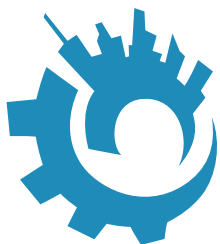


# The State of Urban Manufacturing

**NATIONAL REPORT**  
**SUMMER 2019**



**Urban  
Manufacturing  
Alliance**

# Acknowledgements

This report was authored by Mark Foggin.

For their guidance on this research, thank you to Lee Wellington and Katy Stanton from the Urban Manufacturing Alliance; Laura Wolf-Powers, Ph.D., from the City University of New York Hunter College; and our numerous local partners in all six of the State of Urban Manufacturing cities who helped out with focus groups, data collection, and other vital parts of the research process. Thank you to Jenifer Becker at Pratt Center for Community Development, Case Wyse at Pratt Institute's Spatial Analysis and Visualization Initiative, and Tanu Kumar for their additional analysis of manufacturing data at the metropolitan level. Thank you to Adam Friedman at Pratt Center for Community Development and Greg Schrock, Ph.D., at Portland State University for their invaluable thought leadership throughout this process. Additional support for the State of Urban Manufacturing: National Report was provided by Johnny Magdaleno and Eva Pinkley from the Urban Manufacturing Alliance; and Ben Wellington.

Most importantly, thank you to the survey respondents and focus group participants for their time and insights, without which this report would not have been possible.

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# Introduction

There has been an oft-discussed, though not yet well-measured, increase in small-batch manufacturing over the past decade. It has been perhaps most noticeable in cities as concentrations of products and brands emerge that take advantage of the increased interest in all things “locally made.” But most of the evidence to date about small-batch manufacturing has been anecdotal. So, it’s not surprising that in cities across the country many members of the Urban Manufacturing Alliance (UMA)—including practitioners in economic development, community development, workforce development, and real estate development, as well as chambers of commerce, lenders, and neighborhood nonprofits—told us they know remarkably few details about emerging smaller-scale producers and the role they play in their local economies. Those businesses, which often combine design, art, and production in innovative ways, do not fall neatly into the data collection categories that government has used for generations to classify manufacturers. Economic development officials and other policymakers tell us that they’re left with a sense that something is happening, though they’re not entirely sure what or how to describe it. The entrepreneurial spirit of these businesses’ owners and their workers—and the contributions they can make to the local economy—seem to

hold promise for cities. However, the exact role and economic potential of these emerging businesses are poorly understood.

UMA conceived of the ***State of Urban Manufacturing*** study to help fill this information gap and to give our stakeholders information they can use to make strategic decisions that can nurture this entrepreneurial sector. Our goal was to increase the collective understanding of what the small-batch manufacturing sector looks like in cities, who its entrepreneurs and employees are, and what can be done to help these firms thrive and grow into larger employers that build wealth in their communities. In doing this research in each city along the way, we also helped connect organizations to one another that were serving small-batch manufacturers.

UMA surveyed hundreds of manufacturers in six cities.<sup>1</sup> We asked about each business's size, workforce, and growth trajectory, as well as the challenges and opportunities each faced. We sought to understand and document manufacturers' day-to-day experiences with greater precision. We also wanted to spur new thinking about how service providers and local officials might better support these firms.

UMA [published the findings for each city](#) to help local stakeholders identify actions that they might take to nurture the small-scale manufacturing sector. We now have a unique data set—one that no one has ever collected before—on firms that are often micro in size, frequently launched in their owners' homes, struggling to hire their first employee, and challenged by navigating how to expand their market from hyper-local to regional and beyond. While our six-city survey was neither national in scope nor a statistically representative sample of such firms, the data we compiled is a first-ever examination of what the emerging sector of small-scale manufacturing looks like—and what will help to supercharge its growth.

This national report of the ***State of Urban Manufacturing*** compiles the themes that repeated across cities and which may serve as the basis for national-level advocacy and action planning in the future. It is organized into four sections:

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<sup>1</sup> The six cities were: Baltimore, Cincinnati, Detroit, Milwaukee, Portland (Ore.), and Philadelphia.

1. A fuller description of our approach to (and the lessons learned from) collecting, analyzing, and sharing this unique data set
2. Key descriptive statistics of our six-city data set
3. A summary of common themes and recommendations for small-scale manufacturing gleaned from the data
4. Potential directions for additional analysis of these data as well as future research

We are thrilled to share this report and continue the conversation on a national level.

# I. What We Did and How We Did It

Here's the first thing we want you to know: gathering data on small-scale manufacturers is not easy. In fact, it is very hard.

For the ***State of Urban Manufacturing***, it took time, persistence, creativity, and not a little bit of guile. These businesses can be hard to find. Some of them don't necessarily think of themselves as businesses and, therefore, aren't listed in any business directories. Even those that do think of themselves as going concerns may not think of themselves as manufacturers. As we explain in the next section, they may eschew *manufacturer* and opt, instead, for *maker*, *artist*, *artisan*, or *designer*. While there are growing numbers of communal work spaces for creative businesses, including small-scale producers, large numbers of these entrepreneurs are laboring away as sole proprietors in relative isolation, often in their spare hours between steady jobs or family care duties. And when you can find them (perhaps selling at a weekend craft market), they are rightfully focused on hawking their wares to would-be customers instead of answering survey questions from well-meaning

researchers. But we tried. We spent time following up with them when they were free. Again and again. And again. And again after that.

But even more than time, persistence, creativity, and guile, successfully engaging approximately 600 manufacturers required partnerships—many and varied. We started by leveraging service providers in the UMA network to identify as full of a range of stakeholders in each city as possible. We made dozens of calls and held dozens of meetings to connect personally with each stakeholder in order to explain the project and process, get their feedback, and ask for their help in identifying manufacturers and distributing our survey. We asked service providers to leverage the trust businesses had with them. We could not have achieved our results without this critical support.

We focused, in particular, on finding organizations that could identify the small producers who may not think of themselves as *manufacturers*. For instance, in Detroit, we partnered with Design Core Detroit; in Milwaukee, we worked with dozens of organizations like their Industrial Business Improvement District system, Milwaukee Alt, and Wisconsin Women’s Business Initiative Corporation (WWBIC); and in Cincinnati we connected with Cincinnati Made/CoMADE. All helped us to connect with businesses we likely would not have been able to find on our own. These partners distributed our survey among their networks and encouraged business owners to complete it. In a few cities, we worked with a main community partner, or other local connectors, who helped organize this outreach on the ground for us, creating significant efficiencies—and it’s something we plan to do more of in future rounds of research. Crucially, this had the added benefit of helping those community partners—usually community-based organizations—learn a bit more about the organizational landscape and their local economies, leading to new connections and support for all concerned.

This exemplifies UMA’s ethos in working with communities: we strive to build coalitions that inform our work, relying on local ecosystem participants to help us understand their community and the opportunities and challenges. And in the end, UMA works to leave those ecosystems more connected than when we started.



# Data Gathering & Analysis

Surveys covered a number of topics including:

- Business size, age, and recent and anticipated growth trajectory
- Business/sector identity
- Business owner demographics
- Worker demographics
- Business challenges and opportunities
- Real estate and financing needs

Initial descriptive statistics were compiled for each city, as well as notable patterns of survey responses regarding business challenges and opportunities. Simultaneously, a series of focus groups were held in each city that included manufacturers of various sizes as well as service providers. Focus groups allowed us to probe more deeply into many of the questions asked in the survey. This enabled us to answer not only what conditions small-production businesses experience, but also how these conditions affect them, what businesses do in response and, critically, why.

