2018

NEW URBAN MECHANICS

Year in Review

WHO ARE WE?

The Mayor's Office of New Urban Mechanics (MONUM) was formed in 2010 and serves as the City's research and design lab. Under the leadership of Mayor Walsh, we have expanded the breadth of our research and design work to cover a vast range of issues and mayoral priority areas, including housing, public health, civic engagement, racial equity, city infrastructure, and education. While we work across a variety of topic areas, all of our projects aim to serve the same goal: **to improve the quality of life for Bostonians.**

WHAT DO WE DO?

MONUM exists to take risks that traditional City departments might not be able to take. Every experiment we undertake starts with a question. When an experiment works, we partner with departments to make it a permanent service – such as **ParkBoston** and the **Engagement Center**. When an experiment doesn't work out, we document what we learned and share our findings with our partners and cities around the world.

In addition to these experiments, MONUM also acts as a "front door" for start-ups, universities, and residents wanting to experiment with the City. We mentor other cities – as close as Somerville, MA and as far as Cluj, Romania – on specific projects or broadly on innovation offices in their local governments. Our team is a ragtag group of entrepreneurs, just as diverse as our project portfolio; we lend our varied backgrounds, training, and experience to each of our projects.

REFLECTING ON 2018

"We will seize this moment to guide our growth to support our dynamic economy, connect more residents to opportunity, create vibrant neighborhoods, and continue our legacy as a thriving waterfront city."
Mayor Martin J. Walsh, Imagine Boston 2030

This year has taught us a lot as a team. In 2018, we experienced joyful successes—like the expansion of our **Main Streets Explorer** collaboration (2017) with the Economic Development department into the **Connected Communities grant** with the Main Streets Foundation. We've also wandered through difficult terrain: from health challenges to grant funding winding down. Some projects achieved lift-off—like **Beta Blocks**, an experimental process for communities to bring new technologies into their public realms—while others are still at the workbench, like **Good Landlord Loans**, a summer fellow project.

A heartfelt thank you to our fearless teammate of many years and many projects, Susan Nguyen, who left the team this year. We supported team members who have moved into new roles at the City (Kim Lucas, Open Data Manager; Marcy Ostberg, Director of Operations at DND; Joe Christo, Senior Planner at the BPDA) and beyond (Max Stearns, graduate student in Transdisciplinary Design at Parsons The New School), and welcomed new Mechanics into the fold (Michelle Sohn, yearlong fellow and Program Director; Jacob Wessel, Public Realm Director).

We experimented with new university partnerships, such as MassArt's product development lab, and hosted more fellows than any previous year (12 summer fellows, our first semester-long undergraduate design fellow, our second Youth Leaders of the Americas Initiative fellow, and a joint public health + law school student in December).

As we reflect on the year we're wrapping up, we look forward to carrying on a bulk of the work in the near future, like the 2019 re-launch of **Boston's Safest Driver** (2017); a micro-mobility pilot (think: those e-scooters you may have read about) this summer; and the full-scale rollout of **Boston Saves** (2015) for school year 2019-2020.

WHAT HAVE WE BEEN UP TO?

We aim to build things that people want and need. To use technology to build trust. To create comfort with risk-taking in city government. To be delightful. Here's a few ways we tried to do those things in 2018:

HOUSING FOR ALL

How can we design, develop and fund housing differently to ensure all Bostonians have a comfortable, safe and stable place to call home?"

- Housing with Public Assets
- Plugin House
- Compact Living Policy + Transportation Demand Project

FUTURE STREETS + MOBILITY

How do we make our streets safer, our transportation system more equitable, and the experience of traveling in Boston more delightful?

- Micro Mobility
- Autonomous Vehicle Expansion
- StreetCaster

EDUCATION + YOUTH EMPOWERMENT

Can we shift perceptions of where and how learning happens in the City and reframe Boston's view on what it means to be an "expert"?

