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High Quality College and Career Pathways Program Evaluation Report:

Sustaining and Scaling Early College and Innovation Pathway Programs

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# Introduction

The Commonwealth of Massachusetts launched the High Quality College and Career Pathway (HQCCP) initiative in summer 2017, which included an Early College (EC) pathway and an Innovation Pathway (IP) across nine designated programs. EC programs, which consist of partnerships between high schools and postsecondary institutions, provide students with the opportunity to earn 12 or more credits of college-level academic coursework in a rigorous and supportive environment, while gaining exposure to a variety of career opportunities. Ultimately, EC programs are designed to reduce the time and expense of earning a college credential. IP programs are designed to connect student learning to an industry sector that is in demand in the regional and state economy. Participation in IP programs is designed to lead students to opportunities for meaningful careers in that industry sector and prepare for postsecondary education and training.

In April 2018, the Massachusetts Department of Elementary and Secondary Education (DESE) provided implementation grants, of approximately $140,000 each to the first nine programs designated as part of the HQCCP initiative, included in Exhibit 1.[[1]](#footnote-2) This grant covered the first year of pathway program implementation (the 2018–19 school year) through December 2019.

Exhibit 1. EC and IP Designees Included in the Evaluation

|  |
| --- |
| EC Designees |
| * Bunker Hill Community College (with Charlestown High School, Boston Public Schools) * Bunker Hill Community College (with Chelsea High School, Chelsea Public Schools) * Salem State University (with Salem High School) * Massasoit Community College and New Heights Charter School of Brockton * Holyoke Community College (with Holyoke Public Schools) |
| IP Designees |
| * Worcester Public Schools * Nantucket Public Schools * Northampton Public Schools * Uxbridge Public Schools |

While all five EC programs had the same general purpose of making college more accessible for target populations, the structures in which dual credit opportunities were offered to students varied across sites. Many programs incorporated the EC program model into the traditional school day with students enrolling in college courses taught on the high school campus. Other programs used the EC program to expose students to a typical college experience by transitioning students to courses on the college campus by Grades 11–12. The point of entry for the EC pathway program also varied across sites. Some programs began in Grades 8 or 9 with an exploratory year, while others did not begin until Grades 10 or 11. All EC program leadership teams reported strong relationships between high schools and postsecondary institutions, noting regular communication and collaboration.

Each of the four IP programs were able to implement one or more pathways related to their local community’s needs and student interests. Two of the four IP programs were designated for multiple pathways, with one having four pathways and the other having two. Collectively, the following industries were represented: Healthcare, Maritime Industry, Information Technology, Manufacturing, and Engineering. Like the EC programs, program implementation varied across sites with different structures and points of entry.

The IP programs consisted of a partnership between a high school or school district and an industry partner, typically either an employer, employer association, or workforce development board. Across the four IP programs, there were three employers, two employer associations, and one workforce development board noted as lead industry partners. All four of the school partners were part of the district’s public school system. Many IP programs noted positive relationships with industry partners, highlighting a mutually beneficial relationship that served the needs of high school students and employers. One IP program noted challenges working with their industry partner related to sustainability and scalability, due to changes in leadership.

DESE hired ICF to evaluate the first cohort of nine designees under the HQCCP initiative by conducting a program implementation study, an outcomes/impact study,[[2]](#footnote-3) and a sustainability/scalability study. This report provides an overview of findings from the sustainability/scalability study, based on interviews conducted in November 2019 and January 2020 with program leaders from each of the nine designated programs. Specifically, this report shares findings across programs regarding plans to sustain and scale programs, challenges in sustaining and scaling programs, and ways in which program leadership teams leveraged resources to sustain and scale their programs. In addition, this report presents case studies that illustrate how three programs (one EC program and two IP programs) addressed sustainability and scalability challenges, enabling their programs to continue after the conclusion of the implementation grant.

# Sustainability and Scaling Findings

This section includes findings from across each of the nine programs included in the evaluation. Program leaders’ plans to sustain and scale their respective pathway programs and measure and benchmark their success are discussed. Additionally, perceived sustainability challenges related to student services, logistical support, and financial uncertainty provide contextual knowledge regarding program leaders’ ability to sustain and scale their pathway programs. Program leaders also shared their methods for leveraging new or existing resources—through identifying new funding sources, building off community partnerships, and utilizing school and district resources.

## Plans to Sustain and Scale Pathway Programs

During phone interviews conducted in late 2019 and early 2020, EC and IP program leaders identified several factors that shaped their perceptions of future sustainability and scalability for their pathway programs (see Appendix A for data collection protocols). Program leaders described using methods and practices that were influenced by their own experiences or by state guidance to plan for future implementation and scaling. While program leaders described their plans for sustaining and scaling their pathway program, not all program leaders believed that the plans were achievable if future funding would not be made available. Regardless of future sustainability and scalability plans, many program leaders and their peers discussed benchmarks and other data points considered to be potential indicators of successful future implementation beyond grant funding.

Additionally, program leaders also discussed challenges that had been faced thus far in pathway implementation, as well as challenges that they anticipated facing in future sustainability and scalability efforts. Common challenges cited included financial stability, logistical hurdles, and maintaining student services.

This section highlights the planning efforts among grant managers and their teams to sustain and scale their pathway programs, contextual factors around the challenges faced by pathway leadership, and implementation best practices.

### Overall plans

The evaluation team categorized each pathway program as *likely to* *fully sustain, likely to partially sustain,* or *not likely to sustain* based on the entirety of the phone interviews. The evaluation team used a findings matrix, as well as an emerging code scheme based on the grant manager protocol, that compared and contrasted implementation and future sustainability efforts centered around the following topics of interest: pathway program planning activities, measurements and benchmarks used to deem sustainability efforts successful, sustainability planning engagement, needed resources for sustaining and scaling, perceived challenges, best practices, and future plans. Using the aggregated information collected around the listed topics, the evaluation team determined the likelihood of pathway sustainability. The evaluation team deemed six of the nine pathway programs, shown in Exhibit 2, as being *likely to partially sustain* their pathway program and supports, followed by two pathway programs as being *likely to fully sustain* their pathway program and supports. The evaluation team deemed only one pathway program as *not likely to sustain* their pathway program and supports.

**Exhibit 2. Future Sustainability Plans of the Nine Pathway Programs**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Topic** | **EC** | **EC** | **EC** | **EC** | **EC** | **IP** | **IP** | **IP** | **IP** |
| **Site 1** | **Site 2** | **Site 3** | **Site 4** | **Site 5** | **Site 6** | **Site 7** | **Site 8** | **Site 9** |
| **Likely to *fully* sustain pathway program and supports** |  |  |  |  | **X** | **X** |  |  |  |
| **Likely to *partially* sustain pathway program and supports** | **X** | **X** | **X** |  |  |  | **X** | **X** | **X** |
| **Not likely to sustain their pathway program and supports** |  |  |  | **X** |  |  |  |  |  |

Nearly all program leaders cited examples of some type of regular communication as being a primary tool in sustainability and scalability planning. In most of these cases, planning took place during regular meetings that focused on an aspect of the pathway program, such as budgeting or data-driven decision making. One program leader cited the use of such activities, saying that,

*“We meet in our budget discussions to talk about how we’re going to fund positions. As [team member] said, we have accepted that we will take over the funding for the IP coordinator and teacher. We’re such a small district that people wear multiple hats. We are meeting and talking all the time about all of these programs.”*

In some cases, program leaders also discussed having more informal, ad hoc discussions about pathway program topics that facilitate sustainable practices. According to one program leader, *“I feel just being able to get in contact with [others] without a meeting has been helpful…I think the formality of a meeting is, if that’s the only way folks can communicate, I don’t think your program will survive.”*

While regular and ad hoc communications were viewed as crucial components in sustainability planning, other team members highlighted the importance of internal team dynamics within their own pathway program leadership team. Understanding others’ roles, as well as what they bring to the table, were viewed as an important piece in planning for sustainability as a team. When asked about initial conversations taking place around sustainability, one EC program leader replied, *“That’s where our own internal community started to build it in there. And I think that’s where folks start seeing the common goals and common issues. I probably, internally as a group of five, figure out how to tackle those issues of sustainability and maybe even become a model for everyone else in that community of practice.”*

While sustainability and scalability planning activities were taking place in various formats across the nine pathway programs, multiple teams recognized certain limitations of their efforts as they were dependent on future funding, whether it be from the state or other sources. In some cases, sustainability plans were dependent, to varying degrees, on future state funding which would impact certain program components such as salaries or stipends, transportation costs, textbooks, and other support materials. According to program leaders, uncertainty around future state funding was expressed, with team members saying:

*“We assume that the state’s going to have a funding stream. It’s just a question of how much and what method it comes to the colleges [and] into the districts. We’ve talked constantly this year about what do we do until we have that. So, for example, [community college] is holding off on billing us for tuition for this fall semester because we’ve been hearing for months that we’re going to get these continuation grants any week now. It’s been three months. So, we’re all sustaining, waiting for that and we’re ready to adjust to whatever the reality is.”*

*“The fact is that the early college program costs more than having the students attend class at the high school and the benefits are enormous. If the state wants these things, this early college program to be free to students, 100% free, it costs more, quite a bit more and unless there is funding specifically for the early college program, there is no way a district like [ours] could sustain it.”*

### Sustainability and Scalability Benchmarks

When discussing sustainability planning activities, program leaders highlighted various markers that they identified as being indicators of a successfully implemented and sustained pathway program. When asked what benchmarks or measurements will be used in determining how successful their sustainability efforts will be, program leaders identified data points related to student engagement and enrollment/retention, capstone and internship enrollment, and student support efforts.

#### Student Engagement and Enrollment/Retention

Student engagement and enrollment were identified by program leaders as being one of the major indicators of a successful sustainability and scalability effort. In many cases, student enrollment and engagement were not limited to the number of students who participated or engaged in pathway program supports, it also included student academic outcomes as well as student experiences through pathway participation. According to one EC program leader, *“What students [are] getting out of it when they complete a course [is] their readiness. It’s not necessarily the grades, there’s success tracking…the retention rate for us…it’s probably more important that the students are staying in the class and persevering.”* Another IP program leader reiterated student success in the pathway as being an indicator of success, saying that, *“I would say that is a measurement of success for us, is student enrollment in the entire process, and staying with the program through.”*

At one EC pathway program, retention was specifically mentioned as an indicator for future sustainability and scalability efforts. Retention data, along with survey data, are expected to help increase future efforts in improving upon student skill building. According to one EC program leader, *“The data that we look at would be [the] number [of] application data retention, retention data, as the students go from first year to second year…On their experience in the program, on whether it has affected their postsecondary planning or not.”*

#### Capstone and Internship Enrollment

Some program leaders noted that planning for sustainability required an enhanced focus on the needs of the community and local industry. As mentioned by one program leader, *“Part of our sustainability planning is also simply planning for next year and really growing the capstone piece, the internship piece, because the bulk of our kids next year will be in those internships.”* In this instance, the program leadership team discussed an influx in students who will eventually participate in the IP program, and as a result, will require internships for new students.

