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Claremont McKenna College

Investigating the Municipal Nudge Unit: How Behavioral Interventions Have Quietly Emerged
and Made their Mark on American Cities

submitted to
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and
Professor Lily Geismer

by
Melanie Wolfe

for
Senior Thesis
Spring 2020
May 11, 2020

Acknowledgements

As we complete the longest and most intense project of our academic careers, all of us CMC seniors know that we could not have made it to this point without our thesis readers and academic advisors. I am so appreciative of the insight, patience, and curiosity from which I benefitted by working with Professor Shanna Rose and Professor Lily Geismer. I know this topic was a bit far afield from either of your own research interests, and I've enjoyed the process of learning alongside you this past year. Professor Rose, thank you for our weekly meetings and quarantine Skype calls that kept me (relatively) on track, and thank you for assigning the reading that exposed me to my first nudge in Research Methods! Professor Geismer, thank you for igniting my love of urban studies with *Race and American Cities*. I hope to let my curiosity about cities guide my future career, and I can't tell you how often I think about our class discussions when I read about and explore cities today. I have so much appreciation for you and the historians who write the complicated stories of urban places, and now that I know how hard it is, I will likely wait a while before trying to again. At the end of this, I know that I will write stronger topic sentences because of both of you—or at least I will be aware when I fail to.

Of course, I am also grateful to the rest of my incredible CMC professors and to my parents. To my first teacher and forever tutor, my mom, thank you for supporting me throughout the past four years at CMC. To my dad, as annoyed as I was explaining this thesis to you every time you forgot what I was writing about, I'm glad you asked so often because at times I needed to remind myself what I was arguing, too. Plus, it was a comfort to know that if I ever needed to jump ship and abandon my topic halfway through, at least one person would have no idea.

-Melanie

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Introduction

More than ever, city governments are struggling to address the pressures that growing populations have introduced, ranging from housing shortages to unmanageable traffic congestion, overwhelmed public transit systems, and health crises exacerbated by densely populated communities. In turn, municipal governments themselves have continued to expand, adding new offices and staff members to manage these urban crises and address the growing demand for city services. One recent innovation from the social science world that holds the potential to improve the lives of urban dwellers and improve their governments is a behavioral intervention called a nudge.¹ In simple terms, a nudge can refer to any deliberate attempt to influence an individual's decision without limiting their options. Policy makers can nudge citizens by giving them more information about their options, informing them about their neighbors' or peers actions, or adjusting what legal scholar Cass Sunstein refers to as 'choice architecture' and removing friction from an individual's decision.²

Nudges have the potential to steer individuals in the "right" direction without using monetary incentive or restrictive bans to force their hand. Yet, nudges risk violating the autonomy of nudged citizens. As this thesis argues, cities offer the greatest potential for nudges. Cities have a narrower profile of citizens and a more uniform set of policy concerns, which allow city officials to take advantage of frequent opportunities to interact with citizens and implement widely applicable nudges. Meanwhile, cities also present the most tractable context for addressing critics' concerns about nudges—that they are antidemocratic and threaten autonomy.

¹ Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness: Rev. and Exp. Ed* (New York: Penguin, 2009).

² Pierre Schlag, "Nudge, Choice Architecture, and Libertarian Paternalism" (April 6, 2010). *Michigan Law Review*, Vol. 108, pp. 913-924, 2010; U of Colorado Law Legal Studies Research Paper No. 10-14. Available at SSRN: <https://ssrn.com/abstract=1585362>

Richard H. Thaler and Cass R. Sunstein and John P. Balz, "Choice Architecture" (April 2, 2010). Available at SSRN: <https://ssrn.com/abstract=1583509> or <http://dx.doi.org/10.2139/ssrn.1583509>

Large populations of underinformed, non-consenting subjects exacerbate the antidemocratic and autonomy-undermining tendencies of the most intrusive nudges, and city governments are best able to combat these risks by narrowly tailoring nudges to the democratic will of their residents. Moreover, cities are small enough to facilitate inclusive conversations around nudges and get their citizens' feedback on the ethical and transparency requirements that cities should place on nudge units. Up to this point, there is little evidence of cities engaging in this work, and academics and third-party behavioral consultants have primarily driven the agenda of municipal nudge units. However, it is not too late to change this paradigm, and understanding the early history of nudge units could help citizens and their public officials break through the complexity of behavioral interventions to play a more active role in shaping them.

Initially, this project emerged from a curiosity about the 2008 book *Nudge*'s rise to prominence across academic, political, and social circles in Washington D.C. and across the country. Even before winning the Nobel Prize in Economics in 2017, Richard Thaler had successfully introduced nudges to the public, doing interviews on *NPR* and giving a Google talk on "The Behavioralizing of Economics" in 2015. Even where Thaler was not directly involved in the conversation, nudge units captured popular interest in forums like the podcast *Freakonomics*, which has a 'nudge unit' tag for several of its episodes that delve into the subject.³ While it is not uncommon for academics, especially economists, to introduce new concepts into the political

³ Richard Thaler, "The Behavioralizing of Economics: Why Did It Take So Long?". Lecture, Talks at Google, Cambridge, MA, December 9, 2015. <https://talksat.withgoogle.com/talk/the-behavioralizing-of-economics>

See also: *Freakonomics* podcasts tagged 'Nudge Unit' or 'Behavioral Economics':

<https://freakonomics.com/podcast-tag/nudge-unit/>

<https://freakonomics.com/podcast-tag/behavioral-economics/>

Richard Thaler, interview with Guy Raz, "What is a Nudge?" *TED Radio Hour*, NPR, podcast audio, June 24, 2016, <https://www.npr.org/transcripts/483112809>

Richard Thaler, interview with Kenny Malone and Jacob Goldstein, "Episode 803: Nudge, Nudge, Nobel," *Planet Money*, NPR, podcast audio, November 1, 2017, <https://www.npr.org/transcripts/561425610>

lexicon, nudges' expansion into the political sphere has not necessarily led to politicians championing nudges directly by launching nudges themselves. Rather, the third-party consultancy that launched Britain's nudge unit, the Behavioral Insights Team, and the nonprofit Ideas42 have remained the leading shepherds of nudge into city politics. Staff members from those two organizations, along with affiliated academics, are the primary overseers of nudges in a municipal context. At the same time, charitable organizations like Bloomberg Philanthropies play a large role in funding nudge units, which suggests that nudge units could face an incentive to serve the interests and political agendas of the third-party organizations needed to support their work, rather than the citizens who are supposedly the beneficiaries of nudge units. This unique positioning of municipal nudge units, as public-private partnerships whose activities tend to fly under the radar externally even while they generate confusion internally, makes them a worthy subject of study.

In this study, Chapters 1 and 2 focus on the academic theory underlying nudge, centered around the eponymous 2008 book by Richard Thaler and Cass Sunstein. Written for a wide audience, *Nudge* touches on the history and the potential applications of behavioral economics theories to the more practical realm of politics. Outside of *Nudge*, Sunstein has written multiple defenses of nudge from a legal, ethical, and practical standpoint, often in scholarly conversation with the academics who critique his and Thaler's work. Chapter 2 explores these critiques and Sunstein's defense in order to make the case that nudges are not intrinsically unethical, though they can violate citizens' autonomy if left unchecked.

Chapters 3 and 4 trace the early applications of nudge to politics through offices called nudge units. Chapter 3 details the history of a several nudge units at different scales, starting with a federal office based in the UK, and Chapter 4 focuses on how nudge units fit into the arc of city

politics. By situating nudge units amongst the history of municipal politics, Chapter 4 argues that cities are the ideal platform to implement nudges because they align with cities goals to implement policies that are low-cost, easily scalable, apolitical, and malleable to the city's specific needs. Using the behavioral design teams (BDTs) of New York City, Chicago, and Philadelphia as primary examples, Chapter 4 argues that the nudge units of American municipalities are shaped primarily by the nonprofits that fund their creation and the behavioral science consultancies that staff their offices and design their projects. While each behavioral design team studied has taken on unique projects reflective of the three cities' respective struggles, they are similar in their objectives, design processes, and reliance on academics.

Chapter 6 takes on the evolving role of nudges in the context of the smart city. Given that nudges inherently aspire to change behavior, the more data about human activity that policy architects have access to, the more widely and accurately nudges can be designed. However, the introduction of big data threatens to exacerbate the most intrusive aspects of municipal nudges. Particularly when it comes to urban data that can collect information on the movement of people and goods via sensors, there is typically minimal citizen consent and understanding about what information is being collected. Given that civic data trusts have only recently been proposed by Google-funded venture Sidewalk Labs for its Toronto project, it is unlikely that smaller efforts to match urban data collection with nudge unit initiatives have implemented similar ethical standards. Creating democratic standards that would genuinely address the ethical concerns posed by academics like Sofia Ranchordás would require community input and lengthy debates that are only now beginning to take place in Toronto with the support of Sidewalk Labs.⁴

⁴ On May 7, 2020, Sidewalk Labs announced that it was cancelling its plans to redevelop the Quayside neighborhood of Toronto. However, the past two and a half years of progress Sidewalk Labs achieved with its public partner Waterfront Toronto should serve as a model for complex public-private partnerships, even if for the

After suggesting that intertwining urban data collection efforts with municipal nudges poses a greater threat to individuals' privacy and autonomy than do traditional nudges, Chapter 6 makes a case for nudge units to make explicit their ethical standards, metrics for success and mechanisms for oversight and evaluation.

The nudge units explored in Chapters 4 and 5 and analyzed in Chapters 6 and 7 reveal ambitious goals and promising progress for nudges, but few opportunities for unaffiliated academics or third-party auditors to evaluate their success. Although the initial aim for this project was to evaluate America's municipal nudge units in detail and draw conclusions about why specific projects were more successful than others, the lack of publicly available data sets and absence of independent reviews on these efforts made this task unrealistic. Instead of evaluating the behavioral design strategies and characteristics of nudge units that align with successful outcomes, this thesis seeks to understand the goals that these units have set for themselves and offer several alternatives for ethical and empirical standards that could guide them in the future. Without arguing that one guiding philosophy for behavioral interventions is the right fit for any particular city, this thesis demonstrates that there are enough unanswered questions surrounding nudge units and their scope to merit greater citizen engagement around nudge units. Because nudge units are new and relatively unheard of, they do not attract activists, reformers, and engaged citizens to the same degree as issues like criminal justice, housing, and education, citizens are being left out of a conversation they do not even realize is happening. While nudges do not expend a large amount of a city's resources compared to these other policy areas, the fact that they wield relatively unchecked influence over many policy domains

sake of critiquing it. Sidewalk Labs' community forums, physical visitor space, and 1,500-page Master Innovation and Development Plan

should inspire a desire amongst citizens to understand how nudge units work and whether they are accomplishing their goals.

Although understanding the public-nonprofit partnerships behind America's municipal nudge units is the core goal of this thesis, it is worth noting that there are several other models driving municipal nudges, mainly university-affiliated research institutes and private contractors. Interspersed amongst the stories and websites of the established BDTs discussed thus far are several other behavioral policy implementations originating from universities and the private sector. The What Works Cities Certification Standard Committee, for example, has several members from these sectors.⁵ From the private sector side, Deloitte is one example of a private consulting firm with a webpage dedicated to discussing behavioral design in cities. Although Deloitte does not generally disclose its clients, Deloitte has published several reports detailing institutional knowledge about smart mobility and the means by which big data and information technology are being used to "better manage urban assets."⁶ Deloitte affirms the central insight of choice architecture, "that minor, often inexpensive tweaks to choice environments can wield outsized effects on people's actions," and suggests that cities can become smarter rethinking the design of everyday systems. Likewise, McKinsey and Accenture have teams focused on behavioral insights, and technology companies like IBM, Palentir, and Alphabet (via Sidewalk Labs) have grown increasingly involved in implementing smart-city solutions and nudges for

⁵ The WWC Committee includes including Bill Eggers, the Executive Director of Deloitte's Center for Government Insights; Stephen Goldsmith, the Director of the Innovations in Government Program at Harvard Kennedy School of Government (overseer of Data-Smart City Solutions); and Neil Kleiman, the Director of the New York University Wagner Innovation Labs;, and Beth Blauer, the Executive Director of the Center for Government Excellence (GovEx) at Johns Hopkins University.

See: "Meet the What Works Cities Certification Standard Committee," Medium (What Works Cities, January 25, 2018), <https://medium.com/what-works-cities-certification/meet-the-what-works-cities-certification-standard-committee-524ed1394c74>.

⁶ Eggers, William D., Jim Guszcza and Michael Greene. 2017. "Making Cities Smarter." Deloitte Insights, January 23, 2017, available at <https://www2.deloitte.com/insights/us/en/deloittereview/issue-20/people-for-smarter-cities-collective-intelligence-decision-making.html>

cities.⁷ Wherever academics or private corporations are driving municipal behavioral interventions, citizens should be equally as curious and skeptical about their methods and intentions as they are of behavioral design consultancies', but academic institutes and corporate behavioral science initiatives are not the focus of this thesis because they are not nearly as involved in behavioral interventions at the municipal scale.

Regardless of who is responsible for a nudge's design and implementation, all government-sponsored behavioral interventions require the continued cooperation of public sector partners, who are presumably held accountable for their success by voters. However, leaving academic and private-sector experts in charge of municipal nudge units allows for the possibility that neither citizens nor public officials will fully understand the design, implementation, and implication of nudges deployed in their cities. Although these private sector corporations serve public sector clients who wish to implement nudges, they are not drivers of the political behavior change revolution to the same extent that the nonprofit and social-purpose consultancies are. Moreover, their unwillingness to disclose their clients would make an analysis of their work with cities cursory at best and impossible at worst. Instead, the development of cities' partnerships with ideas⁴² and the Behavioral Insights Team best reveals the evolution of nudges in the urban context is traced through, along with one attempt to launch an independent behavioral science initiative in Philadelphia. Nonetheless, the discussions throughout this thesis concerning the ethics of nudging, the scope of nudge policies in cities, and the changing

⁷ Robert Brauneis and Ellen P. Goodman, Algorithmic Transparency for the Smart City (August 2, 2017). *20 Yale J. of Law & Tech.* 103 (2018); GWU Law School Public Law Research Paper; GWU Legal Studies Research Paper. Available at SSRN: <https://ssrn.com/abstract=3012499> or <http://dx.doi.org/10.2139/ssrn.3012499>

Shannon Mattern, "Where Code Meets Concrete," *Urban Omnibus*, September 4, 2019, <https://urbanomnibus.net/2019/09/where-code-meets-concrete/>.

landscape of nudge with the introduction of smart city innovations, should be equally applicable to conversations around private and academic-led nudge initiatives.

When it comes to reflecting on the past ten years of municipal experiments with nudges and plotting out the next ten years, the key pieces to understand are precisely these three areas: the ethical arguments for and against government-sponsored behavioral interventions, empirical evidence about their success, and the potential scope of nudges informed by big data. Clearly, the concept has bloomed far beyond the initial design of *Nudge*, and the practical manifestations of the theory are now far outside of the control of Sunstein and Thaler, so it is up to engaged citizens and critical academics to check the actions of municipal nudge units and ensure that they are accomplishing worthy goals without violating citizens' rights.

Chapter 1: The Idea

Before there were nudge units, there was *Nudge*. The book, released in 2008 by Richard Thaler and Cass Sunstein, builds upon two decades of behavioral economics research by incorporating theories of human biases and choice making tendencies into policy applications. Without understanding Thaler and Sunstein's theory of libertarian paternalism and their pitch to policy makers across the world, it would be impossible to understand the guiding strategy and objectives of nudge units at work in cities today. The basic idea of behavioral economics is that humans are not always the rational actors that classical economics purports them to be. Behavioral interventions take emotions, social influence, and general irrationalities into account to set up individuals' choice alternatives in such a way that steers people toward making the decision that maximizes utility for themselves or for society.

The foundational behavioral economics theories based on the power of observed heuristics, framing effects, and defaults challenge many traditional economic assumptions, and the psychologists like Amos Tversky and Daniel Kahneman who initially proposed them faced significant pushback.⁸ Once their ideas were accepted by psychologists and economists, behavioral economics became a more widely accepted field of study and academics could specialize even more narrowly in behavioral design in medicine, law, policy, and markets. To fully absorb the influence of nudge units and their unique role as executors of an applied political theory with empirical roots, it is worth contextualizing nudge in the recent history of behavioral economics. At one level, regulating nudge units could involve preferencing certain types of nudges over others, which would require a deep

⁸ Michael Lewis, *The Undoing Project: A Friendship That Changed Our Minds* (Waterville, ME: Thorndike Press, a part of Gale, Cengage Learning, 2017).

understanding of the range of nudges and how they work in practice. For the purposes of distinguishing between nudges, it is most helpful to consider what type of irrationality the nudge addresses, what type of behavioral intervention mechanism the nudge relies on, and whether the nudge affects individuals' conscious or subconscious (System 1 or System 2) thinking.

Chief among the irrationalities discussed in *Nudge* are inaccurate perceptions of risk, anchoring tendencies, the availability heuristic, the representativeness heuristic, status quo bias, and herd mentality. Many of these phenomena have direct links to the nudge policies that drive behavioral design units today, which seek to influence people by adjusting their choice architecture, rather than their incentives. Whether the issue is low voter turnout or a lack of diversity in applicants to a public office, Thaler and Sunstein believe that behavioral scientists and policy-makers can and should collaborate to revise the choice-making framework that allows many individuals to act against their own (or society's) best interests. To use nudges to catalyze behavior changes, Thaler advocates for the EAST approach, which advises designing nudges that make the socially optimal choice Easy, Attractive, Social, and Timely. Generally, nudges touch on at least one of these categories by harnessing the power of defaults, reducing the 'hassle factor' of taking up a service, attracting attention or designing rewards and sanctions for maximum effect, using the power of networks, and encouraging people to make a commitment to others.⁹ Chapter 3 expands upon the EAST philosophy in the context of the UK's nudge unit.

⁹ Owain Service, David Halpern, and Michael Hallsworth, "EAST: Four Simple Ways to Apply Behavioural Insights," The Behavioural Insights Team, July 2015, <https://www.bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights/>

Why Nudges?

Apart from touting the unique potential of using our expanding understanding of human behavior to intervene in human behavioral patterns, nudge advocates have ascribed a certain moral superiority to behavioral interventions over what they consider to be more normative policy measures. Namely, nudge advocates point to outright bans or mandates as more directly, and therefore less justifiably, interfering with the lives of citizens because such measures limit their choices. Similarly, incentives and disincentives promise monetary gains to citizens who do as the government prefers, manipulating citizens' choices with the greatest effect on society's most vulnerable that are in the worst position to turn down the money.