- Family-Led Stability Pilot
- Civic Research Agenda
- Boston Saves Expansion

WELCOMING + RESILIENT PLACES

How might the City further support and strengthen Boston's welcoming, connecting, and creative spaces?

- Boston City Hall
- Public Space Invitational (PSI)
- The Engagement Center

STORYTELLING + ENGAGEMENT

How can the City support new ways of listening to residents, and how can we better tell the stories of what we are collectively doing?

- A/V Club
- Beta Blocks

COLLECTIVE WELL-BEING + ECONOMIC MOBILITY

How can we further develop individual and systemic supports for social, emotional, and economic well-being?

- Expungement Project
- Boston Cupboards
- BankOn Boston Coalition

FELLOWSHIP HIGHLIGHTS

- Our Fellowship Explorations
- 2018 Summer Fellows
- Select Summer Fellow Projects
    - Right Start
    - Boost Bags
    - Placeful
    - Returning Citizens Convening
    - Civic Adventure Guide

UNIVERSITY PARTNERSHIP HIGHLIGHTS

- Research Partnerships
- Class Partnerships

HOUSING FOR ALL

HOUSING A CHANGING CITY

"Boston is a city for everyone. Whatever your age, whatever your income, whatever your dream: you should be able to make a home here."
Mayor Martin J. Walsh

Q. *How can we design, develop and fund housing differently to ensure all Bostonians have a comfortable, safe and stable place to call home?*

PROJECTS

HOUSING WITH PUBLIC ASSETS

In February, we asked local communities and developers whether combining housing and public assets (libraries, fire stations, community centers) would work in Boston. We also asked where it should be done. City departments worked together to release a Request for Information and a list of public assets for consideration. The 24 responses gave us valuable information, and we hope to start our first Housing with Public Assets project in 2019.

PLUGIN HOUSE

The Plugin House, created by People's Architecture Office (PAO), is a house that can be quickly and easily assembled in small, underutilized parcels and backyards. For 10 days in May, the Mayor's Housing Innovation Lab (iLab), a collaboration between the Department of Neighborhood Development and MONUM, teamed up with PAO and Artists for Humanity to showcase the Plugin House on City Hall Plaza. Over 2,000 visitors shared their thoughts and feedback. Visitor input is being used to inform the expansion of the Additional Dwelling Unit pilot.

Featured Project

COMPACT LIVING POLICY + TRANSPORTATION DEMAND MANAGEMENT

In October, our Compact Living Policy proposal was approved. The policy allows small, efficient housing units in new buildings. The policy was developed based on what we learned from the Urban Housing Unit Roadshow (2016), which toured a 385-sq. ft. apartment around the city, gathering input on compact living from over 2,000 residents. Buildings that want to include compact units must follow design guidelines that ensure the building is comfortable and livable for residents, such as having enhanced natural light in housing units, shared common areas, dedicated storage space, and transportation options that reduce car use.

FUTURE STREETS + MOBILITY

GO BOSTON 2030

"We believe that we have a plan that will address long-term inequality, increase economic mobility, and improve climate resiliency within our neighborhoods, across the city, and throughout the region."
Mayor Martin J. Walsh

Q. *How do we make our streets safer, our transportation system more equitable, and the experience of traveling in Boston more delightful?*

PROJECTS

MICRO-MOBILITY

Working with the **Boston Transportation Department** and the **Metropolitan Area Planning Council**, we are developing a regulatory framework for the City to pilot shared micro-mobility vehicles such as e-scooters, with a focus on safety, accessibility, and equity.

AUTONOMOUS VEHICLE TESTING EXPANSION

Not only did we coordinate with the **Boston Transportation Department** to expand testing of autonomous vehicles citywide this year, we also scaled the phased-testing model, developed first in Boston, to 14 other cities and towns in the metro area. Beyond testing, we published a report with the **World Economic Forum** and the **Boston Consulting Group** on our efforts; launched a nation-first collaboration with **Inrix** on teaching vehicles a set of digital rules of the road; and held the first-ever policy scrum on shared autonomous vehicles at the **Harvard Kennedy School**.

