

Investing in Early College

Our Most Promising Pathway

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MassINC

RICHARD AND SUSAN
SMITH FAMILY
FOUNDATION

SUMMARY

› **Massachusetts has built the most knowledge-intensive economy in the US, but now we lack college-educated workers to sustain its growth.**

Unemployment rates are already at historic lows and the college-educated workforce in Massachusetts is projected to decline over the next decade as more and more baby boomers retire.

› **To address unhealthy levels of income inequality, Massachusetts needs to increase college completion among low-income students.**

Progress improving K-12 performance has not translated into post-secondary success for low-income students. Disadvantaged youth are three times less likely than their peers to complete a post-secondary degree (18 percent vs. 52 percent) in Massachusetts.

› **Early College is the most promising pathway to cost-effectively address these interrelated challenges.**

Two independent randomized controlled trials show low-income students in Early College high schools were twice as likely to complete post-secondary degrees than students assigned to control groups. Drawing from these findings, the latest cost-benefit analysis suggests Early College returns \$15 for each dollar invested. No other known intervention to increase post-secondary completion provides a net return this large.

› **Leaders can coalesce around efforts to scale the Massachusetts Early College Initiative.**

The state's Early College Initiative has created a strong foundation for tapping into this proven approach. Thirty-four high schools enrolling over 2,500 students have already been designated and there is ample opportunity to build upon this initial success.

Introduction

By introducing high school students to college with structured support and allowing them to earn a substantial number of credits for free, Early Colleges position more low-income youth to move through higher education and into careers that offer good wages and a stable middle-class lifestyle.

Recognizing the power of this model, in 2016 the Massachusetts Board of Elementary and Secondary Education and the Board of Higher Education issued a joint resolution calling for the expansion of Early College High schools to serve thousands of students across the state. The two boards formed a steering committee to advance this strategy. A blueprint for the Massachusetts Early College Initiative emerged from this committee in early 2017.¹

Over the past two years, the rationale for a unique commitment to this new strategy has been buoyed by additional evidence that Early College is the most effective approach we have to increase post-secondary degree completion among high school students at scale.

The enthusiastic response to the Early College Initiative from communities across the Commonwealth—who have already built 17 designated Early Colleges enrolling over 2,500 students—offers even more compelling support for a strong state commitment to this work.

With Beacon Hill leaders poised to make once-in-a-generation decisions about education funding, it is imperative that they have information to consider how to expand and sustain Early Colleges. Early College is not simply another deserving program. It has been proven to significantly increase college completion, it can provide a timely response to critical education and workforce needs facing the Commonwealth, and it provides a hefty return on public investment. Because it knits together our traditional K-12 and higher education systems, it requires systems change and a more flexible 21st century funding mechanism.

WHAT MAKES EARLY COLLEGE HIGH SCHOOLS DIFFERENT?

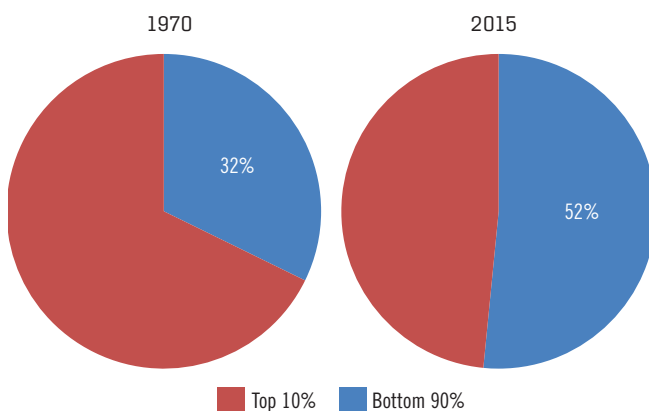
The first Early Colleges cropped up in the 2000s as bold experiments. Motivated by research demonstrating that low-income students were significantly less likely to complete college degrees than their similarly qualified peers, these innovative schools sought to test new strategies to help low-income, first-generation college-goers make it into and through college. At the time, many traditional high schools offered advanced students the chance to take a college-level course or two by dual-enrolling at local universities and simultaneously earning both high school and college credit. Early Colleges were designed specifically to provide this opportunity to students who were significantly underrepresented among dual-enrollers. Intensive academic and social supports ensured readiness and success in challenging college courses. Early College high schools also devised schedules and course sequences to create greater alignment between high schools and colleges (both in terms of calendars and curriculums), making it possible for students to complete a substantial number of transferable college credits for free—significantly lowering the barriers to ultimately earning their post-secondary degree.²

1. The Challenge: Positioning highly-capable disadvantaged youth to move through college and into successful careers.

To fully appreciate the imperative to give careful consideration to Early College at this crossroads in education funding, we must take stock of why aggressive action is needed to quickly increase post-secondary success for low-income youth in Massachusetts. As detailed below, the argument is grounded in the confluence of three trends: income inequality rising to unhealthy levels, the declining pool of college-educated workers in an aging state, and gains in K-12 performance that have not translated into low-income students earning college degrees at rates that equal their more affluent peers.