Thaler and Sunstein introduce the concept of nudges with the hypothetical example of a school cafeteria. Knowing that the placement of foods influences the likely selections of unsuspecting children—according to the book, one can increase or decrease the consumption of many food items by as much as 25 percent via placement decisions—Thaler and Sunstein ask how a prudent administrator would choose to organize food items along the lunch line. An administrator must decide what is fair, or wise, or optimal in this case, while also deciding whether to tell students about the rationale for the eventual layout. Arranging the food randomly, however illogical, would be the only approach that could truly be considered *laissez faire*, allowing the administrator to claim that she did not seek to interfere with or otherwise influence students' choices in the slightest. As Sunstein and Thaler imagine even a libertarian would admit, putting peanut butter and jelly on opposite sides of a cafeteria simply to preserve the autonomy of school children reflects poor decision making; their next question would be to ask whether the administrator should intervene to reorganize the cafeteria. The remaining potential options align with objectives of maximizing the cafeteria's

profits, maximizing profits by seeking kickbacks from providers she can favor via product placement, optimizing students' health outcomes, or seeking an arrangement that would leave kids inclined to pick the items they would choose on their own. Here, Thaler and Sunstein begin to argue for the book's thesis that allowing, if not encouraging, the administrator to sort the food items in such a way as to optimize student's health outcomes is both ideal and justified. In doing so, the administrator becomes a "choice architect," a label that Thaler and Sunstein assign to any individual that "has the responsibility for organizing the context in which people make decisions."¹⁰ Part of the reason Thaler and Sunstein embrace this label is that choice architects, like actual architects, face the reality that "there is no such thing as a 'neutral' design." Given the inevitable choice to approve *some* design, policy makers will be interfering with their constituents' positive freedom regardless of how they choose to preference a certain process or system.¹¹

Throughout *Nudge*, Thaler and Sunstein present examples of dozens of choice architects, from the Dutch authorities who supported the etching of black house flies into urinals to encourage men to aim wisely, to university administrators' decision to change the default selection for university employees' health insurance and retirement plans. In many cases, the nudges Thaler and Sunstein propose are theoretical, diagnosing irrationalities in the market and in public policy that they believe can be redressed with nudges in the right direction. While the settings discussed are diverse, and the proposed nudge instigators range from employers to professors to public officials, all nudges leverage behavioral insights to encourage behavior change without in any way requiring or directly incentivizing it. Like advertising, nudges rely upon influence rather than coercion.

¹⁰ Thaler and Sunstein, *Nudge*, 3.

¹¹ *Ibid.*

Alongside this mechanical explanation of nudges and their potential to affect great influence, Thaler and Sunstein touch on the philosophical underpinning of their interference-based model. Calling this philosophy libertarian paternalism, Thaler and Sunstein make two tenets the centerpieces of their theory: 1) “people should be free to do what they like--and to opt out of undesirable arrangements if they want to do so,” and 2) “it is legitimate for choice architects to try to influence people’s behavior in order to make their lives longer, healthier, and better.”¹² With these two opinions guiding their approach to policymaking, Thaler and Sunstein combine aspects of traditional liberal and conservative ideas of public policy. By demonstrating that individuals often make decisions that serve their interests poorly, Thaler and Sunstein depart from the conservative mindset that people should be left largely to their own devices when it comes to personal decisions about health, education, and investment.¹³ By demonstrating that there is a less intrusive alternative to prohibiting an action or directly changing economic incentives, Thaler and Sunstein distinguish nudges from more dramatic liberal welfare policies.¹⁴ As Thaler and Sunstein repeat time and again, “to count as a mere nudge, the intervention must be easy and cheap to avoid.”¹⁵

As evidence of poor choices, Thaler and Sunstein refer to obesity, low savings rates, and truancy rates that reflect an irrefutable disconnect between individuals’ best interests and their unencumbered actions. And yet, Thaler and Sunstein question the effectiveness of sin taxes, social security taxes, and other policies that fall into the category of direct incentives, mandates, and prohibitions. By limiting the free will of citizens, they remove the options that

¹² Thaler and Sunstein, *Nudge*, 5.

Richard H. Thaler and Cass R. Sunstein, “Libertarian Paternalism,” 93 *Am Econ Rev*, 175 (2003).

¹³ Thaler and Sunstein, *Nudge*, 93.

¹⁴ Thaler and Sunstein, *Nudge*, 9.

¹⁵ Thaler and Sunstein, *Nudge*, 6.

are believed to be individually or societally harmful, but they also rid citizens of the opportunity to make their own calculation about whether engaging in the behavior is worthwhile.

Nudges are simple, by design, and they revolve around a few key insights, many of which involve systematic errors in human behavior. The “planning fallacy,” for one, reflects “the systematic tendency toward unrealistic optimism about the time it takes to complete projects.”¹⁶ The “status quo bias,” for another, is an academic’s interpretation of behavioral inertia--essentially, people are most likely to continue an established behavior or reaffirm a past decision without considering alternatives.¹⁷ The status quo bias helps to explain the power of defaults, which consumers tend to reify by neglecting to place effort in seeking to change the option chosen by a boss, a company, or even the government.

To unpack irrationalities necessitating nudges from a different angle, Thaler and Sunstein also refer to the work of Kahneman and Tversky regarding systems thinking. Comparing Systems 1 and 2, or the Automatic System and the Reflective System as Thaler and Sunstein prefer to call them, allows us to distinguish between the intangible parts of the brain that handle effortless, associative, or unconscious decision making versus decision making that is controlled, self-aware, and slow. Even if individuals can be made aware of and compelled to counteract their biases such as the status quo bias or the planning fallacy, it is more difficult to redress irrationalities so deeply seated as their subconscious reliance on the Automatic System when the work of the Reflective System would better serve their interests.

¹⁶ Thaler and Sunstein, *Nudge*, 7.

¹⁷ Thaler and Sunstein, *Nudge*, 34.

A third culprit of irrational behavior, relying on heuristics masked as “rules of thumb,” encompasses errors made by an overreliance on anchoring, the availability bias, and the representativeness bias. People often make decisions or estimations influenced by a misleading anchor point, an irrelevant but conveniently available data point, or a less-than-helpful bit of information guised as a proxy for the actual answer. Nonetheless, people fall victim to these biases more often than they would care to admit. In many situations, individuals’ optimism or overconfidence misleads them into believing that they are the outlier or the exception to the rule. Furthermore, people have quirky, insurmountable tendencies like an outsized aversion to losses relative to the positive reaction they feel from opposite gains.¹⁸ All of these behavioral quirks help to explain why the “rational (wo)man” does not always behave rationally. People avoid saving, refuse opportunities for preventative treatment and diagnostic tests, and thwart risks with positive expected values, often because the instincts baked into their Automatic System overwhelm the slower but wiser calculations of their Reflective System. In these explanations for human irrationality, though, Sunstein and Thaler see hope, since it is these same quirks that informed the design of their antidotes--nudges.

With the starting point of fallibility, and the assumption that it can be understood with a critical approach to behavioral tendencies, Thaler and Sunstein delve into several applications. To overcome temptation and the near universal challenge of self-control, Thaler and Sunstein offer the examples of Daylight Savings Time and the Christmas savings clubs of days past. The frame of an extra hour of daylight inspired greater productivity, while the frame of a self-imposed mandate on saving gave many the nudge they needed to set aside

¹⁸ Thaler and Sunstein, *Nudge*, 33-35.

enough savings throughout the year for Christmas gifts. Whether the motivations are internally affirmed, or externally produced via social influences like information, peer pressure, and priming, there is often room for nudges to intervene in people's irrational behaviors.

When it comes to categorizing the situations where nudges are most warranted, Thaler and Sunstein establish the criteria that nudges ought to address “decisions that are difficult and rare, for which [people] do not get prompt feedback, and when they have trouble translating aspects of the situation into terms they can easily understand.”¹⁹ The realm of personal finance, which satisfies these criteria, is a focal point of nudging for Thaler and Sunstein, who see low savings rates as an avoidable irrationality breeding financial insecurity for many Americans. To address it, Thaler and Sunstein propose automatic enrollment in savings plans, and the Save More Tomorrow program.²⁰ Defaulting employees into savings plans, while retaining the option to opt-out, can encourage significant numbers of people to honor the default and save more than they otherwise would have, a benefit often compounded by their employers' matching policies.²¹ To interfere less aggressively, employers could simply require employees to make a decision in the first place, rather than allowing them to neglect the choice. Putting individuals in the position to actively reject a savings plan makes them more likely to opt-in.²² Approaching the issue of savings from a deeper psychological level, Thaler and Shlomo Benartzi's Save More Tomorrow program is designed to allow participants “to commit themselves, in advance, to a series of contribution

¹⁹ Thaler and Sunstein, *Nudge*, 73.

²⁰ Thaler and Sunstein, *Nudge*, 104.

²¹ Thaler and Sunstein, *Nudge*, 109.

²² Thaler and Sunstein, *Nudge*, 110.

increases timed to coincide with pay raises.”²³ By pegging contribution rates to raises, participants can minimize the extent to which they “feel” the increase, since those increases will be cushioned by the fact that their take-home pay has also grown.²⁴

In the realm of health policy, Thaler and Sunstein’s proposed nudges rely more heavily on social influence rather than defaults. The general issue nudges seek to address in healthcare is to engage with the healthcare system in the first place, which individuals are more likely to do when they see their peers or people with a similar profile engage with the healthcare system. As an example, *Nudge* suggests that individuals who see others eating healthfully and exercising will be more likely to do the same. On the note of framing, Thaler and Sunstein suggest that “people are more likely to engage in self-examinations for skin and breast cancer if they are told not about the reduced risk if they do so but about the increased risk if they fail to do so.”²⁵ As for their three pitches to the public sector, Thaler and Sunstein suggest that the U.S. government should reevaluate whether choice-maximizing prescription drug plans serve the best interests of their beneficiaries, investigate methods to increase organ donation rates, and reframe climate change as a personal health hazard to encourage individual action to reduce one’s carbon footprint.

Collectively, these insights are supported by decades of research into the budding field of behavioral economics, and Thaler and Sunstein’s book represents one of the earliest popular explanations of the field. As Binyam Appelbaum remarks on the topic, “Great scientists are often portrayed as singularly bad at communicating with other humans; indeed, this is held to be a mark of their brilliance. Great economists, by contrast, tend to be the

²³ Thaler and Sunstein, *Nudge*, 113.

²⁴ Thaler and Sunstein, *Nudge*, 114.

²⁵ Thaler and Sunstein, *Nudge*, 157.

popularizers of their own ideas.”²⁶ With *Nudge*, Thaler further positioned himself in this camp of self-popularizing economists. Not only did his work detail an array of simple applications of phenomena that psychologists and economists took years to discover, but they accompanied these applications with a tidy philosophy of their own creation. Along the way, Thaler and Sunstein dismantle the dual misconceptions that it’s possible for policymakers to avoid influencing people’s choices in the first place and that paternalism always involves coercion. As added cover, the damage potential of a poor choice architect is the freedom of choice that nudges guarantee the subjects of that unsuccessful policymaker.

Moving forward, it is essential to distinguish between the types of nudges and the specific mechanisms they use to address behavioral irrationalities. Even critics of nudge should hesitate to assume that their criticisms apply to all nudges, and likewise, advocates of nudge should pay close attention to the design and application of every nudge they encounter. Many of the criticisms and risks about nudge that follow hinge on who is doing the nudging, and whether they are using information or emotion to influence the behavior of their subjects. By returning to this chapter to remember the array of biases and fallacies at the heart of most nudges, individuals can decide for themselves how and when they want for their local governments to address their own irrationalities.

²⁶ Binyamin Appelbaum, *The Economists' Hour: How the False Prophets of Free Markets Fractured Our Society* (London, UK: Picador, 2020).

Chapter 2: The Skeptics vs. The Advocates

“Many disputes are really about facts, not values, even though people think they are about values, not facts.” –Cass Sunstein, 2018 Interview with *Behavioral Scientist*

When it comes to evaluating the ethical implications of nudges, it is essential to avoid the trap Sunstein describes of mistaking a factual dispute for a values-oriented one. There are certainly cogent arguments for and against nudging as a practice or specific nudge units, but a well-informed citizen or public official should be able to distinguish between arguments about the empirical success of nudges, political arguments about which a direction a certain nudge should steer, and ethical arguments about whether nudges are inherently manipulative and unacceptably so. This chapter will take up both sides of the third argument, ultimately suggesting that nudges’ manipulation should not disqualify them from a policy maker’s toolkit so long as citizens are well-informed about their existence.

Nudges, while not a common topic of popular media, have received popular criticism on occasion, as they did in two *Slate* pieces from 2011 and 2013 suggesting that libertarian paternalism is more paternalistic, and less effective, than Thaler and Sunstein suggest.²⁷ Written while Cass Sunstein was working with the Obama administration’s Office of Information and Regulatory Affairs, the 2011 article “When Nudge Comes to Shove” suggests that “libertarian paternalists are often wrong on the underlying social science” and design nudges that do not create the optimal outcomes for individuals or society.²⁸ Political

²⁷ Henry Farrell and Cosma Shalizi, “Does Nudging Work? A Critique of Sunstein and Thaler,” *Slate Magazine* (November 12, 2011), <https://slate.com/technology/2011/11/does-nudge-policy-work-a-critique-of-sunstein-and-thaler.html>.

Evan Selinger, “Do People Really Not Know What’s Good for Them?,” *Slate Magazine* (July 7, 2013), <https://slate.com/technology/2013/07/nudge-critiques-is-nudging-behavior-unethical-infantilizing-coercive-or-counter-productive.html>.

²⁸ Henry Farrell and Cosma Shalizi, “Nudge’ Policies Are Another Name for Coercion,” *New Scientist*, November 2, 2011, <https://www.newscientist.com/article/mg21228376-500-nudge-policies-are-another-name-for-coercion/>.

scientists like Suzanne Mettler and sociologists like Kieran Healy whose work demonstrates that nudges tend to unethically obscure their motives and treat citizens as ‘consumers’ incapable of making unencumbered decisions. On the other hand, the article “Nudge No More” includes the additional critique that nudges have become a policy panacea. By assuming that any negative policy outcome can be mitigated by encouraging individuals to think differently, Adam Burgess suggests we are “oversimplifying [and] misconstruing structural problems as individual lifestyle choices, diverting resources to the wrong programs, or failing to enact new legislation.”²⁹ In one sense, critics may interpret nudges as government overreach, interfering in the lives of citizens where it should not, and on the other hand, critics interpret some nudges as weak solutions for policy problems that go much deeper than individual behavioral irrationalities. The *Slate* reporters derided nudges for resting allegedly false premise that technocrats understand what ordinary people want better than themselves. This criticism aligns with the main argument many academics also make against nudge theory and libertarian paternalism.

One such critic is Edward Glaeser, the Harvard professor and urbanist who authored a 2006 paper on the topic, “Paternalism and Psychology.”³⁰ In it, Glaeser argues that nudges are more coercive and less transparent than citizens deserve. Having written this critique before *Nudge* was published, Glaeser specifically refers to one of Thaler and Sunstein’s earlier papers written with Christine Jolls for the *Stanford Law Review* in 1998, wherein the authors suggest that “bounded rationality pushes toward a sort of anti-antipaternalism—a skepticism

²⁹ Adam Burgess, “‘Nudging’ Healthy Lifestyles: The UK Experiments with the Behavioural Alternative to Regulation and the Market,” *European Journal of Risk Regulation* 3, no. 1 (2012): pp. 3-16, <https://doi.org/10.1017/s1867299x00001756>.

³⁰ Edward Glaeser, “Paternalism and Psychology.” *The University of Chicago Law Review* 73, 1 (2006): 133-156.

about antipaternalism, but not an affirmative defense of paternalism.”³¹ Glaeser is not convinced that individuals, who err and tend to make biased decisions, are any more capable of electing leaders who are innocent of these flaws and will implement only the most prudent of nudges. Moreover, while Glaeser acknowledges the dangers of full-blown paternalism, as manifested in the case of sin taxes, he expresses concern that “soft paternalism,” as he calls it, “often relies on stigmatizing behavior like smoking, drinking or homosexuality, and that can lead (and has led) to dislike or hatred of individuals who continue to engage in the disapproved activities.”³² Further, these subtle cues are easier for policy makers to hide and therefore more difficult for the public to identify and criticize. In Glaeser’s account, “is hard to limit soft paternalism because it is so difficult to determine whether a politician or public statement violated linguistic boundaries.”³³ As such, soft paternalism offers outsized potential for unchecked abuse of power in a way that even hard paternalism does not.

Although these arguments do not take up the inevitability of policy makers influencing choice architecture, several nudge critics assert that nudges undermine individual liberties. Recent work has both challenged and built upon Glaeser’s core ideas. Adam Hill’s 2017 article “Why Nudges Coerce: Experimental Evidence on the Architecture of Regulation,” encompasses the concern that “invisible or secret regulatory tools violate the fundamentally Kantian value that governments treat individuals with respect,” but Hill acknowledges the counterpoint that invisible nudges can be useful to counteract initial biases to produce “outcomes that approximate those achieved by a completely informed, rational decision-

³¹ Christine Jolls, Cass R. Sunstein, and Richard H. Thaler, “A Behavioral Approach to Law and Economics,” *Behavioral Law and Economics*, 2000, pp. 13-58, <https://doi.org/10.1017/cbo9781139175197.002>.

³² Glaeser, “Paternalism and Psychology.”

³³ *Ibid.*

maker.”³⁴ After conducting experiments on real human subjects via the Amazon Mechanical Turks platform, Hill finds evidence to support his theory that individuals place less blame on regulators for failed nudges than they do for failed laws. Hill’s finding is particularly applicable today given that more and more regulation has come to occur through nudges, and if their outcomes are not attributable to the policies themselves then the traditional account of electoral accountability is actively being threatened by their deployment. To properly hold regulators and behavioral scientists accountable, then, requires greater awareness of their existence and operation.

