



Tuesday, September 23, 2014
21 Lodge Street, 8:00 a.m.

CAPITALIZE ALBANY
CORPORATION

Capitalize Albany Corporation
Board of Directors Meeting
Agenda

1. Review of Minutes from the Regular Meeting of August 26, 2014
2. Report of the Audit Committee
 - a. Minor Audit Committee Charter and Whistleblower Policy Amendments
Resolution 16-2014
3. Report of the Finance & Investment Committee
 - a. Historic Mansions LLC Loan Approval Resolution 17-2014
4. Impact Downtown Albany
5. Board Workshop: Makers Space Discussion
6. Other Business
7. Project Update
8. Executive Session (if necessary)

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #1: Review of Minutes from the Regular Board Meeting of August 26, 2014

Materials:

- 8/26/14 Capitalize Albany Corporation Board Minutes

Capitalize Albany Corporation Board Meeting
MINUTES
Tuesday, August 26, 2014

The meeting of the Capitalize Albany Corporation Board of Directors was held at 8:00 a.m., Tuesday, August 26, 2014 at 21 Lodge Street.

The following were in attendance:

Board of Directors:

Michael Castellana	Bob Curley	Susan Pedo
Anders Tomson	James Linnan	Matt Peter
Dorsey Whitehead	Jeff Sperry	
David Parente	Michele Vennard	
Mark Sullivan	John Vero	

Other:

Thomas M. Owens, Esq.

Staff:

Sarah Reginelli, Mark Opalka, Brad Chevalier, Katie Newcombe, Andy Corcione, Amanda Vitullo and Amy Gardner

Chairman Michael Castellana called the regular meeting of the Capitalize Albany Corporation (“Corporation”) Board to order at 8:04 a.m. The following directors were excused: Michael Fancher, John Harris, Nancy Zimpher and Dr. Robert Jones

Approval of Minutes for July 22, 2014 Board Meeting

The Board reviewed the minutes of the July 22, 2014 meeting. Jeff Sperry made a motion for approval. Dorsey Whitehead seconded. The Board agreed unanimously to approve the minutes.

Governance Committee Update

Amendments to Corporation By-Laws and Conflict of Interest Policy Resolution 15-2014

Tom Owens reviewed the amendments to the Corporation By-Laws and Conflict of Interest Policy with the Board. Mark Sullivan Chair of the Governance Committee advised the Board that he had reviewed all amendments to the Corporation By-Laws and Conflict of Interest Policy and supported the changes. Mr. Owens advised the Board that the amendments were minor in nature and allow the the Corporation to take advantage of certain efficiencies (e.g. electronic notices/proxies, etc.) now allowed by the New York Non-Profit Revitalization Act (NPRA); he also stressed that due to CAC’s existing compliance with the New York Public Authority Law, that CAC was already in compliance with all NPRA substantive requirements. Mr. Owens presented the Resolution to the Board.

A motion to adopt the resolution was made by Mark Sullivan and seconded by Bob Curley. A vote being taken, the motion passed unanimously.

Impact Downtown Albany

Staff advised the Board that the project was in the later stage of phase two - the implementation plan – and that an advisory committee meeting had been held August 18th to review a rough draft of the playbook and discuss related matters. The rough draft and its recommendations were discussed. The project will likely be wrapping up in September. Staff informed the Board that they would be facilitating pop up retail around Tricentennial Park during the second or third week in September in response to a recommendation in the playbook.

REDC Update

Staff reviewed the REDC 2014 Progress Report with the Board. Staff noted that the highest score a priority project could receive was 20. The Main Street Grant application submitted by the Corporation received a score of 15.

Agreements with the City

Staff reviewed the existing agreement with the Board. The restructuring of the City Department of Development and Planning and was discussed.

Reassessment Update

Staff advised the Board that, upon challenge, the assessment of the Quackenbush Square property had been reduced. The current tenant, who staff had previously advised of the property becoming taxable, was made aware of the assessment decision. The lease with the tenant was discussed.

Other Business

The budgeting process for the 2015 budget was discussed staff noted that the Corporation had a positive cash position. The Corporation is projecting a deficit for 2015, when considering depreciation.

Project Update

Staff reviewed the status of active projects with the Board.

Executive Session

A motion to enter into executive session was made by Jim Linnan, seconded by Dorsey Whitehead, and passed unanimously to discuss litigation and the terms and conditions of employment of certain personnel. The Board entered into executive session at 8:55 a.m. Staff left the room and the following Directors were present: Michael Castellana, Anders Tomson, Dorsey Whitehead, David Parente, Mark Sullivan, Bob Curley, James Linnan, Jeff Sperry, Michele Vennard, Susan Pedo, and Matt Peter. The Board left executive session at 9:17 a.m. No actions were taken during executive session.

There being no further business, the Capitalize Albany Corporation Board of Directors regular meeting was adjourned at 9:22 a.m.

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #2: Audit Committee Report

Materials:

- Amendments to Audit to Committee Charter
- Amendments to Whistleblower Policy and Procedures
- Minor Audit Committee Charter and Whistle Blower Policy Amendments
Resolution 16-2014

CAPITALIZE ALBANY CORPORATION

AUDIT COMMITTEE CHARTER

This Audit Committee Charter was adopted by the Board of Directors of the Capitalize Albany Corporation (CAC; formerly known as the Albany Local Development Corporation), a not-for-profit corporation established under the laws of the State of New York, on this 31st day of October, 1979.

Purpose

The purpose of the Audit Committee shall be to (1) assure that the Corporation's Board fulfills its responsibilities for the Corporation's internal and external audit process, the financial reporting process and the system of risk assessment and internal controls over financial reporting; and (2) provide an avenue of communication between management, the independent auditors, and the Board of Directors.

Powers of the Audit Committee

It shall be the responsibility of the Audit Committee to:

- Appoint, compensate, and oversee the work of any public accounting firm employed by the Corporation.
- Conduct or authorize investigations into any matters within its scope of responsibility.
- Seek any information it requires from Corporation employees, all of whom should be directed by the Board to cooperate with Committee requests.
- Meet with Corporation staff, independent auditors or outside counsel, as necessary.
- Retain, at the Corporation's expense, such outside counsel, experts and other advisors as the Audit Committee may deem appropriate.

The CAC board will ensure that the Audit Committee has sufficient resources to carry out its duties.

Composition of Committee and Selection of Members

The Audit Committee shall be established as set forth in and pursuant to Article IV, Section 9 of the Corporation's bylaws. The Audit Committee shall consist of at least three "independent" members of the Board of Directors ~~who are independent~~. The term "independent director" shall mean: a director who: (i) is not, and has not been within the last three years, an employee of the Corporation or an affiliate of the Corporation, and does not have a relative who is, or has been within the last three years, a key employee of the Corporation or an affiliate of the Corporation; (ii) has not received, and does not have a relative who has received, in any of the last three fiscal years, more than ten thousand dollars in direct compensation from the Corporation or an affiliate of the Corporation (other than reimbursement for expenses reasonably incurred as a director or reasonable compensation for service as a director as permitted by paragraph(a) of section 202 (General and special powers)); and (iii) is not a current employee of or does not have a substantial financial interest in, and does not have a relative who is a current officer of or has a substantial financial interest in, any entity that has made payments to, or received payments from, the Corporation or an affiliate of the Corporation for property or services in an amount

which, in any of the last three fiscal years, exceeds the lesser of twenty-five thousand dollars or two percent of such entity's consolidated gross revenues. For purposes of this subparagraph, "payment" does not include charitable contributions.
~~of Corporation operations.~~

The Corporation's Chairperson will appoint the Audit Committee members and the Audit Committee Chair.

~~Audit Committee members shall be prohibited from being an employee of the Corporation or an immediate family member of an employee of the Corporation. In addition, Audit Committee members shall not engage in any private business transactions with the Corporation or receive compensation from any private entity that has material business relationships with the Corporation, or be an immediate family member of an individual that engages in private business transactions with the Corporation or receives compensation from an entity that has material business relationships with the Corporation.~~

Ideally, all members on the Audit Committee shall possess or obtain a basic understanding of financial reporting and auditing.

