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# The Maker-Manufacturing Nexus as a Place-Connecting Strategy: Implications for Regions Left Behind



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## abstract

The maker movement has been heralded as a place-based strategy to invigorate urban manufacturing—offering the millennial generation access to affordable, high-quality technologies and inclusive marketing platforms through which to design new products and get them into the hands of design-savvy consumers. Yet it also offers significant place-crossing opportunities that have been overlooked, namely, the potential for the production needs of urban-based makers to be a resource for shoring up manufacturing communities beyond the metropolis at growing risk of being *left behind*. We demonstrate this possibility through an in-depth case study of the Carolina Textile District (CTD), a novel *value chain* experiment that helps incumbent textile manufacturers in more remote legacy industrial regions connect with and lend support to a new generation of urban-based textile designers and entrepreneurs. We argue the CTD is an innovative distributive platform that transforms the shared vulnerability of urban makers and rural manufacturers into productive and opportunity-rich relationships, fortified by the millennial-maker ethos of forging *high-road* supply chains in support of social equity and environmental sustainability. As the maker movement gains traction within planning and policy circles, the CTD offers lessons for how to intensify and de-risk interdependencies between nonmetro and urban regions; between old and new manufacturing clusters; and, ultimately, between blue-collar communities and urban-oriented millennial youth. Conceptually, the case speaks to the need for economic geographers to be more attentive to place-connecting industrial strategies in their growing call for spatial equity.

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The maker movement has been heralded as a disruptive economic force, a way to democratize manufacturing by giving millennials access to more affordable, high-quality technologies and inclusive digital marketing platforms (e.g., Etsy, Grommet) through which to design new products and get them quickly into the hands of design-savvy consumers. As a place-based economic development strategy the maker movement has much to offer: it has reenergized public institutions, including libraries and high school *shop* classes, as maker spaces in support of new product design and development; it has helped inspire the next generation of product-making urban entrepreneurs; and when making activities *scale* through new business creation and coordination, they enhance production-in-place sensibilities through *made here* marketing campaigns that can also promote local jobs, innovation, and sourcing. The popularity of the maker movement is evident in its quick response to the 2019–20 coronavirus pandemic, with millennial makers across the globe coordinating product design to address shortages of medical productive equipment in the cities where they live and *make*.

Recent scholarship in economic geography and allied fields has focused on the potential for maker entrepreneurs to scale operations through sourcing arrangements with existing urban manufacturing firms (Doussard et al. 2018), in turn extending economic opportunity throughout manufacturing-strong cities (Grodach, O'Connor, and Gibson 2017; Wolf-Powers et al. 2017; Vinodrai 2018; Eisenburger et al. 2019). Yet, the focus on how the maker movement revives or concentrates manufacturing traditions within urban limits overlooks its larger geographic potential. We argue that the maker economy is also a resource for shoring up and revitalizing manufacturing communities well beyond the metropolis in places presumed to be *left behind* or *irrelevant* (Hendrickson, Muro, and Galston 2018; Rodríguez-Pose 2018a, 2018b).

Framing the maker movement narrowly, as an urban economic development tool, can certainly animate a younger, more-educated and tech-savvy generation of urban entrepreneurs. But widening the lens to consider interconnections between the urban-maker phenomenon and traditional manufacturing communities allows for geographers and other social scientists to consider the broader implications for spatial equity and economic inclusion. Expansion of urban-based product design capabilities creates the possibility for establishing stronger connections between urban

regions and their nonmetro surroundings; between old and new manufacturing clusters; and ultimately, between rural blue-collar communities and urban-focused millennial youth. Spatially, the maker-manufacturing nexus allows for deeper inquiry and theorization of *place-connecting strategies* for strengthening the conditions for more equitable economic development through cross-regional collaboration.

In the following sections, we develop this argument by drawing together disparate debates in economic geography about regional economic decline alongside emerging and long-standing research on the local maker movement and the dynamics of global manufacturing supply chains. We anchor this discussion to an in-depth case study of the Carolina Textile District (CTD), an innovative *value chain* experiment that helps large numbers of incumbent textile manufacturers in rural counties in the US south connect with and support a new generation of urban-based textile designers and entrepreneurs. The CTD offers an illustration of how the urban-maker phenomenon connects to the development trajectory of nonurban, legacy manufacturing regions hit hard by the cumulative effects of global integration and the Great Recession.

The CTD transforms the shared vulnerability of urban makers and rural-based manufacturers into enduring, productive, and opportunity-rich relationships, fortified by the millennial-maker ethos of forging *high-road* supply chains that promote social equity and environmental sustainability. As the maker movement gains traction within planning and policy circles, the CTD offers practical lessons for how legacy manufacturing industries can be strengthened by *de-risking* cross-regional and cross-generational interdependencies—with additional learning potential from the CTD's expeditious response to the COVID-19 pandemic. Conceptually, the case speaks to the need for economic geographers to be more attentive to place-connecting production opportunities and industrial strategies in their growing call for addressing spatial inequities.

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THE MAKER-MANUFACTURING NEXUS

## Places (with Existing Industry) Left Behind

Economic geographers, regional scientists, and planners have long shared an interest in the fate of *lagging*, peripheral or *less-favored* regions (Glasmeier and Howland 1993; Lyson and Falk 1993; Morgan 1997; Glasmeier and Leichenko 1999; Benneworth and Charles 2005; Isserman, Feser, and Warren 2009; Hackworth 2015). These concerns have only heightened in the wake of recent events across the US and Europe, including Donald Trump's presidential victory and the outcome of the Brexit vote, leading some to call for greater urgency in understanding and addressing the factors that contribute to regional economic decline (Spicer 2018; Rodríguez-Pose 2018b; Storper 2018; Spicer and Storper 2019). In revisiting this agenda, scholars are tempering the city-centric development narratives put forward by influential urbanists in recent years (Florida 2005; Glaeser 2011; Moretti 2012; Fulton 2016), recognizing the need for a more encompassing conceptual framework for understanding the consequences of and alternatives to regional economic divergence (Barca, McCann, and Rodríguez-Pose 2012; Rodríguez-Pose 2018b).