Moreover, specific types of nudges have received further criticism for violating individual autonomy and failing to accurately predict individuals’ preferences. In a recently published piece by Avranitis, Kalliris, and Kaminotis titled “Are defaults supportive of autonomy? An examination of nudges under the lens of Self-Determination Theory,” the authors suggest that nudges rooted in default-setting face insurmountable ethical concerns.³⁵ Even as Sunstein insists that nudges are meant to increase the choosing capacity of citizens on the receiving end of nudges, Avranitis et al. argue that the mild manipulation associated with default-setting undermines autonomy. Referring to earlier scholarship (Bovens, 2009; Nagatsu, 2015), Avranitis et al. suggest that not all nudges successfully support the ultimate preferences of the subjects of that nudge. Particularly, when nudges profess to serve the social good rather than the individual good, they should be evaluated as a political tool rather than a benevolent welfare-increasing mechanism. When it comes to self-determination

³⁴ Adam Hill, “Why Nudges Coerce: Experimental Evidence on the Architecture of Regulation,” *Science and Engineering Ethics* 24, no. 4 (April 2017): pp. 1279-1295, <https://doi.org/10.1007/s11948-017-9944-9>

³⁵ Alexios Arvanitis, Konstantinos Kalliris, and Konstantinos Kaminiotis, “Are Defaults Supportive of Autonomy? An Examination of Nudges under the Lens of Self-Determination Theory,” *The Social Science Journal*, December 2020, pp. 1-11, <https://doi.org/10.1016/j.soscij.2019.08.003>

theory, specifically, Avranitis et al. explain that “in order for people to be able to go their own way, there should be enough ‘ways’ to choose from, that is, enough options.”³⁶ Put simply, nudges involving the setting of defaults disrupt the array of options available to individuals.

Using social influence is one of the more controversial nudges, given the negative stigma associated with peer pressuring individuals, but social influence nudges do not actually threaten individuals’ freedom to make the choice they believe is optimal. When it comes to nudges rooted in social influence and either positive peer affirmation or adversary social stigmas, Bicchieri and Dimant address the ethical consequences in their 2019 working paper, “Nudging with Care: The Risks and Benefits of Social Information.”³⁷ Unlike defaults, where individual inaction will leave that individual with a different outcome than before the nudge’s existence, social information as a mechanism of nudging does not compel behavior change or even initiate one without the positive action of the nudged individuals. However, as Bicchieri and Dimant explore from the lens of the University of Pennsylvania’s Behavioral Ethics Lab and the Identity and Conflict lab, actively making individuals more aware of societal perceptions of an activity can place undue pressure on those individuals to make a decision they would not have otherwise desired. Moreover, for the individuals who choose to sustain the behavior the nudge seeks to limit, these individuals are psychologically worse off for having to bear emotions like guilt, shame, and embarrassment for maintaining an activity is not societally embraced.

³⁶ Arvanitis et al. “Are Defaults Supportive of Autonomy?” 2006

³⁷ Cristina Bicchieri and Eugen Dimant, “Nudging with Care: The Risks and Benefits of Social Information,” *Public Choice*, September 2019, <https://doi.org/10.1007/s11127-019-00684-6>

In response to this array of related, if quite distinct, concerns, Cass Sunstein published a book-length defense of Nudge in 2014 entitled *The Ethics of Influence*.³⁸ In the book, Sunstein lays out seven core principles that he utilizes to undermine criticisms levied against his theory. Where Glaeser and others express concern that nudges will coerce without acknowledging their influence, Sunstein insists that nudges ought to be transparently presented to the individuals subject to nudges.³⁹ Where critics bemoan the risks that nudges pose to autonomy and self-government, Sunstein argues that nudges are inevitable, given the frequency of situations in which elected officials and executives must select a default or weigh policies that will clearly lay out different social incentives for compliance. Where critics question whether policy makers are truly the most neutral, well-intentioned figures to deploy these nudges, Sunstein stresses that scientific-minded academics such as himself are at the helm of the behavioral science labs and consultancies that provide the research and evidence behind many governments' nudge policies.

Sunstein's argument wavers between a genuine defense of nudges' goodness and a less idealistic, if equally fervent, assertion that advocating for nudges is better than the opposite. Sunstein spends relatively little time addressing the idea that nudges are inadequate to achieve a worthy policy impact. More likely than not, informing individuals about their energy usage will not shift behavior as dramatically as an energy tax, but Sunstein's goal with behavioral interventions was to limit government interference to preserve individual liberty. As chief administrator of OIRA, Sunstein sought to apply cost-benefit analyses to every aspect of regulatory policy making. Nudges, generally reliant on messaging or default

³⁸ Cass R. Sunstein, *The Ethics of Influence: Government in the Age of Behavioral Science* (New York, NY: Cambridge University Press, 2016).

³⁹ Glaeser, "Paternalism and Psychology."

changes, rarely fail such analyses, as even small societal benefits are likely to outweigh the miniscule programmatic costs.

Chapter 3: The Nudge Unit: A Transition from Public to Private Sector Leadership

Nudge, which governments could practically interpret as a self-help book to aid them in solving policy problems without overly prescriptive action, has had a remarkable impact on policymaking in the US and the UK over the decade since its publication. There is no reason why nudges would necessarily work better in these countries than in others, but the fact that the first nudge units took shape in the US and the UK speaks volumes about how influential academics have been in the development of nudge units across the western world. In fact, the first book-length account of their history, David Halpern's *Inside the Nudge Unit: How Small Changes Can Make a Big Difference*, credits Cass Sunstein himself with introducing nudge to the U.S. government through the Social and Behavioral Sciences Team.⁴⁰ In the UK, as well. Richard Thaler was heavily involved in the early stages of the UK's Behavioral Insights Team, a team that only came about after an aide of Prime Minister David Cameron learned of Sunstein's work on a trip to the U.S. to scope out innovative policy ideas. Nudge units held an attraction because of their efficiency, applicability to a wide range of policy problems, and measurability of their outcomes. Although there is substantial empirical evidence affirming the effect of nudges that the US and the UK experimented with, part of what resonated with policy makers is how simplistic and common-sensical most nudges were. Nudge theory gained popularity quickly, developing a litany of mnemonic devices and acronyms that the leaders of one nudge unit could pass on as advice to the leaders of another, and the political discourse around nudge units quickly became more focused on these superficial objectives than the tangible results.

⁴⁰ Halpern, *Inside the Nudge Unit*, 39-40.

From studying these two early examples of policy makers applying nudge theory to government problems at a national scale, one can see how nudge has always been a political philosophy introduced from on high, rather than from the grassroots. While there is nothing inherently wrong or dangerous about policies whose earliest advocates were academic experts and the federal executives who respect them, the risk of abuse becomes greater when those advocates fail to use their authority to seek popular approval for their esoteric policies. By understanding the organization of the first two nudge units, their political affiliations, and the scope of their work, one can better evaluate the municipal nudge units that have succeeded them. In both countries, it was the promise of a low-cost policy with an outsized impact on welfare that persuaded government executives to advocate for behavioral interventions in the policy arena. The municipal nudge units that now exist in the U.S. have followed their lead, mimicking their methodology and many of their specific nudges.

Federally Sanctioned Nudging in the US

In the U.S., nudging was introduced from the executive branch and began to influence federal policy making and regulation without ever being the subject of a bill in the House of Senate. Barack Obama's appointment of Cass Sunstein as the 'regulatory tsar' of his administration in 2009 marked the first instance of an academic using his or her political influence to implement nudges in the policy arena.⁴¹ Obama and Sunstein had known each other earlier in their careers, when they both taught at the University of Chicago Law School, which helped put Sunstein in a political role where he could put his academic theory into

⁴¹ Jonathan Weisman and Jess Brevin, "Obama's Regulatory Czar Likely to Set a New Tone - WSJ," *The Wall Street Journal*, January 8, 2009, <https://www.wsj.com/articles/SB123138051682263203>.

practice.⁴² Granted, Sunstein was a well-known legal expert and had academic interests generally aligned with the regulatory role he entered into. Before delving into behavioral economics and psychology, specifically, Sunstein was deeply interested in the value of a statistical life and evidence that governing agencies, particularly courts, applied the metric inconsistently to their decision-making processes.⁴³ As the Chief of the Office of Information and Regulatory Affairs (OIRA), Sunstein established dual priorities of creating the behavioral science initiative within the US Office of Technology and Innovation and contributing to an executive order affirming the President's commitment to applying cost-benefit analyses to potential policies.⁴⁴

During his time at OIRA, situated within the Office of Management and Budget, Sunstein sought to deploy cost-effective regulation based upon insights from the field of behavioral economics. One of his early successes was modifying the food pyramid designed by the U.S. Department of Agriculture, which he accomplished by designing an ideally proportioned plate rather than an "incomprehensible" pyramid. The food plate, accompanied by further details at ChooseMyPlate.gov, is emblematic of Sunstein's driving principle, "for government regulations and advice to be effective, they had to be intuitively easy to understand."⁴⁵ Across other realms of policymaking, Halpern credits OIRA with influencing the Affordable Care Act, financial reform, climate change policy, and consumer protection policy.⁴⁶ Under Sunstein's leadership, the office was staffed by statisticians, economists, and

⁴² Benjamin Wallace-wells, "Cass Sunstein Wants to Nudge Us," *The New York Times* (The New York Times, May 13, 2010), <https://www.nytimes.com/2010/05/16/magazine/16Sunstein-t.html>.

⁴³ Cass R. Sunstein, "Lives, Life-Years, and Willingness to Pay" (John M. Olin Program in Law and Economics Working Paper No. 191, 2003).

⁴⁴ Adrian Vermeule and Cass R. Sunstein, "The Office of Information and Regulatory Affairs: Myths and Realities," *126 Harv. L. Rev.* 1838, May 20, 2013.

⁴⁵ Halpern p. 41

⁴⁶ Halpern p 42

psychologists who approached policy making from a consistently academic, empirical perspective.

Nudging Across the Pond

As for the Behavioral Insights Team, which launched in the UK after Sunstein began his tenure but has since outlasted the behavioral economics arm of the U.S. federal government, the promise was again to arm the executive with a low-cost, innovative policy tool.

According to David Halpern, the founder and chief executive of BIT, it was his advisors Steve Hilton and Rohan Silva who brought the idea of nudge back to the UK after meeting with Richard Thaler. Halpern detailed this interaction in his account and goes on to describe the events that cemented the unit's vision and mission. Halpern suggests that aides like Silva helped gain traction for nudging in the UK by publishing opinion pieces discussing the potential for the policy, in doing so "hit[ting] the spot between being slightly crazy—enough to break through into commentator and public attention—but intriguing and plausible enough to stand up to sceptical scrutiny."⁴⁷ In recounting early cabinet meeting where Halpern discussed developing a national nudge unit in the UK, he recalls initial skepticism from confused secretaries, who became quite interested when Halpern revealed the success of BIT's first behavioral trials.

Around this time, nudging continued to gain momentum in the UK, as it received additional support from Sir Gus O'Donnell, an economist who held various roles in the civil service and had served as Cabinet Secretary to Prime Ministers. O'Donnell, in conjunction with then Labour Cabinet Office Minister Liam Byrne and the economist Paul Dolan from the Imperial College London, supported the writing of a report with Halpern and his Institute

⁴⁷ Halpern, *Inside the Nudge Unit*, 45.

detailing the connections between human behavior and public policy. The team delved into both laboratory and real-world “mental shortcuts, ‘errors’ and influences” to try to capture how humans really thought, and how the British government could use that understanding to better tailor its policies to its citizens’ tendencies. In doing so, Halpern replaced an earlier behavioral insights framework of SNAP (Salience, Norms, Affect (emotion) and Priming) with MINDSPACE, to provide policy makers with a more comprehensive guide to behavioral insights. This mnemonic sought to remind policymakers to consider the *messenger* communicating the information, the response to *incentives* to avoid loss, the social *norms* that influence individuals, the *defaults* that drive people to rely on pre-set options, the *salience* effect of focusing on what is novel and relevant, the *priming* effect of subconscious cues, the emotional *affect* that shapes people’s actions, the *commitments* that drive people to uphold public promises, and the ways in which *ego* leads people to act in ways that make them feel better about themselves.

These academic ideas aligned with key aspects of the political climate in Britain in the 2000s. Nudges saw early support from both David Cameron’s supporters aligned with the Labour Party and the Liberal Democrats, the junior partner in the Coalition.⁴⁸ According to Halpern, the latter group “liked the liberal aspects of libertarian paternalism,” and appreciated the empirical roots of all nudge policies.⁴⁹ By July 2010, the support of these forces had laid the groundwork for the Behavioral Insights Team to begin its work, with a mere £0.5 million budget and a team of fewer than ten people. As for its relationship to the rest of the UK’s government, the Behavioral Insights Team was situated as a “tiny sister unit” to the Prime Minister’s Strategy Unit (PMSU), and the initial team was to consist of

⁴⁸ Halpern, *Inside the Nudge Unit*, 51.

⁴⁹ *Ibid*, p 51.

civil servants from the PMSU and staff from the Better Regulation Executive (BRE) office of the business department.⁵⁰ As an office within the government and staffed with government employees, BIT would prove to have far more public involvement and government oversight than subsequent nudge units, particularly municipal nudge units whose staff consists of third-party consultants. With Halpern in a leadership position as a public servant, BIT set about defining its mission to “transform at least two major areas of policy, spread understanding of behavioural approaches across Whitehall, [and] achieve at least a tenfold return on the cost of the unit.”⁵¹ Those objectives were especially salient at the time because the team knew that BIT would be shuttered after two years if it did not meet the three goals.

Beyond those general objectives, Halpern and the entire leadership team of BIT remained very attuned to the fragility of political support for new policy initiatives. Given that every member of the team was a civil servant under the employ of the government, an underwhelming nudge could have proved to be the end of the entire unit and their careers as public servant. When it came to developing more specific metrics for a nudge unit’s success, Halpern helped devise yet another mnemonic—APPLES—which explains that nudge units need administrative support, political support, people with a high degree of subject expertise, location near the center of governing power, experimentation driving the nudges, and scholarship to back up the design of each policy proposal. Interestingly, popular support is not mentioned among these needs, nor is it heavily discussed throughout *Inside the Nudge Unit*. While Halpern does not explicitly recommend that nudge units obscure their objectives or initiatives from public view, he does not place any particular importance on educating the public or seeking their feedback about how nudge units should function and where

⁵⁰ Halpern, *Inside the Nudge Unit*, 53.

⁵¹ Halpern, *Inside the Nudge Unit*, 54.

behavioral interventions can improve their lives. Halpern does warn public officials that a total lack of transparency can lead individuals to believe “that behavioural approaches are too close to the dark arts of propaganda and subconscious manipulation (a concern of the right).” Likewise, he suggests that underperforming nudges will leave their operations vulnerable to the criticism “that behavioural approaches are an excuse for not acting more decisively and effectively (a concern of the left).” Ultimately, both of these warnings are couched as advice to keep nudge units above political reproach, certainly not as a sweeping call to for inclusive public forums on nudge units.

As for the constituent-facing aspect of BIT’s operation, Halpern relied on *Nudge*’s philosophy of EAST—easy, attract, social, and timely—to design nudges that would be widely successful. “Friction,” as Halpern says, “matters greatly, and often much more than policymakers and citizens ever thought.” **E**ase inspires nudges that attempt to redesign an array of choices to make the individually or socially optimal option the lowest-friction alternative. The most common example here would be default-setting, but “ease” can also refer to streamlining processes to eliminate unnecessary steps, such as digitizing procedures, using automation to directly re-enroll participants, and creating autofill mechanisms for forms. Within the context of the government, Halpern mentions efforts to simplify the language used in official letters and communications that individuals receive from various offices. BIT learned to minimize the words used in official communications, and to simplify and de-clutter website pages where forms were listed. On the flip side, knowing that individuals are likely to follow the path of least resistance allows policymakers to insert more friction into a procedure to discourage people from pursuing that route. Cooling-off periods are emblematic of this approach, as they require people to respect a required delay between

requesting and receiving access to financial products like payday loans. As with the other aspects of EAST, ease relies on clear and consistent communication. To make something easy, individuals must know how the law or program works, and how they can take advantage of it.

To make something **attractive** merely requires communication to further convince individuals that the alternative policy makers want them to pursue is worthwhile. Nudges' reliance on the attraction factor most resembles advertising and marketing strategies—they can make boring tasks look fun, make difficult choices seem simple, make lengthy tasks seem quick. So long as policy makers do not outwardly lie, the nudge mindset ought to encourage them to make the individually or socially optimal choice an easier or more attractive one to make. For Halpern, “attraction” involves both commanding people's attention and persuading them to make the optimal choice. Governments have relied on propaganda to achieve all sorts of objectives over time, famously including army recruitment. BIT applied these insights to the UK tax and revenue services in an experiment of sending letters to encourage people to report unofficial income. The letters explicitly informed citizens that the government can discern when individuals are not reporting taxable income, and it included information on how to easily remedy the mistake. At an even more granular level, BIT tweaked the design of letters themselves, invoking methods like attaching Post-It note images to letters, changing the color of the envelope from white to brown, and scribbling personalized messages on the outside of the envelopes. According to Halpern, the new envelope raised the response and completion rate from 21.8 to 26.0 percent when tested on 5,000 HMRC letters, and the comparison of costs and benefits led to a return on investment of over 200:1. Amongst several other applications, one interesting attractiveness

tool BIT investigated was rewarding citizens for compliance as opposed to punishing them for non-compliance. In Sweden, for example, camera footage that captured cars driving within the speed limit was used to enter those drivers into a lottery to receive a portion of the fines gathered from speeding tickets.⁵² The experiment aligned with a drop in average speeds from 32 to 25 kmh.

On the '**social**' front, BIT sought to operationalize academic findings on how social influences inspire behavior. Consumer research reveals that social influences play a strong role in shaping consumer preferences, particularly in areas where quality is harder to measure, such as art and music. Social norms also have a well-researched negative potential, as individuals can mimic dangerous behaviors to the same extent that they are inclined to mimic optimal behaviors. On the positive side, BIT decided to inform Brits that nine out of ten taxpayers paid on time, and the experiment yielded an increase of 1.5 percentage points in payment rate. BIT also applied social incentives to reduce unemployment by informing individuals seeking jobs about the popularity of job fairs amongst their peers. In the US, social incentives have motivated anti-obesity advertising campaigns associating fruits and vegetables with Sesame Street characters and anti-alcoholism campaigns centered around the statistical infrequency of binge drinking amongst university students.⁵³

To ensure that nudges take into account **timeliness**, Halpern discusses the importance of isolating the point at which individuals make decisions and affirm habits. Whether the context is parenting, wherein the first months of a child's life are most influential to their later intelligence, or honesty on forms, wherein the signature line is better placed at the

⁵² Charlie Sorrel, "Swedish Speed-Camera Pays Drivers to Slow Down," *Wired* (Conde Nast, May 22, 2018), <https://www.wired.com/2010/12/swedish-speed-camera-pays-drivers-to-slow-down/>.