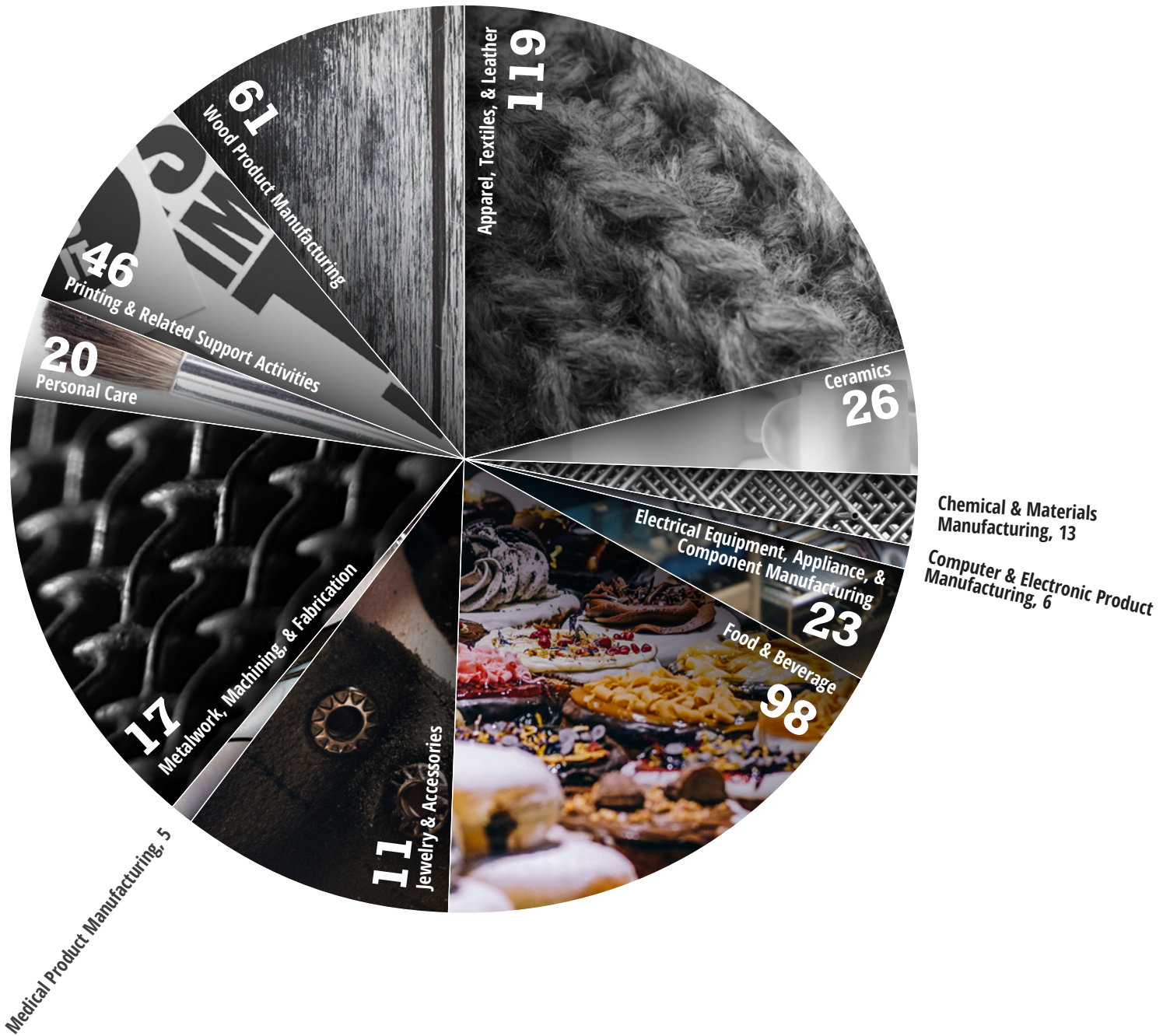
Themes were extracted from the focus groups in each city and compared to survey results to see where there were areas of reinforcement, amplification, and further elucidation. These were reviewed with our main partners in each city for validation and discussion and became the basis for each of the individual city snapshots that we published.

UMA's research partners helped us look at this work through the lens of both business and academia; they included the Federal Reserve Banks of Philadelphia and Cleveland, Portland State University, the University of Baltimore, Hunter College, and the Pratt Center for Community Development. Each of these organizations helped us to refine our survey instrument and interview tool, conduct focus groups, and analyze and draw conclusions from our data.

# II. Key Descriptive Statistics

A total of 568 firms completed our survey across a range of manufacturing sub-sectors.