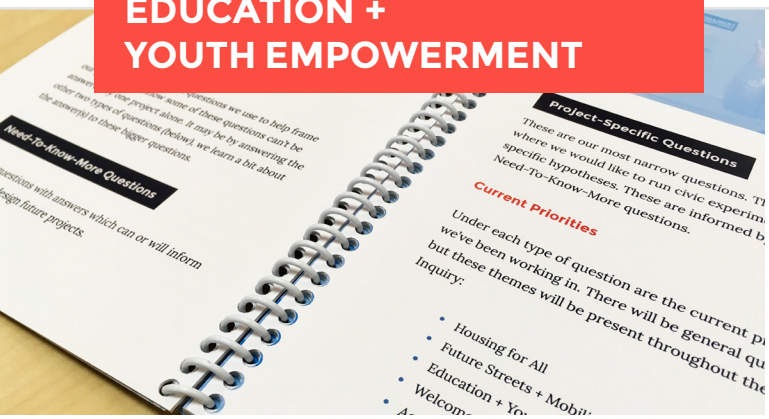
Featured Project

STREETCASTER

With support from Bloomberg Philanthropies, we collaborated with the **Public Works Department**, the **Department of Innovation and Technology**, and many other City and community partners to redesign how the City maintains and manages infrastructure. The StreetCaster program was a finalist in the 2018 Bloomberg Philanthropies Mayors Challenge, and is an equity-focused, data-driven approach to plan, implement, and communicate street infrastructure investments. Through the approaches of the program, Boston can work toward eliminating infrastructure gaps in underinvested neighborhoods, while providing better services to all. With our partners, we tested aspects of the program throughout the spring and summer, and while StreetCaster did not end

up being one of the Mayors Challenge winners, we learned through doing. The Public Works Department will continue implementing the program in the future.

EDUCATION + YOUTH EMPOWERMENT



BUILD BPS

"We are going to create not just modern schools, but flexible spaces that will allow our district to meet new potential as the City and the world evolve."
Mayor Martin J. Walsh

Q. *Can we shift perceptions of where and how learning happens in the City and reframe Boston's view on what it means to be an "expert"?*

PROJECTS

FAMILY-LED STABILITY PILOT

With **Boston Public Schools**, the **Mayor's Education Cabinet**, the **Boston Housing Authority**, the **Department of Neighborhood Development**, and a group of nonprofit partners, we helped identify interfaces between education and housing systems that aim to support homeless students and their families, but sometimes don't align in a way that is easy for families to navigate.

CIVIC RESEARCH AGENDA

In partnership with experts from across the city, we developed a robust list of research questions that have been floating around our team's (and our partners') heads in the past year. In response to local college and university partners who have asked us to share what we're thinking about next, our Civic Research Agenda remains both an invitation and an experiment. By sharing our questions, we hoped to invite new, creative solutions or proposals to find solutions. Through the conversations we have had with local experts (classes, researchers, and students so far!), we are also learning how to better improve the way to identify, share, and collaborate around our questions.

Featured Project

BOSTON SAVES EXPANSION

In 2018, Boston Saves approached the end its pilot phase—and we began to plan for scale. Continuing our work with the **Office of Financial Empowerment** and the **Boston Public Schools**, we hired a dedicated Program Manager for Boston Saves, created a pilot-within-a-pilot Family Champions model of school-based family and parent engagement, tried new methods of co-learning with families through Data Days, and are beginning to test the efficacy of non-savings incentives. As we move into 2019—and scale from 11 to 83 schools—we are bringing our children, families, and schools along the way to help better understand how we can tailor this program to

promote a two-generational, future-oriented financial capability-building program that truly addresses the needs of Bostonian families and children.

