

## Notes

### Chapter 1

1. Kevin Hartnett, "Bye-Bye Traffic Lights," *Boston Globe*, March 28, 2016, <https://www.bostonglobe.com/ideas/2016/03/28/bye-bye-traffic-lights/8HSV9DZa4qPC1tH4zQ4pTO/story.html>.
2. Senseable City Lab, "DriveWAVE by MIT SENSEable City Lab" (2015), <http://senseable.mit.edu/wave/>.
3. Remi Tachet et al., "Revisiting Street Intersections Using Slot-Based Systems," *PloS One* 11, no. 3 (2016), <https://doi.org/10.1371/journal.pone.0149607>.
4. "Massachusetts Ave & Columbus Ave," Walk Score (2018), <https://www.walkscore.com/score/columbus-ave-and-massachusetts-ave-boston>.
5. George Turner, quoted in PredPol, "Atlanta Police Chief George Turner Highlights PredPol Usage," PredPol: Blog (May 21, 2014), <http://www.predpol.com/atlanta-police-chief-george-turner-highlights-predpol-usage/>.
6. New York City Office of the Mayor, "Mayor de Blasio Announces Public Launch of LinkNYC Program, Largest and Fastest Free Municipal Wi-Fi Network in the World" (February 18, 2016), <http://www1.nyc.gov/office-of-the-mayor/news/184-16/mayor-de-blasio-public-launch-linknyc-program-largest-fastest-free-municipal#/0>.
7. White House Office of the Press Secretary, "FACT SHEET: Administration Announces New 'Smart Cities' Initiative to Help Communities Tackle Local Challenges and Improve City Services" (September 14, 2015), <https://obamawhitehouse.archives.gov/the-press-office/2015/09/14/fact-sheet-administration-announces-new-smart-cities-initiative-help>; National League of Cities, "Trends in Smart City Development" (2016), [http://www.nlc.org/sites/default/files/2017-01/Trends in Smart City Development.pdf](http://www.nlc.org/sites/default/files/2017-01/Trends%20in%20Smart%20City%20Development.pdf).
8. United States Conference of Mayors, "Cities of the 21st Century: 2016 Smart Cities Survey" (January 2017), p. 4, <https://www.usmayors.org/wp-content/uploads/2017/02/2016SmartCitiesSurvey.pdf>.
9. John Chambers and Wim Elfrink, "The Future of Cities," *Foreign Affairs*, October 31, 2014, <https://www.foreignaffairs.com/articles/2014-10-31/future-cities>.

10. John Dewey, *Logic: The Theory of Inquiry* (New York: H. Holt and Company, 1938), 108.
11. Bruno Latour, "Tarde's Idea of Quantification," in *The Social After Gabriel Tarde: Debates and Assessments*, ed. Mattei Candea (London: Routledge, 2010), 155.
12. Horst W. J. Rittel and Melvin M. Webber, "Dilemmas in a General Theory of Planning," *Policy Sciences* 4, no. 2 (1973): 155 (abstract).
13. Evgeny Morozov, *To Save Everything, Click Here: The Folly of Technological Solutionism* (New York: PublicAffairs, 2014).
14. Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), 19, 29.
15. Adam Greenfield, *Against the Smart City* (New York: Do Projects, 2013), 32–33.
16. Gordon Falconer and Shane Mitchell, "Smart City Framework: A Systematic Process for Enabling Smart+Connected Communities" (2012), [https://www.cisco.com/c/dam/en\\_us/about/ac79/docs/ps/motm/Smart-City-Framework.pdf](https://www.cisco.com/c/dam/en_us/about/ac79/docs/ps/motm/Smart-City-Framework.pdf).
17. Samuel J. Palmisano, "Smarter Cities: Crucibles of Global Progress" (address, Rio de Janeiro, November 9, 2011), [https://www.ibm.com/smarterplanet/us/en/smarter\\_cities/article/rio\\_keynote.html](https://www.ibm.com/smarterplanet/us/en/smarter_cities/article/rio_keynote.html).
18. Alana Semuels, "The Role of Highways in American Poverty," *The Atlantic*, March 2016, <https://www.theatlantic.com/business/archive/2016/03/role-of-highways-in-american-poverty/474282/>.
19. New York Times Editorial Board, "The Racism at the Heart of Flint's Crisis," *New York Times*, March 25, 2016, <https://www.nytimes.com/2016/03/25/opinion/the-racism-at-the-heart-of-flints-crisis.html>.
20. Winner, *The Whale and the Reactor*, 23.
21. Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995), 8.
22. Marshall Berman, "Take It to the Streets: Conflict and Community in Public Space," *Dissent* 33, no. 4 (1986): 481.

## Chapter 2

1. Stephen Buckley, interview by Ben Green, April 7, 2017. All quotations from Buckley in this chapter are from this interview.
2. Ryan Lanyon, interview by Ben Green, April 13, 2017. All quotations from Lanyon in this chapter are from this interview.
3. National Center for Statistics and Analysis, National Highway Traffic Safety Administration, "Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey," Traffic Safety Facts: Crash Stats, Report No. DOT HS 812 115 (February 2015), 1; National Center for Statistics and Analysis, National Highway Traffic Safety Administration, "2015 Motor Vehicle Crashes: Overview," Traffic Safety Facts Research Note, Report No. DOT HS 812 318 (August 2016), 6.

4. Daniel J. Fagnant and Kara Kockelman, "Preparing a Nation for Autonomous Vehicles: Opportunities, Barriers and Policy Recommendations," *Transportation Research Part A: Policy and Practice* 77 (2015): 175.
5. Fagnant and Kockelman, "Preparing a Nation for Autonomous Vehicles," 173.
6. Jeffrey Owens, CTO, Delphi, speaking in TechCrunch, "Taking a Ride in Delphi's Latest Autonomous Drive" (2017), <https://www.youtube.com/watch?v=wWdVfG1BqzE>.
7. Kinder Baumgardner, "Beyond Google's Cute Car: Thinking Through the Impact of Self-Driving Vehicles on Architecture," *Cite: The Architecture + Design Review of Houston* (2015): 41.
8. Senseable City Lab, "DriveWAVE by MIT SENSEable City Lab" (2015), <http://senseable.mit.edu/wave/>.
9. Remi Tachet et al., "Revisiting Street Intersections Using Slot-Based Systems," *PLoS One* 11, no. 3 (2016), <https://doi.org/10.1371/journal.pone.0149607>.
10. Baumgardner, "Beyond Google's Cute Car," 41.
11. Lisa Futing, quoted in Sam Lubell, "Here's How Self-Driving Cars Will Transform Your City," *Wired*, October 21, 2016, <https://www.wired.com/2016/10/heres-self-driving-cars-will-transform-city/>.
12. Henry Claypool, Amitai Bin-Nun, and Jeffrey Gerlach, "Self-Driving Cars: The Impact on People With Disabilities," *The Ruderman White Paper* (January 2017), pp. 16, 18, [http://secureenergy.org/wp-content/uploads/2017/01/Self-Driving-Cars-The-Impact-on-People-with-Disabilities\\_FINAL.pdf](http://secureenergy.org/wp-content/uploads/2017/01/Self-Driving-Cars-The-Impact-on-People-with-Disabilities_FINAL.pdf).
13. Ravi Shanker et al., "Autonomous Cars: Self-Driving the New Auto Industry Paradigm," *Morgan Stanley Blue Paper* (November 6, 2013), p. 38, <https://orfe.princeton.edu/~alaink/SmartDrivingCars/PDFs/Nov2013MORGAN-STANLEY-BLUE-PAPER-AUTONOMOUS-CARS%EF%BC%9A-SELF-DRIVING-THE-NEW-AUTO-INDUSTRY-PARADIGM.pdf>
14. Peter D. Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge, MA: MIT Press, 2011), 248.
15. General Motors, "To New Horizons" (1939), posted as "Futurama at 1939 NY World's Fair," <https://www.youtube.com/watch?v=sClZqfnWqmc>.
16. Norton, *Fighting Traffic*, 1, 7.
17. Trevor J. Pinch and Wiebe E. Bijker, "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other," in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch (Cambridge, MA: MIT Press, 1987), 27.
18. Norton, *Fighting Traffic*, 130.
19. George Herrold, "City Planning and Zoning," *Canadian Engineer* 45 (1923): 129.
20. Norton, *Fighting Traffic*, 106.
21. George Herrold, "The Parking Problem in St. Paul," *Nation's Traffic* 1 (July 1927): 48; cited in Norton, *Fighting Traffic*, 124.

22. J. Rowland Bibbins, "Traffic-Transportation Planning and Metropolitan Development," *Annals of the American Academy of Political and Social Science* 116, no. 1 (1924): 212.
23. Norton, *Fighting Traffic*, 130, 134.
24. J. L. Jenkins, "Illegal Parking Hinders Work of Stop-Go Lights; Pedestrian Dangers Grow as Loop Speeds Up," *Chicago Tribune*, February 10, 1926.
25. Norton, *Fighting Traffic*, 138, 1.
26. Norton, *Fighting Traffic*.
27. Alan Altshuler, *The Urban Transportation System: Politics and Policy Innovations* (Cambridge, MA: MIT Press, 1981), 27–28.
28. Angie Schmitt, "How Engineering Standards for Cars Endanger People Crossing the Street," *Streetsblog USA*, March 3, 2017, <http://usa.streetsblog.org/2017/03/03/how-engineering-standards-for-cars-endanger-people-crossing-the-street/>.
29. Peter Furth, "Pedestrian-Friendly Traffic Signal Timing Policy Recommendations," *Boston City Council Committee on Parks, Recreation, and Transportation* (December 6, 2016), p. 1, <http://www.northeastern.edu/peter.furth/wp-content/uploads/2016/12/Pedestrian-Friendly-Traffic-Signal-Policies-Boston.pdf>.
30. Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (1975; repr., New York: Random House, 2015), 515.
31. Caro, *The Power Broker*, 515.
32. *New York Herald Tribune*, August 18, 1936; cited in Caro, *The Power Broker*, 516.
33. Caro, *The Power Broker*, 518.
34. Anthony Downs, "The Law of Peak-Hour Expressway Congestion," *Traffic Quarterly* 16, no. 3 (1962): 393.
35. Anthony Downs, "Traffic: Why It's Getting Worse, What Government Can Do," Brookings Institution Policy Brief #128 (January 2004), 4.
36. Anthony Downs, *Still Stuck in Traffic: Coping with Peak-Hour Traffic Congestion* (Washington, DC: Brookings Institution Press, 2005), 83.
37. Gilles Duranton and Matthew A. Turner, "The Fundamental Law of Road Congestion: Evidence from US Cities," *American Economic Review* 101, no. 6 (2011): 2618.
38. David Metz, *The Limits to Travel: How Far Will You Go?* (New York: Routledge, 2012).
39. Senseable City Lab, "DriveWAVE by MIT SENSEable City Lab."
40. "Massachusetts Ave & Columbus Ave," Walk Score (2018), <https://www.walkscore.com/score/columbus-ave-and-massachusetts-ave-boston>.
41. Ken Washington, "A Look into Ford's Self-Driving Future," Medium: Self-Driven (February 3, 2017), <https://medium.com/self-driven/a-look-into-fords-self-driving-future-5aae38ee2059>.
42. John Zimmer and Logan Green, "The End of Traffic: Increasing American Prosperity and Quality of Life," Medium: The Road Ahead (January 17, 2017), <https://medium.com/@johnzimmer/the-end-of-traffic-6d255c03207d>.