Rising income inequality undermines the fabric of our Commonwealth. MassINC has published numerous reports over the years documenting the changing skill needs in our economy and the steady rise in income inequality. Massachusetts has struggled to position low-income youth to obtain the advanced skills most jobs that offer family-sustaining pay now require.³ The Massachusetts economy hums along, but our state has gone from having among the most equal income distributions in the nation to one of the most unequal. In 2015, the top 10 percent of Massachusetts families garnered more than half of the income in the state, up from less than a third of the pie in 1970 (**Fig. 1**). High levels of income inequality have serious implications for health and wellbeing, social trust and political participation, as well as productivity and long-term economic performance.⁴

Figure 1: Share of income earned by top 10 percent of Massachusetts families, 1970 and 2015



Source: Economic Policy Institute

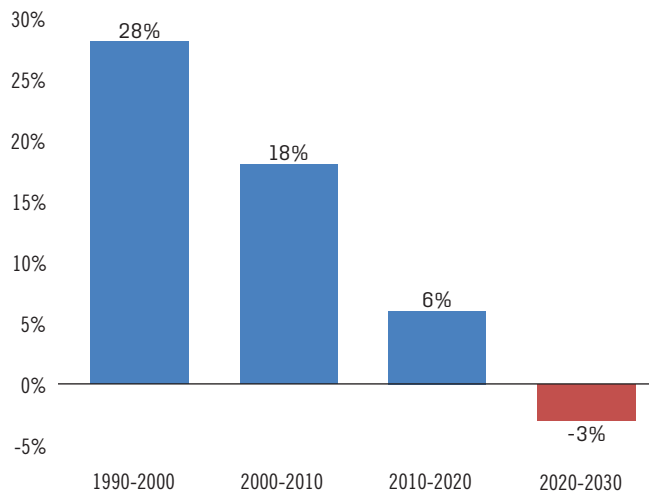
Massachusetts faces a workforce development challenge without precedent. While inequality and its ill-effects can be hard to detect, the labor force implications of low college completion rates among low-income youth are readily apparent. Growth in the number of working age adults with college degrees is stagnating and even trending downward in some corners of the Commonwealth. This is entirely new territory for us. Decade after decade, the number of Massachusetts residents with college degrees has marched steadily upward with double digit growth rates (**Fig. 2**).⁵

This is especially problematic because Massachusetts has built an economy that is disproportionately reliant on educated workers. Nearly three-quarters of jobs in the Commonwealth now require post-secondary training. By many measures, Massachusetts is now home to the most knowledge-intensive economy in the US.⁶

Economists have long warned that a “silver Tsunami” would land on our shores when it came time for baby boomers to exit the workforce. The extraordinary cost-of-living in Massachusetts has led to exceptionally high labor force participation rates among older adults, holding the wave back for a time, but the strain of boomers retiring in large numbers is inevitable.

Already, the Massachusetts economy is seeing growth rates slow with tighter labor markets. With in-migration not nearly sufficient to keep pace with the aging of the workforce, unemployment has declined to historically low rates equivalent to the late-1980s “Massachusetts Miracle” and early-2000s dot.com era peaks.⁷

Figure 2: Growth in the Number of Massachusetts Residents with Bachelor's Degrees (with 2030 projection)



Source: MassINC and UMass Donohue Institute

Higher education is the leakiest segment of the state's talent development pipeline. Massachusetts has made real strides preparing low-income students for the future. Between 2006 and 2017, five-year high school graduation rates for low-income students climbed from 68 percent to 82 percent. Recognizing that they will need higher education in order to make it in the Massachusetts knowledge economy, the majority of these low-income students now go on to college. However, post-secondary yield is the exact inverse of high school degree attainment; 82 percent of low-income students fail to make it through college and earn either a two- or four-year degree (**Fig. 3**).

While some progress has been made increasing college completion rates over the last few years, it is notable that the greatest gains have been among non-low-income students. This increasing disparity is evident when comparing the final outcome for the class of 2007 to the class of 2010 at the far right of **Figure 4**, a “waterfall graph” depicting the share of students who continue on at each juncture. Low-income students in the class of 2010 were three times less likely than their non-low-income peers to complete a post-secondary degree (18 percent vs. 52 percent).

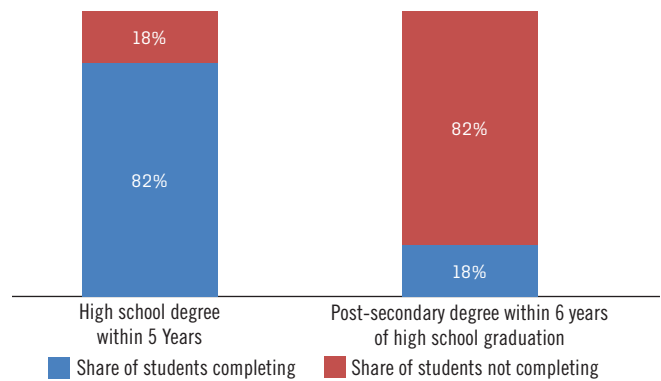
Community colleges are one source of leakage in the pipeline. In Massachusetts, more than one-third of low-income students and nearly half of Latino students who go on to college immediately after high school attend community colleges. The latest figures show that only about one-quarter of students enrolling in a Massachusetts community college earn an Associate's degree or credential (another one-quarter

transfer to other institutions, where they may or may not earn a degree). At our state universities, which also serve a disproportionate number of low-income students, completion is also a challenge, with some only graduating about half of their students within six years.⁸