#### Student Support Efforts

A good portion of pathway program leaders discussed student support efforts as an indicator of implementation and sustainability success. Student support, in the context of each pathway program, focused on several different areas and methods that relate to facilitating student success. These student support efforts were discussed broadly across the pathway programs and included increasing student engagement in pathway instruction, identifying new staff and stakeholders to help find work-based opportunities for students, and providing general support and advising to students.

Other program leaders viewed student support through a more indirect lens, such as needing staff to orchestrate externship and internship components, or even finding new work-related opportunities for students. One IP pathway program leader, in response to a question about resources needed to sustain their pathway program, said that *“finding additional staffing, somebody who can orchestrate and coordinate those externships and internships”* would be critical. Additionally, another IP program leader mentioned the need for *“more industry partners and opportunity for student work-based learning”* when asked of what resources would be needed to meet their scaling goals.

Other program leaders reiterated the importance of effectively connecting students with pathway instruction and increasing staff numbers to ensure services are being provided to as many pathway students as possible. According to one IP program leader, *“One of the biggest needs we have at the high school is to make instruction more engaging for kids…I think this is a way to help us reach a group of kids that can easily become disengaged from more traditional modes of instruction.”* Another EC program leader cited the importance of simply reaching out to as many students as possible in future years, stating, *“We will have hopefully double the amount of students on the college campuses than we have now…we’ll have to increase the teaching staff, the counseling staff, just to make sure that we can provide the services that these scholars need to be successful.”*

## Sustainability and Scaling Challenges

Program leaders used their state-funded implementation grant to support a variety of program expenses—as shown in Exhibit 3—to help get their newly designated programs up and running. Understanding how programs used grant funds provides helpful context for understanding resource needs and challenges for sustaining and scaling programs beyond the life of the grant.

**Exhibit 3. Areas in Which the Nine Pathway Programs Used Grant Funding**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Used grant money for…** | **EC** | **EC** | **EC** | **EC** | **EC** | **IP** | **IP** | **IP** | **IP** |
| **Site 1** | **Site 2** | **Site 3** | **Site 4** | **Site 5** | **Site 6** | **Site 7** | **Site 8** | **Site 9** |
| **…new positions or salaries.** | **X** | **X** |  | **X** | **X** |  | **X** | **X** | **X** |
| **…transportation.** |  |  |  | **X** |  |  | **X** | **X** | **X** |
| **…professional development.** |  |  |  |  | **X** | **X** |  |  | **X** |
| **…stipends.** |  |  | **X** | **X** |  | **X** |  | **X** |  |
| **…student support.** |  |  | **X** | **X** | **X** |  | **X** |  |  |
| **…purchase materials.** | **X** | **X** |  | **X** |  |  | **X** |  | **X** |
| **…student tuition** | **X** | **X** | **X** |  |  |  | **X** |  |  |

As shown in Exhibit 4, program leaders identified a variety of challenges in sustaining their respective pathways. While funding was the most prevalent challenge cited related to sustainability, program leaders also recognized other challenges—based on their implementation experiences thus far—that could potentially inhibit their sustainability plans. The challenges listed in Exhibit 4 primarily relate to student services (e.g., student advising) or logistics (e.g., transportation) and are discussed accordingly.

**Exhibit 4. Sustainability and Scalability Challenges Faced by the Nine Pathway Programs**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Challenges include…** | **EC** | **EC** | **EC** | **EC** | **EC** | **IP** | **IP** | **IP** | **IP** |
| **Site 1** | **Site 2** | **Site 3** | **Site 4** | **Site 5** | **Site 6** | **Site 7** | **Site 8** | **Site 9** |
| **…transportation.** |  |  |  | **X** |  |  | **X** |  |  |
| **…funding.** | **X** | **X** | **X** | **X** |  |  | **X** | **X** | **X** |
| **…student supplies.** |  | **X** |  | **X** |  | **X** | **X** |  |  |
| **…tuition.** |  | **X** |  | **X** |  |  | **X** | **X** |  |
| **…student advising and/or support.** |  | **X** | **X** |  |  |  |  |  |  |
| **…program scheduling and logistics.** |  |  | **X** |  |  | **X** |  |  |  |

### Student Services Challenges

Program leaders noted that offering student internships and providing student advising were both challenges—during implementation and in planning for sustainability. Among both EC and IP programs, the goal of many program leaders to offer internships was viewed as a challenge for a variety of different reasons, including an oversaturation of students for available internship positions and inability to transport students to faraway internship locations. When considering student advising, program leaders also mentioned that providing this student service was a challenge in terms of establishing an acceptable advisor-to-student ratio and increasing collaboration between the high school and partner community college about the student service.

#### Student Internships

According to program leaders, different factors played a part in their belief that student internships were challenging to maintain. For some, internships were dependent on being able to support students to participate in these opportunities, as well having a job market that is conducive to facilitating student internships. According to one IP program leader, *“Additional needs that we've had to come up with other money is obviously continuing to support salary, support students on internships. And that might be finding internships or being liaisons with the companies.”* With most of the pathway programs reporting that they used grant funds to help support new positions or supplement salaries (as shown in Exhibit 3), some of which included coordinators that oversee pathway internships, leadership teams may need to consider how current staffing responsibilities can be delegated to oversee the continuation of student internships. For example, one IP program internship coordinator described the coordinator role, saying that, *“I develop partnerships with employers to be able to host interns for the IT pathway, provide one-on-one workshops, and counseling with the students as they work through their four-year plan.”*

Sustaining Student Internships

*“Well, I do think the internship, because I think that's one component because that depends on what the market, what's happening in the, it's always going to be dependent on the market.”*

Geographical and job market factors also provided challenges to the internship program. Pathway program leaders indicated that they will need to continue to identify new partnerships and methods of providing work-based opportunities for students. According to one IP program leader, *“I think our region…unlike some of the places out east that have access to companies that hire 400 plus people if not more…we’ll be looking to have to establish more partnerships beyond just our internal ones.”* In the type of scenario described by the program leader—in which access to large companies is geographically limited—transportation becomes a key consideration. As shown in Exhibits 3 and 4, two programs that cited using grant funds to support transportation also identified transportation as a challenge to sustaining their program.

#### Student Advising and Support

Providing student advising and support was noted as another challenge by two of the five EC pathway programs, not just in terms of how it will be continued to be offered but what it will look like following a change in funding. One EC program leader mentioned that there are still some questions to be answered, particularly as the pathway program faces changes in funding. According to that program leader, *“The student support piece is still the biggest piece; we’re trying to figure out what makes sense, but eventually that will come down to funding. We still haven’t quite figured out what that means, what exactly support means.”* One EC pathway program team noted the several different ways in which student advising needs to be accounted for, citing the need to help students enroll in classes, acclimating students to campus, and navigating the EC experience.

Another EC program leadership team emphasized the dependency of student support on grant funding, with the program leadership team stating, *“There is a vacuum of support we’re going to feel because the partnership we’ve had with [organization], the funding ends in December.”*

### Logistical Challenges

Across the nine pathway programs, program leadership teams described two logistical challenges which they experienced during program implementation and expected to continue to face in sustaining or scaling their program. For pathway programs that face long distances between their community college and industry partners, transportation was mentioned as being a challenge to implementation and future sustainability. Another challenge program leaders faced during implementation and expect to face in future scaling efforts is being able to logistically provide enough staff to meet the needs of the program while also accommodating those staff with a schedule that is conductive to the pathway program.

#### Transportation

The need to transport students was specifically cited as a challenge to sustaining or scaling two pathway programs, one being an EC program and the other an IP program (Exhibit 4). According to the EC program leadership team, transportation was one of three direct costs as part of the program, and ultimately a deciding factor in terms of pathway sustainability. The IP program leadership noted the transportation cost as potentially becoming a challenge as the program scaled up to include more students. One member of the program leadership team observed, *“I think that as we grow larger, transportation will become more of an issue.”*

#### Program Scheduling and Logistics

Being able to schedule the pathway program and provide the necessary instructional staff—either high school or college faculty or instructors/supervisors from industry partners—was viewed by some leadership teams as an anticipated, yet constant, challenge. This was mentioned as both an implementation challenge in one EC pathway program and a potential long-term challenge in an IP pathway program, as shown in Exhibit 4. According to the EC program leadership team, *“Scheduling has been a challenge for us. The high school's current schedule is a non-rotating drop schedule. Obviously, the college schedule is fixed so we've had some challenges putting kids in particular classes with the limitations that we have given our schedule.”* In addition to aligning the high school and college schedule, having the capacity to schedule pathway program internships was another scheduling challenge. According to an IP program leader, “*Finding additional staffing, finding somebody who can orchestrate and coordinate those externships and those internships”* was viewed as a potential challenge.

### Financial Challenges

Most pathway programs, as shown in Exhibit 4, identified funding beyond the program as a pivotal and deciding factor in pathway sustainability and scalability. While program cost was noted by most pathway program leadership teams as a main point of concern in sustainability efforts, the ability to cover tuition and textbook costs, particularly among EC pathway programs, was also a viewed as an ongoing challenge. This concern was expressed in the context of current implementation of the pathway program and future sustainability efforts—particularly if the program offers pathways to students for free. Additionally, one of the more prevalent challenges faced by many EC and IP program leadership was the ability to sustain program costs considering the uncertainty of future funding. While a good portion of program leadership teams had mentioned during their phone interviews that they were unsure of state funding plans in future years, some program teams had begun to look for new ways to sustain their pathway programs.

#### Program Cost and Uncertain Funding

While all program leadership teams highlighted to some degree their sustainability and scalability plans for their respective pathways, many reiterated that these plans were dependent on securing other sources of funding. While it ultimately did not matter whether this funding came from the state or another source, uncertainty among future state funding did play a part in future planning. Program leadership teams conveyed concern over this uncertainty, with one EC program leader saying, *“I’d say the only other significant challenge is the uncertainty over state funding. That has made it very difficult to move forward in really cementing what the structure of the program is going to be.”*

#### Tuition and Textbook Cost

As shown in Exhibit 3, a majority of pathway programs purchased materials using grant funds, including textbooks, and three of the five EC pathway programs used their grant funds to also pay for student tuition. As such, finding funding sources to pay for tuition and textbook costs was tied to future sustainability plans. According to one EC program leader, *“It’s going to come down to sustainable funding. Tuition, as much work as folks have done to keep tuition, I don't want to say flat, but somewhat manageable, eventually these things, they have to go up.”*

Additionally, another EC program leader referred to the cost of textbooks, stating, *“The only other thing on sustainability that we have ongoing is on books. We have talked about ways to try to increase open source materials. We don't have an easy way to do it right now, but we recognize that books are a bigger cost than we expected when we first built the budget.”*

## Leveraging Resources to Sustain and Scale

As part of pathway program leaders’ efforts to sustain and scale their respective pathways, program leaders described many strategies for overcoming future challenges that were based on leveraging new or existing resources. This included the following: finding new sources of funding; identifying new or improving upon existing partnerships with community organizations, industry partners, or community colleges; or utilizing district and school resources to assist with future pathway program implementation and scaling. Exhibit 5 highlights various strategies described by program leaders to support program sustainability and scaling efforts.