Meetings

The Audit Committee will meet a minimum of twice a year, with the expectation that additional meetings may be required to adequately fulfill ~~all~~ the obligations and duties outlined in the Charter.

Members of the Audit Committee are expected to attend each Committee meeting, in person or via telephone or videoconference. ~~The~~ The Audit Committee may invite other individuals, such as members of management, auditors or other technical experts to attend meetings and provide pertinent information, as necessary.

The Audit Committee will meet with the Corporation's independent auditor at least annually to discuss the financial statements of the Corporation.

Meeting agendas will be prepared for every meeting and provided to the Audit Committee members along with briefing materials ~~three~~ (3) business days before the scheduled Audit Committee meeting. ~~The~~ The Audit Committee will act only on the affirmative vote of a majority of the members at a meeting or by unanimous consent. ~~Minutes~~ Minutes of these meetings will be recorded.

Responsibilities

The Audit Committee shall have responsibilities related to: (a) the independent auditor and annual financial statements; (b) the Corporation's internal auditors; (c) oversight of management's internal controls, compliance and risk assessment practices; (d) special investigations and whistleblower policies; and (e) miscellaneous issues related to the financial practices of the Corporation.

A. Independent Auditors and Financial Statements

The Audit Committee shall:

- Appoint, compensate and oversee the independent auditors retained by the Corporation and pre-approve all audit services provided by the independent auditor. Such oversight of the independent auditors will include:
 - Review with the independent auditor the scope and planning of the audit prior to the audit commencement; and
 - Upon completion of the audit, review and discuss with the independent auditor: (A) any material risks and weaknesses in internal controls identified by the auditor; (B) any restrictions on the scope of the auditor's activities or access to requested information; (C) any significant disagreements between the auditor and management; and (D) the adequacy of the corporation's accounting and financial reporting processes; and
 - Annually consider the performance and independence of the independent auditor.
- Establish procedures for the engagement of the independent auditor to provide permitted audit services. The Corporation's independent auditor shall be prohibited from providing non-audit services unless having received previous written approval from the Audit Committee. Non-audit services include tasks that directly support the Corporation's operations, such as bookkeeping or other services related to the accounting records or financial statements of the Corporation, financial information systems design and implementation, appraisal or valuation services, actuarial services, investment banking services, and other tasks that may involve performing management functions or making management decisions.
- Review and approve the Corporation's audited financial statements, associated management letter, report on internal controls and all other auditor communications.
- Review significant accounting and reporting issues, including complex or unusual transactions and management decisions, and recent professional and regulatory pronouncements, and understand their impact on the financial statements.
- Meet with the independent audit firm on a regular basis to discuss any significant issues that may have surfaced during the course of the audit.
- Review and discuss any significant risks reported in the independent audit findings and recommendations and assess the responsiveness and timeliness of management's follow-up activities pertaining to the same.

B. Internal Controls, Compliance and Risk Assessment

The Audit Committee shall:

- Review management's assessment of the effectiveness of the Corporation's internal controls and review the report on internal controls by the independent auditor as a part of the financial audit engagement.

C. Special Investigations

The Audit Committee shall:

- Ensure that the Corporation has an appropriate confidential mechanism for individuals to report suspected fraudulent activities, allegations of corruption, fraud, criminal activity, conflicts of interest or abuse by the directors, officers, or employees of the Corporation or any persons having business dealings with the Corporation or breaches of internal control.
- Develop procedures for the receipt, retention, investigation and/or referral of complaints concerning accounting, internal controls and auditing to the appropriate body.
- Request and oversee special investigations as needed and/or refer specific issues to the appropriate outside body for further investigation ~~(for example, issues may be referred to the State Inspector General or, other investigatory organization.)~~
- ~~• Review all reports delivered to it by the Inspector General and serve as a point of contact with the Inspector General.~~

D. Other Responsibilities of the Audit Committee

The Audit Committee shall:

- Present annually to the Corporation's Board a written report of how it has discharged its duties and met its responsibilities as outlined in the Charter.
- Obtain any information and training needed to enhance the Committee members' understanding of the role of internal audits and the independent auditor, the risk management process, internal controls and a certain level of familiarity in financial reporting standards and processes.
- Review the Committee's Charter annually, reassess its adequacy, and recommend any proposed changes to the Board of the Corporation. The Audit Committee Charter will be updated as applicable laws, regulations, accounting and auditing standards change.
- Conduct an annual self-evaluation of its performance, including its effectiveness and compliance with the Charter and request the Board approval for proposed changes.

CAC Whistleblower Policy and Procedures

Purpose. It is the policy of Capitalize Albany Corporation (“CAC”) to afford certain protections to individuals who in good faith report violations of CAC’s Code of Ethics or other instances of potential wrongdoing. The Whistleblower Policy and Procedures set forth below are intended to encourage and enable employees to raise concerns in good faith within CAC and without fear of retaliation or adverse employment action.

Definitions.

“Good Faith”: Information concerning potential wrongdoing is disclosed in “good faith” when the individual making the disclosure reasonably believes such information to be true and reasonably believes that it constitutes potential wrongdoing.

“CAC Employee”: All CAC board members, and officers and staff employed whether full-time, part-time, employed pursuant to contract, employees on probation and temporary employees.

“Whistleblower”: Any CAC Employee who in good faith discloses information concerning wrongdoing by another CAC employee, or concerning the business of CAC.

“Wrongdoing”: Any alleged corruption, fraud, criminal or unethical activity, misconduct, waste, conflict of interest, intentional reporting of false or misleading information, or abuse of authority engaged in by a CAC Employee (as defined herein) that relates to CAC.

“Personnel action”: Any action affecting compensation, appointment, promotion, transfer, assignment, reassignment, reinstatement or evaluation of performance.

Section 1: Reporting Wrongdoing.

All CAC Employees who discover or have knowledge of potential wrongdoing concerning board members, officers, or employees of CAC; or a person having business dealings with CAC; or concerning the CAC itself, shall report such activity in accordance with the following procedures:

- a) The CAC Employee shall disclose any information concerning wrongdoing either orally or in a written report to his or her supervisor, or to the CAC’s Board Chairman, or general counsel.
- b) All CAC Employees who discover or have knowledge of wrongdoing shall report such wrongdoing in a prompt and timely manner.
- c) The identity of the whistleblower and the substance of his or her allegations will be kept confidential to the best extent possible.
- d) The individual to whom the potential wrongdoing is reported shall investigate and handle the claim in a timely and reasonable manner, which may include referring such

information to the Authorities Budget Office or an appropriate law enforcement agency where applicable.

e) Should a CAC Employee believe in good faith that disclosing information pursuant to Section 1(a) above would likely subject him or her to adverse personnel action or be wholly ineffective, the CAC Employee may instead disclose the information to the Authorities Budget Office or an appropriate law enforcement agency, if applicable. The Authorities Budget Office's toll free number (1-800-560-1770) should be used in such circumstances.

Section 2: No Retaliation or Interference.

No CAC Employee shall retaliate against any Whistleblower for the disclosure of potential wrongdoing, whether through threat, coercion, or abuse of authority; and, no CAC Employee shall interfere with the right of any other CAC Employee by any improper means aimed at deterring disclosure of potential wrongdoing. Any attempts at retaliation or interference are strictly prohibited and:

a) No CAC Employee who in good faith discloses potential violations of CAC's Code of Ethics or other instances of potential wrongdoing, shall suffer harassment, retaliation or adverse personnel action.

b) All allegations of retaliation against a Whistleblower or interference with an individual seeking to disclose potential wrongdoing will be thoroughly investigated by CAC.

c) Any CAC Employee who retaliates against or had attempted to interfere with any individual for having in good faith disclosed potential violations of CAC's Code of Ethics or other instances of potential wrongdoing is subject to discipline, which may include termination of employment.

d) Any allegation of retaliation or interference will be taken and treated seriously and irrespective of the outcome of the initial complaint, will be treated as a separate matter.

