Letter from Ben Levine, MetroLab’s Executive Director

Dear MetroLab Network members, supporters, and friends:

Presented here is MetroLab’s 2020 annual report. This past year has been difficult and unusual for everybody, including the local governments and universities involved in MetroLab, who have faced unprecedented challenges as they respond to the COVID-19 pandemic.

It will take years to fully take stock of the crisis and its cascading impacts. It has challenged our governments, our economy, our communities, our families, and ourselves. It has revealed that facts and science are not a universal presupposition and that we must rebuild faith in our institutions and one another. Finally, this past year has reminded us that access to health, justice, and opportunity is uneven, and that we must redouble our commitment to eradicating racial and socioeconomic injustice.

What awaits is a healthier, more engaged, and more harmonious society, but how do we get there? At MetroLab we remain committed to the notion that evidence-based, research-informed government and society unlock the tools to confront crises and to build pathways for future preparedness and social and institutional resilience. We believe that partnership-building locally, including MetroLab’s many local government-university partnerships, strengthens our communities and positions our institutions to be responsive to their needs.

As we emerge from the crisis, we are conscious of how we can be better. That includes commitments to strengthen our role in fighting racial injustice and to better harness the MetroLab community in combating climate change. It also includes reflections about how we can be our most effective -- as local partnerships and as a network -- having learned lessons about collaboration, communication, and purpose during this difficult year. Even amid a challenging backdrop, MetroLab has had many successes this year, including some key highlights:

- Launch of the $11 million Civic Innovation Challenge, a national research and action competition focused on mobility and resilience priorities, supported by the National Science Foundation, U.S. Department of Energy, and U.S. Department of Homeland Security
- Sustained engagement of the civic research community through COVID-19 Programming and MetroLab’s 2020 Virtual Summit, which engaged 500+ people during the spring and fall, exploring topics related to the pandemic response, racial justice, and social resilience
- The launch of the MetroLab Student Cup, highlighting projects from students across MetroLab’s membership, which garnered nearly 50 responses and included live pitch competitions with expert judges
- Initiation of effort to scale the Civic Research Agenda concept, including the convening of a “brain trust” of national partners
- Implementation of the Commitments and Achievements Model, which highlights plans and actions across MetroLab’s membership
- Continued partnership with GovTech in producing the Innovation of the Month, with an emphasis on projects across MetroLab’s membership that address the pandemic and associated impacts

Thank you for your contributions to your communities, your partners, and to MetroLab over this past year. We look forward to a season of hope, renewal, and progress in the coming year.

Ben Levine
About MetroLab Network

MetroLab Network is an international collaborative of 28 cities, 6 counties, and 36 universities focused on civic research and innovation.

- We cultivate **partnerships between universities and local governments** to drive research-informed, evidence-based policy and enable data and technology transformation.

- We foster a **peer network** of stakeholders from academia and local government that constitute an applied, interdisciplinary field of research and practice.

- We connect to an **ecosystem of federal, philanthropic, and civic partners** with a shared interest in the promise of civic research and innovation.

MetroLab was launched jointly by 40 mayors and university leaders as part of the White House Smart Cities Initiative in 2015.
2020 Program Overview

Civic Innovation Challenge
In April 2020, the National Science Foundation, in partnership with the U.S. Department of Energy and U.S. Department of Homeland Security, launched the Civic Innovation Challenge, a national “research & action” competition focused on mobility and resilience. The competition was a culmination of a year-and-a-half of research, scoping, and planning, conducted by MetroLab. It is a preeminent example of how MetroLab’s unique perspective and positioning can enable increased and targeted resources that support the civic research and innovation ecosystem.