Reflexively blaming public colleges for low-graduation rates is not a solution. These post-secondary institutions open their gates to all and go to great lengths to provide underserved students with higher education. Researchers have carefully documented the many structural challenges low-income students face. These challenges range from gaps in academic preparation and lack of awareness and access to information to make complex and highly consequential decisions around college, to employment, housing, transportation, and other obstacles related to financial instability. Equally pernicious, many of these youth simply feel that college is not for them.⁹

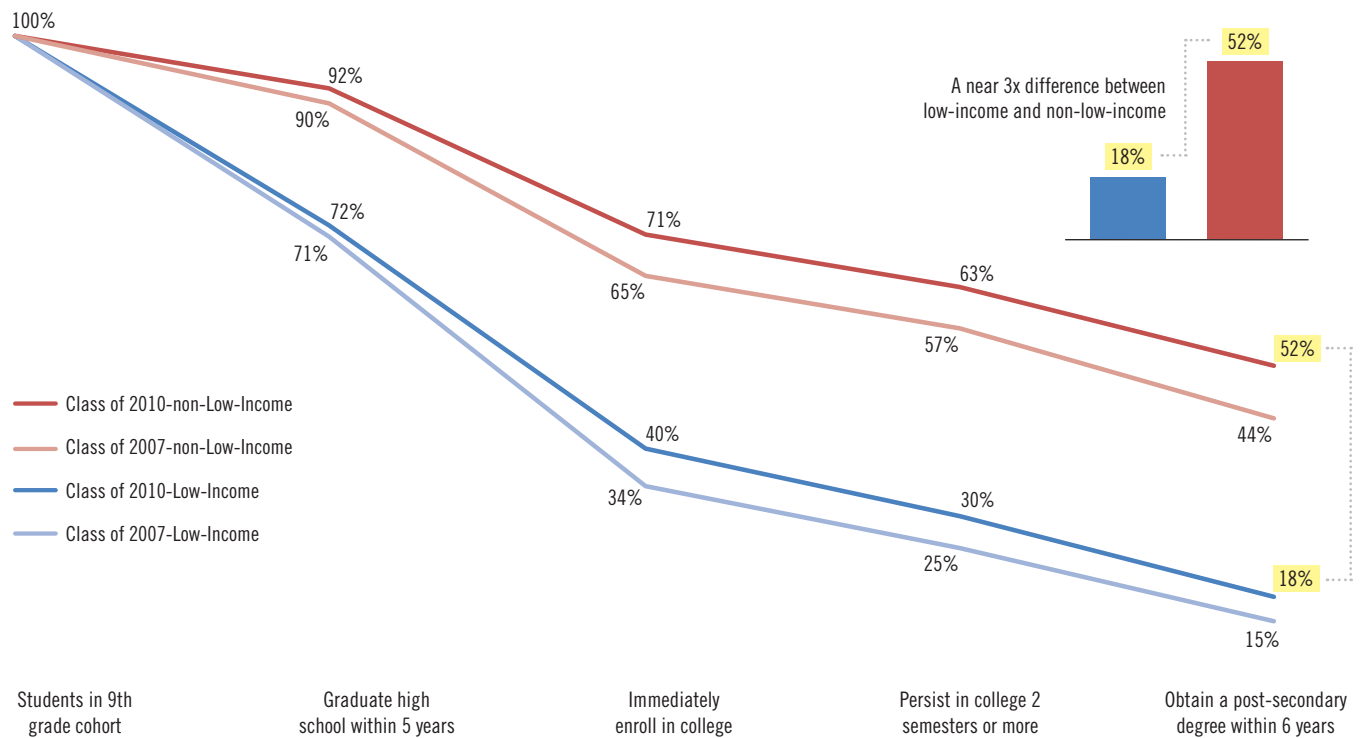
As previous MassINC research has demonstrated, when students leave high school underprepared for the post-secondary training needed to obtain the good jobs in our economy, they stack up by the tens of thousands in our adult workforce development system, where the training task becomes far more complex and the available resources are woefully inadequate relative to the need.¹⁰

Figure 3: Degree completion for low-income Massachusetts high school students in the class of 2010



Source: Massachusetts Department of Elementary & Secondary Education

Figure 4: Degree completion for Massachusetts high school students, low-income vs. non-low-income



Source: MassINC’s analysis of data from the Massachusetts Department of Elementary & Secondary Education

Early College can close these leaks and increase return on investment in public education.

The power of Early College as an intervention is that it responds to all of the structural barriers that low-income students face. Early Colleges identify academic gaps before students get to college and waste precious Pell grants on remedial courses. They provide advising so that students enter programs that prepare them for high-demand occupations with good pay. By earning free credits, students face a lower financial hurdle and many earn credentials with labor market value while in Early College, which allows them to take home higher pay while they pursue their post-secondary studies.