Section 3: Other Legal Rights Not Impaired.

The Whistleblower Policy and Procedures set forth herein are not intended to limit, diminish or impair any other rights or remedies that an individual may have under the law with respect to disclosing potential wrongdoing free from retaliation or adverse personnel action.

a) Specifically, these Whistleblower Policy and Procedures are not intended to limit any rights or remedies that an individual may have under the laws of the State of New York, including but not limited to the following provisions: Civil Service Law § 75-b, Labor Law § 740, and State Finance Law § 191 (commonly known as the "False Claims Act).

b) With respect to any rights or remedies that an individual may have pursuant to Civil Service Law § 75-b or Labor Law § 740, any employee who wishes to preserve such rights shall prior to disclosing information to a government body, have made a good faith effort to provide the appointing authority or his or her designee the information to be disclosed and shall provide

the appointing authority or designee a reasonable time to take appropriate action unless there is imminent and serious danger to public health or safety.

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**RESOLUTION 16-2014
OF THE
CAPITALIZE ALBANY CORPORATION**

WHEREAS, the Capitalize Albany Corporation (“CAC”) is a New York not-for-profit corporation (“NPC”), and

WHEREAS, due to the recent passage of the “New York Non-Profit Revitalization Act” (“NPRA”), certain changes to NPC corporate governance were authorized as of July 1, 2014 to increase NPC corporate governance efficiency and internal controls, including:

- authorizing the electronic delivery (e.g. email, facsimile) of corporate notices, consents, waivers, proxies, and financial statements; and
- continuing to authorize the formation of Board committees for Board-designated purposes, but removing the terms “standing” and “special” as adjectives describing the previous two types of Board committees; and
- requiring the Board of each NPC to adopt/approve a “Whistleblower Policy”;
- requiring NPC Audit Committees to be comprised of not less than three “independent” Directors and providing a specific statutory definition of the term “independent.”

NOW THEREFORE BE IT RESOLVED, that the Board of Directors approves the attached:

- CAC Audit Committee Charter, as amended; and
- CAC Whistleblower Policy and Procedures.

Signed: _____
Sarah Reginelli
President

Date of Authorization: September 17, 2014
Prepared by: Thomas M. Owens

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #3: Report of Finance and Investment Committee

Materials:

- Historic Pastures Mansions LLC Loan Approval Resolution 17-2014

**RESOLUTION 17-2014
OF THE
CAPITALIZE ALBANY CORPORATION**

WHEREAS, Capitalize Albany Corporation provided a loan to Pastures Redevelopment Company (“PRP”) in which a promissory note was executed on June 22, 1982; and

WHEREAS, CAC provided a loan to Mansions Rehab. Associates (“MRA”) in which a promissory note was executed on September 23, 1982; and

WHEREAS, CAC provided the loans to PRP and MRA in order to facilitate the development of approximately 152 units of affordable housing in the Mansion and Historic Pastures Neighborhoods; and

WHEREAS, CAC has been notified by the potential purchaser of the properties, Historic Pastures Mansions, LLC (“HPM”) and/or Historic Pasture Mansions Housing Development Fund Company (“HPMHDFC”), that it is their intent to include the properties as part of a larger redevelopment project that will create and preserve approximately 246 units of affordable housing (the “Project”) in the Mansion and Historic Pastures Neighborhoods; and

WHEREAS, CAC has received a request from HPM and/or HPMHDFC for the assumption and modification of the two (2) loans to PRP and MRA, including outstanding principal and deferred interest into one loan to HPM which would be subordinate to, and of a term equal to term of the Project’s financing with the New York Housing Finance Agency (est. 2045), in order to facilitate the development of the Project; and

WHEREAS, in consideration of CAC approval of the Project, HPM and/or HPMHDFC has agreed to (1) one initial principal reduction payment of \$100,000 and (5) five annual principal reduction payments of \$20,000.

WHEREAS, the Project’s investment and reinvestment in affordable housing in the Mansions and Pastures Neighborhoods is in direct support of CAC’s mission of economic development in the City of Albany; and

NOW THEREFORE BE IT RESOLVED, pursuant to the above terms and conditions, CAC approves the assumption, modification, and subordination of the two loans to be restated in one promissory note and secured by a mortgage on the Project.

Signed: _____
Michael Castellana, Chairman

Date of Authorization: September 19, 2014
Prepared by Bradley Chevalier

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #4: Impact Downtown Albany

Materials:

- No materials are included.

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #5: Board Workshop: Makers Space Discussion

Materials:

- Article “Is is a Hakerspace, Makerspace, Techshop, or FabLab?”
- Article “Making Makerspace: Creating a Business Model”

Make:

Is it a Hackerspace, Makerspace, TechShop, or FabLab?

By [Gui Cavalcanti](#) Posted May 22nd, 2013 1:34 pm Category [Education](#), [Maker Pro](#), [Makers](#), [Makerspaces](#) [View Comments](#)

The past decade has seen the sudden, dramatic appearance of community spaces offering public, shared access to high-end manufacturing equipment. These spaces are interchangeably referred to as hackerspaces, makerspaces, TechShops, and FabLabs. This can lead the intended audience to become incredibly confused as to why there might be so many names for a single concept. I'd like to take some time to untangle the mess, explain the concepts behind each title, and talk about why I now make significant distinctions between all of these types of spaces.

Let's start with the hardest to untangle – what's the difference between a **Hackerspace** and a **Makerspace**?

Hackerspaces

I'll start by saying that there are many people "in the know" who don't make any distinctions between the term 'hackerspace' and 'makerspace'. Truth be told, these people usually associate themselves with hackerspaces. I personally find that I need to differentiate between the two, because at this point the concepts and representations behind the words have diverged significantly for me. Let's start with a little bit of history on hackerspaces, both paraphrased from Wikipedia and drawn from personal knowledge.



c-base Hackerspace, in Berlin.

The concept of a hackerspace **started in Europe** (anyone recognize the German linguistic construction?) as a collection of programmers (i.e., the traditional use of the term ‘hacker’) sharing a physical space. One of the first independent hackerspaces to open its doors was a German space known as **c-base** that opened in 1995; it currently boasts a membership of over 450 people, and is still active to this day. In August of 2007 (12 years after the European trend got started), a group of North American hackers visited Germany for **Chaos Communication Camp**, grew excited about the possibilities of having similar spaces in the United States, and came back to found **NYC Resistor** (2007), **HacDC** (2007), and **Noisebridge** (2008), to name a few. These spaces soon started adding electronic circuit design/manufacturing (directly related to their initial focus on programming) and physical prototyping to their lists of interests, and started expanding their offerings to include classes and access to tools via membership payments to pay the bills. Interestingly, **the definition of the terms ‘hacking’ and ‘hacker’** started expanding to include working on physical objects as these spaces grew in popularity, and sought to differentiate themselves from the largely negative connotations of the term ‘hacking’ presented in the mainstream media. These spaces produced a couple of revolutionary businesses, including the well-known **MakerBot Industries** (born out of NYC Resistor), which is now in the process of dramatically changing the 3D printing industry.



Early electronics class at Noisebridge.

Dale Dougherty summed up the difference between making and hacking best for me during his keynote presentation at our **How to Make a Makerspace** event this past February; he said that before he founded MAKE Magazine, his original intention was to call the magazine HACK. When he presented the idea to his daughter, however, she told him no – hacking didn't sound good, and she didn't like it. Dale tried to explain that hacking didn't have to just mean programming, but she wasn't buying any of his arguments. She suggested he call the magazine MAKE instead, because 'everyone likes making things'.