43. John Zimmer, "The Third Transportation Revolution," Medium: The Road Ahead (September 18, 2016), <https://medium.com/@johnzimmer/the-third-transportation-revolution-27860f05fa91>.
44. Emily Badger, "Pave Over the Subway? Cities Face Tough Bets on Driverless Cars," *New York Times*, July 20, 2018, <https://www.nytimes.com/2018/07/20/upshot/driverless-cars-vs-transit-spending-cities.html>.
45. Cecilia Kang, "Where Self-Driving Cars Go to Learn," *New York Times*, November 11, 2017, <https://www.nytimes.com/2017/11/11/technology/arizona-tech-industry-favorite-self-driving-hub.html>.
46. Daisuke Wakabayashi, "Uber's Self-Driving Cars Were Struggling Before Arizona Crash," *New York Times*, March 23, 2018, <https://www.nytimes.com/2018/03/23/technology/uber-self-driving-cars-arizona.html>.
47. Jeff Speck, interview by Ben Green, April 14, 2017.
48. Jeff Speck, "Autonomous Vehicles and the Good City" (lecture, United States Conference of Mayors, Washington, DC, January 19, 2017), <https://www.youtube.com/watch?v=5AELH-sI9CM>.
49. David Ticoll, "Driving Changes: Automated Vehicles in Toronto," discussion paper, Munk School of Global Affairs, University of Toronto (2015), <https://munkschool.utoronto.ca/ipl/files/2016/03/Driving-Changes-Ticoll-2015.pdf>.
50. Ben Spurr, "Toronto Plans to Test Driverless Vehicles for Trips to and from Transit Stations," *The Star*, July 3, 2018, <https://www.thestar.com/news/gta/2018/07/03/toronto-plans-to-test-driverless-vehicles-for-trips-to-and-from-transit-stations.html>.
51. U.S. Department of Transportation, "Smart City Challenge: Lessons for Building Cities of the Future" (2017), p. 2, [https://www.transportation.gov/sites/dot.gov/files/docs/Smart City Challenge Lessons Learned.pdf](https://www.transportation.gov/sites/dot.gov/files/docs/Smart%20City%20Challenge%20Lessons%20Learned.pdf).
52. Jordan Davis, interview by Ben Green, May 10, 2017. All quotations from Davis in this chapter are from this interview.
53. Kerstin Carr and Thea Walsh, interview by Ben Green, April 12, 2017. All quotations from Carr and Walsh in this chapter are from this interview.
54. Calthorpe Associates et al., "insight2050 Scenario Results Report" (February 26, 2015), p. 6, [http://getinsight2050.org/wp-content/uploads/2015/03/2015\\_02\\_26-insight2050-Report.pdf](http://getinsight2050.org/wp-content/uploads/2015/03/2015_02_26-insight2050-Report.pdf).
55. Calthorpe Associates et al., "insight2050 Scenario Results Report," 18–19.
56. Carla Bailo, interview by Ben Green, May 9, 2017. All quotations from Bailo in this chapter are from this interview.
57. City of Columbus, "Columbus Smart City Application" (2016), p. 6, [https://www.transportation.gov/sites/dot.gov/files/docs/Columbus OH Vision Narrative.pdf](https://www.transportation.gov/sites/dot.gov/files/docs/Columbus%20OH%20Vision%20Narrative.pdf).
58. City of Columbus, "Linden Infant Mortality Profile" (2018), [http://celebrateone.info/wp-content/uploads/2018/03/Linden\\_IMProfile\\_9.7.pdf](http://celebrateone.info/wp-content/uploads/2018/03/Linden_IMProfile_9.7.pdf).
59. Smart Columbus, "Smart Columbus Connects Linden Meeting Summary" (2017).

60. Laura Bliss, "Columbus Now Says 'Smart' Rides for Vulnerable Moms Are Coming," *CityLab* (December 1, 2017), <https://www.citylab.com/transportation/2017/12/columbus-now-says-smart-rides-for-vulnerable-moms-are-coming/547013/>.
61. Laura Bliss, "Who Wins When a City Gets Smart?," *CityLab* (November 1, 2017), <https://www.citylab.com/transportation/2017/11/when-a-smart-city-doesnt-have-all-the-answers/542976/>.
62. "Buggy Capital of the World," *Columbus Dispatch*, Blog (July 29, 2015), <http://www.dispatch.com/content/blogs/a-look-back/2015/07/buggy-capital-of-the-world.html>.
63. Thomas J. Misa, "Controversy and Closure in Technological Change: Constructing 'Steel,'" in *Shaping Technology / Building Society: Studies in Sociotechnical Change*, ed. Wiebe E. Bijker and John Law (Cambridge, MA: MIT Press, 1992), 110, 111.
64. Norton, *Fighting Traffic*, 2.

### Chapter 3

1. Dominik Schiener, "Liquid Democracy: True Democracy for the 21st Century," Medium: Organizer Sandbox (November 23, 2015), <https://medium.com/organizer-sandbox/liquid-democracy-true-democracy-for-the-21st-century-7c66f5e53b6f>.
2. Gavin Newsom and Lisa Dickey, *Citizenville: How to Take the Town Square Digital and Reinvent Government* (New York: Penguin, 2014), 13, 10.
3. Mark Zuckerberg, "Facebook's Letter from Mark Zuckerberg—Full Text," *The Guardian*, February 1, 2012, <https://www.theguardian.com/technology/2012/feb/01/facebook-letter-mark-zuckerberg-text>.
4. Sean Parker, quoted in Anthony Ha, "Sean Parker: Defeating SOPA Was the 'Nerd Spring,'" *TechCrunch*, March 12, 2012, <https://techcrunch.com/2012/03/12/sean-parker-defeating-sopa-was-the-nerd-spring/>.
5. Nathan Daschle, quoted in Steve Friess, "Son of Dem Royalty Creates a Ruck.us," *Politico*, June 26, 2012, <http://www.politico.com/story/2012/06/son-of-democratic-party-royalty-creates-a-ruckus-077847>.
6. "Brigade," <https://www.brigade.com>.
7. Ferenstein Wire, "Sean Parker Explains His Plans to 'Repair Democracy' with a New Social Network," *Fast Company* (2015), <https://www.fastcompany.com/3047571/sean-parker-explains-his-plans-to-repair-democracy-with-a-new-social-network>.
8. Kim-Mai Cutler and Josh Constine, "Sean Parker's Brigade App Enters Private Beta as a Dead-Simple Way of Taking Political Positions," *TechCrunch*, June 17, 2015, <https://techcrunch.com/2015/06/17/sean-parker-brigade/>.
9. "Textizen," <https://www.textizen.com>.
10. Christopher Smart, "What Do You Like, Don't Like?—Text It to Salt Lake City," *Salt Lake Tribune*, August 20, 2012, <http://archive.slttrib.com/story.php?ref=/slttrib/news/54728901-78/lake-salt-text-plan.html.csp>.

11. Chante Lantos-Swett, "Leveraging Technology to Improve Participation: Textizen and Oregon's Kitchen Table," *Challenges to Democracy*, Blog (April 4, 2016), <http://www.challengestodemocracy.us/home/leveraging-technology-to-improve-participation-textizen-and-oregons-kitchen-table/>.
12. Thomas M. Menino, "Inaugural Address" (January 4, 2010), p. 5, [https://www.cityofboston.gov/TridionImages/2010%20Thomas%20M%20%20Menino%20Inaugural%20final\\_tcm1-4838.pdf](https://www.cityofboston.gov/TridionImages/2010%20Thomas%20M%20%20Menino%20Inaugural%20final_tcm1-4838.pdf).
13. Jimmy Daly, "10 Cities With 311 iPhone Applications," *StateTech*, August 10, 2012, <https://statetechmagazine.com/article/2012/08/10-cities-311-iphone-applications>.
14. IBM, "What Is a Self-Service Government?," *The Atlantic* [advertising], <http://www.theatlantic.com/sponsored/ibm-transformation/what-is-a-self-service-government/248/>.
15. Alexis de Tocqueville, *Democracy in America*, ed. Max Lerner and J.-P. Mayer, trans. George Lawrence (New York: Harper and Row, 1966), 2:522.
16. Evan Halper, "Napster Co-founder Sean Parker Once Vowed to Shake Up Washington—So How's That Working Out?," *Los Angeles Times*, August 4, 2016, <http://www.latimes.com/politics/la-na-pol-sean-parker-20160804-snap-story.html>.
17. Sean Parker, quoted in Greg Ferenstein, "Brigade: New Social Network from Facebook Co-founder Aims to 'Repair Democracy,'" *The Guardian*, June 17, 2015, <https://www.theguardian.com/media/2015/jun/17/brigade-social-network-voter-turnout-sean-parker>.
18. Christopher Fry and Henry Lieberman, *Why Can't We All Just Get Along?* (self-published, 2018), 257, 266, <https://www.whycantwe.org/>.
19. Corey Robin, quoted in Emma Roller, "'Victory Can Be a Bit of a Bitch': Corey Robin on the Decline of American Conservatism," *Splinter*, September 1, 2017, <https://splinternews.com/victory-can-be-a-bit-of-a-bitch-corey-robin-on-the-dec-1798679236>.
20. Bruno Latour, *The Pasteurization of France*, trans. Alan Sheridan and John Law (Cambridge, MA: Harvard University Press, 1993), 210.
21. Archon Fung, Hollie Russon Gilman, and Jennifer Shkabatur, "Six Models for the Internet + politics," *International Studies Review* 15, no. 1 (2013): 33, 37, 42, 45.
22. Schiener, "Liquid Democracy."
23. Hahrie Han, *How Organizations Develop Activists: Civic Associations and Leadership in the 21st Century* (New York: Oxford University Press, 2014).
24. Han, *How Organizations Develop Activists*, 95.
25. Han, *How Organizations Develop Activists*, 140–141.
26. Zeynep Tufekci, *Twitter and Tear Gas: The Power and Fragility of Networked Protest* (New Haven: Yale University Press, 2017), 200–201.
27. Han, *How Organizations Develop Activists*, 153.
28. Ryan W. Buell, Ethan Porter, and Michael I. Norton, "Surfacing the Submerged State: Operational Transparency Increases Trust in and Engagement with Government," Harvard Business School Working Paper No. 14-034 (November 2013; rev. March 2018).

