TOWN +GOWN: NYC

Roadmap: Making Generalized Research Actionable at the Local Level

Introduction. If, in the course of pure or applied science-based research, a researcher intends research results to be usable or actionable by practitioners within local government as a basis for public policy development, the researcher should understand the locality at a level similar to that of the practitioners he hopes his work will support and/or influence. This is not to say that the purpose of, or motivation for, science-based research is to be relevant to policy development and actual practice. If, however, the researcher aims at some level of practical relevance, the researcher needs to understand the practitioner's operational constraints and what the practitioner deems relevant in practice,[1] which would enrich the pure or applied science-base research.

Practitioners need to be able to translate generalized research into internal program and policy development and external communication for "the social, business, and political cases that get made in support of, or in opposition to, particular" infrastructure and program changes and resulting investments.[2] For generalized research intending to influence implementation at the local governmental level, which will require changes to programs or infrastructure systems that will be planned in budgets and finance processes, it would help researchers to understand basic elements of public operations, budget and finance. Researchers who are able to "go native" and understand how practitioners work in the complex system that includes "elected officials, who are politicians, and public servants, who form the bureaucracy, who respond to the public—private sector businesses and individual people who make up society" would be better placed to see their work implemented in the real world.[3]

Local Government in the U.S. Federal Context. Unlocking the potential for municipal innovation based on generalized research requires researchers to understand that local governments do not do everything and what they do can vary across local governments within a state.

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[1] Tabory, Samuel, Terri Matthews, Richard Feiock and Anu Ramaswami, "What Cities Want to Know: A Practitioner-Derived Research Agenda for Sustainable Urban Infrastructure Transitions" (unpublished paper conducted through Sustainable Healthy Cities sustainable research network supported by the U.S. National Science Foundation's Sustainability Research Network program, award No.14447450). Tabory, Samuel, and Anu Ramaswami, "Considering the role of urban types in coproduced policy guidance for sustainability transitions," *Urban Transformations* (2020) 2:8.

[2] See Tabory et al.

[3] Han Admiraal and Antonia Cornaro, "Engaging Decision Makers for an Urban Future," Tunnelling and Underground Space Technology, 55 (2016) 221-223.

Researchers could benefit from understanding the local government as a legal jurisdiction and its capacity to act.[4] There are three levels of government in the United States (US)—federal, state and local government, each with an executive branch, with administrative powers, and a legislative branch, with the power to enact laws. In the US, local government is the lowest level of government and there are many varieties of local government entities, such as towns, cities and counties. State legislatures create local government entities and grant them specific powers that serve as constraints on their capacity to act. In addition, some federal laws will further constrain both state and local governments and to the extent federal and state levels of government fund local government activities, federal and state subsidy levels and requirements may also operate as constraints.

Going Local the NYC Context. Modern NYC is the result of a consolidation in 1898,[5] which means that NYC functions as a city, with traditional city functions, such as fire, police and sanitation, and as five counties, with functions typically performed elsewhere in the State by county-level governments, such as federal-funded social service districts and state-funded criminal and civil courts and related criminal justice facilities. NYC agency websites are a good first window into the agency or agencies you think may be responsible for issues related to your research. Reviewing likely agency websites may lead to additional agencies with some responsibility for your issue. See https://www1.nyc.gov/nyc-resources/agencies.page.

Despite the wealth of information on agencies websites, this information does not fully describe the legal capacity and limits on their ability to act, so the next step would be to review the sections of the City Charter, starting with the relevant agencies and following all cross references to give you the full picture. See https://www1.nyc.gov/nyc-resources/agencies.page, which also includes the Administrative Code and Rules promulgated by the agencies. Any gaps you may notice are likely filled by researching the relevant state agencies that regulate and/or fund the local agencies. You may find, in the end, that your research is more appropriately targeted to practitioners at the state government level. To round out your understanding of the relevant agencies and to provide the foundation for the financial issues facing them that impact operations, the New York City Independent Budget Office (NYC IBO) has a wealth of materials on the agencies and their programs at https://www.ibo.nyc.ny.us/.

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[4] Stephen Hammer, "Capacity to Act: The Critical Determinant of Local Energy Planning and Program Implementation," Working Paper, Columbia University Center for Energy, Marine Transportation and Public Policy. Presented at the World Bank's 5th Urban Research Symposium (Cities and Climate Change), Marseilles, France, June 28-30, 2009, p. 1. See also Hafedh Chourabi, Taewoo Nam, Shawn Walker, J. Ramon Gil-Garcia, Sehl Mellouli, Karine Nahon, Theresa Pardo and Hans Jochen Scholl, "Understanding Smart Cities: An Integrative Framework", *2012 45th Hawaii International Conference on System Sciences*, pp. 2291-2294.

[5] Jackson, consolidation entry, David C. Hammack, pp. 277-278.

NYC financing activities are governed by State law. NYC has two credits—general obligation and the Transitional Finance Authority—and NYC's water and sewer systems are financed through the NYC Municipal Water Authority. As major public bond issuers, NYC and its affiliated credits must publicly file official statements for each bond issue with the Municipal Securities Rulemaking Board at https://emma.msrb.org/. NYC's official statements contain a wealth of information about how NYC works, in addition to specific information about the debt offering, typically in the appendices, but it is always good to skim the official statement body for legal and financial constraints and references to relevant state agencies with a role in your research issue.

