Our Mission

Partner with Massachusetts communities to support the design and construction of educationally-appropriate, flexible, sustainable, and cost-effective public school facilities.
Board of Directors - Membership

Deborah Goldberg
Chairperson of the MSBA, Treasurer and Receiver General of the Commonwealth

Anne Brockelman
Appointed Member, Senior Associate, Perry Dean Rogers Partners Architects (PDR)

Sean Cronin
Designee of the Secretary of Administration and Finance

Sheila Vanderhoef
Appointed Member, Town Administrator, Town of Eastham

Matt Deninger
Designee of the Commissioner of Education

Terry Kwan
Appointed Member, Former teacher/School Committee member

Greg Sullivan
Appointed Member, Former MA Inspector General
Key Elements of the Current Process

Process for grants is based on collaboration between districts and the MSBA

- The MSBA needs to be involved in all phases of a project from initial statement of the problem (Statement of Interest application) through feasibility study, design development, construction and project close-out
- Studies/design/work done without MSBA participation is not eligible for reimbursement

Enrollments

- Projected enrollments must be generated through the MSBA’s on-line enrollment projection system and must be agreed upon before project can move forward

Educational Program

- Focus on District’s educational program to inform options study

MSBA Space Guidelines

- **Space Allowance by Program Activity** - For new schools, basic classrooms sizes for Pre-K, elementary, middle and high school must meet MSBA guidelines.
Key Elements of the Current Process

Local Votes
- The MSBA requires a very specific form/language for local votes
- One project – One Vote

Owner’s Project Managers (OPMs)
- Any project over $1.5 Million is required to have an Owner’s Project Manager (OPM)
- The MSBA must approve OPM’s for potential school projects

Designer Selection
- The Designer Selection Panel (DSP) was created by the MSBA to ensure an impartial and objective designer selection process

Project Scope, Schedule, and Budget
- The MSBA and the District must have agreement on scope, schedule, budget before project can be approved by the MSBA Board

Project Scope Monitoring
- The MSBA continues to monitor scope, schedule and budget through project completion

Commissioning
- The MSBA funds 100% of the commissioning for all projects
A Few Achievements

- $13.6 billion in payments to cities, towns and regional school districts
- The MSBA’s fully-funded Commissioning process, has a total value of over $35 million in work orders
- Since our inception, the MSBA has participated in, or is currently working on, over 600 projects state-wide
- Currently there are 287 projects, either active or completed in the ARP. The 287 projects are located in 112 districts, many of whom have been invited to ARP multiple times.
MSBA Active Projects

Total No of Projects - 323

- Accelerated Repair: 176
- Core Program: 144
- Green Repair: 1
- Waitlist: 2

Bar chart showing the number of projects by region:

- Region 1: 54
- Region 2: 60
- Region 3: 40
- Region 4: 74
- Region 5: 50
- Region 6: 57

No. of Projects

Region 1: 15
Region 2: 28
Region 3: 28
Region 4: 28
Region 5: 24
Region 6: 23
A total of 323 projects that have received invitations from the Board of Directors ("Board") to collaborate with the Massachusetts School Building Authority ("MSBA") are currently in the MSBA’s Eligibility Period and Capital Pipeline. The summary chart provides the number of projects in Eligibility Period and each phase of the Capital Pipeline. For a detailed look at the Capital Pipeline projects, please go to www.massschoolbuildings.org/building and select “Capital Pipeline Status Chart”.