Economic geography, as a discipline, is particularly sensitive to uneven patterns of inter- and intraregional development and thus offers a thoughtful reinterpretation of the challenges facing places being left behind. Yet, recent empirical analysis of such places by economic geographers has primarily focused on divergent voting patterns and working-class politics rather than drawing out the underlying sources of economic and industrial transformation upon which that shifting political ground might rest (Rodríguez-Pose 2018b; Spicer 2018; Storper 2018; Spicer and Storper 2019). While these writings are certainly careful to acknowledge economic change as a defining

characteristic of nonurban regions, they fall far short of painting a nuanced place-specific economic portrait. Without that in-depth analysis, we lose sight of the varying sources of territorial inequities from which to advocate for place-based or place-sensitive initiatives that can extend economic opportunity by supporting regionally based industries and businesses while improving access to quality jobs within them (Barca, McCann, and Rodríguez-Pose 2012; Rodríguez-Pose 2018a). Worse still, without this granular detail, it is hard to counter place-blind recommendations from other influential disciplines, especially mainstream economics, which tends to favor educational spending and relocation assistance to help individuals move out of struggling regions, with little regard for the place-specific challenges that might influence people's decisions to relocate (Goldin and Katz 2009; Chetty et al. 2014; Piketty 2014; Ziliak 2019).

318 This gap speaks to the need for economic geographers who care about place and community to document, learn from, and amplify what is happening on the ground. Contextualizing local struggle with these left behind places is an important first step, but so, too, is documenting surviving industrial traditions and sources of local expertise, which illuminate possibilities for institutional actions that can strengthen or recombine local advantages in support of future, related economic endeavors or industrial specializations. There is deep economic vulnerability within many left behind communities that requires empirical analysis alongside reimagined institutional action to rebalance the geography of economic opportunity.

Earlier research by economic geographers and planners provides some guidance, illustrating how previously struggling regions have rebounded after prolonged economic setbacks by drawing on existing industrial strengths and localized resources (Tewari 2006; Treado 2009; Pike, Dawley, and Tomaney 2010; Hatch 2013; Andres and Bryson 2018; Raffaelli 2018; Eisenburger et al. 2019). As noted by Christopherson and Clark (2007), Rochester, New York, reestablished itself as a global center for optics engineering and research and development in the early 2000s after weathering a protracted period of economic decline characterized by the closure of prominent film and photonics employers like Eastman Kodak, Xerox, and Bausch and Lomb. In Rochester and other regenerating regions, economic developers and institutional partners, including local universities, worked together to breathe life into old regional industrial assets, often drawing together the institutional vestiges of legacy industries to support new technological applications or entrepreneurial activities (Christopherson 2009). This is not to say these struggling regions have avoided further economic stress; however, these studies show that places at risk of being left behind need not wipe the slate clean or start from scratch (Pike, Dawley, and Tomaney 2010; Clark 2018). Rather, they can—and likely should—build on industry remnants, including reorienting legacy institutions to guide regenerative economic activity and business development.

This approach—building on initial or entrenched local advantage—fits well within a broader economic geography framework, which recognizes that regional economic dynamism is rarely generated through the adoption of a one size fits all, replicable formula (Tödting and Tripl 2005; Pike, Rodríguez-Pose, and Tomaney 2016; Feldman and Lowe 2017). Instead, planning efforts require the willingness of institutional actors to adapt strategies to reflect and reinforce existing localized assets. Still, when it comes to nonurban peripheral economies, it is important to acknowledge the risk of further economic isolation and decay should these regeneration efforts *only* focus inward, privileging localized networks or traditions at the expense of developing new connections that cross jurisdictional lines. The late scholar Andrew Isserman (2005) emphasized this point in his analysis of rural economic development in the

US. He found that rural economies that were further removed from larger urban or metropolitan areas faced significantly higher rates of economic decline and poverty. By contrast, rural areas in closer proximity to urban areas fared much better, often because economic actors forged strong sourcing connections to the urban core (Isserman 2005). Lang (2012) has observed similar interdependence in European between metropolitan centers and growth in their surrounding peri-periphery.

Does this mean rural areas at greater distance from vibrant urban centers are predestined for economic decline? Not necessarily. While there is a rich literature on the regional economic value of geographic proximity (Gertler 1995, 2003; Asheim and Gertler 2005; Clark 2013), scholarship on the geography of innovation also finds dynamic industrial gains and learning potential from ties between economic actors across nonneighboring regions (Bathelt, Malmberg, and Maskell 2004; Boschma 2005; Gertler and Vinodrai 2005; Torre and Wallet 2014; Balland, Boschma, and Frenken 2015). In these cases, value is not limited to expanded market reach. Rather, business owners, knowledge workers, and product designers use exchanges with actors and institutions in other locations to foster new ideas, build a shared sense of community and purpose, and elevate their own national or international economic visibility and reputation (Amin and Cohendet 2004; Bathelt, Malmberg, and Maskell 2004; Vinodrai 2010; Clark 2013).

International development scholarship offers related insights, having long recognized the role that global supply chain management can play in upgrading traditional manufacturing regions and modernizing their productive capacity. Initial studies focused on interventions by dominant global buyers and household brands that used their prominence in country-spanning supply chains to push manufacturers in more peripheral regions to improve production standards (Humphrey and Schmitz 2000). But further research has shown the possibility for institutional actors within peripheral regions to play a critical mediating role—and not simply by stepping into the void when prominent global actors retreat or become less engaged (Tewari 1999; Bair and Gereffi 2001; Bair 2005).

One illustrative example from Jalisco, Mexico, involved a state-funded industrial upgrading program that helped smaller-sized apparel manufacturers initiate global production networks connected to specialized clothing boutiques in Southern California. In this case, Mexico-based manufacturers received assistance in combining marketing and production activities under a single North American brand. Once that cooperative structure was in place, manufacturers could offer a broad range of services to urban-based *bodegas* or retail shops in Latinx communities in the Greater Los Angeles area. Institutional support for this transnational exchange created the option for smaller Mexican manufacturers to access more distant regional markets in North America, while also providing a viable alternative to mainstream US retail chains, which for this particular group of smaller manufacturers had already proven financially tenuous (Lowe 2009).