29. Daniel Tumminelli O'Brien et al., "Uncharted Territoriality in Coproduction: The Motivations for 311 Reporting," *Journal of Public Administration Research and Theory* 27, no. 2 (2017): 331.
30. Ariel White and Kris-Stella Trump, "The Promises and Pitfalls of 311 Data," *Urban Affairs Review* 54, no. 4 (2016): 794–823, <https://doi.org/10.1177/1078087416673202>.
31. Kay Lehman Schlozman, Sidney Verba, and Henry E. Brady, *The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy* (Princeton, NJ: Princeton University Press, 2012), 6, 8.
32. Nancy Burns, Kay Lehman Schlozman, and Sidney Verba, *The Private Roots of Public Action: Gender, Equality, and Political Participation* (Cambridge, MA: Harvard University Press, 2001), 360.
33. Monica C. Bell, "Police Reform and the Dismantling of Legal Estrangement," *Yale Law Journal* 126 (2017): 2054 (abstract), 2085, 2057, 2101.
34. Bell, "Police Reform and the Dismantling of Legal Estrangement," 2141.
35. Michael Lipsky, *Street-Level Bureaucracy: Dilemmas of the Individual in Public Services*, 30th anniversary ed. (New York: Russell Sage Foundation, 2010), 3.
36. Matthew Desmond, Andrew V. Papachristos, and David S. Kirk, "Police Violence and Citizen Crime Reporting in the Black Community," *American Sociological Review* 81, no. 5 (2016): 857–876, 857 (abstract).
37. Elizabeth S. Anderson, "What is the Point of Equality?" *Ethics* 109, no. 2 (1999): 313.
38. Catherine E. Needham, "Customer Care and the Public Service Ethos," *Public Administration* 84, no. 4 (2006): 857–858.
39. Catherine Needham, *Citizen-Consumers: New Labour's Marketplace Democracy* (London: Catalyst, 2003), 6.
40. Jane E. Fountain, "Paradoxes of Public Sector Customer Service," *Governance* 14, no. 1 (2001): 56.
41. Dietmar Offenhuber, "The Designer as Regulator: Design Patterns and Categorization in Citizen Feedback Systems" (paper delivered at the Workshop on Big Data and Urban Informatics, Chicago, August 2014).
42. Daniel Tumminelli O'Brien, Eric Gordon, and Jessica Baldwin, "Caring about the Community, Counteracting Disorder: 311 Reports of Public Issues as Expressions of Territoriality," *Journal of Environmental Psychology* 40 (2014): 324–325.
43. James J. Feigenbaum and Andrew Hall, "How High-Income Areas Receive More Service from Municipal Government: Evidence from City Administrative Data" (2015), <https://ssrn.com/abstract=2631106>.
44. Abdallah Fayyad, "The Criminalization of Gentrifying Neighborhoods," *The Atlantic*, December 20, 2017, <https://www.theatlantic.com/politics/archive/2017/12/the-criminalization-of-gentrifying-neighborhoods/548837/>.
45. Al Baker, J. David Goodman, and Benjamin Mueller, "Beyond the Chokehold: The Path to Eric Garner's Death," *New York Times*, June 13, 2015, <https://www.nytimes.com/2015/06/14/nyregion/eric-garner-police-chokehold-staten-island.html>.



46. Jathan Sadowski and Frank Pasquale, "The Spectrum of Control: A Social Theory of the Smart City," *First Monday* 20, no. 7 (2015), <http://firstmonday.org/article/view/5903/4660>; they quote Stephen Goldsmith and Susan Crawford, *The Responsive City: Engaging Communities through Data-Smart Governance* (San Francisco: Jossey-Bass, 2014), 4.
47. Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (New York: St. Martin's Press, 2018), 136–138.
48. Rhema Vaithianathan, "Big Data Should Shrink Bureaucracy Big Time," *Stuff*, October 18, 2016, <https://www.stuff.co.nz/national/politics/opinion/85416929/rhema-vaithianathan-big-data-should-shrink-bureaucracy-big-time>.
49. Adam Forrest, "Detroit Battles Blight through Crowdsourced Mapping Project," *Forbes*, June 22, 2015, <https://www.forbes.com/sites/adamforrest/2015/06/22/detroit-battles-blight-through-crowdsourced-mapping-project>.
50. NYC Mayor's Office of Operations, "Hurricane Sandy Response," *NYC Customer Service Newsletter* 5, no. 2 (February 2013), [https://www1.nyc.gov/assets/operations/downloads/pdf/nyc\\_customer\\_service\\_newsletter\\_volume\\_5\\_issue\\_2.pdf](https://www1.nyc.gov/assets/operations/downloads/pdf/nyc_customer_service_newsletter_volume_5_issue_2.pdf).
51. Joshua Tauberer, "So You Want to Reform Democracy," Medium: Civic Tech Thoughts from JoshData (November 22, 2015), <https://medium.com/civic-tech-thoughts-from-joshdata/so-you-want-to-reform-democracy-7f3b1ef10597>.
52. Mitch Weiss, interview by Ben Green, May 16, 2017.
53. Steven Walter, interview by Ben Green, April 20, 2017. All quotations from Walter in this chapter are from this interview.
54. Marshall Berman, "Take It to the Streets: Conflict and Community in Public Space," *Dissent* 33, no. 4 (1986): 477.
55. Cyndi Lauper, "Girls Just Want to Have Fun (Official Video)" (1983), <https://www.youtube.com/watch?v=PIb6AZdTr-A>.
56. John Hughes, dir., *Ferris Bueller's Day Off* (Paramount Pictures, 1986); for the parade scene, see "Ferris Bueller's Parade" (1986), <https://www.youtube.com/watch?v=tRcv4nokK50>.
57. Berman, "Take It to the Streets," 478–479.
58. Eric Gordon and Jessica Baldwin-Philippi, "Playful Civic Learning: Enabling Lateral Trust and Reflection in Game-based Public Participation," *International Journal of Communication* 8 (2014): 759.
59. Eric Gordon, "Civic Technology and the Pursuit of Happiness," *Governing* (2016), <http://www.governing.com/cityaccelerator/civic-technology-and-the-pursuit-of-happiness.html>.
60. Eric Gordon, interview by Ben Green, May 9, 2017.
61. Gordon and Baldwin-Philippi, "Playful Civic Learning," 759 (abstract).
62. Detroit Future City, "2012 Detroit Strategic Framework Plan" (2012), p. 730, [https://detroitfuturecity.com/wp-content/uploads/2014/12/DFC\\_Full\\_2nd.pdf](https://detroitfuturecity.com/wp-content/uploads/2014/12/DFC_Full_2nd.pdf). Community PlanIt was launched in Detroit under the name "Detroit 24/7 Outreach."
63. Gordon and Baldwin-Philippi, "Playful Civic Learning," 777, 772, 773.

64. Eric Gordon and Stephen Walter, "Meaningful Inefficiencies: Resisting the Logic of Technological Efficiency in the Design of Civic Systems," in *Civic Media: Technology, Design, Practice*, ed. Eric Gordon and Paul Mihailidis (Cambridge, MA: MIT Press, 2016), 254, 246.
65. Gordon and Walter, "Meaningful Inefficiencies," 244, 251.
66. Gordon, interview by Green.
67. Gordon and Walter, "Meaningful Inefficiencies," 263.
68. Hollie Russon Gilman, *Democracy Reinvented: Participatory Budgeting and Civic Innovation in America* (Washington, DC: Brookings Institution Press, 2016), 14.
69. Gilman, *Democracy Reinvented*, 74.
70. Gilman, *Democracy Reinvented*, 14.
71. Gilman, *Democracy Reinvented*, 90, 86, 115, 11.
72. Gilman, *Democracy Reinvented*, 87.
73. Rafael Sampaio and Tiago Peixoto, "Electronic Participatory Budgeting: False Dilemmas and True Complexities," in *Hope for Democracy: 25 Years of Participatory Budgeting Worldwide*, ed. Nelson Dias (São Brás de Alportel, Portugal: In Loco Association, 2014), 423.
74. Gilman, *Democracy Reinvented*, 11.
75. Alyssa Lane, interview by Ben Green, August 24, 2017. All quotations from Lane in this chapter are from this interview.
76. Lynn M. Sanders, "Against Deliberation," *Political Theory* 25, no. 3 (1997): 347–376.
77. Gilman, *Democracy Reinvented*, 13–14.
78. Gilman, *Democracy Reinvented*, 116, 11.

