

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. As we approach 2020, we are gearing up to celebrate 10 years of civic innovation. 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 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 Summer Eats (formerly Lunch on the Lawn) and Boston Saves, the city's children's savings account program. 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 startups, universities, and residents wanting to experiment with the City. We collaborate with other cities - as close as Pittsburgh, PA and as far as Lyon, France - on specific projects or broadly on creating 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 2019

"We must rise to the occasion, because our city's future depends on it. We will be successful, because Bostonians are known for pursuing what is right and just, even in the face of adversity. We know what's at stake if we do not act with urgency."

Mayor Martin J. Walsh, Climate Action Plan Update (2019)

This year was a year of care, of hope, and of healing. A year of rebuilding and reflection. As a team, we continued to feel the urgency of spatial injustices and the climate crisis. As a city, we re-marked the sixth anniversary of the Boston Marathon bombing with the dedication of the Marathon Memorial and the opening of Martin's Park.

We further committed to some of our earliest approaches: the Housing Innovation Lab welcomed a new Director, Taylor Cain, and our civic design practice was strengthened by making permanent Sabrina Dorsainvil's position, Director of Civic Design. We also welcomed Yifan Lu, previously the program manager for Boston's Safest Driver 2.0, as our yearlong fellow.

We expanded the team in new ways, too: Nayeli Rodriguez joined as our first-ever Technologist for the Public Realm. We look forward to this role strengthening MONUM's perspective on—and partnership in—our public realm work, led this year by Jacob Wessel, who will be transitioning to the Streets Cabinet. The Housing Innovation Lab partnered with the BSA Foundation to co-fund its first-ever two-year Housing Innovation Design Fellow, Wandy Pascoal. Finally, we're honored that our Co-Chair and MONUM Co-Founder, Nigel Jacob, was selected as a Barr Foundation Fellow.

As a field, we said goodbye to long-time leaders—and MONUM friends—like MindLab (Denmark) and the Laboratorio para la Cíudad (Mexico City). And with gratitude for years of work and thoughtful instigation, we appreciate Steve Walter for his time on the team.

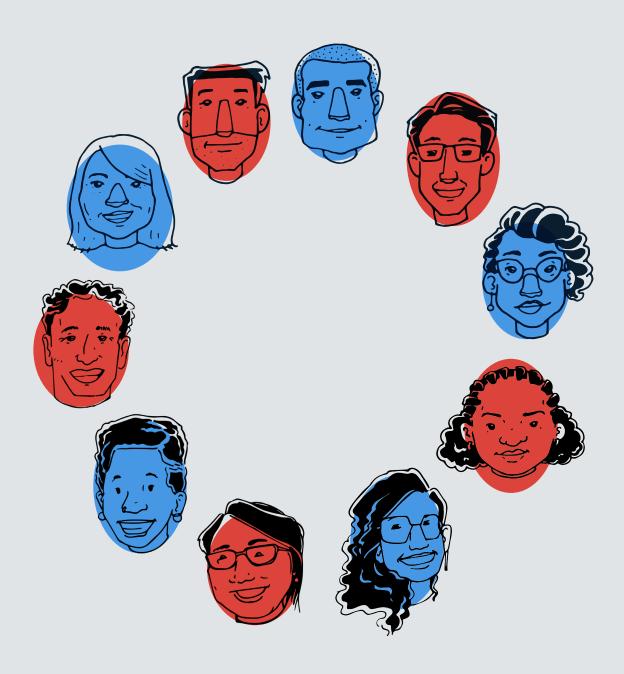
From small (but mighty!) short-term projects (like prototyping five pedestrian plazas) to those that are large and long-term (like developing a more democratic process for thoughtful deployment of technology on streets and sidewalks), we moved work forward.

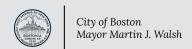
In 2020, we will celebrate ten years of practice. This year, we reflected on telling the story of our work—from failures to tips for other cities to the philosophical futures of the field. In the coming year, we want to celebrate our many partners (near and far) and the almost 700,000 residents of Boston for whom we come to this work every day.

We will boldly explore and prototype. We will more deliberately center justice and equity. We will use our projects to ask uncomfortable questions. And of course, we will strive to inject a little bit of delight into all we do.

To our collaborators, fellows, friends, partners, and future mechanics: Thank you for your encouragement, thoughtful skepticism, patience, and optimism in Boston's potential. Here's to another year of exploration and wonder.

Payle Jaly Sacrus Mevar





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 2019:

FUTURE STREETS + MOBILITY

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

- **Shared Micro-Mobility**
- First Responder Autonomous **Vehicle Training**
- Pick-up / Drop-off Zones
- Featured: Boston's Safest Driver 2.0

HOUSING FOR ALL

How can we create space to imagine and test ideas that promote inclusive, resilient, and life-affirming residential environments?

