/housing_seg_in_seattle-2005.pdf.

De Zavala, Adina. *History and Legends of The Alamo and Other Missions in and Around San Antonio*. San Antonio, Texas, 1917. https://archive.org/stream/historylegendsof00dezarich#page/6/mode/2up.

Delaney, Samuel. *Times Square Red Times Square Blue*. NYU Press, 1999.

Denardis, Laura. *Protocol Politics: The Globalization of Internet Governance*. MIT Press, 2009.

Digital Convergence Initiative: Creating Sustainable Competitive Advantage in Texas. Digital Convergence Initiative (DCI) Task Force, 2005. http://dcitexas.org/DCI_report.pdf.

Dwyer, Jim. "Giving Them Away, and Then Seizing, Condoms." *The New York Times*, April 24, 2012, U.S. edition, sec. N.Y./Region. http://www.nytimes.com/2012/04/25/nyregion/in-new-york-city-giving-away-and-taking-away-condoms.html?_r=0.

Dyer-Witheford, Nick. *Cyber-Marx. Cycles and Circuits of Struggle in High-Technology Capitalism*. Chicago: University of Chicago Press, 1999.

———. "Empire, Immaterial Labor, the New Combinations, and the Global Worker." *Rethinking Marxism* 13, no. 3 (2001): 70–80.

"Editorial: Traffic cameras have proved to save lives," *Seattle Times*, Editorial section, December 30, 2014, http://seattletimes.com/html/editorials/2025347997_trafficcameraseditorialxml.html.

"Education, Business, Military & Workforce." *Cybercity, USA: San Antonio, Texas*, 2013. http://cybercityusa.org.

Egan, Timothy. "Seattle, City of Future, Finds It's a Company Town." *The New York Times*, February 13, 1993, U.S. edition. http://www.nytimes.com/1993/02/13/us/seattle-city-of-future-finds-it-s-a-company-town.html.

Eith, Christine, and Matthew Durose. *Contacts Between Police and the Public, 2008*. Special Report. U.S. Department of Justice, October 2011. http://www.bjs.gov/content/pub/pdf/cpp08.pdf.

Escobar, Arturo, David Hess, Isabel Licha, Will Sibley, Marilyn Strathern, and Judith Sutz. "Welcome to Cyberia: Notes on the Anthropology of Cyberculture." *Current Anthropology* 35 (1994): 211–31.

Eunjung Cha, Ariana. "'Big Data': Trend-watching, to the Nth Degree." *Seattle Times*, June 9, 2012. http://seattletimes.com/html/businesstechnology/2018382234_bigdata10.html.

European Travel Commission. "San Antonio's CVB Use QR Codes, Social Media and Mobile Phone App to Develop the City's Online Presence." *NewMedia TrendWatch*, 2011. http://www.newmediatrendwatch.com/news/834-san-antonios-cvb-use-qr-codes-social-media-and-mobile-phone-app-to-develop-the-citys-online-presence.

Fabian, Jordon. "Inside the Amendment That Could Threaten Immigration Bill." *ABCNEWS*, June 12, 2013. http://abcnews.go.com/ABC_Univision/Politics/inside-amendment-threaten-immigration-bill/story?id=19385977#.UdM0ED4adjY.

Fairclough, Norman, and Ruth Wodak. "Critical Discourse Analysis." In *Discourse Studies: A Multidisciplinary Introduction*, edited by T. Van Dijk, Vol. 2. London: Sage, 1997.

Falk, Tyler. "New York City Passes Landmark Open Data Bill." *SmartPlanet*, March 1, 2012. http://www.smartplanet.com/blog/cities/new-york-city-passes-landmark-open-data-bill/2190.

Falk, Tyler. "New York City Passes Landmark Open Data Bill." *Smartplanet*, March 1, 2012. http://www.smartplanet.com/blog/cities/new-york-city-passes-landmark-open-data-bill/2190.

"FAQ." *NYCFacets: Smart Open Data Exchange*. Accessed March 3, 2013. http://nyc.pediacities.com/facets/index.php/FAQ.

Fatehi, Kamal, and Jose Sanchez. "Convergence Forces: The Slow March Toward Homogeneity, or De Facto Standardization?" *Competition Forum* 10, no. 2 (2012): 80–85.

Federal Communications Commission. "Commercial Mobile Telephone Alerts (CMAS)." *Public Safety and Homeland Security Bureau*. Accessed October 24, 2013. http://transition.fcc.gov/pshs/services/cmas.html.

———. "Wireless Emergency Alerts," 2013. http://www.fema.gov/wireless-emergency-alerts#1.

Fels, Enrico, Jan-Frederik Kremer, and Katharina Kronenberg, eds. *Power in the 21st Century: International Security and International Political Economy in a Changing World*. New York: Springer, 2012.

Fleming, David. *City of Rhetoric: Revitalizing the Public Sphere in Metropolitan America*. New York: SUNY Press, 2008.

Fletcher, Michael, and Jonathan Weisman. "Bush Signs Bill Authorizing 700-Mile Fence for Border." *Washington Post*, October 27, 2006. http://www.washingtonpost.com/wp-dyn/content/article/2006/10/26/AR2006102600120.html.

Flichy, Patrice. "The Imaginary Internet: How Utopian Fantasy Shaped the Making of a New Information Infrastructure." *Business and Economic History Online* 2, no. 1. Accessed December 11, 2011. http://www.h-et.org/~business/bhcweb/publications/BEHonline/2004/Flichy.pdf.

Foley, Elise. "Senate Immigration Reform Bill Passes With Strong Majority." *Huffington Post*, June 27, 2013. http://www.huffingtonpost.com/2013/06/27/senate-immigration-reform-bill_n_3511664.html.

Foucault, Michel. *Birth of Biopolitics: Lectures at the Collège de France, 1978-1979*. Graham Burchell, tr., Arnold I. Davidson, ed. New York: Palgrave Macmillan, 2008.

———. *Discipline and Punish*. New York, NY: Vintage Books, 1995.

———. "Governmentality." In *The Foucault Effect: Studies in Governmentality*, edited by Graham Burchell, Colin Gordon, and Peter Miller. Chicago: Chicago University Press, 1991.