## Chapter 4

1. Dan Wagner and Rich Sevieri, interview by Ben Green, March 2, 2017, Cambridge, MA. All quotations from Wagner and Sevieri in this chapter are from this interview.
2. Cynthia Rudin, interview by Ben Green, February 18, 2017.
3. Deborah Lamm Weisel, "Burglary of Single-Family Houses," U.S. Department of Justice, Office of Community Oriented Policing Services, Problem-Oriented Guides for Police Series No. 18 (2002), [http://www.popcenter.org/problems/pdfs/burglary\\_of\\_single-family\\_houses.pdf](http://www.popcenter.org/problems/pdfs/burglary_of_single-family_houses.pdf).
4. Wagner and Sevieri, interview by Green.
5. Tong Wang et al., "Finding Patterns with a Rotten Core: Data Mining for Crime Series with Cores," *Big Data* 3, no. 1 (2015): 3–21, <http://doi.org/10.1089/big.2014.0021>.
6. Wang et al., "Finding Patterns with a Rotten Core," 16–17.
7. Chris Anderson, "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete," *Wired*, June 23, 2008, <https://www.wired.com/2008/06/pb-theory/>.

8. Amir Efrati, "Uber Finds Deadly Accident Likely Caused by Software Set to Ignore Objects on Road," *The Information*, May 7, 2018, <https://www.theinformation.com/articles/uber-finds-deadly-accident-likely-caused-by-software-set-to-ignore-objects-on-road>.
9. For African Americans vs. whites, see Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *American Economic Review* 94, no. 4 (2004): 991–1013; for women vs. men, see Ernesto Reuben, Paola Sapienza, and Luigi Zingales, "How Stereotypes Impair Women's Careers in Science," *Proceedings of the National Academy of Sciences* 111, no. 12 (2014): 4403–4408.
10. Stella Lowry and Gordon Macpherson, "A Blot on the Profession," *British Medical Journal* 296, no. 6623 (1988): 657–658.
11. Jeffrey Dastin, "Amazon Scraps Secret AI Recruiting Tool that Showed Bias Against Women," *Reuters*, October 9, 2018, <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G>.
12. David Robinson, interview by Ben Green, February 21, 2017. Unless otherwise specified, quotations from Robinson in this chapter are from this interview.
13. PredPol, "Proven Crime Reduction Results" [2018], <http://www.predpol.com/results/>.
14. Andrew G. Ferguson, "The Allure of Big Data Policing," *PrawfsBlawg* (May 25, 2017), <http://prawfsblawg.blogs.com/prawfsblawg/2017/05/the-allure-of-big-data-policing.html>.
15. "A brilliantly smart idea": Gillian Tett, "Mapping Crime—or Stirring Hate?," *Financial Times*, August 22, 2014, <https://www.ft.com/content/200bebee-28b9-11e4-8bda-00144feabdc0>; "stop crime before it starts"; Joel Rubin, "Stopping Crime before It Starts," *Los Angeles Times*, August 21, 2010, <http://articles.latimes.com/2010/aug/21/local/la-me-predictcrime-20100427-1>. The interview was with Zach Friend on *The War Room*, hosted by Jennifer Granholm, Current TV, January 16, 2013, posted as "PredPol on Current TV with Santa Cruz Crime Analyst Zach Friend" (2013), <https://www.youtube.com/watch?v=8uKor0nfsdQ>. For his involvement with PredPol, see Darwin Bond-Graham, "All Tomorrow's Crimes: The Future of Policing Looks a Lot Like Good Branding," *SF Weekly*, October 30, 2013, <http://www.sfweekly.com/news/all-tomorrows-crimes-the-future-of-policing-looks-a-lot-like-good-branding/>.
16. David Robinson and Logan Koepke, "Stuck in a Pattern," *Upturn* (2016), <https://www.teamupturn.org/reports/2016/stuck-in-a-pattern/>.
17. Tim Cushing, "'Predictive Policing' Company Uses Bad Stats, Contractually-Obligated Shills to Tout Unproven 'Successes,'" *Techdirt*, November 1, 2013, <https://www.techdirt.com/articles/20131031/13033125091/predictive-policing-company-uses-bad-stats-contractually-obligated-shills-to-tout-unproven-successes.shtml>.
18. Philip Stark, chair of the statistics department at UC Berkeley, quoted in Bond-Graham, "All Tomorrow's Crimes."

19. John Hollywood, quoted in Mara Hvistendahl, "Can 'Predictive Policing' Prevent Crime Before It Happens?," *Science*, September 28, 2016, <http://www.sciencemag.org/news/2016/09/can-predictive-policing-prevent-crime-it-happens>.
20. Priscillia Hunt, Jessica Saunders, and John S. Hollywood, *Evaluation of the Shreveport Predictive Policing Experiment*, RR-531-NIJ (Santa Monica, CA: RAND Corporation, 2014), 33.
21. Brett Goldstein, quoted in Tett, "Mapping Crime—or Stirring Hate?"
22. Sean Malinowski, quoted in Justin Jouvenal, "Police Are Using Software to Predict Crime. Is It a 'Holy Grail' or Biased against Minorities?," *Washington Post*, November 17, 2016, [https://www.washingtonpost.com/local/public-safety/police-are-using-software-to-predict-crime-is-it-a-holy-grail-or-biased-against-minorities/2016/11/17/525a6649-0472-440a-aae1-b283aa8e5de8\\_story.html](https://www.washingtonpost.com/local/public-safety/police-are-using-software-to-predict-crime-is-it-a-holy-grail-or-biased-against-minorities/2016/11/17/525a6649-0472-440a-aae1-b283aa8e5de8_story.html).
23. Darrin Lipsomb, quoted in Jack Smith, "'Minority Report' Is Real—And It's Really Reporting Minorities," *Mic*, November 9, 2015, <https://mic.com/articles/127739/minority-reports-predictive-policing-technology-is-really-reporting-minorities>.
24. Carl B. Klockars, "Some Really Cheap Ways of Measuring What Really Matters," in *Measuring What Matters: Proceedings from the Policing Research Institute Meetings* (Washington, DC: National Institute of Justice, 1999), 191.
25. See Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (New York: New Press, 2012).
26. See Peter Moskos, *Cop in the Hood: My Year Policing Baltimore's Eastern District* (Princeton, NJ: Princeton University Press, 2008).
27. See Jeffrey Reiman and Paul Leighton, *The Rich Get Richer and the Poor Get Prison: Ideology, Class, and Criminal Justice* (New York: Routledge, 2015).
28. Sam Lavigne, Brian Clifton, and Francis Tseng, "Predicting Financial Crime: Augmenting the Predictive Policing Arsenal," *The New Inquiry* (2017), <https://whitecollar.thenewinquiry.com/static/whitepaper.pdf>.
29. See Paul Butler, *Chokehold: Policing Black Men* (New York: New Press, 2017).
30. Jacob Metcalf, "Ethics Review for Pernicious Feedback Loops," Medium: Data & Society: Points (November 7, 2016), <https://points.datasociety.net/ethics-review-for-pernicious-feedback-loops-9a7ede4b610e>.
31. Kristian Lum and William Isaac, "To Predict and Serve?," *Significance* 13, no. 5 (2016): 17.
32. Kristian Lum, "Predictive Policing Reinforces Police Bias," Human Rights Data Analysis Group (2016), <https://hrdag.org/2016/10/10/predictive-policing-reinforces-police-bias/>.
33. Jeremy Heffner, interview by Ben Green, March 18, 2017. All quotations from Heffner in this chapter are from this interview.
34. HunchLab, "Next Generation Predictive Policing," <https://www.hunchlab.com>; Amaury Murgado, "Developing a Warrior Mindset," *POLICE Magazine*, May 24, 2012, <http://www.policemag.com/channel/patrol/articles/2012/05/warrior-mindset.aspx>.
35. Hunt, Saunders, and Hollywood, "Evaluation of the Shreveport Predictive Policing Experiment," 12.

36. Nick O'Malley, "To Predict and to Serve: The Future of Law Enforcement," *Sydney Morning Herald*, March 30, 2013, <http://www.smh.com.au/world/to-predict-and-to-serve-the-future-of-law-enforcement-20130330-2h0rb.html>.
37. Sharad Goel, Justin M. Rao, and Ravi Shroff, "Precinct or Prejudice? Understanding Racial Disparities in New York City's Stop-and-Frisk Policy," *Annals of Applied Statistics* 10, no. 1 (2016): 365–394.
38. Ben Green, Thibaut Horel, and Andrew V. Papachristos, "Modeling Contagion through Social Networks to Explain and Predict Gunshot Violence in Chicago, 2006 to 2014," *JAMA Internal Medicine* 177, no. 3 (2017): 326–333, <https://doi.org/10.1001/jamainternmed.2016.8245>.
39. David H. Bayley, *Police for the Future* (New York: Oxford University Press, 1996), 3.
40. Christopher M. Sullivan and Zachary P. O'Keeffe, "Evidence That Curtailing Proactive Policing Can Reduce Major Crime," *Nature Human Behaviour* 1 (2017): 735, 730 (title).
41. John Chasnoff, quoted in Maurice Chammah, "Policing the Future," *The Verge* (2016), <http://www.theverge.com/2016/2/3/10895804/st-louis-police-hunchlab-predictive-policing-marshall-project>.
42. Robert Sullivan, interview by Ben Green, March 21, 2017. All quotations from Robert Sullivan in this chapter are from this interview.
43. National Association of Counties, "Mental Health and Criminal Justice Case Study: Johnson County, Kan." (2015), [http://www.naco.org/sites/default/files/documents/Johnson%20County%20Mental%20Health%20and%20Jails%20Case%20Study\\_FINAL.pdf](http://www.naco.org/sites/default/files/documents/Johnson%20County%20Mental%20Health%20and%20Jails%20Case%20Study_FINAL.pdf); "Nine Additional Cities Join Johnson County's Co-responder Program," press release, Johnson County, Kansas, July 18, 2016, <https://jocogov.org/press-release/nine-additional-cities-join-johnson-county's-co-responder-program>.
44. Sullivan, interview by Green.
45. The Data-Driven Justice Initiative, "Data-Driven Justice Playbook" (2016), p. 3, [http://www.naco.org/sites/default/files/documents/DDJ%20Playbook%20Discussion%20Draft%2012.8.16\\_1.pdf](http://www.naco.org/sites/default/files/documents/DDJ%20Playbook%20Discussion%20Draft%2012.8.16_1.pdf).
46. The Data-Driven Justice Initiative, "Data-Driven Justice Playbook."
47. Lynn Overmann, "Launching the Data-Driven Justice Initiative: Disrupting the Cycle of Incarceration," *The Obama White House* (2016), <https://medium.com/@ObamaWhiteHouse/launching-the-data-driven-justice-initiative-disrupting-the-cycle-of-incarceration-e222448a64cf>.
48. Peter Koutoujian, quoted in "Middlesex Police Discuss Data-Driven Justice Initiative," *Wicked Local Arlington*, December 30, 2016, <http://arlington.wickedlocal.com/news/20161230/middlesex-police-discuss-data-driven-justice-initiative>.
49. Overmann, "Launching the Data-Driven Justice Initiative."
50. Thomas E. Perez, "Investigation of the Miami-Dade County Jail," U.S. Department of Justice, Civil Rights Division (August 24, 2011), p. 10, <https://www.clearinghouse.net/chDocs/public/JC-FL-0021-0004.pdf>.
51. Overmann, "Launching the Data-Driven Justice Initiative."