WELCOMING + RESILIENT PLACES

RESILIENT BOSTON

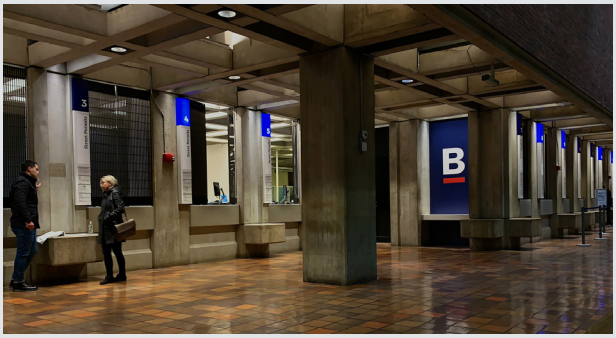
"A truly resilient city is one that works to achieve equity: ensuring that vital services reach all residents, including the most vulnerable; providing access to opportunity for all; and actively fostering cohesive communities."
Mayor Martin J. Walsh

Q. *How might the City further support and strengthen Boston's welcoming, connecting, and creative spaces?*

Featured Project

2ND FLOOR PERMITTING

Partnering with **Public Works**, **Transportation**, **Department of Innovation and Technology**, and **Property Management**, we redesigned the experience for obtaining a moving truck or moving container permit. We enhanced the online experience, simplified a multi-step process that included visiting two offices, and created a new customer-friendly permit location on the 2nd floor of City Hall.



PROJECTS

BOSTON CITY HALL

For many folks in Boston, our City Hall does not always inspire feelings of welcoming or trust. We know that people attach—positively or negatively—to places, and that those associations can influence how people experience a space. To that end, we have been working with many City partners, led collaboratively by the **Operations Cabinet** and the **Property Management** department, for a number of years on increasing the welcoming nature of City Hall's physical spaces.

KIDDIE HALL

Partnering with **Property Management** and the **Parks Department**, we developed initial concepts for the redesign of the City Hall Daycare playground, through research, interviews, planning, and illustrations. These concepts all incorporated principles of childhood development through the **Boston Basics** program.

CITY HALL PLAZA RENOVATION

We worked with the **Operations Cabinet** to support the early phases of planning the renovation for City Hall Plaza. Building on past experimentation we've done with City Hall partners to make the plaza a more welcoming and inclusive space, we are continuing to attempt to connect the city's priorities to our physical assets.

CITY HALL LACTATION SPACES

Alongside the **Mayor's Office Women's Advancement** and the **Strategic Partnerships** team we are supporting the **Operations** team in the creation of more accessible, private, comfortable, dedicated spaces for nursing mothers in City Hall.

CONTINUED

PROJECTS

PUBLIC SPACE INVITATIONAL

PSI 3: COMMUNITY GARDENS

In May 2018, Mayor Walsh announced a three-year partnership with the **Trustees** and **TD Bank** to expand the reach and highlight the role of up to 40 community gardens in six neighborhoods in Boston. As part of the third round of the Public Space Invitational (PSI), we sought innovative design installations at three community gardens in 2018: **Nightingale Community Garden** in Dorchester, **Chilcott & Granada Community Garden** in Jamaica Plain, and the **Fenway Victory Gardens**. A highlight of PSI 3 was Trailer Made, a mobile, modular community pop-up park built on a trailer from a farm in Texas.

PSI 4: PLAY AROUND THE CITY

This year we also launched Play Around the City: a design competition that sought playful, temporary design installations throughout Boston. With Play Around the City, we selected four school bus stops for a playful redesign in East Boston, Roxbury, Roslindale, and Dorchester. The four winning designs, selected by a jury that included **Playworks**, the **Mayor's Education Cabinet**, the **Mayor's Office of Resilience and Racial Equity**, parents, and community advocates, used play to foster learning, connectedness, positive engagement, and exercise in an everyday setting.

