

Innovation Space and Marketplace Report: Developing a Makerspace in the District

Prepared for the Office of the Deputy Mayor for Planning & Economic Development
Completed by Jon Stover & Associates | Revised June 8, 2017

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Executive Summary



EXECUTIVE SUMMARY

STUDY BACKGROUND, PURPOSE, AND NEXT STEPS

Background

The Made in DC Program was established in July of 2016. A component of this legislation required the Deputy Mayor for Planning and Economic Development (DMPED) to submit a report to the Mayor and the Council on Opportunities for establishing a District-sponsored Innovation Space and Marketplace. DMPED issued a solicitation and retained local economic development consulting firm and DC Certified Business Enterprise, Jon Stover and Associates (JS&A) to produce the assessment.

Project Purpose

The purpose of this project is to assess the opportunity for establishing an Innovation Space and Marketplace as a District-sponsored initiative to support the local maker community, particularly businesses registered in the Made in DC Program. This report evaluates opportunities – and recommends a strategy moving forward – to develop a centralized makerspace for members to work in and as well as a space display and sell products.

Defining an Innovation Space & Marketplace

The District defines an Innovation Space and Marketplace as: “a studio space together with sales gallery space, space with high-end shared equipment, and classrooms that would be available to local makers on a low-cost membership basis.”

Limitations and Next Steps

This report is one of the first steps necessary to plan and develop the Innovation Space and Marketplace. The analysis described in this document is meant to help DMPED and other DC agencies understand and evaluate the opportunity at hand and make strategic decisions necessary to continue the process of developing a makerspace that will best meet the District’s goals and stakeholder needs.

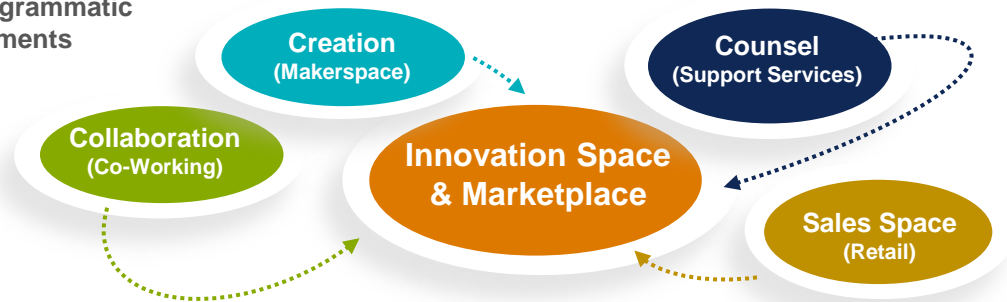
This study evaluates and recommends makerspace orientation, programming, costs, and other details as they pertain to a number of potential development scenarios. At this point in

the process, all estimates for operation costs, development costs, building sizes, equipment types, and programming are rough estimates intended only to help the city evaluate and select a specific development concept or “scenario”. Once a scenario is selected, more precise estimates and recommendations can be made.

Makerspace Programmatic Elements

There are four primary programmatic elements that will be incorporated into the Innovation Space and Marketplace: (1) collaboration (coworking); (2) counsel (support services); (3) creation (onsite production of physical goods); and (4) sales (onsite retail space).

Programmatic Elements



Collaboration

Open work space that facilitates the sharing of knowledge and ideas. (Co-Working)

Creation

Shared equipment that allows for the design and creation of a product. (Makerspace)

Counsel

Access to small business development services that supports enterprise growth. (Incubator / Accelerator)

Sales

A branded and marketed salesroom aimed at helping makers sell their product. (Retail Space)

EXECUTIVE SUMMARY:

LOCAL MAKERSPACE CONTEXT

Economic Context

DC’s innovative and entrepreneurial population base has had a noticeable impact: coworking spaces are emerging throughout the city and the number of local small businesses is increasing. There are two particular industries within the makers’ community experiencing a particular renaissance: the food industry and the beverage industry. For-profit shared kitchen spaces exist to support an influx in local distilleries, breweries, restaurants, and catering.

However, for many businesses in manufacturing or production, a number of local conditions combine to create a difficult business environment. These include high land costs and rents, relatively high business tax rates, a permitting and regulatory process known for being difficult and time-consuming, and a limited supply of industrial land uses.

District Goals and Policy Objectives

Recent DC-sponsored studies and initiatives support the idea of developing an Innovation Space and Marketplace. The Made in DC Program promotes creative entrepreneurship and maker businesses. The Ward 5 Industrial Study focuses on preserving industrial land, key in production and manufacturing, in Ward 5 as recent real estate development is reducing this supply of land. Lastly, an initiative within DC’s Economic Strategy directly supports the development of an Innovation Space and Marketplace as an incubator for District makers.

Types of Makerspace Users (Demand)

Makerspaces and innovation spaces across the country – and within the DC region, specifically – have a wide range of orientations for targeted users. For the purposes of this study, the user demographic and potential membership base are grouped into four categories: (1) residents such as artists who are interested in creating a product (community members); (2) people who are interested in starting a business or part-time independent business owners looking to transition to full-time (entrepreneurs); (3) newly-formed businesses (start-ups); and (4) established businesses.

Local Makerspace Supply

Over the last decade, dozens of nonprofit and for-profit innovation spaces have opened in the District. These spaces range from traditional coworking spaces, such as WeWork and Cove, to industry-specific business incubators such as Union Kitchen and D.C. Fashion Incubator. There are eight regional innovation spaces oriented towards the makers community: two in Virginia, two in Maryland, and four in the District. This chart summarizes which user type

each of these eight makerspaces serves as well as which programmatic elements each offers.

Makerspace Orientation Opportunity Gap

There is a particular gap in supply of makerspaces oriented towards serving start-up and established businesses. The two that are oriented towards businesses (Mess Hall and Union Kitchen) are catered specifically to the food and beverage industry. This indicates an opportunity to serve other makers business niches with a similar model of shared equipment and resources. There is also a clear opportunity for additional sales space and support services for all types of maker businesses.

Makerspace Supply Gap

	HOBBYISTS AND ARTISTS	PART-TIME ENTREPRENEURS	START-UP BUSINESS	ESTABLISHED BUSINESS
PRODUCTION SPACE	TechShop MLK Library Catylator Nova Lab Greenbelt Makerspace	Catylator TechShop Union Kitchen Nova Lab	TechShop Union Kitchen Mess Hall	Union Kitchen Mess Hall
RETAIL	TechShop	Union Kitchen TechShop	Union Kitchen	Union Kitchen
SUPPORT SERVICES	TechShop MLK Library Catylator Nova Lab	Union Kitchen TechShop In3 Catylator Nova Lab	Union Kitchen In3	Union Kitchen In3
CO-WORKING	TechShop MLK Library	TechShop Union Kitchen In3	TechShop Mess Hall Union Kitchen In3	Union Kitchen In3

EXECUTIVE SUMMARY:

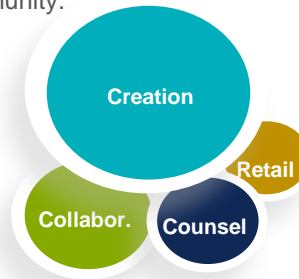
MAKERSPACE ORIENTATION OPTIONS AND DEVELOPMENT SCENARIOS

Innovation Space and Marketplace Orientation Options

Based on the current supply of makerspaces, demand for such a space, and the corresponding opportunity gap, there are three orientation options, or scenarios, for developing a makerspace in the District, each summarized below. Notably, although identified as separate scenarios, the opportunity exists to alter or combine the scenarios to best meet the needs of the District and the makers community.

SCENARIO 1: COMMUNITY-SERVING MAKERSPACE

A community-serving makerspace provides a wide range of equipment and services aimed at helping hobbyists, artists, and entrepreneurs visualize or develop a product. This scenario follows the traditional makerspace model as identified by existing regional makerspaces such as TechShop in Arlington, Virginia. Emphasis would be placed on educating the membership community about both the creative and making process as well as the equipment and necessary techniques to foster making.



SCENARIO 2: INDUSTRY-SERVING MAKERSPACE

An industry-specific makerspace provides coworking space and shared equipment specific to small businesses within a select type of industry. This industry would be selected based on market demand and interested businesses. Emphasis would be placed on machinery and equipment appropriate for this type of industry, creating a tailored makerspace to a specific need rather than a one-size fits all approach. The opportunity may exist to provide multiple industry-serving makerspaces in order to accommodate a variety of industry types within the site or at different locations.



SCENARIO 3: MAKERS SHOWROOM AND SUPPORT CENTER

A makers showroom and support center would not include any manufacturing or heavy production space, and instead provides high-quality and well-trafficked retail space, a range of business support services, and shared uses such as offices pace and conference rooms. Although this space would not contain manufacturing space, the showroom would be oriented to help spur cross-collaboration. This scenario emphasizes product awareness, customer acquisition, and sales. Potential shared support services include marketing, website development, and assistance with licensing, permitting, accounting, and other common small business needs.



EXECUTIVE SUMMARY

MAKERSPACE DEVELOPMENT SCENARIO EVALUATION RUBRIC

Building a Path Towards Success

The following chart identifies some of the most important considerations pertaining to each makerspace scenario. The check marks indicate how well each scenario serves or accomplishes a corresponding decision-making criteria. While this chart weighs each factor equally, DC city officials may decide certain factors are more important than others. As such, this chart is merely a rough guide to help city leadership decide which makerspace scenario(s) to pursue.

Type	Decision-Making Factors	Scenario 1 Community-Serving Makerspace	Scenario 2 Industry-Serving Makerspace	Scenario 3 Makers Showroom and Support Center	Combination of All Three Scenarios
Stakeholders Supported	Hobbyists, artists, & residents	√√√ <i>Primary user</i>	√ <i>Limited access</i>	√√ <i>Numerous services</i>	√√√
	Self-employed & part-time workers	√√ <i>Secondary user</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
	Start-up small makers businesses	√ <i>Limited bis. users</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
	Established small makers businesses	<i>Few estab. bis.</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
Orientation & Land Uses	On-site sales space (retail)	√ <i>Minor emphasis</i>	√ <i>Minor emphasis</i>	√√√ <i>Core emphasis</i>	√√√
	On-site makerspace (creation)	√√√ <i>Core emphasis</i>	√√√ <i>Core emphasis</i>	<i>No on-site creation</i>	√√√
	On-site support services (council)	√√√ <i>Core emphasis</i>	√ <i>Minor emphasis</i>	√√√ <i>Core emphasis</i>	√√√
	On-site co-working (collaboration)	√√√ <i>Core emphasis</i>	√√√ <i>Core emphasis</i>	√√ <i>Shared offices/retail</i>	√√√
Support Existing City Goals and Initiatives	Retain/cluster production uses in Ward 5	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√ <i>Could incentivize</i>	√√
	Retain and attract small businesses	√ <i>Primarily hobbyists</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Support Made in DC program	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Support DC's creative economy	√√ <i>Primarily hobbyists</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Business promotion for CBEs	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Expand business tax base	<i>Not bis. oriented</i>	√√ <i>Ancillary result</i>	√√ <i>Ancillary result</i>	√√
Cost	Affordability for City: Development/startup	√ <i>\$2.0 M - \$11.5 M</i>	√√ <i>\$1.3 M - \$6.5 M</i>	√√ <i>\$1.6 M - \$6.3 M</i>	√
	Affordability for City: Annual operations	√√ <i>\$680,000 - \$2.2 M</i>	√√ <i>\$490,000 - \$2.1 M</i>	√√ <i>\$420,000 - \$1.2 M</i>	√
Other Important Considerations	Potential to start operations soon (timing)	√√ <i>2-3 year delivery</i>	√√ <i>2-3 year delivery</i>	√√√ <i>1.5-2 year delivery</i>	√√
	Ability to adapt to marketplace (flexibility)	√√ <i>Ability to adapt</i>	√√ <i>Ability to adapt</i>	√√√ <i>Highly adaptable</i>	√√
	Economic impact	√ <i>Low econ. Impact</i>	√√ <i>Moderate impact</i>	√√ <i>Moderate impact</i>	√√√
	Makerspace demand vs. supply (need)	√ <i>Competing supply</i>	√√√ <i>Untapped demand</i>	√√√ <i>Demonstrated need</i>	√√√
	Create an innovative, leading makerspace	√ <i>Common practice</i>	√√ <i>Emerging trend</i>	√√√ <i>Highly innovative</i>	√√√
Community Benefit (Max Score of 63)		29 / 63	42 / 63	52 / 63	55 / 63

EXECUTIVE SUMMARY

RECOMMENDED DEVELOPMENT STRATEGY

The next step is for District officials to select a makerspace orientation scenario and development process based on the city's need, capacity, and political support. This study recommends the following process.

Step 1: Develop a Makers Showroom and Support Center (Scenario 3)

- The Makers Showroom and Support Center orientation most directly addresses unmet makers business needs, generates the most exposure for local makers businesses, and provides the greatest opportunity to develop a truly original and innovative makers hub.
- The location of the Makers Showroom and Support Center should be highly accessible by both transit and car, and should be at an established retail destination. Viable locations include: downtown, which would symbolize its importance, be highly visible, and generate considerable traffic including tourists; a location in an emerging retail destination such as Shaw or H Street, creating possible synergies with other retail uses; and a location in Ivy City, which would be proximate to the makers businesses themselves.
- The Makers Showroom and Support Center should focus a majority of resources on the makers business community, but should also be oriented to serve the greater community. The potential exists to integrate business mentorship or apprenticeship programs. For example, a membership might include a mandate that a business invite interested DC residents (or other

makers) to tour their facilities a set number of times per month to view their equipment and process, and learn how their business works. The Showroom could also rent its facilities or common spaces to the community for events.

Step 2: Grow the Membership Base and Evolve to Better Understand and Serve the Makers Businesses Community

- Once the Makers Showroom and Support Center is developed, build the membership base and continue to develop productive ways to support and partner with the local makers community.
- Through that process, staff can develop an understanding of industry equipment and space needs and can vet member interest and ability to pay for a shared production space with higher-end equipment than they would be able to afford if they were the exclusive users.
- Determine the industry niche or niches that are most suitable for a shared work space and engage business owners to ensure there is enough demand to support an industry-oriented makerspace.

Step 3: Develop an Industry-Oriented Makerspace (Scenario 2) for a Business Niche Vetted for Demand and Logistics

- Once enough businesses have committed to joining a specific type of share makerspace, work with existing Makers Showroom and Support Center members, as well as new partners, to design, fund, and build the space.

- This space should be located in Ward 5. If the Makers Showroom and Support Center is in Ivy City, the production space could locate on the same site or on a nearby parcel.
- The industry-oriented makerspace should provide training and access to the equipment for hobbyists and aspiring entrepreneurs during off-peak business use times.

Step 4: Continue to Develop Shared Business Production Spaces as Demand Allows, Creating an Innovation District

- Vet the opportunity to replicate the shared production space for other types of makers businesses.
- Plan for a scenario where the opportunity exists to evolve the area containing the makerspaces into an innovation district.

Focus on Marketing and Branding

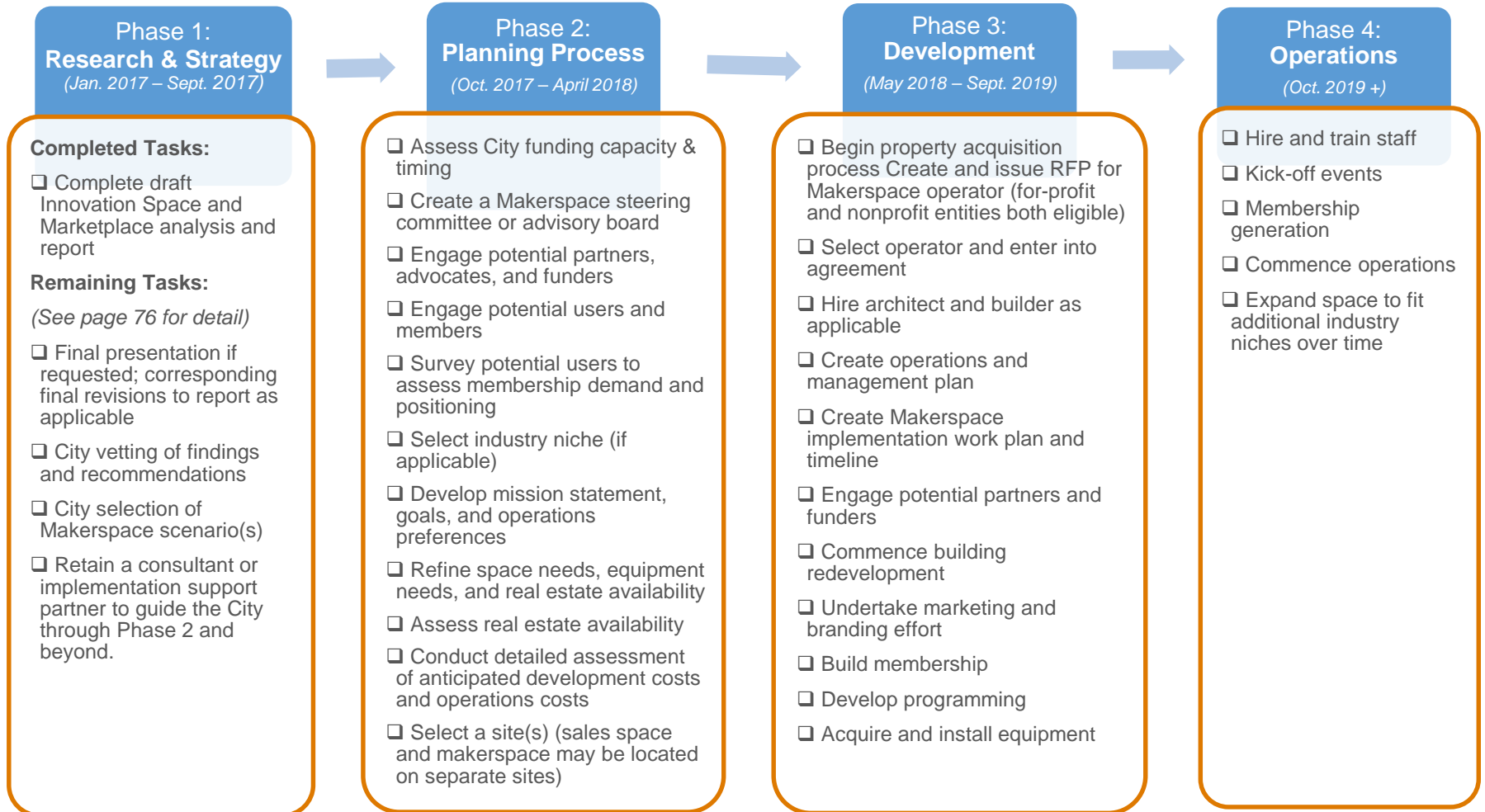
- It is important for the District to overcome its reputation for, and reality of, being an expensive and difficult location for makers businesses. A Makers Showroom and Support Center, followed by well-planned shared production spaces can change this reality.
- Throughout this process, a heavy emphasis should be placed on marketing and branding these efforts. With the right resources, DC can truly become THE place in the region for makers businesses to form, relocate to, and stay in as they grow.