———. *Security, Territory, Population: Lectures at the Collége De France 1977-1978*. New York, NY: Palgrave Macmillan, 2004.

———. *Society Must Be Defended: Lectures at the Collège de France 1975-1976*. New York, NY: PIcador, 2003.

———. *The History of Sexuality: An Introduction*. 1st ed. New York, NY: Vintage Books, 1978.

———. *The Order of Things: An Archeology of the Human Sciences*. New York, NY: Routledge, 2005.

Franko Aas, Katj. *Technologies of Insecurity: The Surveillance of Everyday Life*. NY: Routledge, 2009.

Fraser, Nancy. "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy." In *The Phantom Public Sphere*, edited by Bruce Robbins. Minneapolis: University of Minnesota Press, 1993.

Freilich, Robert H., Robert J. Sitkowski, Seth D. Mennillo, and Robert H. Freilich. *From sprawl to sustainability: smart growth, new urbanism, green development, and renewable energy*. Chicago, Ill: Section of State and Local Government Law, American Bar Association, 2010.

Frow, John, and Meaghan Morris. *Australian Cultural Studies: A Reader*. IL: University of Illinois Press, 1993.

Fuchs, Christian. "Strategies and Forms of Capital Accumulation in Transnational Informational Capitalism." *Transform!at: Verein Zur Förderung Linker Diskurse Und Politik*, 2007. http://www.transform.or.at/images/Accumulation.pdf.

Gaines, Nicole. "Discrimination Is the Well-documented Cause of Race Disparity in Prison." *Seattle Times*, October 29, 2010, Special to the Times edition. http://seattletimes.com/html/opinion/2013296639_guest30gaines.html.

Gainous, Jason and Kevin Wagner, eds. *Tweeting to Power: The Social Media Revolution in American Politics*. Oxford: Oxford University Press, 2014.

Galloway, Alexander, and Eugene Thacker. *The Exploit: A Theory of Networks*. Minnesota: Minnesota Press, 2007.

Gardiner, Lambert. "Virtual Reality/Cyberspace: Challenges to Communication Studies." *Canadian Journal of Communication* 18, no. 3 (1993). http://www.cjc-online.ca/index.php/journal/article/view/762/668.

Garner, Steve. *Racisms: An Introduction*. Los Angeles: SAGE, 2009.

Geertz, Clifford. "Thick Description: Toward an Interpretive Theory of Culture." In *The Interpretation of Culture*. NY: Basic Books, 1973.

Gertsberg, Deniza. "Loss of Biodiversity and Genetically Modified Crops." *GMO Journal: Food Safety Politics*, June 17, 2011. http://gmo-journal.com/2011/06/17/loss-of-biodiversity-and-genetically-modified-crops/.

"Get Online Day 11/18." *ConnectUp*, November 16, 2010. http://connectupkc.blogspot.com/2010/11/get-online-day-1118.html.

Gibson, Timothy. *Securing the Spectacular City: The Politics of Revitalization and Homelessness in Downtown Seattle*. Lanham, Md: Lexington Books, 2004.

Giddens, Anthony. *The Consequences of Modernity*. Stanford: Stanford University Press, 1990.

"Global Investment in Smart City Technology Infrastructure to Total $108 Billion by 2020." *Fierce Energy*, 2014. http://www.fierceenergy.com/press-releases/global-investment-smart-city-technology-infrastructure-total-108-billion-20.

Gonzalez, J. "City Parks to Get Free Wifi, but Limited to 30 Minutes Per User Per Month." *NYDailyNews.com*, September 14, 2010, sec. Local. http://www.nydailynews.com/new-york/city-parks-free-wifi-limited-30-minutes-user-month-article-1.438792.

Gozales, J. "Free iPhone App Designed for Citizen Complaints a Dud, Fumes Bloomberg." *NYDailyNews.com*, April 16, 2012. http://www.nydailynews.com/new-york/smartphone-app-designed-citizen-complaints-dud-angers-mayor-bloomberg-article-1.1062174.

Graham, Stephen. *Cities Under Siege*. New York: Verso, 2010.

Graham, Stephen, and Simon Marvin. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*. New York: Routledge, 2001.

Gramsci, Antonio. *Selections from Cultural Writings*. Edited and translated by William Boelhower. London: Lawrence and Whishart, 1985.

———. *Selections from the Prison Notebooks*. Translated by Quintin Hoare and Geoffrey Smith. New York: International Publishers, 2005.

Green, Anneke. "Immigration Reform Needs to Take a Page from Jeb Bush's Book." *U.S. News and World Report*, June 11, 2013. http://www.usnews.com/opinion/blogs/anneke-green/2013/06/11/bush-and-bolicks-immigration-wars-points-the-way-on-reform.

Grusin, Richard. "Premediating Sandy." *Premediation Blog*, October 29, 2012. http://premediation.blogspot.com/2012/10/premediating-sandy.html.

———. "Premediation, Economic Crisis, and the Post-9/11 Security Bubble." Blog. *Premediation Blog*, March 10, 2009. http://premediation.blogspot.com/search?q=premediation+9%2F11.

———. *Premediation: Affect and Mediality After 9/11*. Palg, 2010.

Grynbaum, Michael. "Mayor Warns of the Pitfalls in Social Media." *The New York Times*, March 21, 2012, U.S. edition, sec. N.Y./Region.

http://www.nytimes.com/2012/03/22/nyregion/bloomberg-says-social-media-can-hurt-governing.html?_r=3&.

"H.R. 5785 (109th): Warning, Alert, and Response Network Act." *Govtrack.us*, 2013. https://www.govtrack.us/congress/bills/109/hr5785.

Habermas, Jürgen, Thomas Burger, and Frederick Lawrence. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, MA: MIT Press, 1991.

Hall, Stuart. "Encoding/Decoding." In *Cultural Studies Reader*, edited by Simon During, 2nd ed. New York: Routledge, 1993.

Hardt, Michael. "Affective Labor." *Boundary* 26, no. 2 (1999): 89–100.

Hardt, Michael, and Toni Negri. *Empire*. Cambridge, MA: Harvard University Press, 2000.

