

Tuesdays 6:30 - 8:00pm
Location: 370 Jay Street, second floor auditorium

Instructors:
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Class Slack channel:
https://join.slack.com/t/nyucuspcivica-je37644/shared_invite/zt-gjo59dv9-6_8m6txqRzQHvVRba9Oh0Q

I Course Description

This course provides an overview of city government, operations, and the role of information and communication technologies within cities and related policy domains. There will be an emphasis on new approaches to urban governance ranging from performance management to innovation delivery units to smarter cities frameworks and public entrepreneurship. Throughout the course we will focus intently on the importance of data and how to collect it; and also how it should be presented from a policy, management, and political perspective to ensure impact. Specific attention will be given to a number of policy domains including transportation, economic development, education, criminal justice and how urban informatics can be used to improve operational and resource efficiencies within each domain. In addition, the role of civic engagement and community participation in the context of open data and citizen science is explored. Case studies and best practice examples will be used extensively.

II Course Objectives

- Understand the overall structure and governance of urban operations
- Analyze drivers, constraints, and metrics of key urban domains
- Learn about the roles of data and emerging technologies in cities and opportunities and constraints to employing data analytics
- Realize the role of citizens in the effective functioning of urban systems
- Develop the skills to create plans and evaluate the effectiveness of technologies in urban government spaces

III Assignment Grading Rubric

Blog post -- 10%
Component assignments building up to final project -- 35%
Final project (includes actual project and presentation) -- 40%
Participation (as measured by Slack, Zoom and in class comments) -- 15%

IV ASSIGNMENTS

Semester long assignment: Developing a Smart Cities Master Plan

The main course assignment is to develop a preliminary smart cities roadmap or plan for a city or community of your choice (you will select your locale and submit your initial work plan by the third class).

You will use the various modules to develop elements of the roadmap: a community vision, measurable goals, and some potential strategies for implementation that could include public policy, process improvements, partnerships, and/or pilot projects. The key is to focus on how data and technology can support desired community outcomes such as social equity, environmental improvement, and economic growth.

Your plan should begin with locally developed sources; from priorities that are articulated in local planning documents, budget statements, or other key initiatives generated by the community. Although your community's stated priorities are only your starting point, you should expand on them and feel free to add additional ones based on the course, and your knowledge and research of the community.

Your final plan will include operational and policy detail about existing efforts, SWOT level assessment of the public, private and nonprofit (including universities) sector, and the potential of applying new technologies (we will review how to conduct a SWOT analysis in the fifth lesson). Taken together, the plan will establish broad visions and goals, but hone in on two to three key areas with a focus on implementation.

The work for this assignment cannot be done in one week, and certainly not the night before a deadline. This is a semester-long project that will take approximately 50 hours to complete and should receive attention almost every week of the semester, and the associated deliverables will build upon each other with the goal of helping you develop a successful final project. The final plan should be a professional one, a document that could easily be the foundation of a smart city or digital master plan for your chosen locale.

Semester Assignment Deliverables

Lesson 3: Research Plan

Your first assignment is to develop a preliminary research plan. This plan will include:

- the name of your community or city
- initial background about what type of smart city planning currently exists within the locale and existing priorities
- initial focus of your plan (e.g. will you be emphasizing open broadband access or use of technology to improve transportation options in the community)
- initial list of resources you have reviewed including city documents focused on the topic, relevant documents from other locales, broader readings that discuss areas you are most interested in
- an initial set of resources you plan to use including interview subjects, primary and secondary sources.

This first assignment consists primarily of “desk research”—reviewing material on the internet. A sample research plan is posted in your resource section. Your research plan will be due the beginning of the third lesson.

ASSIGNMENT TIME REQUIREMENTS

Work for this plan should fall roughly into the following categories:

- Initial thinking and web searching about smart cities efforts and plans in your chosen locale and other regions that share similar demographic, economic and geographic characteristics – 5-8 hours
- Drafting or memo and editing – 1-2hours

Lesson 5: Official Policy Memo

Draft a memorandum to a key local policy official (e.g. the mayor or head of the local chamber of commerce) making the case for a smart cities roadmap to leadership. You do not need to contact the official as this is a hypothetical individual you are addressing.

You will take your research and research plan to the next level and make a firmly stated argument for your smart cities plan to a hypothetical official. This memo should be well-composed and well-argued, making the case with evidence and persuasive language why your community needs such a plan, the general focus of the plan and what your research plan will be going forward.

Due by the fifth lesson, the memorandum should be approximately four pages long double-spaced and contain citations. It should have the following sections:

- clearly stated rationale for a smart cities plan that includes why this hasn't been done (or done in the way you propose) and why it should be done now
- your particular focus and emphasis for the plan
- explanation of who will support the plan, who needs to support the plan, who the opposition may be, how you will address that opposition, and briefly explain why of each of these components
- your research process to produce the plan including: all sources you plan to use; all interviews you plan to conduct (aim for at least six interviews); what, if any, original research or surveys you will conduct; what data analyses you will conduct and visualizations you will produce.