Current Project Status
### Partnering Prior to Construction

<table>
<thead>
<tr>
<th>Acton-Boxborough</th>
<th>Haverhill</th>
<th>Sharon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amesbury</td>
<td>Hull</td>
<td>Somerset</td>
</tr>
<tr>
<td>Andover</td>
<td>Lawrence (2)</td>
<td>Spencer-East Brookfield</td>
</tr>
<tr>
<td>Ashland</td>
<td>Leicester</td>
<td>Springfield</td>
</tr>
<tr>
<td>Boston (2)</td>
<td>Lowell</td>
<td>Stoneham</td>
</tr>
<tr>
<td>Braintree</td>
<td>Medfield</td>
<td>Swampscott</td>
</tr>
<tr>
<td>Bridgewater-Raynham</td>
<td>Millbury</td>
<td>Tyngsborough</td>
</tr>
<tr>
<td>Bristol-Plymouth</td>
<td>Nauset</td>
<td>Walpole</td>
</tr>
<tr>
<td>Brookline</td>
<td>Northeast Metro</td>
<td>Waltham</td>
</tr>
<tr>
<td>Easton</td>
<td>Norwood</td>
<td>Watertown</td>
</tr>
<tr>
<td>Everett</td>
<td>Orange</td>
<td>Webster</td>
</tr>
<tr>
<td>Fitchburg</td>
<td>Peabody</td>
<td>Wellesley</td>
</tr>
<tr>
<td>Gloucester</td>
<td>Randolph</td>
<td>Westfield</td>
</tr>
<tr>
<td>Greater Fall River</td>
<td>Revere</td>
<td>Westwood</td>
</tr>
<tr>
<td>Groton-Dunstable</td>
<td>Rockland</td>
<td>Worcester</td>
</tr>
</tbody>
</table>

### Key Statistics
- **45 Districts**
- **42,581 Students**
- **19 Elementary Schools**
- **13 Middle Schools/ K-8**
- **15 High and Middle/High Schools**
- **8.08 million GSF**
Module 2 – Forming the Project Team

Once all of the Pre-Prerequisites have been completed to the satisfaction of the MSBA, the District procures the team of professionals utilizing MSBA specific procurement processes and standard Request for Services (RFS) templates and Contracts to work with the District as the proposed project advances through the MSBA's grant process.

- Owner's Project Manager (OPM) Process
- Designer's Selection Panel (DSP) Process
- MCPPO Certification/Recertification Requirements

Core Program:

As of the April 10, 2019 Board Meeting:

Twelve districts are in the process of procuring professional services:

- Nine districts are in the process of procuring an OPM
  - Andover, Ashland, Groton-Dunstable, Lawrence, Medfield, Swampscott, Waltham, Watertown, Westwood

- Three districts are in the process of procuring a Designer
  - Somerset, Wellesley, Worcester
Once a district has procured an OPM and Designer, the district and the district’s consultants must complete two Feasibility Study submittals, the Preliminary Design Program and the Preferred Schematic Report, prior to Board consideration to proceed into Schematic Design.

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Anticipated PS Board Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braintree</td>
<td>South MS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Bridgewater-Raynham RSD</td>
<td>Mitchell ES</td>
<td>April 2019</td>
</tr>
<tr>
<td>Millbury</td>
<td>Shaw ES</td>
<td>April 2019</td>
</tr>
<tr>
<td>Rockland</td>
<td>Jefferson ES</td>
<td>April 2019</td>
</tr>
<tr>
<td>Acton-Boxborough RSD</td>
<td>CT Douglas ES</td>
<td>June 2019</td>
</tr>
<tr>
<td>Easton</td>
<td>Center ES</td>
<td>June 2019</td>
</tr>
<tr>
<td>Sharon</td>
<td>Sharon HS</td>
<td>June 2019</td>
</tr>
<tr>
<td>Nauset</td>
<td>Nauset RHS</td>
<td>June 2019</td>
</tr>
<tr>
<td>Leicester</td>
<td>Leicester MS</td>
<td>August 2019</td>
</tr>
</tbody>
</table>
Prior to consideration by the Board for Project Scope and Budget Agreement authorization, a District and its team, in collaboration with the MSBA, must develop a robust schematic design to establish the scope, budget and schedule for the Proposed Project.

