





TABLE OF CONTENTS

- 05 2015 Programs at a Glance
- 06 Growing a Youth Makerspace
- 07 School Alternative Programs
- 08 Building Community in Somerville
- 09 Financial Statement
- 10 Highlights: Girls Invention Week, Free Lunch Free Camp
- **13** Special Guests and Community Partners
- **15** Goals for 2016
- 16 2015 Board Members and Staff
- 18 Special Thanks

MESSAGE FROM THE EXECUTIVE DIRECTOR





In 2010, when we talked about what Parts and Crafts could be, we imagined an open community workshop filled with tools, resources, and helpful people. Not just a school, not just a summer camp or a series of classes, but a space and community to host these things.

We imagined a series of programs that anyone could be a part of, regardless of their ability to pay for them, and funded, not primarily by large scale institutions, but by a community of participants who valued accessibility as much as they valued building awesome things.

Looking back, it's amazing how closely Parts and Crafts today resembles this vision.

Every morning when I come to work, take down the chairs, make a pot of coffee, turn on the lights, I look around in amazement -- this is exactly the thing we imagined and hoped to accomplish and it's real and I'm standing in it. Except it's messier and weirder and more ambitious and more awesome than we could possibly have ever planned.

We got here incrementally, one bit at a time. It's hard to figure out exactly when Parts and Crafts went from being a project that we were starting to one that we were doing. In fact, we built Parts and Crafts in the same way that we teach kids to build their own inventions -- have an idea, make a plan, get started, and then solve each problem as it comes up.

Over the past six years, Parts and Crafts has grown from a series of conversations in coffee

shops to a non-profit corporation with an annual budget of over \$400,000, 6 full-time employees, leases and insurance and hundreds of kids who walk through the door and leave having done something awesome.

We're not done -- we're growing all of our programs, building partnerships with local schools and research institutions, developing projects and programs and kits and ideas to push our work into the wider world. And we're still planning, thinking, imagining what might come next.

Cuillin Wa

Will Macfarlane Executive Director

2015 PROGRAMS AT A GLANCE

٠

SUMMER CAMP

Camp is our longest-running program and the inspiration for pretty much everything else we do. We run for 9 weeks in the summer and serve 285 kids.

SCHOOL ALTERNATIVE

Center for Semiconducted Learning (CSCL) is our homeschooling program, which runs year-round and serves a total of 42 kids.

AFTERSCHOOL

We've hired a full-time afterschool coordinator and are now running five days a week with two additional part-time staff supporting this program.

COMMUNITY PROGRAMS

Saturday Open Shop, Game Night, Movie Night, drop-in workshops, weekend classes with STEM and STEAM emphasis

HIGHLIGHTS

- 9 weeks, 65 kids per week
- Full cost in 2015 was \$300/week. Average paid was \$248.
- In January 2016 we raised base price to \$325/week
- 43% attended at subsidized rates ranging from 25-75% of full cost. For families attending on sliding scale, the average amount paid was \$156 per week.
- 22 kids attending on full scholarship.
- Monday through Friday, September May
- Kids come 1-5 days/week; typically we have 15-25 kids a day with most kids coming 2x/week
- Rates tiered by use, \$1900-9000/year sliding scale.
- 40% attended at subsidized rates, with families paying an average rate of \$3437/year.
- Mix of individual tutorials, structured classes, and open time for play and exploration
- 75 kids currently attending each week
- 5 days a week with workshops offered in electronics, computer programming, open shop, and games
- Rates tiered by use and income.
- Currently 25% attend at subsidized or scholarship rates.
- Mix of drop-in and regular attendees
- Highest percentage of first-time kids
- Saturday Open Shop, a free weekly program
- MUSCRAT Bus @ the Mystic, Clarendon Hill, and Capuano school. Supported by Somerville Arts Council
- Partnership with Somerville Tool Library, a lending library for household tools
- Board Game / Movie Night twice monthly
- Weekly workshops with Full Circle High School









GROWING A YOUTH MAKERSPACE

We believe that maker culture -- the ability to think, create, and build with your hands -- has a transformative capacity, one that should be available to all kids regardless of income, background, or socioeconomic status.