- **Housing with Public Assets**
- **Employer-Assisted Housing**
- **Housing Innovation Design Fellow**
- **Featured: Intergenerational Homeshare**

WELCOMING + RESILIENT PLACES

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

- Undesign the Redline
- The Future of Patron Privacy
- Public Space Invitational (PSI) 6
- Featured: Kiddie Hall

EDUCATION + YOUTH EMPOWERMENT 10

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"?

- Civic Adventure Guide
- Family-Led Stability Pilot
- Featured: Tech Explorers (Beta Blocks)

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
- **Featured: MONUM Turns 10**

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- **Select Summer Fellow Projects**
 - Streets Are For People
 - Urban Freight
 - Increasing Language **Access for EMS**
 - Make Moakley Yours
 - City Hall Plazabilities

PARTNERSHIP HIGHLIGHTS

- Look to Boston: City to City
- **Boston Public Schools**
- Universities





MUNICIPAL RESEARCH BUREAU SPEECH, 2019

"We need our streets to work better and be safer for everyone. We need to invest in more frequent, more accessible, and more reliable public transit across our region. And we must make biking and walking more viable options for more people."

- Mayor Martin J. Walsh



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

PROJECTS

SHARED MICRO-MOBILITY

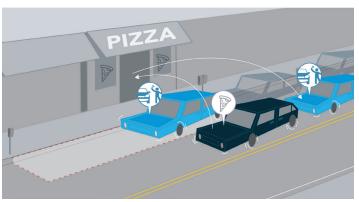
Partnering with the Boston Transportation Department (BTD) and the Law Department, we drafted a flexible regulatory framework that clarified BTD's authority to regulate shared micro-mobility businesses such as e-scooter sharing businesses. We remain involved in the advisory committee created by this legislation.

FIRST RESPONDER AUTONOMOUS VEHICLE TRAINING

We partnered with MassDOT and two autonomous vehicle companies to host education sessions with local first responders on current AV technology. The sessions featured an overview of the driving system, hands-on experiences with the vehicles, and an open forum to inform the required First Responder Interaction Plans.

PICK-UP / DROP-OFF ZONES

With BTD and the Department of Innovation and Technology, we launched and conducted an initial assessment of a pick-up / drop-off pilot in the Fenway neighborhood. We saw an increase in "curb productivity" after installing the zone (meaning that more people were able to access the space than when it was a metered parking space). This has already led to the expansion of the prototype to new locations in the Seaport and Allston.







Featured Project

BOSTON'S SAFEST DRIVER 2.0

After a successful prototype of Boston's Safest Driver in 2016, we relaunched the app in partnership with Liberty Mutual Insurance, the National Safety Council, Cambridge Mobile Telematics, and BTD. In addition to a Metro Boston-wide competition, we also ran a corporate challenge to engage commuters at local employers. The app-based competition engaged thousands of Boston drivers (and non-drivers!) by scoring users on their behaviors and enabling self-reflection.



Lessons Learned

While we observed improved driving behaviors from the thousands who participated, we did see fewer users in 2019 than in 2016. However, that smaller group of users made a similar number of trips and traveled close to three million miles. Perhaps we saw fewer downloads due to lower comfort with "tracking" apps than in 2016. We also heard (excitingly!) from many employers that they don't want to encourage drive-commuting. So, our strategy of going through large employers to reach drive-commuters ultimately wasn't successful.

We learned many things from this year's winners. One winner used their prize money toward a down payment on a home. Another winner told us the only way to do well on the five metrics was to drive slower. At the end of each slower drive, he felt much less stressed than when he used to drive fast on Boston's roads.

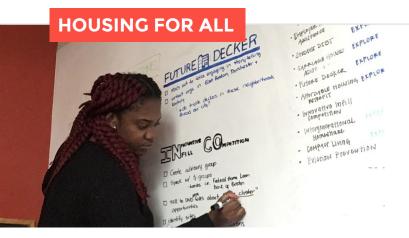
we worked with Bonnie Fan, a 2019 summer fellow, to incorporate data analysis in this year's report. (See full report at boston.gov/safestdriver)











CHAMBER OF COMMERCE SPEECH, 2019

"The bottom line is, housing is not a commodity; it's a community. It's where people build their lives. We have to be able to provide security and stability in our communities, and we have to be able to house our workforce."

- Mayor Martin J. Walsh



How can we create space to imagine and test ideas that promote inclusive, resilient, and life-affirming residential environments?

