



PILOT Community Benefits Report April 1, 2022

The Museum of Science, Boston exists to inspire a lifelong love of science in everyone. Nestled at the end of the Charles River, situated with one half in Boston and the other in Cambridge, the Museum is at the center of the world's most science-rich community. Through exhibits, curricula, programs, and events, both live and virtual, reaching audiences both locally and around the world, we make science and scientific thinking accessible, engaging, and relevant. We accomplish this by promoting active citizenship informed by the world of science and technology and encouraging young people of all backgrounds to explore and develop their understanding of the natural and human-made world. We collaborate across disciplines to help people everywhere see and appreciate the science in everything. Our vision is a world in which science belongs to each of us for the good of all of us.

Diversity, equity, accessibility, and inclusion and belonging (DEAIB) are values deeply held and reflected in our mission and vision statements. Our goal is to remove financial and identity barriers to access science, technology, engineering, and mathematics (STEM) caused by finances, geography, language, education, or ability that inhibit exploration and learning. In response to this, we formed both a staff and a Board DEAIB Committee. The Museum is intent on breaking down barriers while creating relationships with new audiences. Strong connections with community organizations and leaders allow the Museum to make its resources broadly available. These values manifest in our longstanding scholarship programs for Museum field trips, our implementation of *MOS en Español*, our nationally renowned Universal Design research and practice, and our current *SubSpace* Series on Antiracism. The Museum remains steadfast in its commitment to providing informal STEM education for diverse audiences including people with disabilities, inner-city youth, girls and women, and ethnic and racial minorities. We continue to focus on ensuring that barriers to access continue to be replaced with new, equitable STEM engagement opportunities so that the families, students, and residents of Boston can experience the Museum.

The Museum has been changing lives through science and curiosity for nearly 200 years – longer than almost anyone else in the country. One of the world's largest science centers and New England's most attended cultural institution, we reach five million people a year through multiple channels – in Museum, in classrooms, and online. As an international beacon for informal science, technology, engineering, and mathematics (STEM) education, visitors can explore 110,000 square feet of permanent exhibit space and more than 700 hands-on and interactive exhibits inside the Museum. The internationally acclaimed traveling exhibit that we created, *The Science Behind Pixar*, explores how Pixar's computer scientists and mathematicians turn algorithms and code into dazzling animated worlds sharing the magic of STEM most recently with families and students in Japan, Hong Kong, and Chicago. The category-defying live performances of *SubSpace* is the Museum's experimental playground for developing fresh, intelligent, and provocative nightlife experiences for adults. The Museum's award-winning curricula division, EiE, brings inclusive, hands-on engineering and computer science learning opportunities to approximately 1.3 million students and 44,000 educators each year across all 50 states and in countries around the world.

The past two years forever changed the Museum of Science, Boston. We discovered audiences online who we had not previously reached, including Spanish-speaking families. The Museum launched *MOS en Español* in 2020, offering live Spanish-language programs with bilingual Museum educators, that has enabled us to reach over 61,000 Latinx community members. A groundbreaking partnership with *El Mundo* has allowed us to deliver relatable and relevant content on a range of topics and meet underserved Spanish-speaking audiences online who may never have engaged with the Museum of Science, Boston previously.

In November 2002, the Museum launched *MOS at School*, a remote, synchronous and asynchronous learning initiative delivering uniquely engaging STEM education experiences to classrooms. *MOS at School* connects K-12 students with Museum educators to deliver meaningful, accessible, and engaging learning experiences at a time when field trips are not possible. *MOS at School* is *free of charge* and provides school districts and educators with an opportunity to engage and inspire their students from their own classrooms as they prepare for an increasingly STEM-driven world. From November 2020 through June 2021, the Museum reached 35,329 K-12 Massachusetts students, a significant number of whom are residents of Boston. Of the students served in the 2020-2021 school year, nearly 70% came from underserved communities (schools in which free and reduced lunch participation is at or above 35% and/or schools that have a population of economically disadvantaged students at or above 25%).