As this case and others demonstrate, institutional actors can proactively intervene to create alternative channels for manufacturers to access and serve niche or underexplored markets in far distant regions, where their services and expertise might have a greater economic impact than in their more immediate surroundings. But institutional support helps overcome more challenges than geographic distance: it can also forge connections between distinct communities of economic actors that are similarly vulnerable or marginalized within their respective regional economies. Out of this recognition of shared vulnerability comes opportunities to build reinforcing structures to support both manufacturers and their distant clients, extending economic opportunity to

geographically separated groups that share a similar risk of being left behind (Nathan, Tewari, and Sarkar 2019; Tewari 2019).

So how might this international insight relate to the US-based maker-manufacturing nexus at the heart of the CTD? We argue that production demand spurred by urban makers' desire to scale their operations opens the possibility for institutional actors within struggling manufacturing regions to act similarly, by drawing on common sources of shared vulnerability. An international body of evidence on the maker phenomenon suggests that urban-based makers—as newer, resource-constrained entrepreneurial businesses—often face reinforcing challenges preventing them from either manufacturing in house or meeting their production needs by outsourcing to nearby manufacturing firms. These dual constraints create the potential for place-connecting solutions to help urban makers connect with manufacturing partners beyond their immediate urban surroundings.

320 While early promoters of the urban-maker movement presumed emergent makers would easily graft onto existing metropolitan manufacturing clusters, recent research suggests otherwise, noting that novice inventors and new design firms face considerable difficulties gaining a foothold within their surrounding urban production networks (Grodach 2017; Doussard et al. 2018; Schrock and Wolf-Powers 2019). In some cases, local manufacturing expertise is already tailored to specialized local industries or technologies, thus misaligned with the needs of emerging designers (Vinodrai 2010). But even if nearby manufacturing firms are a potential fit, they often have limited bandwidth to explore new production opportunities, due in part to consistent, steady demand from larger, well-established customers (Doussard et al. 2018; Forbes 2018). In other cases, the disconnect reflects risk aversion on the part of established manufacturers, with hesitancy to engage a new generation of yet-unproven urban designers and maker entrepreneurs; the typical risks of firm survival or financial instability only intensify when maker activities are taken up as a temporary or fleeting response to recession-era job loss (Jakob 2013).

This reticence by local manufacturers to engage urban makers is not the only challenge in play. Urban makers face additional pressures that limit their ability to manufacture their product lines internally. Beyond the steep learning curve associated with moving from design to full-scale manufacturing, there are added costs associated with locating in-house production facilities within large urban centers. Urban real estate speculation only adds to this cost, with developers actively promoting maker spaces and artisanal boutiques as visible amenities within larger-scale mixed-use development, yet charging exorbitant lease rates that are unsustainable for maker businesses (Hum 2016; Schrock and Wolf-Powers 2019).

In light of these constraints, some scholars have pushed for exploration of overseas sourcing arrangements, including contracting to manufacturing firms in China and beyond (Wolf-Powers 2017; Doussard et al. 2018). But this is not the only option—nor is it necessarily the best strategy given known challenges that smaller-sized product design firms encounter when managing foreign-based suppliers (Vinodrai 2010; Peck 2017). An alternative approach is to promote same-country sourcing to bridge growing spatial and economic divides—linking young urban-maker entrepreneurs to peripheral manufacturing regions that may have available capacity, expertise, and interest in helping a new generation of design businesses take root and grow.

For left behind places with underutilized legacy manufacturing capacity, the economic potential of this type of partnership is tremendous. But so, too, is the risk, if the maker-manufacturing nexus is based solely on shared vulnerability that can worsen with poorly managed supplier relationships. Compounding this problem, smaller

manufacturers often bear greater risk in supplier–client relationships, which left unmitigated could increase their vulnerability and that of their workforce (Forbes 2018). With makers in an equally precarious economic position, that burden intensifies. Still, this shared vulnerability raises the possibility for creative institutional solutions that mediate cross-regional connections between similarly challenged economic groups, transforming initially shaky supply chain relationships in ways that rebalance the risk–reward nexus to the benefit of multiple economic actors (Lazonick and Mazzucato 2013; Lowe and Feldman 2018).

With this possibility in mind, we present the case of the CTD as a promising example of place-connecting strategy that de-risks the connection between millennial urban makers and nonurban manufacturers. In sharing the CTD’s model for building economic prosperity across generational and spatial divides, we advocate for economic geographers to reimagine the institutional potential in managing cross-regional economic vulnerability. The CTD case illustrates what can be achieved when boundary-spanning efforts go well beyond initial matchmaking to transform sources of shared vulnerability into collective cross-regional identity—which in this case is centered on protecting domestic manufacturing jobs, with further gains from ongoing promotion of sustainable and equitable sourcing goals. While still in its formative years, we believe this analytical case study of the CTD supports theoretical and empirical work on the role of institution-building in creating new local and regional economic opportunities and facilitating regional economic transformation. While certainly not a magic bullet, the CTD case provides insight into a potential mechanism for addressing the challenges faced by places left behind in the wake of globalization and industrial restructuring, and, more immediately, the global COVID-19 pandemic—a point we revisit at the end of this article.

## Data and Methods

Building on the traditions of Burawoy and Flyvbjerg (Burawoy 1998; Flyvbjerg 2006), we employ an extended case study method to develop the story of the CTD. Our research originated in 2015 with an in-depth, open-ended interview with CTD cofounder Dan St. Louis. Over the next two years, we closely followed the CTD’s progress, compiling media and secondary reports and tracking the CTD’s development. With invaluable help from a graduate research assistant (Durfee 2017), we conducted in-depth interviews with all three of the CTD’s founding partners. Using knowledge gained from those interviews, we then solicited the CTD’s help to identify a representative sample of member manufacturing firms. We requested a stratified sample in order to capture the perspectives of older, established manufacturers as well as newcomers to textile manufacturing. In addition, we asked for help identifying the textile manufacturing firms that aligned most closely with the CTD’s values of equity and sustainability.

