

# A Civic Research Initiative to Transform State and Local Government

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## Summary

State and local governments are not taking full advantage of data and technology innovation that could help them address key priorities such as delivery of local public services, management and design of the built environment, and fulfillment of climate goals. Supporting innovation across these domains is difficult for state and local governments due to limited technical staff, procurement challenges, and poor incentives and mechanisms to develop and scale creative solutions.

Civic research is a collaborative process for addressing public priorities and improving communities by connecting technical experts to policymakers and civic partners, creating a platform for evidence-based, research-informed action. This process relies on partnerships among universities, state and local agencies, and community organizations, and has proven successful in communities nationwide. The promise of civic research has also inspired emergent research-funding programs at the National Science Foundation (NSF), such as the “Smart and Connected Communities (S&CC)” program.

This paper recommends seven actions the next administration can take to advance civic research nationwide. Several of these recommendations—including establishing a U.S. Civic Research Lab and creating a new program to encourage federal and local partnerships to fund civic research—focus on creating new mechanisms to support civic-research activities. Others—including developing a national civic-research agenda and coordinating federal efforts to embed research and innovation into existing grant programs—would focus on better organizing the civic-research ecosystem. By supporting civic research, the federal government will:

- Create an ecosystem of public-sector technologies, social enterprises, and companies poised to improve state and local government activities and services at scale.
- Develop a multidisciplinary, public-sector workforce pipeline committed to tackling pressing priorities facing state and local governments.
- Develop a new academic field around applied, cross-disciplinary research on high-priority civic issues in partnership with state and local governments.
- Foster economic growth distributed across the country.
- Build data and technology capacity among residents of diverse communities.

## 1. Challenge

There are four primary challenges associated with advancing research and innovation at the state and local levels.

### 1.1 Limited R&D investment for state and local issues

Despite constituting a sizable portion of the U.S. economy and workforce,<sup>1,2</sup> state and local governments make limited investments into Research and Development (R&D). In fiscal year (FY) 2017, state governments invested a total of \$2.5 billion<sup>3</sup> on R&D (0.1% of total state expenditures).<sup>4</sup> R&D investments by local governments are not tracked at a national-level, but are rare expenditures. By comparison, R&D investments by the federal government totaled \$136 billion in FY 2018<sup>5</sup> (3.4% of federal expenditures).<sup>6</sup> R&D investments by U.S. businesses (*i.e.*, the private sector) totaled \$375 billion<sup>7</sup> in 2016 (2.1% of sales).<sup>8</sup>

The gap separating state and local R&D investments from federal and private-sector R&D investments is unsurprising. State and local governments, unlike federal and private-sector counterparts, do not typically maintain in-house R&D teams and are not guided by national R&D priorities or motivated by commercial opportunities. The gap is also problematic. While a small fraction of federal and private-sector R&D investment does flow to state and local entities, partners, and priority areas, there remains a major shortfall in R&D investment for issues that fall primarily under state and local jurisdiction. There is an unrealized opportunity to extend the benefits of R&D investment (*e.g.*, increased labor productivity and economic growth) to state and local priorities.

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<sup>1</sup> U.S. state and local governments account for nearly \$3 trillion in annual expenditures and investments. Source: U.S. Bureau of Economic Analysis, "State and Local Government Current Expenditures [SLEXPND]", FRED, Federal Reserve Bank of St. Louis, n.d., <https://fred.stlouisfed.org/series/SLEXPND>.

<sup>2</sup> U.S. Bureau of Economic Analysis, "Full-time equivalent employees: State and local government [A4382COA173NBEA]", FRED, Federal Reserve Bank of St. Louis, n.d., <https://fred.stlouisfed.org/series/A4382COA173NBEA>.

<sup>3</sup> National Center for Science and Engineering Statistics, "Table 8. State R&D expenditures, by state and function of R&D: FY 2017 (Dollars)", *Survey of State Government Research and Development: Fiscal Year 2017*, Directorate for Social, Behavioral and Economic Sciences, National Science Foundation.

<sup>4</sup> \$1.9 trillion in state spending in FY 2017. Source: Kaiser Family Foundation, "State Health Facts: Total State Expenditures (in millions)", <https://www.kff.org/other/state-indicator/total-state-spending/?currentTimeframe=0&sortModel=%7B%22colld%22:%22Location%22,%22sort%22:%22asc%22%7D>.