**Exhibit 5. Strategies for Sustainability and Scaling Used by the Nine Pathway Programs**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Strategies included…** | **EC** | **EC** | **EC** | **EC** | **EC** | **IP** | **IP** | **IP** | **IP** |
| **Site 1** | **Site 2** | **Site 3** | **Site 4** | **Site 5** | **Site 6** | **Site 7** | **Site 8** | **Site 9** |
| **…capacity building.** |  | **X** |  |  |  | **X** |  | **X** |  |
| **…data-driven decision making.** |  |  |  |  |  | **X** |  | **X** |  |
| **…potential funding through new funding sources.** | **X** | **X** | **X** |  |  |  | **X** | **X** | **X** |

### Targeted Funding

As discussed previously, funding was viewed by program leaders as a major challenge in sustaining their respective pathway programs. This challenge was addressed by pursuing new funding opportunities and by identifying areas where they can cut costs.

#### Identifying New Funding Sources

Benefit of Implementation Grant

*“The grant really allowed us to build the necessary stakeholder evidence to accrue the data we needed to make a case to our board, but also to outside funders.”*

A direct and commonly cited approach to addressing funding sustainability was looking for new sources of funding. As shown in Exhibit 5, three of the four IP programs and three of the five EC pathway programs noted this as an approach to sustainability planning efforts. The type and source of new grant funds differed across EC and IP programs. According to one IP program leadership team member, their pathway team had applied to a Carl D. Perkins Career and Technical Education Grant, which would help continue an industry-focused course within the IP program. According to this team member, *“I’m excited that we are eligible for the first time in my history with this district.”*

One IP program mentioned having written a grant for a Massachusetts Skills Capital Grant, saying,

*“I wrote a grant to the…Skills Capital Grant to help fund some more of the supply aspects of it [pathway program]. We’ve mostly been looking at other methods for grant writing that might be able to help in some drops with supplies.”*

Three EC programs also described efforts to obtain per pupil funding through the Commonwealth’s new education funding formula (passed into law as the Student Opportunity Act in November 2019). Program leaders viewed this funding source as a substantial replacement for short-term and unpredictable grant funding.

Finally, an IP program described building and maintaining strong community and industry partnerships as to tap into potential funding sources offered through those partners. According to one team member from this IP program,

*“I think one thing that we'll continue to focus on and put a lot of energy in, is bringing the industries in…then both through the grants that we're applying for jointly with [workforce development organization] and through direct hiring on internships, we can leverage some, just community funds to support the students in those experiences.”*

#### Textbook Costs and Purchasing

In specific instances, pathway leadership teams were faced with using and leveraging as many resources as possible to ensure their pathway program was offered to all of their students without facing funding shortages. In addition to looking for new funding opportunities, one IP program described efforts to cut down on textbook costs to help meet the scale of their pathway program:

*“I think we’ve been very resourceful with the textbooks. Getting used textbooks, having students, you know, share textbooks, borrowing textbooks, that kind of thing.”*

Similarly, to alleviate the expected rising costs of textbooks, one EC program worked with their partner college to establish a fixed rate for textbooks over the next five years. According to one program leader,

*“We recognize that books are a bigger cost than we expected when we first built the budget. That's going to be important. We did make an agreement that the courses that are taught in 10th grade are going to stay the same and use the same materials for I think five years.”*

### Community Partnerships

Leveraging community partnerships, either through maintaining or enhancing those relationships, was an approach that was highlighted by both IP and EC pathway programs.

#### Reaching Out to Community Partners

At one IP pathway program, one of the early challenges identified by program leadership was transporting students to and from industry partners. Because a main goal of the IP program was exposing students to potential career fields, the program leadership reached out to their community partners for financial assistance so that they could purchase their own transportation. According to one program leader,

*“And so, we presented that as* *a challenge to our community, and [our partner] was very responsive in donating funding so that we could purchase a bus to transport our pathways kids.”*

In some cases, community partners included a consortium of industry partners and business representatives. According to one IP program leader, their team strategically aligned their IP program to the job needs projected in their area by a team of industry representatives, workforce development board representatives, and city officials. One team member said,

*“The city put together a blueprint of all of the job needs in the area as projected over the course of five to 10 years and participating in that blueprint were all kinds of representatives. School representatives, industry representatives, [workforce development organization] representatives, city officials. And then we specifically align the programming as it relates to that report.”*

Strategically aligning the IP program with the broader needs of community partners supported the sustainability of their program because their program already had buy-in from their partners, who they could leverage for support.

#### Increasing Collaboration Between High School and Postsecondary Partners

One EC program took an alternate approach to addressing their own student advising challenge. To increase the capacity of individuals delivering advising services and to coordinate advising and the high school and college level, the program leaders facilitated greater collaboration between the high school and partner community college. According to one program leader,

*“I think that's about increasing the collaboration between our [partner college] on-the-ground folks and our guidance counselors. We have the Early College transitional counselor, but we need to do some professional development so our whole counseling team is able to advise students strategically and really speak the [partner college] language as well as they can speak the [high school] language.”*

Program leaders described the importance of collaborating with their postsecondary partners to assign postsecondary faculty with scheduling flexibility to support their pathway programs, particularly as the high school schedule was typically very structured. In one EC program, students were offered co-taught courses at high school with faculty from the community college and a teacher from the high school. It was noted by program leadership that flexibility among college faculty to teach at the high school, according to the high school bell schedule, was a crucial component to program success and future sustainability. According to one pathway program leader,

*“Being able to have professors that are flexible enough to be able to come onto campus to work with the students, being able to adapt a schedule for students to have that in their schedule [was essential].”*

#### Offering Virtual Internships

According to program leadership at one IP program, technology was used to help offer students virtual internships that enabled students to get practical work experience with employers that had faraway job sites. According to one program leader,

*“Kids that are receiving work from a company that's 40 or 50 miles away. It's still a work experience, it's still an industry experience. And that's something that given our geography is going to leverage the technology that we have and allow us to partner with more people and meet more kids' needs.”*

### School and District Resources

In addition to expanding upon existing partnerships with community-based partners, pathway program leadership teams also noted working with their own school district or high school resources.

#### Utilizing Existing Transportation Resources

Program leaders at one EC pathway noted that while the school district had purchased vans, they were not exclusive to just the EC pathway program but for the district as a whole. According to one program leader, *“The district has purchased vans, not just for Early College, but for the high school use in general, that we think can reduce our transportation costs a little bit.”*

Another IP program leadership team was also able to take advantage of district transportation resources through modifying an existing bus schedule contract and changing the daily schedule for their pathway program students. According to one program leader, the process required the pathway team to implement an early dismissal for the IP students from the school while also adding a new bus routes to the current contract with the bus company.

#### Strategic Student Enrollment and Planning

Two EC pathway programs found that one way to help minimize program costs was to implement a model in which Grade 9 students were considered part of an exploratory year. The first year of high school would allow students to identify their field of interest and gain new experiences which would then provide a foundation for when they enroll into the pathway in Grade 10. By using the first year of high school as an exploratory period for students to learn more about different career fields, as opposed to immediate pathway enrollment, the program team could help students explore their interest areas and prevent students from taking EC pathway program courses blindly. By saving resources for older students who are more certain of their academic path, program leaders saved money on resources and other program costs otherwise spent on younger students who may not have remained interested in their pathway.

#### Strategic Placement of Teachers

At one EC pathway, program leadership noted efforts to improve upon the existing advising process for EC students. This was in response to the rigorous advising needed to prepare students for all aspects of early college life and ensuing experiences. While this was viewed as a constant challenge by the program leadership team, it was also cited as a challenge in terms of pathway scalability plans. To alleviate the burden of a much larger sample of students per advisor, program leadership began looking to decrease the advisor-to-student ratio by pulling in existing teachers who would ultimately provide advising support to pathway students. According to one program leader,

*“And I think just like the advising, some of the guidance rituals that are necessary as we’re getting more and more students selecting classes when students are going to the beginning of 11th grade. That’s like an individualized process that takes a fair amount of time.”*

#### Capacity Building and Data-Driven Decision Making

When planning for pathway sustainability, one IP program leadership team discussed their proactive approach in building their school’s institutional knowledge around the pathway program while also incorporating data-driven decision making to help with sustainability efforts. In terms of capacity building, by incorporating other individuals in the pathway program decision making process, it will help disperse pathway knowledge to others in the school. This viewed as a safeguard in case pathway program leadership team members leave the school or become uninvolved in pathway strategizing. According to one program leadership team member, *“So he and I have talked about building the capacity of others in the district…But that's something that we look at in terms of the leadership.”*

For the same IP program, the leadership team described using data to support sustainability planning. According to one team member,

*“Thinking of just on our end, we do a lot of data… we're looking backwards and forwards…as we start looking at some of those data trajectories as to what that's going to mean for staffing, what that's going to mean for our classroom spaces, what that's going to mean for consumable supplies.”*

This approach, as described by the pathway leadership team, is meant to help identify the resources available for pathway sustainability, the impact of those resources on sustainability, and discuss solutions to potential challenges based on those data-driven findings.

## Summary of Findings

In thinking about sustainability and scalability, program leaders interviewed across the programs cited common goals for continuing to build out their programs in future years—student engagement, enrollment and retention, and meeting student and industry needs. Program leaders described enrollment numbers as a primary indicator of successful sustainability and scalability—and increasing enrollment numbers was often described as a key objective in discussions about the future of the pathway program. As noted by program leaders, the level of increased enrollment trends, however, was dependent on various factors including classroom space, funding, staffing needs, labor market data, and overall institutional capacity. Retention was also cited as an important sustainability and scalability goal and data point. According to one program leader, the retention rate demonstrates that students are persevering in their program—which implies that adequate supports are in place to help them do so. Finally, program leaders described meeting the needs of industry and local partners, and in turn meeting the needs of students, as a central sustainability and scaling goal. Multiple factors were described as playing a role in how this goal would be met in future years, including the practice of continuing to share labor market information with students and their families, providing students with real world skills, and tweaking programs to reflect industry shifts.

EC and IP program leaders collectively identified the uncertainty of future funds as the biggest challenge related to successfully sustaining and scaling their pathway programs. Despite most pathway programs citing their inability to sustain their programs to the extent that they implemented them under the grant, many did note that sustainability, at least to some degree, would be possible, particularly as a result of new funding sources being pursued and the support received from community partners, including postsecondary institutions.

