THE MAYOR'S OFFICE OF NEW URBAN MECHANICS

YEAR IN REVIEW 2024

CITY of **BOSTON**

THE MAYOR'S OFFICE OF NEW URBAN MECHANICS



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LETTER FROM THE DIRECTORS



Hello from the New Urban Mechanics!

As the new leaders of this storied team, we are honored to continue the Mechanics' legacy of innovation to make government work for the people of Boston. Mayor Wu has an agenda to make Boston a home for everyone and has filled our city's administration with initiatives and change agents to bring this vision to life. This calls for some reimagination on our side too.

When we think of home, it's not necessarily a physical place but a space of warmth, safety, and belonging. That's what we hold in our hearts when carrying out our work this past year tackling the challenges of housing, climate, mobility, public realm, and civic engagement, inside and outside of City Hall.

And as much as we strive to advance the Mayor's agenda, we also find ourselves in the privileged position of redefining innovation within City Hall. We are expanding our role to provide strategic advice to departments; co-design explorations and experiments to gather insights; and to ensure that we can sustainably carry improvements forward.

Though a Year in Review is a look back, the nature of this work is to always be looking forward. Within these pages, we invite you to find a piece of MONUM nestled in our beloved city. In the year ahead, we invite you to join us in this journey as future collaborators and partners as we work together to make our city a true home for everyone.

Shin-pei Tsay

Director

Marcy Ostberg

Deputy Director

If you'd like to learn more about MONUM and how we innovate across City Hall, check out Shin-pei Tsay's interview on the *Design* As podcast: <u>designobserver.com/design-as-governance/</u>



MONUM SCAVENGER HUNT!

MONUM's impact is found all across the City of Boston and beyond! Throughout this report, you'll find prompts that will either encourage you to go out into the city and find evidence of our work or lead you to conduct online research so you can continue engaging with innovative ideas. Look for the magnifying glass on the following pages to begin your own exploration!



Identify as many former mechanics as you can around City Hall and see what their departments are up to.



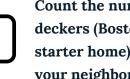
Find a branch location of one of our 4 participating ADU Loan banks.



Find one of the bus stop green roofs along the #28 bus route.



Visit a location in the city that would use deployables during a flood.



history.

Count the number of triple deckers (Boston's original starter home) on a street in your neighborhood.

Identify a plant that was once a

staple of native communities to

learn more about indigenous



Check out our first Bike Town at Moakley Park in South Boston.



Stop by the Boston Public Library to learn more about local history.



Talk to your neighbors about organizing a Spooky Street on your block this Halloween.



Visit your local Main Street district and support a small business.





THE TEAM

We are the Mayor's Office of New Urban Mechanics, the City of Boston's civic innovation team. Formed in 2010, we research and develop innovations in partnership with city departments to strategically improve the experiences of the people of Boston. We are an agile team, always evolving to meet the needs of the city, and thrive off of new ideas and partnerships. To that end, we have built an ever evolving team of long term directors, short term fellows, and crossdepartmental positions to ensure innovation is baked into our structure.



Photo credit: Brooke Scibelli

THE MECHANICS

Meet our team of urban mechanics who work across city departments and partner with stakeholders around the city! From civic design to housing to indigenous communities, our team utilizes a wide breadth of knowledge to solve problems.

Amira Madison (she/her) Supporting Indigenous Communities Program Manager

Anna VanRemoortel (she/her) Program Manager

Caroline Smith (they/them) Director of Civic Design

Marcy Ostberg (she/her) Deputy Director of MONUM Nate Lash (he/him) Program Manager

Paige Roosa (she/her) Director of the Mayor's Housing Innovation Lab (iLab)

Shin-pei Tsay (she/her) Director of MONUM

Thaddeus Brown (he/him) Program Manager

MONUM SUMMER FELLOWS

Each summer, we bring on a team of summer fellows to join our work. Thank you to the talented team of young professionals who joined us this summer! Look for the Summer Fellow Highlights throughout this report to learn about their work.