<sup>5</sup> The White House, "Chapter 21: Research and Development", *A Budget for a Better America: Analytical Perspectives*, U.S. Government Publishing Office: Washington, DC (2019).

<sup>6</sup> Congressional Budget Office, "Monthly Budget Review: Summary for Fiscal Year 2018", November 7, 2018, <https://www.cbo.gov/system/files/2018-11/54647-MBR.pdf>.

<sup>7</sup> Of the \$375 billion, 85% came from companies' own sources and 6% came from federal sources. Source: National Science Foundation, "Businesses spent \$375 billion on R&D performance in US in 2016", News Release 18-093, October 12, 2018, [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=296760&org=NSF&from=news](https://www.nsf.gov/news/news_summ.jsp?cntn_id=296760&org=NSF&from=news).

<sup>8</sup> U.S. Census Bureau, "Total Business Sales [TOTBUSSMSA]", FRED, Federal Reserve Bank of St. Louis, n.d., <https://fred.stlouisfed.org/series/TOTBUSSMSA>.

### 1.2 *Limited state and local staffing and technical expertise*

State and local governments lack the staffing and technical expertise needed to fully take on government innovation activities. There are many “low-hanging” government innovations that could be adopted if state and local governments had sufficient technical capacity. Upskilling state and local government workforces is challenged by systemic obstacles such as lower employee compensation, rigid and siloed bureaucracies, and limited budgets for data, technology, and innovation teams. An aging public workforce<sup>9</sup> creates a need to engage a new generation interested in public service. Civic-research partnerships, through applied research, student education, and public workforce training, offer a compelling mechanism to bring technical skills and expertise to public agencies—essentially, to carry out a version of tech transfer for the public sector.

### 1.3 *Public reluctance to embrace new technologies*

People around the world are increasingly skeptical about the role of technology in their lives. Concerns range from the government’s use of algorithms<sup>10</sup> (which can consider factors like race and criminal record) to deliver social services to the power of video analytics coupled with a proliferation of cameras in public spaces.<sup>11</sup> By using academic institutions as data brokers, lending socio-technical expertise to governments, and fostering meaningful civic participation among relevant communities, civic-research partnerships can enable safe, responsible, and inclusive approaches to the use of new technologies in the public sector. Research institutions can also play a critical role in educating residents about the benefits and drawbacks of emerging technologies.

### 1.4 *Concentration of talent and resources*

Economic growth is increasingly concentrated in large urban markets, leaving many states and communities behind. There is a need for distributed innovation ecosystems—whether embedded in the public, non-profit, or private sectors—that improve quality of life and create opportunities for Americans in all regions. A potential way of creating high-skilled jobs and economic opportunity in underserved regions can involve upskilling their local government and non-profit sectors by harnessing academic institutions (research universities, community colleges, and technical schools) to undertake civic research, train students for careers in local public and non-profit sectors, and partner with government agencies to improve their technical capacity. This approach leverages communities’ academic anchor institutions to drive innovation, especially in the absence

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<sup>9</sup> Bureau of Labor Statistics, “Labor Force Statistics from the Current Population Survey”, January 18, 2019, <https://www.bls.gov/cps/cpsaat18b.htm>.

<sup>10</sup> Reisman, Dillon, et al. “Algorithms Are Making Government Decisions. The Public Needs to Have a Say”, American Civil Liberties Union (April 2018).

<sup>11</sup> Ángel Díaz, “New York City Police Department Surveillance Technology”, Brennan Center for Justice, New York University School of Law (October 2019).

of strong private sector economic opportunity. This opportunity reflects a broader trend in which innovation ecosystems are extending their focus from competitiveness to include environmental and social innovation.<sup>12</sup>

## 2. Opportunity

A growing community of universities and state and local governments have institutionalized civic-research partnerships focused on public-sector and community priorities. Such partnerships are compelling mechanisms to quickly target and deploy research on high-need priorities that manifest at the state and local level. Civic research is attractive to faculty and students, providing real-world “living lab” experiences and enabling rich exploration of social and technical sciences. Civic research also brings much-needed technical expertise to state and local governments, sparking digital and technological transformation and supporting evidence-based, research-informed policy. Some examples of impactful projects emerging from civic research include:

- The City of Austin partners with the University of Texas on using computer vision and machine learning to identify areas in the built environment that are unsafe to drivers, cyclists, and pedestrians, facilitating site-specific interventions to improve safety.<sup>13</sup>
- The Boston Public Schools collaborated with the Boston Area Research Initiative, a multi-university consortium, to create an Opportunity Index, which captures metrics for each student that typical education statistics might miss. The Boston Public Schools use the Opportunity Index to direct extracurricular program funding to schools with the most need.<sup>14</sup>
- The City of Miami engaged with the University of Miami to develop a data-driven mapping platform that visualizes the distribution of Miami’s underused properties. This platform is used to identify potential development opportunities for affordable housing.<sup>15</sup>
- The City of Pittsburgh partnered with Carnegie Mellon University to pilot technologies that use video analytics to assess infrastructure conditions.<sup>16</sup> The

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<sup>12</sup> Sybille Reichert, *The Role of Universities in Regional Innovation Ecosystems*, European University Association (March 2019).

<sup>13</sup> Dubrow, Aaron. “Artificial Intelligence and Supercomputers to Help Alleviate Urban Traffic Problems”, Texas Advanced Computing Center, December 11, 2017, <https://www.tacc.utexas.edu/-/artificial-intelligence-and-supercomputers-to-help-alleviate-urban-traffic-problems>.

<sup>14</sup> “The Opportunity Index.” Boston Public Schools, February 2019, [https://www.bostonpublicschools.org/cms/lib/MA01906464/Centricity/Domain/2301/Opportunity\\_Index\\_overview\\_fact\\_sheet\\_2.1.19.pdf](https://www.bostonpublicschools.org/cms/lib/MA01906464/Centricity/Domain/2301/Opportunity_Index_overview_fact_sheet_2.1.19.pdf).

<sup>15</sup> Office of Civic and Community Engagement, “Miami Housing Solutions Lab”, University of Miami, n.d., <http://cdn.miami.edu/wda/cce/Documents/Miami-Housing-Solutions-Lab/index.html>.

<sup>16</sup> RoadBotics, “RoadBotics Raises \$7.5M in Series A Funding led by AI-focused Radical Ventures”, July 16, 2019, <https://www.roadbotics.com/2019/07/16/roadbotics-raises-7-5m-in-series-a-funding-round-led-by-ai-focused-radical-ventures/>.

partnership also piloted the use of video analytics and machine learning to create dynamic traffic signals<sup>17</sup>. Both have been successfully commercialized.

- The San Diego County Fire Authority partners with the University of California, San Diego to use networked camera systems in rural areas and video analytics to detect and respond to wildfires.<sup>18</sup>
- Washtenaw County, Michigan collaborates with the University of Michigan to use sensors and real-time controls to shrink the size of stormwater infrastructure needed to reduce flooding and pollution.<sup>19</sup>

These are just some of the possibilities. Expanding civic research nationwide would catalyze digital and technological transformation throughout state and local governments. By leveraging new technologies, insights, and approaches, civic research could help state and local governments make progress in areas such as:

- Addressing the \$700 billion gap in public-infrastructure investment<sup>20</sup> by harnessing tools and technologies such as autonomous vehicles, shared mobility, vehicle electrification, sensors, video analytics, and artificial intelligence.
- Developing mobility, planning, and housing solutions that reduce transportation and buildings emissions.
- Addressing place-based drivers of health inequality such as substandard housing, limited transportation options, and environmental degradation.
- Developing best practices and deploying solutions in civic data sharing, data integration, and privacy that enable efficient service delivery across multiple levels and departments of government.

A few federal funding programs—such as NSF’s S&CC program (\$43 million in FY 2019) and the DOT’s University Transportation Centers (\$75 million in FY 2018)—offer critical resources to support civic R&D. In addition, the 2015 White House Smart Cities Initiative led to a number of agency actions and outside-convened efforts that advanced smart-cities activities, including the DOT Smart Cities Challenge and the launch of MetroLab

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<sup>17</sup> Office of the Assistant Secretary for Research and Technology, “Surtrac for the People: Upgrading the Surtrac Pittsburgh Deployment to Incorporate Pedestrian Friendly Extensions and Remote Monitoring Advances,” U.S. Department of Transportation (November 2018).