The project began in late 2018, when MetroLab was awarded an NSF EAGER grant to scope a competition in the Smart & Connected Communities domain. That year-long effort included an Ideas Competition and Ideas Festival that solicited hundreds of project concepts from communities across the country. Ultimately, two topics proved universally relevant and aligned to priorities across the funding partners, and are detailed below:

1. Offering Better Mobility Options to Solve the Spatial Mismatch Between Housing Affordability and Jobs
2. Equipping Communities for Greater Preparedness and Resilience to Natural Disasters

In late 2019, MetroLab established a cooperative agreement with NSF to support the Civic Innovation Challenge through communications and development and execution of a Community-of-Practice among awardees. The Civic Innovation Challenge launched in April 2020, with an open solicitation period through the summer. MetroLab led a 4-month publicity effort, coordinating webinars reaching 600 individuals, direct outreach to VPs of Research and Civic/Community Engagement from more than 600 colleges and universities across the country, and an email and social media push that reached tens of thousands of stakeholders through dozens of key non-profits and state/local government associations.

The Civic Innovation Challenge received substantial interest from proposers, and after an NSF-led merit review process, 52 teams were awarded Stage 1 grants, representing a substantially increased number of awards from initial plans, due to the strength of proposals.

Starting in 2021, teams began an intense four-month curriculum as part of the Stage 1 Community-of-Practice, in which teams focus on building out their teams, capacity, engagement strategies, data approaches, and more. The activities also include matching national experts with project teams to enhance their efforts. The Stage 1 activities will conclude in May 2021, when teams will submit Stage 2 proposals to NSF. Winning projects will receive $1 million in funding to support project implementation, beginning in fall 2021. Learn more [here](#).
Engaging (Virtually) as a MetroLab Community

The COVID-19 pandemic has forced everybody to engage and organize in virtual and socially-distant ways. For MetroLab -- already a geographically-distributed community -- this experience has been formative, revealing new ways to engage our community outside of in-person events. We do hope that we can once again gather for an in-person Annual Summit, but we are also conscious of the ways that business travel can be taxing on the environment, work schedules, and personal lives. Going forward, we plan to balance the important need to build friendships and community, with the practicalities and efficiency of virtual activities. This year, MetroLab led a programming series in the spring as communities across the country were grappling with new challenges associated with the pandemic. In the fall, we hosted our Annual Summit, spread over two-months, including panels, workshops, a town-hall, a Student Cup (detailed in a subsequent section), and social activities. Highlights from these events are detailed in the graphic below:
MetroLab Student Cup
MetroLab introduced its Student Cup in 2020, which solicited projects from undergraduates and graduate students from its member institutions. The competition received nearly 50 submissions, including both individual projects and team projects. MetroLab conducted a merit-review of the submissions and identified 16 finalists in four categories: COVID-19 response; Environment; Health & Resilience; and Mobility. Expert review panels were assembled and live pitch competitions were included as part of the MetroLab Annual Summit. Finalists received $1k prizes and faced off in a final competition for the grand prize.

The winning project was a team from Rice University that worked with the Harris County Clerk’s office by conducting a set of surveys to best understand voters’ modified voting preferences due to the COVID-19 pandemic. The research was used to secure $12 million in additional funding to implement new voting initiatives and to defend the new initiatives in court. The project was featured as MetroLab’s November Innovation of the Month.

Levine: Who worked on this project, and why were you motivated to join?
Reece: I’m studying social policy analysis, political science and data science. At Rice, I’ve been deeply involved with voting-related research on a number of topics, so this project was a natural fit for my interests. I served as this year’s Election Day presiding judge for the Rice polling location and promoted student civic engagement by recruiting only student poll workers. The dual experience of researching effective methods and implementing those same methods further motivates me to make an impact on the voting process.

Daly: I’m studying social policy analysis, history and Spanish. It’s important to me to find ways to apply academic knowledge to something that will benefit Houston. I’ve long been passionate about voting rights — I’ve been part of a nonpartisan civic engagement club on campus since my freshman year. I also helped to co-found and lead the Houston Youth Voters Conference, an event that brings together all area high schools and colleges to get informed and excited about voting. This research allowed me to combine my academic and extracurricular interests to make a positive impact.