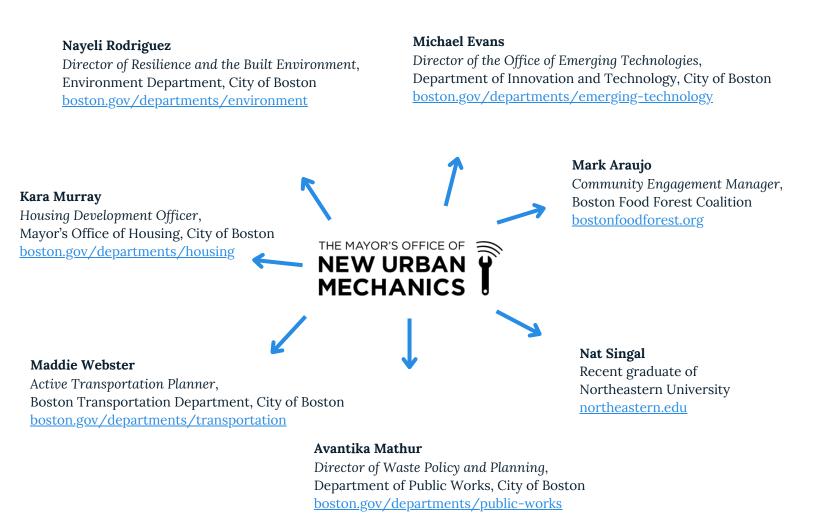
Amie ThomasJazzlynn DerrickJulia DeAngeloBrooke ScibelliJennifer ChanMaraya Keny-Guyer





INSTITUTIONALIZING INNOVATION ACROSS THE CITY

As a team, we work to not only innovate within our department, but institutionalize a culture of innovation across City Hall. We said goodbye to some of our mechanics this year but you'll still find them across the city and beyond furthering MONUM's innovative approach. Check out where they're bringing innovation in their current roles!



Identify as many former mechanics as you can around City Hall and see what their departments are up to.



CITY of BOSTON

HOW WE WORK

There are many important problems for us to solve around Boston, but which ones become MONUM projects? We take on projects that address a clear problem and are aligned with the priorities of Mayor Wu and the City of Boston. The problems we select are rooted in concrete activities of government, address the city's goals around equity, have the potential to scale to benefit other areas of the city, and move us towards the future we'd like to create here in Boston.

We source projects from a variety of partners. The best way to suggest an idea for MONUM is to come to our weekly office hours! Head to our website to sign up for a time slot.



For a full list of projects or to sign up for office hours:

boston.gov/mechanics

We partner with a variety of city departments as well as organizations outside City Hall. Our work wouldn't be possible without our team of partners who are willing to experiment alongside us.

Thank you to the many partners we worked with this year:

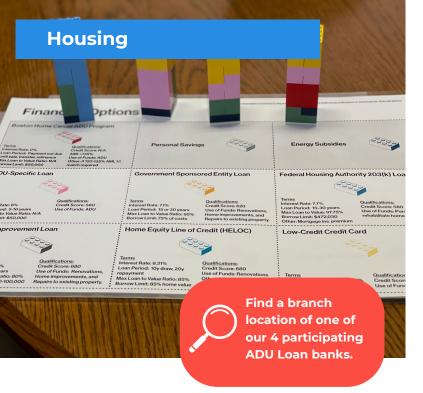
Architecture for Public Benefit Boston Bikes Boston Centers for Youth and Families Boston Children's Museum Boston College School of Social Work Boston Disabilities Commission Boston Fire Department Boston Harbor Now Boston Home Center Boston Licensing Board **Boston Main Streets Boston Planning Department** Boston Public Library **Boston Public Schools** Boston Public Works **Boston Transportation Department** Boston Water and Sewer Commission CultureHouse Danza Orgánica Dedham/Southshore Bank **Environment Department** Equity and Inclusion Cabinet FEMA