In order to balance the perspectives of manufacturers and their clients, we requested contact information for urban-based makers/design firms (clients) and drew upon lists provided by CTD founders and member manufacturers. Cross-referencing these sources allowed us to identify core client firms and pair our interviews to connect a manufacturer’s experience with one of their respective clients. Overall, we conducted twenty interviews, divided evenly between CTD manufacturers and their urban-based clients.

Interviews were summarized and analyzed to identify any inconsistencies between the founders’ stated objectives and actual manufacturer practices. We then conducted



follow-up interviews with all CTD cofounders to identify their evolving—and often less visible—strategies for helping firms move closer to the CTD’s guiding vision. In essence, our research design sought to draw out microprocesses of change at the institutional, regional, and firm levels.

We also secured access to the CTD’s membership data covering the period from 2013 to 2017, including responses to their intake survey. This membership database of 1,253 firms provides establishment-level information, including firm location, size, capabilities, and whether they were a client firm (i.e., a designer or maker seeking a manufacturing partner), a member manufacturer, or related textile production specialist. We used location information to geocode clients and member firms and generate the map and table used in this article.

## Textile Troubles and Transformation in North Carolina

322 Scholars and practitioners who care about the fate of textile and apparel manufacturing in North Carolina often paraphrase Mark Twain’s witty response to inaccurate claims of his sudden death in 1897: media reports of the death of textiles in North Carolina are *greatly exaggerated* (Willis 2005; Hemstreet, Chester, and Castelloe 2017). But it would be wrong to interpret this as a sign that all is well for North Carolina’s textile industry. In recent decades, thousands of textile and apparel manufacturing establishments in North Carolina have shuttered their operations, resulting in the loss of more than 150,000 textile jobs since the industry’s peak in 1992.<sup>1</sup> Leading up to the 2008–09 Great Recession, the vast majority (70 percent) of textile industry job losses were in North Carolina’s rural counties (Hossfeld, Legerton, and Keuster 2004). This decline is the outcome of multiple, reinforcing economic pressures, including global economic integration, which resulted in the loss of demand from prominent US retailers and merchandisers as they turned to manufacturers in Latin America and East Asia to lower production costs, especially for high-volume, standardized products. Compounding this loss, North Carolina also experienced high plant closure rates among larger textile and apparel manufacturing firms in the late 1990s and early 2000s; many of these firms were forced into bankruptcy as a result of unsustainable levels of accumulated debt or overextended corporate commitments (Conway 2004). In these ways, the region’s industrial experience aligns with how economic geographers have described the places left behind (Rodríguez-Pose 2018b).

Despite these losses, textile and apparel making remains a critical industry for North Carolina, with roughly 900 establishments and close to 38,000 employees reported in 2018. North Carolina continues to rank fourth<sup>2</sup> in the US for textiles and apparel manufacturing, and there is evidence that historic textile-making regions within the state—especially parts of western-central North Carolina—are even experiencing a resurgence in employment and establishment counts (Hemstreet, Chester, and Castelloe 2017).

Some of this resilience is driven by the state’s long-standing commitment to textile innovation, with dozens of foreign-owned, high-performance textile firms locating production facilities in North Carolina in order to leverage innovation support from North Carolina State University’s Textile College. But North Carolina also has large numbers of more traditional manufacturers of ready-to-wear or casual clothing lines such as sports socks, nylons, and knitted leggings. Many of these firms are small and

<sup>1</sup> Review of QWI data. <https://ledextract.ces.census.gov/static/data.html>.

<sup>2</sup> North Carolina in the Global Economy website: <http://www.ncglobeconomy.com/index.shtml>.

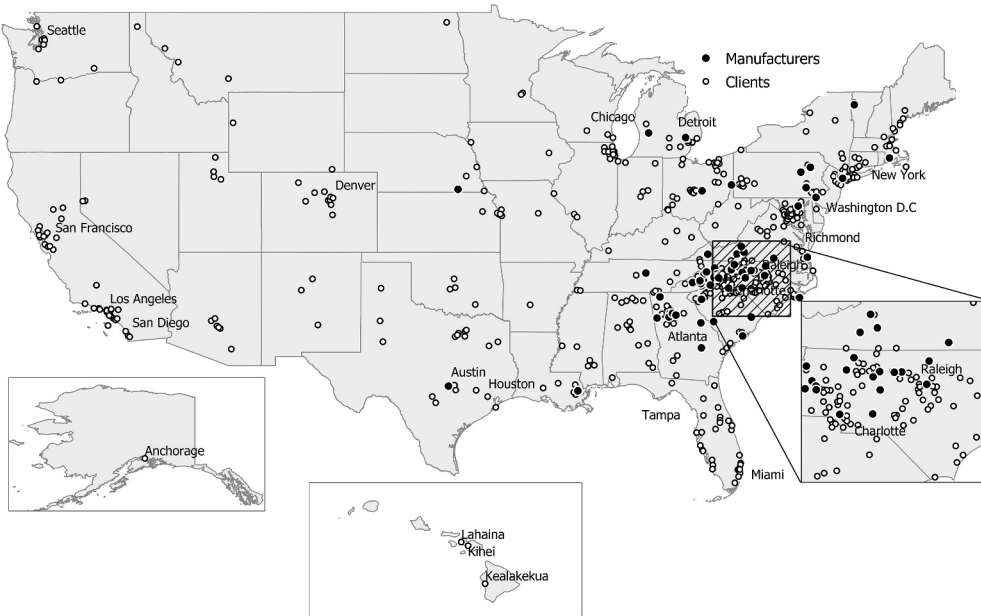
medium sized, clustering along an arc that extends out from Interstates 85 and 40 throughout North Carolina's Piedmont Crescent region—a geographic vestige of the state's early twentieth-century textile history, when new electricity sources and modernized transportation routes offered textile and apparel entrepreneurs the option to locate in smaller communities outside the state's larger urban centers of Charlotte, Greensboro, and Durham. While this dispersed industrial pattern initially offered some mill owners the means to tighten control over the labor process and stamp out attempts to unionize southern labor in the twentieth century, it ultimately created the conditions for maintaining a textile presence in rural and more remote areas of the state.