Parts and Crafts, launched in 2010, was among the first generation of child-centered tinkering spaces that took inspiration from the hackerspace movement. Our goal was simple: to combine the resources of a hackerspace (access to tools) with the values of a free school, emphasizing kid choice, autonomy, and self-directed learning.

What does this look like in practice? We spend a lot of our time taking apart computers, building kid-sized hovercrafts, programming in Scratch, building, crafting, inventing, playing, and having a blast making things and exploring the world around us. Our programs are modeled on community-based programs like Leonardo's Basement and the Community Science Workshop Network, with access and autonomy as fundamental aspects of our educational philosophy.

Every week we offer free and low-cost workshops for 3D printing, woodshop, electronics, and sewing and fabric arts, and we subsidize close to half of the kids who come to our paid programs. Kids in our programs learn how to cut, shape, sand, sew, drill, solder, and design, building everything from marshmallow launchers to kid-sized hovercrafts. Combined programs serve roughly 534 kids in the greater Boston area ranging in age from 7-18.

Stuff we've done!

- Saturday Open Shop. Open shop attendance is at an all-time high as more local families begin to use our Saturday resource to work on projects with their kids
- Connecting with local area makers. Expanded weekend classes include multi-class series in electronics, sewing, Minecraft modding, duct tape sculpture, chemistry, Github, miniature-making, Arduino, Atari Punk Console, zines, and soft circuits.
- **Somerville Tool Library.** Starting this year, we've partnered with the Tool Library to offer adult-centered workshops in bra, laptop & audio repair, sewing, and bike maintenance
- **Teen Programs.** We also launched dedicated teen programs as part of Open Shop, summer camp, and homeschooling programs

Goals and next steps

We hope to build our weekend and evening offerings, expanding adult tinkering programs, developing more multi-session classes and partnering with local community groups to hold maker events in our space.

Starting in 2016, we also hope to expand grant support for these programs so we can offer them to more kids free of charge.



SCHOOL ALTERNATIVE PROGRAMS



"Instead of building large public schools for children 7 to 12, set up tiny independent schools, one school at a time...Locate it in the public part of the community, with a shopfront and three or four rooms." ---- Christopher Alexander

The Center for Semi-Conducted Learning (CSCL) is a school alternative program open to homeschoolers, unschoolers, and everyone in between. "What we offer" is entirely based on what people ask for — our classes are designed around what people are excited to learn and do.

Often the kids who need the most support arrive with wildly varying competencies: the kid who is four grades ahead in math skills but refuses to write, the kid who does not read but is deeply analytical, or the kids who reads well above grade level but has not yet found their social group.

Many of our kids come in struggling basic literacies; others are burned out on school and have lost the ability to engage with material they used to enjoy. We aim, first and foremost, to provide a reset and an alternative: a small school environment for kids to be themselves, take things at their own pace, and reengage with learning on their own terms.

For kids who are academically accelerated, the unschooling model provides access to a vast array of resources. For kids who need help catching up, it provides a one-on-one environment where we can get to know kids, evaluate their strengths and weaknesses, and come up with a plan to help them be successful moving forward.

Stuff we've done!

- **Tripled in size!** CSCL started in 2012 with four families and twelve kids. This year we enrolled over 40 kids in this program.
- Partnerships with education innovators including CDG Labs, the Lego Foundation, the Berkman Center for Internat and Society, members of the Scratch development team, Grove Labs, the Public Lab for Open Science and Technology. These programs bring high-end educational resources to our kids while connecting our work to a broader community of education research.
- MIT Scheller Teacher Education Program. For the past two years, CSCL has been a student teaching site for undergraduate interns to get hands-on experience in a play-based learning environment

Goals and next steps

We've been very excited to see this program grown and mature over the last four years. We hope to continue expanding, which will allow us to broaden our class offerings and improve access to financial aid for 2016.

BUILDING COMMUNITY IN SOMERVILLE

"We can best help children learn, not by deciding what we think they should learn and thinking of ingenious ways to teach it to them, but by making the world, as far as we can, accessible to them."

— John Holt

Part of our vision is for Parts and Crafts to be deeply involved in our community through relationships with the city, the public schools, local community organizations and fellow artists and makers.