Dale's anecdote sums up how I feel about the term 'hacking'. To me, 'hacking' and 'hacker' are fundamentally exclusionary; whether they refer to the traditional act of programming to defeat or circumvent existing systems, or the act of working with physical parts, there's a basic understanding that 'hacking' refers to a specific subset of activities that involve making existing objects do something unexpected. No amount of cajoling on my part will get a professional artist or craftsman unfamiliar with the terms to call themselves a 'hacker', or their vocation 'hacking'; in fact, if I were to say "I like how you hacked that lumber together into that table" to a professional woodworker at **Artisan's Asylum**, I would run the significant risk of insulting them.

Makerspaces

The term 'makerspace' didn't really exist in the public sphere until 2005 or so, however, when **MAKE Magazine** was published for the first time. The term didn't

really become popular until early 2011, when Dale and **MAKE Magazine** registered **makerspace.com** and started using the term to refer to publicly-accessible places to design and create (often times in the context of creating spaces for children). I've heard some speculation that the term 'makerspace' relates only to spaces that are specifically aligned with MAKE. I think the term 'maker' is older and so widespread at this point that the term 'makerspace' is much bigger than the MAKE network.



Olin College's machine shop.

When I started **Artisan's Asylum** in 2010, I was always uncomfortable calling it a hackerspace. I frequently used the awkward phrase 'community workshop' to describe our organization, for no other reason than I had no easy phrase for what I wanted the space to be. I modeled the space after the always-open workshops and tight-knit creative community at **Olin College**, my alma mater, with the intention that anyone should be able to make anything at any time out of (almost) any material; the original goal of the space was to democratize the act of making something from scratch as well as you can (whatever it may be) – not repurpose what already exists. At some point, I heard the term 'makerspace', and started using it as an easy way of describing what we were doing.



The welding shop at Artisan's Asylum.

Once I heard the term 'makerspace', I started mentally categorizing hackerspaces and makerspaces differently. In my mind, hackerspaces largely focused on repurposing hardware, working on electronic components, and programming. While some spaces did work with more media and craft than that, the tools and spaces dedicated to those craft were often seen as secondary to the mission of the space. To some extent, hackerspaces also became associated in my mind with tendencies towards **collectivism**, and radical democratic process as a method for making decisions – an inheritance from European hackerspaces and early American hackerspaces like **Noisebridge** and **NYC Resistor**.

Immaculate MakerWorks shop facilities.

Makerspaces, to me, became associated with a drive to enable as many craft to the most significant extent possible. The different types of craft spaces involved weren't considered afterthoughts, they were considered the whole point; whichever craft were represented in the space were represented with well-considered shop layouts, significant manufacturing infrastructure such as high-voltage electricity and ventilation, lots of supporting tools dedicated to each craft type, and appropriate tooling to accomplish a variety of projects. Each craft area could be used both by hobbyists and professional craftsmen alike, and the act of hosting multiple types of craft in the same space was the magnetic attractor to everyone involved. More often than not, the spaces were structured along the lines of traditional businesses (instead of democratic collectives), due to the significant expense and energy

involved in maintaining multiple types of professional-grade craft areas and training new members to use the tools responsibly. Examples of makerspaces in my mind included Artisan's Asylum, MakerWorks, and the Columbus Idea Foundry, to name a few, and spawned such companies such as Pebble and Square.

TechShops and FabLabs

These are the two easiest titles to untangle, for a very simple reason – they're trademarked names! Referring to a space as a 'TechShop' or 'FabLab' when it's not affiliated with either business or program is like calling every tissue Kleenex.



TechShop member working a CNC mill.

TechShop is the name of a chain of for-profit spaces started in 2006 in Menlo Park, California, that calls themselves “America’s First Nationwide Open-Access Public Workshop”. Before the terms ‘makerspace’ or ‘hackerspace’ were widely known in the United States, TechShop was offering public access to high-end manufacturing equipment in exchange for membership fees. TechShop has always focused on providing public access to a variety of craft areas with supporting equipment infrastructure; all of their facilities include woodworking, machining, welding, sewing, and CNC fabrication capabilities, to name a few.



A FabLab in Amsterdam.

FabLabs are a network of spaces started by Neil Gershenfeld at the **Center for Bits and Atoms** in MIT's **Media Lab** around 2005, inspired by an MIT course called **How to Make (Almost) Anything**. The founding principle of a FabLab is that there is a core set of tools (including basic electronics equipment, a lasercutter, a vinyl cutter, a CNC router, a CNC milling machine, and more) that allow novice makers to make almost anything given a brief introduction to engineering and design education. FabLabs have a very specific set of space requirements (often sufficing with 1,000- to 2,000-square feet), required tools (specified exactly by model and type), supporting software for said tools, and curriculum, and can be thought of as a kind of franchise (though MIT retains little to no control over the actions of local spaces). FabLabs are required to be open to the public for little or no cost for recurring periods through the **Fab Charter**, frequently teach children, and are most often run by local non-profit organizations.

In my mind, both **TechShop** and **FabLab** are makerspace franchises; they focus on creation from scratch, through multiple types of media. Ironically, both came into being before the term 'makerspace' was widely used, and as such their trademarked names have more staying power right now than the overarching term.

Conclusion

Some people may argue that I'm quibbling and making distinctions where there are none to be had – to each their own! Personally, I find this kind of categorization and description helpful when I think about the different kinds of spaces that are out

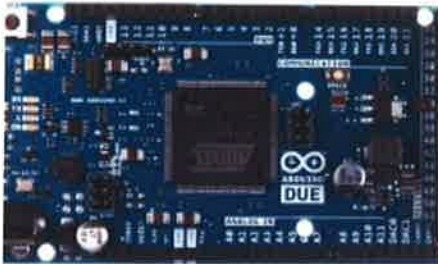
there, and what they're fundamentally trying to do. I think traditional hackerspaces that focus largely on electronics and programming appeal to a certain group of people, and that's great. I think makerspaces, as I've laid them out here, represent a far more mainstream vision of a publicly-accessible creative space, and have a unique set of draws and distinctions. Hopefully these distinctions help you think about what kinds of creative spaces you're interested in, and how you can start or join such a space!

**GUI CAVALCANTI**

Founder of Artisan's Asylum, co-founder of Project Hexapod, former systems integrator and mechanical engineer at Boston Dynamics, and contestant on the new Discovery Channel show The Big Brain Theory.

// Co-Founder of Project Hexapod // Founder of Artisan's Asylum

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FEATURED PRODUCTS FROM THE MAKERSHED**Arduino Due**

The Arduino Due is the newest member of the Arduino family. It's the first Arduino...

**Composimold**

Using molds to reproduce objects has been around for centuries - but is usually a...

Making Makerspaces: Creating a Business Model

By [Gui Cavalcanti](#) Posted June 4th, 2013 7:00 am Category [Education](#), [Maker Pro](#), [Makerspaces](#), [Workshop](#) [View Comments](#)

This is the second in a series of posts called Making Makerspaces, a distillation of the information gathered for a series of [How to Make a Makerspace](#) workshops produced by [Artisan's Asylum](#) and MAKE. These posts will appear on a more-or-less weekly basis, and will focus on mission-critical topics related to founding and running creative manufacturing spaces. The first post in the series, discussing how to acquire insurance for makerspaces, can be found [here](#).



Gui Cavalcanti is the co-founder of Artisan's Asylum in Somerville, MA. He organized the "How to Make a Makerspace" workshop.

Creating a Makerspace Business Model

Today, we'll be discussing common types of expenses and income that makerspaces around the world experience on a regular basis in order to help you create a business model for a space of your own. In the process of identifying these expenses and income, we'll review examples from several well-established spaces across the U.S. for reference. Please don't consider this an exhaustive list of either income or expenses; expenses vary wildly based on location and circumstances, and spaces have found a huge number of ways to make money.

A couple of quick notes before we get started. First of all, you probably want to keep a spreadsheet open as you read through this primer so that you can take notes and write down example figures. Secondly, this is intended to help you create a

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steady-state model of income versus expenses to help you make sure your plan will be sustainable; this doesn't cover startup costs, which will be explained in a post that's soon to come. Lastly, please regard all your projected numbers from this exercise with a big grain of salt; you need to confirm your actual expenses before starting down the path of creating a sustainable business.