EXECUTIVE SUMMARY

IMPLEMENTATION PROCESS

Implementation Process and Checklist

This study is the first step of many in the process for creating an Innovation Space and Marketplace. The implementation steps can be grouped into four main phases: research and strategy; the planning and design process; the development process; and commencing operations.



01

Project Background



STUDY BACKGROUND, PURPOSE, AND SCOPE

Project Background

The Made in DC Program Establishment Act of 2016 was signed into law on July 1, 2016, which required the Deputy Mayor for Planning and Economic Development to submit a report to the Mayor and the Council on opportunities for establishing a District-sponsored Innovation Space and Marketplace. As a result of this Act, the Deputy Mayor's Office for Planning and Economic Development (DMPED) issued a solicitation and retained Jon Stover and Associates (JS&A) to produce the required Innovation Space and Marketplace Report.

The Department of Small and Local Business Development (DSLBD) supports the development, economic growth, and retention of District-based businesses, and promotes economic development throughout the District's commercial corridors. DSLBD envisions a business environment in which: DC businesses are connected in real-time with local, federal, and global business opportunities; businesses navigate government quickly, confidently, and effectively; and, every entrepreneur and

business with a great idea and a great plan has the capital to make it happen. DC Department of Small & Local Business Development (DSLBD) partnered with Think Local First DC to develop the Made in DC Program.

The Made in DC Program promotes makers and creative businesses in the District of Columbia who design, produce/manufacture, and/or assemble products across a wide range of categories, including (but not limited to) apparel and accessories, food and beverage products, furniture, print goods, and more. Eligibility for Made in DC includes a current Washington, DC business license. A Washington, DC address is required, whether attached to a residence or workspace.

Project Purpose

The purpose of this project is to assess the opportunity for establishing an Innovation Space and Marketplace as a District-sponsored initiative to support the local maker community. The intent of this report is to determine the opportunities and recommended programming of a centralized

makerspace for members to work in and place to display and sell products.

Scope, Limitations, and Next Steps

The end product of this report is a description of three program scenarios for the Innovation Space and Marketplace. The intent of this is two-fold. First, the different programmatic scenarios were developed to provide a range of options based on the supply and demand of makerspaces in the District. Second, the structure was created to provide a generalized framework to guide decision making moving forwards towards implementing an Innovation Space and Marketplace.

The analysis and findings presented in this report are preliminary in nature and intended to help city staff make an informed decisions about the type of makers space it chooses to develop. Significant additional analysis will be required upon the selection of a program scenario to further understand the structure, costs, and processes needed to successfully build and operate the space.

STUDY PARTICIPANTS

Study Participants and Partners



Deputy Mayor's Office of Planning and Economic Development

The Office of the Deputy Mayor for Planning and Economic Development (DMPED) is charged with executing the Mayor's economic development strategy. The office is responsible for growing the city's technology and innovation employment sector and making D.C. a vibrant and competitive places for job creation, relocation, and growth. Visit <https://dmped.dc.gov> to learn more.



Office of Planning's (OP) mission is to guide development of the District of Columbia, including the preservation and revitalization of our distinctive neighborhoods, by informing decisions, advancing strategic goals, encouraging the highest quality outcomes, and engaging all communities. OP performs planning for neighborhoods, corridors, districts, historic preservation, public facilities, parks and open spaces, and individual sites. In addition, OP engages in urban design, land use, and historic preservation review.



Department of Small and Local Business Development

DSLBD supports development, economic growth, and retention of local businesses and promotes economic development through local commercial corridors. DSLBD oversees the DC Main Street Program. Visit www.dslbd.dc.gov to learn more.



Jon Stover & Associates

Jon Stover & Associates (JS&A) specializes in economic analysis, neighborhood revitalization, and helping public, private, and nonprofit organizations collaborate to meet economic development objectives. JS&A has helped a wide range of clients implement plans and programs that have successfully enhanced urban neighborhoods and corridors. Visit www.stoverandassociates.com to learn more.

DEFINITIONS

Definitions

The following terms are used throughout this report. Many of these terms do not have a standard definition, but for the purposes of this report the following definitions are used.

Innovation Space and Marketplace

An innovation space and marketplace is a studio space together with sales gallery space, space with high-end shared equipment, and classrooms that would be available to local makers on a low-cost membership basis.

Maker

A maker is an individual, including an artisan or craftsperson, or a business, who creates, manufactures, or assembles a product through a process involving intellectual property, ingredients, raw materials, or other components.

Relevant DC Policies and Programs

Made in DC Program.

Made in DC is a program of the DC Department of Small and Local Business Development, established in 2016. The program aims to support and promote businesses that design, make, produce, and/or assemble products in the District of Columbia. As a response to the momentum and growth of the maker and creative economy in Washington, DC, Made in DC functions as a citywide campaign and platform to create opportunity for maker businesses. Made in DC brings businesses together for resource and experience sharing, as well as function as a conduit and messenger between makers and local government.

The Made in DC Program promotes Member products, makers, and events across the District, and provide exposure to vital business development resources. Opportunities for capacity building workshops, networking, and resource-sharing are also provided to members.

DC's Economic Strategy

DC's Economic Strategy provides a flexible framework to continue economic growth in the District and foster more jobs. In particular, Initiative 32 supports the development of at least one Innovation Space and Marketplace for the maker community and Made in DC businesses with the target of helping to develop a physical space for making and retail based on identified best practices.

District-Based Business (DBB)

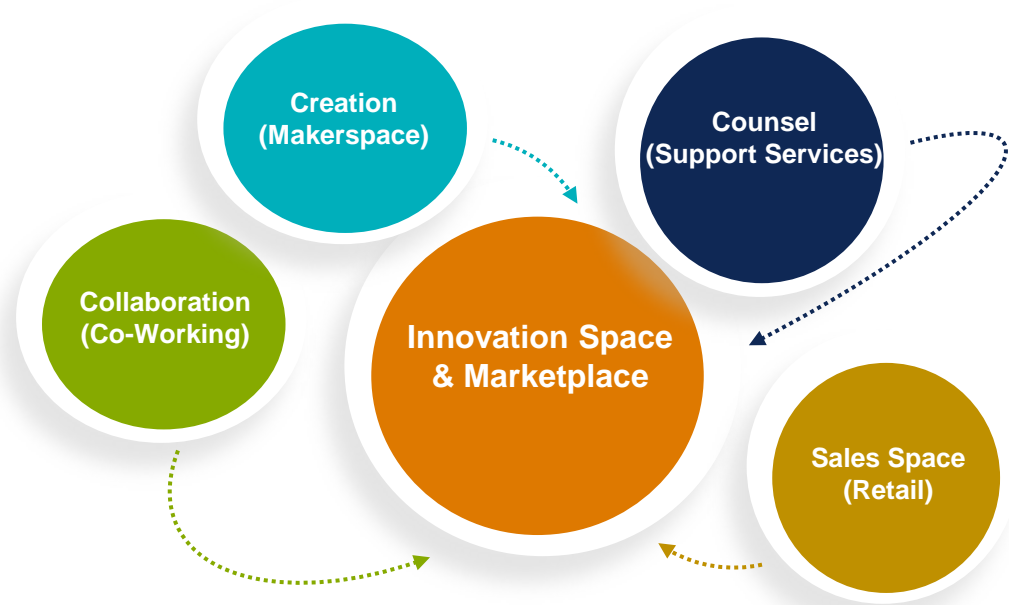
A District-Based Business (DBB) is a maker that: (a) maintains its primary office in the District; (b) possesses a current license pursuant to Chapter 28 of Title 47; (c) has certified that either the majority owners are District residents or 51% or more of its employees are District residents; and (d) is registered with the Department of Small and Local Business Development.

AREA OF OPPORTUNITY

The District of Columbia has seen an recent increase in the number of coworking spaces and business incubators. However, there are very few spaces in the city focused on providing local makers businesses the resources or high-quality equipment necessary to start or grow a business. Using models from other makerspaces from across country, the District has an opportunity to facilitate the development of a new type of innovation space, one that combines the technology of a traditional fabrication lab, where members can rapidly prototype and manufacture products, with the enterprise development services offered in successful incubators, such as 1776 or Union Kitchen.

There are four primary programmatic elements that will be incorporated into the Innovation Space and Marketplace: (1) collaboration (coworking); (2) counsel (support services); (3) creation (onsite production of physical goods); and (4) sales (onsite retail space).

Programmatic Elements



Collaboration

Open work space that facilitates the sharing of knowledge and ideas. (Co-Working)

Creation

Shared equipment that allows for the design and creation of a product. (Makerspace)

Counsel

Access to small business development services that supports enterprise growth. (Incubator / Accelerator)

Sales

A branded and marketed salesroom aimed at helping makers sell their product. (Retail Space)

02

Local Context and Best Practices



DC ECONOMIC, PLANNING, AND POLICY CONTEXT

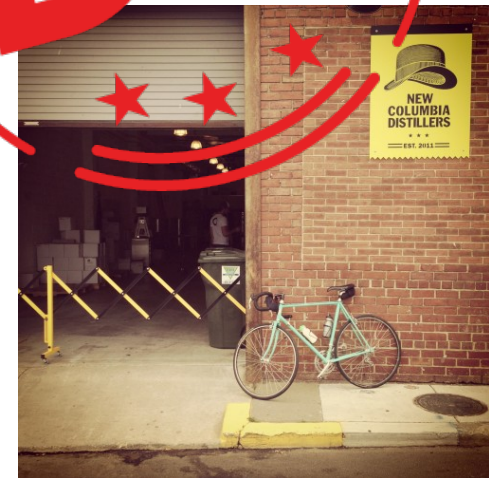
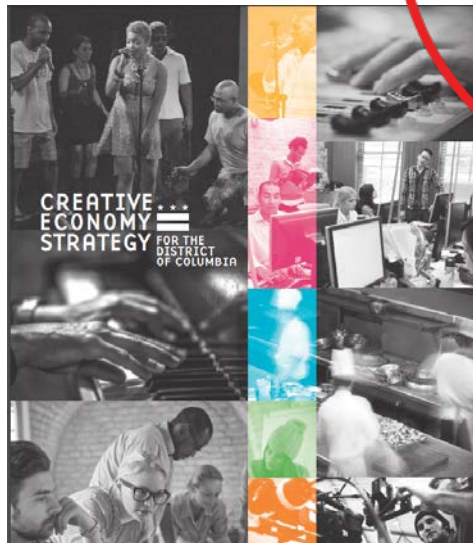
Economic Context

DC is experiencing significant population growth and income growth, and in many neighborhoods retail and restaurant uses have sprouted to serve the city's increasing consumer demands. This trend holds true in and near DC's industrial neighborhoods such as Brentwood and Ivy City.

For many businesses in manufacturing or production, a number of local conditions combine to create a difficult business environment. These include high land costs and rents, relatively high business tax rates, a permitting and regulatory process known for being difficult and time-consuming, and a limited supply of industrial land uses.

District Goals and Policy Objectives

Recent DC-sponsored studies and initiatives such as the Made in DC Program, the Ward 5 Industrial Study, DC's Economic Strategy, and others overwhelming support the idea of developing an Innovation Space and Marketplace as a way to support the creative economy, promote entrepreneurship and innovation, local support businesses that create physical products, preserve industrial land in Ward 5, and increase the DC tax base.



DC'S CREATIVE ECONOMY

Creative Economy

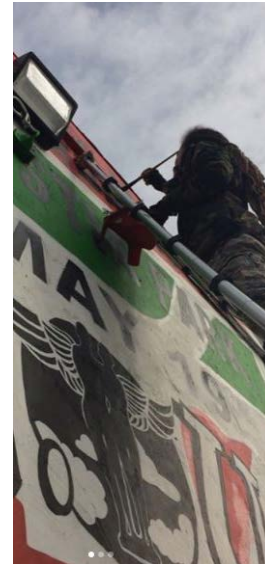
The District of Columbia defines the creative economy as “the segment of the economy driven by human innovation and creativity.” Within the District, the creative economy saturates four main categories of employment: arts and heritage, culinary arts, information and technology, and professional services. These categories represent nearly 30 different industries and 80 occupations ranging from independent artists, writers, and performer to broadcasting industries to chefs to designers.

Employment in the creative economy has grown significantly over the past 15 years, and at a faster pace than the national average. In all the creative economy accounts for 16% of employment in the District, or 112,400 private sector jobs.

To continue its growth in the Creative Economy, the District has prioritized supporting the creative economy by helping to create a space and incubator for the maker community.

A Focus on the Maker Community

The District's creative economy includes not only registered businesses, but a wide range of hobbyists, artists, and other creatives who help make DC a vibrant place but who are not looking to develop or grow a business within a creative field. This study adheres to the terms of the Made in DC Program Establishment Act of 2015, which requires the Innovation Space and Marketplace to focus on opportunities to support a specific segment of the creative economy: the maker community.



LOCAL MAKING BUSINESSES: MADE IN DC

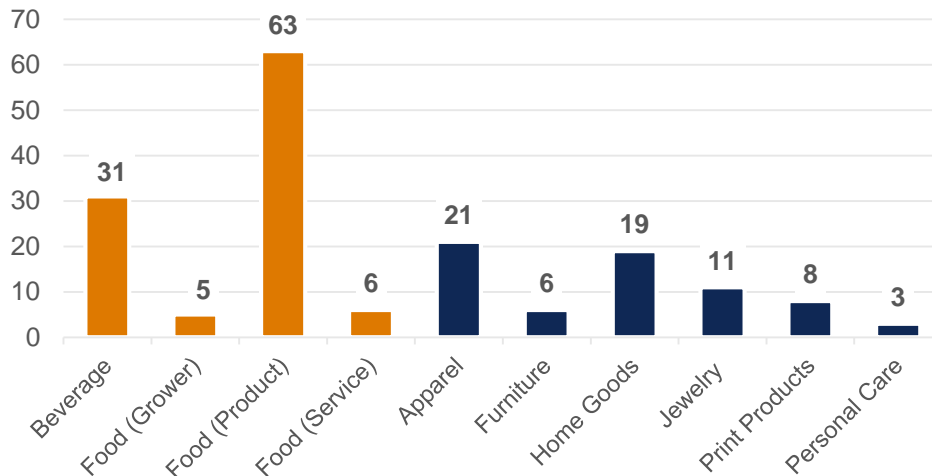
DSLBD's Made in DC Program

The Made in DC Program, managed by the Department of Small and Local Business Development, focuses on helping maker businesses by promoting products, events, and makers within the city as well as providing access to business development resources such as capacity building workshops,

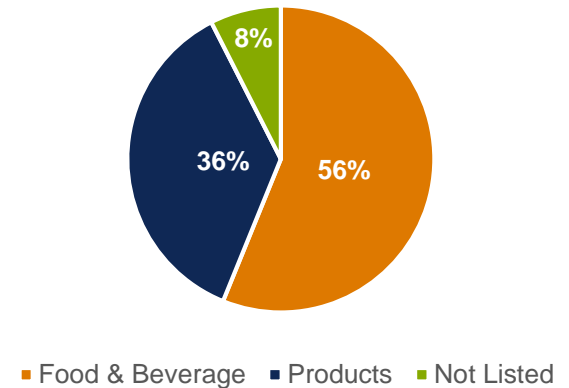
networking, and resource-sharing amongst members. With almost 200 local businesses enrolled in the program, the majority of businesses are oriented in food and beverage, but almost 70 businesses represent non-food industries such as furniture, home goods, and apparel. To participate in Made in DC, businesses must be primarily located in DC, have an active business license, and the

majority owners must be District residents or 51% of employees must be residents. While participation in the Made in DC program is still growing and sectors within the program are likely to be expanded, the current and future members of the program are important candidates for becoming members of a shared makerspace.