PSI 5: PLAY AROUND THE SNOWY CITY

Play Around the Snowy City built on our previous work on play. We released a call for proposals for innovative projects that would make Boston's public spaces more fun and inviting during the coldest season of the year. Additionally, applicants were encouraged to submit projects that reduce stress, build lifelong learning skills, and support responsive relationships.

Featured Project

THROWBACK TO PSI 2

Seat Light Control (2016) made its debut this year near the Old South Meeting house. The project turned an upright street box into a beautiful, functional bench that allows passersby to take a moment and rest. City engineering staff can still access the electricals in the street light box when they need to.

PROJECTS

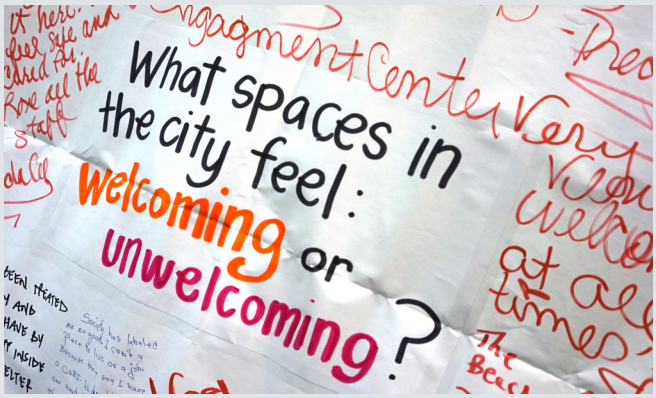
THE ENGAGEMENT CENTER

As the Engagement Center reached its first full year of operation, we continued our partnership with the **Boston Public Health Commission** and the **Mayor's Office of Recovery Services**, which began in 2017. In 2018, we supported a robust ethnography in the space (to inform future programming, design and service needs); prototyped programs that brought in creative services; furthered relationships with additional city departments such as the **Boston Public Library** and, alongside our **Property Management** team, supported the renovation of the space as it entered its second year.

Featured Project

THE EC ETHNOGRAPHY PROJECT

With the support of **Blue Brick Ethnography LLC**, qualitative research was conducted at the EC. Our researchers embedded themselves in the space and spent time with both staff and guests in order to gain a better understanding of how the space was being used, what needs were still unmet, and what potential the space could have to further impact guests' lives. This work grounded the way we measured success with an experiential lens and built the foundation for the Fall renovations that took place.



STORYTELLING + ENGAGEMENT

IMAGINE BOSTON 2030

"Boston is uniquely positioned to guide growth and shape a thriving city for the next generation. As it has throughout its history, Boston will be a "City of Ideas," generating creative responses to challenges."
Mayor Martin J. Walsh

Q. *How can the City support new ways of listening to residents, and how can we better tell the stories of what we are collectively doing?*

PROJECTS

A/V CLUB

Turns out there are a bunch of other nerds at City Hall that like to think through how we elevate the City's storytelling efforts and they all had 30 minutes free every Friday to do it. This experiment involves an ever-changing cast with a singular purpose: to make our work more connected, coherent, and beautiful. Some digital storytelling that came out of this collaboration with members of the **Department of Innovation and Technology (DoIT)**, the **Speechwriting** team, the **Press Office**, and other friends included:

- An overhead look at sidewalk quality, to complement our Bloomberg Mayors Challenge submission, StreetCaster
- A bilingual explanation of the BPS budget process
- An explanation of the annual homeless census, and a celebration of the progress of Boston's Way Home
- A call-to-action video accompaniment to the Mayor's Chamber of Commerce speech, launching the Resilient Harbor campaign

Featured Project

BETA BLOCKS

Beta Blocks is our attempt to make "Smart Cities" more bottom-up by making the whole process more democratic and community-led. The project comes out of our work over the last 10 years facilitating collaborations between the innovation ecosystem and local communities. Essentially, local area researchers and startups are interested in testing a new piece of technology or a new product in an urban environment. On the flip-side, a community wants to try out some new approaches to urban innovation and making changes in the public realm. In these cases, our job is typically to match-make a connection between the two groups and to help with the process of managing the rules

and regulations governing the temporary placement of new hardware in the public realm. Beta Blocks is our attempt to systematize this work and to make the whole process more repeatable.