The next three sections include findings from three case studies that illustrate how three programs (one EC program and two IP programs) addressed sustainability and scalability challenges to keep their programs going after the conclusion of the implementation grant.

# Case Study: Worcester Public Schools Innovation Pathways Program Overview

The Worcester Public Schools (WPS) IP program offers students at WPS four high-quality career pathway options aligned with the following high-need industry sectors: Information Technology, Civil Engineering, Advanced Manufacturing, and Allied Health. According to WPS IP program leaders, the purpose of the IP program is to expose students to and prepare them for careers. As described by one program leader,

*“[We] want to increase career exposure to students…extending that offering just allows us to increase the percentage of students that are going through some kind of career exposure so that they can make good secondary and postsecondary plans for themselves.”*

WPS has one technical high school, Worcester Technical High School (Worcester Tech), that offers the capabilities and facilities for robust career and technical education programming. The WPS IP model helps to bring additional options for comprehensive career and technical education programming to students at other high schools in the district. Through the WPS IP model, students at other WPS high schools are transported to Worcester Tech to take technical courses there after school. To supplement their technical coursework, IP students receive complementary coursework, advising services, and work-based learning experiences through their regular high schools. One advantage of this model is that it leverages the existing resources offered at Worcester Tech (rather than building new infrastructure to offer technical courses), while granting greater access to those resources to students across the district. Exhibit 6 provides a snapshot of the WPS IP program.

Exhibit 6. Worcester Public Schools (WPS) Innovation Pathway Program Overview

|  |  |
| --- | --- |
| Topic | Program Data |
| Pathway | Innovation Pathway |
| Location | Worcester, MA |
| Urbanicity\* | City: Midsize |
| Participating Institutions | Burncoat High School and Doherty High School, Worcester Public Schools (WPS) |
| # of students in participating schools\* | 2,593 |
| Estimated pathway enrollment in 2018–19 | 57 |
| Estimated pathway enrollment in 2019–20 | 114 |
| Pathways implemented | Information Technology, Civil Engineering, Advanced Manufacturing, and Allied Health |
| Industry Partners | Central Massachusetts Workforce Investment Board, Worcester Regional Chamber of Commerce |

\*Based on National Center for Education Statistics 2018–19 school data for Burncoat High School and Doherty High School from <https://nces.ed.gov/ccd/schoolsearch/>.

\*\*Based on National Center for Education Statistics 2017–18 school data for both Burncoat High School and Doherty High School as these were the two schools that initially housed the designation implementation. Pulled from <https://nces.ed.gov/ccd/schoolsearch/>.

During the 2018–19 school year, the first year of IP program implementation, the WPS IP program was offered to students at Burncoat High School and Doherty High School. Grades 10 and 11 IP students from those schools were dismissed from their regular high schools early and then bussed to Worcester Tech after school to take their respective technical courses there until 5:30 in the evening.

Grant funds supporting the first year of program implementation were primarily used to pay teacher stipends to account for work during an extended school day schedule. According to one WPS IP program leader,

*“The grant specifically has been used for stipends…to pay teachers to instruct [students] outside of their regular workday.”*

Grant funds were also used to pay for salaries of program leaders overseeing the WPS IP program, among other program costs.

WPS IP program leaders noted successes in several areas, including overall student feedback on the IP programs, student retention between the first year and second year of the program, and internship placement numbers. According to one program leader*,*

*“As far as participation goes from the students, we’ve had high ratings as we’ve asked the students for evaluations…We’ve had about 85% retention rate as they pursue the second year of the program…We’ve had close to 50%, maybe 43% with internship placement with the first year students.”*

In addition to successfully retaining students in the IP program, Worcester also mentioned how students are earning certifications, particularly the OSHA 10 certifications earned in the Allied Healthcare pathway.

## Sustaining and Scaling the WPS IP Program

In a phone interview conducted with WPS IP program leaders in January 2020, program leaders expressed the need for a reliable funding stream to sustain and scale their program in the long term, among other challenges, but expressed confidence in their ability sustain the current IP structure beyond the life of the grant and meeting their scaling goals in years to come.

Based on the plans that were discussed, most of the anticipated future success of sustaining and scaling the IP program hinged on maintaining and expanding upon current industry and community partnerships, leveraging existing resources, and recruitment and retention of students and teachers. This section provides additional details regarding challenges and methods used to sustain and scale programming.

### Challenges to Sustaining and Scaling

Program leaders described several challenges related to program sustainability and scalability, related to funding, attracting students and teachers to the IP program, and the internship component of the program.

**Need for Reliable Funding Stream.** Program leaders unanimously agreed that funding was a challenge that had occurred, and would likely continue to occur, in efforts to sustain the program. According to WPS IP program leaders, funding was precarious and limited from the onset of implementation. While the initial start-up grant provided by the state was enough for starting the IP program, it did not fully fund the program. While this limitation has encouraged WPS to leverage new and existing resources to meet their monetary needs, it is viewed as a challenge in terms of planning for sustainability. According to one WPS IP team member, recognizing the possibility of potentially having to cut back on certain aspects of the IP program is a potential challenge in fully sustaining the program.

**Continuing to Attract Students to IP Program.** Program leaders have found it challenging to attract students to the Advanced Manufacturing pathway, in particular, which may impact sustainability and scalability of this pathway in the future. According to one WPS IP team member,

*“One of the challenges has been to market and fill the Advanced Manufacturing program. It continues to be a struggle to inform and attract students to what the program is.”*

Lack of interest among students may become a barrier to full pathway program sustainability if it remains the root cause of this lack of interest is not determined.

**Attracting and Retaining Teachers with Industry Knowledge.** Program leaders also noted that finding and retaining teachers who have the latest industry knowledge is a potential challenge in sustaining the program, and especially in scaling the program as the number of IP students continues to increase. According to one WPS IP program leader,

*“Just continuing to find highly qualified teachers…the number of applicants that want to switch to teaching from industry, they come with that strong background is limited, and then to tap into those people to continue to teach in an extended day.”*

While program leaders described creating a staffing plan was created, it did not account for potential turnover among the current staff members

**Sustaining Internships.** Finding paid internships for students was also cited as a sustainability challenge. In describing this challenge, one program leader stated:

*“Additional needs that we’ve had to come up with other money [for] are…continuing to support…students on internships. And that might be finding internships or being liaisons with the companies as the students experience those workplace learning experiences....”*

Program leaders mentioned considering switching from an internship to a capstone to help alleviate this challenge, but believe the internship is “a key component of the program.”

### Strategies Used to Sustain and Scale Programming

To address some of the sustainability and scalability challenges, program leaders described using a variety of methods.

**Planning and Goal Setting.** To plan for program implementation and sustainability, WPS IP program leaders described holding team meetings every month and a half. While the WPS IP team stated that they had not yet developed an official, comprehensive sustainability plan after state grant funding ends, there was a consensus among those involved that a long-term budget needed to be established to help institutionalize the IP program at participating schools. The team also noted that their primary sustainability goals were related to finding new funding sources and offering internships to enrolled students. In addition, their primary scaling goals focused on increasing student enrollment in the IP program and building extra capacity to support increased enrollment. Based on estimates, the IP program is planning to enroll 400 students within the next four years.

**Aligning Program to Larger Community Initiatives.** Program leaders described the importance of aligning the program to larger initiatives led by the city to help promote buy-in for their IP program and leverage external partnerships to sustain and scale the program.

One program leader described participating in a workforce development planning initiative, led by the city, to address the employment needs of the city, as an important early step in program planning:

*“The city put together a blueprint of all of the job needs in the area as projected over the course of five to 10 years, and participating in that blueprint was, were all kinds of representatives. School representatives, industry representatives, [industry partner] representatives, city officials. There's a group of more than 20 that came together to compile that information on what our local area needs. And then we specifically align the programming as it relates to that report.”*

Aligning the WPS IP program to the city’s workforce development plan helped to build city and community partner buy-in for the program. The program leader went on to elaborate further:

*“This is what our city wants for its youth…* *So, I think that's an advantage to us…so as those relationships develop and as the community, now they say they want it and want to support it.”*

The program leader also noted that aligning their IP program to that of city’s employment and workforce development goals, they are not only able to support the city’s broader initiative, but able to leverage community funds to support students in their IP program:

*“I think one thing that we’ll continue to focus on and put a lot of energy in, is bringing the industries in, because as the industries find success in placing our students, then both through that we’re applying jointly with [industry partner] and through direct hiring on internships, we can leverage some, just community funds to support the students in those experiences.”*

**Building and Maintaining External Partnerships for Program Support and Internships.** WPS IP program leaders described the important role of industry partners. One partner, in particular, helped to not only design but also providing funding for the WPS IP program. Program leaders also described tapping into partnerships that were established in earlier phases of program planning and implementation to promote program sustainability and scaling.

For example, one program leader described leveraging a partnership made in the previous year to help secure internship and employment opportunities for IP students:

*“I have a meeting following up with someone we met with last year, next week. Last year they extended the relationship to Worcester Tech for employment of the Chapter 74 students, and this year they want to expand into the Innovation Pathway students.”*

In another example, a program leader recalled leveraging a relationship with an industry partner that had previously helped win a grant to support student internships:

Scaling Achievements in Year 2 of WPS’s IP Program

WPS has made significant gains in terms of increasing student enrollment from 49 to 125 in Years 1 and 2, respectively.

In the second year of program implementation, 2018–19, WPS planned to and has successfully expanded the IP program from just two high schools in the district to the entire district. According to one Worcester team member,

*“We have been able to reach all schools with the program, which was not an easy feat, having seven high schools in Worcester and six that could be involved in IP…each school has its own culture and its own programming.”*

*“We obviously continue to have to expand and get more of the industry involved, but our relationship with [industry partner] has proved to gain us access to grants that we have jointly applied for and that supports students on internships…And the missions of those grants really align with Innovation Pathways.”*

Maintaining strong relationships with partners has also proven an effective strategy for WPS IP program leaders in allowing them to go back to partners, year after year, for program support. One program leader described the importance of this strategy:

*“This year we got similar funding, so I went back to those same employers and every one of them has said, ‘sign us up again’. So, I think that says that they had a good experience and the relationship should continue.”*

**Leveraging Existing Student Transportation Infrastructure.** While transportation has been perceived as a major challenge by program leaders across several pathway program initiatives, WPS has been able to tackle this challenge by leveraging existing transportation resources in the district. Specifically, they adjusted the dismissal time of students in the IP program and added extra bus routes to their existing transportation contracts. According to one WPS IP program leader,

*“We incorporated a little bit of an early dismissal for the students from the schools and we added bus routes to our current contracts with the busing company…It went from the hardest last year to the easiest this year as a result of that maneuver.”*

**Generating Student and Family Interest in IP Programming.** Program leaders also described new efforts to generate student interest in joining the IP program at WPS. All interested IP applicants are invited to attend a general shop program that allows them to experience what they would be learning in more detail if they enrolled in an IP. According to one program leader,

*“And this year we’re getting all interested applicants through that shop area, so that they can get exposed to the types of things that they’d be learning and the advantages of the program, so we’re continuing to try to tackle that we’re at max capacity in that program.”*

In addition, program leaders have also worked to provide more context for students and families regarding potential career opportunities in the area and how the IP program aligns with those opportunities. According to one program leader,

*“I think since these programs aligned specifically with the labor market data, it’s programming and training in areas that there’s going to be future jobs in…I think that students and families in general have an idea of what they think they might want to do, but no real context to it.”*

By continuing to attract buy in from students and their families, the WPS IP team plans to continue to expand the IP program both in terms of how many students can enroll and how many opportunities can be offered to students.