NYC's Budget Process. Understanding the budget process is the best way for researchers to get a sense of real constraints facing agencies as they seek operational and policy change. Government operations and programs are generally authorized in an expense budget and funded with annual operating expense monies, while infrastructure is generally authorized in a capital budget and financed with debt. It would be helpful to review the Charter for the budget process at https://codelibrary.amlegal.com/codes/newyorkcity/latest/NYCcharter/0-0-0-1 and treat this document, from a research perspective, as an original source document. The NYC IBO also publishes an easy-to-understand version of the budget process at understandingthebudget.pdf (nyc.ny.us) that would help with review of the source document. This review not only develops understanding of agencies' financial constraints but also develops understanding of agencies' political constraints—the public budget process is as much a political process and a technical process. If the research involves changes to infrastructure, this precis at https://www1.nyc.gov/assets/ddc/downloads/town-and-gown/05-29-30-19-Precis.FINAL.pdf goes through the Charter and other related base documents for construction budgeting and finance as well as procurement issues.

*Community Focus in Research***.** It is now common for research grants to include a focus on "the community" and how the research is based on community needs and addresses them. Some grants require some level of participatory research with practitioners and communities as well. The community is rarely defined and can easily include small neighborhood-based groups or specific issue-oriented groups that pack a great deal of "noise" intended to affect public processes. Researchers could, however, focus on official "communities" with roles and powers in the local government processes to effect knowledge transfer from smaller geographical areas up to the city-wide processes.

In NYC, the Charter defines official roles for the Community Boards in citywide planning and budget processes. The Community Boards are the smallest level of government (they are

actually agencies) where members of the "community" can officially influence city-wide planning and budgeting activities. The community boards perform a version of Jane Jacobs' locality coordination function—it Is not perfect, but NYC is a big city with big needs. While the City Council engages in participatory budgeting, which is a recent and popular phenomenon, participatory budgeting in practice is a way to help Council members decide how to "spend" their discretionary funding amounts. NYC and its agencies must act for the City as a whole within the array of constraints identified through capacity to act analysis above. Micro-level "communities" outside the official Community Board process cannot realistically expect their micro-community interests to influence the city-wide decision making. Researchers who understand the official "community" role in city-wide processes can focus on efficient and effective neighborhood placed-based knowledge transfer in the context of their research.

Infrastructural Considerations. For science-based research to become more implementable than not requires understanding of the "actor" for implementation from legal capacity and finance perspectives, based on the theory that one can't have something if one can't figure out how to pay for it. Even research focused on programs must eventually, however, deal with physical artifacts because government performs functions and deliver services through physical artifacts—programs are not metaphysical. Thus, a systems approach is another important consideration to action research. Various disciplines and policies (e.g., mobility, environmental sustainability and resiliency, public health) are operationalized through built environment systems, some of which may be the responsibility of local government but others of which may be the responsibility of other levels of government.

In all built environment systems, especially publicly funded systems, finance issues a direct impact on system performance and research-based changes. Public built environment (PBE) systems at the local government level initially reflected local governments' "police" powers, as expanded over time to include public economic theory and mandates from the state level of government. In NYC, local police powers led to PBE systems that include:

- Local roads and bridges (local tax supported with federal and state grants)
- Water resource facilities, wastewater treatment facilities[6] and related transmission facilities (NYC Water Authority/Board with federal and state grants)

[6] In New York City, these are local government responsibilities; elsewhere they can be regional responsibilities

- Facilities where local services, such as police, fire, sanitation, public health, education, cultural[7] and social services, are delivered (local tax supported with federal and state funding and grants)

PBE systems at the New York metropolitan area level include:

- Public transit system
    - Buses and subways subsystems (MTA)
    - Commuter railroads (MTA)
    - Bridges and tunnels (TBTA and PANYNJ)
- Public housing (NYCHA with federal, state and local funding; initial historical city origin)
- Air travel system (PANYNJ)

Local and state governments often create off-budget entities (also known as authorities) to finance and/or operate a PBE system. Creation of authorities to operate and finance a PBE system is consistent with public economic theory when the assets and related user fees follow the utility finance model.

Conclusion. Understanding a practitioner entity's ability to implement research results will enrich pure and applied science research but requires some research effort to stand in their shoes and understand their specific powers and constraints. The material above provides a roadmap for researchers to gain understanding of local government actor constraints so that research results reflect some reality to the extent that the researcher desires future implementation. This roadmap treats capacity to act—or implement research findings—as a part of the research. This understanding may focus the researcher on the local government or higher levels of government with greater capacity to act. It may also add areas for future research.

[7] New York City owns a number of cultural facilities, such as the Metropolitan Museum of Art, the Natural History Museum, which are operated by private entities. New York City, unlike other cities, does not own or operate the public libraries, which are three separate privately owned systems with a long-standing public funding agreement.