ASSIGNMENT TIME REQUIREMENTS

This memo will take approximately seven (7) hours to complete. [This policy memo format here](#) should be used. Your time will be roughly broken out as follows:

- Reviewing original material you have gathered and obtaining a few additional documents – 2-3 hours
- Looking closely at the syllabus to see what readings and other content you plan to incorporate into your research. You may even look ahead to see what you might want to bring in – 1-2 hours
- Conducting one to two phone calls of background research (e.g. to someone currently overseeing smart cities efforts for the city. This is not necessarily the person you are addressing the memo to.) 1-2 hours
- Composing and writing the plan out and then editing your document – 2-3 hours

ASSIGNMENT RESOURCES

- [This policy memo format here](#) should be used.

Lesson 8: Supportive data analyses and visualizations

You've made your pitch, but key stakeholders are asking for quantitative and qualitative analyses to support your case. Using open data resources, the analytic skills you are learning in other courses, and what you've learned in module 2 to develop an appendix to your official policy memo that contains at least some or a start of the data analytics and visualizations that you stated you'd conduct in the memo. These analyses can support your proposal or explain why a group may oppose it. The visualizations and supporting text should be able to stand on their own, and be easily interpreted by your target audience(s).

Due by the eighth class, the appendix should contain between three and five data visualizations that illustrate the data analyses conducted. You should note in your appendix intended next steps that you'll complete for the final assignment.

ASSIGNMENT TIME REQUIREMENTS

This data analysis appendix will take approximately nine (9) hours to complete. Your time may be roughly broken out as follows:

- Data collection and exploration – 4 hours
- Data cleaning, analysis, and interpretation – 3 hours
- Creation of data visualizations – 2 hours

Lesson 9: Strategic Assessment Memo

This memo will be a strategic assessment of local stakeholders and assets in your community. It will include a review of key enterprises such as the chamber of commerce, local colleges and universities, public schools, libraries, civic tech organizations and all other relevant organizations. The memo will also identify specific individuals who will be critical for making this plan a reality including the mayor, city manager, chief information officer, local tech entrepreneur championing civic issues, etc. In addition to writing about each of these actors there should be an evaluation of where they are and where they need to be in relation to your plan and how you recommend engaging or avoiding each with the goal of implementing your plan. Additionally, what other community assets -- programs, infrastructure and resources -- might contribute to the opportunities and outcomes defined in your smart cities roadmap? This memo should include a SWOT (strengths, weaknesses, opportunities and threats) analysis as a simple graphic for easy reference (see examples in the resources section).

ASSIGNMENT TIME REQUIREMENTS

This assignment should be approximately four pages double spaced. It will take approximately 12 hours to complete. Work will be broken down as follows:

- Learning about each organization in relation to your plan through review of printed material, interviews and possibly site visits – 6-8 hours
- To understand the relative strengths and weaknesses of each actor and institution you will compare some of your stakeholders to other locales through desk research and possibly interviews – 3-4 hours
- Composition of memo (see memo format from last assignment), drafting of stakeholder map, editing of work before submission – 2-3 hours

ASSIGNMENT RESOURCES

- [The Philadelphia Smart City Roadmap includes a good inventory of assets and initiatives.](#)

- [The WeHo Smart City strategic plan incorporates a survey of assets and challenges on Pages 11-12.](#)

Lesson 11: Draft plan

To ensure your smart cities plan is moving in the right direction you will draft an annotated outline of your entire plan with a few bullets highlighting and summarizing key points. In addition to the content, this will be an important outline as you will now convey how you propose to structure the final deliverable including what sections, sidebars, visuals and other features you will include. This draft plan should be approximately two pages in length.

ASSIGNMENT TIME REQUIREMENTS

This exercise will take you about 2 hours.

Lesson 14: Final Assessment - Smart Cities Plan & Presentation

This final deliverable will be the culmination of the entire semester of work, synthesizing your original research and all of the learnings and material from the semester (refer back to model plans introduced throughout this course). The deliverable, inclusive of visuals, should be approximately eight pages in length with text double spaced. This final plan should be inclusive of all the prior submissions. You may include as many appendices and supporting documents as you like, but none are required; however, you should cite sources and references where appropriate using APA or MLA format

Don't worry if you don't consider yourself a "graphics" person -- do what you can to design a layout that is easy to read and visually appealing. Consider how you might instruct a designer to present this information and include directions in your final deliverable if necessary. This will be due during the exam period of the semester.

The final element of this deliverable is a short PechaKucha style presentation where you will be asked to share 20 slides (20 seconds each) as a show and tell of your plan to your peers. This will be scheduled during our final class on December 8, 2020 and is an opportunity to share your work via a compelling format. There will be no final exam on December 15, 2020.

ASSIGNMENT TIME REQUIREMENTS

This assignment will take approximately 18 hours to complete. The time will be roughly broken down as follows:

- Original research including readings, interviews, site visits, and data analysis – 10-12 hours
- Writing, drafting and designing of final document – 8-10 hours

ASSIGNMENT RESOURCES

- [WeHo Brand Guidelines](#)

Assignment: Reaction Papers/Blogs

You will write two reaction or blog-type papers as a response to the weekly readings and discussion.