A set of support institutions has long served North Carolina's textile manufacturing industry, including a state-funded entity called the Manufacturing Solutions Center (MSC), formerly known as the Hosiery Technology Center (HTC). The HTC was established in the late 1980s to address the collective needs of small-scale hosiery manufacturers. While large-scale textile mill operations were once common for bedding and terry towel manufacturing—with prominent textile mills employing upward of five thousand workers—hosiery producers in the state tended to be smaller and thus more dependent on government-sponsored programs providing technology assistance and workforce training. In the late 2000s, the HTC broadened its scope beyond hosiery to support other manufacturing industries in the western-central region of the state, thus becoming the MSC. However, even today, approximately 70 percent of the firms that receive support from the MSC are textile related. As the HTC before it, the MSC continues to offer technology upgrading and skills training support, while adding new services in product and fabric testing, product prototyping, and business incubation. The MSC also leverages its institutional connections to the state's community college and manufacturing extension systems to support workforce and technology development. Throughout its existence, the MSC has been a key actor in the region's textile ecosystem and has adopted a proactive stance toward addressing industry challenges, including seeding new partnerships and initiatives; the CTD is the latest among these institutional solutions.

## The CTD Model

The CTD was founded in 2013 to help North Carolina-based textile and apparel manufacturers connect with and support designers and makers seeking to have their sewn goods made in the US. The CTD helps these manufacturers stabilize employment and revenue by securing production contracts from a new generation of textile designers and makers in large- and mid-size metropolitan regions, including Los Angeles, New York, and urban centers closer to its rural North Carolina base. In this way, the CTD acts as a place-connecting strategy, building relationships between legacy regions and more dynamic urban centers. At a basic level, the CTD helps textile manufacturers reduce their dependence on more volatile, price sensitive, and standardized product lines by competing for smaller batch, design-intensive orders. To augment production support, the CTD also helps traditional textile manufacturing firms develop product design and prototyping skills to allow them to offer additional services to clients.

On the manufacturing side, the CTD works with a network of approximately 150 small- and medium-sized textile manufacturing firms, including cut-and-sew apparel-making operations, pattern makers, and specialized textile and fabric-making factories. As [Figure 1](#) shows, the vast majority of these manufacturers are concentrated along the Interstate 85 and 40 corridors in North Carolina, with pockets of affiliated firms located



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Figure 1. CTD network of clients and manufacturers.

Source: Map created using CTD data from 2017. Data provided by the CTD to authors.

in neighboring states that also have long-standing regional textile and apparel-making traditions—most notably South Carolina and Virginia. The CTD’s headquarters is located in Morganton, North Carolina, whose population is a little over sixteen thousand.

Our analysis of CTD client data indicates that over twelve hundred clothing and textile designers and makers turned to the CTD between 2013 and 2017 to connect with a US-based manufacturing partner to produce small sample batches and, if successful, to complete a much larger production run. The majority of these clients were between the ages of twenty and forty years old, with most planning to sell their products online, including through artisanal, maker, and design-oriented marketing platforms like Etsy or Grommet.

The CTD’s client reach extends well beyond its home state and also traverses the urban–rural divide. Between 2013 and 2017, roughly one-third of the CTD’s clients were located in North Carolina (414 or 33.1 percent), with another 153 (12.2 percent) located in the nearby states of South Carolina, Tennessee, and Virginia. Nonetheless, over half of all client firms were located further afield, and the vast majority (1,094, or 87.3 percent) are based in one of 159 metropolitan regions across the US, with a few international clients. This mix of in-state and out-of-state urban clients is reflected in [Table 1](#), which shows the top mid- and large-size metropolitan regions where CTD clients were located. While the CTD drew a larger share of its clients from in-state urban centers (e.g., Raleigh–Durham, Charlotte, Greensboro), it also worked with hundreds of designers from large urban centers across the US (e.g., New York, Atlanta, Washington, Los Angeles, Chicago, San Francisco).

Our interviews indicated that few CTD member manufacturers fulfill their entire production capacity solely with CTD clients, and there is considerable variation in the level of engagement. At one end of the continuum is a newer worker-owned

**Table I***Top Mid- and Large-Size Metropolitan Statistical Area Locations of CTD Clients*

MSA	# CTD Clients
Raleigh-Durham-Chapel Hill, NC	112
Charlotte, NC	102
New York, NY	82
Atlanta, GA	55
Washington, DC	44
Los Angeles, CA	24
Greensboro, NC	22
Charleston, SC	21
Winston-Salem, NC	18
Chicago, IL	17
Greenville, SC	17
Miami, FL	15
Nashville, TN	15
San Francisco, CA	15
Cincinnati, OH	13
Tampa, FL	13
Dallas-Fort Worth, TX	12
Pittsburgh, PA	12
Baltimore, MD	10
Phoenix, AZ	10

Source: CTD Client Intake Survey, 2013–17. Includes MSAs with population of 500,000 or more [authors' calculations based on data provided by the CTD].

cooperative, Opportunity Threads, that sources entirely to CTD clients. On the other end are well-established manufacturers—some with more than forty years of industry experience—whose CTD clients are currently considered supplemental sources of demand. These legacy firms still support mass production needs, although our interviewees recognized a growing need to diversify. As one manufacturing owner noted, “You don’t have the mass orders anymore. It is all the small orders ... it is today’s reality because the mass orders, the big orders are leaving us.” Asked about the effect of this transformation on the CTD, she quickly replied, “I think it [the CTD] will grow.” The question on the minds of CTD staff is how to convince more established manufacturers to respond to this changing economic landscape by entrusting them with greater sourcing.