An Early College strategy presents an opportunity for Massachusetts to leverage its significant investment in K-12. Massachusetts devotes more resources to K-12 education than all but five states. On average, through Chapter 70 aid alone, the state spends about \$67,000 on each student leading up to high school graduation. Early College offers a very sound insurance policy to protect this public investment. If you look at the cost in terms of total spending per post-secondary degree earned, the state’s expenses are far lower when low-income students attend Early College high schools—less than \$200,000 per degree in Early College versus nearly \$373,000 for students in traditional high school (Fig. 5).¹¹

Figure 5: Estimated state K-12 investment per post-secondary degree earned by low-income students, traditional high schools vs. Early College high schools



Source: MassINC analysis of Massachusetts Department of Elementary & Secondary Education data

2. The Opportunity: Early College at scale.

The challenge of college success for traditionally underserved students detailed above are by no means new to us. To many, they may seem daunting after talking about them for so long and seemingly making little progress. But this is not the moment to lose hope. Major improvements in the collection of longitudinal student data (and more rigorous experimental research taking advantage of these new data) allow us to identify what will work, and demonstrate that such practices, once applied, are in fact producing the intended results. Early College is perhaps the best example of a new solution unearthed in this manner. Massachusetts is now well-positioned to take advantage of this proven opportunity.

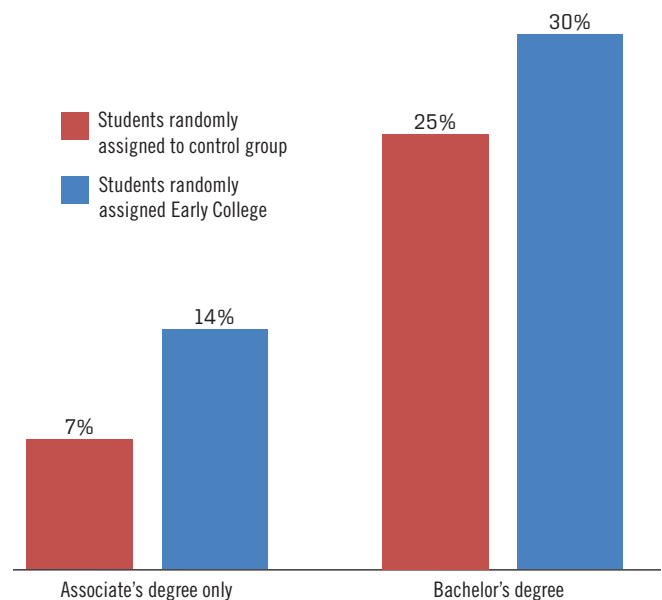
Strong evidence suggests Early College can double Associate's degree attainment and significantly boosts four-year completion rates. Over the past two decades, studies have consistently demonstrated the benefits of Early College. The most recent and compelling evidence comes from two separate large-scale, federally-funded research initiatives conducted by the American Institutes for Research (AIR) and the University of North Carolina's SERVE Center. These experimental studies each met the highest standards of rigor by randomly assigning students to Early Colleges and then following them for years.

The AIR study is particularly useful because it tracked nearly 2,500 students in Early College high schools across the US for six years after their expected high school graduation dates. This long time horizon provides students who did not receive Early College ample time to catch up with Early College students, who get a head start on post-secondary studies by design. Even after six years had lapsed, Early College students were still outperforming their peers by wide margins (**Fig. 6**); they were twice as likely to hold an Associate's degree (14 percent vs 7 percent) and about 20 percent more likely to complete a Bachelor's degree (30 percent vs 24 percent).¹² It is important to note that these figures are conservative in that they are intent-to-treat estimates; students assigned to Early College are included in that category even if they only attend one day of Early College and exited the program.

Results from the North Carolina study are also notable. This randomized controlled trial included 4,000 students, allowing researchers to disaggregate the data and look more closely at how results vary across subgroups. Overall, students in Early College were 15 percentage points more likely than students assigned to the control group to obtain a post-secondary degree (37 percent vs. 22 percent). Economically disadvantaged students attending Early Colleges were twice as likely to earn

a post-secondary degree; the gains for non-economically disadvantaged students were approximately 50 percent.¹³

Figure 6: Early College's Impact on College Completion, Six Years After Expected High School Graduation



Source: Atchison and others (2019)

No other intervention to increase college completion produces this large of a return on public investment. Using data from their long-term experimental study, AIR researchers recently published a thorough cost-benefit analysis of Early College. They found that each dollar invested in Early College returned 15 dollars in total benefits. While students garner much of this value in the form of higher lifetime earnings and improved well-being, the public gains in terms of greater tax revenues and decreased government spending are substantial—more than 6 dollars in benefit for every dollar in cost. This finding is consistent with research conducted by the