52. The White House Office of the Press Secretary, "FACT SHEET: Launching the Data-Driven Justice Initiative: Disrupting the Cycle of Incarceration" (June 30, 2016), <https://obamawhitehouse.archives.gov/the-press-office/2016/06/30/fact-sheet-launching-data-driven-justice-initiative-disrupting-cycle>.
53. Overmann, "Launching the Data-Driven Justice Initiative."
54. Will Engelhardt et al., "Sharing Information between Behavioral Health and Criminal Justice Systems," Council of State Governments Justice Center (March 31, 2016), p. 3, <https://csgjusticecenter.org/wp-content/uploads/2016/03/JMHCP-Info-Sharing-Webinar.pdf>.
55. Matthew J. Bauman et al., "Reducing Incarceration through Prioritized Interventions," in *COMPASS '18: Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies* (2018).
56. Bauman et al., "Reducing Incarceration through Prioritized Interventions," 7; Center for Data Science and Public Policy, University of Chicago, "Data-Driven Justice Initiative: Identifying Frequent Users of Multiple Public Systems for More Effective Early Assistance" (2018), <https://dsapp.uchicago.edu/projects/criminal-justice/data-driven-justice-initiative/>.
57. Steve Yoder, interview by Ben Green, March 27, 2017. All quotations from Yoder in the chapter are from this interview.
58. The Laura and John Arnold Foundation, "Laura and John Arnold Foundation to continue data-driven criminal justice effort launched under the Obama Administration," press release, January 23, 2017, <http://www.arnoldfoundation.org/laura-john-arnold-foundation-continue-data-driven-criminal-justice-effort-launched-obama-administration/>.
59. National Association of Counties, "Data-Driven Justice: Disrupting the Cycle of Incarceration" [2015], <http://www.naco.org/resources/signature-projects/data-driven-justice>.
60. PredPol, "How Predictive Policing Works" [2018], <http://www.predpol.com/how-predictive-policing-works/>.
61. Richard Berk, in Craig Atkinson, dir., *Do Not Resist* (Vanish Films, 2016).
62. Dominic Griffin, "'Do Not Resist' Traces the Militarization of Police with Unprecedented Access to Raids and Unrest," *Baltimore City Paper*, November 1, 2016, <http://www.citypaper.com/film/film/bcp-110216-screens-do-not-resist-20161101-story.html>.
63. Joshua Brustein, "This Guy Trains Computers to Find Future Criminals," *Bloomberg* (2016), <https://www.bloomberg.com/features/2016-richard-berk-future-crime/>.
64. Thomas P. Bonczar, "Prevalence of Imprisonment in the U.S. Population, 1974–2001," *Bureau of Justice Statistics Special Report* (August 2003), p. 1, <https://www.bjs.gov/content/pub/pdf/piusp01.pdf>.
65. On government programs, see Richard Rothstein, *The Color of Law: A Forgotten History of How Our Government Segregated America* (New York: Liveright, 2017); on the war on drugs, see Alexander, *The New Jim Crow*.

66. IBM, "Predictive Analytics: Police Use Analytics to Reduce Crime" (2012), <https://www.youtube.com/watch?v=iY3WRvXVogo>.
67. Alex S. Vitale, *The End of Policing* (London: Verso, 2017), cover, 28.
68. Andrew V. Papachristos and Christopher Wildeman, "Network Exposure and Homicide Victimization in an African American Community," *American Journal of Public Health* 104, no. 1 (2014): 143–150.
69. Jeremy Gornier, "With Violence Up, Chicago Police Focus on a List of Likeliest to Kill, Be Killed," *Chicago Tribune*, July, 22, 2016, <http://www.chicagotribune.com/news/ct-chicago-police-violence-strategy-met-20160722-story.html>.
70. Jessica Saunders, Priscillia Hunt, and John S. Hollywood, "Predictions Put into Practice: A Quasi-Experimental Evaluation of Chicago's Predictive Policing Pilot," *Journal of Experimental Criminology* 12, no. 3 (2016): 366, 355.
71. Andrew V. Papachristos, "CPD's Crucial Choice: Treat Its List as Offenders or as Potential Victims?," *Chicago Tribune*, July 29, 2016, <http://www.chicagotribune.com/news/opinion/commentary/ct-gun-violence-list-chicago-police-murder-perspec-0801-jm-20160729-story.html>.
72. Ferguson, "The Allure of Big Data Policing."

## Chapter 5

1. Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986), 55, 49, 52.
2. Cecilia Kang, "Unemployed Detroit Residents Are Trapped by a Digital Divide," *New York Times*, May 23, 2016, <https://www.nytimes.com/2016/05/23/technology/unemployed-detroit-residents-are-trapped-by-a-digital-divide.html>.
3. Letitia James and Ben Kallos, "New York City Digital Divide Fact Sheet," press release, March 16, 2017.
4. LinkNYC, "Find a Link," <https://www.link.nyc/find-a-link.html>.
5. New York City Office of the Mayor, "Mayor de Blasio Announces Public Launch of LinkNYC Program, Largest and Fastest Free Municipal Wi-Fi Network in the World" (February 18, 2016), <http://www1.nyc.gov/office-of-the-mayor/news/184-16/mayor-de-blasio-public-launch-linknyc-program-largest-fastest-free-municipal#/0>.
6. Dan Doctoroff, quoted in Nick Pinto, "Google Is Transforming NYC's Payphones into a 'Personalized Propaganda Engine,'" *Village Voice*, July 6, 2016, <https://www.villagevoice.com/2016/07/06/google-is-transforming-nycs-payphones-into-a-personalized-propaganda-engine/>.
7. LinkNYC, "Privacy Policy" (March 17, 2017), <https://www.link.nyc/privacy-policy.html>.
8. LinkNYC, "Privacy Policy."
9. Paul M. Schwartz and Daniel J. Solove, "The PII Problem: Privacy and a New Concept of Personally Identifiable Information," *NYU Law Review* 86 (2011): 1814–1895.



10. On phone location traces, see De Montjoye et al., “Unique in the Crowd”; on credit card transactions, see Yves-Alexandre de Montjoye et al., “Unique in the Shopping Mall: On the Reidentifiability of Credit Card Metadata,” *Science* 347, no. 6221 (2015): 536–539.
11. Erica Klarreich, “Privacy by the Numbers: A New Approach to Safeguarding Data,” *Quanta Magazine*, December 10, 2012, <https://www.quantamagazine.org/a-mathematical-approach-to-safeguarding-private-data-20121210/>.
12. Latanya Sweeney, “Simple Demographics Often Identify People Uniquely” (Carnegie Mellon University, Data Privacy Working Paper 3, 2000).
13. Anthony Tockar, “Riding with the Stars: Passenger Privacy in the NYC Taxicab Dataset,” *Neustar Research*, September 15, 2014, <https://research.neustar.biz/2014/09/15/riding-with-the-stars-passenger-privacy-in-the-nyc-taxicab-dataset/>.
14. James Siddle, “I Know Where You Were Last Summer: London’s Public Bike Data Is Telling Everyone Where You’ve Been,” *The Variable Tree*, April 10, 2014, <https://vartree.blogspot.co.uk/2014/04/i-know-where-you-were-last-summer.html>.
15. On whom you know, see Nathan Eagle, Alex Sandy Pentland, and David Lazer, “Inferring Friendship Network Structure by Using Mobile Phone Data,” *Proceedings of the National Academy of Sciences* 106, no. 36 (2009): 15274–15278; on where you will go next, see Lars Backstrom, Eric Sun, and Cameron Marlow, “Find Me If You Can: Improving Geographical Prediction with Social and Spatial Proximity” (paper presented at the Proceedings of the 19th International Conference on World Wide Web, Raleigh, NC, April 2010).
16. Andrew G. Reece and Christopher M. Danforth, “Instagram Photos Reveal Predictive Markers of Depression,” *EPJ Data Science* 6, no. 15 (2017), <https://doi.org/10.1140/epjds/s13688-017-0110-z>.
17. Michal Kosinski, David Stillwell, and Thore Graepel, “Private Traits and Attributes Are Predictable from Digital Records of Human Behavior,” *Proceedings of the National Academy of Sciences* 110, no. 15 (2013): 5802–5805.
18. Eben Moglen, quoted in Pinto, “Google Is Transforming NYC’s Payphones.”
19. Pinto, “Google Is Transforming NYC’s Payphones.”
20. Donna Lieberman, quoted in New York Civil Liberties Union, “City’s Public Wi-Fi Raises Privacy Concerns” (March 16, 2016), <https://www.nyclu.org/en/press-releases/nyclu-citys-public-wi-fi-raises-privacy-concerns>.
21. Daniel J. Solove, *The Digital Person: Technology and Privacy in the Information Age* (New York: NYU Press, 2004).
22. DeRay McKesson, quoted in Jessica Guynn, “ACLU: Police Used Twitter, Facebook to Track Protests,” *USA Today*, October 12, 2016, <https://www.usatoday.com/story/tech/news/2016/10/11/aclu-police-used-twitter-facebook-data-track-protesters-baltimore-ferguson/91897034/>.
23. Dia Kayyali, “The History of Surveillance and the Black Community,” *Electronic Frontier Foundation* (February 13, 2014), <https://www.eff.org/deeplinks/2014/02/history-surveillance-and-black-community>.