Over the course of nine months during the pandemic, the Museum also created the *Project Vaccine: Our Best Defense*, a suite of resources in both English and Spanish, including a physical exhibit, online materials, and public programs, that capture the story of the effort to create vaccines for COVID-19 and inform the public about the science behind vaccine development. *Project Vaccine* presents current science content about vaccine development and showcases the stories of the people working in all stages of the process: from development, to manufacturing, to dissemination and distribution. Additional experiences address testing and adoption of vaccines, inviting guests to leverage their own personal understanding and values in the interest of exploring the science of vaccine development, facts about vaccine adoption, and the story behind the COVID-19 pandemic. As part of this initiative, the Museum partnered with the city of Boston and Boston Medical Center to provide STEM education resources at vaccine clinics held throughout the City.

We have enjoyed a long history of institutional change and programmatic innovation that successfully adapts to changing audience needs and expectations. Founded in 1830, as the Boston Society of Natural History, the Museum of Science, Boston moved to Science Park in 1951, transforming into a comprehensive science museum that helped visitors to understand and appreciate the entire range of science disciplines, a revolutionary idea at the time. The Museum is now proposing a bold new direction called *The Boston Science Common*, a physical place through a transformed second floor, and an ideal for which we strive to help the public to keep up with science at the pace of change. Half of the space will be for a Public Science Forum with a flexible, multi-purpose convening space overlooking the Charles River that welcomes our community in through curation and co-creation while broadcasting out and amplifying relevant community discussions and issues. The other half will be dynamic, multi-purpose exhibit space that invests heavily in cutting-edge technologies to frequently rotate exhibit topics at regular intervals with breaking science news rather than the typical museum model of ten-year exhibits with fixed assets on singular topics. Within *The Boston Science Common* will be content centers that drive relevant, accessible exhibits and programs across a variety of topics, where we will work with a broad advisory panel composed of academic, industry, and community partners, and will look to partner with individuals and organizations within the science-rich capital of Boston to bring each area to life.

Boston Science Common is our commitment to the community, where we will make the Museum a place of belonging and increased access, celebrating our visitors' lived experiences and acknowledging that our futures are intertwined. We will look to increase participation in the Museum from Black, Indigenous, and people of color (BIPOC) communities by leveraging the leadership and trust they have in local STEM organizations. Our hope is that in creating more welcoming public spaces to host programming at little or no cost, we can be a bridge between marginalized communities and the scientific community at-large. *Boston Science Common* will inspire the next generation of diverse future leaders STEM and look to build a future where everyone can see themselves thriving in a world driven by science and technology

The Museum of Science, Boston is the leading organization in the Commonwealth that inspires and educates the next generation STEM workforce. The Museum's new long-term strategic plan involves workforce development as a key component. Through exhibits, programs, and curriculum, the Museum supports workforce education and skill training activities that directly connect to the hiring and skills needs of the STEM workforce resulting in well-paying, quality jobs. Free access to the Museum allows us to reach underserved youth by offering accessible and inclusive STEM programming to the community. We have the potential to spark that moment in underrepresented youth, allowing them to see themselves in STEM, and possibly leading them down a career path to obtain a skilled job in the STEM workforce.

The Museum contributes substantially to the educational, cultural, and economic life of the residents of Boston drawing millions of dollars annually to the City in the form of accommodations, dining, and retail in local neighborhoods. When people come to Boston to visit us, they also visit other cultural institutions, stay in hotels, and eat in restaurants. The Museum of Science, Boston has an estimated return on investment (ROI) of approximately 3:1 overall. This means for every dollar invested in the Museum, we anticipate a return of at least three additional dollars to the city of Boston. As the most visited cultural institution in New England, we play a singular role in the region. The Museum of Science, Boston will help lead the recovery of Boston's economy from the pandemic.