This means, first and foremost, that we prioritize making our programs affordable any kid who wants to attend. 40% of kids across programs were eligible for sliding scale this year, subsidized at 25-75% of full cost. Free Lunch / Free Camp has had a major impact on accessibility, bringing 22 kids to camp totally free of charge.

In Spring 2015 we participated in Somerville by Design, bringing a class from CSCL to speak about development without displacement and the need to preserve low-cost commercial space. Many of the families that we work with in Somerville are at risk of displacement due to rising real estate prices. We are proud to be a member organization of Union United, which has strongly advocated for an anti-displacement agenda in Union Square.

Above all, we are excited to be part of a growing network of organizations doing STEM and STEAM work in Somerville. This spring we partnered with SCC and East Somerville Main Streets for community block parties. The MUSCRAT Bus brought maker programs to the Mystic and Clarendon Hill Housing Developments with generous support from the Somerville Arts Council. We are excited to work with parents, local organizations, and community partners to bring high-quality STEM and STEAM resources to kids across Somerville.

2015 Partner Organizations

East Somerville Main Streets Carnival **Full Circle High School** Somerville STEAM Social MUSCRAT Bus: Somerville Arts Council Somerville Community Corporation Somerville Tool Library **Crypto Nights with The Pirate Party** Arduino Day: Artisan's Asylum Honk! Festival of Activist Marching Bands Atrium School Union United **Brookwood School Freedom Connexion** Public Lab for Open Science + Technology Somerville Open Studios The Welcome Project



SELECTED FINANCIAL DATA

Parts and Crafts Yearly Income Statement	2013	2014	2015
REVENUE			
CSCL Revenue	\$ 90,313.69	\$ 128,526.35	\$ 137,498.62
Camp Revenue	97,095.00	159,006.00	187,689.82
Afterschool Revenue	10,291.39	18,762.09	51,073.25
Community Event Revenue	3,900.00	3,887.00	11,830.89
Donations			15,627.33
Sales			7,336.98
Other Revenue	3,514.52	2,377.00	9,122.32
Total Revenue	205,114.60	312,588.44	420,179.21
EXPENSES			
Materials	26,434.07	31,548.22	37,078.99
Salary and Wages	145,365.96	189,939.94	257,071.39
Rent	26,200.00	42,800 .00	61,300.00
Overhead	7,476.77	18,240.01	8,052.86
Fees and Expenses			6,390.74
Health Insurance			26,535.05
Liability Insurance			9,835.20
Taxes & Licenses		1,141.00	4,578.35
Misce llaneous	13,623.44	24,578.15	21,953.31
Total Expenses	219,100.24	308,247.32	431,319.68
NET REVENUE	13,985.64	4,311.12	-12,616.17

HIGHLIGHT: GIRLS INVENTION WEEK

A whole week of invention and creation! Each year we kick off our summer program with one week of tinkering camp just for girls as a safe space and a warm introduction to what we're about.

For many girls in our program, Girls Invention Week is their first point of entry. It's one of the only programs that we run that's gender-specific, with the goal of building agency and confidence and welcoming young makers into our program. This year's Girl's Invention Week was a chaotic, creative and hilarious week. 60 young makers hit the ground running and a predominantly female camp stuff had an great time keeping up with them. Sewing and carpentry projects, miniature food

sculpture, motor cars, soft circuits, homemade shoes, silk screening, handmade stickers, Monster sculptures, puppetry, comic books, Scratch programming, knitting, soldering, music, games, duct tape and hilarious pranks filled the week.



HIGHLIGHT: FREE LUNCH / FREE CAMP

Last year we offered 22 spots totally free of charge for our summer program. We're hoping to double that this year and offer a total of 50 scholarships for Summer 2016.

Somerville is a diverse and economically polarized community. Area median income (AMI) for a family of four is \$95,000, yet 64% of children enrolled in Somerville Public Schools are eligible for free and reduced lunch. 1 in 5 children under the age of 18 in Somerville are under the poverty line.

Last year we launched Free Lunch / Free Camp in response to what we saw as the overwhelming demand for affordable summer programs. We were able to raise \$6,000 through Indiegogo plus an additional \$9,000 in subsequent fundraising to help fund 22 spots in our summer program completely free of charge while subsidizing over 100 sliding scale spots at a 25-75% discount.