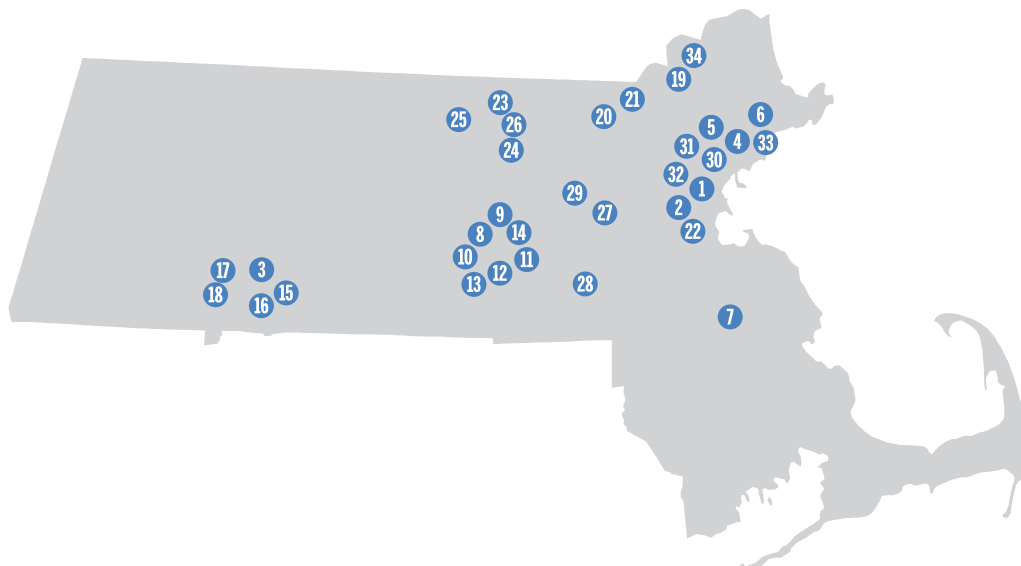
Washington State Institute for Public Policy, a leading provider of cost-benefit analysis. Among the 18 evidence-based initiatives to increase college outcomes that they have analyzed, Early College produces the largest net benefits for taxpayers.¹⁴

The Massachusetts Early College Initiative is unlocking this opportunity. Our public high schools currently serve approximately 20,000 low-income students per grade. Providing Early College to the entire broad middle of this population (e.g., students from the 20th to 80th percentile academically) would call for a program on the order of 12,000 students per grade.

The Massachusetts Early College Initiative takes an aggressive run at achieving the scale necessary to reach this targeted population by aiming to enroll 16,000 students annually, or 4,000 students per grade.

Thirty-four high schools have already received official initiative designations. Together they served more than 2,500 students this school year. By 2020, their enrollments are expected to surpass 4,000 students, which will bring us one-quarter of the way toward the initiative’s goal of providing Early College to 16,000 students annually (Fig. 7).

Figure 7: Designated Early College High Schools in Massachusetts, Current and Projected Enrollments



DESIGNATION DATE	COLLEGE(S)	HIGH SCHOOL(S)	STUDENT ENROLLMENT, SY 2018-19	STUDENT ENROLLMENT, SY 2020-21
Spring 18	Bunker Hill CC	1 Chelsea High	200	200
Spring 18	Bunker Hill CC	2 Charlestown High	150	245
Spring 18	Holyoke CC	3 Holyoke High	100	300
Spring 18	Salem State	4 Salem High, 5 New Liberty Innovation, 6 Salem Prep	50	50
Spring 18	Massasoit CC	7 New Heights Charter	315	525
Summer 18	Quinsigamond CC, Worcester State University	8 Doherty Memorial High, 9 Burncoat High, 10 Claremont Academy, 11 North High, 12 South High Community, 13 University Park Campus, 14 Worcester Technical High	120	300
Summer 18	Westfield State	3 Holyoke High, 15 Putnam High, 16 Commerce High, 17 Westfield High, 18 Westfield Technical Academy	91	250
Summer 18	Northern Essex CC	19 Lawrence High	200	200
Summer 18	Merrimack College	19 Lawrence High	160	NA
Winter 19	Middlesex CC	20 Nashoba Valley Technical High	345	660
Winter 19	Middlesex CC	21 Lowell High	385	470
Spring 19	RoxMapp	22 Madison Park Technical Vocational High	26	150
Spring 19	Fitchburg State, Mt. Wachusett CC	23 Fitchburg High, 24 Leominster High, 25 Gardner High, 26 Sizer School	180	NA
Spring 19	Framingham State, MassBay CC	27 Framingham High, 28 Milford High	60	250
Spring 19	Quinsigamond CC	29 Marlborough High	36	200
Spring 19	North Shore CC	30 Lynn English High, 31 Classical High, 32 Vocational Technical High, 33 Fecteau - Leary Junior Senior Alternative High	85	240
Spring 19	Northern Essex CC	34 Haverhill High	44	80
			2547	4120

Source: Numbers reported to the Department of Elementary & Secondary Education by Early College designees

LAWRENCE HIGH DEMONSTRATES THE POWER OF EARLY COLLEGE AT SCALE

With a \$2 million grant from the Smith Family Foundation and \$140,000 in Early College planning funds from the state, Lawrence High has built the largest Early College program in Massachusetts. In its third year, the program enrolled one-quarter of the school's juniors and seniors, with 200 students studying at Northern Essex Community College (NECC) and 160 at Merrimack College. Partnership agreements allow students to earn up to 24 credits at NECC and 12 credits at Merrimack. In addition to the large number of credits that students are able to accumulate, both colleges offer generous completion scholarships, providing a strong motivation to tackle the challenging course load. Classes are scheduled during the last two blocks of the school day and transportation is provided so that students can take all of their classes on the college campus. The program also offers internship and work-based learning activities aligned to one of several career pathways.