All that said, let's jump in!

Characterizing Your Space

1. TYPE OF SPACE

Before we jump into the numbers, you need to know what kind of space you want to put together, and how big you want it to be. Are you looking to share a garage with your friends? Establish a small, close-knit community of makers with a couple of shared tools? Create a sustainable, staffed business with a diverse income? Create a community center or hardware incubator for your entire institution or city? It doesn't matter if your space i

sn't all that you want it to be right now; for the purposes of projections, you need to know where you'd like it to end up. This question will affect the rest of your decision making, so spend some time thinking about it. Some of the most common types of makerspaces that I've seen are:

- Small, teaching-only space (500 to 3,000 square feet) with a small number of instructors (1-10 people) that is sustainable by requiring relatively little infrastructure or full-time staff
- Small, volunteer-run community (10-80 active members) that occasionally teach classes, share some amount of tools and space, and pay rent on a 1,000 to 8,000 square foot space with relatively low membership fees
- Shared plots in a large building (4,000 to 25,000+ square feet) where many individuals and small businesses band together to rent a large warehouse space at low per-square-foot cost, sometimes sharing equipment informally, with a generally unpaid small group (1-3 people) nominally in charge
- Large (8,000 to 40,000+ square feet) community workshop usually featuring educational programs, membership access to shared tools/workspace, and sometimes featuring storage or studio rental space
- Very large (40,000 to 150,000+ square feet) community development facility intended to rent large spaces to startup businesses that each need 200-1,000+ sqft, usually featuring a mentorship network, paid staff, and sometimes featuring shared tools/workspace

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2. SIZE OF SPACE

How big is your space? How big do you want it to be eventually? What kinds of uses do you want out of your space? Classrooms, workshops, storage, and rental studios all take up significant amounts of space. In broad terms, we've found by informal survey that spaces need to be at least **8,000 square feet** (in an area with low rental rates) or larger to support continuously paid, full-time staff (with exceptions for spaces that run exclusively off of **grants and/or classes**, and don't offer much in the way of shared equipment or common workspace). We've seen successful spaces that are smaller than 8,000 square feet, but they usually run on a volunteer basis or are supported by an outside entity. A couple of examples of spaces with staff include:

- **Artisan's Asylum** at 40,000 square feet, supporting 3-5 full-time staff and 40+ part-time instructors
- **MakerWorks** at 30,000 square feet, supporting 2 full-time staff and 8 part-time staff
- **TechShop** at 15,000 square feet on average, supporting 5-15 full-time staff per location
- **sprout** at 2,000 square feet, supporting 3 full-time staff and 5-10 part timers exclusively through grants and classes

3. SPACE DISTRIBUTION

How is your space divided up between workshops, classrooms, offices, rental areas, and the like? You don't have to know for sure, but we have some basic suggestions for how large things turn out to be based on experience and architectural recommendation. Read through the following list and note whatever seems most appropriate right now – based on income and expenses you'll identify later. You'll probably choose to come back and adjust these proportions. Most of the population density figures you see below come from **The Engineering Toolbox**, a handy reference for architects and engineers.

- **Fire Lanes.** Start your layout estimations by taking 25-35% of your floor area and devote it to to-code fire lanes. This is dead space that you cannot use, and must keep clear in order to pass fire and building code inspections. Your percentage will vary based on your architecture.
- **Welcoming Area.** Front desks, sign-in kiosks, and the like generally take 50-250 square feet, if you need them.
- **Social/Food Area.** Your members need to gather somewhere to eat and socialize – if you don't provide them one, they'll carve out their own space. Think about how many people you want gathered at any one time, and realize that seated people need a minimum of 15-40 square feet per person.

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- **Dedicated Classroom/Conference Rooms.** Spaces all over the world have found that quiet, noise-isolated classroom areas are invaluable if you're offering educational programs. Consider including one in your floorplan, and consider that you'd probably need 20-50 square feet per seated person.
- **Workshops.** Do you want to dedicate space to tools? If so, you need to allow for enough space for people to work safely. I've found a good minimum size for workshop space of any one craft type is 300-500 square feet, and you need approximately 75-150 square feet per person working independently in a space. Different craft types usually need separate areas (especially woodworking, fabric arts, and welding), so don't expect to multi-task too much in these spaces. Many groups have had success using the [**Grizzly Workshop Planner**](#) to lay out their space.
- **Rental Studios.** One of the big keys to the success of [**Artisan's Asylum**](#) is in offering a large number of private rental studios. Our hometown is a very crowded city with relatively dense real estate, and our members valued studio space above all else. We've found that 50 square feet is the minimum size of a studio, and offer up to 250 square feet.
- **Storage Space.** Members need some way to store their projects, especially if they don't have a studio of their own. Make sure to include some space for shelving (8-12 square feet per shelf unit) if you can. [**Artisan's Asylum**](#) also offers rental space in the form of areas dedicated to pallet-based storage; one pallet takes up 13 square feet.
- **Gallery/Display Area.** Do you want to display member work, or advertise your services? Keep in mind how much space that might take up.
- **Retail Area.** Are you selling material, goods, or services? You'll need to be able to store whatever you're selling, and provide for a sales terminal.

Identifying Expenses

	July 2012	Aug 2012	Sept 2012	Oct 2012	Nov 2012	Dec 2012
Ordinary Income (Expense)						
Income from Operations						
Sales Revenue	0.00	0.00	173.42	173.42	173.42	173.42
Service Fee	0.00	0.00	0.00	0.00	0.00	0.00
Cash Sales	908.00	980.00	406.00	400.00	406.00	400.00
Electricity Shop	828.00	830.00	1,566.67	1,566.67	1,566.67	1,566.67
Guitar & Amplifier	258.00	250.00	1,300.00	1,300.00	1,300.00	1,300.00
Marketing Fees	5,918.45	5,000.43	3,866.87	5,666.67	3,866.87	5,666.67
Marketing Shop	8,708.00	6,700.00	3,866.67	5,666.67	3,866.67	5,666.67
Production/Marketing Shop	0.00	0.00	1,250.00	1,250.00	1,250.00	1,250.00
Safety Training	9,560.00	4,587.00	1,000.00	2,000.00	1,000.00	1,000.00
Security Area	308.00	300.00	0.00	0.00	0.00	0.00
Wood Shop	0.00	0.00	2,000.00	2,000.00	2,000.00	2,000.00
Total Income from Operations	20,080.45	20,187.43	21,096.89	20,090.00	20,090.00	20,090.00
Utilities & S&A						
ID Cards & Media	1,337.32	1,337.32	1,337.32	1,337.32	1,337.32	1,337.32
Inventory Sales	245.34	141.34	0.00	0.00	0.00	0.00
Marketing & S&A	1,046.21	1,046.21	0.00	0.00	0.00	0.00
Total Utilities & S&A	2,528.87	2,524.87	1,337.32	1,337.32	1,337.32	1,337.32
Overhead Costs (Fixed)	25,841.88	21,041.68	18,491.89	21,644.38	21,644.38	21,644.38
Rent	125.00	125.00	125.00	125.00	125.00	125.00
Storage Space	1,827.71	1,827.71	1,793.42	1,793.42	1,793.42	1,793.42
Studio Space	18,889.00	18,889.00	18,889.00	18,889.00	18,889.00	18,889.00
Total Overhead	18,889.00	18,889.00	18,889.00	18,889.00	18,889.00	18,889.00
Total Income from Operations	68,241.89	66,354.89	75,427.42	75,427.42	75,427.42	75,427.42

Before we get into potential income, let's figure out how much money it takes to

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actually run your space. Working on expenses first will put you in a mindset of determining what the bare minimum level of participation in your space must be for you to be sustainable – if the required numbers look unattainable to you and your community, it's time to think about changes to your business model (or ways to start your business that don't cost as much as your steady-state plan – such as renting a small **tenant-at-will space** first, and growing into a bigger space once you have a dedicated following). Open up a spreadsheet if you haven't already, and let's get started.