Studies Inspectional Services Department **Ivory Innovations** Laboratory for Values in the Built Environment at the Harvard Graduate School of Design Leader Bank Massachusetts College of Art and Design Massport Mayor's Office of Arts and Culture Mayor's Office of Housing MBTA MIT Media Lab Needham Bank North American Indian Center of Boston (NAICOB) Northeastern University Office of Early Childhood Office of Economic Opportunity and Inclusion

Harvard Joint Center for Housing

Office of Emergency Management Office of Green Infrastructure Office of the Parking Clerk Office of Small Business Over 30 Boston-based development, design, and finance experts who participated in the Starter Home **Design Sprint** Parks and Recreation Department **Rappaport** Institute **Registry Division** Scout Labs at Northeastern University South Boston Neighborhood House The Cooperative Bank U.S. Dept of Housing and Urban Development UMass Boston's Institute for New **England Native American Studies** Veronica Robles Cultural Center





Summer Fellow Highlight: ADU Toolkit

Summer Fellow, Jazzlynn Derrick, helped the City of Boston improve the user experience for those interested in building ADUs. While the City's ADU website contained a large amount of useful information on the current ADU rules and regulations, it was outdated, complex, and difficult to navigate. Jazzlynn was tasked with revamping the website to reduce homeowners frustration. To do this she mapped the homeowner journey, designed and tested a prototype website with homeowners. View the results here: <u>boston.gov/ADU</u>.

ADU Loan Pilot

Accessory Dwelling Units (ADUs) are additional residential units that can be built within an existing home or outside as a smaller detached dwelling. ADUs allow homeowners to utilize their property to its fullest potential and support a household as it grows and changes over the years. However, the opportunity to construct an ADU is disproportionately available to high income households and neighborhoods due to the unique challenges of financing. Additionally, loan products did not currently exist to help low and moderate income (LMI) homeowners finance an ADU. MONUM worked with cross-department partners to pilot a new ADU loan product. Designed with local banks, it is paired with existing Boston Home Center financing products to maximize financing opportunity for homeowners. The loan was officially launched in November at the ADU Fair and we've received overwhelmingly positive feedback from residents who will now be able to add an ADU to their property. This year, the team will collect data from pilot participants and regularly convene a working group to make adjustments ensuring the new loan products meet the needs of our residents.

Thank you to our project partners: Mayor's Office of Housing, Boston Planning Department, and the Laboratory for Values in the Built Environment at the Harvard Graduate School of Design.

Thank you to our partner banks: Leader Bank, Dedham/Southshore Bank, Needham Bank, and The Cooperative Bank.

Learn more about ADUs at boston.gov/ADU







Starter Homes

In November, the Housing Innovation Lab brought together Boston-based housing development, design, and finance experts to think creatively about new or improved real estate concepts/prototypes and seed new ideas for a "starter home" that is affordable to today's middle-income Bostonians. At the end of the sprint, proposals were presented to and evaluated by, Boston's Chiefs of Housing, Planning, and the Inspectional Services Department, as well as the Mayor's Office of Housing directors of the Boston Home Center, Neighborhood Housing Development, and Policy Development and Research to inform the city's homeownership development strategy.

Thank you to our project partners: Mayor's Office of Housing, Boston Planning Department, Inspectional Services Department, and over 30 Boston-based development, design, and finance experts.

Learn more about the Housing Innovation Lab at boston.gov/departments/housing/housing-innovation-lab