**Adapting to the Future Needs of the Program.** The WPS IP program leaders also recognized that being able to sustain the program depended on being adaptable to the future needs of the program and reevaluating the roles and responsibilities of those currently involved to accommodate changing needs. While some positions were seen as essential, such as having a full-time director, program leaders explained that positions and responsibilities would likely change based on the needs of the program, particularly between early implementation and into the future. One program leader described,

*“Some of the job responsibilities that they’ll have in the initial stages, as opposed to a couple of years down the road, might shift a little bit as to what they’re going to be doing.”*

Program leaders noted that they are collecting data, such as number of applications, retention data, and end of year student survey data, which may be helpful in determining future program priorities.

## Summary of Findings

The IP program at WPS has proven to be quite resourceful in various ways, particularly in leveraging partnerships with community stakeholders. Gaining buy-in from these stakeholders early on in program planning and implementation has enabled WPS program leaders to leverage community resources to meet IP program needs. Program leaders also noted the importance of utilizing existing resources, such as transportation, to meet the growing needs of the program. In addition, program leaders noted the importance of keeping students and families engaged in how the IP program helps to prepare students for future labor market opportunities in their region. Finally, program leaders expressed the importance of being adaptable to meet future program needs.

# Case Study: Uxbridge High School Innovation Pathways Program Overview

In April 2018, the Uxbridge High School (UHS) IP received designation for their Manufacturing and Engineering Technology IP. Program leaders emphasized that the purpose of the IP program is to combine academic and technical outcomes so students can make informed decisions about their plans after high school. UHS has partnered with various industry partners to improve the outcomes of students by providing them with employability and transferability soft skills and real-world experience in an internship or capstone. Through the UHS IP model, 9th, 10th and 11th grade students are enrolled in traditional high school courses with one course in each year being completed within the IP, as either a substitute or supplement to their science requirement. In 12th grade, students are enrolled in college-level mathematics and English courses taken offsite at Quinsigamond Community College and an internship in their industry sector. Exhibit 7 provides a snapshot of the UHS IP program.

Exhibit 7. Uxbridge High School Innovation Pathway Program Overview

|  |  |
| --- | --- |
| Topic | Program Data |
| Pathway | Innovation Pathway |
| Location | Uxbridge, MA |
| Urbanicity\* | Rural: Fringe |
| Participating Institutions | Quinsigamond Community College |
| # of students in participating schools\* | 482 |
| Estimated pathway enrollment in 2018–19 | 105 |
| Estimated pathway enrollment in 2019–20 | 120 |
| Pathways implemented | Manufacturing |
| Industry Partners | Blackstone Valley Chamber of Commerce, Blackstone Valley Education Foundation, MassSTEM Hub, and Project Lead the Way |

\*Determined using 2017–18 school year data from NCES at <https://nces.ed.gov/ccd/schoolsearch>.

\*\*Determined using projected total student enrollment in FY19 based on Uxbridge’s Massachusetts High Quality College and Career Pathways Planning Application.

\*\*\*Determined using projected total student enrollment in FY20 based on Uxbridge’s Massachusetts High Quality College and Career Pathways Planning Application.

During the first year of IP program implementation, the 2018–19 school year, grant funds were primarily used for curriculum development and faculty professional development (PD). According to one program leader, the grant funds were used in a manner that dispersed benefits to a variety of key staff.

*“I think we've gotten significant gains because the money is one time, but the work that people have been able to get for it has a little bit of a longitude of two, three, four years and if you send three people to a training, they're bringing it back and sharing it with eight or ten or twenty.”*

The rest of program funds were used to purchase supplies and pay stipends to bring teachers together across disciplines to discuss learning outcomes. Program leaders from the UHS IP program emphasized that they chose to use program funds for PD that spanned disciplines to distribute the benefits across the school’s disciplines. One respondent noted that *“one of our goals is how to make [funds] stretch so that it has an impact on all areas of the school and the resources that we're going to use this year,”* not only focusing on the Manufacturing IP but the entire K-12 structure to ensure program sustainability and scalability. Specifically, program leaders noted that one of their scaling goals is to transition the program from an exclusively secondary school model to a larger K-12 model—to better prepare students for the coursework when entering UHS and allow for greater student outcomes.

The UHS IP program leaders also noted that as of the end of the first year, all program staff and supplies had been built into the school’s operating budget.

## Sustaining and Scaling the Uxbridge IP Program

In a phone interview conducted with UHS IP program leaders in January 2020, program leaders expressed the need for a reliable funding stream to sustain and scale their program in the long term, among other challenges, but expressed confidence in their ability sustain the current IP structure beyond the life of the grant and meet their scaling goals in years to come.

Based on the plans that were discussed, most of the anticipated future success of sustaining and scaling the IP program hinged on maintaining recruitment and retention of target student populations, leveraging existing resources and space, and expanding upon current industry and community partnerships. This section provides additional details regarding challenges and methods used to sustain and scale programming.

### Challenges to Sustaining and Scaling

Program leaders described several challenges related to program sustainability and scalability, related to attracting students to the IP program, maintaining up-to-date resources, overcoming space limitations, securing a sustainable funding stream, and strengthening the internship component of the program.

**Continuing to Attract Target Students to IP Program.** Program leaders have found it challenging to attract certain target students to the Manufacturing pathway—in particular, female students—which may impact sustainability and scalability of this pathway in the future. According to one UHS IP team member, female enrollment in the manufacturing IP after the third-year class is particularly low. That program leader noted,

*“[There are] 16 students in that third-year class, 14 of them are male. I see that as a challenge. I don't know if it's a cultural element. I don't know if it's just a branding. I don't know if it's just the kids are finding other things, they're more interested in as they get older, but I think that's a challenge.”*

Lack of interest among female students may become a barrier to full pathway program sustainability if retention remains low. Program leaders noted that the root cause of decreasing female retention throughout the program is not determined.

**Maintaining Up to Date Technology.** Program leaders also noted that maintaining up-to date technology as it evolves and innovates is a potential challenge in sustaining the program. Specifically, program leaders noted that it may become a challenge to ensure the IP program is effective in preparing students for the workforce. According to one Uxbridge IP team member,

*“I'm going to a workshop at the end of the month where they're talking about the integration of artificial intelligence into manufacturing and that's not something we're necessarily capable of being at right now, but five years from now we may really may have to be.”*

While program leaders emphasized the need to continue to evolve with technology in order to ensure they are providing students with skillsets that match workforce demands, they also noted that balancing that need to innovate with the budget is a constant challenge.

**Limited Space.** Program leaders also noted that as the UHS IP program scales, they may eventually outgrow the area available within the school. In describing this challenge, one program leader stated:

*“I worry that at some point we're going to hit a wall, for lack of a better word, actually quite literally about the facility. We've expanded to some mobile labs by bringing in laptops. [IP staff] did a walkthrough through and there's 18 kids in there right now but if we run into a situation where we need more periods of engineering classes than the building concurrently allows, we may have to repurpose a classroom or two.”*

Program leaders mentioned that with high student buy-in and enrollment in the IP program, this may continue to become a challenge, especially when it comes to scaling the program.

**Need for Reliable Funding Stream.** While program leaders were confident in sustaining the IP program in the short-term after the grant ends, they are having to think creatively about the budget to address potential challenges. Program leaders unanimously agreed that a reliable funding stream would only enhance and improve the outcomes of the IP. One program leader explained,

*“We can probably solve those things within, but the grants that help us enhance and augment those sort of opportunities are really important, which is why I think in the long run we're hoping that the Commonwealth and the governor's office finds a way to provide some sustainable funding sources for us.”*

While program leaders noted that the UHS IP program is currently strongly supported by the district, they highlighted that support for programs such as these is never permeant. One program leader noted that,

*“I think we're in a good place where people see the value of these sort of things, but that doesn't mean that at some point it couldn't be a fiscal problem.”*

Programs leaders emphasized that ultimately programmatic support can come down to the health of the economy and the perceived value of the program. The respondent noted that currently the economy is healthy, and the school hasn’t been forced to make difficult program cuts, but the thought of having to make significant program cuts is always in their head as a potential barrier to sustainability and scaling.

**Sustaining Internship Placement.** Program leaders emphasized that staffing would play a key role in their ability to scale the IP program, noting the potential need for an internship coordinator, among other potential staff. Program staff identified that as the program scales there will be a need to hire a point person who will oversee student placement in internships and capstones outside of the school building. One program leader explained that this is something the IP program staff is creatively thinking through but will eventually become needed as the program scales to 40 or more students. According to the program leader,

*“We're a couple of years away from having that number where it might become too onerous on the guidance counselors, but whether that's a period or two for a teacher or an additional staff member who serves in that and maybe another capacity to support some of our interventions and administration, that's something that's…at its discussion stage, it's not quite at the point of piloting or implementing.”*

UHS IP program leaders noted that having a key point of contact for industry partners would foster strong connections between the IP program and workforce partners, ultimately helping the scalability of the program.

### Strategies Used to Sustain and Scale Programming

To address some of the sustainability and scalability challenges, program leaders described using a variety of methods, primarily related to leveraging how resources were used and developing innovative ways to spread the benefits of funding across the school. This section provides more details regarding each strategy.

**Planning to Sustain at the Start.** To plan for program implementation and sustainability, UHS IP program leaders described how the thought of sustainability was present from the very beginning of program implementation, even in the planning of how program funds would be spent. The team noted that not using program funds for IP staff salaries was a key factor in their ability to sustain the program after the end of implementation grant, indicating that when salaries are built into the grant funds *“then you build in a financial cliff when the grants run dry.”* Program leaders also noted the need to be intentional and realistic with planning and goal setting in order to ensure sustainability and scalability of the IP. One program leader noted,

*“We're not adding, we're reallocating. When you're working on programs like this, you need to stop doing some things. It's really taking an honest look and sometimes letting go of some of the things we've done in order to reprioritize our funding.”*

Based on the UHS IP sustainability and scalability plans that were discussed, most of the anticipated future successes are attributed to their preparation and planning. This planning is viewed as the key source for ensuring future sustainability as well as continuing to scale and overcome potential new challenges as they arise.