Harris, Alexes, and Katherine Beckett. *Racial Disparities in Criminal Justice*. Accessed January 23, 2013. http://www.law.washington.edu/about/racetaskforce/Harris_Becket_Sup_Ct.pdf.

Harvey, David. *A Brief History of Neoliberalism*. Oxford: Oxford University Press, 2005.

———. "Neoliberalism as Creative Destruction," *The ANNALS of the American Academy of Political and Social Science*, March 2007, vol. 610, no. 1, 21-44.

———. *The Condition of Postmodernity*. Oxford, U.K.: Oxford University Press, Inc., 1989.

———. *The Enigma of Capital and the Crises of Capitalism*. London: Profile Books, 2010.

———. *The Limits to Capital*. Oxford: Blackwell Publishing, 1982.

———. *The New Imperialism*. Oxford, U.K.: Oxford University Press, Inc., 2003.

Hassan, Rashid, Robert Scholes, and Neville Ash. *Ecosystems and Human Well-Being: Current State and Trends*. Island Press, 2005.

Heim, Kristi. "Homeless Are Economic Assets, Says Gates Foundation CEO." *Seattle Times*, September 25, 2009. http://seattletimes.com/html/thebusinessofgiving/2009944773__photographersource_jeff_raike.html.

Heim, Michael. *The Metaphysics of Virtual Reality*. New York: Oxford University Press, 1993.

Held, David. *Introduction to Critical Theory: Horkheimer to Habermas*. University of California Press, 1980.

Henderson, Justin. *Grunge Seattle*. Berkeley, California: Roaring Forties Press, 2010.

Hicks, Nolan. "NSA Plant in San Antonio Shrouded in Secrecy." *Houston Chronicle*, June 16, 2013. http://www.chron.com/news/houston-texas/houston/article/NSA-plant-in-San-Antonio-shrouded-in-secrecy-4604109.php.

Hirt, Sonia. "Toward Postmodern Urbanism? Evolution of Planning in Cleveland, Ohio." *Journal of Planning Education and Research* 25 (September 2005): 27–42.

Hollands, Robert. "Will the Real Smart City Please Stand Up?" *City* 12, no. 3 (2008): 303–20. doi:10.1080/13604810802479126.

"Homelessness in America 2013." *Town Bubble*, 2013. http://www.townbubble.com/info/homelessness-in-america-2013.

Hopkins, Nick. "Militarisation of cyberspace: how the global power struggle moved online," *The Guardian*, April 16, 2012. http://www.theguardian.com/technology/2012/apr/16/militarisation-of-cyberspace-power-struggle.

Horner, Megan. "San Antonio: Growth in High-Tech Is on the Horizon." *Rivard Report*, February 5, 2013. http://therivardreport.com/san-antonio-growth-in-high-tech-is-on-the-horizon/.

Howard, Alex. "NYC's PLAN to Alert Citizens to Danger During Hurricane Sandy." *O'Reilly Radar*, October 30, 2012. http://radar.oreilly.com/2012/10/hurricane-sandy-mobile-text-alert-plan.html.

Howard, Phillip, and Hussain Muzammil. *Democracy's Fourth Wave?" Digital Media and the Arab Spring*. Oxford, U.K.: Oxford University Press, Inc., 2013.

Howe, Jeff. "Crowdsourcing: A Definition." *Crowdsourcing*, June 2, 2006. http://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html.

"http://Home.nyc." *Connecting NYC*. Accessed November 1, 2013. http://connectingnyc.org/.

Huckin, Thomas. "Social Approaches: Critical Discourse Analysis." *Bureau of Educational and Cultural Affairs*, 2011. http://eca.state.gov/education/engteaching/pubs/BR/functionalsec3_6.htm.

Human Rights Council. "A/HRC/20/L.13." United Nations General Assembly, June 29, 2012. http://www.regeringen.se/content/1/c6/19/64/51/6999c512.pdf.

Huntington, Samuel. *Who Are We?: The Challenges to America's National Identity*. New York, NY: Simon & Schuster, 2004.

Hutchinson, Kate. "An In-Depth Look at .NYC." *United Domains Blog*, January 21, 2011. http://blog.ud.com/2011/01/ntld-news-an-in-depth-look-at-nyc/.

Huyssen, Andreas, and Tania Modleski. "Mass Culture as Woman: Modernism's Other." In *Studies in Entertainment: Critical Approaches to Mass Culture*. Durham, NC: Duke University Press, 2002.

"Information Technology / Cybersecurity." *San Antonio Economic Development Foundation*, 2013. http://www.sanantonioedf.com/industry-clusters/it-a-cyber-security.

Information Technology Committee. San Antonio Chamber of Commerce, 2013. http://www.sachamber.org/cwt/external/wcpages/getinvolved/IT_Committee.aspx.

Information Technology Equity Project Management Tool. Seattle, WA: City of Seattle. Accessed July 20, 2014. http://www.seattle.gov/Documents/Departments/Tech/SeattleSocJustice_IT_Project_Management_Checklist.pdf.

Innis, Harold. *Empire and Communications*. Oxford, U.K.: Clarendon Press, 1950.

———. *The Bias of Communication*. Toronto: University of Toronto Press, 1951.

Ishida, Toru, and Katherine Isbister, eds. *Digital Cities: Technologies, Experiences and Future Perspectives*. Berlin: Springer, 2000.

Jacobs, Jane. *The Death and Life of Great American Cities*. New York, NY: Vintage Books, 1992.

James, Jeffrey. *Technology, Globalization and Poverty*. Northampton, MA: Edward Elgar Publishing, Inc., 2002.

Jefferson, Cord. "New York City Launches the World's First Condom App," February 14, 2011. http://www.good.is/posts/new-york-city-launches-the-world-s-first-condom-app.

Jeffries, Adrianne. "Mayor Bloomberg Is Sick of Everyone Criticizing Him on Twitter All the Time." *BetaBeat*, March 22, 2012. http://betabeat.com/2012/03/mayor-bloomberg-is-sick-of-everyone-criticizing-the-city-on-twitter-all-the-time/.

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide*. New York: NYU Press, 2006.