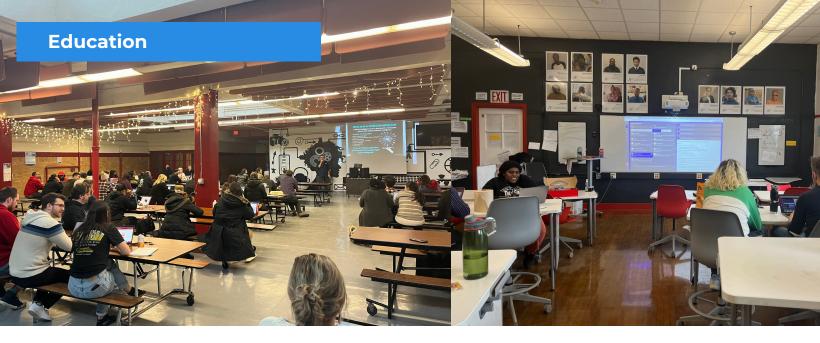
Summer Fellow Highlight: Demystifying Development Costs

Summer Fellows Jazzlynn Derrick, Amie Thomas, and Maraya Keny-Guyer worked together to understand the true cost of housing development in Boston. Their research focused on identifying the baseline cost to develop in Boston, the cost differences between market-rate and affordable housing, the drivers of changing hard and soft costs, and the implications for reducing development costs in the future. This research has continued to develop throughout the year with the Housing Innovation Lab.





CITY of BOSTON



AI Workshop

MONUM piloted a professional development session with TechBoston Academy in Dorchester to show teachers how Artificial Intelligence (AI) might be helpful in the classroom. Many teachers were curious about how students were using AI and wanted to be prepared to address this new technology. We facilitated a choose-your-own adventure style workshop where teachers could learn about the tech behind AI, experiment with different AI tools specifically designed for educators, and ask questions. We discovered that AI can be a powerful tool for educators. While AI cannot replace hands-on instruction from teachers, it can help decrease the digital divide among students. As a bonus, there are lots of helpful tools for teachers to use to assist with lesson planning, translation, and more! The workshop received overwhelmingly positive feedback.

Thank you to our project partners: Boston Public Schools (especially TechBoston Academy) and the MIT Media Lab

Learn more about AI for educators with our handbook linked on our project website: <u>boston.gov/departments/new-</u> <u>urban-mechanics/ai-workshop-educators</u>

BPS Indian Education Grant

The City of Boston, Boston Public Schools (BPS) and UMass Boston's Institute for New England Native American Studies (INENAS) were awarded grant funding to revitalize Indian Education programming. This grant from the Department of Education is designed to address the unique cultural, language, and educationally related academic needs of American Indian and Alaska Native students, including preschool children. The funded programs meet the unique cultural, language, and educational needs of American Indian students and ensure that all students meet the challenging Massachusetts academic standards. MONUM worked to make sure this was available to our community by identifying the opportunity for BPS, applying for the grant, organizing outreach and committee organization, and organizing student activities.

Thank you to our project partners: Boston Public Schools and UMass Boston's Institute for New England Native American Studies

Learn more about our work supporting Indigenous Communities at <u>boston.gov/departments/new-urban-mechanics/supporting-indigenous-</u> <u>communities</u> Identify a plant that was once a staple of native communities to learn more about indigenous history.





Outdoor Dining Guide

Since the COVID-19 pandemic, outdoor dining in Boston has become a popular summer activity across the city. The rules around outdoor dining have evolved each year as different departments provided their input to make sure this program is safe and effective. However, the city received feedback that the current Outdoor Dining Guide was too long, very confusing, and often included conflicting rules from different departments. MONUM revised the Outdoor Dining Guide to ensure that more restaurants can take advantage of this program. This project involved clarifying rules to ensure they produced their intended results, building consensus when departments didn't agree, and finding ways to clearly communicate the rules and possible layouts. MONUM produced a new Outdoor Dining Guide which has led to a guicker review process for restaurants and City departments alike, and clarity for users regarding the city's expectations and requirements.