The COVID 19 pandemic has had severe financial consequences on the Museum of Science, Boston. We were one of the first public institutions in Boston to close our doors due to the pandemic. Because of the size and scope of our institution, the Museum's financial loss has been tremendous. We have lost over \$55 million in earned revenue and are operating with a significantly reduced budget. We are operating with a staff roughly half the size it was pre-pandemic.

Due to the pandemic, the Museum was forced to close its doors from March 12, 2020, through July 24, 2020, and again from December 12, 2020, through February 7, 2021. As an organization whose earned income is largely based on admissions, our economic stability depends on revenue generated from our visitors. In response, the Museum implemented staff furloughs and layoffs as well as internal divisional reorganization. The Museum has taken out a \$10 million line of credit with our bank, JP Morgan Chase, to maintain coverage of operating costs ineligible for funding through restricted sources during periods of closure to the public. We were fortunate to receive a Paycheck Protection Program (PPP) loan (\$4.7 million) and a Shuttered Venue Operators Grant (SVOG) (\$5.3 million) from the Small Business Administration (SBA), but this relief amounted to less than 20% of our overall loss. The pandemic continues to have a negative impact on our institution, which operates on thin margins of financial sustainability, and without large designated operational reserve funds or access to tax-relief benefits.

The Museum is currently reopened safely but with reduced attendance and increased costs. Although our institution was closed for approximately 8.5 months, we have been a place where people are learning how to live and work safely in COVID times. We are an important voice in encouraging the public and our staff to follow public health guidelines.

The following Museum of Science, Boston programs provide direct benefits to the city of Boston and its residents. **In Fiscal Year 2021, despite being closed for three months due to the pandemic with reduced staff and increased costs, these services had a value of \$696,648 and benefited 31,888 Boston residents.**

- **Community Access Program**
 - Funded Admissions for Group Visits of an out-of-school-time nature, including Youth Programs, Community Centers, Schools, Social Services Providers, Colleges and Universities, Cultural Organizations, and Hospitals
 - **Value: \$550**
 - **Served: 22 children and adults**
- **EBT/WIC/HealthConnector Admission Program**
 - Free Admission for Boston residents with EBT/WIC/HCCC for up to 4 people
 - **Value: \$458,925**
 - **Served: 18,357 Boston residents**
- **Wonderfund Admission Program**
 - Free admission for every foster care family in Boston
 - **Value: \$1,716**
 - **Served: 74 Boston residents** (36 adults, 28 children, and 10 children under 3 years)
- **Active Duty Military Admissions**
 - Free admission for active duty military in Boston
 - **Value: \$24,325**
 - **Served: 973 Boston residents**
- **Boston Library Admissions Program**
 - Free Museum admissions with library passes available at local Boston Public Library branches
 - **Value: \$8,925**
 - **Served: 357 Boston residents**
- **High School Science Series Program**
 - Engages a diverse group of high school students and teachers with practicing scientists, science and technology experts, graduate students, and peers in the contextual applications of classroom learning. Students participate in a keynote panel presentation and hand-on activities around specific STEM themes once a month during the school year
 - **Value: \$4,900**
 - **Served: 511 Boston high school students and teachers**
- **Fenway High School Program**
 - Fenway High School Cross Roads students participate in weekly Tuesday visits to the Museum where they volunteer in various departments and have science and/or humanities class in the building. The Museum of Science, Boston also supports their annual Senior Science Fair and Junior Review events.
 - **Value: \$3,840**
 - **Served: 384 Boston students and 20 teachers**

