

February 2020

David Rosenberg,
Joseph Trawick-Smith,
and Karen Hawley Miles

ERS BRIEFING

Opportunities Abound

*How Massachusetts Districts Can Use
New State Funding to Re-imagine
School*



EDUCATION RESOURCE
STRATEGIES



Opportunities Abound

How Massachusetts School Districts Can Use New State Funding to Reimagine School

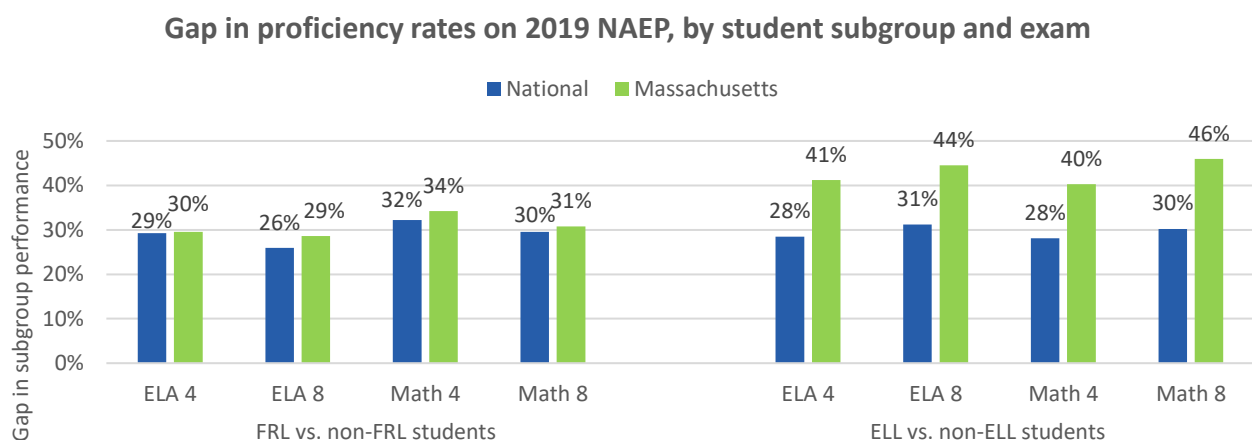
David Rosenberg, Joseph Trawick-Smith, and Karen Hawley Miles

Massachusetts has earned its place as the leader among the states in K-12 education. On the most recent results from the [National Assessment of Educational Progress \(NAEP\)](#), Massachusetts students scored first in the nation in 4th grade reading, 8th grade math and 8th grade reading – and a close second to Minnesota in 4th grade math.¹ Our students’ success stands out on a global stage as well: according to the [OECD’s Program for International Student Assessment \(PISA\)](#), 15-year-olds in the Commonwealth overall score as high as their peers in any nation on earth in reading.²

Our students’ success is a function of many factors. Funding helps: at \$16,197 per pupil, Massachusetts ranks eighth in the nation in K-12 spending, nearly one-third higher than the national average of \$12,201 per pupil – and in some districts, per-pupil spending surpasses \$25,000.³

But academic success in Massachusetts is far from universal. Gaps between low-income students and their higher income peers in Massachusetts are similar to those across the country; the gaps for English Language Learners are even greater.⁴

Figure 1. Gap in proficiency rates on 2019 NAEP, by student subgroup and exam.ⁱ



ⁱ How to read this chart: Nationally, proficiency rates on the ELA 4th grade exam are 29 points lower for FRL students than for non-FRL students; in Massachusetts, the gap is 30%.



New Funds and New Pressure

School districts in Massachusetts’ highest-need communities are about to receive an unprecedented influx of new funds with the express goal of helping close these persistent achievement gaps. Following bipartisan action by the Legislature and Gov. Baker, the state’s FY 2021 budget includes the first installments of a projected \$1.5 billion in new K-12 investments under the Student Opportunity Act – including more than \$300 million for the 2020-21 school year. Thirty-seven districts (out of more than 400 statewide) will receive at least \$1.5 million next year, with increases of up to 12.7% on top of current annual budgets. Over seven years, in the median of these “long-form” districts – so named because they are required by DESE to provide more information about their spending plans – this equates to \$25 million in new funds, while several will gain more than \$100 million by 2028.⁵