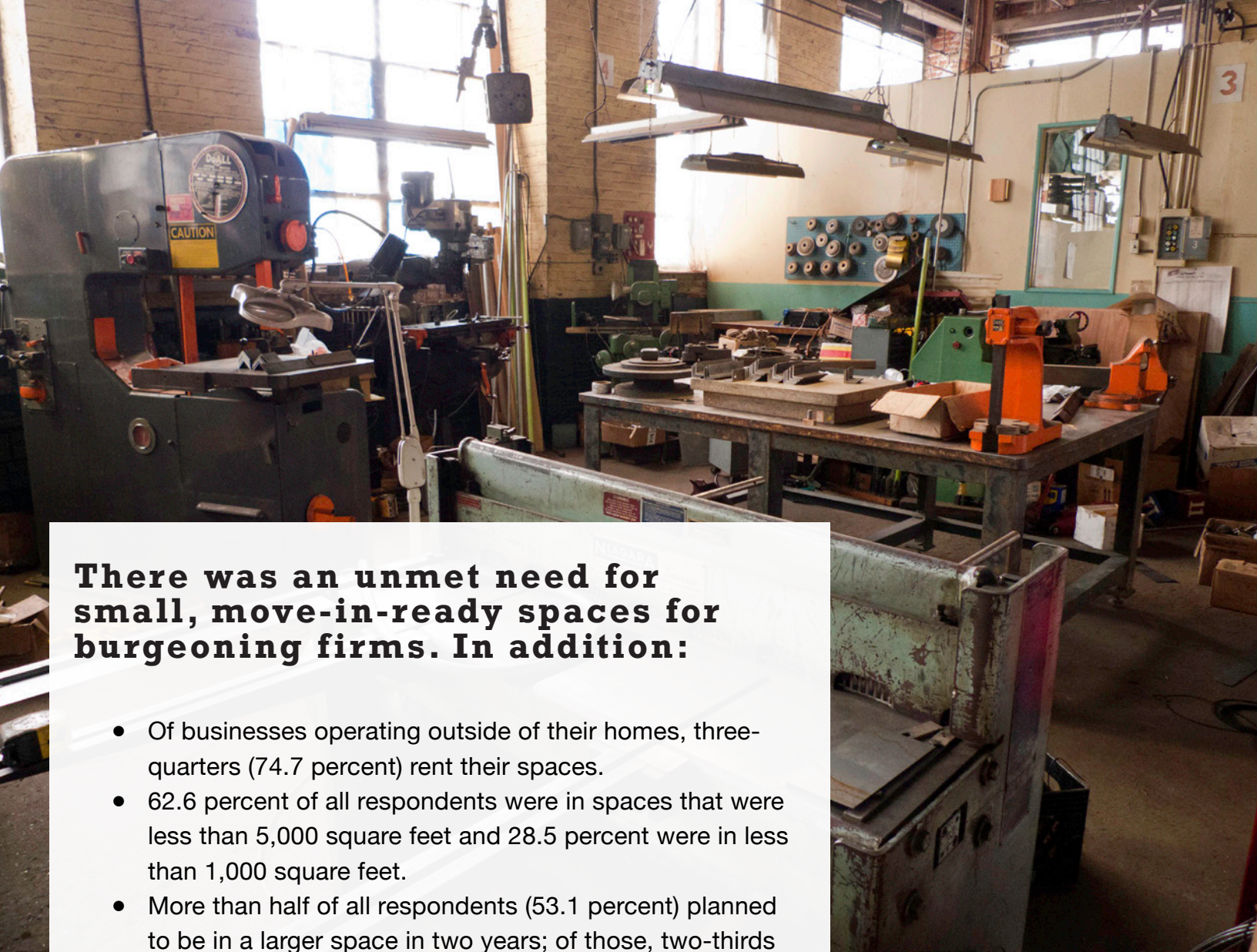
FIG 1: MANUFACTURING SUB-SECTORS





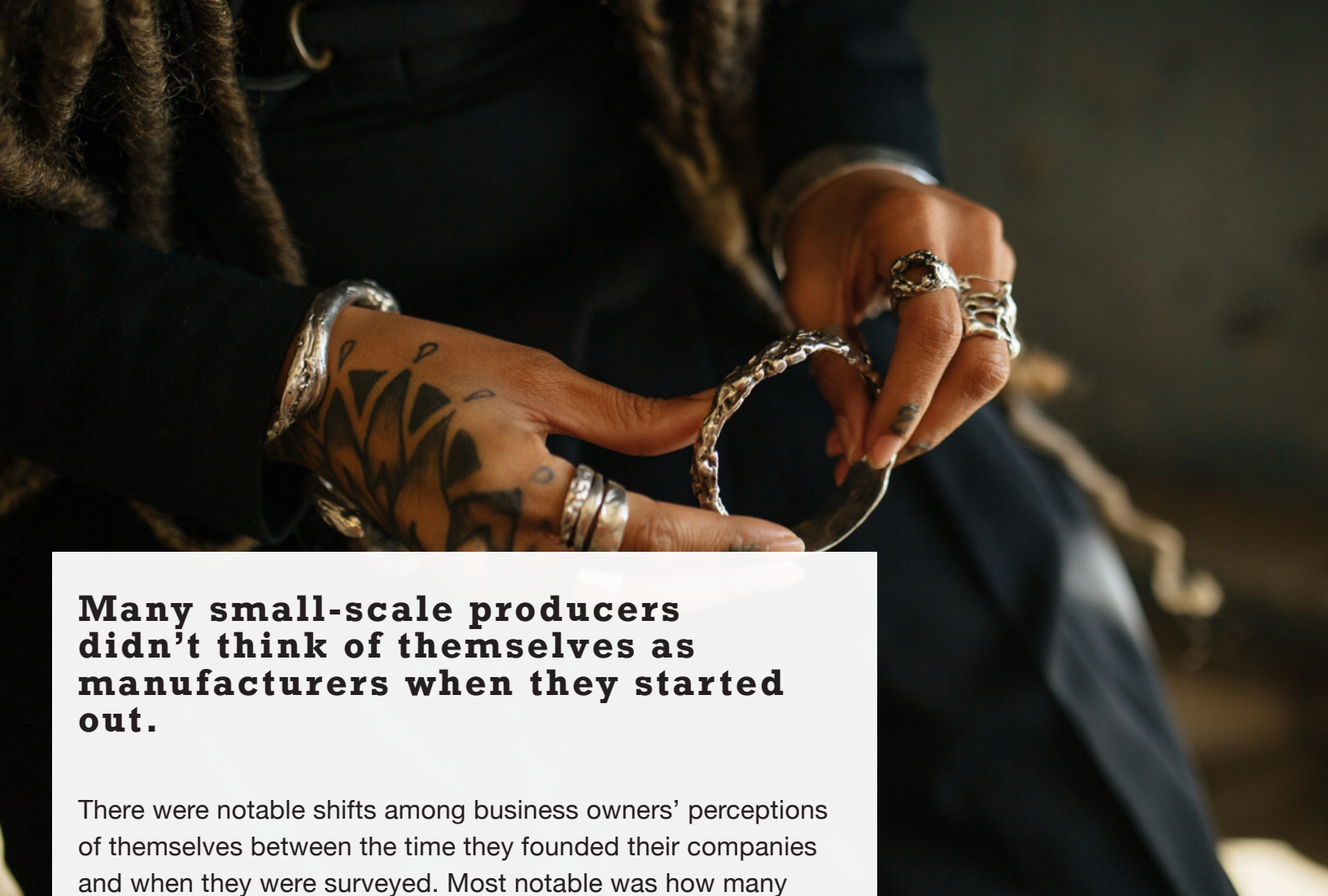
## **Respondents were overwhelmingly small and young—but they expected to grow.**

- Three-quarters (76.4 percent) had fewer than 10 employees—and over half (52.6 percent) were sole proprietors (that is, they did not have any employees other than the owner).
- Sixty percent were founded since the Great Recession in 2008.
- More than half (53.6 percent) reported annual revenues of less than \$100,000; 37 percent had under \$25,000—almost certainly a sign that these owners were not yet making a living at their businesses. Indeed, 54.6 percent reported income from another job.
- Half (55.4 percent) started in their homes, although more than half of those (28.0 percent) had graduated to a separate business location.
- Almost all respondents (94.9 percent) expected to be larger in two years, with 60.1 percent expecting to be “significantly larger”.
- Three-quarters (73.7 percent) planned to add employees.
- More than half (53.1 percent) planned to be in larger space.



**There was an unmet need for small, move-in-ready spaces for burgeoning firms. In addition:**

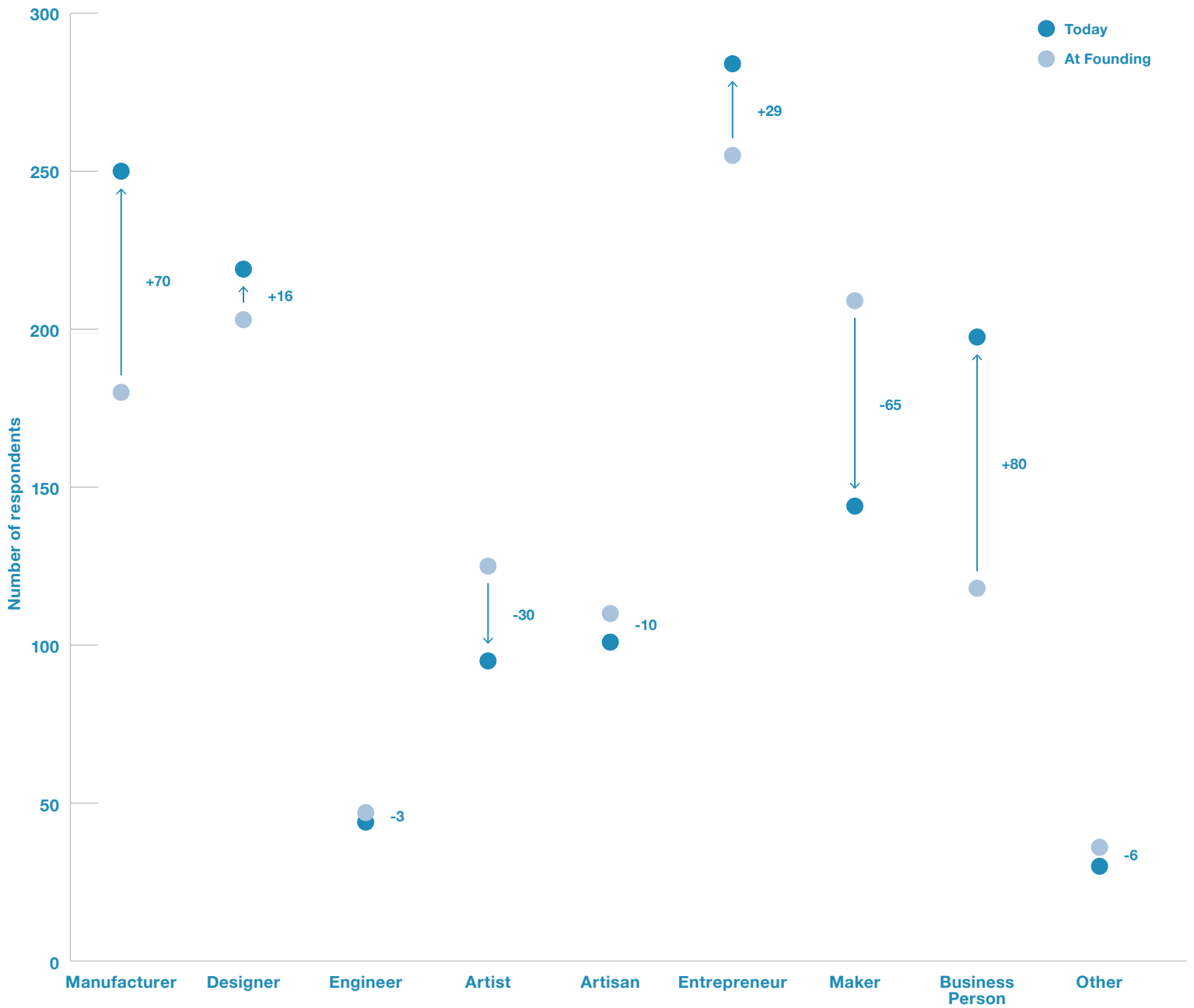
- Of businesses operating outside of their homes, three-quarters (74.7 percent) rent their spaces.
- 62.6 percent of all respondents were in spaces that were less than 5,000 square feet and 28.5 percent were in less than 1,000 square feet.
- More than half of all respondents (53.1 percent) planned to be in a larger space in two years; of those, two-thirds anticipated needing less than 5,000 square feet and a fifth needed less than 1,000 square feet.