Interestingly, the varying level of engagement is aiding CTD expansion efforts: the lack of urgency among many manufacturing members to increase the proportion of their business from CTD clients means the CTD can rotate orders across the entire regional manufacturing network. This also assists with recruitment, since CTD staff can ease a prospective manufacturer into the network by giving it an initial contract to better assess fit, including collecting feedback on the client’s experience. As one CTD staff member explained, “Clients will tell us if you [the manufacturer] are good to work with or not.” If there is mutual interest, the CTD can raise the prospect for a longer-term manufacturing commitment. Additionally, the CTD uses a tiered membership structure to enable firms to initially test out services in a low-risk manner, with higher membership levels associated with more extensive match-making and support services. CTD partners are the membership pinnacle, acting as the inner-circle, both informing CTD strategy and recruiting others firms to become committed partners. With these various steps, the CTD ensures entry into the network is gradual and stepwise, enabling manufacturers to first experience tangible benefits before committing to further engagement and improved production standards.

### Vetting and Preparing Clients

The initial impetus for the CTD came from a series of informal exchanges between the MSC and the textile cooperative, Opportunity Threads, which embraced a high-road ethos from the beginning. Opportunity Threads was established in 2008 by Molly Hemstreet, a long-time resident of Morganton, North Carolina, and a Duke University-trained public school teacher who had observed the economic devastation experienced in Morganton—especially among Latinx immigrants—from textile factory closings. Latinx immigrants in Morganton and surrounding small, rural communities in western-central North Carolina not only faced a higher risk of manufacturing job displacement but encountered growing pressure to accept low wages and worsening jobs within the remaining textile factories (Fink 2003)—decaying economic conditions emblematic of places left behind.

326 Hemstreet's goal in launching a worker-owned, immigrant-led textile business was to extend economic opportunity to skilled immigrant textile workers—knowing that as worker-owners within a cooperative business venture, they would have direct say over wage-setting processes and working conditions, and also retain greater control over production decisions and quality standards (Hemstreet, Chester, and Castelleo 2017). In addition, Opportunity Threads emphasized environmental sustainability from the outset, hoping to attract like-minded clients and inspire other North Carolina-based textile manufacturers to commit to sustainability principles.

The combined social and environmental mission of Opportunity Threads appealed to young textile designers throughout the US, and the cooperative grew from eight to twenty-three worker-owners as it took on additional production orders. But its heightened visibility also came with limits. Opportunity Threads quickly found itself inundated with requests for assistance from young clothing designers looking to contract with firms that met ethical and environmental production standards—and not all of these designers were ready to engage a manufacturer. As a result, Opportunity Threads was dedicating long hours to mentoring young designers with little to no prior textile experience nor first-hand knowledge managing a geographically dispersed manufacturing supply chain. Novice designers lacked adequate understanding of the process of moving from preliminary design to tested prototype to production-ready concept, which requires a specific sequence of interactions with textile firms and specialists. For Hemstreet and others at the cooperative, the learning curve for new designers and textile entrepreneurs proved too steep to manage alone, resulting in their request for help from the state-funded MSC, described earlier.

At the time, the MSC faced related challenges dealing with increased demand from the new generation of textile designers. As with Opportunity Threads, MSC staff in 2008–10 were fielding large numbers of requests for manufacturing contacts from young urban-based makers and designers in cities across the US—some of whom were desperate for alternative sources of income given limited employment prospects in the Great Recession economy. As the director of the MSC, Dan St. Louis, described it, “People were calling to launch their business and they needed cut and sew apparel—and so we were getting tons of calls.” It became evident that simply connecting a novice designer to a local manufacturer was insufficient. “It got to the point where I am sending the same people back to Molly [at Opportunity Threads] that she is sending to me. And it is total chaos and we are not getting anything done.”

Initial attempts by the MSC to redirect excess demand to other apparel manufacturers in the region not only proved short-lived but reinforced for MSC staff the added liability of foisting unprepared designers onto already-struggling textile and apparel makers. Established manufacturers in North Carolina voiced that concern as well—many even

stopped answering emails or phone messages once they realized how much time was required to advise young designers, often resulting in no subsequent production order. It was in this context that the idea for creating a new coordinating structure took form—one that would help parlay the enterprising, yet overexuberant, energy of urban designers into a more enduring resource to extend opportunity within in a struggling manufacturing region.

To de-risk the relationship between designers and apparel manufacturers, CTD staff implemented a client screening process. The goal was not to eliminate clients from the mix and thus lose precious orders, but rather to create a formal mechanism for improving the client–manufacturer relationship by ensuring young designers were better prepared from the start. Using an online application portal, along with self-assessment tool, CTD staff could more easily identify less-prepared designers and quickly intervene to help young designers avoid the common mistake of connecting with a domestic manufacturing partner before the designers have a viable product design. Reinforcing what they experienced in earlier, less-fruitful, designer–manufacturer exchanges, the CTD recognized that too many interactions with unprepared designers will reduce manufacturers’ desire to engage similar designers in the future.

Drawing on early insights gleaned from client screening, the CTD eventually developed a series of recurring workshops and online webinars. One popular course, Sewn Goods 101, walks designers through the production process, teaching them why it is essential to have a price, product sample, and delivery date well before making a manufacturing connection. This course and others have helped designers realize the need for extensive market research to determine the product price point and from there, to calculate production costs and thresholds.

Once designers have completed these courses—which can be augmented through individualized coaching—the CTD moves ahead in brokering connections between designers and manufacturing members, ensuring their match-making reflects mutual interests and available capacity. But even after a connection is made, the CTD continues to work with urban-based designers to enhance their long-term success. As an illustration, the CTD has assisted numerous young design entrepreneurs in preparing a business plan and securing more stable financing, in advance of placing a manufacturing order.