Johnson, Steven. "What a Hundred Million Calls to 311 Reveal About New York." *Wired Magazine*, November 1, 2010. http://www.wired.com/magazine/2010/11/ff_311_new_york/.

Kahn, Richard, and Douglas Kellner. "New Media and Internet Activism: From the 'Battle of Seattle' to Blogging." *New Media & Society* 6, no. 1 (2004): 87–95.

Kates, Robert, Thomas Parris, and Anthony Leiserowitz. "What Is Sustainable Development? Goals, Indicators, Values, and Practice." *Environment: Science and Policy for Sustainable Development* 47, no. 3 (April 2005): 8–21. http://www.hks.harvard.edu/sustsci/ists/docs/whatisSD_env_kates_0504.pdf.

Kellner, Douglas. *Cultural Studies, multiculturalism, and media culture*. In G. Dines & J. Humez, eds., *Gender, race, and class in media: a critical reader*, 7-17. Thousand Oaks, CA: Sage, 2011.

King's Dream Remains an Elusive Goal; Many Americans See Racial Disparities. Pew Research Social & Demographic Trends. *Pew Research Center*, August 22, 2013. http://www.pewsocialtrends.org/2013/08/22/kings-dream-remains-an-elusive-goal-many-americans-see-racial-disparities/.

Klingle, Matthew. *Emerald City: An Environmental History of Seattle*. New Haven, Ct: Yale University Press, 2009.

Kontokosta, Constantine. "Building the Smart City." *Commercial Property Executive* 26, no. 4 (April 2012): 19–20.

Koppel, Nathan. "Texas School District Drops Microchip-Tracking System," *The Wall Street Journal*, July 16, 2013. http://online.wsj.com/articles/SB10001424127887323664204578609943665353714.

Koskela, Hille. "'The Other Side of Surveillance': Webcams, Power and Agency." In *Theorizing Surveillance: The Panopticon and Beyond*, edited by David Lyon. Portland, Oregon: Willan Publishing, 2006.

Krishnan, Armin. *War as Business: Technological Change and Military Service Contracting*. Burlington, VT: Ashgate Publishing, 2008.

Lefebvre, Henri. *Production of Space*. NY: Blackwell Publishing, 1991.

Lesser, Shawn. "Top Ten Smart, Sustainable Cities." *Green Chip Stocks*, March 16, 2012. http://www.greenchipstocks.com/articles/sustainable-cities/1632.

Lessig, Lawrence. "The Laws of Cyberspace." Accessed August 21, 2014.
    https://cyber.law.harvard.edu/works/lessig/laws_cyberspace.pdf.

"Lesson Twenty-five: The Impact of the Cold War on Washington, 1962 Seattle World's
    Fair." *Center for the Study of the Pacific Northwest*, 2013.
    http://www.washington.edu/uwired/outreach/cspn/Website/Classroom%20Materials/
    Pacific%20Northwest%20History/Lessons/Lesson%2025/25.html.

Leydesdorff, L., and M. Deakin. "The Triple-Helix Model of Smart Cities: A Neo-
    Evolutionary Perspective." *Journal of Urban Technology* 18 (2011): 53–63.

"Living in Seattle." *Walk Score*, 2014. http://www.walkscore.com/WA/Seattle.

Lombardi, Patrizia, Silvia Giordano, Hend Farouh, and Wael Yousef. "Modelling the
    Smart City Performance." *Innovation - The European Journal of Social Science
    Research* 25, no. 2 (June 2012): 137–49.

Lovink, Geert. "The Principle of Notworking." In *Concepts in Critical Internet Culture*.
    Amsterdam: Hogeschool van Amsterdam, 2005. http://www.hva.nl/wp-
    content/uploads/2012/01/ol09-050224-lovink.pdf.

Lowenhaupt, Thomas, and Michael Gurstein. "Towards City-TLDs in the Public Interest-
    A White Paper." CoActivate.org, July 2007.
    http://www.coactivate.org/projects/campaign-for.nyc/towards-city-tlds-in-the-
    public-interest.

Lowenhaupt, Thomas. "City Council Reso. #1495: The .nyc TLD – Creating Space on
    the Internet for a More Livable New York." Presentation to the New York City
    Council's Technology in Government Committee, New York, NY, October 17,
    2008. http://www.coactivate.org/projects/campaign-for.nyc/city-council-hearing-on-
    reso-1495.

Lynch, Kevin. *A Theory of Good City Form*. Cambridge, MA: MIT Press, 1981.

———. *The Image of the City*. Ca: M, 1960.

Lyon, David. *Surveillance Studies: An Overview*. Cambridge, UK: Polity Press, 2007.

Lyotard, Jean-Francois. *The Postmodern Condition*. Manchester: Manchester University
    Press, 1984.

MacDonald, John, and Robert J. Sampson, eds. *Immigration and the Social Fabric of
    American Cities*, n.d.

Machlis, Sharon. "How New York Data Analysts Not Only Boost Efficiency, but Save
    Lives." *Computerworld*, September 19, 2012.

http://blogs.computerworld.com/business-intelligenceanalytics/21017/how-new-york-data-analysts-not-only-boost-efficiency-save-lives.

Mann, Steve, Jason Nolan, and Barr Wellman. "Sousveillance: Inventing and Using Wearable Computing Devices for Data Collection in Surveillance Environments." *Surveillance & Society* 1, no. 3 (2003): 331–55.

Mann, Steve. "Equiveillance: The Equilibrium Between Sur-veillance and Sous-veillance." Toronto, Canada, 2005. http://www.idtrail.org/files/Mann,%20Equiveillance.pdf.

Mansell, Robin. "Political Economy, Power and New Media." *New Media and Society* 6, no. 1 (February 2004): 96–105.

Marcuse, Herbert. *Negations: Essays in Critical Theory*. Beacon Press, 1968.

———. *One-Dimensional Man*. New York, NY: Routledge Classics, 2002.

Mattelart, Armand. *The Globalization of Surveillance*. Cambridge: Polity, 2010.

———. *The Invention of Communication*. Minneapolis, Minnesota: University of Minnesota Press, 1996.