- **Buddies Exploring Science Together (BEST) Program**
 - Partnership program between BPS ASD strand classrooms, Boston University Sargent School Occupational Therapy Program, and the Museum of Science, Boston where students participate in six weeks of guided field trips to build their STEM and social skills
 - **Value: \$28,108**
 - **Served: 35 Boston students and teachers**
- **Traveling Programs**
 - Live educational outreach, including family programs at Boston Public Library branches, school programs at Boston Public Schools and private schools, participation at community fairs and festivals, after school workshops at Boys & Girls Clubs of Boston, preschool programs and Senior Center programming
 - **Value: \$900**
 - **Served: 90 Boston residents**
- **MOS at School**
 - Interactive, synchronous virtual learning experiences for BPS students
 - **Value: \$30,416**
 - **Served: 5,396 Boston teachers**
- **EiE Curriculum – BPS Schools**
 - Implementation of EiE curricula in Boston Public Schools and professional development for BPS teachers
 - **Value: \$112,597**
 - **Served: 4,125 Boston students and 165 teachers**
- **EiE Try It! Kits - Boston Families**
 - Distribution of EiE Try It! Kits through the Greater Boston Food Bank in communities that served as pick-up locations for these take-home STEM kits, ideal for families with elementary learners
 - **Value: \$20,571**
 - **Served: 1,029 Boston teachers**
- **Teacher Partner Program**
 - Free exhibit hall admission for Teacher Partners at Public and Private schools in Boston
 - **Value: \$875**
 - **Served: 350 Boston teachers**

There are programs that provide benefits to the residents of Boston for which the Museum of Science, Boston was unable to run during Fiscal Year 2021 due to the COVID-19 pandemic. These include:

- **School Visits for Schools in Boston** provides funded Admissions for School-Day Visits of Public Schools, Private Schools, and Special Education Collaboratives in Boston with high financial need.
- **Eye Opener Program** invites BPS 2nd grade students to the Museum for guided field trips with a Museum volunteer including touring the exhibit halls, visiting the Butterfly Garden, and getting a behind-the-scenes tour of the Live Animal Care Center. Admission, bus transportation, snack, and instruction are provided at no-charge.
- **Vertex STEM Explorers Program** allows BPS middle school students to visit the Museum with exhibit hall admission, bus transportation, and instruction provided at no charge.
- **Overnights** give Boston students in grades 1-7 the opportunity to spend the night in the Museum with special programming allowing them to discover science in an engaging, educational, and interactive way.

- **Summer Courses** allow Boston students entering grades 1-8 to choose from a variety of hands-on, week-long STEM courses.
- **Summer Youth Interns, MLK Scholars** provide Boston students with internships at the Museum during July and August with an average of 21 hours of work per week.
- **Pre-Service Teachers Professional Development** train Boston teachers and student teachers.
- **Teacher Enrichment Professional Development** allow Boston teachers to receive professional development that includes workshops and sabbaticals.

Additionally, there are programs for which the Museum of Science, Boston is unable to calculate the number of Boston residents directly impacted or the direct dollar value of the benefit to the city of Boston. These include:

- **Women & Girls in STEM Programming** empowers all women and girls, regardless of background, race, or socio-economic status, to see themselves as STEM learners and professionals. Program goals include increasing girls' interest in STEM, helping students connect with female STEM professionals, and providing women with practical tools and strategies to advance their professional goals. Programs include *Student and Family Education Days* where visitors have the opportunity to interact with female scientists and engineers paired with Museum educators at hands-on educational activities throughout the Museum's Exhibit Halls, and *Mentoring Night*, where college students network with female STEM professionals.
- **Forum** programs engage participants in deliberative, inclusive conversations about issues that lie at the intersection of science and society. These programs allow Museum visitors, scientists, and policymakers to share their perspectives and learn from one another. The Museum of Science, Boston has developed and hosted over 100 Forum programs on a wide variety of topics.
- **Community Initiatives** is a new program where we seek to leverage the Museum's leadership in the community to bring a wide variety of voices together to work on common and complex issues affecting our society. The Museum of Science, Boston's role is to foster these relationships, develop new ones, and create innovating programs to further their missions. One of those programs is our *Town Hall*, where we convene thought leaders from across science and technology to help us all understand, and shape, the world around us. The Museum has developed and convened six *Town Halls* addressing issues surrounding the COVID-19 pandemic and vaccines.
- **SubSpace** redefines adult experiences at the Museum of Science, Boston exploring an unprecedented fusion of art, social science, and the future of the human experience. Art, science, and technology collide, creating a new wave of nightlife that is intelligent, provocative, and one-of-a-kind. From musical tributes in the Charles Hayden Planetarium to performance art installations, *SubSpace* is an ever-evolving lab for Boston's most intriguing and immersive experiences.
- **Public Events** put the power of discovery in Museum visitors' hands and include Themed Weekends and Special Programs. Whether it is our Book Club for the Curious, computer science, nanotechnology, or butterflies and caterpillars, kids and adults always find something to inspire them.
- **Universal Design (UD)** is an approach that helps the Museum to meet the challenge of being inclusive to people with disabilities by developing and designing exhibitions and programs that are inclusive of, and provide access for, the wide range of visitors by promoting choice. These include ASL Interpretation, CART reporting, Assistive Listening Systems, EH Audio Labeling, Narrative Description of the Building Layout, Mobility, Omni interpretation, and Planetarium interpretation.