PROJECTS

HOUSING WITH PUBLIC ASSETS

Continuing this work from last year, we have started exploring the co-location of housing with a municipally owned parking lot in Roslindale, and as part of the study phase for the renovation of the Fields Corner branch of the **Boston Public Library**.

EMPLOYER-ASSISTED HOUSING

We are coordinating with the **Greater Boston Chamber of Commerce** to explore how employers might offer different housing-related supports to their employees, in a similar fashion to the way employers can provide transportation benefits.

HOUSING INNOVATION DESIGN FELLOW

We launched a fellowship prototype: a twoyear, co-funded Innovation Design Fellowship with the **Boston Society of Architects**. We are excited for the work that will come out of this fellowship, and we also expect to learn how this timeframe and explicit partnership informs the other talent pipeline opportunities we offer.

Featured Project

INTERGENERATIONAL HOMESHARE

Building on our 2017 prototype in partnership with the **Department of Neighborhood Development**, we released a request for proposals to identify



a vendor to help us expand intergenerational homeshare in Boston. We hope to make 100 matches between older adult hosts and prospective renters in 2020. We prioritized the safety and support of older adult hosts and renters, as well as data sharing in our vendor selection process. We believe intergenerational homeshare has the potential to bring hundreds of new affordable units to Boston without construction costs, while helping us address issues of social isolation within our older adult communities.



CLIMATE ACTION PLAN UPDATE, 2019

"We know communities that contribute the least to climate pollution bear the greatest impacts of climate change. This means designing and implementing policies for and with communities of color, low-income neighborhoods, youth, older adults, women, people with impairments, persons facing homelessness, and people with limited English proficiency. This also means asking those who have contributed disproportionately to climate change to take action first. By placing equity at the heart of climate action, we can achieve fair outcomes for every Bostonian."

- Mayor Martin J. Walsh



How might the City further support and strengthen Boston's welcoming, connecting, and creative spaces with a focus on resilience?

PROJECTS

UNDESIGN THE REDLINE

Our team supported bringing Designing the We's "Undesign the Redline" exhibit to Boston City Hall. This exhibit examines the ways policies, practices and investments lay the foundation for inequality in cities across the United States. This was done in collaboration with the Economic Development team, the Boston Planning and Development Agency (BPDA), the Mayor's Office of Arts and Culture and Enterprise Community Partners.

THE FUTURE OF PATRON PRIVACY

Partnering with the **Boston Public Library**, we explored trends in protecting patron privacy and creative ways to engage patrons to think about their digital privacy.

PUBLIC SPACE INVITATIONAL 6: COMMUNITY GARDENS

We continued our three-year partnership with **The Trustees** and **TD Bank** to expand the reach of Boston's community gardens. Through the Public Space Invitational, we selected five projects that brought people closer to nature through group dinners, songwriting and storytelling workshops, and new pop-up neighborhood spaces.

Featured Project

KIDDIE HALL

Building on our design support from last year, in 2019 we helped the **Operations Cabinet** bring concepts to life in "Kiddie Hall," the City Hall daycare playground. This included incorporating elements from actual Boston streetscapes (like a "BTD-inspired" tricycle track and authentic intersection signal light) and supporting the **Mayor's Mural Crew** in ensuring large-format murals of Boston scenes had elements of positive brain development activities from the **Boston Basics**.







STATE OF THE CITY ADDRESS, 2019

"We have thrown open the doors of opportunity and Bostonians are surging through to live their dreams and lead us forward. And because we are drawing on more of our people's strength, the state of our City is stronger than ever."

- Mayor Martin J. Walsh



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

CIVIC ADVENTURE GUIDE

Building on a summer fellow project from 2018, we partnered with Boston Public Schools History + Social Studies Department and Northeastern University's student design studio, Scout Labs, to research and prototype a civic adventure guide for middle and high school students. We are hoping to be proactive and responsive to the state legislation that allows for opportunities for young people to complete their own civics projects, once in eighth grade and once in high school, with a stakeholder of their choosing (whether local, state, federal, or community-based organization). Coming out of an area of inquiry of our Civic Research Agenda, we are asking ourselves how City Hall, as an organization, can better prepare to receive young people seeking to do civic projects with us.

FAMILY-LED STABILITY PILOT

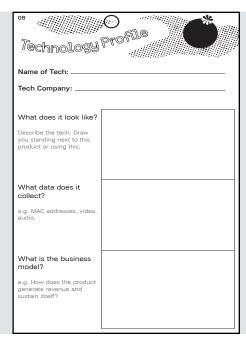
In 2019, the multi-sector collaborative supporting the Family-Led Stability Pilot wrapped up the experimental phase of setting up systems and tools. We supported the nonprofits in taking over the project management and evaluation functions previously organized by our team in partnership with the **Department of Neighborhood Development** and **Mayor's Office fellows**.