"Mayor Ed Murray Expands Seattle's Race and Social Justice Initiative." *Seattle.gov*. April 3, 2014. https://www.seattle.gov/rsji/mayor-expands-seattles-rsji.

McChesney, Robert. "Global Media, Neoliberalism, and Imperialism," *Monthly Review*, Vol. 52, Issue 10, March, 2011. http://monthlyreview.org/2001/03/01/global-media-neoliberalism-and-imperialism/.

McCurdy, Howard. *Space and the American Imagination*. 2nd ed. Baltimore, Maryland: The Johns Hopkins University Press, 2011.

McLellan, David, ed. *Karl Marx, Selected Writings*. 2nd ed. Oxford, U.K.: Oxford University Press, Inc., 2000.

McLuhan, Marshall. *The Guttenberg Galaxy: The Making of Typographic Man*. Toronto: University of Toronto Press, 1962.

———. *The Medium Is the Massage: An Inventory of Effects*. Corte Madera: Ginko Press, 2005.

———. *Understanding Media: The Extensions of Man*. NY: Routledge, 2001.

Meyrowitz, Joshua. *No Sense of Place: The Impact of Electronic Media on Social Behavior*. New York: Oxford University Press, 1985.

Miller, Lisa. *The Perils of Federalism: Race, Poverty, and the Politics of Crime Control.* Oxford, U.K.: Oxford University Press, Inc., 2008.

Mitchell, Don. *The Right to the City: Social Justice and the Fight for Public Space.* NY: The Guilford Press, 2003.

Moore, Tina. "Mayor Bloomberg Touts App-y Meals for Healthier Choices in City Eating." *New York Daily News*, March 6, 2012, sec. Local. http://www.nydailynews.com/new-york/mayor-bloomberg-touts-app-y-meals-healthier-choices-city-eating-article-1.1034351.

Morrill, Richard, and Paul Sommers. "Seattle as a Digital City: Unexpected or Inevitable?" *Canadian Journal of Regional Science* XXVIII, no. 2 (Summer) (2005): 349–68.

Mosco, Vincent. *The Digital Sublime: Myth, Power, and Cyberspace.* Cambridge and London: MIT Press, 2004.

Mossberger, Karen, Caroline Tolbert, and Mary Stansbury. *Virtual Inequality: Beyond the Digital Divide.* Washington, DC: Georgetown University Press, 2003.

Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects.* New York: Harcourt, Inc, 1989.

Nam, Taewoo, and Theresa Pardo. "Conceptualizing Smart City with Dimensions of Technology, People, and Institutions," 282–91. College Park, MA, 2011.

Name.Space, Inc. Plaintiff, v. Internet Corporation for Assigned Names and Numbers, Defendant, (United States District Court, Central District of California, Western Division 2012).

Natividad, Joel. "NYC Open Data Bill Passed!!!" *Pediacities Blog*, March 1, 2012. http://www.pediacities.com/2012/03/nyc-open-data-bill-passed/.

Negroponte, Nick. *Being Digital.* New York: Vintage Books, 1995.

"Neighborhoods on the Net." *Seattle Communities Online*, 2014. http://www.seattle.gov/communitiesonline/neighborhoods.htm/.

Nelson, Julie. *Race & Social Justice Initiative.* Seattle, WA: Seattle Office for Civil Rights, December 2008. https://www.seattle.gov/rsji/docs/Jan20FINALExecSummary.pdf.

Neubauer, Robert. "Neoliberalism in the Information Age, or Vice Versa?: Global Citizenship, Technology and Hegemonic Ideology." *tripleC* 9, no. 2: 195–230.

Accessed June 5, 2014. http://www.triple-c.at/index.php/tripleC/article/viewFile/238/250.

Neuman, Laurence. *Social Research Methods*, 3rd ed. Needham Heights: MA: Allyn & Bacon, 1997.

New York City Global Partners. *Best Practice: Call Center for Non-Emergency City Services*, June 13, 2011. http://www.nyc.gov/html/unccp/gprb/downloads/pdf/NYC_Technology_311.pdf.

New York City Media. *Setting the Digital Standard: Open Government in NYC*. Time Warner Center, NYC, 2011. http://www.nyc.gov/html/nycmg/nyctvod/html/home/minyinsider_digitalpanel.html.

"New York City to Expand Access to Public Broadband, Wi-Fi." *Government Technology*, August 19, 2011. http://www.govtech.com/wireless/New-York-City-Expand-Access-Public-Broadband-Wi-Fi.html.

"New York First in Nation to Deploy PLAN Emergency Alert System." *Homeland Security NewsWire*, May 12, 2011. http://www.homelandsecuritynewswire.com/new-york-first-nation-deploy-plan-emergency-alert-system.

Novak, M. "Liquid Architectures in Cyberspace." In *Cyberspace: First Steps*, edited by M Benedikt. Cambridge, MA: MIT Press, 1991.

Now Data. *Data Explorer*, 2011. http://nowdata.cinow.info/.

NYC Open Data. *City Policies: Technical Standards Manual*. City of New York. Accessed May 13, 2014. http://cityofnewyork.github.io/opendatatsm/citypolicies.html.

O'Connor, Harvey. *Revolution in Seattle: A Memoir*. Chicago: Haymarket Books, 2009.

Office of Intergovernmental Relations. *The Greater Seattle Datasheet*. Seattle, WA: City of Seattle, 2011. http://www.seattle.gov/oir/datasheet/Datasheet2010.pdf.

Ong, Walter. *Orality and Literacy: The Technologizing of the World*. New York: Methuen, 1982.

———. *The Presence of the Word: Some Prolegomena for Cultural and Religious History*. New Haven, CT: Yale University Press, n.d.

"Open Government Initiative." Accessed June 9, 2014. http://www.whitehouse.gov/open.

Oxford University Press. "OED Online." *Oxford English Dictionary*. Oxford University Press, Inc., 2012.

Parkhurst, Emily. "Seattle's Fiber-network Deal with Gigabit Squared Is Dead." *Puget Sound Business Journal*, January 7, 2014. http://www.bizjournals.com/seattle/blog/techflash/2014/01/seattles-fiber-deal-with-gigabit.html.