CHELSEA HIGH DEMONSTRATES THE POWER OF CONNECTING NEWCOMERS TO EARLY COLLEGE PATHWAYS

Community Colleges serve large numbers of students who are new to the United States and still learning English as they set out on their career paths. Early Colleges are uniquely positioned to help these newcomers develop awareness and exposure to post-secondary studies and career pathways. To provide this entry point, Bunker Hill offers academic courses designed specifically to serve students with limited English. Faculty from Bunker Hill and Chelsea High meet regularly to evaluate student progress and provide students with additional support as needed.

MT. WACHUSETT DEMONSTRATES THE POWER OF EARNING A VALUABLE CREDENTIAL THROUGH EARLY COLLEGE

Earning a substantial number of credits for free reduces financial barriers, but equally important, Early College can set students up with valuable credentials, allowing them to earn significantly higher wages while they work their way toward post-secondary degrees. Mt. Wachusett Community College won a federal grant to develop Project Healthcare, an initiative to increase diversity in healthcare professions. These federal dollars are now providing Early College credit to high school students in Fitchburg and Leominster with the opportunity to earn valuable credentials (Certified Nursing Assistant (CNA) certificates and Cardiopulmonary Resuscitation (CPR) certificates) that will immediately qualify them for good jobs and opportunities to gain relevant experience in the field as they continue their studies.

The Massachusetts Early College Initiative builds on the state's strong tradition of rigor and quality. Massachusetts' success in education lies in a firm commitment to quality. We were among the first states to adopt outcomes-based accountability for K-12 schools and the first state to create a stand-alone Department of Early Education to ensure that very young children in both public and private care receive a strong start.

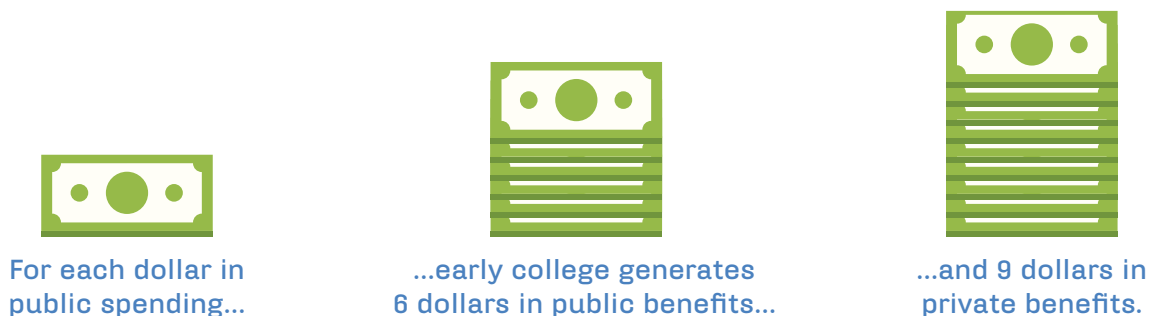
Because Early Colleges span across systems, it is particularly vital to have a rigorous process in place to ensure quality.

Learning from experiences in other states, working with the Executive Office of Education, the Departments of Elementary and Secondary Education and Higher Education have established a strong quality control framework. To receive a designation, schools must adhere to five evidence-based design principles. As illustrated in **Figure 8**, high schools are working creatively to meet these requirements, aligning the strengths of their local institutions with the needs of their regional economies.

Figure 8: The Quality Control Framework for Early College High Schools in Massachusetts