24. On federal officials, see George Joseph, "Exclusive: Feds Regularly Monitored Black Lives Matter Since Ferguson," *The Intercept*, July 24, 2015, <https://theintercept.com/2015/07/24/documents-show-department-homeland-security-monitoring-black-lives-matter-since-ferguson/>; on local officials, see Nicole Ozer, "Police Use of Social Media Surveillance Software Is Escalating, and Activists Are in the Digital Crosshairs," Medium: ACLU of Northern CA (2016), [https://medium.com/@ACLU\\_NorCal/police-use-of-social-media-surveillance-software-is-escalating-and-activists-are-in-the-digital-d29d8f89c48](https://medium.com/@ACLU_NorCal/police-use-of-social-media-surveillance-software-is-escalating-and-activists-are-in-the-digital-d29d8f89c48).
25. Solove, *The Digital Person*, 34.
26. Solove, *The Digital Person*, 38, 37.
27. On Facebook and mood, see Adam D. I. Kramer, Jamie E. Guillory, and Jeffrey T. Hancock, "Experimental Evidence of Massive-Scale Emotional Contagion through Social Networks," *Proceedings of the National Academy of Sciences* 111, no. 24 (2014): 8788–8790; on Facebook and voting, see Robert M. Bond et al., "A 61-Million-Person Experiment in Social Influence and Political Mobilization," *Nature* 489, no. 7415 (2012): 295–298.
28. Christian Rudder, "We Experiment On Human Beings!," *The OkCupid Blog* (2014), <https://theblog.okcupid.com/we-experiment-on-human-beings-5dd9fe280cd5>.
29. Casey Johnston, "Denied for That Loan? Soon You May Thank Online Data Collection," *Ars Technica* (2013), <https://arstechnica.com/business/2013/10/denied-for-that-loan-soon-you-may-thank-online-data-collection/>.
30. Mary Madden et al., "Privacy, Poverty and Big Data: A Matrix of Vulnerabilities for Poor Americans," *Washington University Law Review* 95 (2017): 53–125.
31. Virginia Eubanks, "Technologies of Citizenship: Surveillance and Political Learning in the Welfare System," in *Surveillance and Security: Technological Politics and Power in Everyday Life*, ed. Torin Monahan (New York: Routledge, 2006), 91.
32. John Gilliom, *Overseers of the Poor: Surveillance, Resistance, and the Limits of Privacy* (Chicago: University of Chicago Press, 2001), 6, 129, 1.
33. John Podesta et al., *Big Data: Seizing Opportunities, Preserving Values* (Washington, DC: Executive Office of the President, 2014).
34. "The Rise of Workplace Spying," *The Week*, July 8, 2015, <http://theweek.com/articles/564263/rise-workplace-spying>.
35. Federal Trade Commission, *Data Brokers: A Call for Transparency and Accountability* (Washington, DC: Federal Trade Commission, 2014).
36. Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (New York: St. Martin's Press, 2018).
37. On "three million," see Jason Henry, "Los Angeles Police, Sheriff's Scan over 3 Million License Plates A Week," *San Gabriel Valley Tribune*, August 26, 2014, <https://www.sgvtribune.com/2014/08/26/los-angeles-police-sheriffs-scan-over-3-million-license-plates-a-week/>; on ICE, see April Glaser, "Sanctuary Cities Are Handing ICE a Map," *Slate*, March 13, 2018, <https://slate.com/technology/2018/03/how-ice-may-be-able-to-access-license-plate-data-from-sanctuary-cities-and-use-it-for-arrests.html>.

38. The Leadership Conference on Civil and Human Rights and Upturn, "Police Body Worn Cameras: A Policy Scorecard" (November 2017), <https://www.bwvscorecard.org>.
39. Ava Kofman, "Real-Time Face Recognition Threatens to Turn Cops' Body Cameras into Surveillance Machines," *The Intercept*, March 22, 2017, <https://theintercept.com/2017/03/22/real-time-face-recognition-threatens-to-turn-cops-body-cameras-into-surveillance-machines/>.
40. Martin Kaste, "Orlando Police Testing Amazon's Real-Time Facial Recognition," *National Public Radio*, May 22, 2018, <https://www.npr.org/2018/05/22/613115969/orlando-police-testing-amazons-real-time-facial-recognition>.
41. See Federal Trade Commission, *Data Brokers: A Call for Transparency and Accountability*.
42. Jonas Lerman, "Big Data and Its Exclusions," *Stanford Law Review* 66 (2013): 55–63.
43. Madden et al., "Privacy, Poverty and Big Data."
44. Ross Garlick, "Privacy Inequality Is Coming, and It Does Not Look Pretty," *Fordham Political Review*, March 17, 2015, <http://fordhampoliticalreview.org/privacy-inequality-is-coming-and-it-does-not-look-pretty/>.
45. City and County of San Francisco, "Apps: Transportation," *San Francisco Data* [2018], <http://apps.sfgov.org/showcase/apps-categories/transportation/>.
46. City of Philadelphia, "Open Budget," <http://www.phila.gov/openbudget/>.
47. On sexual assault victims, see Andrea Peterson, "Why the Names of Six People Who Complained of Sexual Assault Were Published Online by Dallas Police," *Washington Post*, April 29, 2016, <https://www.washingtonpost.com/news/the-switch/wp/2016/04/29/why-the-names-of-six-people-who-complained-of-sexual-assault-were-published-online-by-dallas-police/>; on those carrying large sums of cash, see Claudia Vargas, "City Settles Gun Permit Posting Suit," *Philadelphia Inquirer*, July 23, 2014, [http://www.philly.com/philly/news/local/20140723\\_City\\_settles\\_gun\\_permit\\_suit\\_for\\_1\\_4\\_million.html](http://www.philly.com/philly/news/local/20140723_City_settles_gun_permit_suit_for_1_4_million.html).
48. On medical information, see Klarreich, "Privacy by the Numbers"; on political affiliation, see Ethan Chiel, "Why the D.C. Government Just Publicly Posted Every D.C. Voter's Address Online," *Splinter*, June 14, 2016, <https://splinternews.com/why-the-d-c-government-just-publicly-posted-every-d-c-1793857534>.
49. Ben Green et al., "Open Data Privacy: A Risk-Benefit, Process-Oriented Approach to Sharing and Protecting Municipal Data," *Berkman Klein Center for Internet & Society Research Publication* (2017), <http://nrs.harvard.edu/urn-3:HUL.InstRepos:30340010>.
50. Green et al., "Open Data Privacy," 58–61.
51. Phil Diehl, "Malware Blamed for City's Data Breach," *San Diego Tribune*, September 12, 2017, <http://www.sandiegouniontribune.com/communities/north-county/sd-no-malware-letter-20170912-story.html>.
52. Selena Larson, "Uber's Massive Hack: What We Know," *CNN*, November 22, 2017, <http://money.cnn.com/2017/11/22/technology/uber-hack-consequences-cover-up/index.html>.

53. Bruce Schneier, *Click Here to Kill Everybody: Security and Survival in a Hyper-connected World* (New York: W. W. Norton, 2018).
54. Bruce Schneier, "Data Is a Toxic Asset, So Why Not Throw It Out?," *CNN*, March 1, 2016, <http://www.cnn.com/2016/03/01/opinions/data-is-a-toxic-asset-opinion-schneier/index.html>.
55. Pinto, "Google Is Transforming NYC's Payphones."
56. Douglas Rushkoff, quoted in Pinto, "Google Is Transforming NYC's Payphones."
57. On assigning students to schools, see Alvin Roth, "Why New York City's High School Admissions Process Only Works Most of the Time," *Chalkbeat*, July 2, 2015, <https://www.chalkbeat.org/posts/ny/2015/07/02/why-new-york-citys-high-school-admissions-process-only-works-most-of-the-time/>; on evaluating teachers, see Cathy O'Neil, "Don't Grade Teachers with a Bad Algorithm," *Bloomberg*, May 15, 2017, <https://www.bloomberg.com/view/articles/2017-05-15/don-t-grade-teachers-with-a-bad-algorithm>; on detecting Medicaid fraud, see Natasha Singer, "Bringing Big Data to the Fight against Benefits Fraud," *New York Times*, February 22, 2015, <https://www.nytimes.com/2015/02/22/technology/bringing-big-data-to-the-fight-against-benefits-fraud.html>; and on preventing fires, see Bob Sorokanich, "New York City Is Using Data Mining to Fight Fires," *Gizmodo* (2014), <https://gizmodo.com/new-york-city-is-fighting-fires-with-data-mining-1509004543>.
58. Jeff Asher and Rob Arthur, "Inside the Algorithm That Tries to Predict Gun Violence in Chicago," *New York Times*, June 13, 2017, <https://www.nytimes.com/2017/06/13/upshot/what-an-algorithm-reveals-about-life-on-chicagos-high-risk-list.html>.
59. Jeremy Gornier, "With Violence Up, Chicago Police Focus on a List of Likeliest to Kill, Be Killed," *Chicago Tribune*, July 22, 2016, <http://www.chicagotribune.com/news/ct-chicago-police-violence-strategy-met-20160722-story.html>.
60. On nondisclosure agreements, see Elizabeth E. Joh, "The Undue Influence of Surveillance Technology Companies on Policing," *New York University Law Review* 92 (2017): 101–130; on trade secrecy, see Rebecca Wexler, "Life, Liberty, and Trade Secrets: Intellectual Property in the Criminal Justice System," *Stanford Law Review* 70 (2018): 1343–1429.
61. On Intrado, see Justin Jouvenal, "The New Way Police Are Surveilling You: Calculating Your Threat 'Score,'" *Washington Post*, January 10, 2016, [https://www.washingtonpost.com/local/public-safety/the-new-way-police-are-surveilling-you-calculating-your-threat-score/2016/01/10/e42bccac-8e15-11e5-baf4-bdf37355da0c\\_story.html](https://www.washingtonpost.com/local/public-safety/the-new-way-police-are-surveilling-you-calculating-your-threat-score/2016/01/10/e42bccac-8e15-11e5-baf4-bdf37355da0c_story.html); on Northpointe, see Frank Pasquale, "Secret Algorithms Threaten the Rule of Law," *MIT Technology Review*, June 1, 2017, <https://www.technologyreview.com/s/608011/secret-algorithms-threaten-the-rule-of-law/>.
62. Robert Brauneis and Ellen P. Goodman, "Algorithmic Transparency for the Smart City," *Yale Journal of Law and Technology* 20 (2018): 146–147.
63. *State v. Loomis*, 881 Wis. N.W.2d 749, 767 (2016).
64. Bernard E. Harcourt, "Risk as a Proxy for Race: The Dangers of Risk Assessment," *Federal Sentencing Reporter* 27, no. 4 (2015): 237–243.