⁵³ Halpern, *Inside the Nudge Unit*, 2015, 101.

beginning of the form to ensure veracity, timing is a significant dimension when it comes to successful nudges. Moreover, the decisions one makes in the present are often different from the decisions an individual predicts they will make in the future, and if the optimal decision is the one made with some distance from the moment of action, nudges can incorporate some level of present commitment to a future action. Even by broaching the subject and compelling people to think about how they will react to a situation in the future makes them more likely to execute that course of action rather than the one they would submit to in the moment. To incorporate all three elements of timelines, Halpern advises that “the intervention is targeted before the behaviour has become entrenched; the intervention is aligned to a moment when it is likely to be most salient or when the existing behaviour is disrupted; and its design will help the person overcome their own time inconsistency—helping them to do what their future self would have wished.”⁵⁴ One innovative policy application of time-centric insights is the conditional cash transfer, wherein optimal behavior that is less likely to be followed through with is accompanied by the promise of cash at the moment of follow-through.

BIT has applied these principles to contexts like home energy use by alerting households to their energy use relative to that of their neighbors, setting a precedent for future nudge units who would design behavioral interventions around peer pressure. BIT’s contributors like Silva toyed with the idea of taking that nudge one step further with “glowing orbs on people’s roofs that would signal levels of energy to their owners and others,” though BIT did not ultimately implement this design.⁵⁵ It’s one thing to inform individuals about their

⁵⁴ Halpern, *Inside the Nudge Unit*, 145.

⁵⁵ David Halpern and Owain Service, *Inside the Nudge Unit: How Small Changes Can Make a Big Difference* (London: WH Allen, 2019))

performance relative to their neighbors’, allowing individuals the option to change or maintain their habits without the potential to be punished for their behavior. It is quite another, and perhaps indicative of larger ethical concerns about using social pressure to manipulate people, to violate citizens’ privacy to inform one’s community about their behavior.

Even in light of these powerful findings, Halpern discusses many setbacks that prevented his team from implementing their knowledge across the government. Oftentimes, outdated and complicated technological infrastructure made editing forms and procedures prohibitively expensive. On other occasions, the inefficient procedure had been written into law and would require new legislation to change it. The political process also influenced the scope of their work, since agency heads could refuse to cooperate with BIT if their personal politics were at odds with the politics of the Cameron administration.

Behavioral Insights Consulting—A Public Death and Private Revival of Nudge

While Sunstein’s behavioral economics outfit only ever existed federal initiative working exclusively on federal policy issues, BIT evolved in a different direction that would forever change the shape of nudge units in America. In 2014, the organization morphed from a government-funded office to a privatised social purpose organization, which is now jointly owned by the UK Cabinet Office, the innovation-oriented foundation Nesta and BIT’s employees.⁵⁶ Interestingly, one of the motivations for the rebranding was to attract new expert staff and encourage staff retention, since staff would not be bound by civil service pay grades and able to earn bonuses. While this transition from government office to privately-

⁵⁶ “‘Nudge Unit’ Sold off to Charity and Employees.” *BBC News*. BBC, February 5, 2014. <https://www.bbc.com/news/uk-politics-26030205>.

run organization was unheard of at the time, this unorthodox development gave BIT the funding and independence Halpern desired to rapidly expand BIT's portfolio.⁵⁷

In its current form as a private consultancy, BIT's clients range from countries like Guatemala to cities, such as Portland, Chattanooga, and Anchorage.⁵⁸ Reflecting their global presence, BIT has offices in New York City, Toronto, Sydney, Singapore, and Wellington. In pursuit of their stated mission, to "generate and apply behavioural insights to inform policy, improve public services and deliver results for citizens and society," BIT has helped run over 750 projects across over thirty countries.⁵⁹ At least 400 of these projects have included randomized controlled trials, and BIT encourages public officials to apply their behavioral science methods by conducting hundreds of trainings across the globe.

While BIT is the most well-known firm of its kind in the general field of behavioral science consulting, it has a close competitor when it comes to the design and operation of government nudge units. Ideas42, which has only ever functioned as an independent, non-profit consultancy, works to achieve similar goals for governments and other non-profits. Like BIT, ideas42 has clients across the world, but its New York City office manages the nudge units maintained through partnerships with the City of Chicago and New York City. Because America's municipal nudge units and other behavioral intervention initiatives are primarily run by these two independent organizations, today's nudge units see far less government involvement than the original behavioral science initiatives in the U.S. and the UK. Nonetheless, these national nudge units set the precedent of involving behavioral

⁵⁷ Gill Plimmer, "UK Cabinet Office 'Nudge' Team to Be Spun off into Private Group" (*Financial Times*, February 4, 2014), <https://www.ft.com/content/571eef16-8d99-11e3-9dbb-00144feab7de>.

⁵⁸ "Who We Work With," The Behavioural Insights Team, 2020, <https://www.bi.team/about-us/partners/?select-bit-offices%5B%5D=71>.

⁵⁹ "About Us," The Behavioural Insights Team, 2020, <https://www.bi.team/about-us/>

scientists in the policy landscape, and today's municipal nudge units share similar goals and methods to their predecessors. Although nudge units themselves are still vulnerable to the same political will that wiped out the USBSI, the existence of the behavioral consulting firms ensures that the behavioral economists and other social scientists on their staff will not be fired with the closure of any particular nudge unit. This improved structure undoubtedly attracts veritable talent to BIT and ideas42 without sacrificing the government relationships and rigorous behavioral science methods at the core of the earlier federal nudge units.

Chapter 4: Nudge Theory in the Municipal Policy Making Landscape

It is municipal governments' proximity to the daily lives of their constituents and their unique promotion of efficiency and evidence-based policymaking that make cities the most fascinating and relevant landscape for analyzing nudges today. Three historical trends are of particular significance: city populations' exponential growth, the evolution of expectations around the extent of city service provision, and several periods of economic growth followed by downturns have particularly pinched cities and pushed leaders to prioritize efficiency. Together, these trends laid the groundwork for nudges, whose main selling points are 1) that they are low-cost policies with disproportionately large benefits, 2) that they can influence the behavior of many citizens across political affiliations, and 3) that they have applications to a wide range of policy areas. Because behavioral interventions are more of a policy tool than a specific policy solution, public officials can recycle the same concepts over and over. Given municipal government's budget constraints and limited powers to create new methods of revenue generation, nudges can be vital tools to help city leaders collect and save more money. As citizens expect their cities to become more involved in the provision of welfare and maintenance of city services, nudges are a rare tool to help ensure that citizens are optimizing the resources allocated to them.

Although the modern American city has a population in the millions, governed by thousands of civil servants and elected officials, this was not always the case. In the nineteenth century, populations were smaller, and the burdens placed on city officials were much lighter. At that time, cities did not yet own the responsibilities of running schools, coordinating welfare, providing healthcare, or managing complicated public transit systems, as they do today. Even a service as essential to the modern city as public safety took decades

to formalize, and New York City, for example, did not create its first full-time police force until 1845.⁶⁰ In the nearly two hundred years since, city governments have developed at vastly different rates and incorporated different city services. By 2012, 89,004 local governments existed in the United States, though many of these governments are so small and under-funded that they are unable to address their residents' policy needs.⁶¹ Although municipal governments are structured very differently depending on the locality, with differing distribution of power between cities and counties, these thousands of local governments collectively manage dozens of services on behalf of residents.

Alongside the growth in human capital cities experienced in the 19th and 20th centuries came growth in municipal revenues and spending, even though waves of minimalist government and austerity resurged several times.⁶² In New York City, for instance, per capita city expenditures increased from \$6.53 in 1850 to \$27.3 in 1900, and according to Stephen Craig that growth came about “despite a national culture that preferred minimal government, over the course of a century municipal responsibilities had vastly increased.”⁶³ As Craig reported in *City Journal* in 1991, New York City government spent roughly \$3,000 per capita in 1986.⁶⁴ Eras of economic growth and downturns have changed the way that city officials think about raising and spending money, but they certainly have not stopped officials from doing so at increasingly high levels. While cities have grown in size and spending, the stakes for success or failure have risen, and inflection points marked by the era of machine politics,

⁶⁰ Dennis R. Judd and Annika M. Hinze, *City Politics: The Political Economy of Urban America*, 10th ed. (New York, NY: Routledge, 2019), 38.

⁶¹ Brian Lavin, “Census Bureau Reports There Are 89,004 Local Governments in the United States - Governments - Newsroom - U.S. Census Bureau,” US Census Bureau News Archive, May 19, 2016, <https://www.census.gov/newsroom/releases/archives/governments/cb12-161.html>.

⁶² Judd and Hinze, *City Politics*, 36.

⁶³ Judd and Hinze, *City Politics*, 32.

⁶⁴ Stephen G. Craig, “Where the Money Goes,” *City Journal*, January 26, 2016, <https://www.city-journal.org/html/where-money-goes-12729.html>.

the progressive era of urban reform, and the cost-benefit revolution begun in the 1980s have slowly laid the foundation for the birth and rapid rise of nudges in municipal governance. With cities continuing to grow in population size and budget, it is difficult for city officials to design programs that reach the right individuals, and equally difficult for individuals to navigate bureaucratic processes to access the resources they need. Following the transition from the machine era to the progressive era where equity replaced nepotism as a political value, nudges clearly fit in with the recent trends of seeking cost-efficiency and optimizing resources.

Era of Machine Politics through the Progressive Era

Amongst historical periods of city development most helpful in explaining the rise of nudges in cities like New York, Chicago, and Philadelphia, the age of machine politics from the late 1800s to the mid 1900s stands out. Roughly a century after the nation's founding, the speed of city development had begun to pick up, and mob-style groups of political leaders gained the moniker of machine bosses as they aggregated political capital to assert control over the distribution of the city's resources. To convey the extent of machine politics, political scientists Dennis Judd and Annika Hinze note that "between 1870 and 1945, 17 of the nation's 30 cities with populations more than half a million people were governed through boss rule and a disciplined, hierarchical party organization at some point."⁶⁵ Despite the many ways that machine politics bred inequality and set precedents for corruption and favoritism in city politics, one arguably positive relic of the era was the separation between ideology and city administration. Even at a time when competitions for wealth and power pit

⁶⁵ Judd and Hinze, *City Politics*, 44.

machines against one another, Judd and Hinze remark, “the operating principles and structures of the urban machines encouraged the politicians who ran them to steer clear of ideological battles.”⁶⁶ Before the end of the 20th century, political bosses’ nepotistic and corrupt behavior had driven reformers to prioritize talent and fairness amongst city leaders.

In opposition to machine-era favoritism, the reform era that followed set the tone for preferencing neutral, evidence-based policymaking in cities. Although some accounts of the machine era assert that boss rule peaked in the 1920s and did not fully come to an end until the death of Chicago Mayor Richard J. Daley in 1976. Despite the influence of the machines, as early as the 1890s reformers succeeded in pushing cities to adopt measures to reduce election fraud like voter registration and literacy requirements, Australian ballot, and nonpartisan election methods, along with codified civil service hiring systems.⁶⁷ During the movement for municipal reform, “‘efficiency and economy’ became code words for good government.”⁶⁸ In this environment newly absent of corruption and narrowly-distributed excess, most constituents came to appreciate the progressive efforts to reign in nepotism and graft. By the late 1890s, the advocates of municipal reform had managed to develop a new theory of government centered around commitments to 1) maintaining strict budgetary controls to keep taxes low and delivering public services cost-effective, 2) establishing a deliberate separation between the day-to-day administration of city government and city politics 3) hiring public servants who possess the training and expertise to conduct city services; and 4) running governments like a business. Emphasizing the latter objective, cost

⁶⁶ Judd and Hinze, *City Politics*, 64.

⁶⁷ Judd and Hinze, *City Politics*, 66.

⁶⁸ Judd and Hinze, *City Politics*, 69-70.

efficiency became “the ultimate touchstone for good government,” and citizens lauded city leaders who were associated with modest spending and few debts.⁶⁹

Such principles of responsibility and austerity aligned with the new goals of Progressive-era politicians to be “more moral, more rational, and more efficient and, because it was so, self-evidently more desirable.”⁷⁰ Reformers, who tended “to have come especially from the more advanced segments of their professions, from those who sought to apply their specialized knowledge to a wider range of public affairs” injected an appreciation for technocracy into municipal governments that would last for many decades, only to be challenged most aggressively by citizen discontent in the wake of economic downturns throughout the 20th and early 21st century.⁷¹ The popular view on technocracy has shifted somewhat since then, particularly in recent years where some Americans have come to distrust experts associated with the ‘establishment.’ Even so, the lasting impact of the transition to expert-led public officials laid the foundation for introducing the behavioral economists, statisticians, and data scientists associated with nudge units into city government.

*Building Upon the Business Model*⁷²

Alongside the governing principles that emerged in the reform era following the fall of political machines, academics provided their own support for efficient government. In the case of Frederick Winslow Taylor, who published *The Principles of Scientific Management*

⁶⁹ Judd and Hinze, *City Politics*, 69-70.

⁷⁰ Samuel P. Hayes, “The Politics of Reform in Municipal Government in the Progressive Era.” *The Pacific Northwest Quarterly* 55, no. 4 (1964): 157-69. Accessed May 11, 2020. www.jstor.org/stable/40487929.

⁷¹ *Ibid.*

⁷² “The Gilder Lehrman Institute of American History,” Gilder Lehrman Institute of American History, January 1, 1970, <https://www.gilderlehrman.org/history-now/essays/progressive-era-new-era-1900%E2%80%931929>.

in 1911, his fierce advocacy for the application of military discipline and hierarchy came to influence city governance. Similarly, Henry Brueré, the first director of the New York Bureau of Municipal Research, preached principles of efficient design in city management.⁷³ In accordance with these principles, scientific experts and business leaders advocated for municipal offices focused on spending and oversight and encouraged city leaders to staff those offices with experts.

As the municipal emphasis on efficiency intensified and the business model of cities progressed through its early stages of experimentation, cities began to diverge in their administrative structure, with some being led by strong mayors and other by strong city councils. With this shift, however, municipal politics became more *political*, as it became clear that city leaders would yield power over growing budgets and more extensive responsibilities than less formal machines had controlled. As Judd and Hinze explain, “despite the references to the business model, it was hard to hide the fact that the city manager plan was political in both intent and effect,” especially given the fact that the plan was intended “to ensure the election of a different class of people who would insulate government from the influence of the Great Unwashed.”⁷⁴ At times, the business-inspired governance model has referred merely to prioritizing profits and minimizing wasteful spending, and others it referred to the professional background of the civic leaders and administrators. In times of fiscal crisis, especially, individuals pay particular attention to the political affiliation of their city leaders and the partisan implications of certain spending priorities.⁷⁵ In general, city leaders found that associating themselves with efficiency and

⁷³ Judd and Hinze, *City Politics*, 70-71.

⁷⁴ Judd and Hinze, *City Politics*, 75.

⁷⁵ Joram Nanne Pieter Feitsma, “The Behavioural State: Critical Observations on Technocracy and Psychocracy,” *Policy Sciences* 51, no. 3 (2018): pp. 387-410, <https://doi.org/10.1007/s11077-018-9325-5>.

business model leadership was a wise political move, giving them cover to justify their policy initiatives with social science and promise their constituents that they were saving money and spending wisely.

The Great Depression, the Great Society, and EDCs

The financial situations of many large cities reflected the same fate of the nation between 1923 and 1927, with “spending by the largest 145 cities [rising] 79 percent,” and “the 13 biggest cities [incurring] 50 percent more debt in the 1920s.”⁷⁶ During the Great Depression that followed, urban development was shaped by “1) a fiscal and social crisis in the cities, 2) indifference by the states, and 3) the forging of an alliance among city officials for the purpose of securing a federal response to their problems.”⁷⁷ In response to the crisis, municipal leaders helped to found the United States Conference of Mayors (USCM) in 1933 to create a venue where mayors of large cities could lobby the federal government for consideration of their cities’ interests in New Deal policies.⁷⁸ Encouraging policies that touched upon housing, unemployment, and urban infrastructure, the New Deal’s incorporation of urban interests suggested that, according to Flanagan “the strength of the USCM also marked a distinctive period in American federalism in that direct and substantial federal-urban links ended the hierarchical relationship among levels of government in which the federal government interacted with the states, and the states with cities, that had prevailed until the 1930s.”⁷⁹

⁷⁶ Dennis R. Judd and Annika M. Hinze, *City Politics*, p 124

⁷⁷ Dennis R. Judd and Annika M. Hinze, *City Politics*, p 91

⁷⁸ Richard M. Flanagan, "Roosevelt, Mayors and the New Deal Regime: The Origins of Intergovernmental Lobbying and Administration." *Polity* 31, no. 3 (1999): 415-50. Accessed May 11, 2020. doi:10.2307/3235248.

⁷⁹ *Ibid.*

One final key development leading up to nudge units was the birth of community and economic development corporations during the Great Society Era beginning in the 1960s.⁸⁰ Economic development corporations tend to be “nonprofit corporation[s] that [use] city resources — everything from city-owned buildings to special funding sources such as city-issued bonds — to promote economic growth and create a bridge between city agencies, private businesses, and the needs of the community.”⁸¹ As city leaders learned during some of the most socially turbulent times of the latter half of the twentieth century witnessed, “within urban areas, extreme inequality has always been expressed in two ways: social disorder (in the form of crime, riots, and family disorganization, for instance) and residential patterns of segregation.”⁸² In response to the pervasiveness of inequality and resulting social tensions, civic leaders experimented with a variety of welfare programs. Into the 1970s and 80s, federal efforts sought to leverage private investments in troubled cities and neighborhoods, inviting a growing number of experiments with public-private partnerships.⁸³

Efforts surrounding revitalization, urban renewal, and reinvestment intensified as cities were told to improve their ability to compete, as “state and local governments will find it is in their interests to concentrate on increasing their attractiveness to potential investors, residents, and visitors.” It was amidst these revitalization efforts that the modern economic development corporations sprung up in cities around the country. While nudge units have no direct predecessor from which they evolved, the economic development corporation is arguably an influential forebearer, since economic development corporations are often

⁸⁰ Steve Kaelble, “The Evolution of Economic Development: 1965 - 2015,” *Area Development*, May 7, 2015, <https://www.areadevelopment.com/economic-analysis/Q2-2015/evolution-of-economic-development-last-50-years-191866.shtml>.

⁸¹ Barbara Eldredge, “What Is the NYCEDC, Anyway? Why Should You Care?,” *Brownstoner*, April 6, 2016, <https://www.brownstoner.com/brooklyn-life/what-is-the-edc-new-york-economic-development-corporation/>.

⁸² Dennis R. Judd and Annika M. Hinze, *City Politics*, 170.

