

The Fashion & Apparel Industries in Austin

Current Impact and Opportunities: Spring 2015

prepared for

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Summary

Is fashion design the next piece of the creative/artisan puzzle in Austin to hit popular consciousness? Based on the range of events, activities, new shops, and online presence, it sure seems like it. The rise of local fashion is concurrent with a general trend toward artisan goods and services as a growing presence in the developed world economy. Creative, high value-added, and small batch have proved to be a comparative advantage for the Austin market, and there are clearly opportunities to grow the local fashion and apparel industry.

Current Baseline Impacts: Direct and Total (Including Ripple Effects)

Direct Annual Impact	Output/Receipts	Earnings/Payroll	Employment
Artisan Fashion Design	\$9,019,250	\$4,090,500	210
Apparel Manufacturing	\$37,613,500	\$15,045,400	670
Total	\$46,632,750	\$19,015,900	880

Total Annual Impact	Output/Receipts	Earnings/Payroll	Employment
Artisan Fashion Design	\$16,892,153	\$7,071,656	363
Apparel Manufacturing	\$69,419,476	\$27,014,016	963
Total	\$86,311,629	\$34,085,672	1,326

Sources: U.S. Bureau of Labor Statistics; U.S. Census Bureau; TXP, Inc.

Strategic Initiative #1: A Fashion Incubator or Incubators

Resource poverty is a common theme in conversations with fashion stakeholders, with an incubator structure a logical avenue to address at least a portion of the problem. The lack of a historic local cluster and concentration in this industry, along with the strong human and space-related resources suggest that an academically-housed organization would be the most successful type of fashion sector incubator for Austin. The next step is a business plan that fleshes out the details on organizational structure, operating procedures, services offered, and ongoing financial parameters (including membership costs and/or structure).

Strategic Initiative #2: Austin as a Center of Apparel-Related Wearable Technology

The intersection of fashion and healthcare recently added a fitness leg of the stool in Austin with the announcement that clothing manufacturer Under Armour's first-ever "Connected Fitness" digital headquarters is coming to Austin. The technology is interesting in and of itself, but perhaps even more interesting is where this could go, as this type of technology could soon be literally woven into the fabric of clothing of all kinds, creating the possibility of real-time health monitoring, detection, and early intervention. The new medical school at UT only enhances the possibilities in this space, and suggests that now is an optimal time for the City to serve as a convening force to bring stakeholders to coordinate and leverage the resources of each toward making Austin a center of the design and production of wearable technology.

Overview

Is fashion design the next piece of the creative/artisan puzzle in Austin to hit popular consciousness? Based on the range of events, activities, new shops, and online presence, it sure seems like it. An example is Austin Fashion Week (AFW), which has grown dramatically from an audience of 500 in 1997 to more than 5,000 in 2014. Held in the Frank Erwin Center, AFW is the largest fashion event in Texas and one of the most highly acclaimed in the Southern United States. Over a hundred events take place during AFW including runway shows, designer meet-and-greets, themed parties, and benefits for Austin non-profits. Included in the mix is the University Fashion Group (UFG), a student organization within the University of Texas at Austin whose mission is “to promote principles from the arts, sciences, and humanities vis-à-vis the world of apparel design, retail merchandising, textile science, and textiles conservation.” Members of UFG become involved with Austin’s fashion community by working backstage at local fashion shows throughout the year, as well as twice a year at New York Fashion Week. This exemplifies how Austin’s fashion sector is positioning itself as a location for emergent talents whose creativity and passion rival that of Austin’s multitude of creative sector businesses.

The rise of local fashion is concurrent with a general trend toward artisan goods and services as a growing presence in the developed world economy. A number of sources have discussed this for some time (see, for example, “The Return of Artisanal Employment” in the October 31, 2011 issue of *The Economist*). As early as 2008, business analysts asserted “the coming decade will see continuing economic transformation and the emergence of a new artisan economy. Many of the new artisans will be small and personal businesses — merchant-craftsmen and women producing one of a kind or limited runs of specialty goods for an increasingly large pool of customers seeking unique, customized, or niche products. These businesses will attract and retain craftspeople, artists, and engineers looking for the opportunity to build and create new products and markets.”¹

Creative, high value-added, and small batch have proven to be a comparative advantage for the Austin market, and there are clearly opportunities to grow the local fashion and apparel industry. As a result, TXP was tasked by the City with establishing a path toward economic development in this sector. To that end, this report includes an overview of national trends, a section on economic development issues identified through stakeholder input (via focus group and survey), and a baseline economic impact analysis. Following this context setting, two major opportunities are identified and explored, creating a strategic focus for fashion-related economic development efforts in the near-term.