These should not be summary papers. We have already read these pieces and participated in the discussion – we are not looking to review this material again. Tell us something we don't know. Pick one point you want to emphasize and elaborate upon it. Overall, we are looking for your critical take on the class discussion and readings. We are looking to evaluate the strength of your writing and your critical thinking.

File format: Word document, with your name in the file path

Assignment format: Word document, NO PDFs

Length: Less than 1 page. You should aim for about 600 words

Due Dates: First paper due on September 15th and should be based on one or more of the readings in the first two lessons. The second paper is due on September 28th and should be based on one or more of the readings in the third and fourth lessons.

Sources: Sources are not necessary for your reaction paper, but you can certainly include a few. You can use any style you prefer – footnotes, APA, MLA are all fine

V SEMESTER SCHEDULE

Module One: Government: it's role in shaping policy and operations

Lesson 1: Overview of the public policy making process, and an introduction to the course September 8, 2020

Learning objectives:

- The public policy process and the components of the policymaking process
- Big picture about the data and tech environment in government
- Get to know each other and our goals for the semester

Readings:

- Kingdon, John. Agendas, Alternatives, and Public Policies. Pages 71-98, 116-144, 165-195
- *New Yorker* article about Estonia the digital republic. Download at <https://www.newyorker.com/magazine/2017/12/18/estonia-the-digital-republic>
- New City O/S Chapter 1

Lesson 2: Overview of government, it's role and different structures; plus an introduction to digital mater planning (lineage to urban master planning); and its relation to the final project September 15, 2020

Learning objectives:

- The role, authority, and service delivery function of municipal government
- Different types of local government structures (e.g. strong mayor, city manager)
- Federalism: the difference between national, regional, and local government
- City operations: the distinction between agency-based priorities, and citywide priorities and management.
- What's a digital master plan
- Learn about different master plans

Readings:

- **Urban Text reading.** These pages from a textbook by Dennis Judd and Todd Swanstrom, covers foundational topics and issues about city politics and policy. Pages 1-8, 44-47, 91-99
- **Digital Master Planning: An Emerging Strategic Practice in Global Cities.** With the trends toward urbanization and the rapid evolution of information technology, there has been a flurry of digital master plans and smart city strategic plans across the globe. Townsend and Lorimer explore the range of these efforts and define four strategic approaches. Townsend, A. & Lorimer, S. (2015, June) Digital Master Planning: An Emerging Strategic Practice in Global Cities. NYU Working Paper #25. *NYU Marron Institute of Global Management*. Retrieved from: https://marroninstitute.nyu.edu/uploads/content/Working_Paper_25_Digital_Master_Planning.p
- **Smart Cities: What Do We Need to Know to Plan and Design Them Better?** In this article, we hear from Anthony Townsend again on the definition of smart cities. He looks to the work of Sir Patrick Geddes, one of the fathers of the Garden Cities movement, as inspiration for a new civics for smart cities. In this article, he advocates for skepticism, responsible crowdsourcing, and measured, data-driven urban science. Townsend cautions against the over-promise of technology but seeks the integration of data into how city government works.. Townsend, A. (2017, June 15) Smart Cities: What Do We Need to Know to Plan and Design Them Better? *Medium*. Retrieved from: medium.com
- **Strategic Planning for Smarter Cities.** This article presents a potential process to guide your development of a digital master plan. The planning process starts with defining a clear vision of the desired future state, articulating measurable goals and specific objectives and moving toward an approach for execution. Reichental, J. (2017) Strategic Planning for Smarter Cities. In H. Geng (ed.) *The Internet of Things and Data Analytics Handbook*, (pp. 83-93) New Jersey: Wiley. Retrieved from: wiley.com

Supporting/Additional reading

- **WeHo Smart City Plan.** Incorporated in 1984, the City of West Hollywood is less than two (2) square miles in the heart of the expansive Los Angeles County, California. With a population of approximately 36,000 people (US Census 2010), this is a city that relies on shared public safety services from the County (one of 88 cities in LA County), outsources and partners with external stakeholders to get a lot of their work done and has a small but dedicated city hall staff with a long-standing commitment to high-quality customer service. WeHo Smart City is a digital master plan that evolved from the work of an internal innovation team, embedded within the City's Community Development Department. It provides a framework for the continued evolution of high-quality customer services and equitable access to opportunity. Through the planning process, this plan focused more on creating a "smart city hall" with only a few externally-focused projects. The City of West Hollywood has been implementing this plan since its adoption in February 2018. The City of West Hollywood's Innovation Division has received the [American Planning Association \(APA\) Technology Division's Smart Cities Award](#) for the WeHo Smart City Strategic Plan. The Smart Cities Award recognizes and celebrates communities that are using technology to be intelligent about growth, quality of life, inclusivity, sustainability, and resiliency. [Download WeHoSmartCityStrategicPlan.pdf](#) wehosmartcity.org (website opens in new tab)
- **Anaheim SMART City Roadmap Initiative.** Anaheim is a city of 358,000 residents, 20,000 businesses and 25 million annual visitors. In addition to being home to the Disneyland Resort, Anaheim boasts the largest convention center on the West Coast. A full-service city, Anaheim began its SMART City Roadmap initiative in late 2018 to incorporate a broad set of technologies to enhance the quality of life for Anaheim's residents, businesses and visitors. Very different in the approach and scope by the City of West Hollywood, this roadmap is designed to be a "living document" that continues to evolve as community needs, council priorities, technology, and

Lesson 3: Overview of city government and operations. Who has power and what do operations look like?