65. Julia Angwin et al., "Machine Bias," *ProPublica*, May 23, 2016, <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
66. Jon Kleinberg, Sendhil Mullainathan, and Manish Raghavan, "Inherent Trade-Offs in the Fair Determination of Risk Scores," *arXiv.org* (2016), <https://arxiv.org/abs/1609.05807>.
67. The New York City Council, "Int 1696-2017: Automated Decision Systems Used by Agencies" (2017), <http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3137815&GUID=437A6A6D-62E1-47E2-9C42-461253F9C6D0>.
68. The New York City Council, "Transcript of the Minutes of the Committee on Technology," October 16, 2017, pp. 8–9, <http://legistar.council.nyc.gov/View.ashx?M=F&ID=5522569&GUID=DFECA4F2-E157-42AB-B598-BA3A8185E3FF>.
69. The New York City Council, "Transcript of the Minutes of the Committee on Technology," 7–8.
70. The New York City Council, "Int 1696-2017: Automated Decision Systems Used by Agencies."
71. Julia Powles, "New York City's Bold, Flawed Attempt to Make Algorithms Accountable," *New Yorker*, December 20, 2017, <https://www.newyorker.com/tech/elements/new-york-citys-bold-flawed-attempt-to-make-algorithms-accountable>.
72. Array of Things, "Array of Things" (2016), <http://arrayofthings.github.io>.
73. Matt McFarland, "Chicago Gets Serious about Tracking Air Quality and Traffic Data," *CNN*, August 29, 2016, <http://money.cnn.com/2016/08/29/technology/chicago-sensors-data/index.html>.
74. Denise Linn and Glynis Startz, "Array of Things Civic Engagement Report" (August 2016), <https://arrayofthings.github.io/engagement-report.html>.
75. Array of Things, "Responses to Public Feedback" (2016), <https://arrayofthings.github.io/policy-responses.html>.
76. Green et al., "Open Data Privacy," 34, 41.
77. Array of Things "Array of Things Operating Policies" (August 15, 2016), <https://arrayofthings.github.io/final-policies.html>.
78. Brendan Kiley and Matt Fikse-Verkerk, "You Are a Rogue Device," *The Stranger*, November 6, 2013, <http://www.thestranger.com/seattle/you-are-a-rogue-device/Content?oid=18143845>.
79. Green et al., "Open Data Privacy," 89.
80. Michael Mattmiller, interview by Ben Green, August 3, 2017. All quotations from Mattmiller in this chapter are from this interview.
81. City of Seattle, "City of Seattle Privacy Principles" (2015), <https://www.seattle.gov/Documents/Departments/InformationTechnology/City-of-Seattle-Privacy-Principles-FINAL.pdf>.
82. City of Seattle, "About the Privacy Program" (2018), <http://www.seattle.gov/tech/initiatives/privacy/about-the-privacy-program>.
83. Rosalind Brazel, "City of Seattle Hires Ginger Armbruster as Chief Privacy Officer," *Tech Talk Blog* (July 11, 2017), <http://techtalk.seattle.gov/2017/07/11/city-of-seattle-hires-ginger-armbruster-as-chief-privacy-officer/>.

84. See Seattle Information Technology, “About the Surveillance Ordinance” (2018), <https://www.seattle.gov/tech/initiatives/privacy/surveillance-technologies/about-surveillance-ordinance>.

85. Ansel Herz, “How the Seattle Police Secretly—and Illegally—Purchased a Tool for Tracking Your Social Media Posts,” *The Stranger*, September 28, 2016, <https://www.thestranger.com/news/2016/09/28/24585899/how-the-seattle-police-secretly-and-illegally-purchased-a-tool-for-tracking-your-social-media-posts>.

86. Ali Winston, “Palantir Has Secretly Been Using New Orleans to Test Its Predictive Policing Technology,” *The Verge*, February 27, 2018, <https://www.theverge.com/2018/2/27/17054740/palantir-predictive-policing-tool-new-orleans-nopd>.

87. On Hattiesburg, see Haskel Burns, “Ordinance Looks at Police Surveillance Equipment,” *Hattiesburg American*, October 28, 2016, <https://www.hattiesburgamerican.com/story/news/local/hattiesburg/2016/10/28/ordinance-looks-police-surveillance-equipment/92899430/>; on Oakland, see Ali Tadayon, “Oakland to Require Public Approval of Surveillance Tech,” *East Bay Times*, May 2, 2018, <https://www.eastbaytimes.com/2018/05/02/oakland-to-require-public-approval-of-surveillance-tech/>; more generally, see American Civil Liberties Union, “Community Control over Police Surveillance” (2018), <https://www.aclu.org/issues/privacy-technology/surveillance-technologies/community-control-over-police-surveillance>.

88. Marc Groman, quoted in Jill R. Aitoro, “Defining Privacy Protection by Acknowledging What It’s Not,” *Federal Times*, March 8, 2016, <http://www.federaltimes.com/story/government/interview/one-one/2016/03/08/defining-privacy-protection-acknowledging-what-s-not/81464556/>.

89. Nigel Jacob, interview by Ben Green, April 7, 2017. All quotations from Jacob in this chapter are from this interview.

90. On open data, see Civic Analytics Network, “An Open Letter to the Open Data Community,” Data-Smart City Solutions, March 3, 2017, <https://datasmart.ash.harvard.edu/news/article/an-open-letter-to-the-open-data-community-988>; on net neutrality, see Kimberly M. Aquilina, “50 US Cities Pen Letter to FCC Demanding Net Neutrality, Democracy,” *Metro*, July 12, 2017, <https://www.metro.us/news/local-news/net-neutrality-50-cities-letter-fcc-democracy>.

91. Thomas Graham, “Barcelona Is Leading the Fightback against Smart City Surveillance,” *Wired*, May 18, 2018, <http://www.wired.co.uk/article/barcelona-decidim-ada-colau-francesca-bria-decode>.

## Chapter 6

1. “Sidewalk Labs,” <https://www.sidewalklabs.com>.

2. Daniel L. Doctoroff, “Reimagining Cities from the Internet Up,” Medium: Sidewalk Talk (November 30, 2016), <https://medium.com/sidewalk-talk/reimagining-cities-from-the-internet-up-5923d6be63ba>.

3. “Sidewalk Labs.”

4. Amen Ra Mashariki, interview by Ben Green, May 24, 2017. All quotations from Mashariki in this chapter are from this interview, unless specified otherwise.
5. Allison T. Chamberlain, Jonathan D. Lehnert, and Ruth L. Berkelman, "The 2015 New York City Legionnaires' Disease Outbreak: A Case Study on a History-Making Outbreak," *Journal of Public Health Management and Practice* 23, no. 4 (2017): 414.
6. Mitsue Iwata, interview by Ben Green, July 25, 2017.
7. Joy Bonaguro, interview by Ben Green, August 9, 2017. All quotations from Bonaguro in this chapter are from this interview.
8. DataSF, "DataSF in Progress" (2018), <https://datasf.org/progress/>.
9. Bonaguro, interview by Green.
10. DataSF, "Data Quality" (2017), <https://datasf.org/resources/data-quality/>.
11. DataSF, "Data Standards Reference Handbook" (2018), <https://datasf.gitbooks.io/draft-publishing-standards/>.
12. DataSF, "DataScienceSF" (2017), <https://datasf.org/science/>.
13. DataSF, "Keeping Moms and Babies in Nutrition Program" (2018), <https://datasf.org/showcase/datascience/keeping-moms-and-babies-in-nutrition-program/>.
14. DataSF, "Eviction Alert System" (2018), <https://datasf.org/showcase/datascience/eviction-alert-system/>.
15. Mashariki, interview by Green.
16. Amen Ra Mashariki, "NYC Data Analytics" (presentation at Esri Senior Executive Summit, 2017), <https://www.youtube.com/watch?v=ws8EQg5YlrY>.
17. Seattle/King County Coalition on Homelessness, "2015 Street Count Results" (2015), [http://www.homelessinfo.org/what\\_we\\_do/one\\_night\\_count/2015\\_results.php](http://www.homelessinfo.org/what_we_do/one_night_count/2015_results.php).
18. Daniel Beekman and Jack Broom, "Mayor, County Exec Declare 'State of Emergency' over Homelessness," *Seattle Times*, January 31, 2016, <http://www.seattletimes.com/seattle-news/politics/mayor-county-exec-declare-state-of-emergency-over-homelessness/>.
19. John Ryan, "After 10-Year Plan, Why Does Seattle Have More Homeless Than Ever?," *KUOW*, March 3, 2015, <http://kuow.org/post/after-10-year-plan-why-does-seattle-have-more-homeless-ever>.
20. Shakira Boldin, speaking in What Works Cities, "Tackling Homelessness in Seattle" (2017), <https://www.youtube.com/watch?v=dzkblumT4XU>.
21. City of Seattle, "Homelessness Investment Analysis" (2015), <https://www.seattle.gov/Documents/Departments/HumanServices/Reports/HomelessInvestmentAnalysis.pdf>.
22. Jason Johnson, interview by Ben Green, August 10, 2017. All quotations from Johnson in this chapter are from this interview.
23. Hanna Azemati and Christina Grover-Roybal, "Shaking Up the Routine: How Seattle Is Implementing Results-Driven Contracting Practices to Improve Outcomes for People Experiencing Homelessness," Harvard Kennedy School Government Performance Lab (September 2016), [http://govlab.hks.harvard.edu/files/siblab/files/seattle\\_rdc\\_policy\\_brief\\_final.pdf](http://govlab.hks.harvard.edu/files/siblab/files/seattle_rdc_policy_brief_final.pdf).