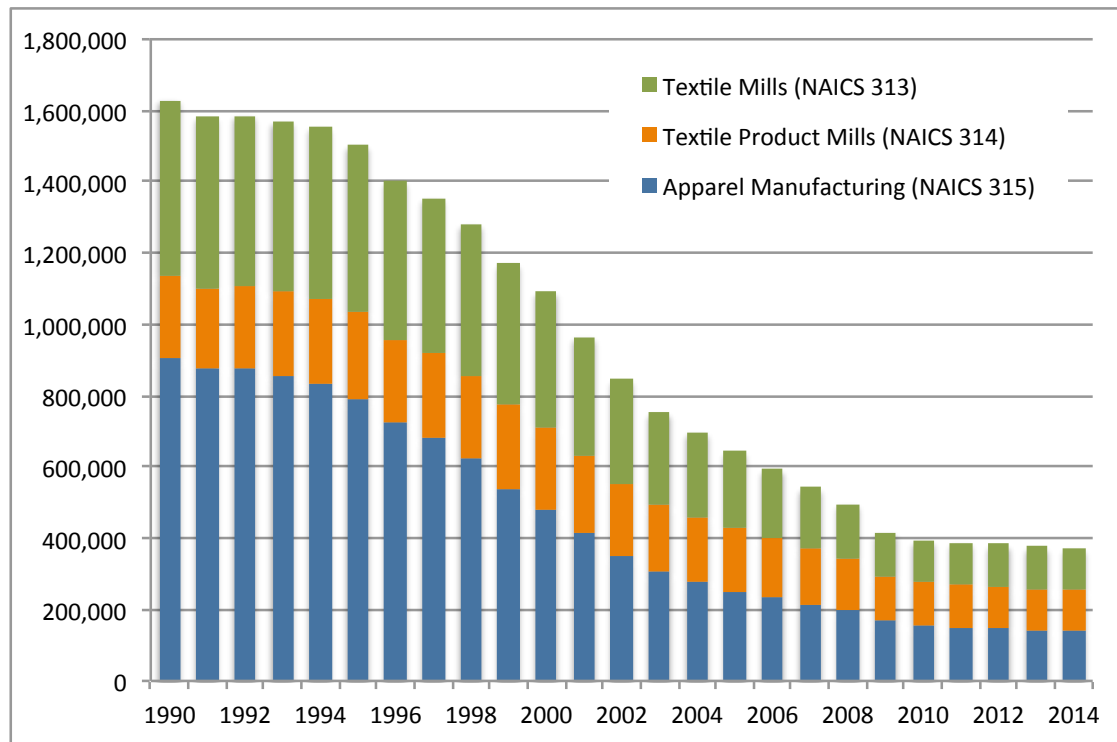
¹ <http://smallbiztrends.com/2008/02/are-you-part-of-the-new-artisan-economy-i-bet-you-are.html>

National Context

The fashion and apparel sector encompasses the design, manufacture, and sale of an incredible diversity of products from unique designer couture to mass-produced commodities. The industry is global, characterized by short product life cycles, erratic consumer demand, abundant product variety, and complex supply chains. Moreover, changing consumer preferences and the rise of new technologies have challenged the viability of traditional business models in the fashion and apparel industry.