⁸³ Dennis R. Judd and Annika M. Hinze, *City Politics*, 281.

public-private partnerships who use public funds to optimize city resources and encourage a behavior change. Economic development corporations have more a geographical focus, targeting particular neighborhoods for investment and business growth, but like nudge units, they fit into the trend of cost-efficient, expert-driven municipal governance.

Moreover, public-private economic development corporations are a feature that New York City, Chicago, and Philadelphia had in common before each city saw the launch of its nudge unit. While public-private partnerships are not necessarily rare in municipal governments, economic development corporations are large and powerful examples of private-sector leadership influencing the policy decisions of civic leaders, and familiarity with this dynamic likely shepherded the adoption of nudge units. In New York City, the precursor to the economic development corporation that exists today was the New York City Public Development Corporation, launched in the 1960s to sell or lease city-owned property in order to help create jobs. Later on, the city created the Economic Capital Corporation to help finance businesses and development with money through selling bonds, and in 1991 the city governments merged these two programs into the Economic Development Corporation that still exists today.

Similarly, Philadelphia's government has granted great trust and authority to its economic development corporation, started in 1958 as a non-profit joint venture between the City of Philadelphia and the Greater Philadelphia Chamber of Commerce. At the time, there were no public-private partnerships, and Philadelphia's privately led office was a total experiment to spur job creation and adapt to changes in manufacturing trends.⁸⁴ According to PIDC President John Grady, "[t]he experience in the city was public sector doing urban renewal,

⁸⁴ "Who We Are: History," PIDC Philadelphia, accessed May 11, 2020, <https://www.pidcphila.com/who-we-are/history>.

private sector leading developments like Penn Center,” and in his view, “The whole idea of creating a private organization that has shared governance between the public sector and private sector was in itself innovative. It was very progressive at the time.”⁸⁵ Given the success that Philadelphia’s economic development corporation achieved by helping the city attract capital and coordinate private infrastructure project, the city’s experiment set a positive preference for public-private partnerships and inviting business leaders and academics to advise the Philadelphia government. Nudge units, while often oriented toward optimizing existing city resources rather than generating new ones, fit into a very similar trend or philosophy of municipal policy making.⁸⁶

The Cost-Benefit Revolution

While many of the aforementioned policy shifts and political battles took place within cities, the evolution of the federal dynamic between national and local governments also influenced how nudges first got incorporated into municipal policy. The Reagan administration marked a watershed moment for efficiency-driven policymaking with the passage of Executive Order 12291.⁸⁷ The order, which Reagan passed in 1981, severely constrained regulatory authority with the requirement that the benefits of any regulation outweigh the costs, and it set up several parameters that would be used to guide executive agencies’ in their evaluation of a policy or program’s worthiness. It mixed a long-held appreciation for efficiency with the economic pressures exerted by a presidential

⁸⁵ “60 Years of Driving Growth to Every Corner of Philadelphia: 1958-2018,” Philadelphia Industrial Development Corporation, http://www.pidcphila.com/images/uploads/resource_library/pidc-history-lores.pdf

⁸⁶ Joram Nanne Pieter Feitsma, “The Behavioural State: Critical Observations on Technocracy and Psychocracy,” *Policy Sciences* 51, no. 3 (2018): pp. 387-410, <https://doi.org/10.1007/s11077-018-9325-5>.

⁸⁷ Cass R. Sunstein, *Cost-Benefit Revolution* (Cambridge, MA: MIT PRESS, 2019).

administration who cut back significant federal funds that had been allocated toward cities. In doing so, it left city leaders in a position ripe to adopt innovative cost-saving policies.

Amidst the cost-benefit revolution, city officials' relative insulation from public scrutiny and their tendency to pursue ideologically neutral policies to a greater extent than state and federal politicians further help to explain why city leaders and administrators have been some of the earliest and most committed advocates of nudges. Municipalities manage enormous budgets and services as wide-ranging essential to their citizens' daily lives as trash collection, education, and zoning. Cable news and popular print media commonly cover every presidential campaign and the daily activity, or inactivity, of Congress, but they have historically paid far less attention to the elections and political administrations at the municipal level. While stories of corruption, bankruptcies, and public health crises certainly make their way into the mainstream media, local officials, particularly non-elected bureaucrats, can more room experiment. These officials also perhaps have confidence that the outcomes of their policies will be noticed far more than the innerworkings of their administration. Thus, as cities have grown and city officials' responsibilities have ballooned, officials have had the latitude to experiment with policies that may have drawn greater skepticism if presented on the national level.

From the rejection of political machines to the embracing of the cost-benefit revolution, historical trends in adopting cost-saving, expert-driven policies laid the political groundwork for municipal nudge units. Without social scientists welcome in the governance sphere, or without cities' open-minded approach toward public private partnerships, nudge units simply would not exist. From looking at the staff and structure of nudge units in Chapter 6, it will become clear that knowledge of behavioral economics and experience with social science

methods are essential to operating a nudge unit, and one should not take for granted that individuals with those backgrounds are welcome in city government. Two hundred years ago, they would not have been, but in the time since cities have become more familiar with and accepting of policy guidance from non-politicians. They have also been exposed to public-private partnerships models, whose success with incorporating non-civil servants into the operation of municipal governments offered city leaders a precedent for the model that most behavioral design consultancies propose for municipal nudge units.

Chapter 5: Unpacking the Structure and Strategy of the Municipal Behavioral Design Team

Having situated nudge units amidst larger trend of cost-efficient, apolitical municipal policymaking, it is worth examining what work nudge units have actually engaged in and how cities and their partners have tracked their work and measured their success. To understand the scope of nudges in cities, it helps to look to the origins and early work of the behavioral design teams in New York City, Philadelphia, and Chicago. What stands out in reviewing nudge units' first several years of activities is the subtlety of the nudges, the breadth of policy areas to which they are applied, the consistency of experimental methodology, and the failure of nudge units and their city sponsors to seek progress reviews or audits from outside sources. The main constraint in evaluating nudge units' work comes from this failure, since annual reports from ideas42 and the Behavioral Insights Team are the primary sources for studying nudge units' projects and successes. Despite this limitation, it is still possible to understand the nudge units' approach to behavioral interventions, their variety of projects, the backgrounds of the individuals behind them, and the sources of funding and oversight. Understanding these dimensions is essential to eventually evaluate nudge units, since it illustrates the limited resources and unique incentives that are at play.

Ideas42—Philosophy and Structure of BDT Partnerships

New York City and Chicago's behavioral design teams exemplify the consultant-dependent model, which stands out as the simplest method for setting up a nudge unit. Their guiding philosophy and office structure demonstrate just how influential ideas42 has been in setting the agenda and carrying forth the work of behavioral interventions. In these cities, no single public official is in charge of the team and most of the substantive work of the nudge unit is carried out by ideas42 staff. Although the New York BDT is billed as a partnership with the

mayor's office, the leaders and staff of the team are direct employees of ideas42. Several members of the Ideas42/NYC-BDT team—including Anthony Barrows, Natalie Dabney, Jon Hayes, and Rachel Rosenberg—also contributed to a larger report that teaches city officials how to implement ideas42's approach for their own nudge units.⁸⁸ This report is the main source of information about the principles and methods ideas42 deploys in its policy-oriented nudges, and the report sheds light on the variety of behavioral interventions tested in New York City and Chicago. Finally, the report affirms that ideas42 employees are the most involved in shaping the philosophy of the nudge unit, and in the process of designing and testing the interventions.

The general takeaways from the report center on ideas42's philosophy of applied behavioral insights. In the government context, where “the success of policies, programs, and services depends on people's decisions and actions,” understanding behavioral tendencies and being able to predict how individuals will choose to interact with (or ignore) a government initiative is particular salient.⁸⁹ To communicate the difference between traditional approaches to policy making and behavioral approaches, the authors suggest two different interpretations of the answers to what drives human behavior, how to motivate behavior change, and what inaction tells us about people and their preferences. In their view, traditionalists adhere to beliefs that “personal preferences and values are usually stable” and predictive of behavior, while “raising awareness and providing new information or incentives” is capable of driving behavior change.⁹⁰ While providing awareness, full information, and direct incentives can shape individuals' “intentions,” this approach acknowledges that it may be necessary to remove barriers and increase the ease of an activity to inspire a behavior change. When it comes to investigating why

⁸⁸ Anthony Barrows, Natalie Dabney, Jon Hayes, and Rachel Rosenberg, “Behavioral Design Teams: A Model for Integrating Behavioral Design in City Government,” (New York, NY: ideas42), April, 2018.

⁸⁹ Ibid.

⁹⁰ Ibid.

a behavior occurs, behavioral scientists at ideas42 focus their approach on asking how aspects of an individual's environment are actively shaping their choices and actions in the policy context.

Apart from ideas42's philosophy of behavioral intervention, which they transmit to their municipal nudge partners, the organization shares its research methodology with the local nudge units that it operates. According to the researchers and practitioners behind NYC's BDT, the approach to their projects encompasses A/B testing for RCTs, field observations, usability test, data analysis, and interviews of New York City residents. Generally, ideas42 emphasizes the role of impact evaluation in behavioral design, and it attests to using several evaluative tools to "determine with reasonable certainty whether an intervention achieves its desired effect."⁹¹ However, this commitment is more nominal than it is substantial, given that ideas42 is the only known evaluator of its own work, and its evaluations are compromised by its own incentive to deem its projects successful. When projects do not have their desired effects, ideas42 deigns the data collection process a success in that negative or null results help diagnose ineffective interventions. As for finding what works, well-tested innovation and a fair amount of risk are necessary for success, demanding a certain degree of political capital that leaves room for failures in the overall BDT portfolio. To meet rigorous standards of data collection without drawing out project timelines to years, ideas42 tends to choose projects where outcome data is actively being collected. In line with this rigor, ideas42 reports that BDT initiatives generally allow for random assignment of people to different treatment groups and work with a large enough sample that small outcome differences are still statistically significant.

With this philosophy and methodology passed on from ideas42 to the behavioral design teams in New York City and Chicago, the third main area of influence ideas42 has over these

⁹¹ Ibid.

nudge units is in their organizational structure. Although behavioral interventions could be delegated to a Chief Behavioral Officer or fully decentralized by having individual agencies contract with behavioral advisors directly, ideas42 (unsurprisingly) advocates for a semi-decentralized approach of an *embedded* Behavioral Design Team. With a suggested model of a cross-agency group of behavioral designers and policymakers, ideas42 pushes cities to aspire to BDTs that “stay nimble enough to keep a finger on the pulse of multiple agencies and to take on projects as needs emerge.”⁹² According to ideas42, a successful BDT should be able to both achieve impact at scale and promote a cultural shift in the city’s political landscape toward behavioral and evidence-based policymaking. To achieve this goal, ideas42 prioritizes determining project selection criteria from the outset, focused on five areas: city priority and social impact, agency buy-in and capacity, clear touchpoints for introducing behavioral interventions, existing data collection mechanisms, and randomization and large sample sizes for evaluative purposes.

With these criteria in place, ideas42 adheres to a standard and robust design process for its BDTs and their nudge pilots. Across all BDTs, this process involves at least five elements of defining problems, diagnosing actionable behavioral bottlenecks, designing scalable interventions, testing pilots, and ultimately scaling proven solutions to larger populations or adapting them to other contexts.⁹³ Rather than a linear progression of steps, ideas42 refers to their design process as “circuitous in practice,” involving frequent returns to earlier stages when reviewing results of certain intervention trials or when new information becomes available. Because the problem may not have the correct initial diagnoses—after all, negative policy

⁹² Ibid.

⁹³ Ted Robertson, Matthew Darling, Jennifer Leifer, Owen Footer and Dani Gordski. “Behavioral Design Teams: The Next Frontier in Clinical Delivery Innovation?” Issue Brief 2017 (2017): 1-16.

outcomes could be driven by one or multiple problems of uptake, follow-through, retention, compliance, or performance—behavioral design can involve many returns to the early stages until the irrational behavior mechanism is fully understood. To this end, BDTs partnered with ideas42 engage in “behavioral mapping,” a propriety technique intended to “pinpoint discrete decision and action points in a process” by identifying “psychological factors and contextual features that might affect choice and action.”⁹⁴ Overall, applying this consistent and straightforward methodology assures city partners that ideas42 is committed to maintaining a simple and verifiable process that cities could later review. Unfortunately, no city partner or outside agency has ever conducted a review to assess how consistent ideas42 actually is.

Structurally, the NYC Behavioral Design Team was designed as a partnership with NYC Mayor’s Office to assist city agencies with behavioral design, and this partnership has involved the work of over thirty city agencies. Although ideas42 shoulders much of the responsibility for operating the nudge unit, its partnership illustrates how many members of the city government are supporters of the nudge unit and how much the unit relies on outside financing.⁹⁵ Financially, the BDT received significant support from the John D. and Catherine T. MacArthur Foundation, which awarded Ideas42 \$1.2 million dollars between 2014 and 2016. These grants, distributed as \$375,000 in 2014, \$450,000 in 2015, and \$375,000 in 2016, were designated as awards to support “Community & Economic Development,” “Digital Media & Learning,” and “What We’re Exploring: Cities, Information, and Governance,” respectively.⁹⁶ In mid-2018,

⁹⁴ Anthony Barrows, Natalie Dabney, Jon Hayes, and Rachel Rosenberg, “Behavioral Design Teams: A Model for Integrating Behavioral Design in City Government,” (New York, NY: ideas42), April, 2018.

⁹⁵ Within the New York City Government, BDT leadership included Tony Shorris, formerly First Deputy Mayor; Mindy Tarlow, formerly Director, Mayor’s Office of Operations; Matt Klein, Executive Director, Mayor’s Office for Economic Opportunity; and Carson Hicks, Deputy Executive Director, Mayor’s Office for Economic Opportunity.

⁹⁶ Michael Hallsworth and Elspeth Kirkman, *Behavioral Insights* (Cambridge, MA: The MIT Press, 2020). “Ideas42,” Macarthur Foundation Grant Search, accessed May 11, 2020, <https://www.macfound.org/grantees/2630/>.

announcements from the New York City Office of the Mayor acknowledged a new philanthropic partner, the Laura and John Arnold Foundation, which would help support the BDT through the end of 2019.⁹⁷ According to the foundation's own reporting, their Arnold Ventures arm allocated \$399,993 to ideas42 in 2013, and a second grant of \$489,230 in 2018 with the stated purpose "to design, implement, and test a set of behavioral interventions in emergency departments to improve outcomes for patients with opioid use disorder."⁹⁸ Several million dollars may seem like a small budget compared to other city initiatives, but it is a large amount of money to allocate to a government office that has very little city oversight or independent verification of its success. As a public private partnership, ideas42 does not experience the same burden of internal reviews as other agencies, and its reliance on philanthropic funds helps to explain why its nudge units are not as reliant on the city for constant approval of proposed behavioral interventions.

In Chicago, the behavioral design team has many similarities in the structure of the operation and its approach to integrating behavioral insights into municipal policy. Instead of the Arnold Foundation, the largest philanthropic backer of the Chicago BDT was the John D. and Catherine T. MacArthur Foundation, which supported its first two years of functioning, until the City of Chicago took over funding. The BDT's partners in city government include Chicago's Chief Sustainability Officer & Senior Policy Advisor, the Chief Policy Officer of the Mayor's Office, and the former Director of Chicago's Innovation Delivery Team.

While the achievements of New York City and Chicago's behavioral design team impressed local officials, there is no denying that the coverage of these achievements is colored

⁹⁷ Katie Pyzyk, "NYC Extends Behavioral Design Program through 2019," *Smart Cities Dive*, March 22, 2018, <https://www.smartcitiesdive.com/news/nyc-behavioral-design-program-2019-ideas42/519718/>.

Mitra Salasel, "Behavioral Insights Deliver Real Impact in the City of New York," *PR Newswire*: press release distribution, targeting, monitoring and marketing, June 27, 2018, <https://www.prnewswire.com/news-releases/behavioral-insights-deliver-real-impact-in-the-city-of-new-york-300617524.html>.

⁹⁸ "Grants List," Arnold Foundation, accessed May 11, 2020, <https://www.arnoldventures.org/grants-list/p25/?q=behavioral+design>.

by the fact that ideas42 is the primary source of reporting. Even so, ideas42 does seem to be forthcoming about the resources and commitment necessary to replicate its work in new cities. To create a behavioral design team in a new context, city governments eager to adopt behavioral insights, philanthropies willing to provide seed funding to the BDTs, and the third-party consultancy like ideas42 (or BIT) capable of setting the BDT's agenda and providing the expertise in behavioral design and project implementation and evaluation. Within cities, there is also the matter of buy-in from the agencies who tend to be the intermediaries between BDTs and city employees or residents. There is a fourth key element, however, which is only briefly mentioned in the report—the side-partnerships that ideas42 has come to facilitate between municipal BDTs and academic experts like Stanford's Omid Fotuhi, who collaborated on a CUNY initiative, or UVA's Ben Castleman, who advised one of ideas42's projects to encourage college matriculation among accepted students. Behavioral design is a broad field tasked with addressing very specific challenges, and the staff of any given consultancy may not have the needed expertise, or connections to experts, to help cities address their behavioral challenges. Many university programs do exist, but the geographic concentration of these institutes further suggests that cities across America may struggle to gain equal access to the academic expertise that the Chicago and NYC BDTs have come to rely on.⁹⁹

Scope of Initiatives

While understanding the historical underpinnings and organizational structure of behavioral design teams helps individuals understand how nudge units serve the goals of

⁹⁹ University programs include Princeton University's Kahneman-Treisman Center for Behavioral Science and Public Policy, University of Virginia's Nudge4 Solutions Lab, University of Chicago's Center for Decision Research, Carnegie Mellon's Department of Social and Decisions Sciences, Harvard University's Behavioral Insights Group, and the University of Pennsylvania's Center for Health Incentives and Behavioral Economics,

municipal governments, any future evaluation of nudge units would center on the scope and strategy of the nudge initiatives. Because nudges are so widely applicable, and each nudge unit prioritizes different initiatives, evaluating a nudge unit requires a deep familiarity with their trials. With a focus on user design, the BDT experimented with different improvements to city processes and forms involving accessing public benefits, obtaining flu shots, distributing court appearance tickets, and paying parking tickets before their due dates. In an attempt to increase timely form submission for Supplemental Nutrition Assistance Program (SNAP) recertification clients, the BDT worked with NYC’s Human Resources Administration to decrease failure to submit forms by 5.5% and measurably increased timely form submission by 12.9% over a period of less than forty-five days.¹⁰⁰ Although several projects either had no effect on the sample or had results pending at the time of the report’s publication, other initiatives in the realm of economic mobility included increasing timely interview completion for SNAP recertification climates, increasing the uptake of the Neighborhood Homelessness Prevention Outreach program, and increasing usage of the online tax prep portal through the Department of Consumer Affairs—Office of Financial Empowerment.