24. Christina Grover-Roybal, interview by Ben Green, August 24, 2017. All quotations from Grover-Roybal in this chapter are from this interview.
25. Laura Melle, interview by Ben Green, April 12, 2017. All quotations from Melle in this chapter are from this interview.
26. Jeff Liebman, "Transforming the Culture of Procurement in State and Local Government," interview by Andy Feldman, *Gov Innovator* podcast (April 20, 2017), [http://govinnovator.com/jeffrey\\_liebman\\_2017/](http://govinnovator.com/jeffrey_liebman_2017/).
27. "Results-Driven Contracting: An Overview," Harvard Kennedy School Government Performance Lab (2016), [http://govlab.hks.harvard.edu/files/siblab/files/results-driven\\_contracting\\_an\\_overview\\_0.pdf](http://govlab.hks.harvard.edu/files/siblab/files/results-driven_contracting_an_overview_0.pdf).
28. Andrew Feldman and Jason Johnson, "How Better Procurement Can Drive Better Outcomes for Cities," *Governing*, October 12, 2017, <http://www.governing.com/gov-institute/voices/col-cities-3-steps-procurement-reform-better-outcomes.html>.
29. Azemati and Grover-Roybal, "Shaking Up the Routine."
30. Karissa Braxton, "City's Homeless Response Investments Are Housing More People," *City of Seattle Human Interests Blog* (May 31, 2018), <http://humaninterests.seattle.gov/2018/05/31/citys-homeless-response-investments-are-housing-more-people/>.
31. Boldin, speaking in What Works Cities, "Tackling Homelessness in Seattle."
32. Chris Anderson, "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete," *Wired*, June 23, 2008, <https://www.wired.com/2008/06/pb-theory/>.
33. Tom Schenk, interview by Ben Green, August 8, 2017. All quotations from Schenk in this chapter are from this interview.
34. City of Chicago, "Food Inspection Forecasting" (2017), <https://chicago.github.io/food-inspections-evaluation/>.
35. Nigel Jacob, speaking in "Data-Driven Research, Policy, and Practice: Friday Opening Remarks" (Boston Area Research Initiative, March 10, 2017), <https://www.youtube.com/watch?v=cRINIFFBHo>.
36. City of Boston, the Mayor's Office of New Urban Mechanics, "Civic Research Agenda" (May 15, 2018), <https://www.boston.gov/departments/new-urban-mechanics/civic-research-agenda>.
37. Kim Lucas, interview by Ben Green, May 6, 2017. All quotations from Lucas in this chapter are from this interview.

## Chapter 7

1. Daniel L. Doctoroff, "Reimagining Cities from the Internet Up," Medium: Sidewalk Talk (November 30, 2016), <https://medium.com/sidewalk-talk/reimagining-cities-from-the-internet-up-5923d6be63ba>.
2. James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998), 11–22.



3. Scott, *Seeing Like a State*, 12.
4. Scott, *Seeing Like a State*, 21.
5. Scott, *Seeing Like a State*, 88.
6. Scott, *Seeing Like a State*, 4.
7. Ebenezer Howard, *Garden Cities of To-Morrow* (London: Swan Sonnenschein, 1902), 133.
8. See Howard, *Garden Cities of To-Morrow*.
9. Howard, *Garden Cities of To-Morrow*, 133–134.
10. Le Corbusier, *The Radiant City: Elements of a Doctrine of Urbanism to Be Used as the Basis of Our Machine-Age Civilization* (New York: Orion Press, 1964), 134, 240, 134.
11. Le Corbusier, *Aircraft: The New Vision* (New York: Studio Publications, 1935), 96, 5, 100.
12. Le Corbusier, *The Radiant City*, 121.
13. Le Corbusier, *The Radiant City*, 27, 29, 116.
14. Scott, *Seeing Like a State*, 348.
15. Le Corbusier, *The Radiant City*, 181, 154.
16. Le Corbusier, *The Radiant City*, 181, 154.
17. James Holston, *The Modernist City: An Anthropological Critique of Brasília* (Chicago: University of Chicago Press, 1989), 168.
18. Holston, *The Modernist City*, 23, 24, 105.
19. Robert A. Caro, *The Power Broker: Robert Moses and the Fall of New York* (1974; repr., New York: Random House, 2015), 909.
20. Harrison E. Salisbury, *The Shook-Up Generation* (New York: Harper and Row, 1958), 73, 75.
21. See Peter Marcuse, *Robert Moses and Public Housing: Contradiction In, Contradiction Out* ([New York: P. Marcuse], 1989).
22. James Baldwin, interview by Kenneth Clark, WGBH-TV, May 24, 1963; published in *Conversations with James Baldwin*, ed. Fred L. Standley and Louis H. Pratt (Jackson: University Press of Mississippi, 1989), 42.
23. Jane Jacobs, *The Death and Life of Great American Cities* (1961; repr., New York: Vintage Books, 1992), 4, 428, 222, 447, 222, 439.
24. Jacobs, *The Death and Life of Great American Cities*, 435, 438-439.
25. Jacobs, *The Death and Life of Great American Cities*, 21.
26. Le Corbusier, *The Radiant City*, 202; Senseable City Lab, “DriveWAVE by MIT SENSEable City Lab,” <http://senseable.mit.edu/wave/>.
27. Hitachi, “City of Boston: Smart City RFI Response” (2017), p. 7, [https://drive.google.com/file/d/0B\\_QckxNE\\_FoEeVJ5amJVT3NEZXc](https://drive.google.com/file/d/0B_QckxNE_FoEeVJ5amJVT3NEZXc).
28. Living PlanIT, “Living PlanIT—Boston Smart City RFI” (January 2017), p. 1, [https://drive.google.com/file/d/0B\\_QckxNE\\_FoEVEUtTFB4SDRhc00](https://drive.google.com/file/d/0B_QckxNE_FoEVEUtTFB4SDRhc00).
29. Adora Cheung, “New Cities,” *Y Combinator Blog* (June 27, 2016), <https://blog.ycombinator.com/new-cities/>.
30. Cheung, “New Cities.”
31. Le Corbusier, *The Radiant City*, 154.



32. Eric Jaffe, "How Are Those Cities of the Future Coming Along?," *CityLab* (September 11, 2013), <https://www.citylab.com/life/2013/09/how-are-those-cities-future-coming-along/6855/>.
33. Cheung, "New Cities."
34. Dan Doctoroff, quoted in Leslie Hook, "Alphabet Looks for Land to Build Experimental City," *Financial Times*, September 19, 2017, <https://www.ft.com/content/22b45326-9d47-11e7-9a86-4d5a475ba4c5>.
35. Sidewalk Labs, "Vision Sections of RFP Submission" (October 17, 2017), p. 15, <https://sidewalktoronto.ca/wp-content/uploads/2017/10/Sidewalk-Labs-Vision-Sections-of-RFP-Submission.pdf>.
36. Le Corbusier, *The Radiant City*, 181, 154.
37. Doctoroff, "Reimagining Cities from the Internet Up."
38. Bianca Wylie, "Debrief on Sidewalk Toronto Public Meeting #2—Time to Start Over, Extend the Process," Medium (May 6, 2018), <https://medium.com/@biancawylie/sidewalk-toronto-public-meeting-2-time-to-start-over-extend-the-process-a0575b3adfc3>.
39. Jascha Franklin-Hodge, in Knight Foundation, "NetGain Internet of Things Conference" (2017), <https://www.youtube.com/watch?v=29u1C4Z6PR4>.
40. Nigel Jacob, interview by Ben Green, April 7, 2017.
41. Mayor's Office of New Urban Mechanics, "Boston Smart City Playbook" (2016), <https://monum.github.io/playbook/>.
42. Mayor's Office of New Urban Mechanics, "Boston Smart City Playbook."
43. Franklin-Hodge, in Knight Foundation, "NetGain Internet of Things Conference."
44. Mimi Kirk, "Why Singapore Will Get Self-Driving Cars First," *CityLab* (August 3, 2016), <https://www.citylab.com/transportation/2016/08/why-singapore-leads-in-self-driving-cars/494222/>; Annabelle Liang and Dee-Ann Durbin, "World's First Self-Driving Taxis Debut in Singapore," *Bloomberg*, August 25, 2016.
45. Abdur Rahman Alfa Shaban, "Ethiopia Bags a Continental First with \$2.2m Smart Parking Facility," *Africanews*, June 15, 2017, <http://www.africanews.com/2017/06/15/ethiopia-s-22m-smart-parking-facility-is-africa-s-first/>.
46. Hollie Russon Gilman, *Democracy Reinvented: Participatory Budgeting and Civic Innovation in America* (Washington, DC: Brookings Institution Press, 2016), 7, 36.
47. See Rafael Sampaio and Tiago Peixoto, "Electronic Participatory Budgeting: False Dilemmas and True Complexities," in *Hope for Democracy: 25 Years of Participatory Budgeting Worldwide*, ed. Nelson Dias (São Brás de Alportel, Portugal: In Loco Association, 2014), 413–425.
48. Josh Chin, "About to Break the Law? Chinese Police Are Already On to You," *Wall Street Journal*, February 27, 2018, <https://www.wsj.com/articles/china-said-to-deploy-big-data-for-predictive-policing-in-xinjiang-1519719096>.
49. Josh Chin and Clément Bürge, "Twelve Days in Xinjiang: How China's Surveillance State Overwhelms Daily Life," *Wall Street Journal*, December 19, 2017, <https://www.wsj.com/articles/twelve-days-in-xinjiang-how-chinas-surveillance-state-overwhelms-daily-life-1513700355>.

50. Adrian Short, "BT InLink in London: Building a Privatised 'Smart City' by Stealth" (December 14, 2017), <https://www.adrianshort.org/posts/2017/bt-inlink-london-smart-city/>.
51. Natasha Lomas, "How 'Anonymous' Wifi Data Can Still Be a Privacy Risk," *TechCrunch* (October 7, 2017), <https://techcrunch.com/2017/10/07/how-anonymous-wifi-data-can-still-be-a-privacy-risk/>.
52. Laura Adler, "How Smart City Barcelona Brought the Internet of Things to Life," *Data-Smart City Solutions* (February 18, 2016), <https://datasmart.ash.harvard.edu/news/article/how-smart-city-barcelona-brought-the-internet-of-things-to-life-789>.
53. Albert Canigueral, "In Barcelona, Technology Is a Means to an End for a Smart City," *GreenBiz* (September 12, 2017), <https://www.greenbiz.com/article/barcelona-technology-means-end-smart-city>.
54. Carla Bailo, interview by Ben Green, May 9, 2017.