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Anticipated PS&amp;B Board Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arlington</td>
<td>Arlington HS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Central Berkshire</td>
<td>Wahconah RHS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Lowell</td>
<td>Lowell HS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Pentucket</td>
<td>Pentucket RHS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Weymouth</td>
<td>Maria Weston Chapman MS</td>
<td>April 2019</td>
</tr>
<tr>
<td>Holyoke</td>
<td>H.B. Lawrence</td>
<td>June 2019</td>
</tr>
<tr>
<td>Amesbury</td>
<td>Amesbury ES</td>
<td>August 2019</td>
</tr>
<tr>
<td>Braintree</td>
<td>South MS</td>
<td>August 2019</td>
</tr>
<tr>
<td>Bridgewater-Raynham RSD</td>
<td>Mitchell ES</td>
<td>August 2019</td>
</tr>
<tr>
<td>Waltham</td>
<td>Waltham HS</td>
<td>August 2019</td>
</tr>
<tr>
<td>West Springfield</td>
<td>Coburn ES</td>
<td>August 2019</td>
</tr>
</tbody>
</table>
## Construction Bids – Core Program 2009-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Projects</th>
<th>Design Basis for Enrollment</th>
<th>Estimated Project Budget</th>
<th>Estimated Construction Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>11</td>
<td>8,188</td>
<td>$205.60 million</td>
<td>$167.59 million</td>
</tr>
<tr>
<td>2010</td>
<td>33</td>
<td>26,184</td>
<td>$1.37 billion</td>
<td>$1.07 billion</td>
</tr>
<tr>
<td>2011</td>
<td>20</td>
<td>16,113</td>
<td>$896.60 million</td>
<td>$688.60 million</td>
</tr>
<tr>
<td>2012</td>
<td>25</td>
<td>21,157</td>
<td>$1.28 billion</td>
<td>$979.20 million</td>
</tr>
<tr>
<td>*2013</td>
<td>31</td>
<td>24,093</td>
<td>$1.21 billion</td>
<td>$972.00 million</td>
</tr>
<tr>
<td>2014</td>
<td>15</td>
<td>13,005</td>
<td>$839.90 million</td>
<td>$653.50 million</td>
</tr>
<tr>
<td>2015</td>
<td>13</td>
<td>10,204</td>
<td>$887.90 million</td>
<td>$700.90 million</td>
</tr>
<tr>
<td>2016</td>
<td>11</td>
<td>6,605</td>
<td>$665.20 million</td>
<td>$549.80 million</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>6,300</td>
<td>$675.71 million</td>
<td>$528.47 million</td>
</tr>
<tr>
<td>2018</td>
<td>8</td>
<td>5,378</td>
<td>$638.27 million</td>
<td>$520.15 million</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>177</strong></td>
<td><strong>137,227</strong></td>
<td><strong>$8.67 billion</strong></td>
<td><strong>$6.83 billion</strong></td>
</tr>
</tbody>
</table>

*Includes SLI Projects*
Construction Bids – Core Program 2019-2021

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Projects</th>
<th>Design Basis for Enrollment</th>
<th>Project Budget</th>
<th>Construction Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>24</td>
<td>22,130</td>
<td>$2.76 billion</td>
<td>$2.23 billion</td>
</tr>
<tr>
<td>2020</td>
<td>8</td>
<td>8,505</td>
<td>$1.18 billion</td>
<td>$948 million</td>
</tr>
<tr>
<td>2021</td>
<td>1</td>
<td>3,520</td>
<td>$343 million</td>
<td>$271 million</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>33</strong></td>
<td><strong>34,155</strong></td>
<td><strong>$4.28 billion</strong></td>
<td><strong>$3.45 billion</strong></td>
</tr>
</tbody>
</table>

Note: These numbers are based on preliminary information received from the District and are subject to further review and calculation.
Anticipated Sub-Bids in April, May, and June:
- April – Ludlow (DBB)
- May – Boston (CMR), Harvard (CMR)
- June – None