Figure 2. Incremental Chapter 70 Aid, by District, 2020-21 (DESE projections as of 2/20), \$ millions

District	\$M in FY21	% increase	District	\$M in FY21	% increase
Lynn	\$30.2	12.7%	Methuen	\$3.5	4.0%
Lawrence	\$21.8	10.3%	Marlborough	\$3.2	4.9%
Brockton	\$21.1	9.1%	Pittsfield	\$2.9	3.8%
Springfield	\$19.6	4.8%	Gtr Lowell RVT	\$2.2	5.1%
Worcester	\$18.0	4.8%	Malden	\$2.2	2.3%
Lowell	\$12.8	6.0%	Gtr Lawrence RVT	\$2.2	6.8%
Fall River	\$11.9	7.3%	Arlington	\$2.0	3.2%
Chelsea	\$10.9	10.9%	West Springfield	\$2.0	3.9%
New Bedford	\$10.7	5.6%	Waltham	\$2.0	2.7%
Revere	\$10.4	10.0%	Boston	\$1.9	0.2%
Framingham	\$7.1	6.2%	Leominster	\$1.9	2.5%
Haverhill	\$6.9	6.9%	Gtr Fall River RVT	\$1.8	7.2%
Quincy	\$6.6	5.3%	Gtr New Bedford RVT	\$1.8	4.7%
Everett	\$5.9	5.6%	Clinton	\$1.8	7.5%
Holyoke	\$4.4	5.0%	Attleboro	\$1.7	2.2%
Chicopee	\$4.0	4.0%	Rockland	\$1.6	5.9%
Fitchburg	\$3.9	5.1%	Randolph	\$1.5	3.8%
Milford	\$3.8	7.3%	Norwood	\$1.5	3.8%
Taunton	\$3.6	3.6%	All long-form districts	\$251.3	5.1%^{ii 6}

The impending arrival of these funds creates a unique opportunity for education leaders. To hold districts accountable for effectively using new resources, the state requires that districts develop

ⁱⁱ Excluding Boston, the average increase is 6.2%; among all districts receiving at least \$10M in FY21, the average is 7.5%.



an “evidence-based three-year plan” specifying how new funding will be used; DESE has since provided guidance for district leaders on priorities and practices to consider.

Over the past fifteen years of our work with leaders in several states and more than fifty large urban school districts, including several in our home state of Massachusetts, we’ve observed that the most effective system leaders resist the temptationⁱⁱⁱ to simply layer new resources on top of existing, outdated structures. Instead, they engage their communities in a dialogue about student need and implement evidence-based strategies for addressing them. Ideally, they use new resources to catalyze [school](#) and [district redesign](#) while [targeting these resources](#) to boost strategies that support students and teachers with the greatest needs and have the highest potential to accelerate learning for every child.

Schools that accelerate learning for all students – especially those who live in poverty or are English language learners – [“do school differently.”](#) They change the way they organize the everyday work of instruction to enable more targeted individual attention and time for students with the greatest learning needs. They [enable teachers to share the work with a team of colleagues](#), with more sustainable workloads and opportunities for career growth. And they integrate investments in [social, emotional, and academic development](#) that benefit all students.

Unfortunately, what works and what is politically popular are often at odds. In the coming months, many local leaders will face intense pressure to double down on traditional, one-size-fits-all strategies that aren’t getting the job done.

Here, we provide a frame for district leaders and other stakeholders to address these common pressure points, contrasting them with the evidence-based strategies that have the potential to change the odds for students with the most significant learning needs. Throughout, we show how these link to the “evidence-based strategies” included in the guidance provided by the Department of Elementary and Secondary Education.

Figure 3. Targeted, evidence-based strategies for reaching learning goals

Pressure Points	Traditional “one-size-fits-all” strategies	Targeted, evidence-based strategies
Raise teacher salaries	Implement across-the-board salary increases for all staff	Target salary increases to: <ul style="list-style-type: none"> • Ensure competitiveness with surrounding districts • Retain highly effective teachers when they are most at risk of leaving • Compensate teachers for taking on instructional leadership or hard-to-staff roles

ⁱⁱⁱ For more on how effective system leaders use new resources strategically, see the following ERS publications: [It Takes a System](#), [The Rewards of Perseverance](#), and [Back from the Brink](#).