Dan St. Louis, cofounder of the CTD, describes this stepwise, learning-oriented approach as a “win-win” solution where “the entrepreneur [designer] gets to try their product ... [and] ... [t]he manufacturer gets a new *vett*ed client and an opportunity to be involved in some of these new products that might come out.” One clothing designer based in a southern coastal city emphasized the CTD’s essential role in helping designers from across metropolitan regions in the US connect with North Carolina–based manufacturers, noting, “I was already making [clothes at home] and selling them online [through Etsy]. But I just couldn’t keep up. They would sell out really fast, I just needed help .... I had no idea where to start. What I have learned is manufacturers don’t really advertise. So [without the CTD] I would never have known they even existed.” As her experience and others illustrate, the CTD’s role as gatekeeper is not only ensuring a maker–manufacturing match is initially possible but is also setting the conditions for longer-term sourcing stability and success.

### Easing into High-Road Standards

Opportunity Threads and the MSC launched the CTD with a strong commitment to fostering *modern* textile demand and elevating economic opportunity for workers and

small business owners in a struggling regional economy. The CTD's active involvement brokering relationships between designers and manufacturers is critical for achieving economic and employment stabilization. But another, forward-looking objective for the CTD—one shared by millennial designers—is for manufacturing firms throughout the entire CTD network to provide high-quality, family-sustaining jobs while also protecting the environment. This progressive push not only reflects the guiding principles of the CTD's founding textile firm, Opportunity Threads, but also the express desires of urban-based maker clients seeking to use domestic manufacturing sourcing decisions to support living wage jobs and advance environmental sustainability.

328 Ongoing efforts by the CTD to carefully vet and prepare younger designers is core to achieving these broader-reaching environmental and equity gains. Should new design businesses fail to thrive, it not only weakens growth prospects for US textile manufacturing, it also reduces the CTD's ability to leverage designer preferences to work with high-road suppliers to advance job quality and eco-friendly production standards within domestic manufacturing networks. Still, even with this stated mission to advance equitable and *clean* textile manufacturing, the CTD recognizes there is risk in moving too fast, and here, too, they are developing strategies that ease manufacturers into these aspirational goals.

In our interviews, CTD staff acknowledged some hesitancy in pushing manufacturers too hard on sustainability and fair labor practices because of the associated costs that could, without careful planning, undermine business stability and survival. Furthermore, as the CTD is not always the main source for production orders—even for firms at the highest *partner* level—it is risky to draw a line in the sand by making these objectives an absolute or universal set of requirements. Instead, the CTD approaches this issue through a learning framework, recognizing the need to lead manufacturers to compliance through a more supportive transformation. Much like the learning objectives they promote in their work with young designers, their strategy is to help manufacturers see the business proposition to being a good employer and environmental steward. Reinforcing this point, Tanya Wade, the CTD's Project Coordinator noted, “You need to show them the potential business if they do incorporate these values. You have to lead them to the opportunity to change rather than strong arming them.”

A critical first step in this transformative process involves capturing data from product designers to show definitive, compelling evidence of changing social values and environmental preferences among next-generation clients, and then sharing that information in conversational exchanges with member manufacturers. The CTD's client application portal supports this effort, containing a number of questions that help assess prospective client interest in connecting with manufacturers that pay living wages and support other quality job commitments, such as employment benefits or democratic workplaces, or meet eco-friendly production standards.

Analysis of the CTD's intake survey indicates that the vast majority of CTD clients (84 percent) seek a domestic manufacturing partner in order to retain or expand US-based manufacturing jobs—again reinforcing the commitment they share with manufacturers to economic and employment stabilization. Beyond that, close to 70 percent of clients desire their manufacturing partners pay workers a living wage or higher, with close to half wanting to engage manufacturers that foster democratic work environments or position themselves as a social enterprise. Environmental goals are evenly split, with 50 percent of clients looking to contract with manufacturers that are working to lower their carbon footprint and 42 percent hoping these firms commit to *zero-waste*

standards. While these goals are shared by designers of all ages, the proportion seeking strong living wage and zero-waste commitments is substantially higher among younger clients between twenty-one and thirty years of age.

CTD staff share these data with the entire manufacturing network, also stressing that the shifting values of millennial consumers could produce further gains for manufacturers that embrace high-road production standards. To encourage firms to act on this information, the CTD offers a range of support services, starting with peer-learning events that allow manufacturers to exchange ideas and share positive experiences. The CTD also takes advantage of the technical expertise of its parent organization, the MSC, encouraging CTD-affiliated manufacturers to enroll in MSC programs that help firms reduce costs through lean manufacturing principles and enhance business performance through frontline worker and managerial training. Additionally, the CTD works closely with MSC to incubate the next generation of textile and apparel manufacturers. And CTD leaders work with these new textile entrepreneurs to ensure equity and environmental standards are part of the start-up business model from day one. To reinforce this generational impact, the CTD provides older manufacturing owners with succession planning services, recognizing this as another channel to elevate sustainability and equity concerns through employee ownership and strategies in support of workplace democratization.

As a further, crucial step, CTD staff also help manufacturers transform abstract concepts like equity and sustainability into tangible, cost-saving solutions. For example, the CTD helped launch a recycling initiative to turn textile waste into a source of revenue generation to support manufacturing services. This effort, and others like it, bring environmental and economic sustainability goals into closer alignment. More broadly, they represent an adaptive institutional platform, combining growth opportunities in legacy manufacturing with progressive economic, social, and environmental goals. In this respect, the CTD offers a timely model for harnessing the creative energy of young urban designers in order to motivate rural manufacturing communities to reposition themselves as centers of ethical sourcing—ultimately transforming the developmental trajectory of a nonurban regional economy from left behind to ahead of the curve.

## Places Left Behind and Postpandemic Possibilities

The COVID-19 pandemic has put the world economy on an uncharted path, with devastating implications for metropolitan and nonmetropolitan communities alike. There are initial indications that regions with a strong manufacturing base could potentially rebound more quickly, but that outcome will require sustained institutional actions to help businesses and workers navigate these opportunities in ways that also reduce risk. With global supply chains in flux, there is a growing push within the US and Canada to reshore production networks, which could give a much-needed boost to legacy manufacturing regions that have long struggled in the face of global economic integration. Some scholars have also used this moment to call for a greater public commitment to high-road supply chain standards, ensuring manufacturing jobs are not undercut by low-wage competition either domestically or abroad (Helper, Gray, and Osborn 2020).