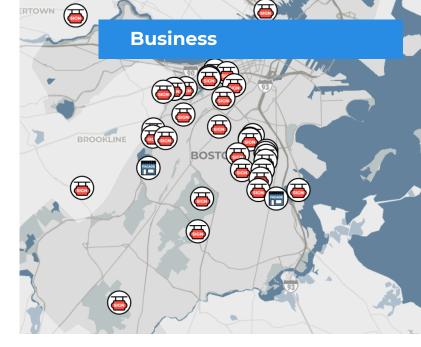
Thank you to our project partners: Office of Economic Opportunity and Inclusion, Office of Small Business, Boston Disabilities Commission, Boston Transportation Department, Inspectional Services Department, Boston Fire Department, Boston Public Works, Boston Parks Department, and Boston Licensing Board.

Learn more about Outdoor Dining at boston.gov/economic-opportunity-and-

inclusion/outdoor-dining-program

Summer Fellow Highlight: RF-Palooza

The City of Boston aims to utilize at least 25% minorityand women- owned businesses across all contracts awarded in any fiscal year. To meet this goal, MONUM Summer Fellow, Amie Thomas, worked with the Procurement Department to enhance the City's advertising strategies for contracting opportunities to diversify the pool of suppliers. Through survey responses, the team learned that the City needs to increase the frequency of direct communication of resources and opportunities to the business community and created a direct mail prototype to kick start this work.



ReStore Relaunch

The City is committed to supporting and strengthening our low and moderate income neighborhood business districts. Many small businesses rely on key City services and programs to thrive, and one of the most commonly referenced programs is ReStore - the City's facade and signage improvement program. However, the program has struggled to work as efficiently and effectively as is needed by our communities. MONUM worked with the Office of Small Business, architects, graphic designers, and program users to review the program and identify pain points. From here, the team worked to increase transparency, predictability, and efficiency throughout the program and clarify and regularize the process going forward. As a result, ReStore now has a comprehensive user guide for the program, a new website design, an online application, and a database management plan.

Thank you to our project partners: Office of Small Business and Boston Main Streets

Learn more about ReStore at <u>boston.gov/departments/small-</u> <u>business-development/storefront-improvements</u>

> Visit your local Main Street district and support a small business.





Bus Stop Green Roofs

There is an urgent need for resilient infrastructure and proactive measures to mitigate the detrimental effects of storm water flooding and extreme heat on Boston's urban landscape. Bus stops are an oft-overlooked infrastructure, yet they are ubiquitous throughout the whole city and thus an ideal space to host green roofs. Bus shelter green roofs are covered with drought tolerant vegetation planted over a waterproof membrane. Bus stop green roofs provide many benefits including reducing urban heat islands, improving air quality, managing storm water runoff, and providing a habitat for birds, insects, and other wildlife. MONUM worked with partners across the city to install 30 green roofs along the MBTA's #28 bus route, a fare free bus line that runs between Mattapan, Dorchester, and Roxbury which represent some of the city's urban heat islands.

Thank you to our project partners: Environment Department, Office of Green Infrastructure, Boston Transportation Department, MBTA, JCDecaux, Social Impact Collective, and Weston Nurseries.

Learn more about Bus Stop Green Roofs at

boston.gov/departments/climate-resilience/bus-sheltergreen-roofs

> Find one of the bus stop green roofs along the #28 bus

Cooling Interventions

The past decade has been the hottest ever on record in Boston. In response, Mayor Wu is taking an all-ofgovernment approach to addressing extreme heat. Multiple departments are working together to implement a variety of immediate and long-term heat mitigation strategies. MONUM helped these departments collaborate on new and innovative cooling interventions and led the implementation of BCYF Cool Spots, outdoor misting towers, pop up cooling stations, the temporary Day Square Cooling Plaza, and more! This work not only helped to cool the city, but it also helped the Office of Emergency Management expand its work in this area by identifying projects for a new full time role and piloting new management systems.

Thank you to our project partners: Office of Emergency Management, Environment Department, Boston Centers for Youth and Families, and the Boston Fire Department.

Learn more about cooling interventions at boston.gov/departments/emergencymanagement/keeping-cool-heat

Summer Fellow Highlight: Cooling Pilot

Building off of our work on cooling interventions, MONUM Summer Fellows, Julia DeAngelo and Brooke Scibelli, worked to evaluate these efforts. The team developed and implemented a data collection methodology to capture the experience of users and partners and synthesized findings into concrete recommendations for future action.