**Many small-scale producers didn't think of themselves as manufacturers when they started out.**

There were notable shifts among business owners' perceptions of themselves between the time they founded their companies and when they were surveyed. Most notable was how many businesses didn't think of themselves as "manufacturers" or "businesspeople" at first. This is potentially important as business assistance organizations think about how they market their services—help with incentives, business planning, workforce—to firms. If they are advertising help for manufacturers, yet firms who are just starting out are more likely to think of themselves as "artists" or "artisans" or "makers," then there's a potential that such offers will be falling on deaf ears.

FIG 2: CHANGE IN IDENTITY OVER TIME





**Contract manufacturing / subcontracting was cited by many stakeholders as an avenue of promising growth opportunities, but relatively few smaller firms engage in it.**

- While the vast majority (80.5 percent) fabricated their own products, more than one-quarter (27.8 percent) devoted some portion of their production capacity to making other firms' products—a technique that often helps to underwrite equipment and production costs for smaller firms.
- However, relatively few (11.5 percent) outsourced their production to another firm, which was particularly curious given how many of these entrepreneurs described themselves as primarily “designers” or “artists” versus “manufacturers” when asked.



# III. Key findings common across cities (and recommendations)

As we worked in each of the six cities, we examined data and findings that were particular to each community's context. But several overarching themes emerged across most cities—especially for the smallest firms.



## A. Workforce

### CONTEXT

Workforce is a challenge for everyone in today's tight job market. But it's a particular challenge for manufacturers who, at the very moment their sector's technical demands require more brain power than brawn, are still saddled with the historic caricature of the assembly line worker toiling away in repetitive drudgery beneath smokestacks. Many—and an ever-increasing number—of today's production jobs require specialized training, knowledge of computer-driven machinery and processes, and higher degrees of numeracy and literacy than have been traditionally associated with manufacturing jobs in the past.

The result is that many manufacturers—especially smaller ones—do not have access to well-trained job candidates who are interested in entering the sector. Indeed, respondents to UMA's survey reported that finding qualified production employees was a significant barrier to their growth. Focus group discussions reinforced this: “I could make more money with more help,” one small producer said. “But I have to turn down wholesale orders because I can't fulfill them” due to a lack of employees. This is exacerbated by a general lack of connection, typically, between smaller manufacturers and local workforce service providers.

### CHALLENGES

**It is harder to compete with larger firms in a tightening labor market.** Many smaller manufacturers expressed that they are unable to offer employment benefits, making it difficult to compete with larger manufacturers in the tightening labor market. These small manufacturers also noted that some employees quit after they “age out” of their guardians' health

insurance at age 26. Such retention challenges make it difficult for smaller firms to invest the time and expense required to train unskilled workers.

**Attracting youth to manufacturing.** It was an almost universal truism that manufacturers identify a lack of interest by high-school-age students in manufacturing as a significant constraint in the employment pipeline. With many current employees retiring, some manufacturers described a skills gap keeping them from finding qualified labor to fill vacant positions. Although the maker movement is gaining popularity among some millennials, manufacturing is not seen as an attractive career path, nor is it often encouraged or promoted in high schools or middle schools. Focus group participants expressed that many young people still attach an outdated stigma to manufacturing as a career option and do not account for the changes in the sector that benefit from greater use of technology, as well as the ability to integrate more creative elements into significant tranches of production work.

**Small firms—even growing ones—often have an inconsistent need for labor.** Another challenge for businesses who are just hiring their first employees is having enough work—consistently—to keep someone sufficiently employed. This was felt most acutely by business owners in need of skilled trades when there is not sufficient work to employ a full-time artisan for more than several days or weeks at a time. One maker suggested an interesting approach to solving this problem: creating a shared workforce that could be used among several makers on an as-needed basis. It's a model that could work well with similar, but non-competing businesses. For instance, food packing/production for different products; or health and beauty products, especially those made with food-grade materials and which are essentially another form of food production. Such an arrangement might be handled by a trade organization or advocacy group working with a particular manufacturing subsector. One sector in which this model might be tested is in the sewn trades, which are already organizing in Detroit to create clear training and advancement pathways. Workers could be pooled among a half-dozen or more small firms with consistent, but not full-time, need for skilled staff. Another sector that might lend itself to a shared workforce is food and beverage

production, serving as an interim step until businesses were large enough to invest in full-time staff, or to use an established co-packer. In both examples, the shared workforce could be administered by an organization also providing workforce-oriented wraparound services that might better support jobseekers with higher barriers to entry and improve equity in the sector.

**It's not just production skills that are needed.** Smaller-scale manufacturers often expressed a need for a poly-adept production workforce. For instance, pickers and packers who fulfill and ship orders need a customer service orientation and communications skills, manufacturers said. The stakes are viewed as particularly high for emerging brands. “Hiring someone makes me nervous,” said the founder of a specialty personal care product firm. “There are zero degrees of freedom in [upsetting] a retailer with a wrongly packed order.” Another small producer shared that they are looking for production workers who “buy into my business’ culture, someone I can trust with my company’s reputation.” These are important contrasts from the traditional view that production jobs and entry-level roles with manufacturers were solid paths for workers with less formal education or English proficiency to begin careers.

## **POTENTIAL SOLUTIONS**

**Develop diverse and creative approaches to connecting job candidates to the manufacturing sector.** Several UMA members have succeeded in connecting more people to manufacturing jobs by leveraging non-traditional partnerships, including with faith-based institutions, culinary arts programs, and refugee centers. Because these types of organizations may not be the usual suspects for creating a manufacturing workforce pipeline, it takes extra intentionality to bring partners like these in to an organization’s orbit. Ultimately, though, they will expand the pool from which to draw candidates.

Other UMA members have succeeded in overcoming workforce supply challenges by taking an intergenerational approach—not just reaching out to young people to train and connect them with available jobs, but also engaging their families. (Often, it is

older generations' memories of factory jobs that dissuade young people from pursuing them.) By exposing younger and older generations to the reality of today's production jobs, such as through programming at local makerspaces or hands-on factory tours, the chances of capturing interest in these jobs increases.

**Create thoughtful and multi-sector high school manufacturing job-training curricula.** Today's production jobs, especially in small-batch manufacturing, are far less rote than they used to be. Small producers are looking to hire poly-adept workers who not only have fabrication skills, but also customer-service skills, the ability to work in teams, and may also have their own entrepreneurial mindsets. Leadership- and entrepreneurship-forward training should be included in manufacturing education, providing multiple pathways to enter the sector.

**Build a Youth Council.** One of the most effective strategies for convincing youth (or anyone) to enter manufacturing is to have someone speak to them, who looks like them. For example, manufacturing service providers and manufacturing businesses themselves could consider creating a youth-focused board, including targeted outreach mechanisms like monthly tours and meetings to support not only the expansion of workforce, but also current employees as they navigate the sector. Ultimately, these organizations may create manufacturing "evangelists" that support each other as they do this work, and to help get new youth in the door.



### **Pool workforce resources within a shared contract**

**manufacturing facility.** Many growth-oriented small-scale producers we spoke to also faced challenges in maintaining a steady production workforce because of inconsistently timed jobs. Service providers could consider facilitating a shared workforce model through contract manufacturing. This would create both training and job opportunities for workers, and also build capacity for smaller manufacturers who can't yet afford to hire their own employees.

**Manufacturers must be a part of the conversation.** Workforce organizations and other service providers can't create training curricula, programs, or opportunities without the input of manufacturing businesses themselves. Workforce training must be grounded in the skills manufacturers say they need today, or it will be for naught. In addition, some neighborhood-based manufacturers have already begun to spearhead, invest in, and run training programs that not only support local residents and youth, but ultimately make their cities and sectors more sustainable by providing transferable work skills to the trainees—not just a specific hard skill. Manufacturers must see themselves as part of place-based solutions, whether it's through a community college, neighborhood coalition, or their own programs.