Reduce class sizes	Implement incremental across-the-board class size reductions	Create opportunities for small-group instruction for students with the greatest learning needs, when they need it most
Increase learning time	Extend the school day by adding a little bit of time to each student activity	Provide more high-quality instructional time in core subjects and for students with the most unfinished learning
Provide more PD for teachers	Add time and compensation for off-site professional development workshops	Provide time and support for teachers to work in teams <i>and</i> independently as they learn and adapt new curriculum, plan daily lessons and adjust instruction in response to students' learning needs
Invest in whole child support	Increase the number of counselors and social workers without changing the way schools are organized	Organize schools and build teacher expertise to support social and emotional learning needs integrated with academic work

For each strategy, we offer cost estimates for a “typical” Massachusetts district receiving a significant infusion of funds under SOA. To be clear, local context matters, and no two districts are exactly alike. However, by grounding our analysis in how actual Massachusetts districts use resources today (and outlining our assumptions in an accompanying Appendix), we hope that the tradeoffs described here can meaningfully shape district leaders’ conversations with constituents and ensure that new funds have a direct, positive impact on student learning.

Teacher Raises

The announcement of new funding is often followed by pressure from constituents to increase salaries for educators. Nationally, teachers earn an average 21% less than their college-educated peers in other industries,⁷ and there is little doubt that teacher pay increases are essential to elevating and sustaining the profession. At the same time, there is tremendous variation in pay for Massachusetts teachers, with average salaries ranging from \$65,600 to \$101,800 in districts that will receive the bulk of new SOA funds.⁸ And though the basic structure of a teacher’s salary schedule is similar across districts – rising based on the number of years and for additional courses taken – districts vary in how fast compensation grows and how much teachers gain for additional coursework. Such significant variation suggests the importance of carefully examining local competition in developing a strategy for teacher compensation.

Traditional Approach

Pay increases are often rolled out across the board, with every teacher receiving a similar increase regardless of their experience, role, or contribution. In districts with non-competitive salary structures or exceptionally low pay, this may be an important component of a compensation investment. Unfortunately, across-the-board individual pay increases are rarely



large enough to impact recruitment or retention, nor do they have a direct link to improved instructional practice. They are also expensive and lock in long-term cost increases that may not be sustainable for the system.

For example, a 5% across-the-board pay increase for all teachers would account for an average 45% of new Chapter 70 funds provided under SOA in 2020-21. This is equivalent to 2.5% of a district's total annual operating budget.⁹ In other words, even a relatively modest across-the-board salary increase could limit district leaders' ability to make the type of fundamental change envisioned by the Student Opportunity Act.^{iv}

Strategic Approach

For a similar level of investment, districts could concentrate their efforts on strategic ways to build a competitive teacher pipeline, increase retention, and expand the breadth of teacher responsibilities. For example, for the same cost of a 5% across-the-board salary increase, leaders in a Massachusetts district receiving significant new SOA funds could do *both* of the following:

- Raise salaries for teachers in their first five years by an average of \$8,000, or 15%, to stay competitive with surrounding districts and reduce early-career turnover (1.5% of budget or \$200 per pupil)^v
- Invest in \$10,000 stipends *and* an extra period of release time per day for teacher leaders, who would be assigned to provide coaching and feedback to rookie or struggling teachers (1.0% of budget or \$175 per pupil)

Evidence-based program examples highlighted by DESE

10. Diversifying the educator/administrator workforce through recruitment and retention
13. Strategies to recruit and retain educators/administrators in hard-to-staff schools and positions

Lengthen the School Day

Increasing the amount of academic time students receive with effective teachers can be a powerful lever for improving achievement, as state-funded pilots of expanded time in Massachusetts have demonstrated. In one study of 35 charter schools in New York City, researchers concluded that increased instructional time was among the strongest predictors of school effectiveness.¹⁰ These results are unsurprising when considering the additional learning

^{iv} Based on DESE projections of new Chapter 70 funds for all districts required to complete long-form plans for using new funding. Assumes 20% incremental cost for benefits on top of the salary increase.