September 22, 2020

Learning objectives:

- Understanding the operations that need to take place for a city to function
- Learn about the function of different groups to facilitate transportation in cities
 - Private → uber / Ford
 - Public → local/regional government
- Gain an understanding of the role of City Planning in shaping policy and how it can impact operations

Deliverable: Research plan

Readings:

- **Innovation team reading from IBM Center for the Business of Government:** This report from the IBM Center for the Business of Government details how to establish an innovation office. There are a number of helpful strategies, principles and suggestions for setting up such an office within local government. But bear in mind this is about establishing a small team as opposed to reforming or improving government operations more broadly:
<http://www.businessofgovernment.org/sites/default/files/A%20Guide%20for%20Making%20Innovation%20Offices%20Work.pdf>
- **Operations slides** (see separate attached document)

Mobility focused readings:

- **In Depth Mobility report:** As automated decision-making takes over, how do we reconcile the differences between governing the physical realm with the growing digital realm? This report looks to how the algorithm is shaping transport activity and the potential policies and governance framework to adapt to these changes. Most importantly, it underscores the changes required of regulators in the digital age as it is no longer possible to "regulate and forget" -- calling for a more diversified approach to regulation that includes risk-based approaches, iterative and adaptable regulations, limited regulatory exemptions, performance-based outcomes and collaborative regulation. itf-oecd.org

Optional articles:

- **NY Times overview article:** Many new mobility services -- from ride-hailing to carsharing to bikeshare to micro-mobility -- has been enabled by the advent of the smartphone and increased connectivity. The emergence of many private sector providers has moved cities to adapt from solely providing infrastructure and public transit to working as a "mobility manager," navigating an evolving role for the regulator in the digital age:
<https://www.nytimes.com/2020/02/05/technology/data-micromobility-electric-scooters-mds.html>
- **LA DOT article:** The Los Angeles Department of Transportation has developed the Mobility Data Specification, a standard for data-sharing between mobility providers and the city. The intent is to be able to better manage the public right-of-way and access to mobility services but

this has been met with considerable resistance from some private sector players. This standard has not been without controversy, but it is always hard to be the first to do so something. So It Decided to Become One. *CityLab*. Retrieved from:

<https://www.bloomberg.com/news/articles/2020-02-21/as-1-a-plays-tech-disruptor-uber-fights-back>

- [Mobility, Economic Opportunity and New York City Neighborhoods](#)
- [Analyzing 1.1 Billion NYC Taxi and Uber Trips, with a Vengeance](#)

Lesson 4: Overview of policy making and how to determine if a policy is successful **September 29, 2020**

Learning objectives:

- What data accountability is and how data accountability can ensure if a policy/service area is successful
- How data accountability has evolved over the past 25 years
- Some unintended consequences of data dashboards
- How specifically are these issues are playing out in the area of criminal justice and policing

Readings:

- **Innovation Playbook:** This reading helps establish accountability procedures and routines to ensure work gets done. Skim chapters one and two; read chapters three and four. https://www.bbhub.io/dotorg/sites/2/2014/08/Innovation-Team-Playbook_2015.pdf
- **COMPSTAT: Its origins, evolution, and future.** CompStat is the progenitor of CitiStat, and most all data management platforms that have come to define government performance management everywhere. This article does an excellent job of reviewing CompStat definitions, origins and ways it can boost information sharing, decision-making and organizational transformation. The piece also provides numerous examples from around the country and demonstrates how different the approach can be in practice. This is a report that can be skimmed and highlighted; no need to read every word from start to finish. Bureau of Justice Assistance and Police Executive Research Forum, "CompStat: Its Origins, Evolution, and Future in Law Enforcement Agencies." 2013. Retrieved from <https://bj.a.ojp.gov/sites/g/files/xyckuh186/files/Publications/PERF-Compstat.pdf>
- **Reply All Jack Maple profile.** This two-part podcast profiles Jack Maple and his invention of the CompStat program, which we studied in Module three. This review of CompStat describes the ways in which data has the power to alter motivation, policy goals, who is rewarded and punished; how data can either liberate government officials to be more creative or it can drastically diminish options. Above all else, the podcast reminds us data programs are designed by people and that the process and policy intentions are far more important than the actual data itself. Reply All, "The Crime Machine Part 1 and Part 2," Gimlet Media, October, 2018. Retrieved from: <https://gimletmedia.com/shows/reply-all/o2hx34> and <https://gimletmedia.com/shows/reply-all/n8hw17>

Optional readings

- **What All Mayors Would Like to Know About Baltimore's CitiStat Performance Strategy.** CitiStat is the premiere performance management platform mayors and other local leaders have used for the past thirty years. Often it is a platform used by chief executives and senior management and this report is helpful as it is written directly for those executives. It allows you to see what advice an expert would provide. Hence, there is much practical knowledge including what CitiStat is and isn't; what types of staff to hire and even how to arrange meetings. This is a report that can be skimmed and highlighted, no need to read every word from start to finish.

