

Financial considerations for Somerville Public Schools in launching Powderhouse Studios

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[Powderhouse Studios](#) is a proposal for a new middle- and high school in Somerville under [Massachusetts' Innovation Schools legislation](#). The Innovation Schools legislation offers public school districts a mechanism to create more autonomous and flexible in-district schools, providing a structure through which districts can receive reliefs from local and state ordinances, statutes, and regulations in the interests of enabling innovation school models.

After a divisive charter school fight in Somerville, the prospectus for what was then known as [the Somerville STEAM Academy](#) was approved by the Superintendent, School Committee Chair, and Somerville Teachers Association President in 2012. This began the [six-year Innovation Planning process](#) for what is now known as Powderhouse Studios.

Powderhouse Studios is conceived of both as a school and as a center for research and design. Doing things differently requires new tools, materials, people, and policies. Powderhouse Studios' associated non-profit has been established to both (a) help launch Powderhouse Studios the school and to (b) support ongoing research, design, and development.

These activities will help to ensure Powderhouse Studios' work, where appropriate, offers value to the rest of Somerville Public Schools through professional development, curriculum development, and direct service with youth. Eventually, this work can and should have broader relevance throughout the state and nation as Somerville is established as a leading center for this kind of work.

All of this costs money. This document outlines the costs and benefits associated with Powderhouse Studios currently understood and agreed upon by the Superintendent and the Powderhouse Studios team. It also proposes a path toward sustainability, including the role of outside funding in enabling Powderhouse

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What value will Powderhouse offer?

Independent of Powderhouse's potential as a center for research and design, its model and enrollment structures have been carefully developed to ensure that Powderhouse would offer something substantially beneficial and needed for those who enroll.

As an additional option on Somerville's menu, there is a possibility that Powderhouse could increase Somerville Public Schools enrollment which might otherwise be lost to those families choosing to enroll youth in charter, special education, and independent/homeschooling options.

Beyond this, there are important second- and third-order impacts to the District. Powderhouse's curriculum and professional development offerings could be developed into a District-wide resource. Powderhouse's flexibility and interest in research and design has attracted a great deal of interest from local universities, businesses, and foundations, all of which represent potential assets and partnerships for the District as a whole. Powderhouse's work leveraging the Innovation School legislation and its interest in documenting and sharing lessons from that experience represent opportunities for ongoing, in-district innovation.

What will Powderhouse cost?

The most recent budget for Powderhouse Studios was developed in close coordination with the District and can be found [here](#).

Launching something new requires up-front investment. In recognition of this, Powderhouse's budget and design incorporate significant buffers (both in staffing decisions and budget line items). The intent of these buffers is twofold:

- offer a new school the flexibility inevitably required for prototyping
- offer the necessary flexibility to re-orient Powderhouse's design (and especially staffing plan) in a way which can reflect the observed enrollment patterns (especially as they pertain to special education and English Language Learning needs).

These buffers are designed to decrease over time. By Powderhouse's fifth year or so with students, the expectation would be that Powderhouse is sustainable on its allotted per capita, calculated as \$16,595 per pupil in 2018. For reference, the District's overall in-district expenditures per capita in 2018 was [~\\$18,500 per pupil per year in 2017](#). This would be achieved by intentionally scaling back the overstaffing and launch support built into Powderhouse's budget early on.

Current estimates for Powderhouse's net operating budget suggest something like the following:

	Years from approval					
	0	1	2	3	4	5
Revenue						
Total revenue, with 100% exploratory options	\$1,571,148	\$3,225,813	\$4,388,567	\$5,632,131	\$5,970,037	\$5,792,554
Total revenue, with 0% exploratory options	\$0	\$733,494	\$1,520,676	\$2,367,941	\$3,277,237	\$3,401,486
<i>Public revenue</i>						
SPS PPA contribution	\$0	\$690,352	\$1,435,932	\$2,240,054	\$3,106,208	\$3,230,457
<i>Exploratory options</i>						
City discretionary SPS budget increase	\$300,000	\$0	\$0	\$211,438	\$471,375	\$436,500
National School Lunch Program	\$0	\$43,142	\$84,744	\$127,886	\$171,029	\$171,029
MA DESE programs	\$0	\$524,526	\$909,053	\$1,293,579	\$1,678,106	\$1,678,106
<i>Private revenue</i>						
XQ contribution to operating budget beyond PPA	\$1,121,148	\$1,817,793	\$1,808,838	\$1,609,173	\$393,319	\$126,463
XQ contribution to District costs	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Expenses						
Total expenses	\$1,121,148	\$2,551,287	\$3,329,514	\$3,977,114	\$3,670,556	\$3,527,948
Payroll	\$582,000	\$915,500	\$1,206,500	\$1,691,500	\$1,885,500	\$1,746,000
Benefits	\$145,500	\$228,875	\$301,625	\$211,438	\$0	\$0
Substitutes	\$0	\$18,648	\$26,640	\$39,960	\$45,288	\$45,288
Curriculum	\$9,000	\$73,500	\$138,000	\$205,500	\$268,500	\$267,000
Technology	\$9,648	\$78,791	\$147,934	\$220,294	\$287,829	\$286,221
Food	\$0	\$96,000	\$192,000	\$288,000	\$384,000	\$384,000
Transportation	\$0	\$27,510	\$55,020	\$82,530	\$110,040	\$110,040

Facilities	\$375,000	\$493,538	\$612,076	\$730,613	\$474,151	\$474,151
District support services	\$0	\$618,925	\$649,719	\$507,279	\$215,248	\$215,248
People						
<i>Enrollment</i>						
Total enrollment	0	40	80	120	160	160
In-district enrollment	0	40	80	120	160	160
Out-of-district Enrollment via Chapter 74 or Interdistrict	0	0	0	0	0	0
<i>Staffing</i>						
Total FTE	6	9	12	17	19	18
SPS Staff	5	7	10	15	17	17
SPS Leadership	0	1	1	1	1	0
Outside FTE	1	1	1	1	1	1

How will the XQ award be spent?

Since 2012, the Powderhouse Studios team has raised money from a variety of foundations and programs to support the ongoing planning and design work. Most recently, in 2016, Powderhouse Studios was selected as one of ten awardees in the [XQ Institute's Super School competition](#), receiving \$10M.

This award enables Somerville, if it chooses, to launch Powderhouse successfully and inaugurate its research and design efforts. The three, primary ways the Powderhouse Studios team plans to spend the XQ award include:

1. **Support district integration** — Launching a new school (especially one as different as Powderhouse) requires time, energy, and potentially new capacity across departments ranging from Human Resources to Special Education within Somerville's Central Office.
2. **Support launch costs, buffers, and overstaffing** — The costs above and beyond Somerville's per capita associated with the Powderhouse model include overstaffing in Powderhouse's early years, responsible buffers for elements of the model whose costs cannot be precisely predicted, build-out and equipment acquisition for facilities, *etc.*
3. **Establish a platform for ongoing research, design, and district integration** — One of the elements in Powderhouse's proposal most central to XQ's award decision was its commitment to research and design, creating tools, materials, professional development programs, and district policy tools enabling the integration and incorporation of elements of Powderhouse's design across Somerville and beyond.

Three important considerations constrain the usage of XQ funds:

1. [The Innovation School legislation](#) mandates that Powderhouse Studios [if approved], "shall receive each school year from the school committee the same per pupil allocation

as any other district school". These funds would be in a City-owned account enabling rollover and long-term financial management of those funds with all the same transparency and auditing commitments as any other public spending.

2. The Innovation School legislation also prohibits Somerville from "reduc[ing] its funding to an Innovation School as a result of the school's fundraising activities."
3. As a matter of policy, function, and precedent, XQ does *not* intend for its funds to mitigate the real gaps in funding America's schools. The size of that problem is too big for any private foundation to make a meaningful dent in through direct funding. This means that XQ intends its funds to be used to help establish reimagined schools and supporting initiatives (like Powderhouse's research and design) in substantial partnership with districts.