Breakdown of Businesses in Made in DC Program

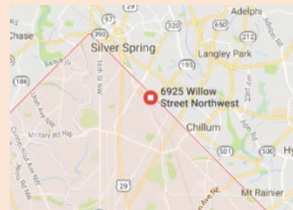
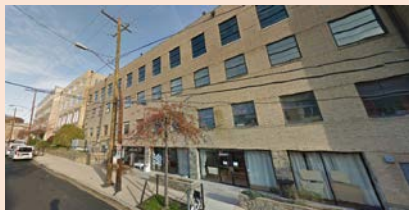


Types of Businesses in Made in DC Program



DC MAKER BUSINESS OWNER INTERVIEWS

DC Shirt & Print Company (shirt printing)



6925 Willow Street NW (Takoma neighborhood)

Year Started: **2008**
Employees at Start: **1**
Employees Now: **8**
Business SF at Start: **3-car garage**
Business SF Now: **8,000 SF**

Would you ever share equipment or work space?: **No**

How can DC help your business?:

Tax incentives, reduce sales tax, help with regulations

Godet Furniture, LLC (custom furniture)



Works from garage at home (example image: not actual space)

Year Started: **2013**
Employees at Start: **1**
Employees Now: **1**
Business SF at Start: **Home garage (18' x 18')**
Business SF Now: **Home garage (no plans to move)**

Would you ever share equipment or work space?: **Yes**

How can DC help your business?:

Might rent large woodworking equipment such as a planer or joiner (2-3 times/yr), assistance with permitting and taxes

Takeaways

Business space and equipment needs are industry-specific. Comprehensive market analysis is needed to determine demand for particular types of equipment and spaces, as well as desired pricing and membership structure. A more universal need is assistance navigating business registration, permitting, and taxation in DC. Opportunity for promotion and help with customer acquisition.

DC MAKERSPACE CONTEXT

Supply Context

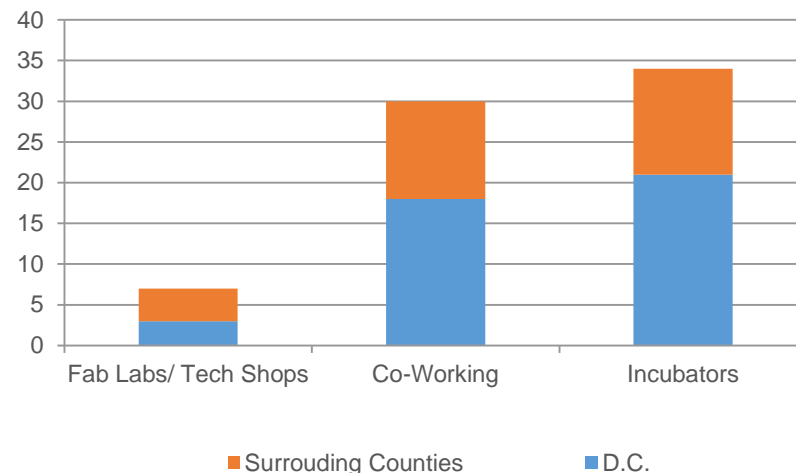
DC's innovative and entrepreneurial population base has had a noticeable impact: coworking spaces are emerging throughout the city and the number of local small businesses is increasing. There are two particular industries within the makers community experiencing a particular renaissance: the food industry and the beverage industry— particularly distilleries and breweries.

Over the last decade, dozens of nonprofit and for-profit innovation spaces have opened in the District. These spaces range from traditional co-working spaces, such as WeWork and Cove, to industry-specific business incubators such as Union Kitchen and D.C. Fashion Incubator. However, the District lacks a physical space specifically designed for the maker community, where local artists and craftsmen can not only create their products, but have access to the business development and networking services typically offered by a business incubator or co-working space.

Current Innovation Space Inventory

As of May 2017, there are 3 fabrication labs, 18 co-working spaces, and 21 incubators located in the District. There are an additional 4 fabrication labs, 12 co-working spaces, and 13 incubators located in Northern Virginia, Montgomery County, and Prince George's County. Shared office spaces that do not offer any additional business support or networking services were not counted as co-working spaces.

Regional Supply of Innovation Spaces



DIFFERENT FORMS OF INNOVATION SPACES

An innovation space is defined as any physical environment that strategically supports business growth and collaboration between its members. Therefore, apart from providing its members with a physical space, an innovation space cannot be defined by any specific amenities or structure. However to determine the optimal characteristics of an innovation space in the District, innovation spaces can be categorized into its three most common forms. While some share elements of all three of these forms, most innovation spaces across the country fall within one or two of these categories.

Fabrication Lab/Tech Shop

Description

Small-scale workshops that offer rapid prototyping and digital fabrication technology, such as 3D printing, laser cutting, metalworking, woodworking, electronic workbenches, and design software. They prioritize the physical creation and design of new products.

Organizational Structure

Typically non-profit organizations supported by membership fees and private donations. Even for-profit companies, such as TechShop in Arlington, VA, are often partially supported by local institutional partners.

Local Examples

- The Labs at MLK Library
- TechShop (Arlington)
- Nova Labs (Reston)
- Catylator Makerspace (Silver Spring)

Co-Working Space

Description

Shared workspaces for freelance professionals and small-sized enterprises that offer traditional office amenities, such as meeting rooms, kitchens, and printers, typically in addition to events designed to encourage collaboration and various business support services, such as payment processing, graphic design, accounting, and human resources

Organizational Structure:

Typically 100% privately-funded for-profit enterprises. However an increasing amount of universities, community development corporations, and economic development organizations have also established shared office spaces for local communities.

Local Examples

- WeWork
- Cove

Incubator

Description

Organizations designed to speed up the growth of startup and early-stage enterprises by connecting enterprises to resources, mentors, networking, access to venture capital and angel investors, and other business services. Typically requires enterprises within the program to share the same physical office space.

Organizational Structure:

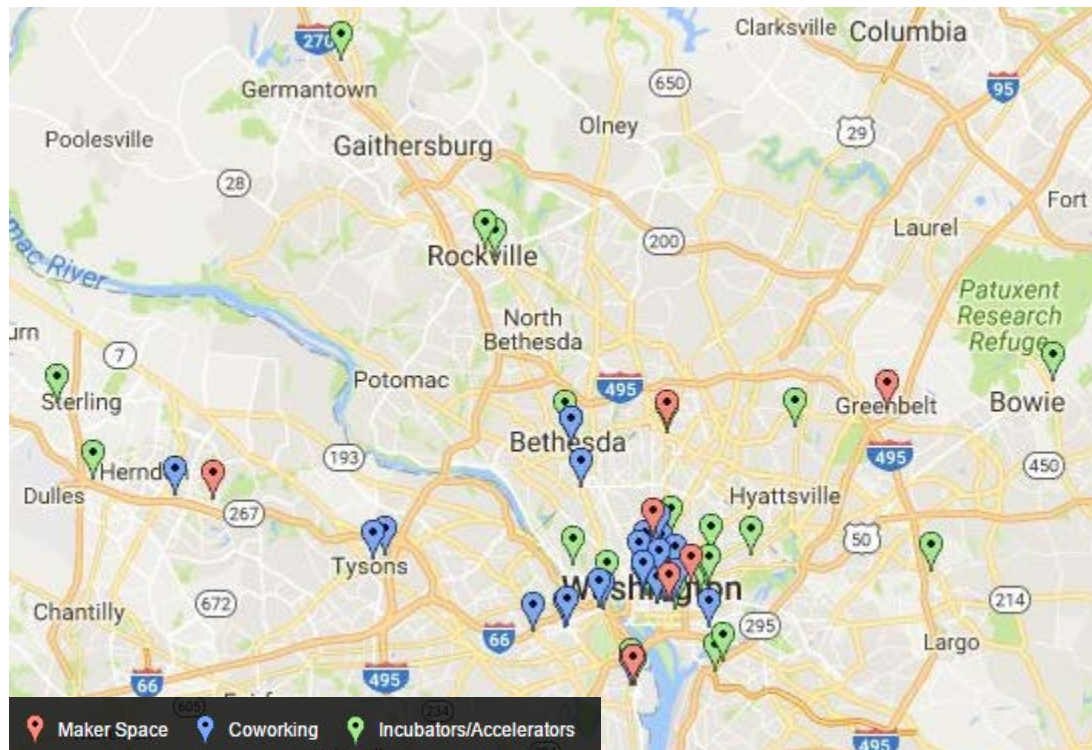
Incubators can be run as private businesses, nonprofits, or sponsored or managed by venture capital firms, foundations, or universities. Some incubators focus on specific missions, markets or industries, such as food, fashion, or social entrepreneurship.

Local Examples

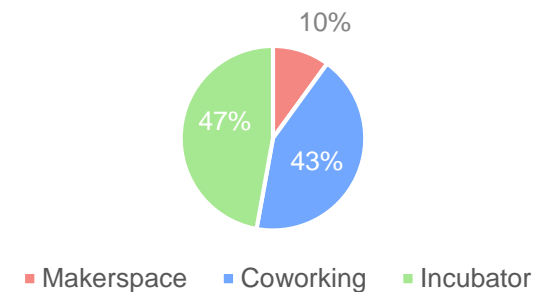
- 1776
- Union Kitchen
- D.C. Fashion Incubator
- Inclusive Innovation Incubator (In3)

REGIONAL CONTEXT: DIFFERENT FORMS OF INNOVATION SPACES

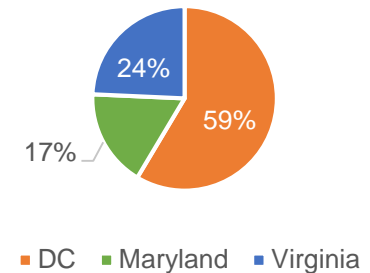
All three primary types of innovation spaces exist in the DC region. Notably, 90% of these spaces are co-working and incubator spaces and only 10% are makerspaces. Approximately 60% of the region's innovation spaces are located within the District of Columbia specifically, and very few of these spaces can be characterized as makerspaces.



Number of Spaces by Innovation Type



Number of Spaces by State/City



REGIONAL CONTEXT: MAKERSPACES

There are only eight current makerspaces in the region: two spaces located in Virginia, four spaces within the District, and two spaces in Maryland.

Regional makerspaces include:

Washington, DC:

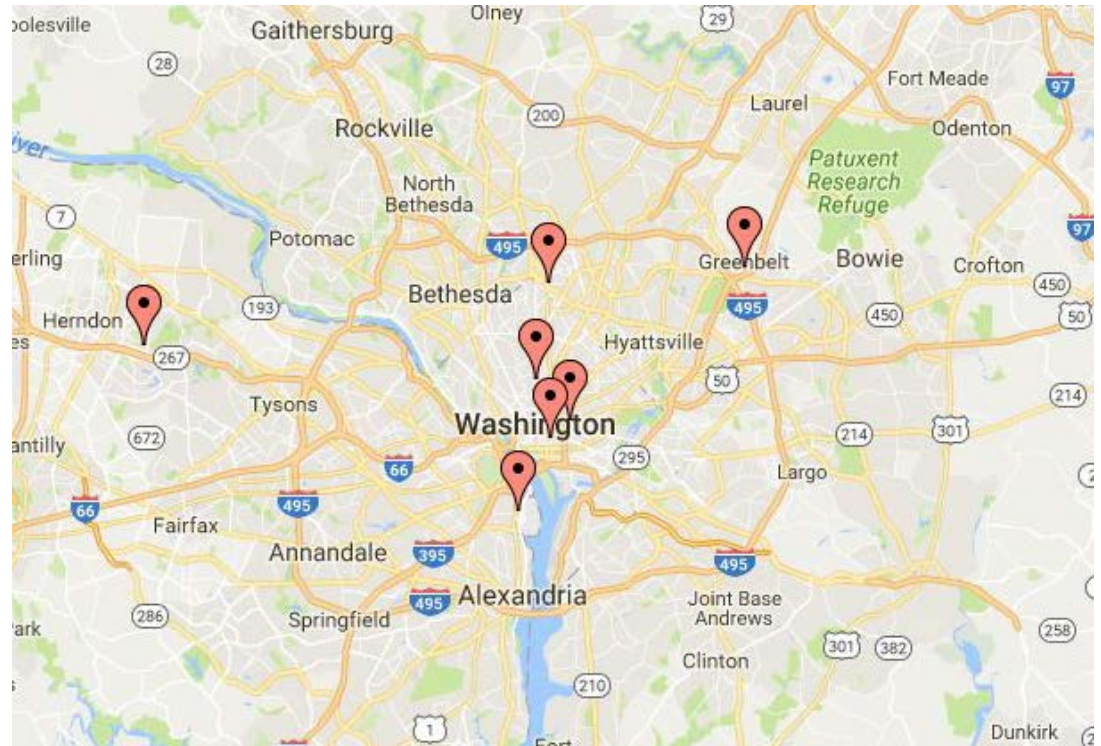
- The Labs at MLK Library
- Fab Lab DC
- HacDC
- Inclusive Innovation Incubator

Virginia:

- TechShop (Crystal City)
- Nova Labs (Reston)

Maryland:

- Catylator Makerspace (Silver Spring)
- Greenbelt Makerspace (Greenbelt)



CURRENT SUPPLY OF MAKERSPACES IN THE DISTRICT OF COLUMBIA

Of the four makerspaces located in DC, each operates within a specific industry and each is predominantly community-serving. This limited supply of makerspaces indicate an opportunity for new, comprehensive makerspaces in the District. However, it should be emphasized that there is little evidence of private investment for makerspaces in DC.

NAME	LOCATION	DESCRIPTION	AMENITIES	PRICE	ORGANIZATIONAL STRUCTURE
INCLUSIVE INNOVATION INCUBATOR (In3)	Pleasant Plains	Community space and incubator that is committed to creating a collaborative environment where members are provided the right tools and access to financial, technical and professional resources. In3 opened in April, 2017.	Programs and services include boot camps, trainings, coding classes, networking best practices, mock interviews, and mentorship programs. Permanent office space and individual desk space is available for rent. There are private meeting rooms and open, public space for collaboration. Workshops and events include rotating classes, pitch competitions, panel discussions, and more.	Drop-in (\$40/visit); open desk (\$300/month); dedicated desk (\$400/month); & private office (\$600/month)	For Profit
FAB LAB DC	Truxton Circle	High-tech fabrication laboratory and community workshop that provides access to digital fabrication technology and offers workshops, events, speakers series, and exhibitions and programming to students, families, and educators.	3D printing, digital fabrication and rapid prototyping technology	Free	Community-supported, with support from Fab Foundation and Chevron®
THE LABS AT MLK LIBRARY	Chinatown	Houses five different specialized maker spaces, Digital Commons FabLab, DreamLab, StudioLab, and MemoryLab	70 public access computers, four computers loaded with software like the Adobe Creative Suite; access to tools like an Espresso Book Machine; and enhanced meeting rooms and gathering spaces aimed at encouraging creation and innovation. Laser Cutter, 3-D Printer, CNC machines, DIWire. Digital Production Lab, Voiceover Studio, Main Production Studio.	Free	Partially financed by Institute of Museum and Library Services
HAC DC	Columbia Heights	Membership-based space that offers equipment for makers who “share a passion for putting old technology to new and creative purposes”. Hosts talks, classes, joint projects, and workshops that are free and open to the public.	Amateur radios, biosignal amplifier, CNC mill, laser cutter, optical table, photolithography PCB Fab, 3D printers, stereoscan scanning electron microscope, full library with technical reference books and publications, amateur radio license manuals, electronic textbooks, programming references, and LiveCDs.	\$60 / month membership	501(c)(3) nonprofit

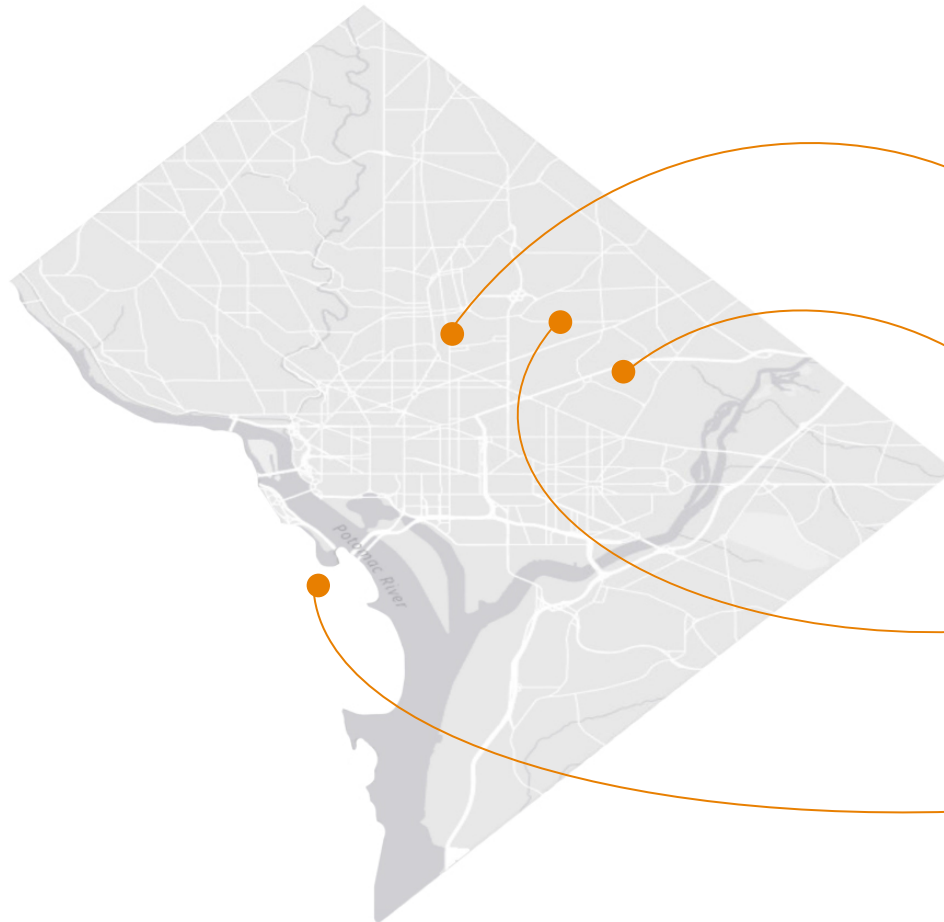
CURRENT SUPPLY OF MAKERSPACES THE REGION

The regional makerspaces are oriented towards the community and emphasize education and outreach with extensive group classes introducing members to concept of making and beginning production skills. A significant amount of programming at Catylator Makerspace, Greenbelt Makerspace, and Nova Labs are geared specifically towards children and teens. This orientation demonstrates a lack of regional supply for makerspaces oriented as industry-serving.