<sup>18</sup> Rachel Hommel, “Fighting Wildfires with Web Based Imagery”, School of Global Policy & Strategy, UC San Diego, December 18, 2017, <https://gps.ucsd.edu/news-events/news/fighting-wildfires-with-web-based-imagery.html>.

<sup>19</sup> Urban Collaboratory, “Real-Time Watershed Control”, University of Michigan, n.d., <https://www.urbanlab.umich.edu/project/real-time-watershed-control/>.

<sup>20</sup> Business Roundtable, *Delivering for America: The macroeconomic impacts of reinvesting in America’s infrastructure systems* (January 2019).

Network, a peer network of partnerships between local governments and universities. Yet federal programs that support applied research conducted in close partnership with states and local governments remain a tiny fraction of the R&D budgets of federal departments and agencies that share priorities with state and local governments, including NSF, DOE, DOT, and the EPA.<sup>21</sup> Civic-research projects are usually pulled together on an ad-hoc basis through a mix of government and philanthropic funding (often with imbalanced funding for either research or deployment) and take time to generate buy-in from the various agencies, stakeholders, and community groups involved. The time is ripe to deepen investment in civic research—to accelerate the number and increase the impact of R&D efforts conducted jointly by universities and state and local governments.

### 3. Proposed action

State and local entities must lead when it comes to embracing data, technology, and innovation and tailoring civic-research efforts to state and local priorities. The federal government can help by equipping state and local governments with the resources and expertise necessary to do so. A federal commitment to civic research is not only about increasing investment (though that is an important factor). Other elements include increasing coordination between federal departments and agencies, using federal convening power to connect stakeholders, and building partnerships with philanthropies and nonprofits to advance civic-research efforts.

This paper recommends eight actions the next administration can take to advance civic research. In brief, these are:

- (1) Create the U.S. Civic Research Lab, a distributed national lab focused on civic research.
- (2) Create a “Morrill Act 2.0” focused on emerging technologies and their intersection with civic life.
- (3) Establish mechanisms to set aside funding for civic research and innovation within existing infrastructure and service grant programs.
- (4) Create a new NSF program, the Community-University Civic Research Centers (CUCRC).
- (5) Define and support civic research at federal agencies.
- (6) Provide civic-research learning and training opportunities.
- (7) Develop a U.S. Civic Research Agenda.

More detail on each of these actions is provided below.

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<sup>21</sup> John F. Sargent Jr., *Federal Research and Development (R&D) Funding: FY2019*, Congressional Research Service (October 2018).

### 3.1 Actions that require legislation

#### Create the U.S. Civic Research Lab, a distributed national lab focused on civic research

Civic research lacks institutional support, challenging efforts to build cross-disciplinary teams that can partner with states and local governments to help drive data and technology transformation and discovery. There is a need for place-based institutions that can serve as hubs for civic-research activity in cities and regions. The federal government should create a U.S. Civic Research Lab, a distributed set of institutions inspired by the Department of Energy's national laboratories.

The U.S. Civic Research Lab would support 40 to 50 cross-disciplinary centers at academic institutions across the country that partner with state and local governments in their region to undertake use-inspired and applied research on priority issues in cities and regions. Each center would receive \$2–3 million annually for five years, money that would support operational costs, research funding, and seed funding for commercializing products or pursuing social enterprises that emerge from the centers. During this five-year startup period, centers would develop action plans for achieving financial sustainability through multi-sectoral partnerships, grants, and other funding sources. Center members would meet twice yearly to share best practices, identify opportunities for collaborative research, and institutionalize student education and training programs in the civic research domain.

The mission of the Lab would be to research, deploy, and scale approaches that address public-sector and community priorities. The Lab would also train students to pursue careers working with data and technology for state and local governments. The Lab could be housed at NSF or could be managed by an interagency governing body comprised of representatives of mission agencies with civic-research equities. To ensure the U.S. Civic Research Lab supports work across disciplines and civic functions, The Lab should not be housed within a single mission agency. Elements of the Lab could be modeled on the networks of universities and researchers established to foster innovation at USAID<sup>22</sup> and the Department of Homeland Security<sup>23</sup>.