COMMUNITY BENEFITS RECAP

Please note that the deadline for Community Benefits is April 1, 2022. There are also two additional data points we would like to collect this year (see footnotes for more info).

Once completed, please rename the document to reflect the name of your organization. Email an excel and PDF version to PILOTprogram@boston.gov.

INSTITUTION NAME:

Museum of Science

FINANCIAL YEAR:

FY2021

Program Name	Brief Program Description	Amount (\$)	Cash, In-Kind, or Both ¹	1-time or Ongoing ²	Who is Served ³	Program Initiator ⁴	City-wide or Neighborhoods Served ⁵	Community Benefit Category ⁶	Partners
Community Access Program	Funded Admissions for Group Visits of an out-of-school-time nature, including Youth Programs, Community Centers, Schools, Social Services Providers, Colleges and Universities, Cultural Organizations, and Hospitals	\$550	In-Kind	Ongoing	22 Children & Adults	Museum of Science, Schools, and Community Organizations	City-wide	Education	Community-Based Organizations
EBT/WIC/Health Connector Admissions	Free Admission for Boston residents with EBT/WIC/HCCCC for up to 4 people	\$458,925	In-Kind	Ongoing	18,357 Boston residents	DTA, WIC, CBOs	City-wide	Education	DTA, WIC, CBOs
Wonderfund Family Admissions	Free admission for every foster care family in Boston	\$1,716	In-Kind	Ongoing	74 Boston residents (36 adults, 28 children, and 10 under age 3)	DCF, Wonderfund	City-wide	Education	Mass Department of Children and Families, Wonderfund of Massachusetts
Active Duty Military Admissions	Free admission for active duty military	\$24,325	In-Kind	Ongoing	973 Boston residents	Museum of Science	City-wide	Education	
Boston Library Admissions	Free Museum admissions with library passes available at local Boston Public Library branches	\$8,925	In-Kind	Ongoing	357 Boston residents	Museum of Science and Boston Public Library	City-wide	Education	Boston Public Library
High School Science Series	Engages a diverse group of high school students and teachers with practicing scientists, science and technology experts, graduate students, and peers through participation in a keynote panel presentation educator guide with pre/post activities. Three programs focused on climate change from multiple perspectives with virtual speakers.	\$4,900	In-Kind	Ongoing	490 Students & 21 Teachers	Museum of Science	City-wide	Education	Boston Public Schools
Fenway High School Program	In the traditional program, Fenway High School students participate in weekly Tuesday visits to the Museum where they volunteer in various departments and have science and/or humanities class in the building. The Museum of Science also supports their annual Senior Science Fair and Junior Review events. This year we were only able to host one all-school virtual event with a planetarium show and Pixar exhibit tour as part of their STEM night.	\$3,840	In-Kind	Ongoing	384 students and 20 teachers	Museum of Science	City-wide	Education	Fenway High School