Anticipated DBB Bids or GMP Executions in April, May, and June:
- April – Saugus (CMR), Somerville (CMR), Westport (DBB), Worcester (CMR)
- May – Ludlow (DBB)
- June – Harvard (CMR)
MSBA Bids 2019 and 2020

Total Construction Budget

$2 Billion
Total Construction Budget
$1.2 Billion
MSBA Bids 2019

Total Construction Budget
$1.2 Billion
Total Construction Budget
$817.4 Million
Total Construction Budget

$817.4 Million
Core Program Bids – Schedule

Massachusetts School Bids

Capital Planning Data & Project Information

The MSBA has prepared the following information to assist bidders in understanding the process and requirements for Core Program Bids.

Project Information:

Capital Planning Overview Report

Capital Planning Project Overview Report (PDF) and recent updates on project status.

Capital Pipeline Status Chart

Capital Pipeline Status Chart (PDF) includes project status information.

Estimated Bid Schedule


Consultant/Contractor Status Report

Consultant/Contractor Status (PDF) provides current status information.

17
Of the 24 DBB bids or GMP executions in 2019, four have been reported to date.
Four reported bids came in within the estimated budget.

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Scope</th>
<th>Project Type</th>
<th>Bid Date</th>
<th>Construction Estimate *</th>
<th>Bid Amount *</th>
<th>Variance from Construction Estimate</th>
<th>Reim. Rate</th>
<th>Potential Grant Variance **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexington</td>
<td>Maria Hastings</td>
<td>New</td>
<td>CMR</td>
<td>1/9/2019</td>
<td>$53,143,418</td>
<td>$53,094,418</td>
<td>-$49,000</td>
<td>35.79%</td>
<td>-$17,537</td>
</tr>
<tr>
<td>Taunton</td>
<td>Mulcahey ES</td>
<td>New</td>
<td>DBB</td>
<td>1/25/2019</td>
<td>$50,074,205</td>
<td>$42,460,700</td>
<td>-$7,613,505</td>
<td>80.00%</td>
<td>-$6,090,804</td>
</tr>
<tr>
<td>Middleborough</td>
<td>Middleborough HS</td>
<td>New</td>
<td>DBB</td>
<td>2/8/2019</td>
<td>$83,582,398</td>
<td>$79,461,000</td>
<td>-$4,121,398</td>
<td>61.29%</td>
<td>-$2,526,005</td>
</tr>
<tr>
<td>Natick</td>
<td>J F Kennedy MS</td>
<td>New</td>
<td>DBB</td>
<td>3/6/2019</td>
<td>$87,559,890</td>
<td>$79,110,300</td>
<td>-$8,449,590</td>
<td>48.21%</td>
<td>-$4,073,547</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$274,359,911</td>
<td>$254,126,418</td>
<td>-$20,233,493</td>
<td></td>
<td>-$12,707,893</td>
</tr>
</tbody>
</table>

*The construction estimate and bid amount include pre-construction services and alternatives.
**These numbers are based on preliminary information received from the district and are subject to further review and calculation.
2009 to 2023 – $14 billion of construction

- $6.8 billion of construction funded in the first 10 years
- $2 billion of bids anticipated between July 2019 and December 2020
- $4 billion in estimated construction for 45 districts in the early phases of the MSBA pipeline
- $1 billion in estimated projects from the 2019 Annual SOI process for which SOI due diligence to commence with possible invitations in December 2019
Currently, there are 287 projects either active or completed in the ARP. The 287 projects are located in 112 districts, many of whom have been invited to ARP multiple times.