Sadeghpour: I’m studying computational and applied mathematics and civic leadership. I am interested in using data science for civic causes. I loved getting to experience how collecting and analyzing data can be used to inform and advocate for new election reforms. I came into the project with little knowledge of election administration, but I learned a lot and was a resource for my friends and family as they navigated voting this year.
Membership
MetroLab’s membership now includes 36 universities along with their partners that include 28 cities and 6 counties. MetroLab introduced a dues funding model in 2020, bringing capacity to the organization to shape the civic research and innovation domain in a number of ways that extend beyond the first year of dues. The following priorities have guided our thinking:

1. Define and grow civic research as an academic field, composed of academics across disciplines and partners from practitioner communities
2. Define promising career paths for people who seek to bridge academic and practitioner communities
3. Create a high-profile platform for civic research projects to be published and/or featured
4. Develop partnerships with accelerators, incubators, investors, and funders to assist in the commercialization of private ventures and institutionalization of social ventures that emerge from MetroLab member partnerships
5. Educate institutional stakeholders, including the federal government, philanthropy, and civic leadership organizations of the impact and promise of civic research

Amid the COVID-19 pandemic and its associated impact on academic institutions’ and governments’ budgets, we elected to extend the 2020 dues period through the end of 2021. The next annual dues contribution from members will be required in advance of calendar year 2022. This decision was intended to afford our members additional flexibility as they navigate 2021. We remain committed to the dues model, having already seen its impact on our ability to build our team and invest in new programs and opportunities. An in-depth guide to MetroLab membership is available in the MetroLab Network Member Guide.

Civic Research Agenda
In 2020, MetroLab launched a new initiative to scale a tool initially developed by the City of Boston called a “civic research agenda”. A review of successful MetroLab city-university partnerships and projects revealed the importance of agenda-setting and common language to ensure that the expertise of academic partners is channeled to the nuanced, real-world priorities of cities and communities. These foundations are critical, especially in light of the complex sets of challenges facing cities and communities this past year, including the COVID-19 pandemic, economic challenges, and the fight for racial justice. In 2020, MetroLab hired Dr. Kim Lucas as its Senior Director of Research and Innovation. Kim was instrumental in the creation of Boston’s Civic Research Agenda, and leads MetroLab’s effort to scale Civic Resilience Research Agendas across our network, and beyond, with an emphasis on understanding and building resilient communities after the collective experiences of the COVID-19 pandemic. MetroLab has assembled a “brain trust” of partners that includes leading nonprofits and research organizations in the civic research domain, to help lay the groundwork for the effort, which in 2021 will involve directly engaging MetroLab members as they work to craft civic research agendas of their own.
Member Achievements and Commitments

In 2020, MetroLab asked its members to highlight key projects they undertook over the past year and commitments-for-action in 2021. MetroLab plans to institutionalize this model, tracking member accomplishments and commitments each year. Going forward, the process will coincide with the Annual Summit, to allow for sharing of projects as members gather for activities. Highlights from members’ achievements and commitments are included below:

**University of California San Diego** and the **Global Action Research Center** created an urban farm, driving innovation in community science, green infrastructure, and healthy place-making.

UC San Diego’s Bioregional Center and Global Action Research Center together are committed to collaborate with the City of San Diego and other partners in the design and implementation of Green Infrastructure and Equity Improvement Zones to strengthen urban resilience, equity and justice in one or more economically, socially and ecologically distressed council districts of San Diego.

**University of North Carolina at Greensboro** and **Guilford County** partnered to address the opioid challenges in an initiative named GCSTOP. The program is located within UNGC’s Department of Social Work which has facilitated the opportunity to create internships for Master’s and PhD students in the Joint Social Work Program (UNCG and NC A&T State University). The initiative has had a significant impact on lives, even as its efforts were adjusted due to the pandemic.