In the United States, the majority of fashion designers are concentrated in the largest cities, with almost 75 percent of salaried fashion designers working in either New York or California. The domestic apparel manufacturing industry is less centralized, but has seen a significant decline over the past few decades. From 1990 to 2014, total employment in the apparel and textile manufacturing industries declined by nearly 85 percent, from 1.6 million workers to 372,000 workers. The decline has been proportional throughout the apparel manufacturing component industries as cheap labor, materials, and supply-chain management technologies have made it cost-efficient to ship goods longer distances. The current apparel industry in the US does not try to compete with this high volume, low cost model. Instead, the domestic apparel industry is finding success with an artisanal approach emphasizing high quality, limited edition, and customizable pieces.

Figure 1: Employment in the Apparel and Textile Manufacturing Industries



Source: Current Employment Statistics, U.S. Bureau of Labor Statistics



Stakeholder Input

In order to better understand the specific challenges and opportunities facing the fashion and apparel sector in Austin, TXP solicited stakeholder input via a focus group (attended by more than fifty community members), and through a follow-up survey, which was sent out to a total of 90 individuals. In the initial focus group meeting, a number of themes emerged, with a specific focus on what set the Austin fashion and apparel industry apart – both in terms of strengths to capitalize on and weaknesses hindering further growth. This conversation informed the type of questions included in the survey. The survey response period was approximately one month with 55 total responses received (of which 44 respondents completed the entire survey, including open-ended answer portions). A summary of the stakeholder information gathered follows. Notes from the initial focus group are included as Appendix 2 and the survey questions are included as Appendix 3.

Occupation

Members of the fashion industry tend to have multiple roles in the work they do. Just two survey respondents indicated that they had only one fashion industry occupation. Designer is by far the most prevalent job in Austin’s fashion industry. It was the most selected primary role; almost three times as frequent as the next most common occupation. Nearly three-quarters of all respondents included either designer or costume designer as at least one of their roles.

A large majority, 70.1 percent, of respondents included at least one “maker” activity in their list of fashion industry activities. These roles include manufacturer, production staff, and production management. However only 23.1 percent of respondents selected these types of roles as their primary occupation. Those that did tended to provide their specific job title, including patternmaker, seamstress, tailor, apparel technician, alterations, finishing services, fabric purchaser, product development, and sewing machine operator.

Ownership and Revenue

Nearly 80 percent of survey respondents were the owner of their own fashion-related businesses or organizations. Sole-proprietorships were the most common type of business reported in our survey, making up 46.1 percent of responses. However, businesses employing 2 to 5 workers accounted for an additional 40.4 percent of respondents. Respondents who selected a primary industry role of designer or costume designer were far more likely to work for themselves as a sole-proprietorship.

The overwhelming majority of respondents, 77.3 percent, indicated that their business made less than \$100,000 in the last year, with nearly one-third making less than \$10,000. Not surprisingly, the small number of businesses with 5+ employees were clustered at the upper end of the revenue scale.