^v All cost projections are estimates that will vary based on individual district context.



time students could experience through an extended day model: adding an hour to a typical school day is equivalent to adding over a month of student time per year.^{vi}

Traditional Approach

When presented the opportunity to extend the school day, districts often do so in ways that fail to improve students' academic experience. For example, schools may use the additional time to move from 45-minute periods to 55-minute periods for all subjects, without adjusting daily lesson plans to help accelerate student learning. With an added cost of about 2% of a typical districts' budget, or roughly 36% of new SOA funds, this approach can be an expensive way to preserve the status quo.

Strategic Approach

For the same level of investment, districts can use extended time to reengineer the school day and dramatically improve the student experience. For example, schools could do *both* of the following:

- Add 60 minutes of intervention time for struggling students four days a week, while simultaneously providing large-group enrichment opportunities for students who are on-track (1.5% or \$250 per pupil)
- Extend planning time for teachers to 90-120 minutes one day a week so they can collaborate in teams with an expert teacher or coach (0.4% or \$60 per pupil)

Lower Class Sizes

Lowering class sizes is a popular way to invest new dollars, in part because it is so concrete. There also is a sizeable body of research on the effect of lowering class sizes on student learning. In general, the research indicates that, especially in early grades, class size reductions can have a positive impact on student learning as long as they are quite sizable, e.g. moving from 23 to 17 students per class.¹¹ Incremental class size reductions, while costly, generally are not linked to any change in student achievement.

Traditional Approach

When presented with the opportunity to add teachers and reduce class sizes, districts often seek to do so across-the-board, reducing class sizes by an average of one or two students for all subjects or grades in a school. For a typical district, this modest reduction would cost about 3.5% of annual expense and 60% of its new Chapter 70 funds available in 2020-21.

^{vi} Assumes a 180-day school year and pre-investment school day length of 7 hours



Strategic Approach

Targeted and meaningful group size reductions *can* make a difference on student learning if they are deployed for students with the greatest learning needs, when they need it most. For example, for a similar cost as an across-the-board reduction of two to three students per class, a typical Massachusetts school district could do *all* the following:

- Implement daily one-hour literacy blocks, with group sizes of fewer than ten students, across all K-3 classrooms – a research-backed approach with the potential to put more students on the path to literacy and long-term academic success (2.0% of budget or \$300 per pupil)
- Provide two hours per week of small group tutoring after school, with group sizes of five or fewer students, for the 15% of elementary school students with the most unfinished learning (0.5% of budget or \$90 per pupil)
- Implement a sixth-grade *and* ninth-grade “[academy model](#),” where students benefit from stronger adult relationships and targeted academic support as they navigate the transition from elementary to middle and middle to high school. This model would include a summer bridge program, lower class sizes and additional time for teachers who share students to collaborate (1.2% of budget or \$200 per pupil)

Evidence-based program examples highlighted by DESE

2. Research-based early literacy programs in pre-kindergarten and early elementary grades
6. Increased personnel and services to support holistic student needs
8. Acceleration Academies and/or summer learning to support skill development and accelerate advanced learners
9. Dropout prevention and recovery programs

Expand Professional Development for Teachers

In the face of persistent achievement gaps, families and school communities often call on district leaders to invest more resources in improving teacher effectiveness. This often means investing to grow teachers from within through a sustained investment in professional development.

Traditional Approach

Most professional development for teachers still consists of out-of-school workshops with limited relationship to actual curriculum – and limited impact on actual instruction. Traditional professional development often requires a significant investment of teacher time outside of school: nationally, the typical large, urban school district invests 3.1% of total annual expenditures on professional development workshops, including the cost of teacher time.¹²



Many districts also invest significant funds – an average of 3.3% of total annual expenditures in districts ERS has studied across the country – in higher pay for teachers who have earned advanced degrees, which are proven to have limited correlation to overall teacher effectiveness or student learning, except in Math and Science.¹³

Strategic Approach

In contrast, high-quality professional learning is embedded into teachers' everyday jobs, led by educators with deep expertise in the curricula being taught, and accompanied by frequent cycles of observation and growth-oriented, non-evaluative feedback. High-quality professional learning happens in teams, with teachers who teach the same content working together on lesson planning and reviewing student work for as much as 90 minutes per week.