COLLECTIVE WELL-BEING + ECONOMIC MOBILITY

SPEECH TO THE GREATER BOSTON CHAMBER OF COMMERCE, 2018

"These developments represent Boston's historic commitment to our collective wellbeing. That's the legacy we build on."
Mayor, Martin J. Walsh,

Q. *How can we further develop individual and systemic supports for social, emotional, and economic well-being?*

PROJECTS

RETURNING CITIZENS SUPPORT

In partnership with the **Office of Returning Citizens**, we are exploring ways to connect constituents with legal services related to Criminal Offender Record Information (CORI). The Commonwealth passed a criminal justice reform bill in April. Our goal is to ensure that Bostonians are aware of these changes to CORI law and that they have legal assistance to seal or expunge their records, if appropriate. We want to ensure they are not held back from quality jobs and other resources.

BOSTON CUPBOARDS

We partnered with the **Inspectional Services Department** to explore a Boston Cupboards prototype. Similar to Little Free Libraries, Boston Cupboards would be 24/7-accessible small boxes installed and maintained by community members that contain shelf-stable foods and other non-perishable items.

Featured Project

BANK-ON BOSTON COALITION

Partnering with the **Office of Financial Empowerment**, public- and private-sector partners, we expanded the Bank On Boston coalition this year. The coalition brings together municipal officials, government agencies (City, State, and Federal), financial institutions, and community organizations to help all Boston residents have access to safe and affordable financial products and services. This year, we grew the coalition from 10 to 16 partners, launched new prototypes to help residents better access services, and built more structure into the coalition for future growth.

FELLOWSHIP HIGHLIGHTS

OUR FELLOWSHIP EXPLORATIONS

Experimental MONUM / Hariri Institute Fellowship with an undergraduate design student (Qian Mei)

Visiting Fellowship via World Boston / Young Leaders of the Americas Initiative (Paul Ohea)

Creating a strong fellowship pipeline with UMass Boston (Boston City Hall Insider)

2018 SUMMER FELLOWS

Matthew Claudel | ***Beta Blocks***
MIT Department of Urban Studies & Planning

Justin Flattery | ***Civic Adventure Guide***
Boston University

Emma Fernandez | ***Right Start***
UC Berkeley Goldman School of Public Policy

Luc Figueiredo Miller | ***Good Landlord Loans***
Boston University School of Public Health

Raina Gandhi | ***Drone Policy / StreetCaster***
University of Pennsylvania Wharton School of Business

Eliana Golding | ***Placeful***
Tufts University Urban and Environmental Policy and Planning

Tariana Little | ***Boost Bags***
Harvard T.H. Chan School of Public Health

Ryan McElhose | ***The Engagement Center***
Boston College School of Social Work

Katie Monroe | ***Micro Mobility / Autonomous Vehicle Primer***
Harvard Kennedy School of Government

Emily Rackleff | ***Play Around the City***
Boston University Questrom School of Business

Iueh Soh | ***Returning Citizens Gathering***
Harvard Kennedy School of Government

Max Wynn | ***Housing with Public Assets***
Harvard Kennedy School of Government

SELECT SUMMER FELLOW PROJECTS

RIGHT START

Emma Fernandez
UC Berkeley Goldman School of Public Policy

We partnered with the **Education Cabinet**, the **Boston Public Library**, the **City of Boston Credit Union**, and **Property Management** to prototype a co-located model for families to access coordinated city services in a convenient location: at the Birth Certificate window. Our hypothesis was that we could better connect families experiencing a key life moment, like having a child, to useful services (such as a signing up for a library card or the opportunity to open a savings account) while they're already in the mindset of planning for the future.