**Aligning Program to Larger Community Initiatives.** In planning for program implementation and sustainability, UHS IP program leaders emphasized their connection to the district mission. Program leaders noted that in 2019, the district developed strategic plan that outlined the disconnects within the district and ultimately identified where the district would like to go in the future. Similar to the goal of the UHS IP, the Uxbridge district’s strategic plan promotes strong academic teaching with a focus on real word application. One program leader noted the connection between the two, indicating,

*“The pathway has been a bedrock concrete way in which we can have educators connect with each other, as well as with the real world.”*

The Uxbridge IP program has therefore become a model for the district’s planning since it has “*given [the district] a compass…by which everyone can sort of move in the same direction.*” Program leaders unanimously agreed that the similarities in their respective missions and goals helped gain buy-in among stakeholders in the district in order to ensure program sustainability. One program leader noted,

*“[The UHS IP program is] pretty tightly connected to the district’s mission and plan, and to be honest, graduation requirements and everything else. I don't want to say they're protected because they're still in some ways elective courses, but they're a priority.”*

**Leveraging Use of Data.** The UHS IP program leaders described how they have used qualitative and quantitative data to analyze and plan for future challenges and scenarios. Program leaders described how they have used current and predicated enrollment data to predict and plan for sustaining and scaling of the IP program. Using these quantitative data, UHS program leaders were able to plan how they would strategically allocate resources in the future to meet any level of student retention. According to one program leader,

*“We'll be in the current year, we'll be in next year and we'll be in last year as well as we start looking at some of those data trajectories as to what that's going to mean for staffing, what that's going to mean for our classroom spaces, what that's going to mean for consumable supplies.”*

One program leader described discussing potential changes in student enrollment and staffing and the potential responses, such as, *“Does that mean we have to look at some sort of grant? Does that mean we're looking into the operating budget?”* The UHS IP program leaders document all these potential scenarios and share them across stakeholders to ensure everyone has access to all data sources.

Program leaders also noted their use of qualitative data through stakeholder forums with parents, faculty, students and administrators. These forums were used to gather feedback from key stakeholders and in order to guide their understanding of the sustainability and scalability of the IP. One program leader noted that they used the data to *“put together a picture of who we want to be [and] the direction [that] we want to go.”*

**Building Capacity of All Program Staff.** The UHS IP program leaders recognized that being able to sustain the program depends heavily on the capacity of the entire team to support the IP, not a singular individual. The program leaders noted that they have recently been focusing on dispersing the capacity and knowledge of individuals involved in the pathway to create a sustainable system.

**Building and Maintaining External Partnerships for Internships.** UHS IP program leaders described the important role their industry partners will play in the sustainability and scalability of the IP. Program leaders highlighted their focus on growing existing partnerships within the IP to be more robust in order to enhance the opportunities available for students. Currently, students are completing “industry generated projects” offered by partners. Program leaders described the projects as the following:

*“Kids that are receiving work from a company that's 40 or 50 miles away. It's still a work experience, it's still an industry experience. And that's something that given our geography is going to leverage the technology that we have and allow us to partner with more people and meet more kids' needs.”*

Uxbridge program leaders noted that by utilizing this concept of virtual projects, where students do not need to be onsite, they are able to expand the number of available partners and thus increase the available opportunities for students. Program leaders indicated that they wished to formalize this opportunity with existing partners to create an established structure that optimizes partnerships and opportunities for students without adding to programmatic costs. They also highlighted that having a clear established structure for virtual student internships could bring in potential new partners, previously not accessible.

**Adapting Program to Match Industry Accreditations.** Program leaders also described new efforts to add a certification piece, the Manufacturing and Applied Workforce Industry Credentials (MACWIC), to the IP program. Program leaders noted that adding an accreditation to the IP would build the capacity of students after they graduate—which may also help to build student interest in the program. MACWIC is a multi-tiered, employer-led workforce training initiative that aims to transfer critical manufacturing skills and learning to future laborers. The certification contains five levels with skills becoming more specialized and advanced as the levels increase. The first layer of the MACWIC certification, Level 1, contains skills such as Shop Math, Blueprint Reading, Metrology & Quality Inspection, Safety, and Work Readiness.[[3]](#footnote-4) Program leaders noted that there are already key elements of MACWIC present in the IP program, but program leaders identified that they want to define it more consistently as a student outcome. One respondent noted that the extra certification would

*“Allow our kids to be ready for an entry- or second-level position at our local manufacturers the day they step out of here. That level one assessment is something I know our kids can be prepared for, but I think it's something that we need to do a better job of articulating.”*

Uxbridge’s goal of adding MACWIC to the IP program would be a multi-step process, with respondents noting that they would like to have the first level of certification completed by spring 2021. Program leaders also noted that the MACWIC accreditation pyramid would help provide guidance in the scaling of the program. Since MACWIC outlines crucial skills for the industry, the tiered structure would help to identify skills already being taught in the IP as well as a guide for ones to build on and develop as the program scales.

**Strengthening Credit Accumulation System.** The UHS IP program leaders also recognized the importance of formalizing a widespread credit accumulation system between the high school and postsecondary institutions as a strategy for sustaining and scaling the program over time. According to one Uxbridge team member,

*“We need to find a way to get the credit articulation to be a little bit more widespread. Right now, [students] pass a qualifying test that gets them credit and placement at a couple of schools, but we really need to get higher ed on board with what these courses mean.”*

The program leaders emphasized how students need a strong credit accumulation structure so after leaving UHS they do not need to re-enroll in classes in which they are already proficient. Programs leaders referenced stories of past IP students who enrolled in introductory courses after high school in which they already knew all the required materials. One program leader described,

*“We had a student last year who took our third-year engineering class, went to community college, took introduction to drafting, and passed the final in the first day of the class. It's great, [he] starts off with an A, but it's kind of a waste of his time and money.”*

Program staff also noted that they were working with a partner on this initiative. Unlike the MACWIC certification, IP program staff expect that achieving this goal will take much longer, due to the bureaucratic nature of the goal and requirement of various partners’ involvement.

## Summary of Findings

The IP program at Uxbridge has focused on capacity-building within the high school and district, to sustain and scale the program. By ensuring buy-in of individuals on many levels throughout the district and school, the IP team has ensured that the sustainability of the program does not rely on a single individual. The program staff has also used a variety of planning strategies early on in pathway implementation to prepare for eventual sustainability, specifically related to how they sustainably leveraged funding and used data to plan for future challenges. The intersection of strong district support, sustainable planning, and focus on capacity-building has effectively readied the UHS IP program for sustainability and scalability moving forward.

# Case Study: Site 2 Early College Pathways Program Overview

The Site 2 EC pathways program consists of a partnership between one high school and one nearby community college.[[4]](#footnote-5) The program consists of two pathways—Business and Information Technology—in which students from the Site 2 high school take dual credit courses through the community college. While the program is open to students in grades 9–12, the 9th grade year is an exploratory year for students to learn more about different career fields in business or technology in a hands-on environment; students don’t begin taking dual credit courses until 10th grade. To help ease students into the EC program, 10th grade students take their first dual credit courses at the high school. In 11th and 12th grade, the Site 2 students take their dual credit courses at the community college, which is within walking distance from the high school. In some instances, students leave school early to go to the community college and some even attend classes over the weekend.

The Site 2 EC program was originally implemented in September 2015, with the roll out of Information Technology, two years prior to receiving HQCCP designation and an implementation grant. The EC program was originally supported through various community and industry partners, as well as career and technical education grants. Receiving designation and a grant from the Commonwealth was ultimately planned to be part of an effort to enhance and expand upon the existing pathways. Implementation grant funding was used primarily for covering salary costs, student tuition, technology for grade 10 dual enrollment courses, as well as course and instructional materials. Additionally, the Commonwealth grant funding was also used to support collaboration efforts between the Site 2 high school and community college to enhance and align curriculum. Exhibit 8 provides a snapshot of the Site 2 EC program.

Exhibit 8. Site 2 EC Program Overview

|  |  |
| --- | --- |
| Topic | Program Data |
| Pathway | Early College |
| Urbanicity\* | City |
| # of students in participating schools\* | 920 |
| Estimated pathway enrollment in 2018–19 | 150 |
| Estimated pathway enrollment in 2019–20 | 205 |
| Pathways implemented | Business, Technology |
| Industry Partners | Several partners including corporations, local and national nonprofits, an industry councils, and a foundation |

\*Based on National Center for Education Statistics 2018–19 school data for participating high school from <https://nces.ed.gov/ccd/schoolsearch/>.

## Sustaining and Scaling the Site 2 EC Program

In a phone interview conducted with the high school and the community college pathway program leadership team in November 2019, program leaders expressed confidence in their ability to sustain the Site 2 EC program—at least in the short-term—as well as their plans to scale the program in the coming years.

They also expressed the importance of addressing challenges that were faced during implementation and will most likely be faced in future sustainability and scaling efforts.

### Challenges to Sustaining and Scaling

Despite the confidence expressed by pathway program leaders in being able to sustain and scale the Site 2 EC program in the near term, program leaders anticipated specific challenges that would impact long-term sustainability of EC program. These challenges included uncertainty of future funding, budget limitations, addressing future tuition increases, and establishing an effective pathway program advising structure.

**Uncertainty around Future Funding.** While the high school has had a diverse portfolio of external funding sources which helped subsidize their EC pathway program since 2015, program leaders were fully aware of the need to continuously find new opportunities, or capitalize on existing funding sources, that would ensure a sustainable future. The program leadership team did acknowledge that even though they currently have a stable source of funding, it is not guaranteed in future years. When asked if staff responsibilities may change in future years, one program leader responded, *“I mean we are part relying on external funding and so at that point, no, but we are dependent on external funding, which is always temporary.”*

Sustainability Planning

*“Building these structures that can then stay in place, both of them in human resource now, but just like instructional knowledge that’s sustainable.”*

**Budget Limitations.** According to program leaders based at the high school, being part of a large public school district also limits how much district funding can be provided to the school for EC pathway programs. The budget process, as described by the high school, is based on a weighted student formula algorithm, ultimately preventing any extra funds from being diverted outside of basic school efforts. According to one program leader,

*“The way funding works in [the school district] is it’s based on a weighted student funding formula…because there’s 30 high schools, funding is distributed based on sort of a funding algorithm. So, there’s not really extra money available to pay for something like this on top of the work the school is already doing.”*

Because there has been no expectation that this funding model would change, the high school program leaders have regularly pursued new and existing external sources of funding through grants and community partners.

**Potential Increase in Tuition and Other Resources.** The program team recognized that their current funding, as it is being used, is not only temporary but also subject to change depending on the cost of tuition at the community college. One pathway team member acknowledged that the community college tuition has been stable, but *“it’s not going to be like that forever.”* In addition to unexpected changes in future tuition costs, program leaders also noted that textbooks also tend to rise in cost over time, which would need to be accounted for when securing future funding.