All total we raised \$15,000 to support Free Lunch / Free Camp last year. <u>By contrast.</u> we spent the equivalent of \$91,000 <u>subsidizing free and reduced-cost spots.</u> If this program is going to grow, we need to secure dedicated funding to support it.

22 kids is a great start, but we still aren't reaching anywhere near the number of kids we could be serving. Our hope is to secure funding that will enable us to double the size of this program in 2016.





HIGH POINTS OF 2015

Good stuff happens every day at Parts and Crafts but a few events stand out every year.





HONK 2015

During summer camp 2015 kids collaborated with local maker Jeff DelPapa to create the Who Carnio Flunx, a 20-foot long, bike-powered musical float for the Honk! Parade. Staff and kids joined the float in the parade, honking, playing drums and handing out candy. Since then, the 10-foot diameter drum that is the centerpiece of the float has made appearances at Union United speak outs and the New England Model Engineering Society.

Somerville Tool Library

The Somerville Tool Library had a successful first year, building membership slowly but steadily and acquiring a huge number of new and valuable tools for use and loan. It also organized Fixer Fair 2015, a community repair event, which was covered in the Boston Globe and several blow out Bike Repair Nights when primarily adult bike enthusiasts and fixers took over our space for a night of beer and bike repair.

One Lightsaber Per Child

A goal for 2015 was to get our kit program up and running again and we made a big push to accomplish that in December by officially launching One Light Saber Per Child. We set up a bustling online storefront that enabled us to sell individual lightsabers as well as "Buy One Get Two" lightsabers that will fund lightsaber builds with underserved youth throughout 2016. We're excited to grow this program this year!

Getting Famous on the Internet

When Star Wars: The Force Awakens came out we were pretty bummed that Rey was left out by major toy manufacturers. During Winter Camp 2015 some of the staff and kids took Bratz dolls and transformed them into Rey dolls, in homage to Sonia Singh's Tree Change coll upcycling project. After a piece in Make Zine about this project, it got picked up by several online news sources including Buzzfeed, The Huffington Post and CNET. It lasted for a whole of 15 minutes, but it sure was fun!



Communications Design Group: Hybrid City Project

Members of CDG Lab worked with CSCL students for a week building a hybrid city - a scale model linked via QR codes to internet components like articles, images and video.



Grove Labs: Sensor-based Urban Farming

As part of their new education initiative Grove Labs donated a self-contained aquarium and garden ecosystem to Parts and Crafts and ran workshops about indoor gardening with CSCL students.



GP: A General Purpose Language for Casual Programmers

Working directly with its creators, over an 8-week programming class, our students learned about software design both through their own projects and through the experience of watching GP evolve based on their input and experiences.



SPECIAL GUESTS

Because of our geographical proximity to exploratory research in education and technology, and because our identity as a hackerspace for kids engages the enthusiasm of creative artists and technologists, we've been able to connect our kids to some pretty amazing projects and experiences!

We've built Parts and Crafts in such a way that when someone has a great idea or an amazing project they want to share or work on with us, we can find a way to make it happen. We are privileged to be connected in formal and informal ways to an incredible community of thinkers, builders, and educational theorists who are working on the same problems that we are from all kinds of different directions.

This year we've partnered with software engineers inventing ways to make programming more accessible to children, community organizers and technologists who want to design low-cost DIY scientific instrumentation, and designers and educators interested in creating tools and experiences that connect the digital and physical worlds.

It's been an amazing year, and we are very grateful to our community partners for sharing these projects and initiatives with kids at Parts and Crafts!

ONGOING CHALLENGES

Licensing and Compliance

Our homeschooling programs are currently licensed through the Department of Early Education and Care, with summer camp licensed through the local Board of Health

Long term, we hope to investigate whether CSCL can instead become a non-profit private school licensed through the City of Somerville, which will enable us to more effectively work with the school system and provide easier access to families in our school alternative program.

Funding Scholarship and Sliding Scale Programs

Last year we raised \$15,000 to support scholarships and sliding scale. By contrast, we spent the equivalent of \$91,000 subsidizing these spots. Sliding scale accounted for roughly a fifth of our projected budget in FY2015.

Our sliding scale model has worked surprisingly well, but if we want to continue to expand these programs we will need to find sources of outside funding and long-term donor partnerships.