Implementing this type of model requires re-thinking traditional staffing and scheduling practices, including by creating significant blocks of content-focused collaboration time for teachers.^{vii} While many leading-edge districts do this without increasing their investment in professional learning, the projected influx of Chapter 70 funds can make these shifts easier. For example, for a similar level of investment in professional development workshops, a typical Massachusetts district could instead:

- Purchase and adapt high-quality, standards-aligned curricular materials in core content areas (0.5% of budget or \$85 per pupil)
- Create 90 minutes of weekly common planning time for teachers that share grade-level content (2.0% of budget or \$270 per pupil)
- Invest in release time for teacher leaders, or staff instructional experts at schools to lead common planning time and provide feedback to teachers (1.0% of budget or \$175 per pupil)

Evidence-based program examples highlighted by DESE

4. Supporting educators to implement high-quality, aligned curriculum

11. Leadership pipeline development programs for schools

12. Increased staffing to expand student access to arts, athletics, and enrichment, and strategic scheduling to enable common planning time for teachers

13. Strategies to recruit and retain educators/administrators in hard-to-staff schools and positions

^{vii} For ideas on how to create long blocks for teacher collaboration, see the ERS publication [Finding Time for Collaborative Planning](#).



Support the Whole Child

Research increasingly points to the importance of both cognitive *and* social-emotional learning as drivers of students' academic success. Schools that focus on social-emotional development are more likely to see improvements in achievement, behavior, emotional well-being and a range of long-term adult outcomes.¹⁴ So, when new resources become available, families and school communities often advocate for investing in services that help support the “whole child.”

Traditional Approach

While we must help ensure educators have the resources to manage the most acute student needs, simply adding counselors, psychologists or other social-emotional professionals to support all students can create a disjointed school experience – academics in one room, social-emotional support in another – that is at odds with what we know about children's cognitive and emotional development. For a typical Massachusetts district, adding a counselor and social worker at every school would cost 2-3% of its annual budget, or roughly half of its SOA funding increase.

Strategic Approach

Instead, district leaders can invest to create strategies that promote *integration* of social, emotional, and academic development, including by explicitly building opportunities for critical thinking, self-reflection and norms-based discussions into daily classroom interactions. For example, for the same cost of adding counselors and social workers at every school, districts could:

- Purchase a high-quality, evidence-based SEL program for integration with regular classroom instruction in grades six through twelve (e.g. project-based learning modules, teen outreach programs, etc.) and accompanying teacher development seminars (0.5% of budget or \$50 per pupil)
- Invest in time once a month for teachers and student support providers that share students to collaborate around SEL instruction and support for specific students (0.5% of budget or \$75 per pupil)
- Partner with community organizations that provide youth development opportunities outside of the school day, and fund through philanthropic support (cost-free to the district)
- Provide a stipend or establish a new site coordinator role to help coordinate community partnerships and within-school SEL supports (1.0% of budget or \$150 per pupil)

Evidence-based program examples highlighted by DESE

9. *Dropout prevention and recovery programs*

14. *Community partnerships for in-school enrichment and wraparound services*

15. *Parent-teacher home visiting programs*



Moving Forward

The infusion of new funds under the Student Opportunity Act is a once-in-a-generation moment for education leaders who are working to ensure that *all* schools succeed for *all* students. Ultimately, Massachusetts' position as a leader in K-12 education rides on our ability to take advantage of this moment. To succeed, district leaders can:

- **Engage the community.** Changing the odds for our highest-need students will take a collaborative effort among a broad range of stakeholders, including many who are often left out of the dialogue. Families, students and advocates working to amplify the voices of under-represented groups must be front-and-center in this work.
- **Follow the research.** Decades of research and real-life evidence tell a clear story: traditional, across-the-board investments, while often politically attractive, simply don't change the odds for our highest-need students. Strategic, targeted and integrated investments in evidence-based approaches do.
- **Support your strategic plan.** There is a difference between maintaining strategic consistency and using new funds to do more of the same. New funding makes it possible for leaders and their partners to think bigger about how to address deep and longstanding student needs.
- **Challenge status quo investments.** Rather than layer on more of the same, leaders can use SOA as a catalyst for re-thinking how they use existing resources. Since new investments should be part of an integrated improvement strategy, districts and schools should look to ramp down strategies that aren't evidence-based and double down on approaches that have the best chance for supporting student success.
- **Take a long view.** Many districts will see large flows of new funds very soon, which bring with it pressure to act fast. But leaders should also take a long view of the Student Opportunity Act, which includes sizable investments for at least the next seven years. Investing resources up front to develop a thoughtful, sustainable long-term plan for change is time well-spent. Leaders will also need to avoid short-term fixes that paper over, rather than directly address, deep-seated challenges.
- **Stay the course.** Change doesn't happen overnight. It will take a sustained, focused and disciplined effort to realize the promise that new funding offers for improving outcomes for students who too often have been left behind by longstanding education policies and practices.



Technical Appendix

All increased payments to staff include an additional 7.65% cost for employer FICA contribution.

Opportunity	Estimated % of Budget	Estimated Cost Per Pupil	Assumptions & Methodology Notes
<p>A 5% across-the-board pay increase for teachers would account for an average 45% of new Chapter 70 funds</p> <p>Raise salaries for teachers in their first five yearsⁱ by \$8K, or ~15%, to stay competitive with surrounding districts and reduce early-career turnover</p>	<p><i>Varies</i></p> <p>1.5%</p>	<p><i>Varies</i></p> <p>\$200</p>	<ul style="list-style-type: none"> The median cost of such an increase for districts receiving a large enough SOA increase to submit the long-form application is 45%. Accompanying increases in teacher benefits are accounted for by including a benefit cost at 20% of the salary increase. Based on Massachusetts district with high teacher turnover, where 37% % of teachers are in their first five years of teaching.
<p>Invest in \$10K stipends and extra period of release time per day for teacher leaders to provide coaching and feedback to novice or struggling teachers</p>	<p>1.0%</p>	<p>\$175</p>	<ul style="list-style-type: none"> Assumes one out of every 10 teachers becomes a teacher leader, and that teacher leaders receive one additional period of release time per day for observations or preparing to lead professional learning Based on the ratio above a midsize Massachusetts city district with ~1K teachers would have to hire an additional 15 teachers to provide coverage for teacher leaders. This estimate assumes that teacher leaders and periods are distributed in such a way that the minimum number of teachers could cover the teacher leaders' release periods. Assumes a stipend for each teacher leader of \$10,000, an average salary for the new teachers of \$76,000 (the district average), and approximately 20% of salary in benefits costs for the new teachers
<p>Add 60 minutes of intervention time for struggling students 4 days a week, while simultaneously providing large-group enrichment opportunities for students who are on-track. Schools could also use the added time to create <i>and</i></p>	<p>2.0%</p>	<p>\$315</p>	<ul style="list-style-type: none"> Assumes teachers in a midsize Massachusetts city district work a 7-hour day, 182 days a year, for an average salary of \$76,000 Based on assumptions above the district would need to pay Teachers \$60 per hour for the additional time in the school day, plus an additional 7.65% to