NAME	LOCATION	DESCRIPTION	AMENITIES	PRICE	ORGANIZATIONAL STRUCTURE
TECHSHOP	Crystal City, Virginia	Membership-based workshop that offers instructional classes, events, instruction and coaching from staff, and over \$1 million worth of professional equipment and software	Laser cutting, plastics and electronics labs, machine shop, woodshop, metalworking, textiles department, welding stations, design software, class and conference rooms, project areas with work tables	\$150/month or \$1,650/year	For-profit
CATYLATOR MAKERSPACE	Silver Spring, Maryland	Workshop open by appointment only, offers workspace, technical classes, teen workshops, and camps	Laser cutting, 3D printing and scanning, CAD lab, sewing	Ranging from \$10/hr to \$142 for five visits	Certified local small business with fiscal sponsorship from Fractured Atlas, a national non-profit organization
GREENBELT MAKERSPACE	Greenbelt, Maryland	A nonprofit activity center that offers workspace, camps, classes, and workshops for all ages.	General work area, social area, robotics table, laptops, computer servers, LEGO robotics, arduino, microcontrollers, electronics and soldering equipment, 3D printer, drill press, chop saw, dremel, and loading dock for larger outdoor projects	Membership is free and open to public	Created and operated by GreenSTEMs Inc., a non-profit Maryland corporation.
NOVA LABS	Reston, Virginia	10,500 sq. ft. facility, houses classrooms, workspace, incubator offices and a shop that includes both common tools and advanced fabrication equipment.	3D printing, metalworking, woodworking, design and fabrication software and other fabrication technology	\$50/month; \$100/month for 24/7 access	501(c)(3) nonprofit organization

UNDERSTANDING THE DC CONTEXT: LOCAL MAKERSPACE CASE STUDIES

Four local case studies were selected to demonstrate the current supply and demand for makerspaces in the District. As there are limited traditional makerspaces in the District, the culinary incubators and In3 demonstrate successful models with strong similarities to services provided at a makerspace.



Inclusive Innovation Incubator

This recently opened business incubator focuses on providing support services to entrepreneurs and small businesses. The space is predominately a co-working space and operates on a membership basis.

Union Kitchen

Union Kitchen is the first kitchen incubator in the District and is focused on helping entrepreneurs establish food and beverage businesses and provide continued support as they scale.

Mess Hall

As a culinary incubator, Mess Hall supports new and existing food entrepreneurs by providing shared kitchens, networking opportunities, and industry support.

TechShop

Located in Crystal City, TechShop is a community-oriented makerspace providing workshops and equipment ranging from woodworking to welding to 3D printing.

LOCAL CASE STUDY: TECHSHOP

“Located on Crystal Drive in the center of Crystal City’s Main Street, we are ready to help you build your dreams. We are a community-based workshop and prototyping studio on a mission to democratize access to the tools of innovation. Packed with cutting-edge tools, equipment, and computers loaded with design software featuring the Autodesk Design Suite, we offer the space to make, and the support and camaraderie of a community of makers. TechShop DC-Arlington is made possible by a continued partnership with the Department of Veterans Affairs Center for Innovation (VACI) and the Defense Advanced Research Projects Agency (DARPA).”



Case Study Name

Location: 2110-B Crystal Dr.
Arlington, VA 22202

Type: Makerspace

Physical Amenities: Workshops, retail space, storage, studio space, classrooms, kitchen/social space

Featured Equipment: Welding, woodworking, digital fabrication, sewing, commuter lab

Business Services: n/a

Size: 22,000 SF

Price: \$150 / Month / Member

Funding: Privately funded

Best Practices, Lessons Learned & Implications

- TechShop’s location in Crystal City provides both an exterior and interior storefront of the production space. This increases the visibility of the space. While the majority of makerspaces are often located in industrial areas, this space is located in a retail area.
- Retail space exists in the front of TechShop and provides a small space for makers to sell their product. Most of this space is designated as space to purchase materials necessary for production.
- Membership pricing model does not differentiate between individual members who are using the space as a hobby vs. those operating their business out of the space. The \$150 monthly membership is considered too high for many users and membership prices are often reduced on a case-to-case basis.

LOCAL CASE STUDY: INCLUSIVE INNOVATION INCUBATOR

“In3 is the District of Columbia’s first community space focused on inclusion, innovation and incubation. The incubator is committed to creating a collaborative environment where under-resourced members have access to the space and services needed to build or grow a successful business. In3 will improve the business landscape in the District by providing members with the right tools and access to financial, technical and professional resources.”



Case Study Name

Location: 2301 Georgia Avenue NW

Type: Innovation Incubator

Physical Amenities: Co-working desks, conference rooms

Featured Equipment: n/a

Business Services: Workshops, courses, mentorship

Size: 8,000 SF

Price: \$300 - \$600 / Month / Member

Funding: Public-Private Partnership

Annual Operating Cost: \$1.2 Million

Best Practices, Lessons Learned & Implications

- In3 demonstrates a successful public-private partnership between the District, Howard University, and a for-profit company. The District awarded Howard University and Clearly Innovative an RFP for establishing an inclusive innovation center. The District provided \$1 million towards development costs, Howard University is the property owner, and Luma Labs (of Clearly Innovative) operates the space.
- While the operations of In3 is currently a for-profit business, they are in the process of establishing a non-profit which will provide scholarships and grants to selected businesses enabling participation at In3.
- Services provided at the Inclusive Innovation Incubator are oriented towards entrepreneurs and small businesses, although any individual can be a member of the space. Workshops and events are provided to help educate members on various topics often related to owning and operating a business.
- There is currently only an incubator and while makers may be members, there are no equipment or space specifically allocated towards making and production.

LOCAL CASE STUDY: MESS HALL

“Mess Hall is a culinary incubator in Washington, DC. We support up-and-coming food entrepreneurs by providing commercial kitchens, combined with institutional knowledge and extraordinary opportunities. Mess Hall supports a vibrant and diverse local food community. Our members come together to collaborate, leverage shared resources, and gain access to a breadth of professionals with decades of industry experience. Our 10,000 sq ft facility boasts 4 shared kitchens, walk-in refrigeration, collaborative offices, ample storage, and an expansive event space where food brings people together.”



Case Study Name

Location: 703 Edgewood Street NE

Type: Culinary Incubator

Physical Amenities: 4 shared kitchens, walk-in refrigeration, collaborative offices, storage, event space

Size: 10,000 SF

Price: \$750 (lowest membership level)

Funding: Privately funded

Best Practices, Lessons Learned & Implications

- There are currently over 30 businesses that share four kitchen spaces at Mess Hall. All spaces are shared amongst users and different types of food businesses work side-by-side.
- Additionally, besides the kitchen spaces, there is dedicated space and equipment for packaging, such as bottling, and an area for truck loading and distribution.
- Products are not directly sold on site, however several businesses utilize food courier services to deliver to customers and Mess Hall allows for direct pick-up for these services.
- A large, well-designed entry space has allowed for Mess Hall to host events which provides for additional revenue.

LOCAL CASE STUDY: UNION KITCHEN

“Union Kitchen builds successful food businesses. Our kitchen, distribution company, and grocery stores make up a food system that drives value to food businesses at every stage of growth. Through our expertise and operations, businesses gain access to the opportunities they need to accelerate their success.”



Case Study Name

Location: 1110 Congress St NE & 1369
New York Avenue NE

Type: Kitchen Incubator

Physical Amenities: Shared kitchen space,
storage

Business Services: Distribution, marketing,
vending and catering opportunities, retail
outlets

Price: \$95 - \$4,000/month

Funding: 100% Private

Best Practices, Lessons Learned & Implications

- Supporting over 170 members across two locations, Union Kitchen's comprehensive program helps local businesses through all stages through the production process and helps businesses accelerate to entrepreneurial success.
- In addition to providing commercial kitchen facilities for members, Union Kitchen connects members to vending and catering opportunities, and provides distribution and retail support..
- The distribution arm of the enterprise connects members with retail partners, helping distribute members' products to more than 200 local and national retailers in the Mid-Atlantic.
- The incubator runs off -site grocery stores that sell member's products. These stores are located in small ground-floor retail spaces in highly -trafficked areas of the city to provide visibility of the businesses and attract new customers.

MAKERSPACE ORIENTATION OPPORTUNITY GAP

Types of Makerspace Users (Demand)

Makerspaces and innovation spaces across the country – and even within the DC region – have a wide range of orientations and targeted users. For the purposes of this study, the user demographic and potential membership base are grouped into four categories: (1) residents such as artists who are interested in creating a product (community members); (2) people who are interested in starting a business or part-time

independent business owners looking to transition to full-time (entrepreneurs); (3) newly-formed businesses (start-ups); and (4) established businesses.

Makerspace Orientation Opportunity Gap

There is a particular gap in supply of makerspaces oriented towards serving start-up and established businesses. The two that are oriented towards businesses (Mess Hall and Union Kitchen) are catered specifically to the

food and beverage industry. This indicates an opportunity to serve other makers business niches with a similar model of shared equipment and resources. There is also a clear opportunity for additional sales space and support services for all types of makers businesses.

The makerspaces in DC that cater primarily to the business community are oriented predominantly towards the food industry

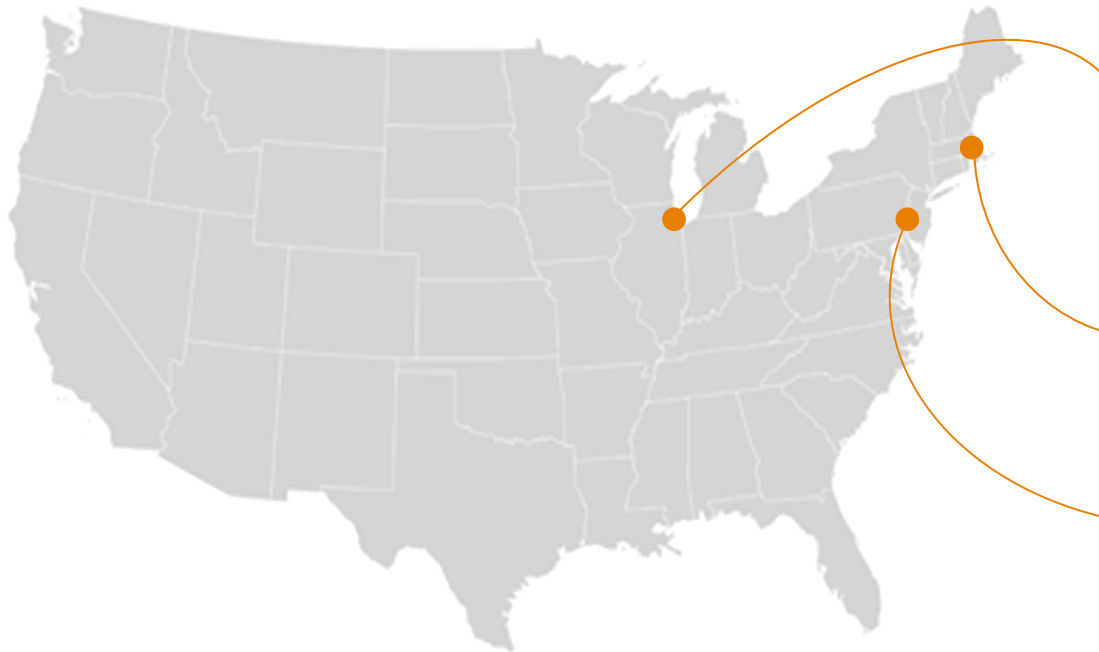
	HOBBYISTS, ARTISTS, & OTHER RESIDENTS	PART-TIME, INTERSEDED IN ENTREPRENUERSHIP	START-UP BUSINESS	ESTABLISHED BUSINESS
PRODUCTION SPACE (INDUSTRIAL)	TechShop MLK Library Catylator Nova Lab Greenbelt Makerspace	Catylator TechShop Union Kitchen Nova Lab	TechShop Union Kitchen Mess Hall	Union Kitchen Mess Hall
CO-WORKING (OFFICE)	TechShop MLK Library	TechShop Union Kitchen In3	TechShop Union Kitchen In3	Union Kitchen In3
SUPPORT SERVICES	TechShop MLK Library Catylator Nova Lab	Union Kitchen TechShop In3 Catylator Nova Lab	Union Kitchen In3	Union Kitchen In3
RETAIL	TechShop	Union Kitchen TechShop	Union Kitchen	Union Kitchen

NATIONAL CASE STUDIES

Three national case studies were identified during this analysis to understand innovative ideas and best practices. These case studies were selected based on four criteria. First, the makerspace had to be in operation as an active space. Second, the program of the case

study space must incorporate the three components of an innovation makerspace: creation, collaboration, and counsel. Third, the makerspace must utilize some form of a successful public-private partnership. Lastly, as makerspaces are developed in all different

types of areas, the case study must be located in a similar market as DC in regards to both demographic considerations as well as the real estate market.



mHUB | Chicago, IL

mHUB, located in Chicago, was created following Mayor Emanuel's Regional Plan for Economic Growth and Jobs, which highlighted the importance of creating, and retaining, manufacturing and production jobs within the city.

Artisan's Aslyum | Boston, MA

Artisan's Aslyum, located in Somerset, is a non-profit community-based makerspace dedicated towards providing support and education to the maker community.

NextFab | Philadelphia, PA

NextFab is a membership-based makerspace that also provides education and start-up programs in addition to professional design, production, and placemaking services. NextFab works with businesses through their incubator and accelerator programs.

NATIONAL CASE STUDY: NEXTFAB | PHILADELPHIA

NextFab is a makerspace located in Philadelphia providing access to tools, technology, education, events, and services for any skill level at a membership-based operation. In addition to being a makerspace, NextFab offers both education and start-up programs as well as professional design, production, and placemaking services. NextFab currently has two locations in Philadelphia and is expanding to Wilmington, Delaware.



Case Study Name

Location: Philadelphia, PA; Wilmington, DE

Type: Maker Space & Incubator

Physical Amenities: Shared workspace, storage

Types of Services: Printing, photography, 3D printing and scanning, design software, electronics, jewelry, laser cutting and engraving, metalworking, textiles, woodworking

Business Services: Accelerator and incubator programs

Best Practices, Lessons Learned & Implications

- NextFab has expanded to three locations, demonstrating success as a model and local maker demand for these types of spaces.
- Each location has a different focus and provides different workspaces rather than including all of the workshops in each location.
- There is a very clear opportunity for contracted services for custom design, prototyping, fabrication, and short-run production services. Additionally, they provide consulting services for product design. These services provide an additional revenue stream for NextFab and creates a clear opportunity for training, guidance, and collaboration.
- NextFab emphasizes businesses and start-ups, not only individual makers.
- NextFab offers a RAPID Hardware Accelerator program, business incubator, and a member's job board. The RAPID Hardware Accelerator program is a 12-week program aimed to help entrepreneurs start their business by providing participants with both business and technical consulting. Four businesses are accepted into the program and NextFab invests approximately \$25,000 in each business.

NATIONAL CASE STUDY: MHUB | CHICAGO

mHUB, located in Chicago, was created following Mayor Emanuel's Regional Plan for Economic Growth and Job which highlighted the importance of creating, and retaining, manufacturing and production jobs within the city.