Figure 2: Primary Occupation in the Fashion Industry

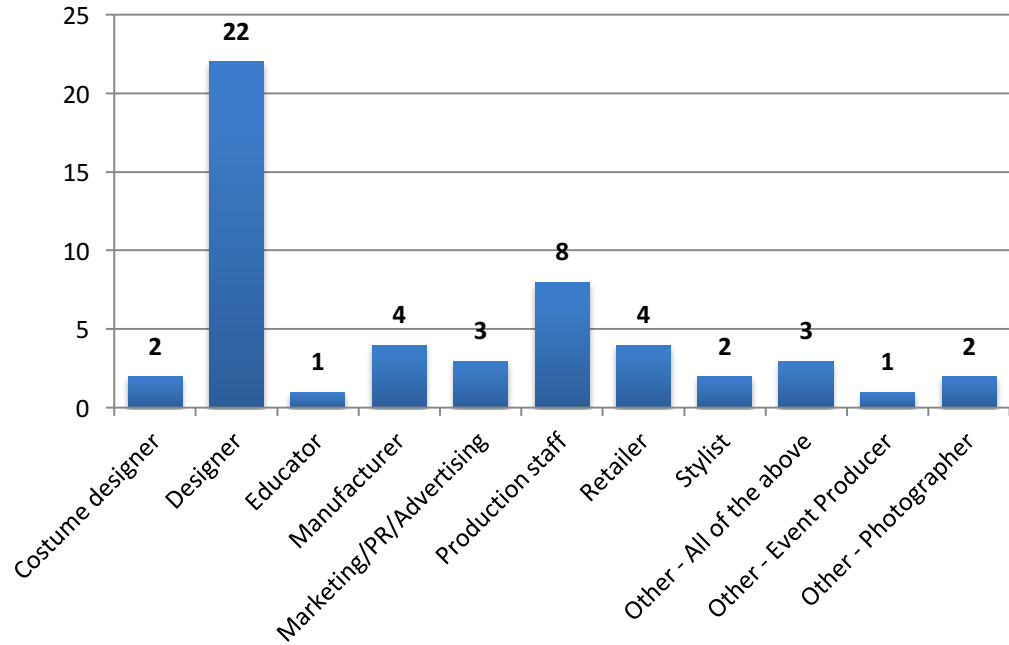
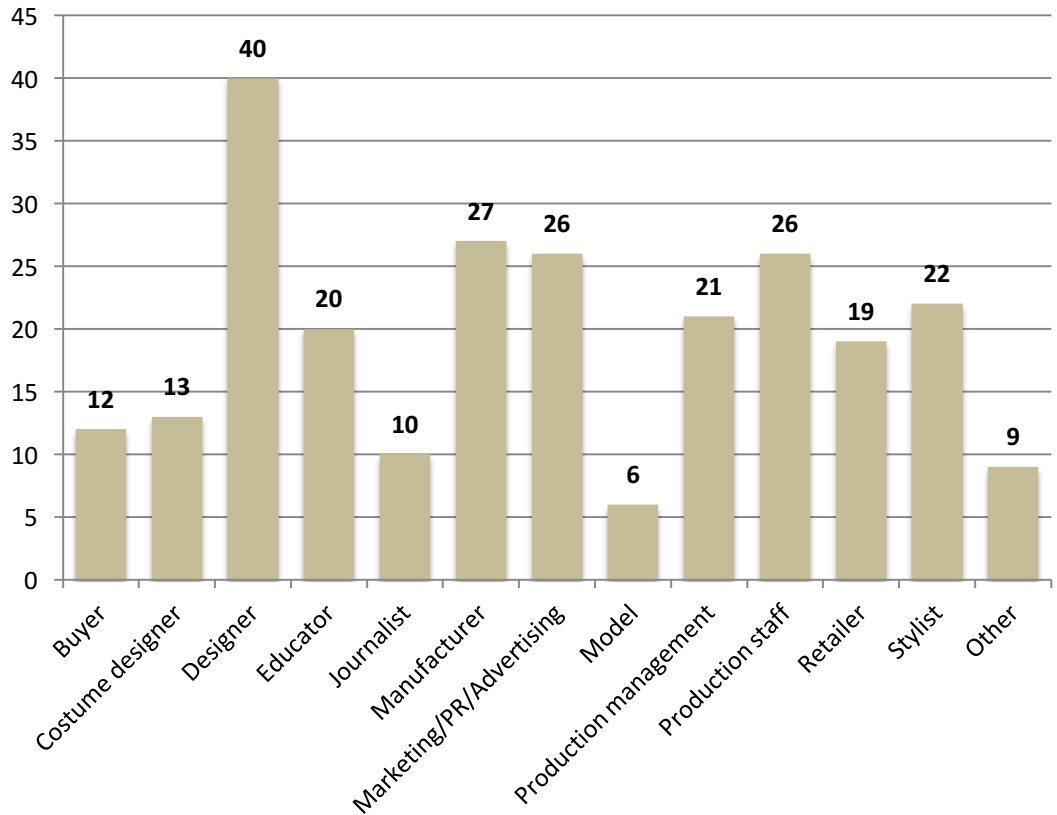


Figure 3: All Roles in the Fashion Industry



Issues Facing the Industry

Respondents were asked to rank the issues facing the fashion industry in Austin from most to least important. While there was no overwhelming consensus among survey respondents as to the single greatest issue facing the fashion industry, some patterns did emerge.