Displacement

Parts and Crafts is one of a number of businesses along Somerville Ave that are under threat from development. We are hopeful that we will be able to renew our lease in 2016 at the current rates.

Small-scale luxury development is a direct threat to programs like ours. If we aren't able to renew our lease it is unlikely that we will be able to continue running our programs in Somerville. We need clear advocacy from our community to press the city to address this important issue.

NOTABLE SUCCESSES!

Fiscal stability

Last year we set a goal to raise base salary from \$25,000 and explore the possibility of offering health benefits to full-time staff. We're pleased to announce that we successfully did these things!

Full-time staff now receive health and dental benefits. We successfully raised the pay grade of *all* staff - including seasonal workers - to \$15.70 an hour, or just over \$32,000/year. We are very proud to have done this without compromising our ability to run free and reduced-cost programming.

Community Partnerships

In 2015 we partnered with over 15 local organizations to offer high-quality STEAM programming to kids across Somerville. These partnerships have enriched our programming, connecting us to families we would not have otherwise met.

We hope to build on this in 2016 by partnering with SCC, the Welcome Project, and the Peabody Essex Museum, as well as restarting the MUSCRAT Bus project. We are grateful to the Somerville Arts Council, which has been a huge source of support for these wider programs.

New Staff!

We are very excited to welcome Dina Gjertsen, our new afterschool coordinator and general guru. She has been a huge asset to this program so far and we are thrilled to have her on board!

At the moment we have 75 kids a week attending our afterschool programs, many of them brand new to Parts and Crafts. This is awesome and fantastic and great, and we look forward to working with Dina to expand this program in 2016

GOALS FOR 2016

School Partnerships

This year we began a series of partnerships with local area schools. In Fall 2015 we partnered with Full Circle High School to pilot a program to hire teenagers to staff our regular programs, which we hope to expand in 2016.

We also ran a professional development training day for the entire staff of the Brookwood School, a private school on the North Shore, as well as a series of STEM workshops with middle grade students at the Atrium School in Watertown. We are excited by new initiatives like the Kennedy School Makerspace, the Somerville Fab Lab, and the STEAM Social network, and are eager to work with local partners develop high-quality programming for kids in Somerville Public Schools.

We hope to build on these programs in 2016 through in-school partnerships, in the hopes that we can leverage our resources support the important work that is happening in Somerville Public Schools.

Kits Initiative

Our kits initiative kicked off in December 2015 with our flagship project "One Lightsaber Per Child!". We hope to expand this program in 2016 to include a range of simply DIY electronics and building project.

Kits are a powerful tool for connecting us to a wider community of makers, builders, and tinkerers. Our hope is to develop a range of high-quality, low-cost kits that can be implemented in a classroom environment while also being accessible for a hobbyist audience. By linking them to curricular standards, we can provide a useful resource for teachers looking to utilize technical resources in the classroom.

Beyond that, kits provide a crucial revenue stream that can support sliding scale and scholarship programs. Our goal for 2016 is to supplement a larger portion of our income with kit sales. We're grateful to the Somerville Arts Council and our initial backers for supporting our first round of kit production and look forward to expanding this program in 2016.

Support from Grants and Donors

For as long as we have existed, Parts and Crafts has been self-funded by tuition from members and participants. This has provided us with stability and independence, but has limited our ability to grow new programs.

At the moment, we regularly face a choice between supporting ourselves as an institution and making our programs as accessible as possible. We are very grateful to our parent community, which has overwhelmingly supported this program in its early years.

We believe that we can continue to be self- sustaining. In order to reach these wider goals, we also need to build a relationship with the donor community to support this important work.

Immediate goals include:

- 50 spots for Free Lunch / Free Camp
- Expanding our kits initiative
- Partnership programs with SPS
- Camp @ the Welcome Project
- Partnership with SCC
- Regular teen programming
- Growing all programs!

BOARD OF DIRECTORS



Trudi Cohen was a full-time member of Bread and Puppet Theater's resident company in Vermont for 10 years She is a founding member of Great Small Works and plays bass drum with the Boston-based Second Line Social Aid and Pleasure Society Brass Band.