Still, a major economic shock of this magnitude will undoubtedly produce winners and losers. The economic pressures facing business and workers in communities left behind may further intensify in coming years—but as the early stages of this pandemic have already demonstrated, these are not the only communities at risk, suggesting there



is ample room to develop *place-connecting* institutional responses to support immediate needs and longer-term economic recovery.

As we have shown in this article, place-connecting strategies provide a valuable mechanism to reduce spatial inequities and support longer-term resilience. The CTD, launched in 2013, connects a vulnerable nonurban manufacturing community with similarly marginalized urban-based designers, helping to enhance earnings potential for both groups, while institutionalizing forward-looking strategies in support of economic and entrepreneurial opportunity. While the long-term impact of the CTD on rural manufacturers—and for that matter urban designers—is difficult to evaluate at this time, what is clear is the influence this cross-regional experiment is having on the openness of traditional manufacturers to new experiences and far-reaching connections. We see this most visibly in the CTD’s quick-acting response to the COVID-19 pandemic, with member firms reorienting apparel-making skills, energy, and capacity to support urban health care needs—very different from the products they made prepandemic but also more consequential.

330 On March 22, 2020, the CTD and MSC officially announced they were helping apparel and furniture manufacturers retool production lines to support medical grade masks, gowns, and related protective gear. Two days later, the CTD stated that over sixty manufacturing members had already signed on to support this effort. To expedite its response, the CTD modified its existing intake forms and screening processes, capturing medical needs across the state while coordinating capacity across its distributive manufacturing network by securing supplies, shipping materials, and working with designers to standardize patterns. CTD staff have also leveraged their connections to statewide economic development institutions, including the state’s manufacturing extension system, to help smaller manufacturers scale their operations. The cofounder of the CTD aptly described the significance of this coordinated, risk-pooling effort, noting, “We’ve organized these companies for 10 years and are ready for this.”

It is too soon to predict the long-term effects of COVID-19 on the CTD’s existing maker-manufacturing network. But the broader significance of the connection between the CTD’s rapid pandemic response and its ongoing network and capacity-building efforts is clear. Here, too, we see signs of place-connecting strategies that span urban–rural boundaries, this time transforming the immediate health care needs of urban hospitals into mutually supporting development opportunities that leverage the CTD’s combined design and manufacturing expertise. As pandemic response moves into economic recovery mode, there will be additional opportunities for the CTD to put its cross-regional de-risking strategies to further use, whether to help reshore parts of the manufacturing supply chain or to help newly jobless urban creatives explore alternative sources of income generation.

Beyond manufactured goods, the CTD case also points to the possibility for similar boundary-spanning strategies to mitigate emergent and existential threats. There are obvious applications in agriculture, with strong rural foundations and support institutions that offer the potential to inform urban-based agricultural initiatives, including efforts to place urban farms within abandoned city blocks in areas facing high rates of population decline. An illustrative example of this is Working Landscapes in Warren County, North Carolina, a nonprofit organization that expands opportunities for rural farming in communities of color by forging connections to urban-based initiatives seeking to improve healthy food access for low-income residents (Tewari et al. 2018). As with the CTD, Working Landscapes was initially incubated in a smaller, rural community, resulting in a mediating institution that brings rural resources to struggling urban populations in dire need of services and support. And like the CTD, Working Landscapes has doubled down on efforts to address urban challenges during the COVID-19 pandemic, focusing more intensively on high-poverty neighborhoods that are suffering most from acute food shortages.

Climate change is another area where innovative solutions taking hold in less populated, peripheral communities offer the potential for rural-to-urban knowledge sharing and strategy development (Iskander and Lowe 2020). In the coastal plains of Louisiana, tribal communities have had to improvise solutions to protect vulnerable, yet vital, assets from the increased threat of hurricanes and coastal flooding. Their response includes coordinated community organizing to create new legal and legislative protections in order to retain property rights to land they will eventually be forced to abandon—knowing that future uses of this soon-to-be uninhabitable land, whether natural gas extraction or wind energy, could provide essential sources of income for future tribal generations (Nelson and Ehrenfeucht 2018). Efforts like these could blossom into a larger environmental justice initiative, reaching vulnerable populations within urban areas that are searching for novel participatory solutions to buffer the effects of sea-level rise and extreme weather events (Iskander 2018).

But as we ponder options for scaling these and related efforts, we also need to be wary of less supportive or even exploitative initiatives for aligning urban and rural interests. One example involves a network of coding schools in declining rural communities that are linked to entrepreneurs in urban technology centers at the ready to tap this emergent programming talent pool (Hochschild 2018). At first glance, these initiatives offer great promise in strengthening rural–urban coordination. But a closer look shows signs of paternalism, with investors and entrepreneurs from urban technology centers, such as the Bay Area in California, portraying themselves as the rescuers of people from a failing regional economy. At least one rural-focused coding initiative has even turned predatory, luring low-income students with the false promise of future job prospects, all the while exploiting classroom time as a free or low-paid labor source for enriching outside businesses (Robertson 2019).

Geographers need to tread carefully as they continue to study the places left behind and puzzle through the policy implications of extending economic opportunity to those communities and their residents. As we have shown in this article, local institutions can develop place-connecting strategies as an avenue for de-risking and extending economic opportunities to vulnerable communities across the urban–rural divide. Yet, it is critical that in theorizing and studying these dynamic spatial relationships we neither oversell cases of rural exceptionalism, nor overstate cultural and political boundaries and differences (Perrin 2018). Doing so not only risks intensifying economic, political, and social divides but oversimplifies the complexities of place—urban and rural alike. Rather, we need to recognize and reinforce common experiences, including shared vulnerabilities, that cross geographic and spatial lines—and in the process, work to lift up place-connecting strategies that promote, rather than undermine, shared empathy, opportunity and mutual support.

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