Labor force and training issues were ranked by the most number of respondents as their top concern; however, when weighted by all rankings, production capacity (specifically technology, equipment, or space) emerged as the most important issue for the majority of respondents. Financing and access to markets are also of high concern for most survey respondents. Makers (production and manufacturing occupations) and Educators emphasized labor force/training issues. Designers, Marketing/PR/Advertising workers, and Stylists weighted the need for production capacity more heavily.

Themes from the Open-Ended Comments: the Industry's Top Concerns

The majority of the comments provided were something to the effect of “[this] doesn’t exist” or “we need [this] to grow” with regards to whichever issue the respondent selected as the most critical facing the industry.

Production Capacity: Start-ups and “up and coming” designers need to be able to do cost-effective small-run production. There is currently little middle ground between making one-offs and mass production.

Labor Force: Not enough stitchers and sewers. Not enough technicians with the right skills. The cost of labor and lack of skill level is prohibitive in Austin. There is no history of garment production in Austin, so there is not an existing high-quality trained workforce. There are few quality professional sewers because there isn’t enough work to sustain them.

Financing: Extreme frustration with past experiences with SBA-type loan programs (both City and non-City funded). Seed investors in Austin are used to tech startups and have no experience with the fashion industry.

Themes from the Open-Ended Comments: Weaknesses/Challenges

In response to an open-ended question regarding the weaknesses of Austin’s fashion industry or the challenges to growth it faces, survey respondents continued to focus on a number of issues. Many respondents pointed to internal issues among industry members. This included a lack of professionalization (and “business education”), which was seen to significantly hamper individuals and businesses from scaling up. Others pointed to a lack of technical skill or experience in fashion and design, stating products and lines are too “homemade” and production values for fashion shows/marketing are not in keeping with larger industry trends. Similarly, technicians were criticized as neither trained nor able to

appropriately assess their own skill level. Finally, there was some discussion of the insular and unwelcoming nature of the Austin fashion industry itself causing a sort of “stagnation.”

In response to these challenges, several respondents focused on the concept of creating a single central point as a locus of training, collaboration, and branding. A geographical location as a publicized center of fashion industry activity – incubator, fashion district, etc. – could help create consumer awareness and allow for necessary mentoring and resource sharing (equipment and staff).

Respondents were also asked to identify programs, organizations, or communities that could be instructive to overcoming the challenges faced by Austin’s fashion and apparel industry.

Responses included:

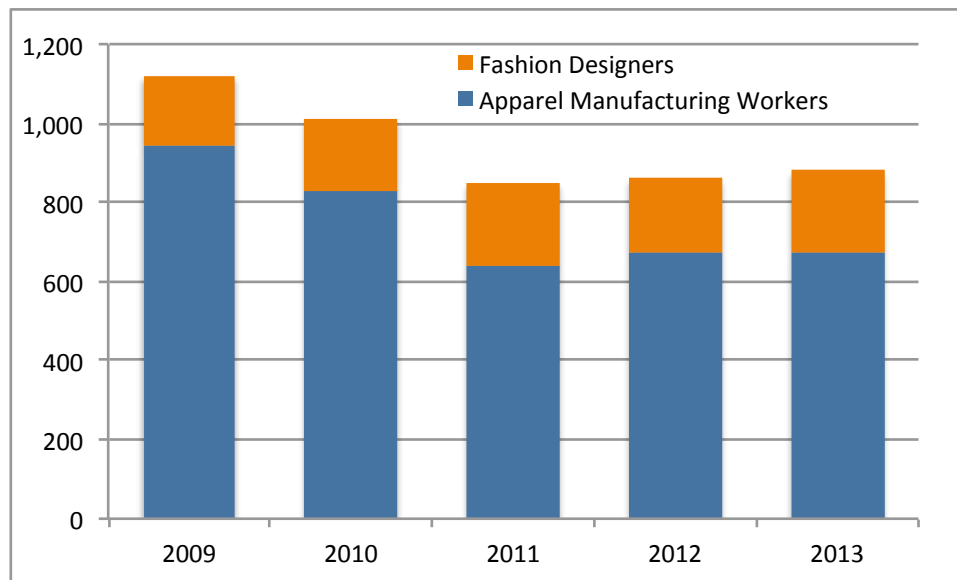
- Tech incubators in Austin (including SXSW model)
- Fashion incubators and the general industry in New York, San Francisco, Philadelphia, San Antonio, Houston, Washington DC, Chicago, Denver, Dallas, Portland, Las Vegas, Los Angeles, Nashville, Toronto, Seattle, etc (New York, San Francisco, and Washington DC were the most common responses)
- Reading, PA (Albert Boscov)
- Milk studios in NYC
- StartUp Fashion
- CFDA Fashion Fund
- Fashion Institute of Technology for training programs
- The Trampery in London
- BlogShop
- Academy of Art Austin
- Slow Food/Local Food model