1. RENT

To date, our single biggest expense at **Artisan's Asylum** is rent. It used to be more than 75 percent of our monthly expenses when we were in a 9,000 square foot location; with paid staff and large utility bills, it's now hovering around 25-30 percent of total expenses. Pay attention to how much your rent is, as that will drive the rest of your business plan. A word of caution, though – **don't skimp on your building choice in order to pay a lower rent**. Fixing broken buildings costs much, much more, over time, than renting good ones, to the point of shutting down makerspaces that don't acknowledge this fact. Redoing the roof of an industrial space (which usually happens once every 10-20 years) can cost upwards of \$5-10 per square foot; installing a sprinkler system because the fire marshal caught you woodworking without sprinklers and threatened you with closure costs \$10-15 per square foot; and repairing or replacing a broken or ineffective air conditioner with a new industrial-grade air conditioner can easily run \$5,000 to \$15,000 – just to name a few common building-scale maintenance expenses. If you know what your building's rent will be, record it now.

If you don't have a building chosen yet, think about where you're located and see if you can estimate what you might pay. Keep in mind that the larger you are, the less you pay per floor area, and the closer you are to a city center, the more you pay. Here's a sample of commercial rents we know of in the 5,000 to 25,000 square foot range; come up with an estimate for yourself and record it in your spreadsheet.

- Detroit, MI and parts of Oakland, CA are **\$0.25-1/sq. ft/year** for almost any quality of industrial property outside of the city limits
- Philadelphia and Pittsburgh, PA vary between **\$2-8/sq. ft/year** depending on distance from city limits and building condition
- Somerville, MA is **\$8-14/sq. ft/year** for 20-30 year old industrial property located in a heavily populated (77,000 people/4 square miles) small town adjacent to a large city

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- Cambridge and Boston, MA are now charging **\$35-65/sq. ft/year** in their extremely centralized “Innovation District” areas, including Kendall Square and the waterfront.

You read those points right – two equally-sized makerspaces, one in Detroit and one in Boston, might have a difference in rent as high as **260,000 percent**. Your entire business plan will likely be driven by this expense, so make your choice wisely.

2. BUILDING MAINTENANCE / PROPERTY TAX

Unless you have a very invested and very forgiving landlord (or set of state commercial tenancy laws, as the case may be), most large commercial spaces operate under a **triple-net (NNN) lease**. This means that, unlike in residential leases, tenants are solely responsible for paying for property tax, insurance, and maintenance on the building envelope (i.e., repairing the roof if it leaks, repairing and painting walls, servicing HVAC, maintaining plumbing fixtures, and so on), and the landlord receives rent as a net sum on top of those costs. When it comes to paying for maintenance, this usually manifests itself in one of three different ways: a) your landlord expects you to repair and maintain your own building to code with licensed professionals, b) your landlord repairs your building for you and sends you the bill (which can catch businesses by surprise if they were expecting free repairs), or c) your landlord bills you on a month-to-month basis and repairs your building envelope for you as part of that regular cost. As far as property tax is concerned, your landlord may bill you for it monthly (or yearly), or they may simply leave it up to you to coordinate with your city.

At **Artisan's Asylum**, our landlord charges us a very significant NNN rate of **\$2.50-3/sq. ft/year** in common area maintenance, with around **\$1.20/sq. ft/year** of that being property tax. Investigate whether your landlord charges this fee on top of rent, and what your responsibilities might be. Even if you're not charged a recurring fee, you should assume that the **actual cost** of maintaining your building is at least **\$1-2/sq. ft/year** and keep that amount in a separate bank account; if you don't assume that or have a backup plan, you'll likely be very surprised by the size of the repair bill when something breaks. As I mentioned before, repairing or replacing a single industrial air conditioner can cost upwards of \$5,000 to \$15,000 in one shot – don't get caught off-guard. Record an estimate of building maintenance and property tax in your spreadsheet now.

3. UTILITIES

Are you used to an electricity bill for your apartment or house in the \$50 to \$250 per month range? Imagine an electricity bill in the **\$5,000 to \$7,500 per month** range. Follow

Heating, cooling, and powering large commercial facilities doesn't scale nicely with size. Use this list of example utility bills to generate an appropriately conservative monthly estimate for your utilities, keeping the rates of your local area in mind.

- **Electricity.** We've seen our rates vary between **\$0.10-\$0.20/sq. ft/month** in various locations, and we're charged **\$0.15/kWhr** in our area
- **Natural Gas.** We've seen rates as high as **\$0.15/sq. ft/month** at the peak of a Boston winter, in a relatively uninsulated facility
- **Trash.** Maintaining trash pickup for us was always **\$100-\$300**, no matter what system we worked out
- **Internet.** Just providing commercial grade service is easily **\$75-\$150/month**, to say nothing of maintaining a website or any internet-based services you use.
- **Other Utilities.** You may experience other utility costs; common ones include fees for recycling, hazmat disposal, and the like.

Take a moment to record expected utility costs on your spreadsheet.

4. SALARIES

Artisan's Asylum ran as an all-volunteer organization for a year at a size of 9,000 square feet. At the end of the year, all of our volunteers were dead tired, and our programs were starting to fall apart. Classes weren't being advertised or developed on-time, membership payments weren't being collected as effectively as they needed to be, and nobody could work on their personal projects because they were constantly developing the space. We decided, in the end, that we needed to be of a size and of a business model that allowed us to operate sustainably with multiple staff members whose entire job was to keep the space running smoothly, keep classes organized, and keep the tools repaired. One of the real costs of your makerspace is your sanity; if you (or your friends/volunteers/coworkers) don't have the ability to take a break because you're all barely keeping the space running in your free time, the business will suffer.

I will say that the decision to switch to staff was **directly related to our expenses**, however; we had to pay more than **10X** as much in rent as i3Detroit for a similarly sized space, which after four years still runs as an 8,000 square foot volunteer-run organization with membership dues that equal expenses, that occasionally runs classes for fun (and not because they're absolutely necessary to the business plan). Simply put, our scramble to make enough money every month to meet expenses was tiring us to the point of collapse

What style of business are you interested in becoming? Here are some example roles

that you might hire for in your organization, or may fill with volunteers. Note that one person may take on many roles in parallel, if needed. Assign them a monthly salary (whether full or part-time) as you see fit for your mission. We've listed these roles in the rough order in which we've hired for them at Artisan's Asylum, plus a few types of makerspace-related jobs we've heard of but don't have. Your mission and mileage will vary!

- **Financial Controller:** Head bookkeeper and accountant for the business. We hired someone for this position before we hired anyone else, because income, expenses, and filing taxes is such an existence-threatening big deal that we needed to pay someone for this immediately.
- **CEO/Executive Director:** Primary point of contact and main organizer for the early life of the organization, head manager for the later life of the organization.
- **Facilities Manager:** Responsible for repair and maintenance of shop spaces and tools. You need someone like this sooner rather than later; managers and organizers don't have the time to be elbows-deep in broken machines for long periods.
- **Member Services:** Answers phone calls, emails, and any in-person complaints, and makes sure the business runs smoothly.
- **Development:** Seek grants and partnerships with other organizations. A good development lead pays for themselves several times over, especially in a nonprofit setting.
- **Programs:** Develops classes and programs as a source of income.
- **Marketing:** Markets the business and its programs to the public.
- **Full-Time Trainer:** Trains and tests new members on equipment.

You may have ideas for other personnel; take a moment to record their salaries on your spreadsheet. One quick note, though – teachers and trainers may fall under the category of contractors, as opposed to staff. We'll deal with that soon. Before we leave this section, though, take **10-15 percent** of your total salary payment, and add that much to your expenses in the form of **payroll tax**.