<table>
<thead>
<tr>
<th>Repair Program</th>
<th>Number of Districts</th>
<th>Number of Projects</th>
<th>Total Project Budgets</th>
<th>Maximum Facilities Grants</th>
<th>Number of Projects Final Audit Approved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 Accelerated</td>
<td>23</td>
<td>34</td>
<td>$41,414,880</td>
<td>$21,819,204</td>
<td>-</td>
</tr>
<tr>
<td>2017 Accelerated</td>
<td>19</td>
<td>34</td>
<td>$117,020,597</td>
<td>$73,280,673</td>
<td>0</td>
</tr>
<tr>
<td>2016 Accelerated</td>
<td>28</td>
<td>48</td>
<td>$156,598,234</td>
<td>$83,007,586</td>
<td>6</td>
</tr>
<tr>
<td>2015 Accelerated</td>
<td>24</td>
<td>43</td>
<td>$136,680,652</td>
<td>$91,974,052</td>
<td>12</td>
</tr>
<tr>
<td>2014 Accelerated</td>
<td>34</td>
<td>47</td>
<td>$108,410,084</td>
<td>$65,388,035</td>
<td>40</td>
</tr>
<tr>
<td>2013 Accelerated</td>
<td>25</td>
<td>45</td>
<td>$94,650,790</td>
<td>$54,662,711</td>
<td>45</td>
</tr>
<tr>
<td>2012 Accelerated</td>
<td>24</td>
<td>36</td>
<td>$63,009,653</td>
<td>$38,267,952</td>
<td>36</td>
</tr>
</tbody>
</table>

* Financial totals reflect the 16 projects approved for Project Funding Agreements as of the April 10, 2019 Board of Directors’ Meeting.
2017 Accelerated Repair Program
- 18 of the 22 reported projects bid within the estimated budget
- 11 of remaining 12 projects have bid with reporting of the results pending to the MSBA

2018 Accelerated Repair Program
- 13 of 34 projects scheduled to be bid in April and May
- Remaining 21 projects will start bidding in October for Summer 2020
After a District completes all items on MSBA’s Index of Final Closeout (Module 8), the MSBA initiates a Draft Audit Report and sends it to the District for its consideration. The MSBA performs the final audit to determine final total grant amounts. Final payment to the District requires the MSBA Board’s approval of the final Total Facilities Grant for the project.

<table>
<thead>
<tr>
<th>Year of Substantial Completion</th>
<th>Core Program Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failed to Approve Local Appropriation for Total Project Funding</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>1</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
</tr>
<tr>
<td>2015</td>
<td>5</td>
</tr>
<tr>
<td>2016</td>
<td>6</td>
</tr>
<tr>
<td>2017</td>
<td>6</td>
</tr>
<tr>
<td>2018</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>
Chapter 74 Career/Vocational Technical Education Spaces

MSBA is focusing on Chapter 74 career/vocational technical education spaces constructed in MSBA-funded projects:

- Chapter 74 Career/Vocational Technical Education Space Review Pilot Program
  - Design meeting held with DESE and district at architect’s office following completion of 60% Construction Documents

- MSBA held a Joint OPM/Contractor Roundtable in December 2018 for Design and Construction of Vocational Spaces
  - Presentation can be found on the Contractor Roundtable webpage

- Project Advisory 57 (March 2019) provides guidance for districts and their consultants constructing Chapter 74 career/vocational technical education spaces
  - Overhead doors must be equipped with safety reverse or stop devices.
  - OSHA permissible exposure limit ("PEL") is 90 decibels (dBA) for all workers for an 8-hour day.
MSBA Roundtables

MSBA hosts roundtables for OPMs, Designers, Contractors, and Commissioning Consultants. Prior presentations and details about future meetings are available on each specific Roundtable’s webpage. Firms can also be added to our email lists.