Robert Behn, "What All Mayors Would Like to Know About Baltimore's CitiStat Performance Strategy," 2007. IBM Center for Business of Government. Retrieved from:

<http://www.businessofgovernment.org/sites/default/files/BehnReportCiti.pdf>

- [Using a GIS-based network analysis to determine urban greenspace accessibility for different ethnic and religious groups](#)
- [Map of Gentrification and Displacement for The Greater New York](#)
- [Site Planning and Revenue Prediction: Optimizing Food Truck Locations in New York City](#)

Module 2: Navigating government IT and working with public data

Lesson 5: Role of information and communication technologies within cities; organizational staffing of tech and data functions

October 6, 2020

Learning objectives:

- Evaluate pros and cons of centralized vs decentralized approaches with IT
- Role of data offices vs traditional DoITT office
- Cybersecurity
- Review of SWOT analysis
- **NOTE: Based on the final project summary we're supposed to be covering what a SWOT analysis here**

Deliverable: Official Policy Memo

Readings:

- **Bill Rials IT staffing paper:** This paper by Tulane professor Bill Rials spotlights key principles, organization and approaches to traditional IT (information technology departments). While the focus is on IT the themes can be applied to other agencies and civic enterprises. Pay particular attention to the discussion of centralized versus decentralized structure.
- **National Governors Association - Risk Management Framework** This visual heavy document from the National Governors Association provides a clear and sharp framework for managing risk. It can serve as a foundation for any cybersecurity strategy or reform plan. National Governors Association, (2020, January 27) NGA Governor's Guide to Cybersecurity Risk Management.

Optional readings:

- **Boston Consulting Group HR report:** The article applies private sector know-how and advice to public sector HR challenges. There are a set of ten principles and strategies described in clear detail and worth reviewing. <https://www.bcg.com/publications/2016/people-organization-creating-people-advantage-public-sector>
- **Deloitte-NASCIO Cybersecurity Study.** This 50 state survey of chief information security officers provides valuable insights into what are the top priorities of officials charged with addressing security issues throughout the entire enterprise of state government. You only need to skim this document, but look for findings about statewide vision, sophistication of threats, the fundamental need for resources and internal staffing. Pay particular attention to the proactive recommendations including ways cybersecurity can enable innovation and better partner with the business and higher education sector. Robinson, D. & Subramanian, S. (2018, October 23) States at Risk: Bold Plays for Change. *Deloitte and the National Association of State Chief Information*

Officers. Retrieved from: <https://www.nascio.org/resource-center/resources/2018-deloitte-nascio-cybersecurity-study-states-at-risk-bold-plays-for-change/>

- Will add video with Bill Rials

Lesson 6: Open data and data analytics

October 13, 2020

Learning objectives:

- How to use open data, its history in NYC, open data policies, and different teams in NYC government
- Open data platforms and policies throughout the US
- Introduce different data collection techniques and new analytical techniques (i.e. AI)
- Discuss issues around data and algorithm bias
- Present what predictive analytics are and how they're used

Readings Open Data:

- **Smart Citizens, Smarter State: The Technologies of Expertise and the Future of Governing.** NYU professor, Beth Noveck maps out a logic and philosophy for open government in this chapter of her book. Note how she draws a sharp distinction between the traditional monopoly on information that the public sector has with increasing demand and ability to open government up. As she notes, it is a well established fact that problems are easier to solve with outside input. The chapter is helpful in clarifying notions of expertise, governance in a modern era and data ethics. Noveck, B. S. (2015) *Smart Citizens, Smarter State: The Technologies of Expertise and the Future of Governing*. 2015. Chapter One.
- **Government Designed for New Times.** This McKinsey Report provides a solid overview of open data and some of its key applications at the local government level. As such, it's a useful primer and level-setter for students. Mayersohn, N. (2014) *Innovation in Local Government: Open Data and IT*. McKinsey. Retrieved from: [mckinsey.com](https://www.mckinsey.com/government-design-for-new-times). *Government design for new times.pdf*
- [NYC Public Data: A primer on property data](#)

Optional readings:

- **How a Citizen Satisfaction Survey Led to an \$800 Million Bond to Fix Kansas City's Infrastructure.** Listening to the community can take a variety of forms. In the case of Kansas City, a rigorous citizen satisfaction survey has helped the city identify community priorities which translated to a major infrastructure program to rehabilitate broken or missing sidewalks, roadways, and other critical shared assets. Read this quick case study and then listen to the interview with the brains behind this work, Kate Bender and Julie Steenson. McCall, B. (2017, May 10) *How a Citizen Satisfaction Survey Led to an \$800 Million Bond to Fix Kansas City's Infrastructure*. What Works Cities. Retrieved from: [whatworkscities.bloomberg.org](https://www.whatworkscities.org/2017/05/10/how-a-citizen-satisfaction-survey-led-to-an-800-million-bond-to-fix-kansas-citys-infrastructure/) Download Bo McCall blog entry.
- **How to Do Data Analytics in Government.** This is a useful step-by-step analysis of lessons learned from city-level analytics projects. With specific examples across the domains of public safety, housing, public health and transportation, this is an interesting dive into how you might tailor your own global assignment project. Gover, J. (2018, July 16) *How to Do Data Analytics in Government*. Government Technology. Retrieved from: [govtech.com](https://www.govtech.com/2018/07/16/how-to-do-data-analytics-in-government/) Download the article.
- **Health Department Use of Social Media to Identify Foodborne Illness - Chicago, Illinois, 2013-2014.** Recognizing this is not open data but data that is easily accessible to the public, this is a case study that explores the practice of "listening" to social media for clues that can help a city