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<sup>22</sup> U.S. Agency for International Development, "Higher Education Solutions Network (HESN)," November 29, 2018, <https://www.usaid.gov/hesn>.

<sup>23</sup> Office of University Programs, "Welcome to the Centers of Excellence," Office of Innovation and Collaboration, Science and Technology Directorate, U.S. Department of Homeland Security, n.d., <https://www.dhs.gov/science-and-technology/centers-excellence>.



Create a “Morrill Act 2.0” focused on emerging technologies and their intersection with civic life

The Morrill Acts of 1862 and 1890 supported the creation of land-grant universities that trained people in agricultural and mechanical sciences, building skills for the prevailing economies of that era. To advance the country’s ability to succeed in the modern economy, the next president should consider adopting Rep. Ro Khanna’s (D-CA) proposal for a 21<sup>st</sup>-century Morrill Act.<sup>24</sup> Rep. Khanna’s proposal calls for the establishment of a federal grant program at the Department of Commerce that would provide \$50–\$100 million each to 50 two- and four-year universities and colleges “in rural and urban areas that have been left behind by the digital divide.” This “Morrill Act 2.0” would place technology institutions in rural and middle America to develop the workforce and drive economic opportunity.

To most effectively foster place-based social and economic impact, these institutions must find ways to leverage new technologies locally. The public and social sectors are well placed to harness the research and skilled workforces that would emerge from such institutions, providing outlets for graduates to apply their skills locally. This is especially true in post-industrial and rural communities with lower population and economic growth. Upskilling government and non-profit sectors in these regions will create high-skilled local job opportunities while also improving local services, health, and education. Examples of potential opportunities include training students for public sector careers in technical fields, harnessing emerging industrial transformations like autonomous vehicles to address issues like mobility and freight, or artificial intelligence and machine learning to address priorities in the water-energy-agriculture nexus). These approaches would be most effective if paired with new or existing programs that support public service, including Teach for America, Code for America, and AmeriCorps.

### 3.2 *Actions that require agency action or interagency coordination*

Establish mechanisms to set aside funding for civic research and innovation within existing infrastructure and service grant programs

The federal government has numerous programs that fund infrastructure development and numerous programs that fund delivery of civic services. Yet few of these programs explicitly consider data and technology transformations possible in those sectors. The next president should work with federal agencies to establish mechanisms for setting aside funding for civic research and innovation within existing grant programs. These

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<sup>24</sup> Lauren Gambino, “Silicon Valley Democrat channels Lincoln for tech-to-Trump-country Bill,” *The Guardian*, November 11, 2018, <https://www.theguardian.com/technology/2018/nov/10/ro-khanna-silicon-valley-tech-rural-america-bill-lincoln>.

set-asides<sup>25</sup> would fund state and local governments and agencies to partner with researchers on projects concurrent to federal grant projects. These set-asides would support novel, evidence-based practices that improve service delivery as well as development and piloting of new technologies that operate in the built and natural environments. For example, a transportation grant program could include a research funding allocation to support concurrent research projects that test various permeable pavement technologies to limit stormwater runoff, or test roadway design to limit crashes and near-miss events for vehicles, pedestrians, and cyclists. This mechanism would offer researchers access to rich laboratories for research and innovation in high priority domains for state and local government.

Options for establishing this practice may or may not include new funding at agencies that have both grantmaking and research functions, like the Department of Transportation (DOT) and the Department of Energy (DOE). It could also marry domain-focused resources for example in health, from research agencies like the National Institutes of Health to programs at The Centers for Medicare and Medicaid Services.

*Create a new Community-University Civic Research Centers (CUCRC) program at NSF*

Those undertaking civic research often rely on federal funding. It would be beneficial to nudge state and local governments toward funding civic research as well. The National Science Foundation should create a new program—the Community-University Civic Research Centers (CUCRC)—modeled after the Industry-University Cooperative Research Centers (IUCRC) program that develops long-term partnerships between academia and industry. The IUCRC program seeks to leverage federal seed funding to create long-term research efforts that offer value to industry. The program funds partnerships for up to three five-year phases at between approximately \$200,000 and \$1.25 million per phase, with an industry partner offering matching funds. 80% of IUCRC partnerships continue on after IUCRC grants end. The CUCRC would utilize a similar model, with three potential structures.