In the realm of education, the majority of initiatives revolved around a partnership between the New York City BDT and the City University of New York system. This consistent partnership is unique among nudge units, and it sets an auspicious precedent for other city agencies to engage in longer term relationships with their local nudge unit. Project objectives included increasing financial aid renewal among freshman at community colleges, improving placement testing outcomes among the same group, and boosting retention rates of community college students of all ages and years. Other BDT-CUNY nudges included RCTs to help

¹⁰⁰ Anthony Barrows, Natalie Dabney, Jon Hayes, and Rachel Rosenberg, “Behavioral Design Teams: A Model for Integrating Behavioral Design in City Government.”

community college students enroll in 15 or 30 credits per semester to establish stronger momentum, help them maintain a GPA high enough to remain eligible for state financial aid (TAP), and promote matriculation among students admitted to college, generally referred to as summer melt. In Chicago, the BDT established side partnerships with Chicago Public School and the Department of Family and Support Services to implement design-based nudged and RCTs to increase early Pre-K enrollment, early Pre-K attendance, and minimize Summer Melt.

While there seems to be a lack of cohesion or a common theme amongst the initiatives categorized as “equity and justice”-oriented nudges, they each utilize messaging to inspire the desired behavior change. Amongst initiatives that ideas42 classified as equity and justice-oriented were two partnerships with the New York Fire Department to increase test filing rates for firefighter candidates, which increased overall filing rates by 36.7%, with an 84% increase among black candidates, and an 83% increase among female candidates. In New York City, another nudge from the Small Business Services agency to increase recertification rates for small businesses owned by women and under-represented minorities was scaled citywide. In Chicago, the BDT worked with the Department of Family and Support Services to increase the “feeling of safety over 4th of July among youth in summer jobs programs,” to “increas[e] youths’ accomplishment of goals set at the beginning of summer,” and to “increase[e] feeling of safety among youth between end of summer jobs program and school resuming.”¹⁰¹ By relying on messaging rather than increased policing or other physical safety measures, this nudge epitomizes the low-cost style of behavioral interventions that nudge units tout.

Meanwhile, Government Operations projects included side partnerships with the greatest number of agencies, including the NYC and Chicago Departments of Finance, the Chicago

¹⁰¹ Ibid.

Department of Human Resources, the Chicago Police Department, the Chicago Department of Business Affairs and Consumer Protection, and the NYC-311 program. Project successes include text message reminders on court appearance rates. The messages highlighting penalties reduced non-appearance by 21%.¹⁰² Behavioral consultations to the NYC 311 app reduced misfiled service requests from 59% to 9%. In Chicago, RCTs yielded positive outcomes of a 31% increase in on-time payments of parking tickets (a 4 percentage-point increase), a 27% increase in payment rates of police citations, and a 4% reduction in average time to renew business licenses. As for design initiatives in government operations that were ultimately scaled citywide, Chicago worked to increase retention of Police Department recruits at the stage of physical evaluation called the POWER Test, and New York City helped homeowners understand and act on property valuation notices, and assisted property owners in avoiding the sale of tax liens incurred from nonpayment. Three further applications where results are still pending or sample effects have not yet been discerned were a nudge to increase city citation payments in Chicago, a nudge to increase electronic tax filing and payment in New York City, and a nudge to increase parking ticket payment rate in the pre-judgment phase.

Health projects, of which there were fewer, involved partnerships with New York City's Department of Health and Mental Hygiene, the Office of Labor Relations—WorkWellNYC, and the Department of Public Health in Chicago. Of the six projects, ideas42 observed positive results in New York City's initiative to boost flu vaccine uptake among city employees (the nudge increased vaccine uptake by 5% in the pilot and by 10% at scale), and a Chicago initiative

¹⁰² "New Text Message Reminders for Summons Recipients Improves Attendance in Court," The official website of the City of New York, January 24, 2018, <https://www1.nyc.gov/office-of-the-mayor/news/058-18/new-text-message-reminders-summons-recipients-improves-attendance-court-dramatically>. Saugato Datta and Sendhil Mullainathan, "Behavioral Design: A New Approach to Development Policy," *Review of Income and Wealth*, 2014, pp. 7-35, <https://doi.org/10.35188/unu-wider/2014/824-7>.

to increase the uptake of in-home lead paint inspections, where response rates increased from 0.4% to 1.2%. The nudge toward flu vaccines, in particular, is highlighted in the report as an exemplar of cross-agency collaboration and utilizing specialized academic knowledge of behavioral science to implement several potential intervention designs. The most successful intervention, a behaviorally informed email, was then sent to the entire City workforce during the 2017-2018 flu season to achieve maximum impact. Other health projects designed to increase the submission of forms authorizing in-school treatment of students with asthma, assist school personnel acquire and act on authorization to treat students with asthma, and promote the adoption of online and telephonic medical services via insurance card inserts did not have reported outcomes data available but were scaled citywide. A sixth project in New York City sought to encourage the adoption and active use of blood pressure monitors in pharmacies. Without necessarily investing in making healthcare more accessible or affordable, the nudge unit promoted better health outcomes citywide by encouraging New Yorkers and Chicagoans to make use of existing healthcare resources.

In the final category of sustainability initiatives, Chicago's BDT had tested six pilots and RCTs in conjunction with the city's Sustainability Team. The most successful outcomes came from projects designed to increase energy benchmarking compliance (it did so by 6.2% in the RCT), reduce commuter congestion on public transit (it reduced peak-hour ridership on the Red Line on game days by 15.4% as a pilot), and reduce disposable bag use via a city tax (it was associated with a reduction of over 40% in difference-in-difference evaluation). Beyond these examples, the partnership also resulted in a project to increase energy efficiency investments among building owners by sending them informative energy benchmarking letters. In New York City, the main sustainability-oriented nudge increased flood insurance survey responses by 15.5

times (or 4.52 percentage points) in a trial conducted with the Office of Recovery and Resilience. Sustainability-oriented behavioral interventions should be of particular interest to municipal nudge units, since most policies designed to improve sustainability are either quite costly or quite intrusive. Rather than taxing individuals more heavily for their energy usage or forcing stores to offer discounts for reusable bags, nudges can remind individuals when there is a more sustainable alternative and make that alternative look most appealing.

Overall, the ideas42 model deployed in New York City and Chicago demonstrates the breadth of applicability of behavioral interventions, and the results ideas42 have published are promising. Ideas42 has demonstrated the viability of a consultant-dependent model, where no one directly employed by the city needs to possess behavioral economics knowledge or expertise in running randomized control trials. The benefits of this model, at least as manifested in the partnerships with New York City and Chicago, are that the administration of the nudge unit is handled by contractors. The ideas42 staff members, primarily at the associate level, manage all of the internal relationships between the nudge unit and the agency partners, and their credibility as outside experts helps them persuade new agencies to begin working with the BDT. However, relying on outsiders leaves a questionable trail of accountability for the potential failures of a nudge unit. Despite the impressive array of projects in their current portfolio, a nudge unit affiliated with ideas42 or reliant on another consultancy would not leave its constituents in a powerful position to question behavioral interventions they do not like.

Philadelphia: The Lone Independent Behavioral Design Team

As for one of the few identifiable examples of a municipal nudge unit sustained without ideas42 or BIT, Philadelphia's Behavioral Science Initiative was launched by its own team of academic experts and professional staff. What originated with Philadelphia's selection as a City

Accelerator initiative participant, spawned by Living Cities and the Citi Foundation, eventually crossed over into the subsequent mayor's administration and became a formalized nudge unit and hub of behavioral science research in mid-2016.¹⁰³ At its founding, PBSI had fewer than 10 team members and a narrow mission to more efficiently enroll Philadelphia residents in utility and taxpayer assistance programs.

More so than other municipal nudge units discussed PBSI has greater involvement from both government and academia, which make Philadelphia's nudge unit more accountable to citizens and make its results more meaningful when published in an academic journal. Between local government and academia, PBSI's partners include the City of Philadelphia, the Fels Policy Research Initiative of the University of Pennsylvania, and the Lang Center for Civic & Social Responsibility. From the City, it is the Mayor's Policy Office that works with PBSI to integrate evidence-based practices across city government, and in pursuit of this strategic initiative the Mayor launched GovLabPHL in 2017. At least under the current mayor, it is his Director of Policy Anjali Chainani who leads GovLabPHL and manages the collaboration between PBSI and the City of Philadelphia. Amongst the academics affiliated with PBSI is Swarthmore College Assistant Professor Syon P. Bhanot and UPenn Professor Daniel Hopkins, both of whom helped co-found the initiative.¹⁰⁴

A 2018 Results for America study explores PBSI's citywide evaluation model, which stands out for its academic rigor when compared to BIT and ideas42.¹⁰⁵ The case study describes several PBSI projects, with target populations ranging from the elderly, to delinquent taxpayers,

¹⁰³ Jill DiSanto and Lauren Summers, "GovLabPHL Embeds Academic Research into City Government," Penn Today, October 21, 2018 <https://penntoday.upenn.edu/news/penn-brings-academic-research-inform-city-government>.

¹⁰⁴ "Who We Are," Philadelphia Behavioral Science Initiative, accessed May 10, 2020, <http://phillybsi.org/who-we-are>

¹⁰⁵ Maia Jachimowicz, Marilyn Headley, and Sophie Bergmann, "Case Study: Philadelphia," Results for America, January 5, 2018, <https://results4america.org/tools/case-study-philadelphia/>.

to all Philadelphia residents. Through a partnership with the Department of Revenue & Senior Citizen Water Bill Discount Program, PBSI tested methods of messaging to ultimately achieve a 9% increase in enrollment approvals to the program. With the Department of Revenue and Delinquent Tax Payments, PBSI helped the city collect \$615,752 in overdue real estate tax payments (with a mere \$17,000 invested in the pilot).¹⁰⁶ Across the city, PBSI tested various new-user discounts for the Philly Bike Share system through the Office of Transportation and Infrastructure, which were associated with statistically significant increases in returning riders. Additionally, PBSI worked with the Mayor's Taskforce on Litter Reduction and Zero Waste to identify challenges such as waste bin availability in public places. One of PBSI's last early trials was a series of interventions with different messages sent from the Department of Licenses and Inspections & Online Licensing to increase the use of online license registration.

PBSI also engaged in several behavioral analyses of several larger issues, though the case study was published before the conclusions of the reports were available. The questions investigated in these reports revolved around methods Philadelphia could test to increase the uptake rate of EITC-eligible residents applying for the tax credit, boost the number of city employees and spouses who participate in the City Wellness Program, make youth summer jobs more accessible and equitable to young Philadelphians, and encourage low-income residents to continue using the Philly Bike Share program during the winter.

PBSI's academic ties and the fact that several founding members' professional affiliations do not make their research methods "proprietary," there are several published papers detailing the results of behavioral interventions in Philadelphia. The authors' academic affiliation does not necessarily undermine the fact that they have the same incentive as an ideas42 staff

¹⁰⁶ Ibid.

member to exaggerate the success of their nudge units, but the rigorous standards of peer-reviewed academic journals would prevent an author from advancing false claims. In a 2018 piece in the *Journal of Behavioral Public Administration*, for example, Syon Bhanot writes about an education intervention he researched with Gordon Kraft-Todd, David Rand, and Erez Yoeli of Yale's Applied Cooperation Team.¹⁰⁷ The results detailed in this academic article, even if they are more modest, are more meaningful than any result published in a BIT or ideas42 annual report because they faced a higher burden of scrutiny.

Although PBSI has a very unique structure and independence from a third-party consultancy, PBSI's methodology generally aligns with that of other municipal nudge units. Like ideas42, PBSI touches on its process via a published "Project Map" that lays out the timeline of its partnerships and behavioral trials.¹⁰⁸ After initial conversations between PBSI researchers and individuals from the Mayor's Office of Policy, the PBSI team assesses the opportunity for new behavioral initiatives and scopes out academic partners whose expertise is most closely aligned with the policy area. The academics then work with the City department to devise the goals, data, and information that needs to be shared for the project, along with gauging interest in writing up the results of the potential study to publish. Throughout the process, the department is likely to need to share information with PBSI, which necessitates that the City's Law Department draft a Data Licensing Agreement for the project. After PBSI comes up with the design for the RCT itself, there is another layer of external evaluation where the project requires approval from the IRB of whatever institution the involved academics are associated with. Health related projects also require the approval of the City of Philadelphia's Health IRB. From that point, the City

¹⁰⁷ Syon P. Bhanot and Elizabeth Linos, "Behavioral Public Administration: Past, Present, and Future," *Public Administration Review* 80, no. 1 (February 2019): pp. 168-171, <https://doi.org/10.1111/puar.13129>.

¹⁰⁸ "PBSI Project Map," Philadelphia Behavioral Science Initiative, <http://phillybsi.org/projects>

department initiates the RCT with the support of the PBSI members, collects data throughout the project's duration, and shares that data with the academics to conduct analysis. PBSI ultimately shares its analysis and project results with the City department and the Mayor's Policy Office to review, along with any written content that may be published about the project.

As the only nudge unit of its kind, it is difficult to draw broader conclusions about independently run nudge units based on observations from PBSI. At least in its own case, PBSI demonstrates that there is an alternative model to depending on consultancies to design and implement behavioral interventions. With a supportive mayor, it is possible to directly employ behavioral economics experts and staff the nudge unit with city employees. Interestingly, this staffing model may only work in larger cities, or cities near enough to large research universities that there are academics who can work full or part-time in aiding the nudge unit. However, this office organization may leave a nudge unit like PBSI more vulnerable to closure with a change of administration, if the nudge unit's staff gained a connotation as members of that mayor's administration and policy agenda. Meanwhile, an ideas42-partnered nudge unit has the benefits of outside funding *and* outside staffing, making it more likely that an incoming mayor will not dismantle the partnership that was only nominally connected to his or her predecessor. Until there are other nudge units of this nature, though, it will be impossible to draw absolute conclusions about their relative success and stability.

Going Global (and Local): BIT Expands to Midsize US Cities

While Philadelphia, New York City, and Chicago are the most established nudge units with the broadest project portfolios, BIT is showing smaller cities that it is possible to experiment with a small number of behavioral interventions without setting up an entire nudge unit. After undergoing the transformation into a social purpose organization, the Behavioral

Insights Team broadened its portfolio to include a number of U.S. cities. In its current capacity, it functions as a consultancy similar to ideas42, collaborating with cities who have achieved philanthropic support to start their own nudge units. According to a BIT report from late 2016 on “Behavioral Insights for Cities,” the organization’s New York Office led over 25 trials across U.S. cities in Chattanooga, San Jose, Louisville, Denver, Lexington, and New Orleans.¹⁰⁹ The initiative has since expanded and more recent blog posts on the BIT website refer to over 35 cities being involved in the project.

Like ideas42, BIT partnerships with cities are largely reliant on philanthropic funds to pay for their team and the administration of the behavioral intervention. Bloomberg Philanthropies’ funded the initial launch What Works Cities program (WWC), via a \$42 million investment granted to BIT in 2015 to better incorporate data and evidence in the policy making of America’s midsize cities.¹¹⁰ According to its website, WWC is an initiative tailored toward helping local government residents’ lives by using data and evidence effectively to tackle pressing policy challenges. WWC maintains partnerships with other organizations including Results for America and the Harvard Kennedy School Government Performance Lab, and their partnership with BIT helped launch BIT’s American operation in New York City, tailored around improving government services in cities with at least 30,000 residents.

With a different model from that of nudge units in Chicago, New York City, and Philadelphia, BIT launched a distinct initiative to apply its in-house talent to affect a large number of small cities who shared similar goals to implement behavioral interventions. So long

¹⁰⁹ “Behavioral Insights for Cities,” The Behavioural Insights Team, October 2016, <https://www.bi.team/publications/behavioral-insights-for-making-cities-better/>.

¹¹⁰ “7 Behavioral Insights Tips from Pioneering Cities in the Field,” Medium (Bloomberg Cities, January 3, 2019), <https://medium.com/@BloombergCities/7-behavioral-insights-tips-from-pioneering-cities-in-the-field-1943a3fd2947>.

as a city had a reasonably sized population (in the tens of thousands), BIT considered partnering to “encourage people to use public services; make government requests of residents as effective as possible; and build a stronger municipal workforce.”¹¹¹ BIT’s 2016 reports details various project designs that applied behavioral insights to systems of municipal governance, with the main objectives being to improve the take-up of services, build the best government workforce, and make government requests more effective. With much smaller budgets and shorter time frames, BIT adopted these three primary objectives for its small-town initiatives to optimize its resources and assure that the collaborations would address the cities’ needs. Across its tested interventions, BIT self-reports a 75% success rate.¹¹² Amongst its successes, BIT counts a \$13-\$90 return on investment for a project deployed in Lexington and Chattanooga to use a letter accompanying unpaid sewer bills, a tripling of the number of police applicants, an increase of 67% of Denver businesses filing taxes online, and 150 more people signing up for preventative healthcare appointments in New Orleans.¹¹³

Comparing and Critiquing the Municipal Models

While PBSI’s process largely aligns with that of Ideas42, one notable distinction is the lack of IRB approval in the ideas42 methodology. Matt Hankin, an Associate at ideas42 staffed on the New York City behavioral design team, acknowledged that no project to his knowledge had been evaluated by an external review board before being implemented.¹¹⁴ While every project he’d worked on was a product of collaboration between ideas42 and agencies within New York City government, the overseeing agency was the only party who could have claimed

¹¹¹ “Behavioral Insights for Cities,” (New York City, NY: The Behavioral Insights Team/What Works Cities, October, 2016). Accessible at: <https://www.bi.team/wp-content/uploads/2016/10/Behavioral-Insights-for-Cities-2.pdf>

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Matt Hankin, interview with Melanie Wolfe, phone audio; April 15, 2020.

responsibility for maintaining the ethical standards for the behavioral trials at the heart of ideas42's work. While Hankin could not recall any city agency rejecting project proposal for an ethical overreach, he suggested that an agency could object to following through with a project that ideas42 set forth. Meanwhile, PBSI's work is more directly tied in with the Philadelphia-area academics that consult on their projects, leaving the majority of their projects subject to approval from an independent panel coordinated through the university where the consulting professor is affiliated.

Outside of the variation in approval methods and ethical standards, the three nudge units also reveal distinctions in the type of relationship they have with the city where their work is done. PBSI appears to be most closely linked to the municipal administration. At some point, each nudge unit received the endorsement of their city's mayor, and each time their funding needs to be renewed they will again need mayoral approval of their continued work. However, the third-party operation of most of America's municipal nudge units and one-off behavioral intervention initiatives speaks to the lack of involvement from local government. Although managing the workload of designing the nudge units may not warrant full staff members assigned to nudge units from the office of the mayor.