**Establishing Effective Advising Structures.** Outside of funding, another challenge that was brought up by program leadership was student advising. According to one program leader, at the high school, each guidance counselor is assigned a student caseload of roughly 150 students, which makes it challenging to implement the enhanced advising experience that is a core component of the HQCCP initiative. Another program leader expanded on this challenge, noting that the Site 2 program was not the only EC program to experience this challenge:

*“I think if there was one issue outside of funding that we as a community can wrap our heads around and kind of figure out it’s the issue with advising…that seems to be the common theme that’s come out from all of the schools regardless of how they administer early college.”*

### Strategies Used to Sustain and Scale Programming

Program leaders are confident that despite the challenges that they have faced, they are in a good position to sustain their program in the short-term. In the context of sustainability and scaling goals, program leaders described a range of strategies used to support those goals. This section provides details on the strategies used by the Site 2 EC program team.

**Designing a Sustainable Pathway Program Structure.** When the Site 2 program was initially implemented, grade 9 students had the opportunity to take dual credit courses. Later, program leaders changed the program structure to begin taking college courses in grade 10, and to have grade 9 be an exploration year. There were multiple motivations for this decision; it not only helped to better prepare grade 9 students for the rigors of dual credit classes, but it was also a more sustainable model in terms of recruitment and retention, and ultimately scalability. According to one program leader,

*“I think…designing the exploration [year] and sort of shifting our model was pretty much related to sustainability since we were seeing that a lot of kids were starting and struggling right away.”*

Further clarifying this decision, another program leader stated,

*“But I think the model that [the high school] has going on right now with the exploratory and the first course on campus in 10th grade and then the 11th and 12th grade where the students are actually leaving campus, that’s the most ideal model…That’s what we would hope to be able to expand out to other partners. We were seeing a lot of gains from that…something that’s sustainable even with funding being kind of iffy in the future, that model itself, it seems to me the way to go.”*

**Maximizing Use of Textbooks.** Because textbooks can be costly, the Site 2 EC program team has been strategic in their textbook purchasing. According to one program leader,

*“I think we’ve been very resourceful with the textbooks. Getting used textbooks, having students, you know, share textbooks, borrowing textbooks, that kind of thing.”*

While it was noted that the costs of taking classes at the community college will likely increase in the future, program leaders hope that being strategic in purchasing textbooks may help to offset some of those costs.

**Taking Advantage of Proximity to Community College.** The community college is a 15-minute walk from the high school, which is a significant asset to the Site 2 program in that the program does not have to fund transportation costs to shuttle high school students to a college campus. Program leaders also noted that they hope through the Site 2 program and the proximity of the community college and the high school campuses, the high school students will demonstrate interest in and engagement with the community college in future years.

**Recruiting Teachers to Support Student Advising.** As previously stated, the counselor-to-student ratio was large, at approximately 150 to one, which presented a challenge in providing pathway students with a robust advising experience. To overcome this challenge, the Site 2 pathway program has hired program staff to provide a more intentional and individualized experience. According to one program leader,

*“The guidance counselor to student ratio is like 150 to one, whereas we tried to allocate teachers in the school so that it’s more like 50 to one for students in the early college pathway so that they can get much more individualized advising support, especially during that sort of course selection phase and taking those first courses on campus.”*

As noted by the program leader, reducing the student-staff ratio, and having school staff whose sole job is early college support helped provide more individualized advising support to pathway students. This strategy helped build a sustainable and scalable advising model for the Site 2 EC program.

**Collaborating with other Schools and Community Partners.** Program leaders identified opportunities to collaborate with other high schools partnering with the community college on EC programs as an important strategy for developing a sustainable program model.

According to one program leader,

*“We had an initial faculty [professional development event] earlier in the spring semester followed by an administrator [professional development event] and a lot of good information came out of that. And I think one of the best things that we found was that the high schools saw a lot of opportunity to tackle some issues together and they’re not as different as they think, which is fantastic.”*

Program leaders also found that collaborating with industry and community partners through convenings has helped to facilitate a community of practice in terms of thinking about program sustainability. According to one program leader,

*“I think the goal of these [convenings] in thinking about the sustainability of leveraging people’s experiences at this point…it’s sort of like leveraging these different experiences to build this community of practice.”*

Finally, program leaders also expressed the role of collaborating with the community college’s other EC program teams to leverage funds to sustain and scale programs. One program leader said,

*“I tried to look at this as a community and maybe we need to have a bigger discussion overall as a five school partnership and start talking about finding maybe an additional funder for the future or even talking with [a partner foundation] to see if they can possibly extend what they are doing currently doing with us right now.”*

**Utilizing the School Budget to Fund Teaching Positions.** The Site 2 EC leadership team also described how some teaching positions for the EC program—particularly for the grade 9 and grade 10 program teachers—were able to be folded into the broader school budget, which has made these positions sustainable for the long-term. According to one program leader*,*

*“Obviously we have built in like the [full-time positions] that covered a 9th and 10th grade portion of the EC pathway. Those are pretty much built into our school budget now. Those are funded internally. Like we have a 9th and 10th grade technology teacher, a 9th and 10th grade business teacher.”*

**Using Grant Funds for Sustainable Purchases.** Program leaders also highlighted using grant funds for sustainable purchases, like technology. The technology purchased will also be sustained indefinitely until new equipment will need to be purchased. As stated by one program leader,

*“I feel like we are at the point where in terms of technology purchases, aside from a few things here and there with changes in curriculum, but we have some of those foundational supplies…But like at least for the next couple of years.”*

**Pursuing External Funding Opportunities.** External funding opportunities, while already a big part of the original EC pathway program established in 2015, was also mentioned in terms of evolving and aligning to future needs. As noted by program leadership, initial grants that helped fund the EC pathway program were focused on career and technical education. Program leaders noted, however, that future funding will need to align to the EC program that they have already built with the state designation guiding principles in mind. According to a program leader,

*“So I think we've sort of like had to refine or think through like what are the outcomes we hope to achieve and then just making sure that the grants that we applied for are aligned to those, to that vision.”*

Additionally, obtaining per pupil funding through the Commonwealth’s new education funding formula (passed into law as the Student Opportunity Act in November 2019) was viewed by program leaders as a potential, major sustainable funding source for the Site 2 EC program. Program leaders described the efforts of their respective institutions to encourage the funding to be used to support EC programming. According to one program leader,

*“Well then there’s also the lobbying efforts that we’ve been doing. I know our [community college leadership] and [school leadership individual] have been up and down the state over the past year [to support funding opportunities].”*

While the details of the new state funding formula are still being determined, program leaders noted that they would be able to sustain their program through foundation support in the short term.

**Realistic Goal Setting and Planning.** Site 2 EC program leaders provided a couple examples of using realistic goal setting and planning strategies to support their sustainability and scaling goals. Regarding sustainability, while program leaders acknowledged that they did not have a formal sustainability plan, they have been having many informal, ad hoc conversations within their institutions and industry partners to support sustainability. For example, according a program leader,

*“I mean that’s not something that has been spelled out on paper… There are so many different conversations happening at a lot of different levels.”*

Program leaders also noted a variety of meetings and convenings both within their program and with external community and industry partners to support program sustainability.

In terms of scaling, program leaders described their primary goals to fully enroll students in their Business and Information Technology pathways and add a new Health pathway (which they also expect to fully enroll). Program leaders noted that they have the space to logistically add this third pathway. In terms of the cohort size, the high school team believed that there would be three, fully enrolled cohorts of 30 students in grades 10–12, with a total of 90 students. While this was an estimate, one program leader noted that the pathways might benefit from a slightly smaller cohort size to allow for continued individualized support to students. According to the program leader,

*“I think realistically, you know, a 25 per cohort is really where I would like us to be. We have room for up to 30 based off of class sizes, but we know the more kids you get…the harder it is to do individualized things, which we like to do as part of the program.”*

In other words, program leaders acknowledged that they didn’t want to scale their program so much that they may have to sacrifice program quality and the individual support that they are providing to students.

**Recruiting New Students and Demonstrating Program Success.** To fully enroll existing Site 2 pathways as well as the new pathway that they are planning, program leaders mentioned the importance of recruitment in supporting those goals. Program staff from the high school actively visit grade 8 students in middle schools throughout the school district to market the Site 2 EC pathways and to encourage future student enrollment.

In addition, program leaders also noted that having a successful program will drive students to want to enroll. Part of the enrollment and retention strategy is to deliver a successful program that students will want to be a part of, as described by one program leader:

*“We’re going to add a health pathway, so that’s a whole other cohort of students. And it’s also as we recruit and sort of demonstrate success, our goal is to fill out our tech, business, and health.”*

## Summary of Findings

The Site 2 EC program is on track to successfully sustain and scale their program in the next couple years. The Site 2 team noted that having a diverse portfolio of funding sources has helped them throughout their implementation period, though fully recognize the need to continue finding new funding sources to support long-term programming. The team described taking advantage of existing resources, such as the program structure, district-supported teacher positions, and the proximity between the high school and the community college. Program leaders also described strategic purchasing decisions with textbooks and technology. A larger theme that dominated the discussion about sustainability and scaling, however, was the importance of having strong community partnerships and collaborating with partners. A large part of the thought process revolves around the idea that collaborating with community partners. The Site 2 team certainly viewed working with other schools and organizations as critical to resolving implementation and sustainability issues and identifying best practices.

# Conclusion

As described across the nine pathway programs and in the three case studies, several factors played a role in how pathway program leaders planned for sustaining and scaling their respective pathway programs. These factors included their overall institutional capacity to continue the program, the challenges the program leadership teams expected to face in future years, and the resources that were leveraged from various stakeholders.

Most of the program leaders across the nine pathway programs indicated that they would be likely to sustain at least some components of their pathway program. Often program leadership teams highlighted their regular communication efforts with one another and their team’s working dynamic as a contributor to planning for sustainability and scalability. While program leaders highlighted their efforts in preparing for sustainability, many also identified certain limitations related to dependency on future funding.

Pathway program leadership teams noted similarly shared challenges that were viewed as potentially problematic for sustainability and scalability goals, including the continuation of student services, the logistical needs of the program, and the financial resources to fund the pathway. Student services that were specifically cited as being a future challenge to maintain included student internships as well as advising and support. Additionally, program leaders also identified transportation and the ability to schedule their pathway programs as being logistical challenges. Underlying all of these, whether directly or indirectly, was the ability to secure future funding, particularly for student tuition and materials such as textbooks.

Areas in which program leaders shared successful implementation practices that could be used to ensure pathway sustainability and scalability centered around targeting new and relevant funding sources, leveraging community partnerships for pathway support, and utilizing school and district resources to assist in student transportation and pathway scheduling. Exhibit 9 lists eight promising practices for sustaining and scaling EC and IP programs based on this study.