Patterson, Clayton. "Net Pioneer Needs Help in Fight for Rights to .nyc." *The Villager*, May 17, 2012. http://www.thevillager.com/?p=4548.

Paulsen, Derek. "To Map or Not to Map: Assessing the Impact of Crime Maps on Police Officer Perceptions of Crime." *International Journal of Police Science and Management* 6, no. 4 (2004): 234–46.

Paybarah, Azi. "Bloomberg on Instant Access to Information Before He Entered Politics, and After." *Capital New York*, August 7, 2012. http://www.capitalnewyork.com/article/politics/2012/08/6385182/bloomberg-instant-access-information-he-entered-politics-and-after#.UCE0HI__GMQ.email.

Peirce, Neal. "Smart City Thinking, from Seattle to New York." *Seattle Times*. August 24, 2013. http://seattletimes.com/html/opinion/2021676422_peircecolumnsmartcitiesxml.html.

Peterson, Ruth, and Lauren Krivo. *Divergent Social Worlds: Neighborhood Crime and the Racial-Spatial Divide*. New York, NY: Russell Sage Foundation, 2010.

Pløger, John. "Foucault's Dispositif and the City." *Planning Theory* 7 (March 2008): 51–70. doi:10.1177/1473095207085665.

Post, Carole. "Commissioner Carole Post's Remarks: Intro 29-A." presented at the Open Data Bill Signing Ceremony, New. Accessed August 23, 2013. http://www.nyc.gov/html/doitt/downloads/pdf/cp_remarks_030712.pdf.

Postman, Neil. *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*. New York: Viking, 1985.

———. *Technopoly: The Surrender of Culture to Technology*. New York: Knopf, 1992.

Putman, John. *Class and Gender Politics in Progressive-Era Seattle*. Reno, Nevada: University of Nevada Press, 2008.

Quillian, Lincoln, and Devah Pager. "Black Neighbors, Higher Crime? The Role of Racial Stereotypes in Evaluations of Neighborhood Crime." *American Journal of Sociology* 107, no. 3 (November 2001): 717–67.

270

Racial Equity in Seattle: Race and Social Justice Initiative Three-Year Plan 2012-2014.
    Race & Social Justice Initiative, 2012.
    http://www.seattle.gov/Documents/Departments/RSJI/RSJI-Three-Year-Plan_2012-
    14.pdf.

Ramage, Sally. *Privacy: Law of Civil Liberties*. iUniverse, 2007.

*Report of the World Commission on Environment and Development: Our Common
    Future*. United Nations General Assembly, 1987. http://www.un-
    documents.net/wced-ocf.htm.

Rheingold, Howard. *Smart Mobs: The Next Social Revolution*. Cambridge, MA: Perseus,
    2002.

―――. *The Virtual Community: Finding Connection in a Computerised World*. London:
    Secker & Warbug, 1994.

―――. *The Virtual Community: Homesteading on the Electronic Frontier*. Cambridge,
    MA: MIT Press, 2000.

―――. *Virtual Reality: The Revolutionary Technology of Computer-Generated
    Artificial Worlds – and How It Promises to Transform Society*. New York: Schuster
    & Schuster, 1991.

Rice, Stephen, and Michael White. *Race, Ethnicity, and Policing: New and Essential
    Readings*. New York, NY: NYU Press, 2010.

Rigg, Jamie. "Time Warner Cable Expanding Fiber Broadband Coverage in NYC, Only
    Businesses to Benefit." *Engadget*, August 29, 2012.
    http://www.engadget.com/2012/08/29/twc-expanding-fiber-broadband-coverage-in-
    nyc/.

Robertson, Roland. *Digital Capitalism*. Cambridge, MA: MIT Press, 1992.

Rosoff, Henry. "Where Are Seattle's Most Dangerous Streets?" *Kirotv.com*, November
    13, 2013. http://www.kirotv.com/news/news/where-are-seattles-most-dangerous-
    streets/nbrjC/.

Ross, Andrew. *The Celebration Chronicles: Life, Liberty and the Pursuit of Property
    Values in Disney's New Town*. New York: Ballantine Publishing, 1999.

Ross, Sheldon. *Introductory Statistics*. Third. MA: Academic Press, 2010.

Rudd, Andrew. "The Post-2015 Agenda and an Urban Sustainable Development Goal."
    In *Cities at the Center of the World*. Washington, DC, 2014.

"Safe Sex and the City: New York Launhes Condom App." *The Guardian*, February 14, 2011. http://www.theguardian.com/world/2011/feb/14/new-york-condom-app.

Sale, Roger. *Seattle Past to Present*. Seattle, WA: University of Washington Press, 1976.

San Antonio. State & County Quick Facts. United States Census. Accessed June 2, 2014. http://quickfacts.census.gov/qfd/states/48/4865000.html.

"San Antonio Can Lead in Cyberspace." *Cyber City USA*, 2013. http://cybercityusa.org/news/san-antonio-can-lead-cybersecurity.

San Antonio Chamber of Commerce. "Cybersecurity Awareness Month." Accessed June 7, 2014. http://www.sachamber.org/cwt/external/wcpages/getinvolved/cybersecurity.aspx.

―――. "IT Panel Discusses the San Antonio Cyber Action Plan," January 26, 2010. http://www.sachamber.org/cwt/external/wcpages/wcnews/NewsArticleDisplay.aspx?ArticleID=895.

San Antonio Economic Development Foundation. "Information Technology / Cybersecurity." Accessed June 7, 2014. http://www.sanantonioedf.com/industry-clusters/it-a-cyber-security.

"San Antonio Serves as Hub for Air Force Cyber Mission." *San Antonio Economic Development Foundation*, 2013. http://www.sanantonioedf.com/news/articles/235-san-antonio-serves-as-hub-for-air-force-cyber-mission.

San Antonio, TX. A Digital Gateway to Texas History. Texas State Historical Association, 2013. http://www.tshaonline.org/handbook/online/articles/hds02.

Sanders, Craig. *Seattle & The Roots of Urban Sustainability: Inventing Ecotopia*. Pittsburgh, PN: University of Pittsburgh Press, 2010.