With future data on the relative success of these nudge units, and a deeper understanding about their approval ratings in their communities, future researchers could help distinguish other benefits and drawbacks of the alternative models. Additionally, it would be helpful to understand the relative costs associated with each nudge unit, particularly with regard to the partnership fees collected by ideas42 and BIT. With that information, cities considering nudge units of their own could more holistically compare the consultant-driven nudge unit to the independent office and the occasional partnership. Ultimately, relying on outside experts versus a city's own staff is the

main distinction, and for now cities must decide who they wish to trust with their behavioral interventions.

Chapter 6: The Future of Nudge: Nudging in the Smart City

Both academics and public officials predict that the biggest opportunity for the expansion of nudges lies in the combination of behavioral insights and big data. Unlike traditional nudges, which apply general psychological principles to predict why individuals systematically make irrational decisions, data-driven nudges can rely on big data and machine learning to isolate exactly who is making which irrational decision. Then, data-driven nudges use the established insight to better target their nudges toward the people and environments most disposed toward the behavioral intervention. When it comes to understanding the machinations of nudges that smart cities deploy, Sofia Ranchordás explains that “[i]nstead of hunches, assumptions or evidence gathered in experiments, big datasets containing processed details on citizens’ most likely behavior establish correlations between multiple sources of information.”¹¹⁵ Now that nudge units can design behavioral interventions based upon citizens’ data, city officials and the leading administrators of municipal nudge units must address new ethical questions about privacy and government overreach. While big data and machine learning tools should not be prohibited from behavioral interventions, the level of privacy intrusion they entail should require that behavioral design teams inform individuals how they use their data to nudge.

To understand the gravity of introducing smart-city variations of nudges, it is worth defining smart cities and describing which smart innovations can overlap with nudges. Though no single definition captures the universal understanding of the smart city, since academics, businesspeople, and politicians define the term differently, Rob Kitchin helpfully outlines the methods that most smart cities have used to incorporate information and

¹¹⁵ Sofia Ranchordás (2019): “Nudging Citizens Through Technology In Smart Cities,” *International Review of Law, Computers & Technology*, DOI: 10.1080/13600869.2019.1590928

communication technologies (ICTs) into their design.¹¹⁶ For Kitchin, Smart Cities rely on “pervasive and ubiquitous computing and digitally instrumented devices built into the very urban environments...that are used to monitor, manage and regulate city flows and processes, often in real time.”¹¹⁷ To gather this information and inform ‘smart’ nudges, choice architects incorporate Internet-of-Things (IoT) technology, information communications technology (ICT), big data, or artificial intelligence/machine learning technology.¹¹⁸ The nudges that stem from these tools can be utilized to promote civic engagement, innovation and sustainability more effectively than traditional nudges. However, their complexity and reliance on personal information poses an increased ethical risk that can threaten the long-term popularity of nudges in municipal politics.

Apart from its involvement in nudges, using so-called smart innovations to collect big data is a contentious topic among urbanists. Smart city technology is generally capable of capturing physical data from passersby and digital data from users of a city’s wireless telecommunications network, digitally controlled utility services, and smart public transportation systems (like metro tap cards). Additionally, smart cities can benefit from accessing smart phone computing data that reveals how citizens navigate a particular urban environment and interact with municipal governments. Depending on the terms and conditions of a certain mobile phone application, governments can purchase de-identified individuals’ data from map apps, shopping apps, and the like to better understand how and when individuals make certain decisions and engage in certain activities. Generally, the three most frequent behaviors captured in real-time are environmental conditions, movement, and

¹¹⁶ Rob Kitchin, “The Real-Time City? Big Data and Smart Urbanism.” *GeoJournal* **79**, 1–14 (2014). <https://doi.org/10.1007/s10708-013-9516-8>

¹¹⁷ Ibid.

¹¹⁸ Sofia Ranchordás (2019): “Nudging Citizens Through Technology In Smart Cities.”

engagement with government services, and these present the main opportunities to introduce nudges to smart cities.

Considering that nudges are designed to encourage individuals to make a certain decision, nudges are not only compatible but a natural extension of the smart city. In a 2019 piece by Sofia Ranchordás in the *International Review of Law, Computers and Technology*, she discusses the growing applications of digital technology and data science to behavioral insights, which Ranchordás and earlier scholars refer to as hypernudging.¹¹⁹ In policymakers' pursuit to hypernudge, "citizens are regarded as passive data subjects whose data is put at the service of the functioning of the urban center and its infrastructures."¹²⁰ By utilizing this data to better understand citizens' habits, behavioral design teams can implement even more highly predictive nudges. As an emblematic example, Ranchordás discusses the combination of sensors deployed to identify high-crime neighborhoods with lighting adjustments to nudge citizens toward walking the safest routes through Eindhoven, a town in the Netherlands. However, Ranchordás suggests that nudges can quickly compound with the "inherently paternalistic mission of smart cities" and introducing big data to the equation is likely to enable more intrusive nudges.¹²¹

As compared to traditional nudges, hypernudges rely on a growing body of personalized (though generally de-identified) in a way that can make citizens uncomfortable. The hypernudge, as explored by Karen Yeung of the Centre for Technology, Ethics, Law & Society at King's College London, algorithmic decision-guidance techniques are being used to "shape the informational choice context in which individual decision-making occurs, with

¹¹⁹ Sofia Ranchordás, "Nudging Citizens Through Technology In Smart Cities," 2019.

¹²⁰ Ibid.

¹²¹ Ibid.

the aim of channeling attention and decision-making in directions preferred by the ‘choice architect.’”¹²² Yeung categorizes hypernudges as retooling either automated decision-making processes or digital decision-guidance processes, and if individuals are not aware when their government is hypernudging them, they certainly do not know which process is being influenced. Although hypernudges can still be classified as a ‘soft’ form of design-based control because they still do not mandate or prohibit, they invite a deeper level of governmental interference. These datasets capture individual and vehicle moment across cities—in many cases, time-stamped to identify when areas are most heavily trafficked—along with measurements about air quality, sound pollution, crime occurrences, sales transactions, and shipping patterns. The external mechanism for influencing behavior may be largely similar (notifications, public awareness campaigns, and removing friction from certain choices), but the underlying intelligence takes the shape of “algorithmic analysis of data streams from multiple sources claiming to offer predictive insights concerning the habits, preferences and interests of targeted individuals.”¹²³ To illustrate the implications of this mechanism in a non-governmental context, hypernudges reflect the difference between a grocer placing the unhealthiest foods in the most difficult to find spots, and a grocer moving the foods only when an overweight person walks into the store. By specifying the style of a nudge or its target audience based on behavioral data, choice architects can optimize their resources and reserve their nudges for the individuals most vulnerable to a particular irrationality.

¹²² Karen Yeung (2017) ‘Hypernudge’: Big Data as a Mode of Regulation by Design,” *Information, Communication & Society*, 20:1, 118-136, DOI: 10.1080/1369118X.2016.1186713

¹²³ Ibid.

Through shaping nudges at this stage of their design, big data and predictive algorithms can enable nudges units to implement behavioral interventions that reconfigure an individual's choice architecture in real time. This means that in addition to honing in on a particular subject for a nudge, hypernudges allow choice architects to adjust the intervention mechanism to best address their mode of decision making. To use data for this purpose, Yeung explains that cities can 1) adjust the individual's choice environment in reaction to changes in the subject's behavior and the surrounding environment, 2) relay data feedback to the choice architect, 3) continually track and refine of the individual's choice environment as population-wide trends shift.¹²⁴ In the private sector, hypernudges can take the shape of follow-up emails or notifications asking if website visitors are *sure* they don't want to purchase the items they had added to their cart. In the public sector, hypernudges can be similar individualized messages asking individuals if they realize they are taking a particular subway line at the busiest time of day or prompting individuals from a certain zip code to apply for benefits that most people in their area are eligible for. The content of these messages could look different for men and women, young and old, employed and unemployed. The messages could even be transmitted differently based on data about how receptive certain groups are to calls versus texts, emails versus subway ads or public billboards.

When it comes to the evaluation stage, hypernudges have the added advantage of more acute tracking strategies to judge their progress. A hypernudge designed to reduce foot traffic at a certain time can use the same sensory data to see if it worked, and in what neighborhoods or contexts it worked most effectively. Since "smart cities and nudges [both] aim at

¹²⁴ Karen Yeung, "'Hypernudge': Big Data as a Mode of Regulation by Design," 2017.

welfaristic ideals and offer an alternative for a better, wiser, more sustainable and healthier life,” the benign ends will likely be used to justify the suspect means.¹²⁵ Because there is not currently much overlap between smart city critics and behavioral intervention critics, the methods of data collection involved in hypernudges will be approved or rejected long before choice architects are presented with the opportunity to make use of them. At that point, it would be irrational for the staff of a nudge unit to ignore the opportunity to enrich a project with location-specific data, even if the citizens who had tacitly approved of the data-collection mechanism were never made aware that it may be used to nudge them.

Given these opportunities to target irrationality-prone individuals, tailor the intervention to their mode of thinking, and acutely measure the efficacy of a behavioral intervention, hypernudges are undoubtedly a powerful tool in need of thoughtful regulation. Regarding the interaction of the internet of things with behavioral interventions, Christian Iaione, Elena de Nictolis, and Anna Berti Suman express the need for “Tech Justice” in the city to guide policy maker’s use of technology. In their forthcoming article in *Law and Ethics of Human Rights*, they describe Tech Justice as “a tool for facilitating and sharing information and build capabilities that are necessary for the urban wellbeing.”¹²⁶ Under this conception of Tech Justice, there is an evident gap in the academic literature and popular conversation surrounding smart cities, which does not pay significant attention to issues of fairness, democracy, social and economic justice across vulnerable minorities and disadvantaged population.¹²⁷ While some smart cities have facilitated conversations around privacy and

¹²⁵ Ranchordás, *ibid.*

Yuval Feldman, *The Law of Good People: Challenging States Ability To Regulate Human Behavior* (S.L.: Cambridge Univ Press, 2019))

¹²⁶ Christian Iaione, Elena de Nictolis, and Anna Berti Suman. 2019. “The Internet of Humans (IoH): Human Rights and Co-Governance to Achieve Tech Justice in the City” *Law and Ethics of Human Rights* (forthcoming) Available at SSRN: <https://ssrn.com/abstract=3315437>

¹²⁷ Iaione, Nictolis, Surman, *Ibid.*

consent, cities with only a few smart innovations here and there tend to keep quiet on the introduction of the new technology. To remedy this failure, particularly where smart innovations combine with nudges, civic leaders need to pay greater attention to access and distribution of digital infrastructure and citizen participation in the design and oversight of digital initiatives. Once there are democratic mechanisms in place to facilitate this conversation between community members and civic leaders, leaders should turn their attention to creating opportunities for co-management or co-ownership of smart city initiatives among a diversity of local stakeholders. Even if these mechanisms slow the initial uptake of smart innovations and hypernudges, in the long run they will serve as a check on choice architects with access to individuals' personal data.

Granted, these democratic mechanisms hardly exist in nudge units today, and it is fair to question whether civic leaders have the political will to forgo speed and stealth for democracy and transparency. In criticizing data-driven or IoT-inspired nudges, Yeung toys with this fear and poses a "liberal manipulation critique of nudge," outlining three risks of illegitimate motives, deceptive methods, and insufficiently transparent mechanisms.¹²⁸ Given the technical complexity of nudges, it is increasingly likely that citizens and their representatives will cease to understand the behavioral interventions being imposed on them once big data is incorporated into behavioral interventions. Richard Brauneis and Ellen P. Goodman demonstrate the reality of this risk through case studies of machine learning and algorithmic thinking to policymaking, published in the *Yale Law Journal of Technology and Policy*. Their piece, "Algorithmic Transparency and the Smart City," points to examples like predictive policing, data-based child welfare assessments, and teachers evaluations as three

¹²⁸ Karen Yeung, "'Hypernudge': Big Data as a Mode of Regulation by Design," 2017

realms where quantifiable progress led policy-makers to rely on algorithms to make policy decisions on their behalf.¹²⁹ As Brauneis and Goodman demonstrate, the trouble comes when policy makers do not understand the algorithm's politics, whether it actually enhances or diminishes government capacity, and whether the lack of documentation and suppositions of "trade secrets" prevent citizens from being able to access the necessary information to evaluate and critique the algorithm's decision-making process. As potential remediating measures, governments implement contract language to require the disclosure of records, specific predictive criteria to prevent algorithmic replication of human biases, and validations studies and audits to affirm the algorithms perform as intended.

While the complexity of data-driven nudges is a surmountable hurdle, eliminating their discriminatory potential would be a more difficult task. The former would require an investment in technical expertise amongst public officials and civic education for the general populace, but the latter would require unpacking policy makers' biases and ensuring that they do not taint the algorithms involved in behavioral interventions. As mathematician and former hedge fund employee Cathy O'Neil argues in *Weapons of Math Destruction*, "[m]odels are opinions embedded in mathematics," and human-design algorithms perpetuate our biases rather than overcoming them.¹³⁰ Using a mix of federal, state, and local examples to make her argument, O'Neil concludes that recent implementations of machine learning to the policy landscape has led to immense grassroots failures, like superintendents who are unable explain why an algorithm recommended firing more teachers from low-income schools than not, or parole algorithms that allow historical recidivism data to racially bias

¹²⁹ Robert Brauneis and Ellen P. Goodman, "Algorithmic Transparency for the Smart City," *Yale Journal of Law and Technology*; 20, no. 1 (April 2017), <https://doi.org/10.31228/osf.io/fjhw8>)

¹³⁰ Cathy O'Neil, *Weapons of Math Destruction. How Big Data Increases Inequality and Threatens Democracy* (London: Penguin Books, 2016))

their predictions. If cities allow their behavioral interventions to be informed by big data and predictive algorithms that incorporate our assumptions about how different races and socioeconomic classes behave differently, then municipal nudge units risk perpetuating the same discriminatory beliefs that constrain minorities today.

Despite these risks of obscure and discriminatory hypernudges, the bar for dismissing hypernudges outright should be incredibly high because of the potential checks against government abuse. Moreover, it is possible hypernudges sound more intrusive than they are, and that their critics are too quick to assume bad intentions on the part of choice architects. In a conception like Yeung's, it is easy to see why "the extensive and accelerating use of commercially driven Big Data analytic techniques may seriously erode our capacity for democratic participation and individual flourishing."¹³¹ However, the question of this chapter is whether the introduction of big data would make traditional nudges unjustifiably prone toward undermining individual liberties. To best understand this risk, it may be helpful to compare the smart behavioral interventions outlined in this chapter to the recent scandal surrounding Cambridge Analytica. As a political consulting organization, Cambridge Analytica's essential mission is the same as that of every advertising agency on Madison Avenue—to influence people. What made Cambridge Analytica's activities so scandalous and worthy of public outcry, then, could not have been the mere fact that its staff members advised campaigns about the best language and messaging styles to change the political hearts and minds of voters. Campaign advisors have sought to sway voters for generations, using television ads to do so since the 1950s.¹³² What seemed to inspire the collective ire

¹³¹ Yeung, *Ibid.*

¹³² Kathryn Cramer Brownell, "Presidential Campaign Ad History: Before Clinton and Trump," *Time* (Time, August 30, 2016), <https://time.com/4471657/political-tv-ads-history/>

against Cambridge Analytica is that they (relatively covertly) captured online user data to create psychological profiles of thousands of Americans, and then used those profiles as a sample to determine which Americans would be most susceptible to certain formats of political messaging. Then, like a hypernudge, the array of political advertisements that Cambridge Analytica recommended targeted the individuals most amenable to the respective forms of persuasion. Interestingly, Yeung refers to an earlier Facebook scandal from 2014, where the company itself manipulated nearly 700,000 users' news feeds, as an example of a so-called study that can advance an "illegitimate motive" like emotional manipulation via a data-driven behavioral intervention.¹³³

As to whether the risks of illegitimate motives, deceptive methods, and insufficiently transparent mechanisms are avoidable, one should be skeptical that even strict oversight or notice and consent requirements are capable of mitigating the risks associated with hypernudges. On the one hand, individuals could be able to choose how their personal data is used, including whether it is used by a municipal behavioral design team. Alternatively, a more collective form of privacy management like a data trust could approve or reject a request to use a city's data for a certain purpose. In either case, the empirical evidence from the technology sphere reveals that individuals are rarely aware of the terms they consent to regarding their own data and its online transmission.¹³⁴ Given these realities, it is up to citizens and their representatives to decide whether they wish to accept behavioral interventions rooted in guesses about their habits and thought processes while rejecting interventions designed with the intimate knowledge of those processes. In any case, choice

¹³³ Yeung, *ibid.*

¹³⁴ Yeund, *Ibid.* Daniel Solove 2013, "Privacy Self-Management And The Consent Dilemma," *Harvard Law Review*, 126. 1880–1893.

architects cannot ignore the fact that there is a meaningful difference between nudges and hypernudges, a difference that carries a greater opportunity for government abuse and manipulation that nudges specifically promise to displace.

While smart cities have proven to be rapidly evolving projects that tend to seek more input and inspiration from the private sector than the public sector, and intertwining nudges with their innovations threatens to tarnish nudges with a similar reputation.¹³⁵ From the range of critiques directed toward hypernudges, there is no question that policy makers must approach the introduction of big data to nudge units quite carefully. Without proper oversight, choice architects could use smart city technologies to unfairly discriminate against vulnerable populations, abuse data that is not properly de-identified, and undermine the liberty of citizens who do not wish for policy makers to use knowledge of their habits against them. The potential, however, for hypernudges to be more effective and resource-efficient than traditional nudges cannot be forgotten. Given the pace of progress and the expansion of smart city technologies with or without the support of nudge units, citizens and their representatives should take the lead in discussing how to responsibly incorporate big data and machine learning into behavioral interventions.

¹³⁵ Calzada, Igor. "From Smart Cities to Experimental Cities?" in Giorgiono, V. and Z. Walsh (eds), *Co-Designing Economies in Transition*. London: Palgrave MacMillan.

Chapter 7: Evaluating Nudge Units: What We Need to Know to Nudge Better

As the municipal applications of *Nudge* span a greater number of policy realms and involve increasingly specific and personalized big data, the ethical concerns with nudges and the choice architects behind them will only intensify. Given these ethical concerns, and the accompanying practical concerns regarding the execution of different iterations of nudges, behavioral design teams should be more explicit about their objectives and the metrics by which they evaluate their initiatives. Because no critique of nudge units or even a particular nudge is objectively true and insurmountable, civic leaders should turn to the members of their communities to decide for themselves which nudges they support. Moreover, individuals must decide for themselves how to measure success and whether they are satisfied with the early progress of the nudge units in their communities.