5. HEALTH INSURANCE & BENEFITS

Some states require employers to pay for health insurance, others don't. The Asylum pays for health insurance for its employees. While we may not pay the best salaries, we want to make sure that our employees have the ability to see a doctor whenever they need to. We've managed to find health insurance for **\$500/person/month**; we've seen quotes from **\$350 to \$1,500/person/month**. We also include membership and some rental space as a benefit to employees, which "costs" us between **\$150** and **\$300** a month in income we would've otherwise earned. It may

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not make sense you to record this cost as an expense, but for your own clarity we suggest you record both the expense of the benefit and the income of your staff as members (to a total sum of 0) for the purposes of planning. Take a moment to record the cost of benefits on your spreadsheet.

6. TOOL MAINTENANCE / CONSUMABLES

It costs a lot of money to keep a shop going. Blades get dull, belts break, welders run out of gas, you name it. After three years of tuning, the Asylum is getting to the point where its monthly maintenance budget is on the order of **\$500 to \$1,000/month**, and the shop consumables budget is anywhere from **\$1,300 to \$1,700/month** for a heavily-utilized 8,000 square feet of \$300,000 worth of shop equipment. Given our example, come up with a scaled maintenance budget appropriate for the size of your space and the number of tools you have. Bear in mind that some spaces require their members to pay for some or all of this; those spaces often require members to bring their own consumables, or purchase them from the space itself. Record a figure you think is appropriate in your spreadsheet.

7. CONTRACTORS

Artisan's Asylum employs 35-45 part-time instructors a month to teach our classes. These instructors usually work between 2 and 10 hours a week on their classes, with relatively little oversight from us. As a result, we consider these instructors contractors, pay them hourly, and don't provide them with a salary or benefits. We've paid our instructors **50 percent of class proceeds** since we started the space (and **60 percent** in our first year). This strategy has proven to be an effective method of getting a lot of interest in teaching at the Asylum, getting our instructors to market their own classes for us, and helping instructors 'bridge the gap' between working a full time job and working for themselves in a sustainable way. Other spaces and related businesses in our area pay their instructors fixed rates that vary between **\$20 and \$75 an hour**, depending on the class.

The other major contractor payment we make on a regular basis goes towards a **certified public accountant**. Every year, we hire someone to do our taxes for us. Trust me when I say it's not worth doing your own, given what can happen if you do them incorrectly (especially for a non-profit, which can lose its 501(c)3 certification for incorrect filings). When we made \$100,000 a year at 9,000 square feet, it cost us around **\$2,500 a year** for a full tax preparation. Since then, we've grown to the point where we're required to have a **financial review** every year (and soon a **mandatory audit**); our review cost **\$7,000** a year, and we expect the recurring cost of an audit to be much higher. When we were consulting with attorneys on a regular basis during

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our incorporation and 501(c)3 filing, we spent on the order of **\$2,000 to \$3,000** in a year for legal services.

This may be hard to estimate now (and you may want to come back to this after you take a look at income), but record an estimate for how much you might pay contractors.

8. INSURANCE

In order to operate as a legal business in the United States, and fulfill the terms of your commercial lease, you're required to carry insurance. This is one of the most significant barriers to founding new spaces that we've come across, and as such I've gone ahead and written [an entire primer on familiarizing yourself with and finding insurance for makerspaces](#). If you haven't had a chance to read it yet, take a moment to read it now. Example prices for insurance, based on our experience, are as follows:

- **General Liability & Property.** This is largely dependent on the size of your building, the amount of property you control, and how you insure it, but we've found a typical rate to be **\$0.20-\$0.40/sq. ft/year**.
- **Umbrella Policy.** This is generally linked to how much you paid for general liability & property, and is typically between **15-25 percent of the price of general liability & property insurance**.
- **Worker's Compensation.** This is linked to how much you pay your staff and what kind of work they do; it typically costs between **.61 percent of total yearly salary** for clerical and administrative work and **3.17 percent of total yearly salary** for trade or vocational instruction.
- **Miscellaneous Insurance.** We carry a variety of other of insurance, including **directors and officers insurance, non-owned auto insurance**, and a number of other types. This typically costs us around **10-20 percent of our total insurance bill**.

This is absolutely not an exhaustive list of what insurance might be required of you. Please check your lease and applicable state laws to see if you must carry any other significant types of insurance. Note that you may need to pay your insurance in one lump sum upfront, but it's easiest to project for now if you consider it a recurring, monthly expense.

9. CHARGES & FEES

Assume all of your income comes from online transactions or credit card transactions – unless you have trained front door staff, accountant-certified cash handling

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procedures, and a cash safe, you probably don't want to be accepting cash. As a result, take **3-5 percent of your total income** (once you're done filling it out) and record it as a fee you have to pay banks, payment gateways, and credit card companies.

10. OTHER EXPENSES

Unfortunately, the list of expenses we have so far are just a sample of the total expenses paid on a monthly basis to run a space like this. Luckily, we've covered the biggest hitters – you can generally expect that you won't have to pay **10-25 percent** more than what we've already covered, unless you have a fairly unique business model. Here are some example expenses you might consider putting a monthly number down for:

- Advertising and marketing (graphical design work, print materials, etc.)
- Supplies for classes
- Volunteer food/beer/etc.
- Cost of any goods or services you sell
- Discounts off of memberships or classes (record these as an expense, so you know how much you're spending on them)
- Office supplies
- Telephone/cell phone plans
- Subscription websites (like SurveyMonkey)

11. TOTAL EXPENSES

Total your expenses. Does that number look intimidating to you? Good – it should. It takes around **\$80,000 per month** to run Artisan's Asylum right now, and we're understaffed for what we're trying to do at 40,000 square feet. It's expensive to run these kinds of spaces (even the small ones!), and if you don't know that from the very beginning you're in for a rude awakening. Take your expenses seriously, and have a very good plan for how to address them. You don't have to do everything from the get-go. The Asylum didn't pay anyone until the start of our second year, for instance – but have a plan in place for how you're going to grow into a sustainable business that will outlast its overly-enthusiastic founders.

Identifying Income

Let's switch gears and start talking about making money. Now that you have a rough idea of your expenses, use it to guide your decisions about how you make money. Are you going to teach classes? Offer memberships? Rent studio space? Run regular donation drives? Each of these sources of income have benefits and drawbacks, so

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consider your blend of income carefully.

When making predictions about your income, consider creating three different estimates; a pessimistic estimate where you barely break even, an educated guess as to what you expect will happen, and an optimistic 'maximum capacity' number if everything goes swimmingly. This should help inform you when you start running your business in earnest.

1. MEMBERSHIPS

One of the most common sources of income for makerspaces are memberships. Some makerspaces have a single membership rate, some have sliding scales that vary with your ability to pay, and others like **Artisan's Asylum** have different membership levels for **different levels of access to the space** (based on which hours and days of the week you're interested in). Some makerspaces consider membership a service they offer to the community – they don't charge for it, and instead devote themselves to raise money through grants for their running expenses. Brainstorm types of memberships, and come up with rough numbers for how many people your space could support using our guidance. Typical membership rates vary anywhere from **\$40 per month** for a 'starving hacker' membership at **Noisebridge**, to **\$175 per month** at **TechShop**. Keep your demographic and what it has the ability to pay in mind when setting rates; **Artisan's Asylum's** home city of Somerville, MA has a per-capita income of \$36,500, a median household income of \$61,700 a year, and we charge **\$150 a month** for our most popular 24/7 access membership.

When considering the number of people that might be interested in maintaining a membership at your space, consider example density data from spaces across the U.S.:

- **Artisan's Asylum** has a very low membership density because of all of our rental studios. Our membership numbers have held steady between **120-180 sq. ft/person** throughout our history.
- All-volunteer **Makelt Labs** has grown its membership in a 6,000 square foot space over 2-3 years with very little private space, and is now at **60-100 sq. ft/person**.
- **TechShop** has almost no private studio space, an incredibly effective marketing campaign, significant new-member discounts, very good positioning of its locations, and very high end tools. The density of their locations tend to vary between **20-40 sq. ft/person** after 5+ years of operation.