Case Study Name

Location: Chicago, IL

Type: Maker Space & Incubator

Physical Amenities: 10 Fabrication Labs, Shared workspace, storage

Types of Services: 3D Printer Lab, Assembly, CNC Machining, Electronics, Laser Cutting, Metal Fabrication, Metal Milling, Plastics, Software, Testing, Textiles, Wet Lab, Woodworking Shop

Business Services: One-on-one services

Size: 63,000 SF

Price: \$145 - \$1,250+

Best Practices, Lessons Learned & Implications

- mHub offers Various membership levels: part-time shop (weekends and after-hours - \$145/month); full-time shop (\$200/month); co-working (provided co-working space in addition to shop - \$300/month); reserved desk (dedicated desk in addition to shop - \$385/month); small office (\$1,250/month); daily rate (\$35/day); and office space (ranges from 100-1,800 sf - \$1,250)
 - Partners include: universities (Northwestern University, Illinois Tech); manufacturers/corporate partners (GE Ventures, Marmon, AskPower, Wiegel Toolworks); manufacturing associations (Illinois Manufacturing Excellence Center, Technology Manufacturing Association); entrepreneurial community; early-stage investors; education partners (Chicago Public Schools – Career Technical Education); neighborhood partners (Black Tech Mecca, Women Tech Founders, Instituto del Progreso Lantino); technology partners (AutoDesk, Argonne Labs, UL)
 - Initial investment included \$2 million of equipment; \$22 million in building's original infrastructure
 - Originally started based on an advisory council of manufacturing leaders created by World Business Chicago to implement Mayor Emanuel's Regional Plan for Economic Growth and Jobs. The advisory committee decided that a manufacturing incubator would continue to strengthen Chicago in product innovation and manufacturing. Catalyze Chicago was selected to partner with mHUB based on their experience as a product development incubator.
-

NATIONAL CASE STUDY: ARTISAN'S ASYLUM | BOSTON, MA

“Artisan’s Asylum, Inc., is a non-profit community fabrication center located in Somerville, Massachusetts. Our mission is to support and promote the teaching, learning, and practice of fabrication. Our community shares tools and equipment, offers affordable classes to the public, enjoys flexible membership and workspace, hosts speakers, special events and more”



Case Study Name

Location: Somerville, MA

Type: Fabrication Center

Physical Amenities: Rapid prototyping lab and design center, welding shop, wood shop, CNC shop, machine shop, electronics and robotics, jewelry, bike shop, screen printing, fiber arts

Business Services: Makerspace cultural exchange residency, cooperative associates, artisan grants

Size: 40,000 SF

Price: \$75 - \$175 with varying access and rental permitted

Best Practices, Lessons Learned & Implications

- This community-based makerspace is dedicated towards providing resources and knowledge to the maker community. This is exemplified through their tiered membership structure that enables a wider range of members, their extensive class and speaker series to provide education to the maker community, and unique programs such as their cooperative associates, which allow for makers to exchange volunteer time for memberships, and their makerspace cultural exchange residency, a grant-funded opportunity for makers to travel internationally to foster their making abilities.
 - Artisan’s Asylum offers a comprehensive makerspace with a wide-range of workshops rather than a dedicated industry with the ideology that this fits a community-orientation rather than providing support for only a specific group of makers.
 - Artisan’s Asylum is dedicated to helping the national makerspace community by providing resources and training for the development of makerspaces.
 - This makerspace operates with both paid staff and a board of directors. Key supporters in this makerspace include The William and Karen Tell Foundation, Robert W. Deutsch Foundation, Autodesk, HSMWorks, Element 14, and BS Solidworks.
-

BEST PRACTICES AND IMPLICATIONS

Based on both local and national case studies of makerspaces, four key considerations emerged that are particularly applicable to the development of a makerspace in the District:



Makerspaces are membership-based locations and services.

All makerspaces require a membership to use the space and equipment. These memberships provide a source of revenue for the makerspaces, but also ensure that visitors are properly educated on how to use the equipment. Types and costs of memberships vary based on the services provided.



Makerspaces can be either non-profit or for-profit.

Existing management models demonstrate that both for-profit and nonprofits are applicable operational entities. The selection of this is often dependent on the desired model of the founding partners.



Makerspaces are oriented towards either the community or local industries.

Based on lessons learned from selected case studies, a makerspace can either focus on being community-serving or industry-serving. Both orientations can lead to successful makerspaces, but it is less common to have a space that fully meets the needs of both.



While DC has limited makerspaces, DC's Culinary Incubators demonstrate a successful model.

Facilities such as Union Kitchen and Mess Hall demonstrate applicable models for the development of a District makerspace.

03

Program Scenarios



MAKER TO MARKET PATHWAY

Based on the existing makerspaces in the District and the region, the demand for this type of space, and established City goals, there are three appropriate makerspace scenarios. These three scenarios comprehensively complete the Maker to Market pathway – the process of making from beginning as a hobbyist to establishing a

successful manufacturing business.

The first scenario, a Community-Oriented Makerspace, supports hobbyists' demand for access to shared equipment and context to learn about making. The second scenario, an Industry-Oriented Makerspace, focuses specifically on a select industry(s) with a

space specific to that industry(s) filled with shared equipment. Lastly, Scenario 3, a Maker Showroom and Support Center, does not provide physical space for making, but instead provides support, resources, and retail space for businesses within the maker's market.



SCENARIO 1: COMMUNITY-SERVING MAKERSPACE



Deciding to create a physical product requires the tools and know-how to develop a prototype. Community-oriented makerspaces provide opportunities for individuals as hobbyists to use equipment by

joining as a member. Guidance and education is prioritized in these makerspaces to not only increase awareness of different types of equipment and processes, but also to ensure that the tools are used in a safe manner. While entrepreneurs and small businesses could

operate out of a community-serving makerspace, there is typically little business support services and the first-come, first-served tendency of these spaces makes it difficult to function as a business.

SCENARIO 1: COMMUNITY-SERVING MAKERSPACE



SCENARIO 1 COMMUNITY-SERVING MAKERSPACE

STRENGTHS

- This is an existing, proven model demonstrated in the regional and across the country.
- Being community-oriented, this is an inclusive space and would allow for all types of members.

WEAKNESSES

- There is little emphasis on businesses. While entrepreneurs and businesses are offered memberships, business services are limited.
- Although this is a tried and true model, there is limited opportunity for “innovation”

OPPORTUNITIES

- Currently there is very limited traditional makerspaces directly within the District.

THREATS

- There are existing models within the region which may create competition in the creative economy rather than collaboration between makerspaces.
- The membership prices at regional makerspaces such as Nova Labs in Reston and Greenbelt Makerspace are very low.



SCENARIO 2: INDUSTRY-SERVING MAKERSPACE



Learning to transition from making into producing often requires additional assistance and specific resources.

Existing culinary incubators in the District demonstrate the success of this model. Often, “making equipment” is too costly for entrepreneurs and small businesses to purchase, allowing equipment sharing to be

the best option for their production model. An industry-serving makerspace would provide small businesses and entrepreneurs with access to this equipment. Due to the limited membership of these spaces, these businesses would not have to share the equipment and space with general community members, allowing them to streamline their

process with the specific tools necessary for their craft. In addition, business incubator and accelerator programs may be paired with these spaces to help start-ups and small businesses. This assistance may include, but is not limited to, forming a corporation, creating a business plan, marketing and branding their business, and scaling their company.

SCENARIO 2: INDUSTRY-SERVING MAKERSPACE



SCENARIO 2 INDUSTRY-SERVING MAKERSPACE

STRENGTHS

- This makerspace prioritizes local businesses, which would provide additional fiscal benefits for the District.
- Rather than a generic makerspace, this tailored approach would ensure equipment is used.

WEAKNESSES

- An industry-serving makerspace would only serve one industry rather than the comprehensive maker economy.

OPPORTUNITIES

- Additional demand analysis of interested businesses would need to be conducted to determine the selected industry.

THREATS

- Because this is created for a specialized industry, expansion to additional industries would likely require a new facility.

SCENARIO 3: MAKER SHOWROOM & SUPPORT CENTER

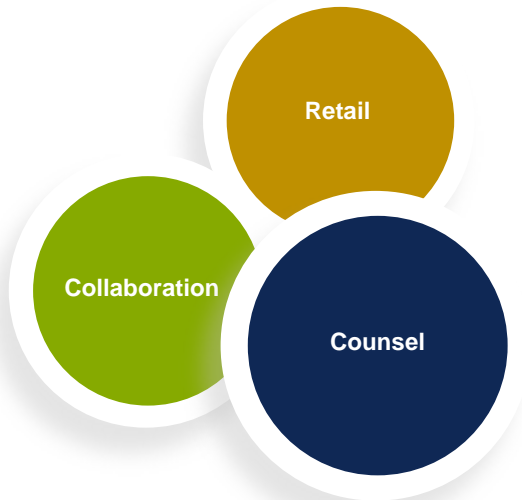


Growing makers businesses must overcome a variety of hurdles in order to remain in the District. As businesses continue to expand production and internal business capacity, businesses may become less interested in shared making spaces, but still need an avenue to market their business

and products. Focused on retail and support services, a makers showroom and support center would provide incubation and accelerator programs for businesses while also providing a physical location for makers to display their goods for retail. While there are clusters of makers throughout the city – such as along Arts Walk in Brookland and in Ivy

City, there are very few spaces that provide resources to makers and a space for collective retail. As businesses become more and more successful, guidance and resources for these businesses is crucial for them to continue to locate their production within the District rather than moving outside of the city.

SCENARIO 3: MAKERS SHOWROOM & SUPPORT CENTER



SCENARIO 3 MAKERS SHOWROOM & SUPPORT CENTER

STRENGTHS

- This space would support existing businesses and encourage new makers.
- Because this would be a smaller space, it would be quicker to open and require fewer resources.
- The program would emphasize retail – a service that would market local businesses and the creative economy.

WEAKNESSES

- This programmatic scenario does not include an actual makerspace which may be of interest politically.

OPPORTUNITIES

- Although this space would not start with a production space, the center could eventually expand into a makerspace with manufacturing space as the maker industry is promoted.

THREATS

- There are currently existing incubation services in the District that makers may already participate in.

SUMMARY: MAKERSPACE SCENARIOS



SCENARIO 1: COMMUNITY-SERVING MAKERSPACE

A community-serving makerspace provides a wide range of equipment and services aimed at helping hobbyists, artists, and entrepreneurs visualize or develop a product. This scenario follows the traditional makerspace model as identified by existing regional makerspaces such as TechShop in Arlington, Virginia. Emphasis would be placed on educating the membership community about both the creative and making process as well as the equipment and necessary techniques to foster making.



SCENARIO 2: INDUSTRY-SERVING MAKERSPACE

An industry-specific makerspace provides coworking space and equipment specific to small businesses within a select type of industry. This industry would be selected based on market demand and interested businesses. Emphasis would be placed on machinery and equipment appropriate for this type of industry, creating a tailored makerspace to a specific need rather than a one-size fits all approach. Although this space would likely begin targeted to an identified industry, as this model is successful in the District, it could expand and grow into additional industries within the site or at different locations.



SCENARIO 3: MAKERS SHOWROOM AND SUPPORT CENTER

A makers showroom and support center would not include any manufacturing or heavy production space, and instead provides high-quality and well-trafficked retail space, a range of business support services, and shared uses such as offices and conference rooms. Although this space would not have the manufacturing making space, the makerspace could provide network and connection to manufacturing services. This physical space emphasizes retail more than the other scenarios and would be branded for more consumers and customers. Potential shared support services include marketing, website development, and licensing.

04

Creating a Makerspace



CREATING A MAKERSPACE

Regardless of the type of makerspace selected for the District, several factors must be considered when determining how to create a makerspace. These factors include operations, administrative model, projected revenue, desired and required equipment, site considerations, preferred locations, and development and build-out costs.

Combined with the supply-demand analysis as well as political support, these factors will help guide the selection of the makerspace scenario(s). This following section provides the framework for all three scenarios to demonstrate the implications of each as well as guide the future development based on any selection.



There are seven key questions necessary to answer to when creating a makerspace:

1. **What are the anticipated annual operating costs and considerations?**
2. **Will the operating entity be a non-profit organization or for-profit business?**
3. **What is the anticipated annual revenue for the makerspace?**
4. **What will the makerspace be like? What is the physical programming of the space and necessary equipment?**
5. **Where should the makerspace be located in the site? What are optimal sites?**
6. **How much will it cost to develop a makerspace?**
7. **What will the economic impact of the makerspace be?**

OPERATING A MAKERSPACE

All makerspaces require an operating entity. This entity can either be a non-profit organization or a for-profit business. There are advantages and disadvantages for both types of administrative models.

A for-profit makerspace is typically created through private investment. However, notably, spaces such as Howard's Inclusive Innovative Incubator, although operating as a for-profit, received support through public-private partnerships. For-profit makerspaces typically rely on membership fees as their main source of revenue but could also provide incubator or accelerator services for a fee to generate additional revenue.

On the other hand, **non-profit makerspaces typically rely heavily on grant-seeking and fundraising to cover operating costs of the makerspace.** Grants available through government agencies can help implement city initiatives and develop and/or operate a makerspace.

Because both administrative models are applicable to creating this makerspace, selecting a model essentially comes down to two questions:

1. What is the desired model for key partners and players?
2. Is one model more applicable for the District to channel resources for investment and support?

Major operating costs for a makerspace include building and property expenses, salary and benefits, insurance, and equipment maintenance.

Regardless of the selected scenario, all options will require fixed operating costs such as rent, building maintenance, property tax, and utilities. In addition, all makerspaces (unless 100% volunteer-based – which would not be recommended) need on-site makerspace staff which will require salaries and benefits. If instructors are needed for classes and/or workshops, their fees must also be considered.

Based on estimated operating costs, a makerspace will likely cost between \$500,000 to \$2 million to operate annually. The size of the space, amount of equipment, and number of staff largely influences the projected costs. The following page details the operating projections.

ESTIMATED ANNUAL OPERATING COSTS

TYPICAL ANNUAL OPERATING COSTS	ASSUMPTIONS AND CONSIDERATIONS	SCENARIO 1 COMMUNITY-SERVING MAKERSPACE	SCENARIO 2 INDUSTRY-SERVING MAKERSPACE	SCENARIO 3 MAKERS SHOWROOM & SUPPORT CENTER
RENT	Rent may range from approx. \$18-30 / SF per year depending on the location, building condition, special amenities, and size. Building maintenance and property tax are additional costs considerations not included and will vary based on structure of lease.	\$240,000 - \$960,000	\$120,000 - \$960,000	\$72,000 - \$192,000
UTILITIES	Utilities may include, but are not limited to: electricity, natural gas, trash removal, and internet.	\$40,000 - \$150,000	\$20,000 - \$150,000	\$15,000 - \$35,000
SALARIES	Assumed range of 3 to 12+ full-time jobs; Estimated costs based on approximate average DC salaries	\$265,000 - \$765,000	\$230,000 - \$715,000	\$230,000 - \$715,000
INSURANCE	Insurance includes liability & property, umbrella, workers comp, etc. Estimated costs based on building size, salaries, and total insurance costs.	\$60,000 - \$180,000	\$50,000 - \$170,000	\$50,000 - \$160,000
BENEFITS	Health insurance, benefits, and payroll tax are estimated based on the number of employees and projected monthly salaries.	\$55,000 - \$100,000	\$50,000 - \$95,000	\$50,000 - \$95,000
TOOL MAINTENANCE	Based on best practices, est. costs range from \$1,000 - \$2,000 per month but will vary depending on amount and type of equipment.	\$6,000 - \$12,000	\$6,000 - \$12,000	\$0
TOOL CONSUMABLES	Based on best practices, estimated costs range from \$2,400 - \$3,200 per month but will vary depending on amount and type of equipment.	\$14,000 - \$20,000	\$14,000 - \$20,000	\$0
INSTRUCTORS	Outside instructors are typically brought in to teach classes and workshops. Best practices indicate typical instructor fees range from \$25-\$75 per class. Total costs will vary due to number of classes offered per year.	\$1,000 - \$10,000	\$1,000 - \$10,000	\$1,000 - \$10,000
TOTAL ANNUAL OPERATING COST:		\$681,000 - \$2.2 mil.	\$491,000 - \$2.1 mil.	\$418,000 - \$1.2 mil.

Note: These operating costs are rough estimates for potential scenarios. Variables include location of site, square footage of building, number of employees, specific equipment and workshops, and various programming such as number of classes offered throughout the year. Additional services such as on-going marketing, typical office supplies, branding, and membership outreach have not been included in the operating costs.

REVENUE MODELS FOR MAKERSPACES

Makerspaces typically structure a multi-faceted revenue model to cover the costs of operations.

Based on best practices and lessons learned, there are three key factors to consider when structuring a revenue model for a makerspace. First, revenue models depend on the operating

entity and administrative model. For example, non-profit makerspaces rely much more heavily on grants and sponsorships while these opportunities may be limited in for-profit businesses. Second, revenue models vary when considering if the makerspace is oriented towards the community or industries. Community-serving makerspaces rely on obtaining a strong membership base so that

the rate is affordable, while industry-serving makerspaces often have higher priced business rates. And lastly, revenue models are tailored towards the specific operating costs of the makerspace to ensure adequate revenues. The most common sources of revenue, applicable to all three programmatic scenarios, are as follows:

Memberships

Both community and industry-oriented makerspaces operate on a membership basis. Regional community makerspaces range from free enrollment to \$175 monthly charges. Additional fees often include training sessions and certification prior to use of machinery. Industry-specific makerspaces, such as the culinary incubators, memberships typically cost around \$1,000 per month.

Incubator Programs

Makerspaces often provide incubator programs for additional revenue. However, industry-specific makerspaces typically roll these services into their membership structure. Nonprofit makerspaces often offer grants for businesses and/or entrepreneurs for participation in these programs.

Grants & Sponsorship

To keep membership rates affordable, manage operational costs, and maintain up-to-date equipment, makerspaces, especially non-profit organizations, typically seek grants and sponsorships.

Special Programs, Classes, & Workshops

For additional revenue, increased awareness of makers, and marketing membership, makerspaces often provide workshops and classes open to both members and the public. These programs range from specific equipment training to making a specific product to business services. In this market, classes and programs range from free to \$150+ per class.