UNCG will expand the collaboration between students in Computer Science and the Master’s Program in Informatics and Analytics to work on projects with the County including database integration. UNCG also will finalize data use and governance agreements to receive access to the NC Medicaid Claims database which will enable several ongoing studies and comparisons using country data against state data.

**Portland State University** partnered with **Smart City PDX** to survey people on air quality knowledge, creating a platform to engage residents about environmental factors.

PSU and its partner Smart City PDX commit to increasing access to digital technologies to assist people with disabilities.

**Rice University** partnered with the **City of Houston** to identify where flooding is likely to occur which has improved real-time flood prediction.

Rice University, in partnership with the City of Houston commits to work to create a comprehensive data-sharing agreement in hope that this will improve the university’s ability to address pressing questions from the city.
University of Tennessee at Chattanooga partnered with Chattanooga and Hamilton County to place 126 public, gig-backed WiFi hotspots in community-specific locations.

UTC will partner with the Chattanooga Smart Community Collaborative to strategically deploy 75 air quality sensors in order to capture data to examine correlations of air quality with different aspects of quality of life.

The University of Alberta partnered with the City of Edmonton to develop a framework that will guide and strengthen its partnership and establish key governance and partnership structures.

The Boston Area Research Initiative has constructed the COVID in Boston Database as a compilation of various administrative and internet-gathered data sets that capture events in conditions in Boston before, during, and after the initial onset of the COVID-19 pandemic, to support research, teaching, policy, and practice. In partnership with the Center for Survey Research at UMass Boston and the Boston Public Health Commission, BARI also conducted a survey that captures the experiences of 1626 Bostonians during the first months of the COVID-19 pandemic.

In collaboration with Metro21: Smart Cities Institute, researchers in Carnegie Mellon’s Robotics Institute used machine learning to create optimal, efficient bus routes that allow community non-profit organizations to deliver meals to senior citizens, as well as K-12 students and families who would otherwise rely on schools for free meals. The CMU tools identified ideal distribution locations in order to reach as many people as possible, three days a week. Collaborating with numerous community-based partners, nearly 6,000 meals were delivered each month.

Carnegie Mellon University will expand upon its partnership with the Allegheny County Department of Human Services, engaging in human-centered algorithm design in order to improve outcomes and equity in child welfare services.

Greater Miami and the Beaches, Florida International University, Miami Dade College, and the University of Miami worked with Resilient305 to launch the Resilient305 Collaborative.

The University of Liverpool created the Heseltine Institute’s COVID-19 Policy Briefs series, in collaboration with the Liverpool City Region Combined Authority. The series was designed to complement and add value to the work of civic leaders and policymakers, disseminating tailored knowledge, best practices and translational research. 30+ policy briefings were published online.
Innovation of the Month Series
MetroLab continues to curate and promote the excellent work happening across the network as part of our Innovation of the Month series, which aims to highlight impactful tech, data, and innovation projects underway between local governments and universities. This year, many of the projects reflected the work happening in response to the COVID-19 crisis. A special thanks to our publishing partner, GovTech, for helping us push these projects to their broad audience. Access to all of the projects that have been awarded the Innovation of the Month is available here.

MetroLab Innovation of the Month, 2020 Series

January
Predictive Analytics ID Youth Risk Factors, Improve Outcomes
Together with Fairfax County, Va., Health and Human Services, the Mason DataLab at George Mason University is building an analytics model to increase the likelihood of physically, mentally, and socially healthier youth.

February
Exploring 3D Visualization Software as the Future of Urban Planning
Research from Carnegie Mellon University, together with the Pittsburgh Department of City Planning, uses virtual reality and 3-D technology to help urban designers and other stakeholders better plan cities.

March
Data-Driven Research in Atlanta Aims to Solve First Last-Mile Problem
Together with the city of Atlanta and Georgia Tech, the Socially Aware Mobility Lab uses data and machine learning to look at how on-demand multimodal transit could improve traffic congestion and mobility inequalities.