Come up with an estimate of how many members your space could sustain, and write down a couple of example income numbers.

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2. RENTALS

Artisan's Asylum has grown to the extent that it has by offering more than 50 percent of its floor area as rental studio or storage space for projects. The real estate market in our area is relatively expensive (median home sales are around \$450,000), and as a result one of the primary things our members look for is additional personal space. This is a mixed bag; on the one hand, you get steady income that doesn't vary with the seasons and people's ability to spare personal time. On the other hand, the income from a studio space is lower than an equivalent floor area of shop space or teaching space for one person.

If you've listed studio space or storage space as space you're interested in offering, use our examples to come up with possible incomes for those spaces (but keep in mind that our 'rent' is fairly high, and tracks the commercial property value of the nearby area for small studios):

- 50, 100, 200, 250 sqft studios: **\$2/sq. ft/month**
- Pallet Storage (13sqft): **\$30/month**
- Shelf Storage (2'x2'x2' shelf space, stackable 4 high on a 2'x2' floorplan): **\$10/month**

You may want to factor in some amount of vacancy into your total number due to turnover. Write down a couple of example income numbers from rent, if you're planning on offering any.

3. CLASSES

Classes provided more than **60-75 percent** of the income for Artisan's Asylum in its early stages, and are a fundamental part of almost all makerspaces I've ever seen. Classes train new people in your way of using tools. They provide an easy gateway into the space for those who don't have projects but want to get involved somehow. They offer local craftspeople a new way to use their craft to make a sustainable income as instructors, and they raise the skill level of your community dramatically over time. Classes now represent **25-35 percent** of the income of the Asylum, but that's income that is used to pay for our staff on top of infrastructural expenses like rent and utilities.

We charge **\$10 to \$30/student-hour** for our classes, and they have an extremely high fill rate at those prices. We have sometimes been accused of 'undercutting the market' for craft classes, and most nearby 'traditional' craft spaces charge higher prices than we do. Once again, bear in mind that Somerville has a per-capita income of \$36,500, and a median household income of \$61,700 a year, when considering Follow

these rates.

Classes are generally **2-3 hours per session**, and most of our classes are **4 sessions long** (though some engineering, design, and project-based classes are now **6-8 sessions long**, and most of our individual tool training and testing classes are simple **one-shot sessions**). Also note that the Asylum generally fills each of its independent craft areas with classes roughly **50 percent of peak hours**; in other words, we have welding classes 2-3 nights of the week and on one weekend day, machining classes on 2-3 nights of the week, and so on. We've found that our members are unhappy with shop availability if classes run any longer than that amount of time. As a final note, bear in mind that tool training loses its efficiency quickly when you have too many students per teacher; we tend to keep classes between **3 and 8 students per instructor**, unless the skill is easy to pick up or distribute (like soldering, programming, CAD or other lecture-ready applications).

Figure out how many teachers you have available, how often they're willing to teach, what workshop availabilities might be like, how many people you can teach in a given class (given the workshop constraints from before and the number of people one teacher can teach) and come up with a rough sense of how much classtime you could provide in each of your craft spaces per month. Keep in mind these sample floor-area price densities from classes taught at **Artisan's Asylum** at maximum, 50 percent peak hour capacity, to get a sense for what's popular and what people are willing to pay in our neck of the woods:

- **Woodworking:** \$10-\$25/sq. ft/month, mostly due to the space requirements of moving large raw material around
- **Machining:** \$15-\$30/sq. ft/month, due to small space requirements. but relatively low demand
- **Welding:** \$40-\$60/sq. ft/month, due to the fact that welding is incredibly popular in our community
- **Quiet Classroom:** \$35-\$55/sq. ft/month, due to the sheer variety of classes that can be taught
- **Electronics:** \$20-\$35/sq. ft/month, due to significant demand and modest space requirements
- **Jewelry and Glassworking:** \$40-\$55/sq. ft/month, due to high demand and small space requirements

Your mileage will vary significantly from ours, depending significantly on your demographics, available instructors, and community interests. When coming up with income numbers for classes, don't forget to charge for materials fees – in some

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classes, materials can be incredibly expensive. Make some educated guesses as to what your shops and instructors could support, and write up some income possibilities.

4. GRANTS AND DONATIONS

Artisan's Asylum has found that donations can help aid general income in the early stages of makerspace development, and can help acquire specific tools and infrastructural projects in later stages of development. If donations are going to be a part of your business plan, estimate how many events you might have and how well they're attended using our suggestions and average that amount out over a year to come up with monthly income. We've found that we can reliably bring in **\$25-\$40/person** at large-scale, once-or-twice-a-year fundraising events, and in the case of fundraising drives for specific items can hit averages as high as **\$100-\$200/person**.

The number of people participating in these events is directly related to the size of your social network, the scale of the event, and the urgency of your cause. For our grand-opening fundraising events, we would have 200-300 people attend when our available immediate network was between 1,500 and 2,000 people. Our recent fundraising drives for non-emergency infrastructural improvement had 50 people participate, out of a membership community of 300. Your mileage will vary significantly from ours, but try to estimate what you might see as income from donations. I would strongly suggest that you consider a pessimistic case of donation income being close to **\$0** for any given period, to make sure that your business model is self-sustaining on earned income.

I'll mention that several spaces (including **sprout** and **The Crucible**) run many of their programs by writing and receiving grants as non-profit 501(c)3 organizations. Unfortunately, I don't have much experience in funding programs through such grants, and can't comment on strategies you might find helpful or how much you might acquire.

5. OTHER INCOME

Makerspaces have extremely varied sources of income past the standard membership, rentals, classes and donations. Take a look at some of these examples, and see if you can think of other ways you might make money (though bear in mind that all of them require additional staff time and expense to implement):

- Several spaces sell raw materials and kits from **Sparkfun** and **Adafruit** at a markup (Special note for non-profits: this can get very hairy to explain to the IRS,^{Follow}

as you likely need to both charge sales tax and pay sales tax on the goods sold for any retail sales)

- Several spaces offer vending services (for food and drinks) to their members
- **TechShop** offers **design, engineering, and fabrication consultation** for a fee
- **Columbus Idea Foundry takes commissions** from the community at large and pays members to develop responses to those commissions
- **Artisan's Asylum** offers **flexible studio space** without walls, and charges by the day and by the square foot to use it for time-sensitive projects
- **EatART** generates most of its income from monthly parties in the space, and rental of its **large-scale works of art**

Feel free to brainstorm potential new types of income, but bear in mind that if you think up something totally novel, it will likely take much more energy and money to implement than you think. Come up with an estimate of how much income you could make from such endeavors, and record it.

6. TOTAL INCOME

Total your income into a **pessimistic** (i.e., break-even) projection, a **best-educated-guess** projection, and a **maximum-possible** projection. If there's a wide range between those numbers, you're probably in a good place. If there's a very narrow band between your break-even projection and your maximum projection, you're in trouble.

Income vs. Expense

Compare your income versus your expense. Do you come out ahead at the end of a month? If you're like most spaces around the country, the gap should be pretty tight. That's OK! It means you're being realistic, all things considered. Most industries around the globe have a net income margin after taxes that's **between 5-20 percent**. If you're consistently in the black, you're doing extremely well.

Make sure you have the ability to put money into your bank account to build up a buffer. It's not enough to simply break even; that will put your space at risk of closing if you have one bill too many. A good rule of thumb is to build up at least 3 months worth of total operating expenses (note: this includes all of your operating expenses, and not just rent and utilities!) in the bank at all times, to make sure you can survive if a worst case scenario occurs.

That's it for now, folks. Let me know what issues are most pressing to you in the comments and I'll work on integrating them into the series as we progress.

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Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #6: Other Business

Materials:

- No materials are included.

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #7: Project Update

Materials:

- No materials are included.

Capitalize Albany Corporation Board Meeting

September 23, 2014

Agenda Item #8: Executive Session (if necessary)

Materials:

- No materials are included.