Featured Project

TECH EXPLORERS

As part of our Beta Blocks project exploring technology deployments on streets and sidewalks, we collaborated with our partners at the Emerson Engagement Lab to build and test a youth-focused "technology explorers" technology literacy and data storytelling mini-curriculum, excerpted to the right.









STATE OF THE CITY ADDRESS, 2019

"What we do in Boston can change this country. We've done it before, and we'll do it again, because in this time of uncertainty and division, Boston offers a way forward. We are welcoming more voices and expanding our democracy. We are committed to leaving no one behind."

- Mayor Martin J. Walsh



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

This year, some digital storytelling that came out of this collaboration with members of the **Department of Innovation and Technology**, the **Speechwriting** team, the **Press Office**, and other friends, included:

- A series of videos and podcast episodes about the Mayor's Office of Recovery Services
- An overview of the vision for a recovery campus on Long Island
- A short-form documentary about the Marathon Memorial markers
- Expanding the digital storytelling corps
- A Moakley Park movie trailer prototype (See more in the Fellowship Highlights section)

Featured Project

MONUM TURNS 10



In 2019, we began the important, but often set-aside, work of documenting the many dimensions of New Urban Mechanics over the last 10 years. We launched a number of storytelling initiatives (across methods and mediums) to dive into the details of various projects—such as the Public Space Invitational and the early days of Citizens Connect—as well as the meta-aspects of our work—such as highlighting the nuances of failure in the public sector (a collaboration with our former team member, Max Stearns) and why kindness matters so much to innovation in a local government context.







We hosted 12 summer fellows in 2019.
They came from a variety of backgrounds and professional experiences. Through their projects, we partnered with 16 departments to make real progress on the City's goals in plans like Go Boston 2030 and Resilient Boston Harbor. We also continued to host exploratory fellowships with Boston Public Schools and university partners.

EXPLORATORY FELLOWSHIPS

We developed an exploratory civic design 2-month high school externship with a Boston Public Schools high school senior (Sultan Samid)

We hosted our first-ever JD/MPH Practicum field placement (Grace Truong)

We have committed to hosting our first-ever occupational therapy doctoral student, exploring the role that occupational therapy can play in a civic innovation context (Kim Ames)

2019 SUMMER FELLOWS

Bonnie Fan | Urban Freight

Carnegie Mellon University

Claire Henly | Make Moakley Yours

Former Director, Energy Web Foundation

Justin Brazier | Streets For People

LBGO Architects

Guadalupe Garcia | Streets For People

Tufts University Environmental Policy + Planning

Liam Grace-Flood | Future of Work

Yale School of Management

Lily Linke | Keep on (Safely!) Truckin'

Tufts University Environmental Policy + Planning

Micah Epstein | An Ethnography for 311

Rhode Island School of Design

Natalia Chavez | Unpacking Commercial Displacement

Boston University

Ronesha Williams | Youth (Still) Lead the Change

Brandeis University

Sianay Chase | City Hall Plaza-bilities

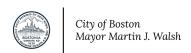
Boston College School of Social Work

Tatyana Fonseca | Increasing Language Access for EMS

Boston University

Tracy P. Beard | Technology in the Public Realm

University of Massachusetts Boston



SELECT SUMMER FELLOW PROJECTS

STREETS ARE FOR PEOPLE

Justin Brazier + Guadalupe Garcia

Almost 50 percent of Boston's public land is streets and sidewalks, and we're interested in making those public spaces more usable (and delightful!) for things other than just car parking. We experimented with temporary pedestrian plazas this summer to see how these short-term events can inspire long-term change. We partnered with the Boston Planning and Development Agency, the Age Strong Commission, and the Office of Neighborhood Services to engage constituents in the process and make each "pop-up" space unique to the community.



URBAN FREIGHT

Bonnie Fan

We partnered with the Boston Transportation

Department to explore more about commercial deliveries and how goods travel on city streets. Using available data, we developed diagnostic tools and models to help us forecast truck trips. With this model, and maps of parking violation data, we identified potential partnerships and pilot areas in downtown Boston to explore an "urban freight" prototype.

INCREASING LANGUAGE ACCESS FOR EMS

Tatyana Fonseca

In partnership with Boston Emergency Medical Services (EMS), we explored communication pathways—and how to improve them—for constituents who speak languages other than English. Last year 250,000 people in Boston had limited English skills and 6,800 had trouble communicating during an emergency health crisis. We recommended existing resources with potential to increase EMS' accessibility in the near future and suggested prototypes to improve accessibility in the long term.