Design Principle	Why this matters:	How ECHS provide it:
1. Equitable Access	Providing return on investment is contingent on serving the target population. To reach underrepresented students, Early Colleges admit applicants using measures that are different from traditional higher education. Rather than a single standardized test, most use multiple measures such as GPA, attendance, and recommendations. Foundational Early College courses also integrate high school and college math and English to ensure all students are academically prepared for further coursework.	Chelsea High students who are learning to speak English enroll in college-level language courses simultaneously with college-level English. All high schools partnering with Bunker Hill Community College engage in an intensive faculty-drive process to fully align math and English curriculum so that all students are academically prepared for college-level coursework. High schools in Lynn will be delivering hybrid courses (part online, part in-person) to ensure as many students as possible have access.
2. Guided Academic Pathways	Guided academic pathways ensure that Early College students take sequenced courses that offer the most direct path to a degree, reducing time and cost to completion. This includes offering courses that meet transfer requirements at Massachusetts state colleges and universities and “gateway” courses that allow students to enroll in higher level, major-specific coursework earlier.	Lowell High students take course sequences that are mapped tightly to two-year college degree maps which are, in turn, mapped tightly to transfer pathways to public four-year colleges.
3. Enhanced Student Support	To ensure that students succeed in rigorous college-level work and make long-term plans for college and career, Early Colleges offer enhanced academic and social support and high-quality guidance.	Lawrence High students have a scheduled study block during the school day where they can receive tutoring from high school and college faculty. Salem High students must attend a full week of orientation before Early College classes begin. LEAP, a community based organization, provides the orientation along with tutoring and college planning during the school year. Leominster High students enroll in a series of courses to explore their personal interests, build individual plans, and complete college applications.
4. Relevant Connection to Career	Early College helps students earn credentials and skills required in their chosen employment fields and to see the relevancy of a chosen course of study. Career pathways combine academic course sequences alongside career exploration and work-based learning.	Charlestown High works with the local workforce investment board to prepare students for careers through job shadowing, mentorships, and internships. Madison Park Vocational Technical School students enroll in college courses that are directly linked to their chosen career path and technical training.
5. Deep Partnerships	Early College knits together two distinct and complex education sectors, each with their own funding streams, accountability systems, governance, and more. Strong, trusting relationships across partner institutions, enabled and supported by robust governance structures, can ensure joint accountability for student outcomes.	Early College at Framingham High and Milford High is coordinated through the College Planning Center—a joint venture between Framingham State University and Mass-Bay Community College.

Independent cost-benefit analyses from the American Institutes for Research and the Washington State Institute for Public Policy consistently find Early College produces a return in the order of magnitude of \$15 in benefits for each dollar in cost.



3. Coalescing around the Early College Opportunity

As Beacon Hill leaders consider the most prudent ways to invest in the future of education, the work of hundreds of committed educators and thousands of eager students hinges on the course they set for our Early College high schools. The growth and continued success of the Massachusetts Early College Initiative depends on a sustainable state funding mechanism and a responsible plan for providing state accountability and assistance. To deliver on these requirements, a broad coalition of leaders must come together to support Early College expansion.

Massachusetts needs a sustainable funding mechanism for Early College. Building an Early College high school takes time and money. The Legislature provided \$1.8 million in the FY 2019 budget to help schools undertake planning and lay the groundwork for Early College expansion. These implementation funds are critical, but ultimately Massachusetts needs a mechanism to sustain Early Colleges. These schools ask students to dig deeper and tackle more demanding coursework while in high school; in return, they make a commitment to support students and provide them with the opportunities to earn significant college credits.

Both the high schools and the colleges have an obligation to fulfill their end of the deal. This requires predictable resources. Dollars are needed to cover basics like transportation expenses and the cost of college text books. Programs must offer college courses at high schools and dedicated sections for only high school students at courses provided on college campus. They also must deliver enhanced student support, as well as career exploration and work-based learning opportunities. High schools, colleges, and community partners all incur these additional costs. To date, they have been able to leverage public and private grants, but this approach creates volatility and does not scale. Flexible resources must be available for designated Early College high schools to fund the programs described in their state-approved designs.

Integrating Early College into the Foundation Budget is one viable option for providing these resources. This approach would create predictability and ensure that each community contributes to the added cost according to its means. The state might also consider similarly baking funding for Early College into higher education funding formulas. Currently, Early College is not a component of the community college funding mechanism, which creates a disincentive to commit fully to the model. Creating funding streams for both K-12 and higher education would ensure that both systems can scale the model with certainty (both in terms of funding availabili-

ty and timely access to budgeted funds).

Alternatively, the state could develop an Early College trust fund, depositing sufficient multi-year resources to cover approved enrollments through graduation, ensuring that commitments made to students are commitments honored. All of the partners in a state approved Early College could draw resources from this trust funding according to the service delivery model outlined in their application for designation. This approach would position the state to act as an honest broker, helping to ensure that each side is appropriately reimbursed for their costs. It would also create more simplicity for the Legislature, tasking them with funding one account, rather than two separate but related funds.

Accountability for results must come hand-in-hand with new resources. Accountability has become controversial in the debates over Chapter 70 funding and the appropriate use of standardized tests, but in the case of Early College, a strong accountability mechanism is absolutely essential. Early College expansion is a significant public investment in the future. We have an obligation to ensure that these public resources are responsibly invested. The same longitudinal data that tell us Early College is a good bet can tell us, program-by-program, whether this wager is paying out.

A strong accountability paradigm for Early College will ensure that results are transparent and timely intervention occurs if schools struggle to produce adequate college enrollment, persistence, completion, and employment and earnings gains. Much of this is already built into the state's Early College designation. Each school has a five-year performance contract. To renew the designation, schools must meet the stated goals. As Early Colleges scale, it will be important to monitor these contracts and ensure that appropriate intervention occurs whenever necessary.

Leaders can coalesce around efforts to scale the Massachusetts Early College Initiative.

The Massachusetts Boards of Elementary and Secondary Education and Higher Education have both endorsed a strong state commitment to Early College because they can look at the evidence objectively and make clear-eyed decisions, but good policy does not always translate into good politics.

A relatively small cadre of educators across the state have built small-scale Early College programs with sheer will, but aside from these leaders, there is no natural constituency, interest group, or association to advocate for Early College for traditionally underserved students.