## B. Capital Access

### CONTEXT

Similar to workforce, capital access is a challenge for almost any small or growing business—but particularly for manufacturers. The very nature of producing a physical object is more intensive capital-wise than many other commercial activities. And the rate of return on that capital for producers is slower than other sectors—especially technology firms, to which today’s innovative, small-batch producers are often compared. This has made financing harder to come by from both traditional sources, like financial institutions, and less traditional sources, like venture capital. At the same time, like all growing small businesses, the day-to-day requirements for working capital are often paramount and define a business’s success or failure, regardless of their long-term potential.

### CHALLENGES

**Personal capital plays an outsized role in supporting manufacturing startups and early scaling—and has equity implications.** All cities had significant percentages of respondents who needed capital to grow but could not access it. It was not surprising, then, that significant numbers of respondents reported using personal investment, personal lines or credit, or resources from family and friends as part of their start-up capital. Given the role personal capital plays, important equity questions arise about who has access to resources that enable them to realize their entrepreneurial aspirations. UMA imagines a state of urban manufacturing where entrepreneurs don’t have to have a well-resourced personal network to turn their business idea into reality and grow it.

**Working capital is a critical need.** The real power of the maker movement for communities lies in businesses’ potential to scale.

Yet, whether their goal is to move from home-production to a new commercial space, or hire their fifth employee, working capital can be elusive. As businesses grow and seek to shift from direct-to-consumer sales to longer runs that are sold wholesale, businesses need to adapt from receipts that are cash-on-the-barrelhead to terms that may be net 30, 60, or 90 days. And that is on top of the need to fund material and expanded staff for such runs before receipts are in hand. As a small business, it's often challenging to understand both the continuum of capital available for growing firms, but also who the best lender is to provide it. Further, it can be difficult to understand at what point in a business needs what type of capital.

**Emerging manufacturers, who are often as innovative as so-called “tech firms,” don't benefit from access to the same risk-tolerant capital.** Focus group participants echoed a familiar refrain: finding financing for scaling manufacturing is tough because, first, manufacturing feels like a risky bet for traditional lenders and, second, the sector is not sexy enough for angel investors and venture capitalists. One service provider supporting start-up manufacturers suggested growing a manufacturing-oriented angel and VC community. Another suggestion offered by focus group participants, which would be classified more as a workaround than as a solution to difficult financing, was to provide access to specialized equipment suppliers on a job-by-job basis, rather than asking a small producer to acquire such equipment for occasional use. Work would have to be done to identify the sorts of equipment that would fit into this category, and then to identify which organizations—such as a makerspace, school, or another business—could supply access to them.

## **POTENTIAL SOLUTIONS**

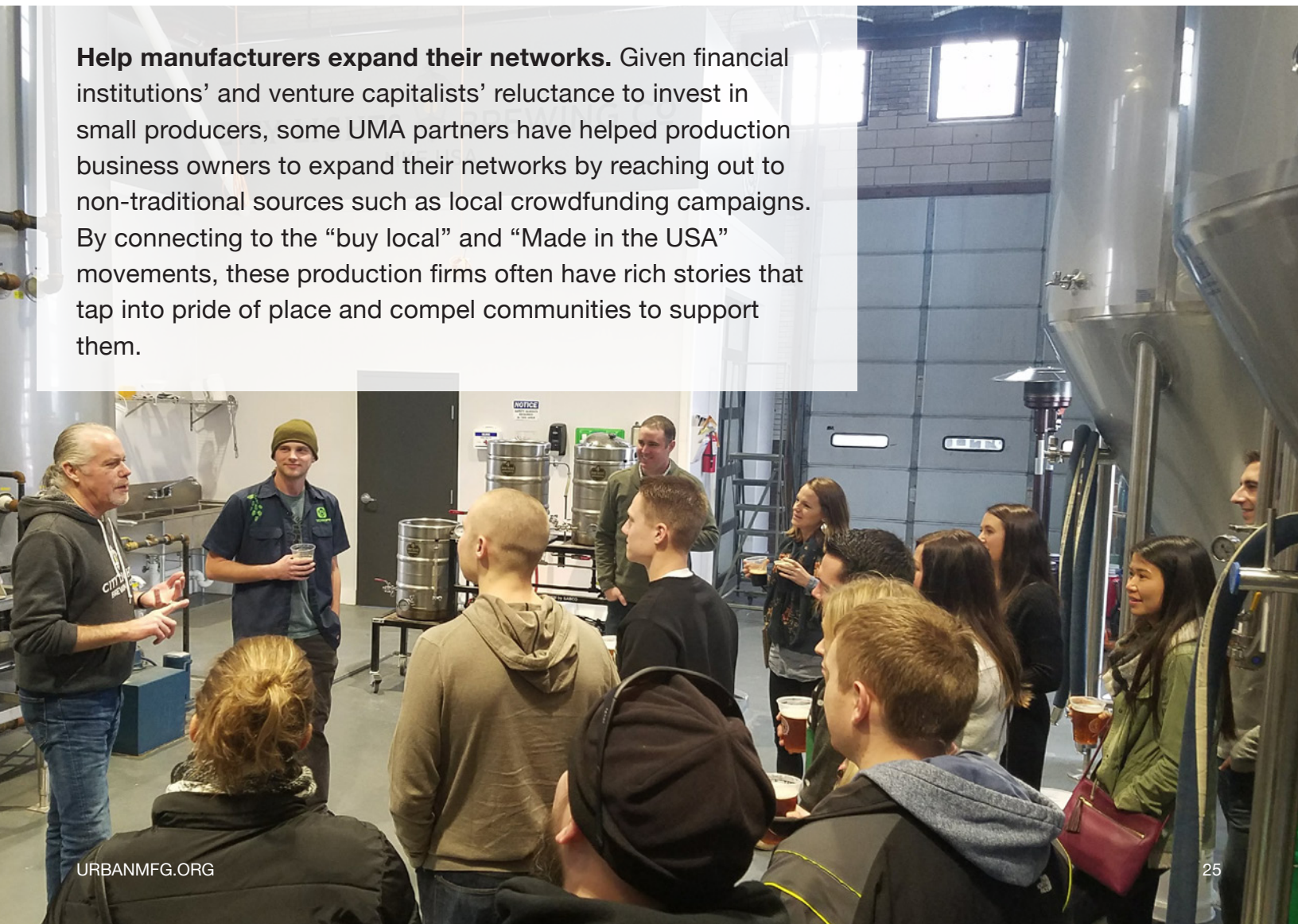
**Take a multi-stakeholder approach to capital access.** Across the country, some of the most effective capital access programs have come from partnerships between varying stakeholders, whether it be philanthropy, CDFIs, universities, economic development agencies, or community development corporations. Because they often don't need to see the same types of returns or timelines, these groups can work together to address capital



access needs by offering capital that is more patient and more flexible than traditional loans and larger than start up grants. One example includes a partnership between a university, a CDFI, and a bank that is creating zero-interest loans for neighborhood-based small businesses, some of which are specifically targeted towards manufacturers.

**Provide the entire continuum of capital—and guidance to use it.** It's often challenging to understand both the kind of funding a small business owner needs, and when they need it. Using a multi-stakeholder approach, as described above, lenders should consider the types of funding that is needed, and the timeframe businesses may need to access it. Those funding sources may include start-up grants and working capital, and continue up to investments in real estate to build right-size space for manufacturers. This method will require a cooperative ecosystem approach with leaders that are dedicated to understanding capital offerings and the nuances of the businesses that need the capital.

**Help manufacturers expand their networks.** Given financial institutions' and venture capitalists' reluctance to invest in small producers, some UMA partners have helped production business owners to expand their networks by reaching out to non-traditional sources such as local crowdfunding campaigns. By connecting to the “buy local” and “Made in the USA” movements, these production firms often have rich stories that tap into pride of place and compel communities to support them.