One structure would ask universities to identify a civic entity—a state government, local government, or community foundation—as the CUCRC funding partner. The resultant university-civic partnership would target a local priority that is of interest to the community and offers a platform for scientific discovery. The second structure would include industry partners on CUCRCs on topics that are of mutual interest to industry and communities. One example is street-curb management. Universities could work with

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<sup>25</sup> A set-aside is a federal funding mechanism targeting a specific objective (e.g., a percentage of some federal contracts are awarded to small, disadvantaged businesses, among other categories). This use would make funds available for research and innovation alongside grants for project implementation, like a transit or affordable housing project.

freight companies, mobility providers, parking authorities, and business districts to gather data on street-curb use and use data-driven insights to manage curb space more effectively and productively. In the second structure, CUCRC match funding could come from industry rather than civic partners. The third structure would be a hybrid of the first two, sourcing CUCRC match funding from both civic entities and industry partners.

The CUCRC program would be designed to incentivize organizations that have historically not supported civic research to invest in the domain. To start, we recommend establishing the program to fund 10 new centers annually at \$500,000 per center per year over five years.

#### *Define and support civic research at federal agencies*

Federal agencies including NSF, DOT, DOE, and the Department of Homeland Security (DHS) house programs that support various types of civic research. Each agency's programs function differently and have somewhat different constituencies. We recommend establishing a U.S. Civic Research Council (USCRC) that works across agencies to establish common definitions and priorities for civic research. The USCRC would identify key-civic research priorities, set expectations for state or local government involvement, and issue guidelines for civic-research efforts (e.g., how to ensure an appropriate mix of technical and social scientists on a given project). Benefits of the USCRC would include (1) helping civic research emerge as a more widely recognized and established academic field, and (2) allowing agencies to find areas of common interest, share project proposals, partner on programs and solicitations, and avoid redundant efforts.

The USCRC would be comprised of representatives from relevant federal agencies and managed by a credible, agency-agnostic entity such as the White House Office of Science and Technology Policy (OSTP). The U.S. Civic Research Council could also include liaisons from key non-federal entities, including national philanthropies (e.g., Bloomberg Philanthropies, Knight Foundation, Rockefeller Foundation) and nonprofits (e.g., Code for America) that work on civic innovation activities. Representatives of the USCRC would meet quarterly and publish an annual report summarizing progress on civic research and outlining steps needed to continue catalyzing the growth of civic research nationwide.

### 3.3 Actions that rely on federal convening power and leadership

#### Provide civic-research learning opportunities

Advancing civic research requires public officials and the community at large to be knowledgeable about emerging data and technology issues. Universities—and the civic-research infrastructure they create—can provide the public sector and the public with opportunities to acquire and enhance skills in areas like cyber management and data analytics. This in turn will help public sector serve as an effective, responsible partner on and procurer of data and technology tools and approaches. Furthermore, improving public understanding of topics such as civic-data biases and data and technology privacy will ensure that the public is informed to provide meaningful oversight of elected officials on socio-technical issues.

One compelling model for civic-research learning is inspired by the legal aid clinics that use grant funds and/or volunteer time donated by law students and lawyers to offer free legal services to people in need. Similarly, universities could create “data clinics” for public-sector partners. Government officials could use such clinics to get answers to questions about data use, data sharing, and data ethics, as well as to be connected with students and professionals trained to work with public-sector audiences on data and technology issues. These efforts could be extended to provide more routine training for public officials, similar to efforts already underway through programs like the Center for Government Excellence at Johns Hopkins, as part of Bloomberg Philanthropies’ What Works Cities Initiative. These clinics could also be opened to members of the public and to representatives of nonprofits who advocate for public priorities (e.g., safe transportation). Data clinics would generate public value in and of themselves while also sparking relationships and ideas likely to lead to new civic-research projects. Data clinics would be fairly inexpensive to develop and wouldn’t necessarily require federal funding. The next administration could, though, apply its convening power to spark and spread clinic formation.