BOOST BAGS

Tariana V. Little
Harvard T.H. Chan School of Public Health

Building on our work with **Boston Public Schools Opportunity Youth Department** and the **Thomas A. Edison K8 School** in 2017, we partnered with the **Frederick Pilot Middle School** and the **American Red Cross** to prototype two summer Boost Bags via two distribution channels. Boost Bags provide weekend food access for Boston Public Schools students who face homelessness.

PLACEFUL

Eliana Golding
Tufts University Urban and Environmental Policy and Planning

Working with **Placeful**, a startup born out of **MIT DesignX**, the iLab developed a digital tool that can help facilitate robust community conversations about what it takes to make new housing development work in Boston. Through a series of lessons and interactive exercises, residents build their own new multi-unit building. They choose the size and shape of the building, the number of units, and set rents. Then the digital tool shows a 3D model of the building on the street and demonstrates the impact of their choices on project feasibility.

CIVIC ADVENTURE GUIDE

Justin Flattery
Boston University

In partnership with **Boston Public Schools** and the **Education Cabinet**, we researched and developed a prototype of a youth field guide for engaging in action-oriented civics projects. We compiled a list of tips and suggestions for young people to get involved with City Hall through existing channels or to conduct their own primary research and take civic action based on that exploration. With the passage of S.2631 by the Massachusetts state legislature, each 8th grade student, and each high school student must complete a student-led civics project. Can we support students' work with a DIY guide?

RETURNING CITIZENS GATHERING

Iueh Soh
Harvard Kennedy School of Government

We worked with the **Office of Returning Citizens** to prototype a returning citizens gathering. The first event aimed to support connections among returning citizens and foster network-building among the offices clients. It was also an opportunity to understand how the office can best serve its clients needs. The event brought together ~60 returning citizens and kickstarted the founding of the office's monthly advisory group.

UNIVERSITY PARTNERSHIP HIGHLIGHTS

Boston's unique higher education landscape allows us the privilege of being able to work with some of the most talented, brilliant, and creative thinkers in the world. We have always worked with our local college and university partners to explore and create our city, and we continue to strengthen these partnerships through projects like the **Civic Research Agenda**. Partnering with a college or university does not all look like one thing, though. Here's a peek at some of the kinds of partnerships we forged this year, and what those partnerships were able to produce:

RESEARCH PARTNERSHIPS

Continuing our close relationship with the **Boston Area Research Initiative (BARI)** via helping plan and shape their annual civic data conference

Working with BARI and Harvard's City Form Lab on **StreetCaster** data models and survey design

Creating new connections via hosting URBAN. Boston's Coffee Hour at City Hall on the **Civic Research Agenda** heat safety measures that the City provides.

CLASS PARTNERSHIPS

Boston University Creative Economy class (Jen Guilleman, Wendy Grossman) x **Play Around the Snowy City**

Massachusetts College of Art and Design Industrial Design Product Development Lab (Judith Anderson) x **Civic Research + Civic Design**

Rhode Island School of Design Industrial Design (Andy Law) x Asian Community Development Corporation (ACDC) x **Beta Blocks**

Harvard Law School Government Policy Lab (Susan Crawford) x **Autonomous Vehicles**

Harvard Kennedy School operations management class (Mark Fagan) x **curb management**

Boston International Newcomers Academy senior capstones (Kristin Russo) x **housing + third spaces + school meals**

TO OUR COLLABORATORS, FELLOWS, FRIENDS, PARTNERS, AND FUTURE MECHANICS,

Thank you for your guidance, enthusiasm, thoughtful curiosity, and love for our city. Here's to another year of exploration and wonder.

LOVE, THE MAYOR'S OFFICE OF **NEW URBAN MECHANICS**

Jaunyn Kris Sabrina

Mevans Steve

For a full list of our current projects visit
www.boston.gov/mechanics