Conservative, current estimates of XQ spending along the first two of these planks are approximated as follows:

Contribution	Years from approval					
	0	1	2	3	4	5
<i>Total Powderhouse expenses</i>	\$1,121,148	\$2,551,287	\$3,329,514	\$3,977,114	\$3,670,556	\$3,527,948

The balance of the XQ award will be devoted to the third plank listed above, *i.e.* establishing a platform for ongoing research, design, and district integration. These activities will include (but will not be limited to) the development of an individualized learning plan platform supporting retrospective mapping; the development of a fellowship program targeting computation, narrative, and design; and so on.

What can Somerville Public Schools invest?

As laid out earlier in this document, both in statute and in considerations of XQ's policies, if the School Committee authorizes Powderhouse Studios, Somerville Public Schools would be responsible for allocating a per pupil allocation of other schools' spending in the District.

In the Innovation Planning process, \$16,100 was established as the district per pupil per year in 2016. Given the 3–5% yearly increase in Somerville's per capita budget, \$17,500 is a conservative target for 2019 considerations.

Somerville Public Schools would need to allocate the resources to enable District integration and support services:

- Some of these services (like nursing, translations/interpretation, and legal support) are part of every district school. Powderhouse's unusual design suggests it may draw on more of these services than typical in its first few years. The District has estimated these ongoing costs to be ~\$800K over four years.

- Some of these supports will be unique to Powderhouse. Starting and integrating a new school is a lot of work (especially when that school is as different as Powderhouse's) at first. In Powderhouse's first four years, some of that work will fall on existing Central Office staff, and some may require new capacity in Central Office. The District has estimated that bringing the additional support needed to support this integration responsibly will cost ~\$1.4M over four years.

The costs for these supports can be borne by Powderhouse's outside fundraising, though it is important (for both the District and Powderhouse) that there is a plausible path to scaling back these supports to achieve long-term sustainability.

The per pupil allocation represents a financial and educational question for the City of Somerville. Given that Somerville Public Schools' enrollment is stable (*i.e.* not growing), there is limited flexibility to consolidate and reallocate funding without impacting existing programs. Because XQ funds cannot be used to substantially supplant the District's per pupil allocation under the Innovation School legislation, it is important to identify mechanisms which can (a) decrease Powderhouse's cost, (b) increase revenue associated with Powderhouse, or (c) phase the financial impact of Powderhouse on the District to allow for a gradual re-balancing of existing staffing and resource allocation patterns to minimize impact. The rest of this section attempts to outline these options.

Additional options for supporting revenue

One of the challenges of innovation in public education is that there are endless problems and opportunities deserving funding, each with real constituents and consequences. Making even small amounts of flexible funding available to support innovation is challenging.

Although Powderhouse's outside fundraising can address the inevitable costs beyond business-as-usual in opening a new school, Somerville still faces the question of affording the per pupil allotment associated with Powderhouse, ~700K per cohort of youth (\$3.2M annually at full enrollment).

This section attempts to outline some of the possible sources of additional funding to bring additional revenue into the District to fund this allotment, if Powderhouse were to be approved. An overview of the potential contribution from these sources is presented here:

Revenue source	Approximate % of SPS PPA obligation potentially offset over 4y
City of Somerville, via SPS budget increases	5–75%
MA DESE funding programs (e.g. ELT, Innovation Pathways)	10–20%

Chapter 74	30%
Out-of-district enrollment	20–30%
Rollover	N/A
Outside fundraising	0–30%

Additional details about these revenue sources may be found later in this section.

City of Somerville

Somerville Public Schools budget grows 3–6% each year, reflecting changing conditions like special education and English Language Learning requirements, new programs, facilities needs, *etc.*

To the extent that Somerville Public Schools "default" budget cannot support the average per pupil allotment obligation entailed by Powderhouse Studios, the Mayor and City Council would be faced with the question of whether and how to increase the schools' overall budget to make up the difference. The City of Somerville has already committed \$300,000 to launching Powderhouse for this purpose.

The per pupil allocation associated with each cohort at Powderhouse is ~\$700K. For a sense of scale: funding this entirely through increases to the Schools' overall budget would require a significant lift, amounting to an annual increase of roughly half of the total, discretionary portion of Somerville Public Schools' annual budget increase.