Sampson, Robert and Stephen Raudenbush, "Seeing Disorder: Neighborhood Stigma and the Social Construction of 'Broken Windows.'" *Social Psychology Quarterly*, *67*(4), 2004, 319 –342. doi:10.1177/019027250406700401

Scholte, Jan Aart. "Globalisation: Prospects for a Paradigm Shift." In *Politics and Globalisation*, edited by Martin Shaw, 9–22. London: Routledge, 1999.

"Schools' Tracking Devices Causes Controversy," *CBSHouston*, November 25, 2012. http://houston.cbslocal.com/2012/11/25/schools-tracking-devices-causes-controversy/.

Scola, Nancy. "Now That Open Data Is Law in New York, Meet Carole Post, the Enforcer." *Capital New York*, March 21, 2012.

http://www.capitalnewyork.com/article/media/2012/03/5524037/now-open-data-law-new-york-meet-carole-post-enforcer.

"Seattle General Strike Project." *Pacific Northwest Labor & Civil Rights Projects*, 2014. http://depts.washington.edu/labhist/strike/index.shtml.

"Seattle Makes List of 'Smart Cities'." *MYNorthwest*, March 20, 2012. http://mynorthwest.com/11/648368/Seattle-makes-list-of-smart-cities.

Seattle Police Department. *Reported Part II Offenses in Seattle, from 2008*, 2013. http://www.seattle.gov/police/crime/13_Stats/2013_Part_2_Offenses.pdf.

"Seattle Population Grows 2% in a Year." *Puget Sound Business Journal*, August 9, 2012, Morning edition. http://www.bizjournals.com/seattle/morning_call/2012/08/seattle-population-grows-2-in-a-year.html.

"Seattle, WA." *Forbes*, August 2013. http://www.forbes.com/places/wa/seattle/.

Segal, Howard. *Technological Utopianism in American Culture*. Chicago: University of Chicago Press, 1985.

Seifman, David. "Mike: Social Media a Headache." *New York Post*, March 22, 2012. http://www.nypost.com/p/news/local/mike_social_media_headache_03fAVmjEvvJI YKhXMzhNkI.

Sennett, Richard. *Flesh and Stone: The Body and the City in Western Civilization*. NY: Norton & Co., 1996.

Servon, Lisa. *Bridging the Digital Divide: Technology Community and Public Policy*. Malden, MA: Black, 2002.

Shalvey, Kevin. "We'll Have a Week for Social Media, Says Mayor Bloomberg." *Investors.com*, February 10, 2012. http://blogs.investors.com/click/index.php/home/60-tech/4065-well-have-a-week-for-social-media-says-mayor-bloomberg.

Shapiro, Ben. "Massive San Antonio NSA Data Center Raises Eyebrows." *Breitbart.com*, June 17, 2013. http://www.breitbart.com/Big-Government/2013/06/17/NSA-center.

Shirky, Clay. *Here Comes Everybody: The Power of Organizing Without Organization*. NY: Penguin Press, 2008.

"Smart Cities and Smart Citizens." *Sustain Magazine*, May 1, 2013. http://sustainmagazine.com/smart-cities-smart-citizens/.

Smith, Neil. *The New Urban Frontier: Gentrification and the Revanchist City*. NY: Routledge, 1996.

Smith, Gerry. "Rachel Haot, New York's Tech Czar, Is The Woman Behind Bloomberg's Digital Vision." *Huffington Post*, October 10, 2012, U.S. edition, sec. Tech. http://www.huffingtonpost.com/2012/10/10/rachel-haot-new-york-chief-digital-officer_n_1955150.html.

SODA developers. "Application Gallery." *Socrata*, 2013. http://dev.socrata.com/gallery.

Soja, Edward. "Taking Space Personally." In *The Spatial Turn: Interdisciplinary Perspectives*, edited by Barney Warf and Santa Arias, 11–35. Routledge, 2008.

Soper, Taylor. "Seattle Mayor Mike McGInn: We Are the City of the Future." *GeekWire*, November 8, 2012. http://www.geekwire.com/2012/mayor-mike-mcginn-ignite-talk/.

Sotamaa, O. "'Have Fun Working with Our Product!': Critical Perspectives on Computer Game Mod Competitions." In *Proceedings of DiGRA 2005 Conference: Changing Views - World in Play*. Vancouver: University of Vancouver, 2005.

Springer, Simon. "Neoliberalism as discourse: between Foucauldian political economy and Marxian poststructuralism," *Critical Discourse Studies*, 9:2, 133-147, 2012. http://www.tandfonline.com/doi/pdf/10.1080/17405904.2012.656375.

"Stop / Think / Connect," 2014. http://www.stopthinkconnect.org/.

Sweeney, Monica. "New York City Launches Mobile Phone App for Free Condoms." *Huffington Post*, February 14, 2011. http://www.huffingtonpost.com/2011/02/14/new-york-city-launches-mo_n_823250.html.

Tadic, Nenad. "Move over Silicon Valley, Here Comes 'Silicon Forest'." *USA Today*, October 24, 2013, sec. College. http://www.usatoday.com/story/news/nation/2013/10/24/top-cities-for-start-ups/3181641/.

Talton, John. "Despite Recession, Seattle's Biotech Industry Growing." *Seattle Times*, November 2, 2013, sec. Business/Technology. http://seattletimes.com/html/businesstechnology/2022166688_biztaltoncol03xml.html.

Tanabe, Makoto, Peter Van den Besselaar, and Toru Ishida. "Digital Cities II: Computational and Sociological Approaches." In *Second Kyoto Workshop on Digital Cities*. Berlin: Springer, 2011.

Terranova, T. "Free Labor: Producing Culture for the Digital Economy." *Social Text* 18, no. 2 (2000): 33–58.

Texas. State & County Quick Facts. United States Census. Accessed June 2, 2014. http://quickfacts.census.gov/qfd/states/48000.html.

The Benefits of Density in Downtown Seattle. Downtown Seattle Association, 2013. http://www.downtownseattle.com/assets/2013/08/2013-Downtown-Density-Report1.pdf.

The Texas Biotechnological Industry. Office of the Governor. Economic Development and Tourism, 2013. http://www.governor.state.tx.us/files/ecodev/Biotech_Report.pdf.