#### Develop a U.S. Civic Research Agenda

In 2018, the City of Boston released its Civic Research Agenda,<sup>26</sup> the first of its kind among U.S. cities. Boston’s Civic Research Agenda poses civic-research questions informed by expert input, local priorities, and engagement with residents. Examples of questions in the Agenda are: “We currently use Census data to measure transportation-related behavior change. What other measures should we use?”; and “Does an increase in housing supply actually lead to an increase in housing affordability?”

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<sup>26</sup> City of Boston, “Civic Research Agenda,” Spring 2018, <https://www.boston.gov/departments/new-urban-mechanics/civic-research-agenda>.

The next administration should develop a U.S. Civic Research Agenda that would guide federal agencies' research programs, shape the field of civic research, and help states and local governments drive innovation. Agenda development could be led by OSTP or the National Academies, and should engage states and local governments, federal research agencies, academic experts, and relevant nonprofits and coalitions. An alternative approach would involve tasking the President's Council of Advisors on Science and Technology to lead the development of such a report.

#### **4. Implementation**

A comprehensive federal effort to advance civic research would build on two ongoing trends: (1) increased focus on state and local innovation and technology, with an array of peer learning networks, philanthropic grant programs, and new government roles focused on advancing government innovation, and (2) increased focus in academia on "use-inspired" research responsive to real-world priorities. We expect that the recommendations detailed above would have champions from state and local governments and academic institutions nationwide. To ensure broader public support, advocates for civic research will have to meaningfully engage residents to ensure their input is considered in local civic-service projects. Advocates must also communicate with stakeholders about the impacts and benefits of civic research on their lives.

Implementation of the recommendations detailed above should be spearheaded by one or more interagency task forces, OSTP, and relevant Congressional committees. To begin, the next president should convene an interagency working group chaired by the OSTP Director focused on mobilizing civic-research activity and collaboration across the federal government. That group would also convene stakeholders from various sectors for a series of events to gather external input.

#### **5. Metrics**

The overarching goal of the recommendations detailed above is to make state and local governments more data-driven and research-informed, thereby improving public-sector operating efficiency and service delivery. Metrics that can be used to guide and measure success include:

- (1) Number of state and local government approaches that originate in research-civic partnerships and are implemented in other communities. **5-year goal: 25 meaningful policy or technology innovations that scale from one site to at least two other sites.**

- (2) Number of civic-technology companies or social enterprises that emerge from civic-research activities. **5-year goal: 50 new companies and enterprises.**
- (3) Number of institutionalized state/city-university partnerships focused on civic research that are created or grow as a result of civic-research programs. **5-year goal: 25 new state/city-university partnerships.**
- (4) Number of researchers and state and local employees who identify as members of the civic-research field. **5-year goals: 250 faculty who identify as core participants in the field of civic research; 100 state and local employees who work in close collaboration with academic partners.**
- (5) Data and technology literacy of state and local government officials and public. **50 regions where academic institutions or other entities offering training or capacity building to public sector employees and residents on the intersection of data/technology and civic priorities.**

## 6. Conclusion

A deeper commitment to and investment in civic research by the federal government will help accelerate innovation in state and local government. The collective result of the recommendations detailed above will be state and local activities that are more evidence-based and research-informed, thereby leading to more effective policies, better service delivery, and more efficient transportation, water, and energy systems. These improvements will have a range of benefits, including greater social and economic mobility, increased economic development and job creation, and pathways to achieve sustainability goals.

**About the author**

Ben Levine serves as the Executive Director of MetroLab Network, an international network of local governments and universities focused on data-driven policy and technology transformation addressing public sector priorities. Ben serves as Principal Investigator on several philanthropic and National Science Foundation awards, aimed at cultivating an ecosystem of civic research and innovation in cities and communities. Prior to his current role, Ben served as a Policy Advisor at the U.S. Department of the Treasury, where he was responsible for policy development pertaining to state and local government finance, with a particular focus on infrastructure policy. He worked closely with the White House Office of Science and Technology Policy on the organization and launch of MetroLab Network. Prior to his role at Treasury, Ben worked at Morgan Stanley, where he provided investment banking services to state and local government clients. He is a graduate of the Wharton School at the University of Pennsylvania and grew up in Pittsburgh.

**About the Day One Project**

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