## C. Customers and Markets

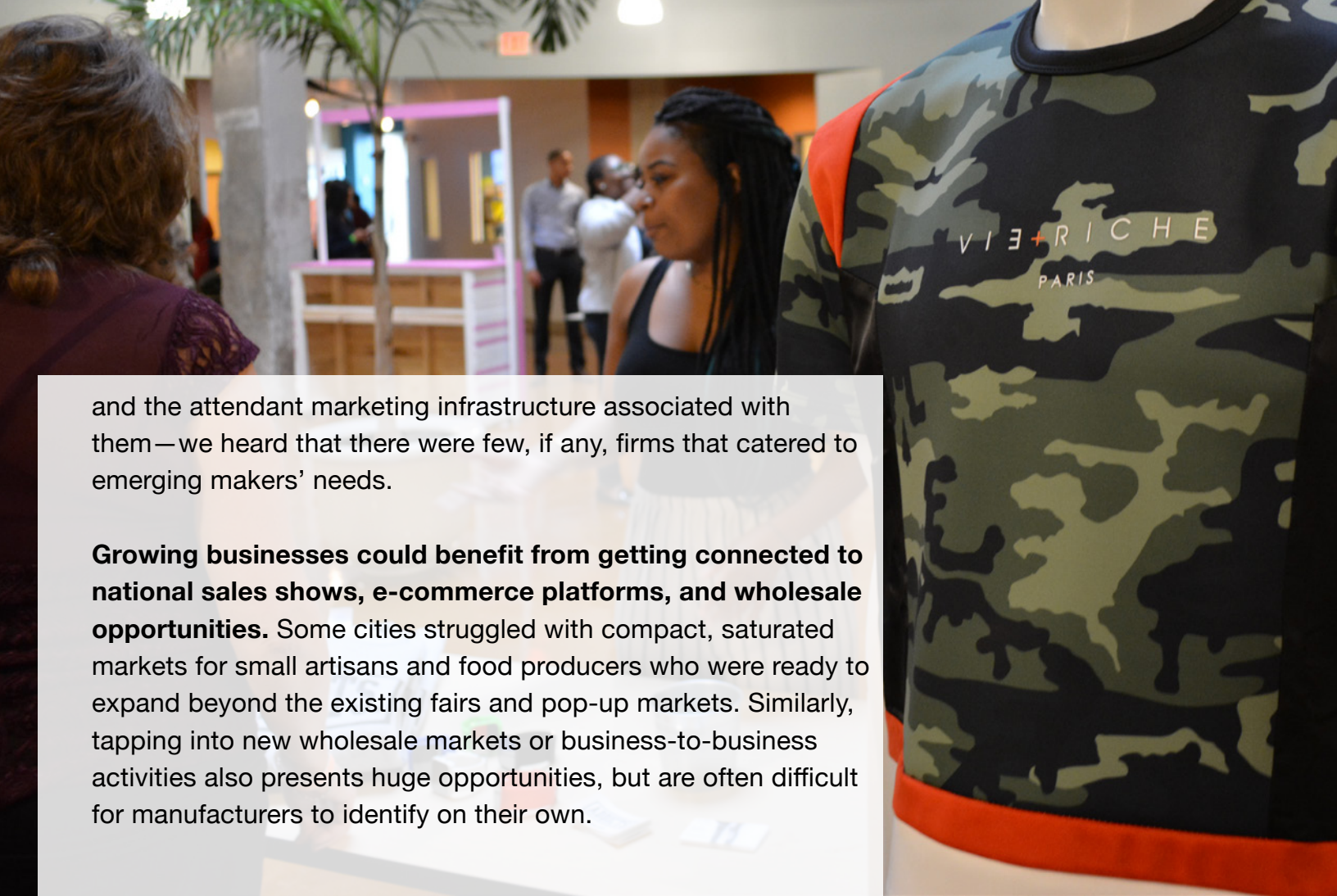
### CONTEXT

Across the six ***State of Urban Manufacturing*** pilot cities, accessing new customers and markets was a top concern of respondents; business owners with firms of all sizes sought to expand their markets, though it was most important for the smallest firms. Expanding into new markets in this context can happen in several ways, including: using technology platforms to reach new customers; finding wholesale opportunities; and accessing marketing and branding resources from organizations that already exist in communities. But while these options often exist, not all businesses know about them or can access to them.

### CHALLENGES

**Perhaps surprisingly, even the smallest businesses were often reaching markets well beyond their neighbors, either nationally or internationally.** This was in large part due to online platforms both through their own websites and those that aggregate products. Still, even though unprecedented access to potential markets exists through the Internet, understanding how to use online platforms effectively involves specialized knowledge that many small business owners do not have. Finally, tapping into new wholesale markets or business-to-business activities also presents huge opportunities, but are often difficult for manufacturers to identify on their own.

**There's a dearth of marketing resources and know-how for small, burgeoning producers.** Entrepreneurs and service providers across all six cities talked about a lack of marketing firms geared toward small-batch producers. Even in marketing-rich Cincinnati—home to international consumer goods giants



and the attendant marketing infrastructure associated with them—we heard that there were few, if any, firms that catered to emerging makers’ needs.

**Growing businesses could benefit from getting connected to national sales shows, e-commerce platforms, and wholesale opportunities.** Some cities struggled with compact, saturated markets for small artisans and food producers who were ready to expand beyond the existing fairs and pop-up markets. Similarly, tapping into new wholesale markets or business-to-business activities also presents huge opportunities, but are often difficult for manufacturers to identify on their own.

### **POTENTIAL SOLUTIONS**

**Engage a local brand.** The development and use of local branding organizations are still in the early stages of being understood as economic development tools. These groups uncover the increasing sense of community that makes cities attractive, while simultaneously helping makers connect to one another to support services, and potentially to new markets as consumers are increasingly interested in a sense of place. More successful local branding initiatives can help businesses access trade shows, host marketplaces (both online and in-person), and support collective promotion of a community’s goods and services.

**Think about unrealized partners for production businesses,** and the most effective ways to connect them. Hotels, new real estate developments, airports, and retailers can, for example, often weave local products into their projects and spaces. However, inadequate connections between or knowledge of these entities make such partnerships non-starters. Further,

these procurement opportunities are often difficult to navigate for both the partnering businesses and production firms. There is an opportunity for intermediaries to work to envision potential collaborations, make introductions, ensure the process is clear and streamlined to make it easier for businesses to participate and access these new opportunities, and act as a liaison for all involved.

**Create connections between designers and manufacturers.**

Generating new business doesn't have to come from within your own company; rather, if manufacturing firms and designers can envision an opportunity to work together, new products could emerge from those collaborations. It will take a dedicated process, bringing together relevant stakeholders (including manufacturing extension programs, city agencies, and chambers of commerce) to connect designers, makers, and engineers to legacy manufacturers, thus opening up new markets, new scalable businesses and product concepts. And it can't stop at a simple introduction: often these groups don't naturally work together and have preconceived notions of how the other operates or does business. This is again a place for intermediaries to step in and broker communications and potential collaborations.

**Build supply chain connections, regionally.** While *State of Urban Manufacturing* only surveyed firms within each city's limits, supply chains don't stop at these artificial boundaries. The more connected suppliers can be, the more opportunities for new product collaborations there are. Building a more connected manufacturing ecosystem—for designers, manufacturing firms, and service providers—will create a more efficient and sustainable market for the firms, employees, and intermediaries.

**Use retailers as a resource for new markets—and training.**

Retailers are an opportunity for connectivity to makers, and can also provide resources to help the manufacturers scale their businesses. Identifying both large and community-based retailers that are able to partner with makers and manufacturers can help open up new markets, as well as help businesses understand where they may want to sell their products.



## D. Production Space

### CONTEXT

Access to production space presented itself as a challenge in every city we studied. In cities like Baltimore, Cincinnati, Detroit, and Milwaukee, large amounts of vacant industrial space dominated, but was described as consistently inaccessible to small, cash-strapped firms who can't afford to subdivide and rehabilitate the raw spaces themselves. In cities like Portland, and to a lesser extent Philadelphia (which was somewhere in the middle), production space might exist, but it's in high demand, making it similarly inaccessible to production firms whose budgets may be low. In many of the cities, mission-driven real estate developers and other intermediaries are stepping in to create this kind of space, but as industrial uses continue to be pushed to the fringes of cities, keeping spaces in the hearts of cities—where they are closer to their workforce, suppliers, transportation, and consumers—is getting increasingly difficult.