Event Space Rental

To provide additional revenue for makerspaces during off-peak hours and/or increase awareness of the makerspace to market memberships, makerspaces typically allow for space rental for private events. Additional events such as pop-up shops, holiday markets, and maker-faires can help showcase the makers and provide on-site retail.

PHYSICAL ATTRIBUTES OF MAKERSPACES

Each programmatic scenario requires different types of spaces for a successful makerspace.

Spatial allocation is dependent on the selected scenario, targeted industries, and maker demand. The following spaces are recommended:

TYPES OF SPACES	CONSIDERATIONS	SCENARIO 1 COMMUNITY-SERVING MAKERSPACE	SCENARIO 2 INDUSTRY-SERVING MAKERSPACE	SCENARIO 3 MAKERS SHOWROOM & SUPPORT CENTER
RECEPTION	Typically 50-50 SF; Check-in desk	Yes	Yes	Yes
RETAIL	Allocated retail space dependent on selected location.	No	Yes	Yes
PRODUCT DISPLAY	Located near the reception area	No	Yes	Yes
WORKSPACE	Based on number of workshops, equipment demand, and membership	Yes	Yes	No
STORAGE	Storage space could vary from lockers for rent to small rooms accommodating pallets	Yes	Yes	No
CLASSROOMS	400–1,000 SF per classroom to accommodate approx. 20 students	Yes	No	No
STUDIO RENTAL	Typically reserved open desk space	Yes	Yes	Yes
OFFICE RENTAL	Reserved private offices	No	Yes	Yes
SOCIAL SPACE	Lounge area, kitchen, shared conference rooms	Yes	Yes	Yes
DISTRIBUTION	Dependent on the selected industry	No	Yes	No
RECOMMENDED BUILDING SIZE:		10,000 – 40,000 SF	5,000 – 40,000 SF	3,000 – 8,000 SF

MAKERSPACE EQUIPMENT

Makerspaces typically organize their workspace by “shops” for each industry. The most common shops at makerspaces include, but are not limited to, rapid prototyping, welding, CNC, woodworking, textiles, jewelry,

and machinery. Equipment varies from makerspace to makerspace, especially in makerspaces that are oriented towards a particular industry (for example, a furniture makerspace will likely only have woodworking

and welding equipment) and the quantities of equipment varies from space to space. The following identified equipment are common in makerspaces:

Equipment

- 3D Printer
- Laser Cutter
- Vinyl Cutter
- Design Software
- Computers
- Plotters

Rapid Prototyping

Equipment

- TIG Welders
- MIG Welders
- Spot Welders
- Plasma Cutter
- Rig
- Cut-off Saw
- Bench Grinder
- Sanders
- Sand Blaster
- CNC Router
- CNC Water Jet

Welding & CNC

Equipment

- Planer
- Jointer
- Table Saws
- Band Saw
- Miter Saw
- Wood Lathe
- Drill Press
- Scroll Saw
- Sanders
- Hand Held Tools

Woodworking

Equipment

- Sewing Machines
- Lockstich
- Digitizer Embroiderer
- Plotter
- Cutting Table
- Soldering Station
- Vacuum Casting Machines
- Wax Injector
- Polishing Machine
- Ultrasonic Cleaner
- Durston Rolling Mill

Textiles & Jewelry

Equipment

- Mill
- Lathe
- Bandsaw
- Jump Shear
- Drill Press

Machine Shop

Note: This equipment list is intended only to provide a framework of the types of equipment standard and common in makerspace s. Final equipment lists will vary based on selected development scenario, selected site and building, and availability of resources.

DETAILED EQUIPMENT LIST

While there are industry leaders for the vast majority of equipment, prices can vary dramatically for equipment depending on the quality and whether it's intended for industrial use. Typical start-up equipment investment ranges from approximately \$500,000 to \$2 million per makerspace depending on the amount of equipment and desired shops. Nonprofit makerspaces can receive sponsorship and donations from equipment manufacturers and distributors which will impact the investment costs.

- **3D Printer** | *Makerbot, 3D Systems* | \$1,500 - \$5,000
- **Lasers Cutter** | *Epilog Laser* | \$26,000
- **Vinyl Cutter** | *Rolands* | \$2,100
- **Design Software** | *AutoDesk, Adobe* | Varies
- **Computers** | *Dell, Mac* | \$1,000
- **Plotters** | *HP* | \$1,500 - \$4,000
- **TIG Welders** | *Eastwood* | \$500 - \$1,500
- **MIG Welders** | *Eastwood* | \$300 - \$500
- **Spot Welders** | *Eastwood* | \$700 - \$5,000
- **Plasma Cutter** | *Victory Plasma* | \$58,000
- **Rig** | *Lincoln Electric* | \$5,000 - \$15,000
- **Cut-off Saw** | *Makita* | \$200 - \$1,200
- **Bench Grinder** | *Dayton* | \$1,300
- **Sanders** | *3M* | \$200 - \$900
- **Sand Blaster** | *Cyclone* | \$800 - \$1,200
- **CNC Router** | *ShopBot* | \$23,000 - \$43,000
- **CNC Waterjet** | *Multicam* | \$11,000 - \$28,000
- **Planer** | *Powermatic* | \$3000 - \$6,500
- **Jointer** | *Powermatic* | \$2,200 - \$6,800
- **Table Saws** | *Powermatic* | \$1,500 - \$5,000
- **Band Saw** | *Baileigh Industries* | \$3,000
- **Miter Saw** | *Baileigh Industries* | \$1,700 - \$3,500
- **Wood Lathe** | *Powermatic* | \$7,500
- **Drill Press** | *Jet* | \$1,200 - \$3,400
- **Scroll Saw** | *Dewalt* | \$500
- **Sanders** | *Varies* | Varies
- **Hand Held Tools** | *Varies* | Varies
- **Sewing Machines** | *Juki* | \$700
- **Lockstich** | *Yamata* | \$600
- **Digitizer Embroider** | *Brother* | \$600
- **Plotter** | *HP* | \$800 - \$2,500
- **Cutting Table** | *Varies* | \$350 - \$500
- **Soldering Station** | *JBC Tools* | \$1,600
- **Vacuum Casting Machines** | *Gesswein* | \$2,100 - \$3,800
- **Wax Injector** | *Arbe Machine* | \$500 - \$900
- **Polishing Machine** | *Gesswein* | \$300 - \$500
- **Ultrasonic Cleaner** | *Ultrasonic* | \$400
- **Durston Rolling Mill** | *Durston* | \$600 - \$3,200
- **Mill** | *Jet* | \$6,000
- **Lathe** | *Jet* | \$5,300 - \$7,000
- **Bandsaw** | *Eastwood* | \$2,400 - \$2,900
- **Jump Shear** | *Grizzly* | \$1,200 - \$1,500
- **Drill Press** | *Baileigh Industries* | \$4,000

Note: This equipment list is intended only to provide a framework of the types of equipment standard and common in makerspace s. Final equipment lists will vary based on selected development scenario, selected site and building, and availability of resources.

SITE SELECTION

When determining an optimal site for this makerspace, there are four key groups of considerations: the building itself, the site, location or neighborhood, and ownership of the parcel. Site considerations for each of the three scenarios vary as follows:



SCENARIO 1

COMMUNITY-SERVING MAKERSPACE

A traditional, community-serving makerspace would be best suited for a large industrial or light industrial property. However, particular attention should be placed on the location being accessible and marketable to help attract membership.

Possible sites include, but are not limited to:

- *The Crummel School Site*
- *2030 West Virginia Avenue NE*
- *1369 New York Avenue NE*
- *2260 25th Place NE*



SCENARIO 2

INDUSTRY-SERVING MAKERSPACE

An industrial, or light industrial, parcel would be optimal for a industry-specific makerspace. Because this makerspace is oriented towards production and businesses, emphasis should be placed on property with loading dock infrastructure and truck access to help the viability of small-scale distribution. Locating in an existing warehouse or manufacturing space would be optimal for this type of makerspace.

Possible sites include, but are not limited to:

- *1900 & 2000 Kendall Street NE*
- *2210-2230 Adams Place NE*
- *3100-3180 V Street NE*
- *The Crummel School Site*



SCENARIO 3

MAKERS SHOWROOM & SUPPORT CENTER

Given the emphasis on retail and showcasing the makers this scenario supports, a commercial site would be the most optimal for this particular development. This site should allow for adequate foot traffic and serve as a landmark for the creative economy within the District.

Possible sites include, but are not limited to:

- *1824 Fenwick Street NE*
- *1900 Kendall Street NE*
- *2000 Kendall Street NE*
- *The Crummel School Site*

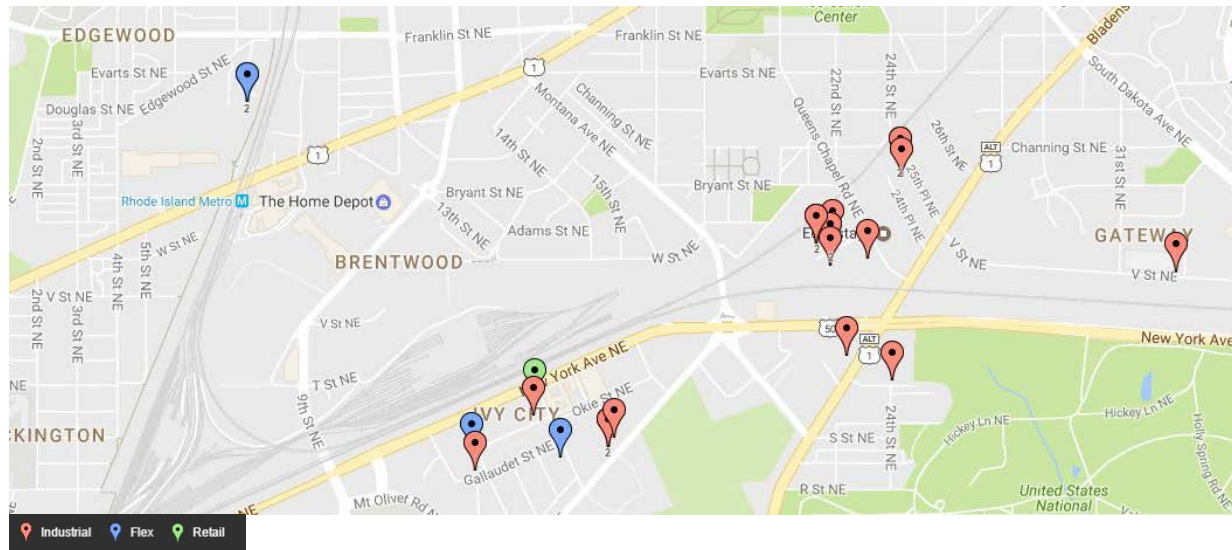
SITE CRITERIA MATRIX

	CRITERIA	CONSIDERATIONS	SCENARIO 1 COMMUNITY-SERVING MAKERSPACE	SCENARIO 2 INDUSTRY-SERVING MAKERSPACE	SCENARIO 3 MAKERS SHOWROOM & SUPPORT CENTER
BUILDING	EXISTING BUILDING	Simple build-out will expedite development	Yes	Yes	Yes
	BUILDING SIZE	Square footage dependent on selected scenario	10,000 – 40,000 SF	5,000 – 40,000 SF	3,000 – 8,000 SF
	OPEN FLOOR PLAN	Allow for equipment and required ventilation	Yes	Yes	Not Applicable
	TALL CEILINGS	Allow for equipment and required ventilation	Yes	Yes	Not Applicable
SITE	PROPERTY TYPE	Appropriate land use will eliminate need for rezoning	[Light] Industrial	[Light] Industrial	Commercial
	LOADING DOCKS	Access for equipment, materials, and distribution	Yes	Yes	Not Applicable
	RETAIL VISIBILITY	Necessary if program includes storefront retail	Not Applicable	Not Applicable	Yes
LOCATION	WARD	Locating in Ward 5 will satisfy city initiatives	Ward 5	Ward 5	Ward 5
	EXPANSION OPPORTUNITY	Ability to expand as makerspace is successful	Yes	Yes	Not Applicable
	SYNERGY WITH MAKERS	Leads towards establishing an “innovation district”	Yes	Yes	Yes
OWNERSHIP	DC OWNED	If Preferred by the City	If Preferred by the City	If Preferred by the City	If Preferred by the City
	PRIVATELY OWNED	If Preferred by the City	If Preferred by the City	If Preferred by the City	If Preferred by the City
	AVAILABLE	Available property will expedite development	Yes	Yes	Yes

CURRENTLY AVAILABLE PRIVATELY-OWNED PROPERTY

Available property was assessed to understand the types of sites and spaces optimal for a makerspace. There are currently almost two dozen potential sites located in Ward 5 that could feasibly become a makerspace.

Locating in this area would help preserve industrial property in the city and further signify this area as a symbol of the creative economy. Synergies with existing makers and local businesses in the area would help the success of a makerspace.



Selecting a Site

The following questions are applicable when determining the ideal site and the role of the District:

- Is the city interested in providing land and/or property for the build-out of a makerspace?
- To what extent does the city want to use underutilized city-owned property for this makerspace?
- Based on available resources and political support, is the District best positioned to own and/or operate a makerspace?
- What district resources are available to support the implementation of a makerspace in the District?

INVENTORY OF CURRENTLY AVAILABLE PRIVATELY-OWNED PROPERTY

This privately-owned available site inventory demonstrates applicable development opportunities. Five sites were selected to showcase the range of available property and their corresponding strengths and weakness for use as a makerspace.

ADDRESS	USE	SPACE AVAILABLE	RENT SF/YR	DOCKS?	CEILING HEIGHT	SCENARIO 1	SCENARIO 2	SCENARIO 3
2260 25TH PL NE	Industrial	9,313	\$11.95 / nnn	Yes	12'0"-14'0"	X	X	
1920 BLADENSBURG RD NE	Industrial	49,111	For Sale Only	Yes	10'6"-11'6"		X	
1824 FENWICK ST NE	Flex	4,000	\$27.00 / nnn	None	n/a			X
1900 KENDALL ST NE	Industrial	3,000-7,000	\$29.95 / nnn	Yes	12'0"-16'0"		X	X
2000 KENDALL ST NE	Flex	2,600	\$30.00 / n	None	n/a		X	X
1360 OKIE ST NE	Industrial	5,893	\$25.96 / tbd	None	n/a			
2142 QUEENS CHAPEL RD...	Industrial	14,824/800 ofc	\$18.00 / nnn	None	18'0"		X	
2400 T ST NE	Industrial	7,100	\$15.00 / nn	Yes	15'0"		X	
2034 WEST VIRGINIA AVE NE	Industrial	8,112	\$25.00 / mg	Yes	13'0"		X	
2266 25TH PL NE	Industrial	6,500-27,483	n/a	Yes	14'0"-16'0"		X	
2210 ADAMS PL NE	Industrial	13,000-17,000	n/a	Yes	16'0"		X	
2215 ADAMS PL NE	Industrial	27,535	n/a	None	18'0"		X	
2219 ADAMS PL NE	Industrial	20,000-20,985	n/a	None	n/a		X	
2230 ADAMS PL NE	Industrial	24,000	n/a	None	15'0"		X	
705 EDGEWOOD ST NE	Flex	25,465-46,744	n/a	Yes	15'0"		X	
1369 NEW YORK AVE NE	Retail	7,500 div	n/a	None	12'0"-14'0"	X	X	
3100-3180 V ST NE	Industrial	23,500/5,462 ofc	n/a	Yes	12'0"-18'0"		X	
2030 WEST VIRGINIA AVE NE	Industrial	16,000	n/a	Yes	12'0"	X	X	

POTENTIAL SITE PROFILE: CRUMMEL SCHOOL SITE

Crummel School Site

Property Type: Vacant

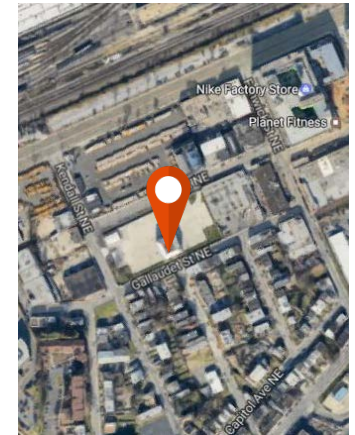
Available Space: n/a

Rent: n/a

Loading Docks: No

Ceiling Height: n/a

Most Applicable Scenario: Scenario 1



Strengths & Considerations

- The Crummel School Site is located within the New York Avenue Great Streets Corridor in close proximity to Union Market, Union Station, and H Street. Designated as a DC Landmark and listed in the National Register for Historic Places, the Crummel School is a prized building in the community and redevelopment efforts are currently underway.
 - This site is currently owned by DC and an RFP has been administrated to determine potential developers. The community identified job training as well as an innovation center and meeting space as priorities for the building program. These uses strongly synergize with the development of an Innovation Hub.
 - The community has expressed concern with abundant manufacturing in this neighborhood. Sustainable standards would have to be further considered. Redevelopment of this school into a makerspace embodies the notion of education, preserving the character of the building. Additional redevelopment will likely occur on site, providing opportunities for more synergies with future uses.
-

POTENTIAL SITE PROFILE: 1824 FENWICK STREET NE

1824 Fenwick Street NE

Property Type: Flex

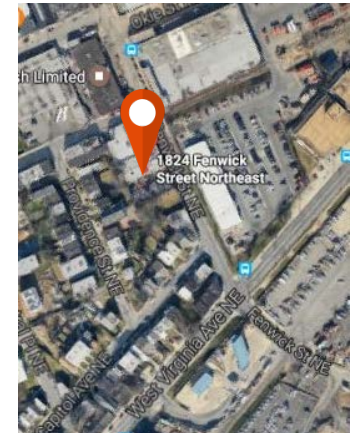
Available Space: 4,000 SF

Rent: \$27.00 / NNN

Loading Docks: No

Ceiling Height: n/a

Most Applicable Scenario: Scenario 3



Strengths & Considerations

- Positioned next door to the Green Hat Distillers, 1824 Fenwick Street NE is well suited as a location to meet makers needs and provide retail. Given recent development and planned and proposed projects in this area, redevelopment of this site could help catalyze this area while retaining industrial property.
 - The adjacent parking and site could provide adequate space for seasonal pop-up events.
 - Because the building on site is only 4,000 SF, this location is not suitable for the development of an actual makerspace.
-

POTENTIAL SITE PROFILE: 2210 ADAMS PLACE NE

2210 Adams Place NE

Property Type: Industrial

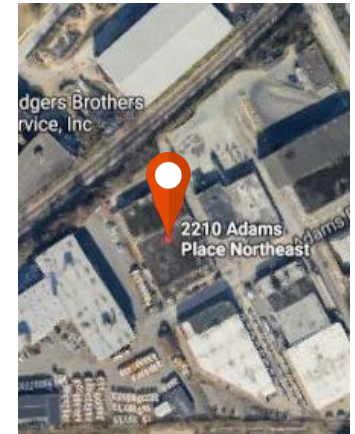
Available Space: 13,000 – 17,000 SF

Rent: n/a

Loading Docks: Yes

Ceiling Height: 16' – 18'

Most Applicable Scenario: Scenario 2



Strengths & Considerations

- Located in a manufacturing/warehouse area, this site would be optimal for an industry-serving makerspace. The structure of the building with high ceiling heights, previous industrial uses, and the presence of loading docks lends the site towards production.
- Because of the lack of visibility and the lack of access to this site, it would not be optimal for a community-serving makerspace. These factors also prohibit successful retail outside of statically-targeted events and would not be a suitable location for a center to support makers needs and provide services.