MAKE MOAKLEY YOURS

Claire Henly

In partnership with the **Parks Department**, we explored ways to increase awareness of the Resilient Moakley Park project beyond South Boston and gather a greater volume of input into the park's design and programming. We asked, what if the park planning process could look like the launch of a movie? And that's what we did. By putting a fun and unique twist on the planning process, we were able to reach residents in a non-traditional manner.

CITY HALL PLAZABILITIES

Sianay Chase

We worked with the Public Facilities Department,
Property Management and the Operations Cabinet to
bring a macro social work student to the City Hall Plaza
renovation project. We wanted to show what might be
possible when we reinforce the renovation conversation
with a human services framework. In concert with the
project's consultants, we were able to bring site-specific,
digital engagement to the process—incorporating
perspectives from many more voices than if we hadn't—
highlighting the importance of taking a risk to do
something that emphasizes care and active listening.







We know this work is made stronger by the ecosystem of thoughtful partners in the work. Below are a series of some of the highlights—across multiple scales—of just a few of the amazing folks we were fortunate to partner with this year.

LOOK TO BOSTON: CITY TO CITY

As one of the longest-standing civic innovation teams in the world, we receive a lot of interest from cities, universities, and organizations around the world. We feel a responsibility to be available and share what we have learned, given the great privilege of resources we have had over the last ten years.

Regional

We began collaborating with Cambridge and Somerville to plan the 2020 Annual Conference of the National Association of City Transportation Officials, which is being jointly hosted by our three cities. We are also working in concert with the Metropolitan Area Planning Council to ensure alignment on data standards between cities that are considering (or currently deploying) e-scooter pilots.

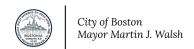
National

We held learning sessions with cities like Pittsburgh, Detroit, and San Antonio to talk about civic innovation fellowships. We started peer mentorship relationships with Baltimore's fledgling innovation team and the Wisconsin Housing and Economic Development Agency. We picked back up on collaborations with our fellow Office of New Urban Mechanics out of Utah Valley University.

International

In partnership with Global Affairs and the Boston Transportation Department we explored the city-to-city collaboration model provided through the European Union's International Urban Cooperation program. In 2019, we hosted two delegations from Lyon, France and had the chance to bring some of our partners from BTD to Lyon to learn about electric vehicle public charging infrastructure; shared micromobility; and digital inclusion in smart cities.

We will continue developing relationships with thoughtful civic innovation partners in other cities like Montreal, Zürich, Cluj-Napoca, and Amsterdam.



BOSTON PUBLIC SCHOOLS

We continued our strong partnership with a number of **Boston Public Schools** communities. Often, teachers are looking for opportunities for their students to do civic projects about their experiences in Boston, and sometimes students themselves reach out for opportunities with us. In particular:

- We prototyped a Civic Design internship with a student from Brighton High School
- We partnered with two classes from Tech Boston Academy who used their school's scheduling flexibility to explore tackling real-world projects with City departments
- We hosted almost 20 BPS teachers
 through the Venture Cafe Foundation
 teacher summer externship program, to
 discuss ways educators could incorporate
 the city's civic innovation practice into
 their classroom discussions, and to open
 up the field of civic innovation to their
 students as a professional opportunity



UNIVERSITIES

- Massachusetts College of Art and Design:
 Product Development Lab

 Students worked with us to bring creative disciplines to the conversation about the multiverses of opportunity or disaster in an autonomous mobility future.
- Harvard Kennedy School: Policy Lab
 Students drafted legislation and policy options about the commercial deployment of new mobility services and emerging data privacy protocols.
- Emerson: Engagement Lab
 Students, professors, and volunteers worked to bring Beta Blocks to life. It represents the manifestation of a multi-year research engagement about civic participation on emerging technologies and we hope can be a model for how cities and universities could engage.
- Northeastern: Scout Labs
 We were selected by Northeastern's
 student design studio, Scout Labs, as their
 partner for academic year 2019-2020. They
 are researching, embedding with BPS
 classrooms, and developing prototypes for
 the Civic Adventure Guide concept. (See
 more in Education + Youth Empowerment)

As always, we explored new university collaborations: we engaged with Suffolk's MPA faculty, the landscape architecture faculty and student association at the Boston Architectural College, and Babson's FutureLab on Mobility about potential collaborations in 2020.



PATRIBUS SIT DEUS BOSTONIA CONDITA AD 1630 NINE DONAS from design/ creative a t build out research aspect of work (active) For a full list of our current projects visit boston.gov/mechanics