The first step in facilitating this democratic forum will require much greater transparency from nudge units about their spending, their goals, and their success. Since many of the initial grants that helped launch America's nudge units will soon need to be renewed or replaced by government funding, both donors and taxpayers would benefit from independent reviews of municipal nudge units and their effectiveness. It is this lack of academic literature on nudge units' early progress that made it impossible to write a prescriptive analysis of what strategies make nudges succeed. Having completed several years of projects to establish a track record, nudge units ought to be willing to share that information with academics or researchers not affiliated with the behavioral consultancies. By publicly clarifying their methods and metrics for success, and by sharing their project outcomes with independent researchers, nudges can attempt overcome the empirical and philosophical critiques levied by scholars like Glaeser. Moreover, this clarity is necessary to arm citizens with the information

to advocate for or against nudge units and to determine whether to limit their scope of influence as more data and machine learning tools become accessible to behavioral scientists and policymakers.

When it comes to affirming certain objectives and clarifying their methods, several nudge units have aligned themselves with different commitments. In *Inside the Nudge Unit*, Halpern explains that BIT's original metric for success was saving the UK government more money than it was costing it within the first two years of launching.¹³⁶ Short of meeting that goal, Halpern assures his readers, the original nudge unit would have willingly shuttered its operation. Neither ideas42, nor BIT, nor PBSI have publicly committed their nudge units to earning a certain amount of revenue (either in absolute terms or in relation to their costliness), but all three organizations have suggested that their nudges do save or earn money for the municipalities. Of course, financial aims should not be the sole, or even primary, purpose of a nudge unit, but it is more than reasonable to request that nudge units are transparent about their costs and demonstrated benefits. Especially when considering the involvement of consultancies like BIT and ideas42, who charge for their services, making cost data available for entire nudge units and one-off nudge initiatives would help public officials across the country determine whether nudges could be wise financial endeavors for their municipalities. Both voters, nonprofit donors supporting nudge units, and public officials with and without nudge units in their cities would benefit from transparent financial data on the costs and revenue-generating potential of nudge units.

While financial gains are certainly one metric for evaluation, and perhaps a common consideration for government initiatives, evaluations for municipal nudge units should also

¹³⁶ Halpern and Service, *Inside the Nudge Unit*.

consider the units' democratic accountability to citizens and whether there are social scientific standards in place to evaluate the effectiveness of their nudges. Apart from stating financial objectives and committing to a certain level of revenue generation, nudge units should consider whether their methods and outcomes are satisfactory to the citizens being nudged. On this front, Cass Sunstein's article "Do People Like Nudge?" uses survey data from 536 Americans to make six conclusions about the extent to which citizens find nudges acceptable uses of government authority.¹³⁷ Though Sunstein acknowledges that "empirical findings about people's answers are not decisive" when it comes to resolving ethical questions in principle, it is worth noting citizens' perspectives because "in a democratic society, it is inevitable that public officials will attend to what citizens actually think."¹³⁸ On the subject of nudges, Sunstein finds that individuals generally have neither positive nor negative views, about nudging as a broader concept, and their approval of specific nudges hinges on whether they agree with that nudge's intended purpose and practical outcomes.¹³⁹ Sunstein's survey reveals that individuals are likely to disapprove of nudges that "promote what they see as illicit goals [such as economic losses] or (b) are perceived as inconsistent with either the interests or values of most choosers." While citizen approval is certainly a potential evaluative mechanism, and nudge units ought to take the citizen perspective into consideration, it is perhaps unhelpful for nudge units to commit themselves to pursue initiatives consistent with the interests of most choosers. One would assume that nudge units have this goal already, though providing citizens with a mechanism to state their values or

¹³⁷ Cass R. Sunstein, "Do People Like Nudges?" (February 17, 2016). *Administrative Law Review*, Forthcoming. Available at SSRN: <https://ssrn.com/abstract=2604084> or <http://dx.doi.org/10.2139/ssrn.2604084>

¹³⁸ Sunstein, *Ibid.*

¹³⁹ Sunstein, *Ibid.*

respond to more specific surveys on their local nudge unit would make this commitment more meaningful.

Although seeking consent for any given nudge unit may be an unreasonable goal, allowing individuals to retroactively review and critique nudges they have been subject to could help inform future nudges would help nudge units and citizens in the long-term. By doing so, nudge units will secure their own reputation and increase their chance of securing government funding in the future, while citizens will be able to influence their nudge units to pursue behavioral interventions that suit their values and interests. When it comes to understanding types of nudge units that citizens overwhelmingly support, or at least approve of, Sunstein's survey is again helpful in identifying popular nudges as calorie labels (87% in favor), graphic warnings on cigarettes (74% in favor), and mandatory enrollment in savings plans (71% in favor, though 80% support *encouraged* enrollment).¹⁴⁰ Educational campaigns designed to combat childhood obesity, distracted driving, and discrimination on the basis of sexual orientation received widespread approval, though approval ratings dropped to 57% for a seemingly "aggressive" public education campaign that sought to combat obesity by showing obese children struggling to exercise. Twelve nudges, however, were widely disapproved, seven of which involved uses of default rules. Specifically, unpopular nudges included a state law assuming men would automatically change their last names to that of their wives upon getting married (subject to opt-out); a policy assuming that individuals wish to register as Democrats, unless people explicitly ask to register as Republicans or Independent; and a government initiative to default state employees into giving 20 dollars per month to the United Way, subject to opt-out. From these findings, one can gather that the

¹⁴⁰ Sunstein, *ibid.*

mechanism of changing defaults tends to be more unpopular than nudges that seek to inform. Additionally, the survey revealed divisions among partisan lines that suggest individuals are more likely to approve of nudges whose outcomes align with their political views. By deepening our understanding of individuals' outlook on different nudges, cities can better position their nudge units to serve their citizens interests without upsetting them.

Even if one wishes to largely dismiss the significance of Sunstein's survey result because of his admission that "people do not value autonomy or dignity highly enough, or perhaps they do not quite know what those concepts means," the criticism is not tantamount to a solution about who should instead decide when nudges are overly intrusive.¹⁴¹ Currently, the individuals making that decision are behavioral scientists advising the nudge units, who may or may not be influenced by other practitioners, political scientists, and philosophers' writing on the subject. While they may be more informed as to the specific definitions of political autonomy individual dignity, their subjective stances on nudges are not necessarily reflective of the majority's views.

At this point, public officials have mainly endorsed certain nudges—despite the occasional critical government employee—but officials should take advantage of their political knowledge and proximity to nudge units to become more engaged critics of their practices. When it comes to democratic accountability, existing municipal nudge units in America are largely shielded from transparency requirements and citizen input. While any given nudge unit's political fate does lie in the hands of a city's mayor, whose failure to be reelected could spell the end of the nudge unit, there is no evidence that pushback for any nudge unit has been sufficient to oust the mayor. Instead, nudge units tend to sustain

¹⁴¹ Sunstein, *ibid.*

themselves off of the extra-governmental financial support led by large nonprofit organizations, and this reliance on third-party funds suggests that nudge units could have their focus areas or methods catered toward the goals of the nonprofit rather than the best interests of the municipality. To introduce greater accountability into nudge units, cities could require that a deputy mayor or other ranked public official be in charge of the office, rather than leaving the operations of nudge units wholly at the hands of staff members from ideas42 or BIT. As discussed in Chapter 4, the nudge units in New York City and Chicago are wholly staffed by ideas42, and the nudges launched across the country by the behavioral insights team are likewise overseen by their own staff members. Rather than relying on public officials solely for funding and sporadic project approvals, mayors could assign a deputy mayor to join the staff of their municipal nudge units, or they could set up the entire office such that they are partnered with a municipal division like an Economic Development Corporation. By associating a public employee with the nudge unit, mayors will be forced to more directly acknowledge their endorsement of the nudge unit and its initiatives. If citizens come to criticize the nudge unit's methodology or a particular initiative later on, a mayor will be more accountable for the nudge unit's error with a member of his or her own staff associated with the unit.

Apart from the introduction of much-needed government oversight to municipal nudge units, there is also a pressing need for clearer ethical standards about behavior-changing policy in the first place. Depending on one's philosophy toward government intervention in the first place, nudges may be broadly regarded as completely benign or completely inconsistent with individual liberties. For a critic of behavioral interventions, nudges inherently undermine autonomy, and no commitment to transparency or choice-preservation

will be ethically restorative. For a nudge advocate like Sunstein, meanwhile, the benefits of behavioral interventions may make him hesitant to impose blanket restrictions on nudge units by binding them to any particular commitment. Setting philosophy aside, nudges are a type of policy that can inspire a certain gut reaction from individuals, so nudge units ought to invest more time and effort in defining their own ethical standards and publicizing their commitment to following those standards to community members. Particularly given the complexity of data-driven nudges, it is essential for nudge units to establish whether they wish to use real-time data to inform their nudges, and how individual data will be de-personalized or de-identified to protect individuals' privacy rights. On a more basic level, nudge units face publicly unresolved ethical questions about how they will address behavioral irrationalities that only affect certain subpopulations. It should not be taken as a given that nudge units can primarily interfere with low-income or lesser-educated residents of a city, even if vulnerable populations are the primary victims of behavioral irrationalities that equate to the "low-hanging" fruit most easily and cheaply addressed by a behavioral intervention.

Further insights from Sunstein's study, such as citizens' distaste for covert nudges that hinge on subconscious manipulation, can help behavioral interventionists design nudges that neither offend nor anger their subjects.¹⁴² Felsen et al. adds to this survey finding in observing that in a scenario involving eating, people were equally approving of System 1 and System 2 nudges *when they wanted help*.¹⁴³ While I have yet to come across a nudge that is only applied to individuals already seeking to motivate a behavioral change, Felsen and

¹⁴² Gidon Felsen et al., Decisional Enhancement and Autonomy: Public Attitudes Toward Overt and Covert Nudges, 8 *Judgment & Decision Making* 202, 203 (2012).

¹⁴³ Felson Ibid.

Sunstein’s findings about the disparate reception of conscious and subconscious nudges should be interesting to designers of behavioral interventions. Because of these design-based opinions, some scholars suggest focusing more attention on defining nudges rather than laying out constraints and ethical requirements for nudge units to abide by. Sunstein, for instance, argues that “most nudges are fully transparent, and all of them should be;” by way of explanation, he suggests that nudges relying on disclosure, reminders, warnings, and uses of social norms actually *need* to be transparent to work.¹⁴⁴

As for the evaluative stage of the project timeline, municipal nudge units also tend to lack transparency surrounding their own standards for success. Whereas public officials make campaign promises and face subsequent public and media scrutiny around their progress toward achieving these promises, all a spectator can gather about nudge units in this sense is that their progress has sufficiently pleased their funders and overseers in the government who allow them to continue doing their work. Nudge units do not publicize what rate of behavior change is necessary to advance any given pilot project to the scaling stage, nor do they comment on what overall success rate they aim to reach across their portfolio of projects in any given city.

While agreeing to metrics regarding statistical significance or office success may not be meaningful to the random citizen who visits the website of their local behavioral design team, a commitment to achieving a quantifiable goal would give individuals from the media or political realms a better starting point to evaluate nudge units. To create some sense of external validity, too, a more reliable trove of research on nudge units’ success would help cities without nudge units decide whether they are worth investing in. Although it may be a

¹⁴⁴ Sunstein Ibid.

lot to ask of city-run nudge units to commit to standards and closely track their progress, these expectations are certainly reasonable for larger organizations like BIT and ideas42 who each have several staff members with social science backgrounds assigned to each nudge unit.

Until there is more independently verified reporting on the progress of municipal nudge units, the best reforms available to citizens now are the ethical standards, community review, and transparency requirements outlined above. Without written commitments to ethical standards and methodological practices, citizens should be skeptical of whether their nudge units are preserving their liberty and adequately protecting their data. When it comes to community review mechanism, the current lack of public conversation around nudge has left policy makers and behavioral economists largely unaware of whether individuals approve of their methods. While Sunstein's contribution to this conversation suggests many helpful findings about the general approval of nudges and the division amongst partisan lines surrounding certain nudges, each city may be different in this regard. Some cities may find majority support of nudges hinges on method, rather than outcome, while other cities may be even more politically divided on the subject. Only conducting surveys and hosting forums between nudge units, civic leaders, and citizens will resolve this unknown, and hopefully citizens will be better off for having the opportunity to shape their municipality's nudge unit. Lastly, greater transparency and open data are essential to the continued development of insights about municipal nudge units. At some point soon, a curious student should be able to write a thesis on what works and what doesn't in the context of municipal nudge units, but for now, the data and academic literature could not support it.

Conclusion

Until cities outline the rights their citizens have when it comes to behavioral interventions, or nudge units themselves volunteer greater transparency and opportunities for citizen involvement, nudges will persist with very little accountability. Having evolved from the merging of two fields—economics and psychology—and an interdisciplinary scholarly collaboration of a law professor and an economist, nudges will never lose their academic associations. However, the curious introduction of non-profit and social-purpose consultancies to the equation leaves the political champions of nudge uniquely shielded from blame when behavioral interventions go awry. As nudges grow progressively more complex, with the increased potential for urban data to predict citizens' behavior and their responses to experimental nudges, policy makers are at the risk of becoming even more removed from the process.

To address the democratic risk that nudges pose, city leaders could shutter nudge units altogether, add members of their own administration to the staffs populated by the third-party employees in the cases of Chicago and New York, demand greater transparency and publicly available data from behavioral design consultancies, or impose greater requirements for pre-trial IRB approval or post-trial independent audits of nudge units. The first alternative will halt the evolution of municipal nudge units and eliminate behavioral interventions as a tool for policy makers. The second would make nudge units more accountable to citizens, while ensuring that there is someone with local and political expertise on the team in addition to the social scientists that tend to staff nudge units. The third would enable more academics to publish research on nudge units, leaving citizens more informed about what nudges work and when nudges have proven overly intrusive or ineffective. Even so, latter proposals might not

fully satisfy critics who wish to dismiss nudges as inherently undermining of individuals' autonomy, however.

Nudge units' early efforts, nevertheless, have indicated that they are capable of increasing individuals' utility in a variety of realms. In an urban context, nudges can improve the functioning of local governments by diversifying their staffs, aiding efforts to collect revenues from taxes and fees issued, and advancing their sustainability objectives by influencing citizens to use less electricity, water, and fuel. Transparency and accountability mechanisms, at the very least, will allow citizens to decide for themselves whether they agree these goals are worthy of the sacrifices they make of their own autonomy.

In the coming years, however, nudge units may need to pick up the slack for civic leaders lacking in motivation or interest. To preserve their own fate and respect the rights of the individuals they claim to serve, nudge units can be originators of many of the reforms proposed to hold them accountable. While regulations are often tinged with the connotation of restrictions, nudge units have the potential to benefit greatly from reforming themselves to be more forthcoming with their data and more involving of community members in their processes of design and review. By publicizing their datasets and specific methodologies behind each RCT implemented to test a behavioral intervention, nudge units will enable curious researchers to publish more about nudges in academic journals. Moreover, they will arm public officials of other cities with a resource that is far more useful than over-simplified how-to guides like ideas42's Behavioral Design Team Playbook. Meanwhile, inviting citizens to be more involved in the design and review of behavioral interventions will give the staffs of nudge units an even deeper understanding of what interventions work and what opportunities are being missed in their nudge efforts. Overall, if behavioral design teams and

other variations of municipal nudge units are as successful and protective of citizens' interests as they claim to be, then they can only benefit from the popularity and helpful feedback to be had by choosing to be more transparent and open to citizen involvement.

The risk, of course, is that behavioral design teams like those in New York City, Chicago, and Philadelphia will fail to meet the high, but vague, expectations placed on them by mayors' press releases and prideful local headlines. It is possible that with full disclosure of their methods and results, nudge units will disappoint the citizens whose tax dollars help fund their existence. A secondary risk on the part of behavioral design consultancies when it comes to increased disclosure and community involvement is that they risk their own revenue source by empowering others to replicate their work in cities that could have become clients. After all, there is nothing proprietary about nudging or creating offices to deploy behavioral interventions in cities, and yet BIT and ideas42 continue to grow and add clients to their portfolios.¹⁴⁵ Given these vulnerabilities, it is understandable that a rational consulting firm would hesitate to voluntarily disclose their data. Nevertheless, with 6-12 years of project results in their portfolios, it is time for behavioral design consultancies to accept that they have had plenty of time to establish a successful track record of nudging and allow independent researchers to conduct their own reviews.

If nudge units do not cooperate, citizens and their representatives must to demand transparency and greater civic engagement. To facilitate this involvement, public officials also have the responsibility to foster a more inclusive dialogue to retroactively shape the goals for these nudge units. Ideally, this dialogue would help public officials answer some of the most essential unanswered policy questions about municipal nudge units. Public officials,

¹⁴⁵ "All Projects," ideas42, accessed April 27, 2020, <https://www.ideas42.org/all-projects/>

in conjunction with expert advice from behavioral design consultancies and democratic input from members of the community must decide whether a successful nudge unit merely pays for itself by earning the city more revenue than it costs to maintain, or whether a nudge unit should lead to certain measurable improvements in health, safety, or sustainability.

Moreover, these stakeholders should establish to what degree a nudge must change behavior to call a success, and how many failures a nudge unit should be allowed before its strategy is revised. To put nudge units in the best position to serve citizens, policy makers should communicate the extent of an intervention that citizens are comfortable with in different policy realm, how often do citizens want their nudge units audited, and how much control citizens want nudge units to have over their projects without direct public oversight.

The existing research on nudge units suggests that individuals will need more information before they can come up with satisfactory answers to these questions. The responsibility to gather this information does not rest on the shoulders of one group, but it is in everyone's best interest to continue the discussion. Individuals would be well-served to pressure their public officials to invest in these research efforts and make data on behavioral interventions available to researchers. Academics, policymakers, and behavioral science consultancies themselves will need to collaborate to encourage an initial investment in a wider array of projects that will shed more light on the capabilities and potential shortcomings of nudge units. Simultaneously, they ought to invest in civic education to ensure that citizens have the tools to understand their approach and the access to be involved in their projects. *Nudge* has come a long way since being a *New York Times* bestseller, and one can only imagine that Thaler and Sunstein would hope that the first decade of nudge experiments they inspired is followed by a second decade of continued research and reflection on the subject.

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