### CHALLENGES

**Many cities have plenty of industrial space—that very small producers can't easily use.** Despite vacant, available space in almost every city we studied—in some cases, an abundance of it—a vexing paradox was identified: it was exactly the wrong sort of space that small but growing companies need as they graduate from their homes or incubation spaces. These small businesses often lack the significant investment needed to bring most vacant properties into a state of good repair and to divide them into the appropriately sized spaces. Among survey respondents who

**“[I]t was exactly the wrong sort of space that small but growing companies need.”**

indicated the desire to occupy more space, most envisioned expanding into spaces between 1,000 and 5,000 square feet; a significant number were seeking spaces that were less than 1,000 square feet.

**Rent in all cities is becoming less affordable.** As cities regain their caché, so do the buildings where manufacturing has historically taken place—except not for manufacturing use. Competing uses—like residential, retail, or office—often afford higher rates than manufacturers, preventing them from being able to use these spaces.

**Protections from local government are often lost.** Local governments have the power to help balance competing uses for land in their municipalities. Without specific zoning ordinances in place that give production businesses accessible and affordable locations to set up shop, cities risk stunting the growth of this sector of the economy in an era where both consumers and nearby businesses are increasingly hungry for locally-fabricated products.

## POTENTIAL SOLUTIONS

**A more thorough market study would help cities and developers quantify needs and determine where to create small move-in-ready spaces on spec.** While additional analysis is needed to assess the potential demand for spaces in the 1,000- to 5,000-square-foot range for growing makers, our studies indicate the appetite is likely to be notable. An appropriate stakeholder agency or organization might undertake a market study in their respective cities in order to help private sector developers warm up to the opportunity of creating clean, flexible, move-in-ready space for makers—and to identify any subsidy that might be needed.

**Find thoughtful development partners to lead the charge.**

Across the UMA network, we are seeing examples of mission-driven and non-profit real estate development firms working to create affordable, right-sized production space for manufacturers of all sizes. Project leaders should partner with organizations who understand the needs of small producers to



create the most useful spaces possible and bring together the most synergistic mix of businesses.

**Launch specific funds to creatively support the development of these spaces.**

A vital component to any real estate development project is its financing. Cities might consider developing programs that help to underwrite the subdivision of larger blocks of vacant or underused industrial buildings. Their process could include identifying partners, such as community development intermediaries, non-traditional lenders (e.g. economic development corporations), philanthropies and others, who can bring organizations and investors interested in social benefits to the table.

**Explore how cross-subsidization can support manufacturing.**

Along the same lines as the previous recommendation, there may be creative ways to think about development rights on a particular parcel, or on adjacent or nearby parcels, that might allow for the creation of residential or commercial uses. These could provide higher returns, to cross-subsidize the creation of discrete, right-sized space for small-batch producers.

**Use zoning creatively—and proactively.** Some of the cities UMA surveyed have developed best-practice approaches of thinking about how zoning can be used as a tool to promote smaller manufacturing spaces. This is often called “artisan zoning,” a new approach to land use and real estate development. This strategy provides space for small-scale manufacturers that produce few or none of the quality-of-living conflicts zoning is typically used to prevent, such as vibration, noise, or fumes. This means these low-impact industrial uses can fit within a wide variety of industrial, commercial, and even residential districts. City planning departments don’t always need a total zoning code overhaul to carve out more spaces for these types of businesses—in some cases, cities have pursued changes or additions to ordinance language instead of drafting new zoning maps from scratch. Some creative approaches include building ordinances around existing but unoccupied industrial facilities, or requiring that new residential buildings devote part of their bottom floors to light industrial production.



## E. Business Support

### CONTEXT

Small but growing production businesses are often challenged by the availability of appropriate business support at the appropriate time in their businesses' trajectories. They have grown beyond the need for the start-up assistance that is often widely available from many economic development agencies. On the other hand, these businesses are not yet big enough to take advantage of traditional real estate and tax incentives that many cities provide large-scale producers. Firms in the middle, who fall into neither camp, often struggle to find and get connected to practical advice for their growing, but still-nascent, businesses. Even cities and organizations that do cater to this group have trouble reaching those businesses' owners, who are often fully engaged with the day-to-day running of their firms and are challenged to find, research, and take advantage of business support services. Adding to this challenge, our survey data show that many small producers do not necessarily think of themselves as "manufacturers," which is how many of these services are marketed.

### CHALLENGES

**Business services are not sufficiently tailored to specific needs of production businesses.** Production-specific services were reported to be lacking from the small business assistance ecosystem. "There are very few resources available about how you produce, manufacture, scale, distribute, arrange logistics, or handle day-to-day operations," one service provider said. And despite well-developed directories of business services in some cities, there apparently were "not good director[ies] of manufacturing [in particular] support services, especially

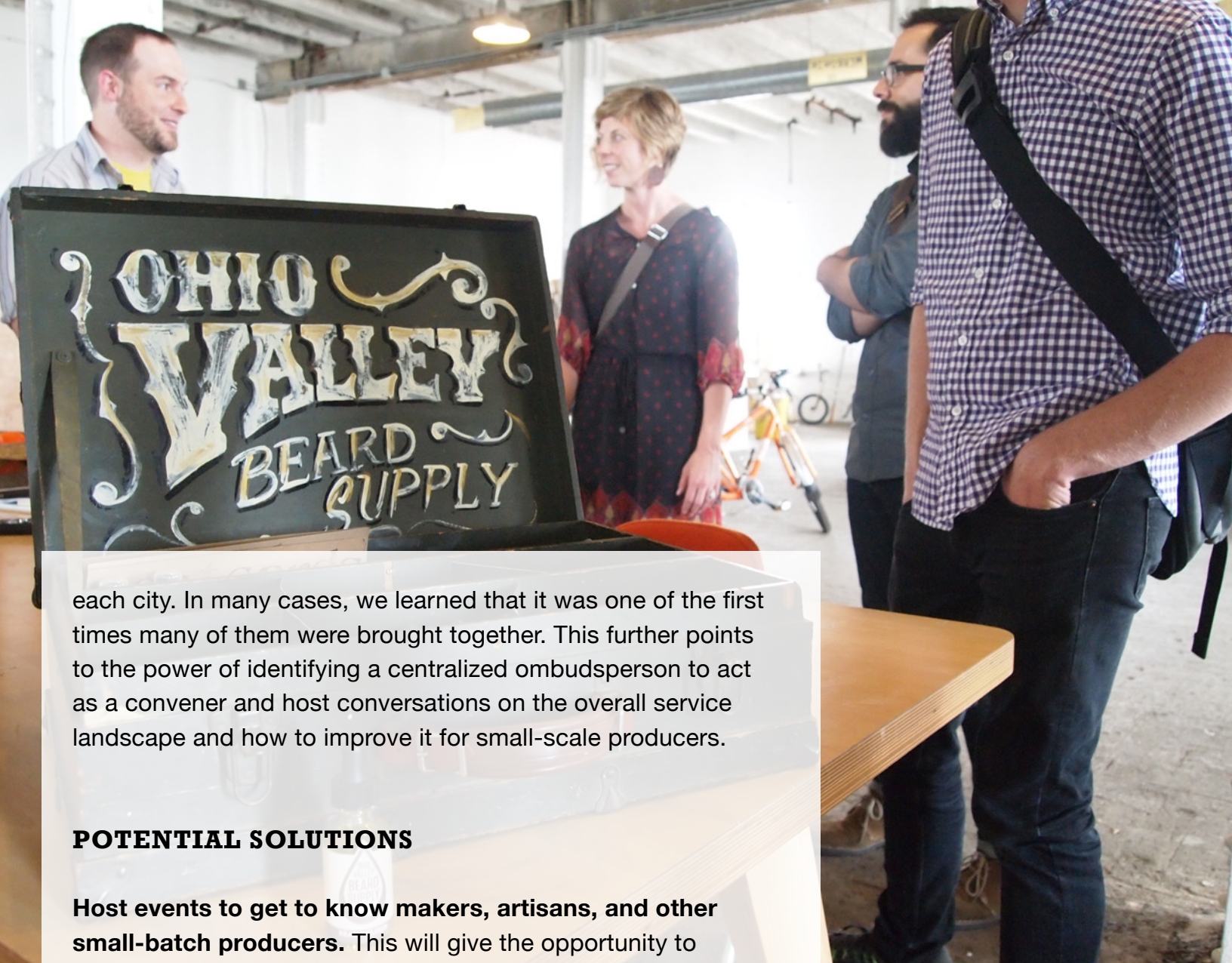


among fashion and food producers, and contract manufacturers generally” in one city.