Thomas, Mike. "Air Force looking to hire 1,000 cyber-security professionals," *San Antonio Business Journal*, January 31, 2013. http://www.bizjournals.com/sanantonio/blog/2013/01/air-force-looking-to-hire-1000.html?page=all.

Tiku, Nitasha. "Before He Was Mayor, Michael Bloomberg Actually Liked Social Media." *Beta*, August 7, 2012. http://betabeat.com/2012/08/before-he-was-mayor-michael-bloomberg-liked-social-media/.

U.S. Census Bureau. *Seattle, Washington*. U.S. Department of Commerce, June 27, 2010. http://quickfacts.census.gov/qfd/states/53/5363000.html.

United Nations Development Programme. *Good Governance - and Sustainable Human Development*. Governance for Sustainable Human Development, 1994. http://mirror.undp.org/magnet/policy/chapter1.htm.

United States Census Bureau. *Population Distribution and Change 2000 to 2010*, March 2011. http://www.census.gov/prod/cen2010/briefs/c2010br-01.pdf.

———. *Seattle (city), Washington*. U.S. Department of Commerce. Accessed January 5, 2014. http://quickfacts.census.gov/qfd/states/53/5363000.html.

"University of Texas at San Antonio Ranked Top U.S. Cybersecurity School." *Homeland Security NewsWire*, February 28, 2014. http://www.homelandsecuritynewswire.com/dr20140228-university-of-texas-at-san-antonio-ranked-top-u-s-cybersecurity-school.

Van den Besselaar, Peter, and Satoshi Koizumi. "Digital Cities III – Information Technologies for Social Capital: Cross-cultural Perspectives." Amsterdam: Springer, 2005.

Van Dijk, Jan. *The Network Society*. London: SAGE, 2006.

Van Dijk, T. *Discourse Studies: A Multidisciplinary Introduction*. London: Sage, 1997.

Von Zuboff, Shoshana. "Widerstand Gegen Datenschnüffelei: Seid Sand Im Getriebe!"." *Frankfurter Allgemeine Feuilleton*, June 25, 2013. http://www.faz.net/aktuell/feuilleton/debatten/widerstand-gegen-datenschnueffelei-seid-sand-im-getriebe-12241589.html.

Warf. "From Surfaces to Networks." In *The Spatial Turn: Interdisciplinary Perspectives*, edited by Barney Warf and Santa Arias, 59–76. Routledge, 2008.

Warf, Barney. *The Spatial Turn: Interdisciplinary Perspectives*. Routledge, 2008.

Warner, Michael. "Publics and Counterpublics." *Public Culture* 14, no. 1 (2002): 49–90.

Warner, Michael, and Craig Calhoun. "The Mass Public and the Mass Subject." In *Habermas and the Public Sphere*. Cambridge, MA: MIT Press, 1992.

Warren, Chris. "Cyber City USA." *San Antonio Magazine*, August 2013. http://www.sanantoniomag.com/SAM/August-2013/Cyber-City-USA/.

Weber, Mark, and Carina Veksler. *The Federal Mandate for Data Center Consolidation*. NetApp, February 2012. http://www.fdcciconnect.com/Portals/0/pdf/WP-7156.pdf.

Weiss, Gilbert, and Ruth Wodak. *Critical Discourse Analysis: Theory and Interdisciplinarity*. NY: Palgrave Macmillan, 2003.

Wheeler, Stephen. *Planning for Sustainability: Creating Liveable, Equitable and Ecological Communities*. 2nd ed. London: Routledge, 2013.

Williams, Raymond. "Base and Superstructure in Marxist Cultural Theory." In *Problems in Materialism and Culture*, 31–49. New York: Verso, 1980.

Wilson, James and George Kelling, "Broken Windows: The police and neighborhood safety," *The Atlantic*, March 1, 1982, http://www.theatlantic.com/magazine/archive/1982/03/broken-windows/304465/.

World Economic Forum. *Personal Data: The Emergence of a New Asset Class*, 2011. http://www3.weforum.org/docs/WEF_ITTC_PersonalDataNewAsset_Report_2011.pdf.

Yasin, Rutrell. "Microsoft Gets into the Smarter City Game." *GCN*, July 11, 2013. http://gcn.com/articles/2013/07/11/smart-cities-microsoft-citynext.aspx.

Yasuoka, Mika, Toru Ishida, and Alessandro Aurigi. "The Advancement of World Digital Cities." In *Handbook of Ambient Intelligence and Smart Environments*. Springer Science+Business Media, LLC, 2010.

Zaino, Jennifer. "NYCFacets Wants To Be the Key to the Digital City of New York's Future." *Semanticweb.com*, March 7, 2012. http://semanticweb.com/nycfacets-wants-to-be-the-key-to-the-digital-city-of-new-yorks-future_b27205#more-27205.

Zuboff, Soshana. *In the Age of the Smart Machine: The Future of Work and Power*. New York: Basic Books, 1988.

Zuckerman, Ethan. "Draft Paper on Mobile Phones and Activism." Blog. *My Heart's in Accra*, April 9, 2007. http://www.ethanzuckerman.com/blog/index.php?s=%22vastly+exceeds+internet+usage%22.

Zukin, Sharon. *The Cultures of Cities*. Cambridge, MA: Blackwell Publishing, 1995.

Zukin,. *The Naked City: The Death and Life of Authentic Urban Places*. New York, NY: Oxford University Press, Inc., 2010.

Zukin, Sharon. *The Culture of Cities*. Blackwell Publishing, 1995.

CURRICULUM VITAE

Kristin Scott was born in Manhattan, NY. She is currently a term assistant professor of Integrative Studies in New Century College at George Mason University. Kristin holds a B.A. in English Literature from Smith College, an MFA in Creative Writing from Columbia College Chicago, an A.M. in Interdisciplinary Studies from the University of Chicago, and is completing her requirements for her Ph.D. in Cultural Studies in the spring of 2015. Her fields of research include visual, media, and digital cultures; urban culture, mobilities, and spatial practices; digital urban sustainability; the urban public sphere; postmodern bodies and biotechnologies; and science and technology studies.