NEW URBAN MECHANICS

Photo credit: Brooke Scibelli





Deployables Day

Boston is among the most vulnerable cities in the country to flooding. Deployable flood barriers are used to protect City properties, public infrastructure, and private properties from flooding during storm events. These temporary flood barriers provide protection in areas where permanent solutions are not currently feasible. However, despite the widespread usage of temporary flood barriers, protocols around if, when, and how to deploy these barriers are inconsistent. We lacked coordinated operational response guidelines for private owners of deployable flood barriers. In September of 2024, MONUM helped the City host the inaugural Boston Deployables Day. City departments and private owners of deployable flood barriers practiced setting up their deployables and shared information about the city's flood protection measures. This event also allowed us to create a process for registering deployables with the Office of Emergency Management to better enable a facilitated deployment during storms. This annual event will continue to provide an opportunity to build public-private partnerships and align efforts to address the city's flood risk.

Thank you to our project partners: Office of Emergency Management, Environment Department, Office of Green Infrastructure, Massport, MBTA, FEMA, Boston Water and Sewer Commission, Boston Harbor Now, Boston Children's Museum

Learn more about Deployables Day at boston.gov/calendar/deployables-day

Visit a location in the city that would use deployables during a flood.

Summer Fellow Highlight: Franklin Park Funding

The Franklin Park Action Plan suggests the Park will need \$150-\$200 million in capital investments, with commensurate operational investments, to realize the priorities articulated in the plan. While the City will continue to draw on the \$23 million capital fund and \$5m operational, it still needs a sustainable fiscal support model and roll out plan. MONUM Summer Fellows, Julia DeAngelo, Jennifer Chan, and Brooke Scibelli, researched best practices and recommendations for fundraising and created a Pitch Deck to be used for future potential funders.









Bike Towns

Many Boston families do not have access to safe places to learn and practice riding bikes. Bike Towns - also known as "traffic gardens" are miniature street plans that provide living laboratories where people can teach children how to ride bikes and safely navigate the streets. Boston's first traffic garden, Bike Town at Moakley Park, was completed in August 2024 and transformed an underutilized former street hockey court into a vibrant familyfriendly space in South Boston.

Thank you to our project partners: Parks and Recreation Department, the Office of Early Childhood, Boston Bikes, South Boston Neighborhood House, and Boston Harbor Now.

Learn more about Bike Towns at boston.gov/bike-town

Check out our first Bike Town at Moakley Park in South Boston.

Summer Fellow Highlight: Station Electrification

Boston recently introduced a fleet of electric bikes to the Bluebikes program. Ebikes expand access to bikeshare and biking for people who are otherwise reluctant or physically unable to bike. However this requires operators to drive around the city to re-charge these ebikes through manual battery swapping. Electrified stations have the potential to reduce battery swapping by 80%, effectively reducing ebike operations costs by nearly half. MONUM Summer Fellow, Maraya Keny-Guyer, worked to explore what it would take to pilot station electrification in Boston and created a set of recommended pilot sites.







Stop by the Boston Public Library to learn more about local history.

Mobile Memory Lab

While the Boston Public Library provides other institutions with digitization services of old documents and photographs, the BPL had yet to offer the public the ability to preserve their memories this way. This year, we supported the launch of the BPL's Mobile Memory Lab. Attendees brought photos and documents, passed them through a preservation-grade scanner, and left with their files on a complimentary flash drive. They also had the option to donate their files to the Digital Commonwealth, through which the BPL is creating a new collection for community history.

Thank you to our project partners: Boston Public Library

Learn more about the Mobile Memory Lab and BPL digitization options at <u>bpl.org/digitization/locations/</u>

Summer Fellow Highlight: Anti-Displacement

While Boston does more than many major cities to mitigate displacement, the programs and services aren't immediately clear to people who might need them the most. This has created a sense among many communities that the City isn't doing much at all. MONUM Summer Fellow Jennifer Chan prototyped materials and communication approaches to improve communications and thus access to the critical programs. The Planning Advisory Council continues to build on her work to expand outreach and ensure residents make use of available services.