Shaunalynn Duffy cares about what makes for *healthy learning communities*. The deep, social learning experiences she encountered making music have inspired her to approach science in the same spirit. Before sprout, she studied environmental engineering & creative writing at MIT.



Will Macfarlane believes that school is most effective when it gets out of the way and allows informal learning communities to form. Before founding Parts and Crafts he wrote software for MOS Architects, made coffee at Cool Moon Creamery in Portland, OR, and co-ran Camp Kaleidoscope, a summer camp in Cambridge.

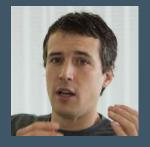


Bryce Taylor. Prior to working with P&C Bryce studied physics, bug-tested software for mobile phone companies, made movies, and taught himself how to program computers. He can frequently be found playing Dominion and explaining force equations to very small children.









Katie Gradowski worked briefly in public radio and received an MA from Columbia University before stumbling happily into the world of alternative education, where she's been tinkering with electronics and hanging out with 8-year-olds ever since.

Jeff Warren is the creator of <u>GrassrootsMapping.org</u> and co-founder and Research Director for the Public Laboratory for Open Technology and Science, He designs mapping and civic science tools and professionally flies balloons and kites.

Alec Resnick is compelled by computation's potential to transform learning. Before sprout, he studied math & physics at MIT and co-founded nublabs, an electromechanical design firm where he built learning tools & toys.

Jeff Sturges enjoys making things and connecting people. Inspired by his experience with the MIT Fab Lab GreenFab program and the NYCResistor hackerspace, he moved to Detroit to build community workshops such as the Mt. Elliott Makerspace and OmniCorpDetroit.

2015 STAFF



Kelly Taylor. Librarian by day, rock photographer by night, Kelly has been involved in alternative education since 2002, working w/ middle school boys w/ behavior problems, freeschooling, unschooling & making a ruckus about education for kids unsatisfied by the mainstream school system.

Will Macfarlane believes that school is most effective when it gets out of the way and allows informal learning communities to form. Before founding Parts and Crafts he wrote software for MOS Architects, made coffee at Cool Moon Creamery in Portland, OR, and co-ran Camp Kaleidoscope, a summer camp in Cambridge. **Dina Gjertsen.** Before joining Parts and Crafts Dina built props & scenery, designed lights as a professional theater technician, and supervised exhibit maintenance at the Museum of Science. She supervises the afterschool program and runs the <u>Somerville Tool Library</u>.

Katie Gradowski worked briefly in public radio and received an MA from Columbia University before stumbling happily into the world of alternative education, where she's been tinkering with electronics and hanging out with 8-year-olds ever since. **Zach Hirschtritt.** Prior to working at Parts and Crafts Zach was an outdoor educator for the AMC and a bike mechanic in New Haven. Zach spends much of his free time fixing bikes, building furniture, and running metalworking classes for kids.

Bryce Taylor. Prior to working with P&C Bryce studied physics, bug-tested software for mobile phone companies, made movies, and taught himself how to program computers. He can frequently be found playing Dominion and explaining force equations to very small children.

WE ARE GRATEFUL FOR THE INDIVIDUALS AND BUSINESSES WHOSE GENEROSITY MAKE OUR WORK POSSIBLE.

Somerville Arts Council Somerville Children's Network Small Science Collective Public Lab The Awesome Foundation Greg and Kerri Nadeau Michael and Maren Chiu Marian Berkowitz Tara Cleary-Gaillard Valeria Amato Jennifer Dorsen **Bernadette Buck** Mama Joan **Hilary Stanton Fred Hapgood Kieran Mead Ward** Matthew Rasmus Brufan77 Eric Rosenbaum **Angela Guidice** Tom and Molly Migliarini Molly de Blanc Jen Hudon **Theresa** Tobin Jemima Talbot

Shauna Gordon-McKeon Kat McLellan Melissa Glick **Tiffy Jeng Rob Harrison Georgiano Cohen** Jess Jiang Joy E. Reed Jake Alper Aldo and Patricia Abreu **Eden Steinberg and Peter Muz** Patricia Tappan Lysa Pirone Ginhee Ungar Jesse and Carolyn Edsell-Vetter Lee Palmer Janie Katz

Thank you to all of our anonymous Indiegogo backers!