Extend planning time for teachers 1 day a week so they can collaborate in teams with an expert teacher or coach			cover the commensurate increase in FICA contribution
Purchase and adapt high-quality, standards-aligned curricular materials in core content areas	0.5%	\$85	<ul style="list-style-type: none"> Assumes the district implements new curriculum in two subjects at a time for six grades at once (e.g. K-5 ELA and social studies), and assuming a curriculum cost of about \$100 per student Assumes the district trains one staff member for each of its fifteen elementary schools to become an expert in the new curriculum at the cost of \$2,650 for summer training, but uses existing beginning-of-year professional development days and school professional learning time to train all subject teachers in the new curriculum
Create 90 minutes of weekly common planning time for teachers that share grade-level content	2%	\$270	<ul style="list-style-type: none"> Assumes every teacher needs an additional period out of a seven-period day free once per week to lengthen their existing planning time to 90 minutes Using the assumptions above, a midsize Massachusetts city district with 10K students would need an additional 43 teachers to cover increased teacher planning. This estimate assumes that school and class sizes allow for perfect scheduling Cost of teacher time assumes an average salary of \$76,000
Invest in release time for teacher leaders, or staff instructional experts at schools to lead common planning time and provide feedback to teachers	1%	\$175	<ul style="list-style-type: none"> See “Invest in \$10K stipends and extra period of release time per day for teacher leaders to provide coaching and feedback to novice or struggling teachers” above
Add a counselor and social worker at every school	3%	\$425	<ul style="list-style-type: none"> Assumes an average salary of \$92,000 for guidance counselors, \$93,000 for social workers, and a benefit cost equal to 20% of salary for each,
Purchase a high-quality, evidence-based SEL program for integration with regular classroom instruction in 6-12 grades [e.g. project-based learning modules, teen outreach programs, etc.] and accompanying teacher PD seminars	0.5%	\$50	<ul style="list-style-type: none"> Assumes that middle and high schools adopt an SEL curriculum at a materials cost of about \$50 per student for ~50% of all students Assumes the cost for a three-day curriculum-specific seminar is \$450 per person, and that the seminar replaces



			existing district professional learning workshops
Invest in time once a month for teachers and student support providers that share students to collaborate around SEL instruction and support	0.5%	\$75	<ul style="list-style-type: none"> Based on an average salary of \$76,000 for teachers, \$92,000 for guidance counselors, and \$93,000 for social workers At salaries above, providing a stipend to staff for an additional hour once a month costs \$60 per hour of teachers' time, \$72 for guidance counselors, and \$73 for social workers.
Partner with community organizations that provide youth development opportunities outside of the school day, and fund through philanthropic support	N/A	N/A	Assumes that site coordinators (described below) organize these partnerships as part of their role, but that partner staff are funded by the partner or philanthropy, not the district.
Provide a stipend or establish a new site coordinator role to help coordinate community partnerships and within-school SEL supports	1.0%	\$150	Assumes a salary of \$65,000 and a benefit cost equivalent to 20% of salary for each site coordinator



Endnotes

¹ ERS analysis of data retrieved from www.nationsreportcard.gov, January 2020.

² Massachusetts Department of Elementary and Secondary Education. *PISA 2015 Results*. December 2016.

³ U.S. Department of Education National Center for Education Statistics, Common Core of Data (CCD). *School District Finance Survey (F-33)*. Fiscal year 2016, Provisional Version 1a.

⁴ ERS analysis of NAEP 2019 results, retrieved from www.nationsreportcard.gov

⁵ ERS analysis of district data from DESE and the U.S. Department of Education.

⁶ Massachusetts Department of Elementary and Secondary Education, *Recommended SOA Programs Budget – Chapter 70 Funds Only, for long form districts*.

⁷ ERS analysis of salary and college attainment data from the U.S. Bureau of Labor Statistics' Employment Projections Program.

⁸ Massachusetts Department of Elementary and Secondary Education. *2017-18 Teacher Salaries Report*. <http://profiles.doe.mass.edu/statereport/teachersalaries.aspx>

⁹ See citations 6 and 8.

¹⁰ Fryer, Roland G & Will Dobbie. *Getting Beneath the Veil of Effective Schools: Evidence from New York City*. National Bureau of Economic Research. December 2011. <https://www.nber.org/papers/w17632>

¹¹ Hanushek, Eric A. *Some Findings from an Independent Investigation of the Tennessee STAR Experiment and from Other Investigations of Class Size Effects*. Educational Evaluation and Policy Analysis, Vol. 21, No. 2, Special Issue: Class Size: Issues and New Findings (Summer, 1999), pp. 143-163. American Educational Research Association. <http://www.jstor.org/stable/1164297>

¹² Miles, Karen Hawley, David Rosenberg and Genevieve Green. *Igniting the Learning Engine*. Education Resource Strategies. 2017. https://www.erstrategies.org/toolkits/toolkit_connected_professional_learning_for_teachers

¹³ See citation 12.

¹⁴ The Aspen Institute. *Pursuing Social and Emotional Development Through a Racial Equity Lens: A Call to Action*. https://assets.aspeninstitute.org/content/uploads/2018/05/Aspen-Institute_Framing-Doc_Call-to-Action.pdf