be more proactive and responsive to community needs. The question to consider is how do we assess the cost-benefit of these approaches and practices? While there are clear public benefits in addressing health, we must evaluate the trade-offs and recognize the potential bias of the data. Harris, J. K., Mansour, R., Choucair, B., Olson, J., Nissen, C., & Bhatt, J. (2014, August 15). Health Department Use of Social Media to Identify Foodborne Illness - Chicago, Illinois, 2013-2014. Centers for Disease Control and Prevention. Retrieved from: cdc.gov Download the article.

- **The Power of Data Visualization in Cities: Pittsburgh's Burgh's Eye View.** *Data-Smart City Solutions: Harvard Kennedy School Ash Center for Democratic Governance and Innovation.* Retrieved from: datasmart.ash.harvard.edu.

Readings data analytics:

- **Book chapter about Allegheny County.** This chapter of the New City O/S points to ways in which big data can provide more discretion to government administrators. This chapter focused on the intervention point (when a case is actually being investigated). It also provides useful background about how the program began. Goldsmith and Kleiman, *The New City O/S*, Pages 109-113
- **NY Times article about Allegheny County.** This *New York Times* article provides another look at Allegheny County, one of the only human service data warehouse programs in the country. The first reading looked at the intervention point of a child welfare case, whereas this article focuses on the front end, before a case is opened, the in-take process. The article discusses how predictive data using multiple administrative datasets can significantly improve decisions about child abuse and decrease racial bias. It also discusses how big data can improve the decision-making ability of frontline administrators, and in some instances take discretion away from administrators. Hurley, D. "Can an algorithm tell when kids are in danger?" *New York Times*, Jan 2 2018. Retrieved from: nytimes.com

Optional readings:

- [What a hundred million calls to 311 reveal about New York](#)
- [Steinberg and Steinberg. Chapters 1. "GIS Research Methods: Incorporating Spatial Perspectives." Redlands, CA: Esri Press. 2015.](#)
- [How to Identify Food Deserts: Measuring Physical and Economic Access to Supermarkets in King County, Washington](#)
- [Almost One Third of NYC is Not Patrolled by the Closest Precinct House](#)
- [Census Oddities](#)

Lesson 7: Data translation and citizen engagement

October 20, 2020

Learning objectives:

- How to make effective data visualizations; data translation
- Data evidence movement
- Techniques to garner citizen input

Readings:

- **A Practical Guide for Establishing an Evidence Centre.** This report discussed the role of intermediaries that are established to increase the use of evidence in public policy and services. The article is written for anyone establishing a data center, which in many respects is what we are

aiming to do with this class; to initiate or fortify data and evidence programming within a civic sector enterprise. The report provides an excellent foundation for clarifying your data focus and approach including how to best understand the context, data users and interplay with internal actors and mission. There are also helpful hyperlinks. Bazalgette, L. (2020, June 3) A Practice Guide for Establishing an Evidence Centre. *Alliance for Useful Evidence*. Retrieved from https://media.nesta.org.uk/documents/Practical_Guide_Evidence_Centre_mjf4AUw.pdf

- **Crowdsourcing.** A tool that goes beyond the capacity of any given organization by looking to a network of people to solve problems. Waze crowdsources information on traffic flow and speed to give you real-time information about your commute while Yelp collects reviews on restaurants and services to help you evaluate your options. As a tool, crowdsourcing can bring more people to the decision-making table but there are often cultural barriers to embracing it fully for its potential. Bloomberg Cities. (2019, May 22) Explainer: What you need to know about crowdsourcing. *Medium*. Retrieved from medium.com
- **Community Engagement.** This is a short survey of various tools and resources developed by Code for America (with links to other resources) for digital engagement. This article also outlines five key elements of effective community engagement in the digital age. Code for America. Community Engagement. <https://www.codeforamerica.org/practices/civic-engagement>
- **Storytellers in Chief.** This report provides an overview of best practices in storytelling and makes a case for why effective leaders need to master this skill. This is about adapting leadership (not just organizations) during times of crisis and change. While you can just read the executive summary, there are various gems throughout the entire report. Please read the Executive Summary, pp. 7-13. Bennett, M. & Orr, K. Storytellers in Chief: How top local government managers use storytelling to lead. *Solace, ICMA, and CAMA/ACAM*. Retrieved from: <https://icma.org/sites/default/files/Storytellers%20in%20Chief%20-%20A%20report%20in%20conjunction%20with%20Solace.pdf>

Optional readings:

- **The Human-Centered Design Toolkit.** This comprehensive guide demystifies the concept of human-centered design and provides a variety of tools and tactics ready for deployment. This field guide was developed with the financial support of crowdfunding. IDEO.org. (2015) The Field Guide to Human-Centered Design. IDEO.org, San Francisco, CA. Retrieved from: <https://www.designkit.org/resources/1>
- [5 Popular Thematic Map Types and Techniques for Spatial Data](#)
- [Maps We Love](#)
- [Cartographic Tips for Thematic Maps](#)
- [How to Lie With Maps](#)

Module 3: Advancing new Approaches: Implementing innovations in government and addressing issues of race and equity

Lesson 8: Being consensus of issues around race and equity as it related to the implementation of technologies and innovation October 27, 2020

Learning objectives:

- Identify where bias in data comes from
- How bias can be tracked
- How bias can be corrected for

Deliverable: Supportive data analyses and visualizations

Readings:

- **The Smart Enough City.** The passages in this text are critical to this module and the entire class. Green makes the point that technology is not worth advancing for technology's sake, but must be in the service of larger civic goals such as equity, better race relations, and improved service delivery. Tech itself is not neutral, nor is it a social good; only when deployed as part of a larger civic strategy and policy. And, note the Array of Things profile and its emphasis on community input. Green, Ben. *The Smart Enough City: Putting Technology in its Place to Reclaim our Urban Future*. 2019. Pages 1-12, 42-46, 107-115. MIT University Press.
- **On the Wrong Side of the Digital Divide.** This is a Greenlining Institute review of the impact of internet access during COVID-19 and the disproportionate impact the digital divide has had on community resiliency during the pandemic. Best viewed on the site and with a specific focus on California as a case study, explore the numbers and the human perspective on the data. Le, V. & Moya, G. (2020, June 2) *On the Wrong Side of the Digital Divide: Life Without Internet Access, and Why We Must Fix It In The Age of COVID-19.* *Greenlining Institute*. <https://greenlining.org/publications/online-resources/2020/on-the-wrong-side-of-the-digital-divide/>
- **Race Equity Toolkit.** This guide offers various strategies for operationalizing equity in decision-making, policies, practices, programs and budgets. Nelson, Julie and Lisa Brooks. *Racial Equity Toolkit: An Opportunity to Operationalize Equity*. Local and Regional Government Alliance on Race and Equity. 2016. https://racialequityalliance.org/wp-content/uploads/2015/10/GARE-Racial_Equity_Toolkit.pdf

Lessons 9 and 10: Innovation

November 3rd and 10th, 2020

Deliverable (Lesson 9): **Strategic Assessment Memo**

Learning objectives:

- Partnerships: Working with universities, start-ups, consultants, large corporations
- Approaches
 - agile vs waterfall, open gov
- Emerging technologies and how they've been applied (Blockchain)
- Obstacles: HR, unions, centralized IT
- Introduce examples of where innovations has flourished or failed

Partnership readings:

- **Partnership report.** This report documents the history of local government partnerships with anchor institutions (universities, hospitals and medical centers). It tracks the rise in such partnerships and articulates a framework that benefits both anchor institutions and local communities. The partnership approach and framework in this report can also serve as a template for partnerships with other sectors including start up businesses, large corporations, philanthropy and other levels of government. Kleiman, N., Getsinger, L., Pindus, N., & Poetig, E. (2015, September) *Striking a (Local) Grand Bargain: How Cities and Anchor Institutions can Work Together to Drive Growth and Prosperity.* *National Resource Network*. <https://wagner.nyu.edu/files/labs/strikingbargain.pdf>
- **Chapter 6, Mashed Up Government,** *A New City O/S: The Power of Open, Collaborative, and Distributed Governance*, pp. 177-188.

- **Government as a Platform.** This is a foundational article discussing the role of government in relation to new technological advances. The author discusses the core role of government as a platform for collective action. This means government has an important role to play as a convener, enabler and regulator. And like all platforms, it must be continually updated. O' Reilly, T. Government as a Platform. *O' Reilly Media*. Chapter 2. Retrieved from: <https://www.oreilly.com/library/view/open-government/9781449381936/ch02.html>

Technology innovation readings:

- **Agile Manifesto.** It can be really hard to face change and uncertainty. This article walks us through how to embrace change and respond to unpredictable events rather than just trusting in your disaster plans. This article highlights some of the challenges that might face the public sector which is very intentional about mitigating risk. Fowler, M. & Highsmith, J. (2001, April 1) The Agile Manifesto. *Dr. Dobbs: The World of Software Development*. <https://www.drdobbs.com/open-source/the-agile-manifesto/184414755>
- **Agile Timeline.** This is a fantastic overview of the evolution of Agile, starting in 1968. This timeline -- which includes multiple links to additional content -- charts the course of the evolution of this approach and uses several case studies to illustrate its impact. Agile Alliance. Agile Practices Timeline. Retrieved from: <https://www.agilealliance.org/agile101/practices-timeline/>
- **Behavioral Economics.** In this podcast of [Technopolis](#), Molly Turner and Jim Kapsis explore how government could use "nudges" to help the public good. A strategy that the private sector uses all the time, there are definitely consequences. What might this look like and are we comfortable with this approach? [Technopolis Episode 6: Nudge City: How is your city using tech to amplify hidden social cues?](#)
- **Internet of Things.** Almost any object you can think of has the potential to be connected to the Internet. This does not necessarily make it *smart* but it does qualify the object as part of the Internet of Things (IoT). With the proliferation of these objects worldwide, this article highlights a few key concerns and needs as IoT scales. Burgess, M. (2018, February 16) What is the Internet of Things? WIRED Explains. *Wired*. <https://www.wired.co.uk/article/internet-of-things-what-is-explained-iot>
- **Machine Learning.** In this paper, Buchanan and Miller define the different types of machine learning, applications, and potential considerations for policymakers. Since machine learning can be difficult to grasp, it is important to understand the potential of this technology -- and its power to do something good -- with the lack of transparency of different algorithms and architectures. This paper highlights some of the key risks and challenges of machine learning while exploring potential use cases in war, healthcare and law enforcement. Buchanan, B. & Miller, T. (2017, June) Machine Learning for Policy Makers: What It Is and Why It Matters. The Cyber Security Project. *Harvard Kennedy School Belfer Center for Science and International Affairs*. Retrieved from belfercenter.org
- **Blockchain.** This white paper, completed for the International City/County Management Association (ICMA) and Government Finance Officers Association (GFOA), examines for the public sector various opportunities around blockchain, an encrypted and distributed ledger. There are some case studies which help illustrate the potential use cases. Hamill, J. & Bricken, H. (2018, November 1) Blockchain Technology: Local Government Applications and Challenges. *ICMA*. Retrieved from: icma.org

- **Artificial Intelligence.** This article defines how artificial intelligence (AI) works and its potential to scale. The authors argue that with the advent of AI in business and to fully capture its potential, leaders must look beyond their company resources to create a flow of data across networks. Additionally, AI will likely disrupt the job market and further challenge industry to adapt. This article provides an interesting -- albeit somewhat technical -- look at the influence this technology may have on the future of our economy and public institutions. Iansiti, M. & Lakhani, K. R. (2020, January-February) Competing in the Age of AI. *Harvard Business Review*. Retrieved from: hbr.org.

Lesson 11: Organizational culture/leadership/management strategies

November 17th

Learning objectives:

- Evaluate the importance of organizational culture to effectively advance data reform and innovation.
- Describe organizational culture characteristics and various organizational styles.
- Evaluate strategies for organizational transformation and the leadership traits needed to advance such transformations.

Reading:

- **Leading Public Sector Innovation.** This chapter from Christian Bason's book describes key characteristics of organizational change and leadership. Bason careful distinctions between leaders and managers and lays out a helpful typology of administrators: visionaries, enablers and 360 degree innovators; and how they must all work in concert to meet organizational goals. Christian Bason. *Leading Public Sector Innovation: Co-creating for a Better Society*. Policy Press, University of Bristol. 2010. Chapter 11.
- **The Leader's Guide to Corporate Culture: How to Manage the Eight Critical Elements of Organizational Life.** This article is an excellent overview of organizational culture. It is based on a comprehensive review of the literature; provides razor sharp definition of culture and offers a clarification and distinction between 'strategy' and 'culture' and describes how the two are linked; succinctly presents cultural attributes and at the end offers suggestions for transforming culture. It also provides a summary of eight cultural styles that are more helpful for describing private sector companies, but still helpful to review. Groysberg, B, Lee, J., Price, J., & Cheng, J. Y. (2018, January-February) The Leader's Guide to Corporate Culture. *Harvard Business Review*. Retrieved from: <https://hbr.org/2018/01/the-culture-factor#:~:text=The%20Leader's%20Guide%20to%20Corporate%20Culture&text=Strategy%20of%20a%20formal%20logic,collective%20action%20and%20decision%20making>.
- **Delivering For Citizens: How to Triple the Success Rate of Government Transformations.** This McKinsey report is one of the very few documents assessing public sector organizational culture. It uses a review of 80 attempts at public sector transformation around the world to provide compelling reasons for addressing culture and a sense of how hard it is to advance meaningful change. It also provides a very helpful catalog of strategies. There is a lot here, but it is worth a careful read. Allas, T., Checinski, M., Dillon, R., Dobbs, R., Hieronimus, S., & Singh, N. (2018, May 31) Delivering for Citizens: How to Triple the Success Rate of Government Transformations. McKinsey & Company. Retrieved from: <https://www.mckinsey.com/industries/public-sector/our-insights/delivering-for-citizens-how-to-triple-the-success-rate-of-government-transformations#>

- **Instruction to Deliver.** The previous readings have discussed how difficult organizational change is when advancing innovation practice; and the tremendous courage leaders need when doing so. These book chapters provide an up close look at what exactly such leadership looks like. You may skim the first chapter but read the second one and note the strategies Barber uses; both in one-on-one interactions and in larger group settings. Michael Barber, *Instruction to Deliver*, Methuen Publishing, 2008, Chapter 1 and 2.

Lesson 12:

November 24, 2020

No class. Open office hours and time to work on final projects.

Lesson 13: Open workshop

December 1, 2020

Workshop final project and presentations.

Lesson 14: Final class and final presentations

December 8