MA DESE programs

Massachusetts' Department of Elementary and Secondary Education (DESE) operates several, state-level funding programs which target designs like Powderhouse's. These funding programs represent potential opportunities to fund Powderhouse's per pupil allocation for Somerville, and require additional exploration and investigation to vet. Some of the more prominent examples include, *e.g.*:

- The [College and Career Readiness program](#) Innovation Pathways program offers a per capita stipend of ~\$1,100 per capita for programs which "give students coursework and experience in a specific high-demand industry, such as information technology, engineering, healthcare, life sciences and advanced manufacturing" as Powderhouse's does. This could offset ~8% of the per pupil allotment associated with Powderhouse Studios.
- The [21st Century Community Learning Centers](#) offers ~\$140,000 for "support[ing] the implementation of out-of-school time (OST) programming and/or Expanded Learning

Time (ELT, a longer school day/year for all students) programming". This could offset ~10% of the per pupil allotment associated with Powderhouse Studios over its first four years.

Chapter 74 funding

[Chapter 74](#) is the statute under which [Career and Technical Education](#) programs are funded. Powderhouse's focus on computation, narrative, and design means that it may be an especially good fit for what has historically been a program focused on web design. If approved, Powderhouse Studios could pursue the creation of a Chapter 74 program, which would bring with it a ~\$4,700 per capita addition to Somerville's Foundation budget. This could offset ~25% of the per pupil allotment associated with Powderhouse Studios.

Out-of-district enrollment

As currently drafted, up to 20% of Powderhouse's enrollment may come from outside of Somerville. Currently, this would require significant coordination between Somerville and sending districts to establish the needed financial and logistical arrangements. If Powderhouse established a CTE program, this would make non-resident tuition for Powderhouse another, much more accessible funding stream for Somerville (since that tuition is charged directly to sending districts without requiring any additional coordination). Somerville's non-resident tuition for FY19 would be [\\$17,266 per capita](#).

For a full cohort of 40 youth, this could represent up to $8 \times \$17,266 = \$138,128$ per cohort per year, which would be paired with a reduction in Somerville's per pupil allotment of approximately the same size.

This could offset ~20% of the per pupil allotment associated with Powderhouse Studios.

Rollover

The Innovation Schools legislation provides for a rollover mechanism enabling Innovation Schools to retain unused funds at the end of the year, enabling multi-year financial planning. This mechanism means that various sources of funds (grants, City budget, state programs, *etc.*) may be "banked" to allow Powderhouse to spread out its financial needs and impact over time.

The amount by which this could offset the per pupil allotment associated with Powderhouse depends on the funds used in this rollover capacity.

Next steps

This document has attempted to provide a high-level overview of the budget and financial plan for launching Powderhouse Studios, for consideration by XQ and Somerville's School Committee.

As it currently stands, over the next four years, the Superintendent has estimated that Somerville is likely able to afford ~\$1M cumulative of Powderhouse's per pupil allotment without otherwise having to close classes or programs elsewhere in the district.

This means that between the various possible, additional revenue sources outlined in this document, Powderhouse Studios and Somerville Public Schools would need to raise an additional \$3–4M (or about 60% of the obligation associated with the per pupil allotment) over the next four years, with the some of the remaining balance funded by outside funds like XQ.

A conservative estimate of this funding split—including the PPA gap Somerville is currently working through—is approximated as:

Contribution	Years from approval					
	0	1	2	3	4	5
<i>Total Powderhouse expenses</i>	\$1,121,148	\$2,551,287	\$3,329,514	\$3,977,114	\$3,670,556	\$3,527,948
<i>Minimum XQ Contribution</i>	\$1,271,148	\$1,967,793	\$1,958,838	\$1,759,173	\$543,319	\$276,463
<i>SPS PPA Obligation</i>	\$0	\$690,352	\$1,435,932	\$2,240,054	\$3,106,208	\$3,230,457
<i>Secured PPA budget contribution</i>	\$0	\$575,000	\$275,000	\$275,000	\$275,000	\$3,230,457
<i>PPA gap to close</i>	\$0	\$115,352	\$1,160,932	\$1,965,054	\$2,831,208	\$0