April
Cities Partner on Model Policy for Handling Municipal Data
Kansas City, in collaboration with the University of Missouri-KC and other local governments, has created a model to tackle the policies and procedures needed to manage sensitive data in communities as tech use grows.

May
Real-Time Risk Assessment Tool Could Aid Reopening Measures
An AI-driven program from Case Western Reserve University in Cleveland aims to give individuals and governments a real-time picture of the risk of coronavirus transmission in a given area based on state and local data.

June
Study Compares Urban Quality of Life and COVID-19 Rates
Researchers at the University of Chicago explore a local application of the Human Development Index looking at rates of COVID-19 across neighborhoods and how that can inform public-sector decision-making.

July
Using AI to Assist Those Experiencing Homelessness in Austin
A partnership between the University of Texas at Austin and the city looks at how AI can identify residents at risk of experiencing homelessness, as well as helping those currently in need find access to services.

August
Project Uses AI to Maximize Meal Delivery to Students in Need
Work at Carnegie Mellon University originally intended to use machine learning to develop cost-effective bus routes for K-12 students in Allegheny County, Pa., in response to COVID-19 to focus on food insecurity families.

September
Comic Book Bridges Gap Around Education in AI, Ethics
The Data, Reasonably project, based out of New York University, has taken its research on responsible data management and expanded it to improve messaging around what it means to collect and use data fairly.

October
Mapping Tool Visualizes COVID Risk of Different-Size Events
A project out of Georgia Tech has developed an online tool that could help states and local governments assess the risk of coronavirus spread at gatherings from dinner parties to protests in their region.

November
Data on Voter Behavior and COVID-19 Fuels Student Research
Undergraduates from Rice University worked with the Harris County, TX, Clerk’s office to learn how the pandemic affected in-voter preferences, like mail-in and drive-through voting, and impacted election outcomes.

December
NYC Court Summons Redesigned with Human Behavior in Mind
Using human-centered design principles & behavioral nudges, UPhens & UCChicago researchers reviewed court summons for low-level offenders & instituted a text messaging reminder system, increasing court appearance rates.
People

Board of Directors

Bill Fulton, Board Chair - Director, Kinder Institute for Urban Research, Rice University
Michael Mattmiller, Vice Chair - Director, Government Affairs Microsoft
Lisa Camp, Secretary - Chief of Staff, Office of Provost, Case Western Reserve University
Karen Lightman, Treasurer - Executive Director, Metro21: Smart Cities Institute, Carnegie Mellon University
Daniel Correa - Acting President, Federation of American Scientists
Santiago Garces - Executive Director, Department of Community Investment, City of South Bend
Debra Lam - Managing Director of Smart Cities and Inclusive Innovation, Georgia Tech

Staff

Ben Levine - Executive Director
Kim Lucas - Senior Director of Research and Innovation (joined MetroLab in March 2020)
Josh Schacht - Program Manager (joined MetroLab in January 2020)
Katy Getsie - Director of Strategy and Operations (departed MetroLab in March 2021 for a role for the State of Minnesota)

Advisors

Martin J. O’Malley - Senior Fellow and Advisory Council Chair
And 20 Advisors with expertise in government, academia, and civic innovation

Support

We are also grateful for the support of funders in 2020, particularly the National Science Foundation. MetroLab also acknowledges the support it received from the federal Paycheck Protection Program, which helped mitigate reduced revenues associated with its membership model timing adjustment and the move from an in-person to a virtual Annual Summit.

Our 36 university members, along with their government and civic partners, committed funding as part of our membership dues model, creating resources for investment in member-centric programming at MetroLab.

Our 2020 Summit was supported by sponsorship from Microsoft.

Partnering with organizations aligned with the MetroLab Network mission and strategic plan continues to be a value to us and the members of our network. Of note, MetroLab continued its partnership with the Future of Privacy Forum related to issues of privacy in new data and technology deployments, including activities during the 2020 Annual Summit.