Early Colleges bridge silos. In large part, this is what makes them so effective. However, this design inherently means that they are difficult for either K-12 or higher education to wholly own and unfailingly champion. To get the support necessary for success, leaders who care deeply about providing low-income students with equal opportunity must coalesce around a strategy to scale and sustain the Massachusetts Early College Initiative.

MassINC is committed to doing its part to increase awareness of the potential of Early College and the many valiant efforts around the Commonwealth to realize its promise. (We have carefully monitored the model since 2013, when Gateway City educators singled-out Early College as a strategy to leverage their institutions of higher education to create more success for their students). As an organization, we rarely endorse individual programs or approaches, but like the members of the state boards, we see this initiative as true systems change and the kind of transformative effort needed to meet the needs of our economy, and our students and families, in the 21st century.

To be sure, there are other evidence-based models with the potential to provide substantial return on investment for both the highest-need and the most advanced underserved students, where Early College is not the best fit. These include Gateway to College, increasing the rigor of the curriculum through AP and dual enrollment, and providing intensive college advising.

Given the unquestionable need in an aging state with an advanced knowledge economy and unhealthy levels of income inequality—and the degree to which we are increasingly asking the most vulnerable families to shoulder the risks of investing in higher education—the state must beef up programs like these to position underserved students for far more success.

Notes

- 1 See: “Breaking Down the Silos to Put Students on the Path to Success: The Promise of Early College in Massachusetts.” (Boston, MA: Parthenon-EY Education Practice, 2016).
- 2 For a recent summary of the Early College landscape, see: Joel Vargas. “Breaking the Boundaries between High School and College.” (Boston, MA: Jobs for the Future, 2019).
- 3 For example, see: Andy Sum and others. “New Skills for a New Economy.” (Boston, MA: MassINC, 2000); Andy Sum and others. “Recapturing the American Dream: Meeting the Challenges of the Bay State’s Lost Decade.” (Boston, MA: MassINC, 2011).
- 4 Kate Pickett and Richard Wilkinson. “Income Inequality and Health: A Causal Review.” *Social Science & Medicine* 128 (2015); Federico Cingano. “Trends in Income Inequality and its Impact on Economic Growth.” *OECD Social, Employment and Migration Working Papers*, No. 163 (2014); Frederick Solt. “Does Economic Inequality Depress Electoral Participation? Testing the Schattschneider Hypothesis.” *Political Behavior* 32.2 (2010).
- 5 See Mark Melnik and others. “At the Apex: The 2030 Educational Attainment Forecast and Implications for Bay State Policymakers.” (Boston, MA: MassINC, 2015).
- 6 Anthony Carnevale and others. “Recovery: Job Growth and Education Requirements through 2020” (Washington, DC: Georgetown Center on Education and the Workforce, 2013); “State Science and Technology Index: 2018” (Santa Monica, CA: Milken Institute, 2018).
- 7 Alan Clayton-Matthews. “Massachusetts Current and Leading Economic Indices.” *MassBenchmarks* (January 2019).
- 8 <https://www.mass.edu/datacenter/pmr/> (Accessed May 17, 2019).
- 9 For a recent summary of these barriers, see: Elizabeth Mann Levesque. “Improving Community College Completion Rates by Addressing Structural and Motivational Barriers.” (Washington, DC: Brookings Institution, 2018).
- 10 For example, a 2016 MassINC report estimated 400,000 adults in Gateway Cities lacked a post-secondary degree or credential and struggled in the labor market, meaning they were either unemployed, not looking for employment, or held very low-wage jobs. The report specifically highlighted Early College as a proactive response to this challenge. See: Ben Forman. “Calling all Gateway City Leaders: An Action Guide to Workforce Development Transformation in Massachusetts.” (Boston, MA: MassINC, 2016).
- 11 Author’s estimate. For Early College cost, we use Governor Baker’s budget request (\$1,050 per student per year), an assumption consistent with programs in others states providing at least 20 college credits. See: Drew Atchison and others. “The Cost and Benefits of Early College High Schools.” (Washington, DC: American Institutes for Research, 2019). For K-12 expenditure, we use annual Chapter 70 spending per student (\$5,367 per year times 12.5 years), a conservative assumption since state spending on low-income and English Language Learners disproportionately represented in the Early College population is significantly higher. Finally, we assume Early College students earn post-secondary degrees at double the rates of students in traditional high schools. This is consistent with the effect sizes observed in the randomized controlled trials reported by AIR and SERVE.
- 12 Drew Atchison and others. “The Cost and Benefits of Early College High Schools.” (Washington, DC: American Institutes for Research, 2019).
- 13 Julie Edmunds and others. “The Impact, Costs, and Benefits of North Carolina’s Early College Model” (Raleigh, NC: SERVE Center, undated).
- 14 <https://www.wsipp.wa.gov/BenefitCost?topicId=11> (Accessed May 15, 2019).

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MassINC

11 Beacon Street, Suite 500
Boston, MA 02108
massinc.org | massincpolling.com
@massinc | @massincpolling

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