Exhibit 9. Promising Practices for Sustaining and Scaling EC and IP Programs

|  |
| --- |
| Promising Practices for EC and IP Program Sustainability and Scalability |
| * Conduct early planning and goal setting for future sustainability and scalability efforts. * Leverage the use of existing resources, including student academic data, college course textbooks, preexisting transportation infrastructure, and external community partnerships. * Collaborate with other schools, community partners, and colleges in the area in sharing best practices and solutions to challenges. * Align pathway programs to future needs outlined by the school, employer partner, and the partner college’s needs. * Build the capacity of partnerships and program staff to further institutionalize and expand the pathway programs. * Pursue outside sources of funding that align with pathways that ultimately ensure longevity and scalability of programs. * Identify opportunities for virtual internships for students unable to attend in person or if internship sites are too far away for some students. * Strategically place teachers as a means of providing pathway advising to students. |

# Appendix A. Data Collection Protocols

**Grant Manager Interview/Focus Group Protocol**

**Facilitator Guidelines:**

* Introduce yourself and/or leaders of the focus group as representatives of ICF and describe your roles in supporting the meeting (i.e., facilitator).
* Briefly discuss the purpose of the interview/focus group: In order to make improvements in how it supports Early College/Innovation Pathways, *The Massachusetts Department of Elementary and Secondary Education would like to learn about grantees’ experiences implementing designated Early College/Innovation pathways funded in part by the New Skills for Youth Grant the state received. The purpose of this interview/focus group is to learn about efforts your team has made to sustain and scale the pathway beyond the life of the grant. This session will take approximately 45–60 minutes.*
* Convey to each participant our confidentiality policy: *(1) the interview/focus group is voluntary; (2) you can decline to answer any questions, or you can stop participating in the interview/focus group at any time; (3) no names will be associated with responses; (4) the information will be held in confidence by the study team who have signed confidentiality agreements ensuring the protection of data; (5) interview/focus group data will be maintained in secure areas; (6) no DESE staff will have access to the interview recordings or transcripts; and (7) please respect others’ privacy by not sharing any information outside of the interview/focus group.*
* Ask permission to participate in the interview focus group: *Now that you have heard about the content of this interview/focus group and the confidentiality provisions, do you consent to participate?*
* Ask permission to record the interview/focus group: *In order to capture the discussion, I would like to record the session. Only the study team members will have access to the recording.* *If at least one person chooses not to have the session recorded, we will not record the session but will take notes. We will not include your name(s) in these notes. Any information that can be used to identify an individual will be removed from transcripts prior to being shared.*
* \*\*Start the recording\*\*
* Describe plan to keep interview to designated time limits: *In order to keep our session within the timeframe provided, 45–60 minutes, we may need to interrupt the discussion, on occasion, and move on to the next question. Should this occur, we apologize in advance. We greatly value your feedback, though want to ensure we are respectful of your time.*
* Ask if they have any questions for you before you begin.

**Notes to Interviewer:**

* Guidance has been provided regarding the approximate amount of time that each section should take. While you are not required to adhere to this guidance exactly, please be mindful of the time—ensuring that you cover all key topics without going over the allotted time (45–60-minute call).

**Introduction/Background (10-15 minutes)**

We’d like to spend a few moments covering background information about your pathway program.

1. Please tell us briefly about your pathway program.
   1. What is the purpose of the pathway program?
   2. If Innovation Pathway: What is the pathway’s industry sector theme?
   3. Who are the major partners involved in this pathway? What are their roles?
2. What is your role in supporting the pathway program?
3. As you may know, we completed site visits with your program last spring. At this point, we just wanted to briefly check in again regarding your perceptions of how implementation of the pathway program has gone over the past year. This will help to provide context for the rest of our discussion today. What are some of the highlights regarding implementation?
   1. What are some of the key implementation successes you’ve seen so far?
   2. What are some of the key implementation challenges you’ve encountered?

**Sustainability (20-25 minutes)**

Our next set of questions pertains to the sustainability of your pathway program.

1. How has your team used your state-funded implementation grant, overall, to support your pathway program to this point?
2. What challenges does your team foresee, if any, in sustaining your pathway program after the end of the state-funded implementation grant?
   1. What do you expect will be the easiest elements of your pathway program to sustain? How so?
   2. What do you expect will be the most challenging elements of your pathway program to sustain? How so?
3. How is your team planning to sustain your pathway program following the end of the state-funded implementation grant?
   1. What types of internal and/or external sources of funding will your team use to sustain your pathway? (Probe for school budget, district budget, grants, partner contributions.)
   2. To sustain your pathway program after the grant ends, will your team need to shift around staff responsibilities? How so?
   3. Will all partnerships be sustained after the grant?
      1. If yes, what will the role of partners be in sustaining the pathway program?
      2. If no, which partnerships will not be sustained? What will the consequences be of losing this partner/these partners?
   4. What potential new partners, if any, has your team identified to aid in the sustainability of the pathway program?
      1. What role will these new partners play in the program? In sustaining the program?
   5. What other potential resources has your team identified, if any, to support sustainability of the pathway program?
4. What types of planning activities has your team used to develop your sustainability plan?
   1. How did initial conversations about sustainability get started?
      1. Who was involved? (Probe for district staff, school staff, external partners.)
      2. When did planning begin?
   2. How is your team engaging in ongoing sustainability planning work?
      1. Do you have a dedicated team in place to discuss sustainability?
         1. If yes: Who is involved? How often do you meet?
      2. Does your team have a sustainability action plan? If yes, can you walk me through the highlights of this plan and where you are in implementing this plan?
   3. What steps are left to complete in ensuring sustainability of the pathway program?
   4. Has your team identified any lessons learned or promising practices related to sustainability planning? If yes, please elaborate.
5. What benchmarks or measurements will you use to determine whether your sustainability efforts have been successful? (e.g., student enrollment, course offerings, new partners)
6. Is there anything else related to sustainability that you’d like to share at this time?

**Scalability (15-20 minutes)**

In addition to sustaining your pathway program, we’re also interested in learning more about your plans to scale your pathway program beyond the life of the grant. The next set of questions pertain to scaling.

1. Can you provide an overview of your scaling goals over the next few years?
   1. How are you planning to increase student enrollment over time?
      1. Do your plans include shifting recruitment techniques? (For example, reaching younger grades or engaging middle school guidance counselors?)
      2. Will this growth occur in the current participating high schools or expand to additional high schools? (Note to interviewer: expanding to new high schools would require applying for designation of those programs.)
   2. If Innovation Pathway, are you planning to add an additional industry sector offering, and on what timeline?
   3. If Early College Pathway, do you envision expanding the pathway program to include new course offerings? How so? Which types of new courses?
   4. If Early College, do you envision expanding the pathway program to include new pathway offerings? How so? Which types of new pathways?
      1. Do you envision expanding higher education partnerships to increase new pathway opportunities? (Note to interviewer: this could require a separate designation.)
   5. How will these scaling goals meet the needs of students and families in your community?
   6. If Innovation Pathway, how will these scaling goals meet the needs of the employers in your area? In the industry sector(s) your school has chosen?
2. What types of resources will be needed to meet your scaling goals in the coming years?
   1. What funding will be needed to scale your program over time?
      1. Outside of state funding, what types of internal and external funds will you seek to use to support scaling your program?
         1. To what extent has the district set aside funding to support scaling? How much additional external funding needs to be acquired?
   2. What staffing will be needed to support scaling up your pathway program as currently planned?
   3. How will existing partners support the scaling of your program?
      1. Will existing partners be asked to take on new roles and responsibilities? If yes, how so?
   4. What kinds of new partners, if any, will be needed to aid in the scaling of your program?
   5. Are there any other resources not yet mentioned that will be needed to meet your scaling goals?
3. What do you expect to be the biggest challenges related to scaling your program?
   1. How does your team plan to overcome these challenges?
4. Is there anything else related to scaling that you’d like to share at this time?

\*\*Ask if participants have any documents to share that illustrate their sustainability/scaling plans and if so to email to matt.mckinney@icf.com\*\*

Those are all of our questions for today. Thank you for your time!

**Massachusetts New Skills for Youth Grant Evaluation**

**Adult Phone Interview/Focus Group Consent Form, Fall-Winter 2019/2020**

The Massachusetts Department of Elementary and Secondary Education (DESE) has contracted with ICF to evaluate statewide performance on the New Skills for Youth Grant. As part of this effort, we are hoping to learn about grantees’ experiences sustaining their Early College Program/Innovation Pathway Program grant. The purpose of this interview/focus group is to learn about your team planning and efforts to sustain and scale your Early College/Innovation Pathway. This session will take approximately 45–60 minutes. Please consider the details below prior to deciding to participate in this interview:

• **Confidentiality**: The session will be recorded either by audio files or written notes. The recordings of what you share will only be used by the researchers. Data will be stored in a secure area accessible only to the researchers. Your answers to these questions will be kept confidential and all findings will be reported in an aggregate manner to protect participant identity. Summary reports may indicate particular organizations or individuals by the roles they describe but challenges and successes will be reported confidentially. For focus group participants: Please keep in mind that what individuals talk about during the focus group is confidential and you should not discuss it with anyone after the session is finished.

• **Risks**: The study presents minimal risk to you. You will not be required to answer any questions that you do not wish to answer, and reports will not identify you by name. For focus group participants: While we will ask all focus group participants to not discuss any of the information after the session is finished, we cannot guarantee that information will be kept confidential by others participating in the group.

• **Benefits**: Study participation helps build knowledge in the state and nationally about best practices and lessons learned for establishing college and career pathway programs. Where appropriate, other program grantees can use the information learned to adjust their programming.

• **Voluntary** **Participation**: Your participation is voluntary meaning that you do not have to participate in this interview if you do not want to; you can stop participating at any time. We hope you will participate in the conversation, but you do not have to share information that makes you feel uncomfortable. Your decision to participate or withdraw from the study at any time will not affect your relationship with DESE, your school district/organization, your employment status or performance review. By answering questions, you are consenting to participate.

If you have any questions about the study or your rights as a study participant, you can contact Samantha Spinney at (703) 934-3000 or [samantha.spinney@icf.com](mailto:samantha.spinney@icf.com). If you have questions about your rights as a research subject, you can contact Carole Harris at (404) 321-3211 or [carole.harris@icf.com](mailto:carole.harris@icf.com).

1. Note that some of the school districts and postsecondary institutions that received designation for a pathway program in April 2018 (and are included in ICF’s evaluation) went on to develop additional pathway programs that may have received designation at a later point. These more recently designated pathway programs were not included in ICF’s evaluation. [↑](#footnote-ref-2)
2. [Massachusetts Innovation Pathway & Early College Pathway Impact Evaluation Report (ICF, June 2020)](http://www.doe.mass.edu/research/reports/2020/06impact-evaluation.docx) [↑](#footnote-ref-3)
3. Credentials. (n.d.). Retrieved from <http://www.macwic.org/training/credentials/> [↑](#footnote-ref-4)
4. Site 2 did not provide permission to be identified in this report. [↑](#footnote-ref-5)