**A dearth of services for “middle” firms.** As noted above, general business support services in most cities were described as plentiful and, in most cases, well-documented. Despite that, cities did note a lack of production-specific service providers and they questioned if the collection of services on offer was robust enough in key ways to support businesses who had (or were just about to) overcome the start-up hurdle and move into the next growth phase. Both business owners and service providers in our focus groups described the services offered as being tilted toward either entrepreneurs with business ideas looking to get started, or to long-established firms that were able to navigate complicated incentive programs. There appeared to be relatively few services focused on those in the middle looking to grow. This is a fundamental barrier to growth when more than half of firms were founded in owners’ homes, and half of those remained there.

**The need for individualized guidance.** Business owners in the throes of scaling up their businesses don’t have much time to research assistance or incentive programs, fully understand complex eligibility criteria, and then prepare applications—especially because they can’t be assured their applications will be successful. Small-scale manufacturers have consistently told us that the service providers they find most useful are the ones that don’t simply point them toward information but also help them to collate and synthesize the overlapping—and often conflicting—details of the various programs that businesses can take advantage of with respect to hiring, real estate, tax abatements, and technical assistance. Business owners reported that the lack of a one-stop service provider, or a front door to an array of providers, made managing multiple relationships difficult. And the absence of an organization that acts as something of a case manager, helping to broker introductions and relationships for each business seems to mean that fewer growing businesses get connected with available specialty services from which they might benefit.

The ***State of Urban Manufacturing*** process allowed us to connect with dozens of service-providing organizations in



each city. In many cases, we learned that it was one of the first times many of them were brought together. This further points to the power of identifying a centralized ombudsperson to act as a convener and host conversations on the overall service landscape and how to improve it for small-scale producers.

## **POTENTIAL SOLUTIONS**

**Host events to get to know makers, artisans, and other small-batch producers.** This will give the opportunity to connect more deeply with the making and manufacturing community. It also provides an opportunity for the businesses to connect directly to one another, which increases their chances of learning best practices from one another or exploring collaborations that increase business opportunities. Invite other service providers, as well, to not only grow connections between service providers, but also to help them develop engagements with production businesses.

**Create an “Ecosystem Manager” position.** In many cities, various programs that do cater to small-batch producers are found in different city agencies or among a variety of community-based organizations. Because business owners at this critical stage are so focused on running their businesses, having a one-stop ombudsperson, who is knowledgeable about

the ecosystem of programs and can provide tailored information on a variety of programs to particular businesses, has been a very successful strategy in several cities with which UMA has worked.

**Develop a local branding organization.** Similar to the “Customers and Markets” discussion above, developing or supporting a local branding organization can be a way to galvanize support and aggregate services for production businesses of all sizes and industries. These organizations could serve as the ombudsperson, or as part of the larger ecosystem providing right-sized services to local businesses.



## **F. Collaboration and Contract Manufacturing**

### **CONTEXT**

Business-to-business collaboration among manufacturers—particularly between small- and larger producers—was trickier to pull off than might have been expected.

Many stakeholders expressed hopes of establishing better linkages between makers and designers and existing, larger manufacturers, anticipating mutually beneficial relationships. The thinking goes that smaller, design-led producers could focus on what they do best: designing, prototyping, and iterating new products rather than investing the capital and time necessary to build a production line and to become competent mass producers. Larger manufacturers, in turn, would benefit by opening up new lines of business with the burgeoning small-scale production sector.

Indeed, we uncovered examples of efforts like these. “Our ideal scenario is NOT to scale our production in house,” said one small manufacturer. “We want to be small-batched, commission-based; we’d prefer using a third-party contractor to do large production runs.” And several write-in answers to a survey question on business challenges reflected companies’ interest in scaling their manufacturing through partnerships with contract manufacturers and others.

While the reality appears to be that such collaborations are more difficult to broker than anyone expected, the potential upside to fostering more successful relationships between big and small manufacturers appears to be substantial. For small-scale producers struggling to expand beyond their local markets, contract production could be the missing piece that allows them

to take advantage not just of larger firms' production capacity, but also their distribution channels. When you combine that with the increasing variety of platforms available to sell products globally, an international market may not be as far out of reach for smaller firms as many may have thought.

## **CHALLENGES**

**Who's who?** The biggest impediment to fostering more of these above-mentioned relationships, they indicated, is simply in knowing what producers or suppliers exist in a region. "Many [established manufacturers] don't have an online presence," one focus group participant said. "And some barely have fax machines." Others, it was anecdotally shared, are retiring or being bought out by larger customers and vertically integrated into their operations. And even when directories do exist, businesses said, they address only part of the problem. Because information is self-reported, suppliers often oversell themselves in terms of competency, quality, and turn-around times; business owners seeking to use these suppliers are left having to do the work to figure out which are quality suppliers that have capacity.

**The dog ate my blueprints.** On the other side of the equation, contract manufacturers also shared challenges they experienced in working with businesses contracting work to them. Many designers, they say, are so used to creating bespoke products with very limited runs that they are ill-prepared when they approach contractors. "I'm increasingly asked [by makers] if we can make something," said one larger manufacturer. "Sure. The question is, can they afford it for a small run? Things come in conceptualized instead of ready-to-build," leaving a lot of engineering and drafting work to be done by the contractor, driving up costs for relatively limited runs. Other stakeholders pointed out that most design-school-and-arts programs don't teach students how to design for mass production, or how to be better prepared to work with a contract manufacturer.

## POTENTIAL SOLUTIONS

**Not just directories, but direction.** To make quality connections between designers and job shops, it isn't enough to simply create a directory—even if it could be kept up-to-date. Instead, identifying an individual or organization with the capacity to get to know available suppliers in detail, as well as to understand the needs and capabilities of small-batch producers and designers, could be the answer to making more effective matches. It is this guidance that makers say is most important to them as they learn how to navigate the supplier ecosystem in their region. It is also the best way to ensure that economic growth associated with the small-batch production sector stays local.

**Mass Production 101.** To truly prepare designers and makers to design their products for manufacturing, there is an opportunity to engage entities like college and university design programs in partnerships with industry leaders to address those training gaps—perhaps through curriculum additions, internships, or apprenticeships. Training could include designing with production efficiency in mind, considering design approaches that take advantage of local production capabilities, and understanding how to convey designs in production specifications—something many contract manufacturers indicated was lacking among the makers they have worked with.

# Conclusion

This national summary highlights the overarching needs of the urban small-scale manufacturing ecosystems we investigated. But it does so in the service of an observation we came across time and time again: there are innovative, hard-working entrepreneurs fabricating goods in less-resourced corners of the local economy, and they could use more help. The Urban Manufacturing Alliance believes that if we identify what they need to grow, and give them the tools to thrive, then those local economies will reap tax, employment, and innovation dividends.

Our goal as researchers was to spotlight what hasn't been spotlighted before. Our goal as a national organization that advocates for manufacturing is to leave the stakeholders with which we worked more connected, and their ecosystems stronger, than they were when they first invited us in. Since publishing the ***State of Urban Manufacturing*** City Snapshot and Ecosystem Map series, this research has inspired local conferences, government outreach initiatives, new partnerships, and burgeoning programs to support small-batch producers that are just starting to piece solutions together over the holes we identified in manufacturer support networks.

We're hopeful that the conversation will continue beyond the release of this series, translating into tangible impact by giving small-scale manufacturers the extra guidance they need to bring businesses from idea to reality to viability.



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