<table>
<thead>
<tr>
<th>Roundtable</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPM</td>
<td>Wednesday, February 27, 2019</td>
<td>Keys to a Successful Project &amp; Commissioning Closeout</td>
</tr>
<tr>
<td>Commissioning</td>
<td>Thursday, March 28, 2019</td>
<td>Keys to a Successful Project &amp; Commissioning Closeout</td>
</tr>
<tr>
<td>Designer</td>
<td>Wednesday, April 24, 2019</td>
<td>Special Education: Design Considerations for a Wide Range of Needs and Services</td>
</tr>
<tr>
<td>Contractor</td>
<td>Wednesday, May 15, 2019</td>
<td>TBD</td>
</tr>
<tr>
<td>OPM</td>
<td>Wednesday, September 18, 2019</td>
<td>Commissioning: Experiences and Best Practices</td>
</tr>
<tr>
<td>Designer</td>
<td>Thursday, October 17, 2019</td>
<td>TBD</td>
</tr>
<tr>
<td>Commissioning</td>
<td>Thursday, November 7, 2019</td>
<td>TBD</td>
</tr>
<tr>
<td>Contractor</td>
<td>Tuesday, December 4, 2019</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Best Practices

- Project Controls
- Scope
- Budget
- Schedule
Building for the Future

Owner’s Project Requirements

Building Operation and Maintenance

Designer OPM

Contract Specifications Testing
Commissioning

MSBA fully-funded process involving independent third party testing a building’s systems and materials and the operation of the building as a whole

- MSBA commissioned buildings undergo an intensive quality assurance process
- Many benefits of commissioning for the District
- 100% funded by the MSBA
- Building commissioning is also a critical component in any “green” building program including LEED and MA-CHPS

**Commissioned Systems**
- Building Envelope
- Roofing Systems
- HVAC Systems
- Plumbing Systems
- Electrical Power and Lighting Systems
- Voice, Data and Video Systems
- Life Safety Systems
- Building Automation and Control Systems

Total Value of commissioning work orders to date = $35 million
Preparing for Success

- Roles, responsibilities, and expectations of the Project Team
  - Owner
  - OPM
  - Designer
  - GC/CM and its subcontractors
  - MSBA commissioning consultant
- Kick-off meeting(s)
Preparing for Success

- Facilities personnel integrated into the design process

- Specifications that clearly define testing expectations

- Design and Construction schedule
  - Commissioning consultant review/incorporation of comments
  - Line item activities associated with testing and commissioning
Feedback – Commissioning Consultants

- Substantive review and response to commissioning comments
- Communication with the Project Team
- Pre-check completed by Project Team prior to scheduling visit of commissioning consultant
Feedback – Commissioning Consultants

- Sufficient notice for site visit/witness test
- Engagement of team during ongoing testing, close-out and 10-month walk-through
- Clear documentation of resolution of items
Feedback - Training

- Evaluating the skill-set of the user group to inform the specification

- Training attendees

- Timing of the training
  - Training pre-move-in and post-move-in
Feedback - Training

- Training Schedule
  - Multiple sessions
  - All day/half day
  - Consultant participation

- Documentation of Training sessions
Post-Occupancy Pilot Program

Where Post-Occupancy fits within the MSBA process

- Serves as an appropriate follow-up
- Buildings are lived-in
- Experienced several seasons

New: Explore possibilities of inserting “Pre-Occupancy” for new projects.
Post-Occupancy Pilot Program

Main Areas of Focus:

- General Information, including Enrollment Figures
- Building Interior & Exterior
- Facility Operation & Performance
- Program
  - Are spaces being utilized as designed and programmed?
    - Number and use of classrooms, use of breakout spaces, maker-spaces, computer labs, etc.
  - Have spaces been re-purposed?
  - Does the special education layout align with the approved?
Post-Occupancy Pilot Program

- District visits and program development
- End-user Feedback for Recently completed Schools
- Challenges during Building Completion and Turnover
- Addressing Start-up Issues, First-year Returns, and Beyond
- Energy Efficiency
- System specifications – best fit for user
Initial Feedback

- Lighting controls – too complicated
- Building Maintenance system – too complicated
- Building Maintenance system – insufficient training
  - Significant cost and time in adjustments and corrections
  - Requires outsourcing
- Roof leaks
- Continued support from the Project Team