POTENTIAL SITE PROFILE: 3100 V STREET NE

3100 V Street NE

Property Type: Industrial

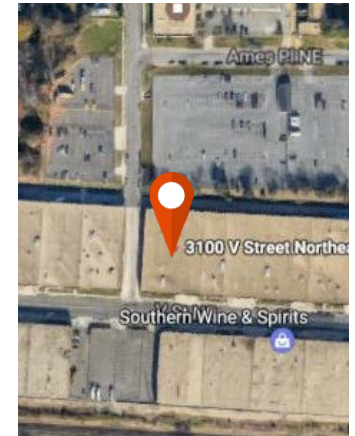
Available Space: 23,500 SF

Rent: n/a

Loading Docks: Yes

Ceiling Height: 12' – 18'

Most Applicable Scenario: Scenario 2



Strengths & Considerations

- This site is located in a manufacturing and warehouse district. Benefits of this site include the loading docks and pre-existing conditions suitable for light industrial use. Adjacent bays may allow for expansion should the makerspace be successful.
- Because it is surrounded by warehouses, this site is optimally accessible by vehicle and may not be best suited for a community-use. Additionally, the location and lack of visibility indicate that this site is not optimal for retail use.

POTENTIAL SITE PROFILE: 2030 WEST VIRGINIA AVENUE NE

2030 WEST VIRGINIA AVENUE NE

Property Type: Industrial

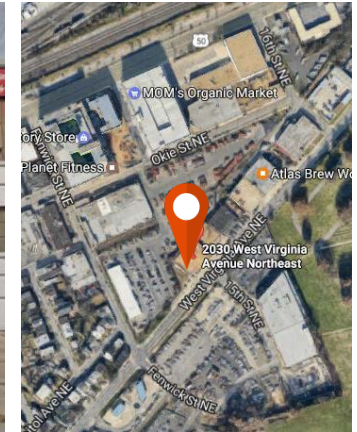
Available Space: 16,000 SF

Rent: n/a

Loading Docks: Yes

Ceiling Height: 12'

Most Applicable Scenario: Scenario 1



Strengths & Considerations

- This site's location near recent redevelopment positions itself well for a community-oriented makerspace. Adequate square footage, presence of loading docks for access, previous industrial use, and location in a walkable environment, all indicate potential for a successful redevelopment of this site for a makerspace.
 - The site's location in Ivy City could help foster a makers and innovation district as Union Kitchen and several local manufacturing/production businesses are located in this area.
 - Additionally, this site could also become an industry-serving makerspace.
-

INITIAL DEVELOPMENT AND STARTUP COSTS

Many of the characteristics with the strongest impact on development and startup costs are yet to be determined for the Innovation Space and Marketplace. Once a development

scenario has been defined and the space's orientation, size, location, and other factors have been planned, a detailed, program-specific cost analysis should be undertaken.

Depending on program scale, location, partnership structure, and development process, startup costs may range considerably.

TYPES OF STARTUP COSTS	ASSUMPTIONS AND CONSIDERATIONS	SCENARIO 1 COMMUNITY-SERVING MAKERSPACE	SCENARIO 2 INDUSTRY-SERVING MAKERSPACE	SCENARIO 3 MARKETPLACE AND SUPPORT SERVICES
SITE ACQUISITION	<ul style="list-style-type: none"> Cost varies considerably depending on location, size, etc. No cost if city-owned 	\$750,000 - \$6 million	\$200,000 - \$1 million	\$1.2 m - \$5 million
SITE PLANNING AND DESIGN	<ul style="list-style-type: none"> Cost varies considerably depending on location, size, etc 	\$500,000 - \$2.8 million	\$350,000 - \$2.8 million	\$200,000 - \$600,000
BUILDING CONSTRUCTION OR RENOVATION	<ul style="list-style-type: none"> Assumption: space will be renovated rather than new construction 	Undetermined	Undetermined	Undetermined
EQUIPMENT	<ul style="list-style-type: none"> Equipment costs Installation costs 	\$500,000 - \$2 Million	\$500,000 - \$2 Million	\$0
MARKETING AND OUTREACH	<ul style="list-style-type: none"> Marketing and branding Membership campaign Fundraising campaign 	Undetermined	Undetermined	Undetermined
STAFFING, TRAINING, AND PROGRAM DEVELOPMENT	<ul style="list-style-type: none"> Staffing and training Program development 	\$265,000 - \$765,000	\$230,000 - \$715,000	\$230,000 - \$715,000
TOTAL		\$2.0 - \$11.5 million	\$1.3 - \$6.5 million	\$1.6 - \$6.3 million

POTENTIAL PARTNERS

Developing and operating a successful makerspace requires extensive partnerships to provide support during both the initial start-up and development of the makerspace as well as annual operating factors. City agencies, local institutions, industry leaders, existing incubators, and the makers community must work together to understand each group's needs, interests, resources, and capacity to partner.



City Agencies

DC city agencies could fulfill a variety of different roles including:

- Operating a makerspace
- Marketing for the makerspace through Made in DC
- Providing property for the development of a makerspace
- Allocating grants to entities who may operate the makerspace



Institutions

Local institutions such as education centers and universities may form a partnership to:

- Increase membership through student bodies
- Guide the makerspace in operations based on existing knowledge of their own innovation centers
- Bolster their existing centers and capacity

National institutions could also play a role by:

- Providing grants for development and operational costs



Industry & Corporate Leaders

Industry leaders and nationwide business often provide resources for makerspaces including:

- Donate equipment
- Sponsor and provide monetary contributions for operations



DC Accelerator and Incubators

Existing accelerator and incubator programs can help:

- Operate a makerspace
- Expand their program into makerspace and establish additional networks for their businesses
- Provide guidance on operating an incubator or accelerate within a makerspace
- Identify industry demand

POTENTIAL PARTNERS

After understanding the political support for the different proposed scenarios, the District should reach out to local stakeholders and organizations interested in supporting the development of a makerspace. This outreach could be conducted through surveys to understand support and interest, charrettes to

hold creative dialogue regarding the needs and avenues for partnership, and roundtable discussions. Following this outreach, key participants should be identified as potential partners with follow-up dialogue. As an additional strategy for creating partnerships, the District could solicit partnerships through

grants and RFPs targeted for the operation and development of this space. The following chart identifies some of potential strategic partnerships. Each should be engaged regardless of the makerspace program scenario or orientation.

 <h2>City Agencies</h2> <ul style="list-style-type: none">• Deputy Mayor's Office for Planning and Economic Development• Department for Small and Local Businesses• Office of Planning• Made in DC• Commission of the Arts and Humanities• Department of Public Works• DC Department of Employment Services	 <h2>Institutions & Initiatives</h2> <ul style="list-style-type: none">• Local education institutions, such as Gallaudet University• The Beeck Center at Georgetown for Social Impact and Innovation• Ford Foundation• 202 Creates• Washington, DC Economic Partnership• Ciocca Center for Principled Entrepreneurship at Catholic University• S&R Foundation	 <h2>Industry & Corporate Leaders</h2> <ul style="list-style-type: none">• Autodesk• ShopBot• HSMWORKS• Epilog Laser• Sparkfactor.org• MathWorks• Element 14• Etsy	 <h2>Accelerator and Incubators</h2> <ul style="list-style-type: none">• Accelerate DC, GP Tech Labs, Springboard Enterprises, Cultivate Ventures, DC I-Corps Accelerator, Fortify Ventures, Maurice Electrical Work Space, The HIVE, Innovate 8, Lab 1270, 1776, D.C. Fashion Incubator, Halcyon Incubator, Impact Hub, Kick• Mess Hall, Union Kitchen• Inclusive Innovation Incubator• Makerspace owners and operators from other cities
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Note: These identified potential partners are to provide a framework for the types of partnerships that may be applicable to the development and operation of a District makerspace. Organizations, agencies, and businesses have not been contacted. These lists are to be used only to generate a frame of reference of the types of applicable partnerships.

ECONOMIC IMPACT

Each of the three identified scenarios will help create a better environment for businesses to produce goods in the District. Scenario 3 would likely have the greatest direct economic impact while Scenario 1 would likely have the lowest economic impact. However, it is impossible to estimate the quantity of businesses, sales, employment, and tax revenue each scenario would support without more detail, such as their specific orientation, size, and membership base.

Type of Impact	Description	Scenario 1 Community-Serving Makerspace	Scenario 2 Industry-Serving Makerspace	Scenario 3 Makers Showroom & Support Services
Business Count (Business Creation, Attraction, & Retention)	The number of DC makers businesses is affected by the rates of new local businesses creation; attracting businesses from elsewhere, and retaining businesses in the District as they grow.	Lowest Economic Impact	Moderate Economic Impact	Highest Economic Impact
Revenue Growth (Value Creation)	Sales growth is one of the most common and direct metrics to assess the economic value being created.	The community-serving scenario has a strong <i>social</i> impact by supporting the interests and capacity of local artists and hobbyists, but the extent to which this translates to economic growth is unclear.	This scenario has a high economic impact on a very specific group of businesses who are members. This model, for example, might support 30 member businesses with a total of 90 employees.	A makers showroom and support services would have the greatest economic impact. It would address two primary DC production business needs (support with sales and regulatory matters) while also serving the largest number of jobs and businesses.
Employment	An important economic impact for the District will be the number of skilled jobs generated for District residents.			
Tax Revenue (Fiscal Impact)	Business growth generates revenues to the District via corporate income tax, personal income tax, sales tax, property tax, and more.			

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Recommendations and Next Steps



SUMMARY OF FINDINGS

Key Concepts and Strategies for the Innovation Space and Marketplace

Based on the DC local and regional context, the needs of the makers community, makerspace best practices, and District goals and policy objectives, the following aspects should be integrated into the Innovation Space and Marketplace. Many of these concepts will continue to be refined once the District has committed to a development scenario.

Program Orientation:	Support the local maker community by creating a District-sponsored physical space in which members can (a) work; (b) display their products; and (c) receive shared support services.
Membership and User Orientation:	The DC region – and increasingly, DC itself – has a number of makerspaces that provide equipment and services oriented towards hobbyists, community residents, and aspiring entrepreneurs. There is a particular gap in supply for makerspaces and equipment oriented towards start-up and established businesses. Orienting the Innovation Space and Marketplace towards this type of user best matches untapped local demand as well as aligns with numerous city policy objectives. As such, the Innovation Space and Marketplace should be oriented with an approximate 80% focus on makers businesses and 20% focus on the residential community.
Ownership and Management:	The three development scenarios – and any combination thereof – are feasible via a wide variety of potential ownership and management structures. Deciding whether the Innovation Space and Marketplace should be located on city vs. private property and whether it should be managed by the District or a private operator will involve additional conversations and feedback from city officials. That said, this analysis finds that a third party operation will lead to a more efficient use of resources and more on-hand capacity. If determined appropriate based on available District resources and political support, a third party operator could be selected through a competitive RFP process. This scenario would be viable with both a for-profit or a nonprofit entity as operator, and both types should be eligible to respond to an RFP.
District Role:	DC can use one or a combination of the following resources to guide and incentivize the development of the Innovation Space and Marketplace: grants; property transfer; ground lease or reduced rent; development cost subsidies; and operations cost subsidies.
Space Types:	A makers showroom would ideally be located at a highly accessible site with significant pedestrian foot traffic and exposure. The production space would ideally be located in Ward 5. If both uses are to be located on the same site, Ivy City is an ideal location given its mix of industrial, commercial, and residential land uses. Production uses are suitable in a retrofitted existing industrial space, in a new construction, or in a repurposed city building such as the Crummell School Site if that space is redeveloped specifically for the purposes of a makerspace (not as an afterthought that is incorporated into a prior design or with other incompatible uses).
Equipment:	The optimal mix of equipment on site will depend on the project's orientation and size. This study recommends starting with a makers showroom and support center, building a membership base, vetting the needs of the member community, and then providing equipment that best meets the needs of the target business population. Community residents would also have training and access to the equipment.
Startup and Operations Costs:	The startup costs (including development) and operations costs of the Innovation Space and Marketplace will depend heavily on whether there is one site or two; the space's size, orientation, and equipment; and the partnership, operations, and ownership structure. Given the large possible range of costs and potential revenues, none of the three scenarios are necessarily any more or less costly to the District than the others at this stage.

SCENARIO 1: COMMUNITY-SERVING MAKERSPACE

A community-oriented makerspace is a traditional model that introduces the process of making for hobbyists, artists, and residents.



SCENARIO 1	
DESCRIPTION	Community-Serving Makerspace
PRIORITY	Moderate to low
OPPORTUNITY	Pros: Familiar concept; community serving with access for anyone Cons: Supply exists in region; missed opportunity to support and retain businesses; missed opportunity to enhance tax base
ORIENTATION	Community / Individuals
ON-SITE USES	Reception, workshop, storage, classrooms, studio rental, social space
INCUBATION SERVICES	No
DC ROLE	Landowner, funder, operator, or none
SPACE TYPE	Industrial / Light Industrial
BUILDING SIZE	10,000 – 40,000 SF (+/-)
OWNERSHIP	DC Owned / Privately Owned
MANAGEMENT	Non-profit / For-profit
EQUIPMENT	\$500,000 - \$2 Million
LOCATION / SITES	Ward 5
EST. OPERATION COSTS / YR	\$681,000 - \$2.2 Million
ECONOMIC IMPACT	Lowest economic impact
ABILITY FOR EXPANSION	Yes
PARTNERSHIPS & FUNDING	City Agencies, Institutions/Initiatives, Industry/ Corporate Leaders, Accelerators, Incubators

SCENARIO 2: INDUSTRY-SERVING MAKERSPACE

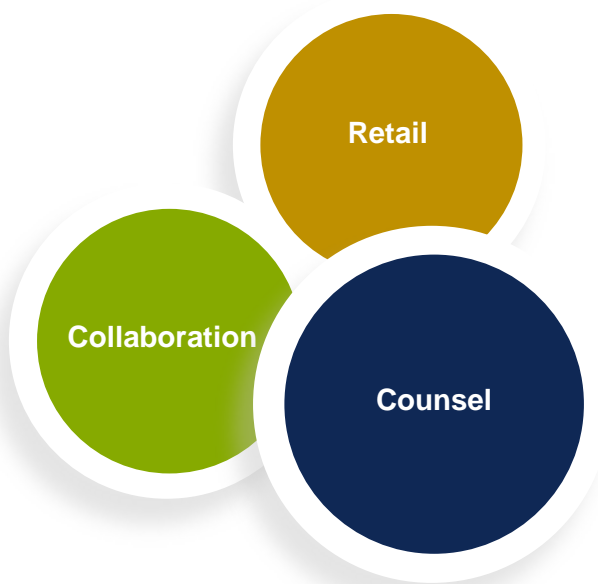
Focused on a particular industry, an industry-serving makerspace provides shared space and equipment for local businesses. In addition, shared resources and business support services are provided.