Preserving Culture and Community

As Nupumukâunean (We Still Dance) Performance

Âs Nupumukâunean (We Still Dance) is a new dance theater work that highlights traditional and contemporary stories of the Aquinnah Wampanoag People through dance, music, installation, and multimedia. MONUM collaborated with the Equity and Inclusion Cabinet to bring this performance to Boston for the first time. By having a dedicated Supporting Indigenous Communities Program Manager, we were able to build partnerships with the Mayor's Office of Arts and Culture and the Massachusetts College of Art and Design and provide opportunities like this. By supporting Indigenous art and making it accessible to residents, the City aims to bring visibility to a community that has been historically erased from the City of Boston.

Thank you to our project partners: Equity and Inclusion Cabinet, Mayor's Office of Arts and Culture, Massachusetts College of Art and Design, and Danza Orgánica

Learn more about our work supporting Indigenous Communities at <u>boston.gov/departments/new-urban-</u> <u>mechanics/supporting-indigenous-communities</u>





PROJECTS THAT SCALED



Housing with Public Assets

Cities in the U.S. and around the world have begun co-developing housing and public assets which can bring down costs and benefit communities. In February 2018, MONUM and other city departments asked local communities and developers whether combining housing and public assets would work in Boston and where it should be done. City departments released a Request for Information with a list of public assets for consideration. We learned that residents have an appetite for this kind of development and outlined potential challenges including coordinated and efficient design, and clear management of construction and operations when combining housing with a public asset. This year, the City released a Request for Proposals to redevelop the West End Library with housing above, and selected Preservation of Affordable Housing and Caste Capital for their innovative design. The redevelopment will be the first development of this kind in Boston and will include a new two-story branch library and 119 income-restricted units of housing above the library. Learn more about this project online:

boston.gov/buildinghousing/west-end-library-housing-public-assets

WITCH WALL WITCH WALL WITCH WALL OK HILL PARK OK HILL PARK

Spooky Streets

A collaboration between MONUM, the Mayor's Office Policy Team, and the Office of Civic Organizing, Spooky Streets began in 2023 to provide safe, fun, and festive opportunities for families to celebrate Halloween with their neighbors. In 2024, the Office of Civic Organizing expanded their block party grant program to include Spooky Streets, making it easier than ever for residents to host Halloween-themed block parties. This past year, we were delighted to see a 227% increase of Halloween-themed block parties with 121 Spooky Streets across Boston compared to last year's total of 37. Check out the map to see all of the Spooky Streets across the city: <u>boston.gov/departments/civic-organizing/spooky-</u> <u>streets-2024</u>

Where's My School Bus, Safeboard and Zūm

Boston Public Schools has partnered with Zūm to provide a new and improved platform for parents/guardians to track their student's school bus. This app allows parents and guardians to view their student's bus assignment, track their student's rides in real time, and receive alerts when the bus is arriving or is delayed. But did you know that this work started as a MONUM initiative? This app builds off of two prior MONUM projects. Where's My School Bus was an experimental app created by MONUM in 2011 which allowed parents to track their student's bus. In 2016, MONUM ran another project called Safeboard, a tap card program which gave students cards to use when they get on and off a bus, collecting data to share with their parents and the school regarding bus timing. These earlier experiments were essential in showing how this service would improve the lives of our students and families and provided developers important information regarding challenges, opportunities, and stakeholder needs. Learn more about Zūm: <u>bostonpublicschools.org/bps-departments/transportation/students-families/zum</u>





For a full list of projects or to sign up for office hours:

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CAMBRIDGE

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BROOKLINE

ROSLINDALE

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CHESTNUT HILL

boston.gov/mechanics