Buddies Exploring Science Together (BEST)	Partnership program between BPS ASD strand classrooms, Boston Univeristy Sargent School Occupational Therapy Program, and the Museum of Science where students participate in guided field trips to build their STEM and social skills. This year, we held 8 weeks of virtual programming, complete with behind-the-scenes tours of exhibits and hands-on Try-it Kits mailed to each student.	\$28,108	In-Kind	Ongoing	25 Students & 10 Teachers	Museum of Science	Allston, Jamaica Plain, and Roxbury	Education	Boston Public Schools, Boston University Sargent School Occupational Therapy Program
Traveling Programs	Live educational outreach, including family programs at Boston Public Library branches, school programs at BPS and other Boston schools, participation at community fairs and festivals, after school workshops at Boys & Girls Clubs of Boston, preschool programs, and Senior Center programming	\$900	In-Kind	Ongoing	90 Children & Adults	Community-Based Organizations, Boston Public Library, Boston Public Schools, or Museum of Science	City-wide	Education	Community-Based Organizations, Boys & Girls Clubs of Boston, Boston Public Library, Boston Red Sox
MOS at School	Interactive, synchronous virtual learning experiences for BPS students	\$30,416	In-Kind	Ongoing	5,396 BPS and other Boston school students	Museum of Science and BPS and other Boston Schools	City-wide	Education	BPS and other Boston Schools
EiE Curriculum - Boston Schools	Implementation of EiE curricula in BPS and other Boston schools, and professional development for BPS and Boston teachers	\$112,597	Both	1-time	Approximately 4,125 students and 165 teachers	Museum of Science	City-wide	Education	BPS and other Boston Schools
EiE Try It! Kits - Boston Families	Distribution of EiE Try It! Kits through the Greater Boston Food Bank in communities that served as pick-up locations for these take-home STEM kits, ideal for families with elementary learners	\$20,571	In-Kind	1-time	1,029 students	Museum of Science, National Grid, and the Greater Boston Food Bank	City-wide	Education	National Grid, the Greater Boston Food Bank, Catholic Charities of Greater Boston, Salvation Army, and Orchard
Teacher Partner Program	Free exhibit hall admission for Teacher Partners at Public and Private schools in Boston	\$875	In-Kind	Ongoing	350 Teacher Partners from Boston Schools	Museum of Science	City-wide	Education	Boston Public Schools

\$696,648

31,888

Footnotes

1 Does the institution's support for the program include a cash outlay, non-cash contributions (ex: use of property, equipment, supplies, etc), or a mixture of the two? If a mixture, please provide the approximate % of cash vs. in-kind.

2 Is the program a one-time expenditure by the institution or is it part of multi-year commitment? If multi-year, please indicate the length of the commitment.

3 Who is the target beneficiary of the program (ex: Boston youths with asthma)? Please be specific.

4 Who started the program (i.e. institution, Mayor, Police Commissioner, School Superintendent, etc)? Please be specific.

5 Is the program city-wide? If not, which neighborhood(s) are served by the program? Options include: City-wide, Allston, Back Bay, Beacon Hill, Brighton, Charlestown, Chinatown, Dorchester, East Boston, Fenway-Longwood, Hyde Park, Jamaica Plain, Mattapan, Mission Hill, North End, Roslindale, Roxbury, South Boston, South End, West End, and/or West Roxbury

6 Which category does the program fall under? Categories include: Built Environment, Community Health, Cultural, Direct Monetary Support to City of Boston Programs, Education, Employment, Good Neighbor Activity, Housing, Social Environment, Violence Prevention. Please see descriptions of the categories below.

Built Environment: active transportation options, parks and open space, access to healthy foods

Community Health: community health initiatives, education and outreach beyond the charitable mission of the institution

Cultural: access to cultural spaces, activities and programs

Direct Monetary Support to City of Boston Programs

Education: post-secondary access, scholarships, school funding, supports and resources, and investment in educational

Employment: workforce development programs, job readiness training, summer jobs program

Good Neighbor Activity: donations of facilities, goods, and/or supplies, monetary support of community associations,

Housing: development and maintenance of safe, stable, affordable living accommodations

Social Environment: social networks, participation, cohesion, capital, support, inclusion, and integration

Violence Prevention: youth violence, sexual violence and other community violence prevention

Other