SCENARIO 2	
DESCRIPTION	Industry-Serving Makerspace
PRIORITY	High
OPPORTUNITY	Pros: Preserve industrial use; encourage entrepreneurship and start-ups; support local CBEs; innovative Cons: Need significant due diligence to determine industry niche and membership base; would only support one industry; locked into specific industry
ORIENTATION	Specific Industry Businesses
ON-SITE USES	Reception, retail, workshop, storage, office space rental, social space
INCUBATION SERVICES	Yes
DC ROLE	Landowner, funder, operator, or none
SPACE TYPE	Industrial / Light Industrial
BUILDING SIZE	5,000 – 40,000 SF (+/-) (depending on industry)
OWNERSHIP	DC Owned / Privately Owned
MANAGEMENT	Non-profit / For-profit
EQUIPMENT	\$500,000 - \$2 Million
LOCATION / SITES	Ward 5
EST. OPERATION COSTS / YR	\$491,000 - \$2.1 Million
ECONOMIC IMPACT	Moderate economic impact
ABILITY FOR EXPANSION	Yes
PARTNERSHIPS & FUNDING	City Agencies, Institutions/Initiatives, Industry/ Corporate Leaders, Accelerators, Incubators

SCENARIO 3: MAKER SHOWROOM & SUPPORT CENTER

While a Maker Showroom and Support Center will not house a physical production space, this program would provide incubation and shared support specific for maker entrepreneurs and businesses.



SCENARIO 3	
DESCRIPTION	Maker Showroom & Support Center
PRIORITY	Highest
OPPORTUNITY	Pros: Addresses primary business needs; allows for expansion; expedites development timeline Cons: Unproven and untraditional; requires second phase or expansion to include physical production space
ORIENTATION	Local Maker Businesses
ON-SITE USES	Reception, retail, product display, studio space, office space rental, social space
INCUBATION SERVICES	Yes
DC ROLE	Landowner, funder, operator, or none
SPACE TYPE	Commercial / Retail
BUILDING SIZE	3,000 – 8,000 SF (+/-)
OWNERSHIP	Dc Owned / Privately Owned
MANAGEMENT	Non-profit / For-profit
EQUIPMENT	\$0
LOCATION / SITES	Ward 5
EST. OPERATION COSTS / YR	\$418,000 - \$1.2 Million
ECONOMIC IMPACT	Highest economic impact
ABILITY FOR EXPANSION	Yes
PARTNERSHIPS & FUNDING	City Agencies, Institutions/Initiatives, Industry/ Corporate Leaders, Accelerators, Incubators

SCENARIO COMPARISON SUMMARY

	SCENARIO 1	SCENARIO 2	SCENARIO 3
	Community-Serving Makerspace	Industry-Serving Makerspace	Maker Showroom & Support Center
DESCRIPTION	A community-oriented makerspace, is a traditional model that introduces the process of making for hobbyists, artists, and residents.	Focused on a select industry with provided space and shared resources for businesses	As a sales and support service orientation, this would not include any manufacturing but would provide incubation and shared support for makers.
PRIORITY	Low	Undetermined / High	Very High
OPPORTUNITY	Pros: Familiar concept; community serving with access for anyone Cons: Supply exists in region; missed opportunity to support and retain businesses; missed opportunity to enhance tax base	Pros: Preserve industrial use; encourage entrepreneurship and start-ups; support local CBEs; innovative Cons: Need significant due diligence to determine industry niche and membership base; would only support one industry; locked into specific industry	Pros: Addresses primary business needs; allows for expansion; expedites development timeline Cons: Unproven and untraditional; requires second phase or expansion to include physical production space
ORIENTATION	Community / Individuals	Specific Industry Businesses	Local Maker Businesses
ON-SITE USES	Reception, workshop, storage, classrooms, studio rental, social space	Reception, retail, workshop, storage, office space rental, social space	Reception, retail, product display, studio space, office space rental, social space
INCUBATION SERVICES	No	Yes	Yes
DC ROLE	Landowner, funder, operator, or none	Landowner, funder, operator, or none	Landowner, funder, operator, or none
SPACE TYPE	Industrial / Light Industrial	Industrial / Light Industrial	Commercial / Retail
BUILDING SIZE	10,000 – 40,000 SF (+/-)	5,000 – 40,000 SF (+/-) (depending on industry)	3,000 – 8,000 SF (+/-)
OWNERSHIP	DC Owned / Privately Owned	DC Owned / Privately Owned	Dc Owned / Privately Owned
MANAGEMENT	Non-profit / For-profit	Non-profit / For-profit	Non-profit / For-profit
EQUIPMENT	\$500,000 - \$2 Million	\$500,000 - \$2 Million	\$0
LOCATION / SITES	Ward 5	Ward 5	High-visibility and highly-trafficked site
ESTIMED START-UP COSTS	\$2.0 - \$11.5 Million	\$1.3 - \$6.5 Million	\$1.6 - \$6.3 Million
EST. ANNUAL OPERATION COSTS	\$680,000 - \$2.2 Million	\$490,000 - \$2.1 Million	\$420,000 - \$1.2 Million
ECONOMIC IMPACT	Lowest economic impact	Moderate economic impact	Highest economic impact
ABILITY FOR EXPANSION	Yes	Yes	Yes

MAKERSPACE SCENARIO EVALUATION AND DECISION-MAKING TOOL

How to Use this Chart. This chart identifies the most important considerations pertaining to each makerspace scenario. The checkmarks indicate how well each scenario serves or accomplishes a corresponding decision-making factor. While this chart weights each factor equally, DC city officials may decide certain factors are more important than others. As such, this chart is merely a rough guide meant to help city officials decide which makerspace scenario – or combination of scenarios – they wish to pursue.

Scoring System. Each factor is scored from being met fully by a scenario (3 checkmarks) to not being met at all (0 checkmarks). Of the three scenarios, scenario 3 best meets the decision-making criteria, scoring 52 out of 63 possible points.

Type	Decision-Making Factors	Scenario 1 Community-Serving Makerspace	Scenario 2 Industry-Serving Makerspace	Scenario 3 Makers Showroom and Support Center	Combination of All Three Scenarios
Stakeholders Supported	Hobbyists, artists, & residents	√√√ <i>Primary user</i>	√ <i>Limited access</i>	√√ <i>Numerous services</i>	√√√
	Self-employed & part-time workers	√√ <i>Secondary user</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
	Start-up small makers businesses	√ <i>Limited bis. users</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
	Established small makers businesses	<i>Few estab. bis.</i>	√√ <i>Specific industries</i>	√√√ <i>All maker types</i>	√√√
Orientation & Land Uses	On-site sales space (retail)	√ <i>Minor emphasis</i>	√ <i>Minor emphasis</i>	√√√ <i>Core emphasis</i>	√√√
	On-site makerspace (creation)	√√√ <i>Core emphasis</i>	√√√ <i>Core emphasis</i>	<i>No on-site creation</i>	√√√
	On-site support services (council)	√√√ <i>Core emphasis</i>	√ <i>Minor emphasis</i>	√√√ <i>Core emphasis</i>	√√√
	On-site co-working (collaboration)	√√√ <i>Core emphasis</i>	√√√ <i>Core emphasis</i>	√√ <i>Shared offices/retail</i>	√√√
Support Existing City Goals and Initiatives	Retain/cluster production uses in Ward 5	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√ <i>Could incentivize</i>	√√
	Retain and attract small businesses	√ <i>Primarily hobbyists</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Support Made in DC program	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Support DC's creative economy	√√ <i>Primarily hobbyists</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Business promotion for CBEs	<i>Not bis. oriented</i>	√√ <i>Specific industries</i>	√√√ <i>Core emphasis</i>	√√√
	Expand business tax base	<i>Not bis. oriented</i>	√√ <i>Ancillary result</i>	√√ <i>Ancillary result</i>	√√
Cost	Affordability for City: Development/startup	√ <i>\$2.0 M - \$11.5 M</i>	√√ <i>\$1.3 M - \$6.5 M</i>	√√ <i>\$1.6 M - \$6.3 M</i>	√
	Affordability for City: Annual operations	√√ <i>\$680,000 - \$2.2 M</i>	√√ <i>\$490,000 - \$2.1 M</i>	√√ <i>\$420,000 - \$1.2 M</i>	√
Other Important Considerations	Potential to start operations soon (timing)	√√ <i>2-3 year delivery</i>	√√ <i>2-3 year delivery</i>	√√√ <i>1.5-2 year delivery</i>	√√
	Ability to adapt to marketplace (flexibility)	√√ <i>Ability to adapt</i>	√√ <i>Ability to adapt</i>	√√√ <i>Highly adaptable</i>	√√
	Economic impact	√ <i>Low econ. Impact</i>	√√ <i>Moderate impact</i>	√√ <i>Moderate impact</i>	√√√
	Makerspace demand vs. supply (need)	√ <i>Competing supply</i>	√√√ <i>Untapped demand</i>	√√√ <i>Demonstrated need</i>	√√√
	Create an innovative, leading makerspace	√ <i>Common practice</i>	√√ <i>Emerging trend</i>	√√√ <i>Highly innovative</i>	√√√
Community Benefit (Max Score of 63)		29 / 63	42 / 63	52 / 63	55 / 63

RECOMMENDED DEVELOPMENT STRATEGY

One of the next steps for District officials is to select a makerspace orientation and development process based on the city's need, capacity, and political support. This study recommends the following process.

Step 1: Develop a Makers Showroom and Support Center (Scenario 3)

- The Makers Showroom and Support Center orientation most directly addresses unmet makers business needs, generates the most exposure for local makers businesses, and provides the greatest opportunity to develop a truly original and innovative makers hub.
- The location of the Makers Showroom and Support Center should be highly accessible by both transit and car, and should be at an established retail destination. Viable locations include: a downtown location, which would symbolize its importance, be highly visible, and generate considerable traffic; a location in an emerging retail destination such as Shaw or H Street, creating possible synergies with other retail uses; and a location in Ivy City, which would be proximate to the makers businesses themselves.
- The Makers Showroom and Support Center should focus a majority of resources on the makers business community, but should also be oriented to serve the greater community as well. The potential exists to integrate business mentorships or apprenticeships: for example, a membership might include a mandate that a business invite interested DC residents to tour

their facilities a set number of times per month to view their equipment and learn how their business works. The Showroom could also rent its facilities or common spaces to the community for events.

Step 2: Grow the Membership Base and Evolve to Better Understand and Serve the Makers Businesses Community

- Once the Makers Showroom and Support Center is developed, build the membership base and continue to develop productive ways to support and partner with the local makers community.
- Through that process, staff can develop an understanding of industry equipment and space needs and can vet member interest and ability to pay for a shared production space with higher-end equipment than could be afforded if purchased independently.
- Determine the industry niche or niches that are most suitable for a shared work space and engage business owners to ensure there is enough demand to support an industry-oriented makerspace.

Step 3: Develop an Industry-Oriented Makerspace (Scenario 2) for a Business Niche Vetted for Demand and Logistics

- Once enough businesses have committed to joining a specific type of share makerspace, work with existing Makers Showroom and Support Center members, as well as new partners, to design, fund, and build the space.

- The space should be located in Ward 5. If the Makers Showroom and Support Center is in Ivy City, the production space could locate on the same site or on a nearby parcel.
- The industry-oriented makers space should provide training and access to the equipment for hobbyists and aspiring entrepreneurs during off-peak business use times.

Step 4: Continue to Develop Shared Business Production Spaces as Demand Allows, Creating an Innovation District

- Vet the opportunity to replicate the shared production space for other types of makers businesses.
- Plan for a scenario where the opportunity exists to evolve the area containing the makerspaces into an innovation district.

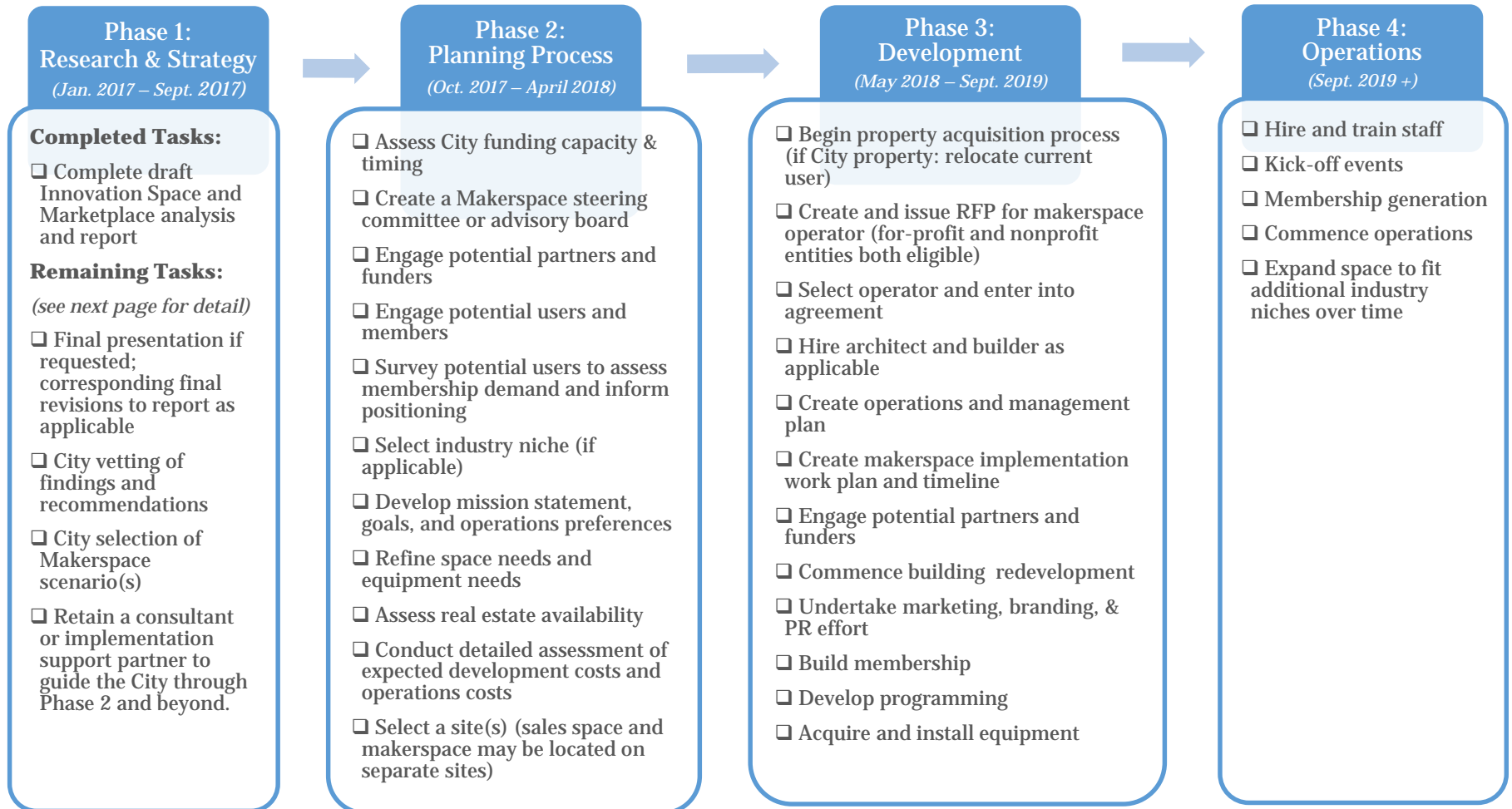
Focus on Marketing and Branding

- It is important for the District to overcome its reputation for, and reality of, being an expensive and difficult location for makers businesses. A Makers Showroom and Support Center, followed by well-planned shared production spaces can change this reality.
- Throughout this process, a heavy emphasis should be placed on marketing and branding these efforts. With the right resources, DC can truly become THE place in the region for makers businesses to form, move to, and stay in as they grow.

IMPLEMENTATION PROCESS

Implementation Process and Checklist

This study is the first step of many in the process for creating an Innovation Space and Marketplace. The implementation steps can be grouped into four main phases: research and strategy; the planning and design process; the development process; and commencing operations.



CONSIDERATIONS AND NEXT STEPS

Questions for Consideration

- ❑ This report recommends an 80% emphasis on serving established small businesses and a 20% emphasis on serving the residential community. Do city officials support this orientation, or is support more in favor for a traditional, community-serving makerspace?
- ❑ What District resources are available to help support the implementation of a makerspace in the District?
- ❑ Is the city interested in providing land / property for the build-out of a makerspace? Is a particular ownership or management scenario most preferable?
- ❑ Based on available resources and political support, is the District best positioned to own or manage the property on which the makerspace is located?
- ❑ To what extent is the city in favor of supporting specific industries with the greatest need and demand for shared equipment and workspace?
- ❑ To what extent does the city want this to be a “landmark” innovation hub?
- ❑ To what extent does the city want to locate the space at an under-utilized city-owned property?

Next Steps

It is recommended that the following near-term actions be undertaken to support the planning and development of the Innovation Space and Marketplace:

- 1. Communicate Findings and Recommendations (May – July, 2017)**
Presentation(s) of findings to City officials in order to update all key decisionmakers regarding the opportunity at hand.
- 2. Vet Findings and Recommendations (May – August, 2017)**
Internal DC agency review and discussions; determine who will decide the orientation of the Innovation Space and Marketplace and how this process will be undertaken.
- 3. Select the Orientation Scenario(s) (July – August, 2017)**
Decide on the orientation and development concept for the Innovation Space and Marketplace.
- 4. Retain an implementation support partner (August – Nov., 2017)**
Retain a consultant or implementation support partner (in one or more phases) to help the City define the space’s orientation, programming, and physical characteristics, as well as support DMPED in engaging potential partners, overseeing site planning and design, and developing a site management and operational structure.
- 5. Phase 2: the Innovation Space Planning Process (October, 2017+)**