Economic Impact of Fashion & Apparel in Austin

Austin's fashion and apparel industry is a small but dynamic part of the city's overall wealth of creative businesses, talented and innovative workforce, and increasingly sophisticated retail and entertainment segments of the local economy. However, economic development (which concerns the creation of primary, or export-oriented, jobs) is the focus of this analysis. As a result, the definition of fashion and apparel for these purposes includes those individuals and firms who design and manufacturing garments, as opposed to distribute or sell them to the end consumer.

For a variety of reasons (mostly related to costs and proximity to input materials), Austin has not been a center of the garment industry. Up-and-coming designers and fledgling apparel companies in Austin, therefore, are unable to draw on a history of apparel manufacturing, the expertise of existing local brands, or the network of a large retailer's headquarters that exist in other communities. As such, Austin's fashion and apparel industry is highly fragmented and consists mainly of sole proprietorships and small businesses. As seen below, employment in this industry is significantly influenced by the strength of the overall local economy, though there seems to be a lag in the effects. In 2013, 880 workers were employed in Austin's fashion and apparel industry. This is a decline of 21 percent over the 2009 high of 1,120 workers. However, as shown below, employment in this industry has rebounded steadily since the lowest point in 2011.

Figure 4: Historic Fashion and Apparel Employment in the Austin MSA



Source: Occupational Employment Statistics, U.S. Bureau of Labor Statistics; Non-employer Statistics, U.S. Census Bureau; TXP, Inc.

It is possible to divide employment in this industry into two classes – designers (which does include artisans who do some sewing, patternmaking, etc. themselves) and apparel manufacturing employees. In 2013, nearly a quarter of employment in Austin’s fashion and apparel industry was attributed to designers; this is an incredibly high proportion of designers to apparel manufacturing workers. Comparatively, fashion designers make up just over 10 percent of the employment in this sector at the national level. It is interesting to note that designer seems to be more insulated from external economic shocks as total employment among fashion designers changes less year-to-year than it does for apparel manufacturing workers.

The Footprint of Austin’s Fashion & Apparel Industries

The best source of data that describes the current footprint of fashion-related activity in Austin is the Occupational Employment Survey (OES), maintained by the U.S. Bureau of Labor Statistics. Data was selected by occupational category (a classification system which allocates employees based on their primary economic activity) using codes associated with fashion design services and apparel manufacturing. In addition, data for non-employer apparel manufacturing is included; the assumption is that apparel companies that have no employees are essentially artisan shops consistent with the profile established via stakeholder interaction and survey. For these firms, payroll is estimated at fifty percent of total receipts. The 2013 figures for workers and payroll are presented below.

Table 1: Austin MSA Apparel Manufacturing Related Occupational Structure (2013)

Industry	Workers	Avg. Salary	Total Wages
Pressers, Textile, Garment, & Related Materials	190	\$20,200	\$3,838,000
Sewing Machine Operators	310	\$22,830	\$7,077,300
Sewers, Hand	20	\$25,470	\$509,400
Tailors, Dressmakers, and Custom Sewers	60	\$29,190	\$1,751,400
Textile, Apparel, & Furnishings Workers (Other)	90	\$20,770	\$1,869,300
Total	670	\$22,455	\$15,045,400

Source: Occupational Employment Statistics, U.S. Bureau of Labor Statistics; TXP, Inc.

In order to align the information from Table 1 with the input-output model of the Austin MSA, the data was aggregated into two input categories: Fashion Design Services (which combines the occupational data on fashion designers and the non-employer statistics for apparel manufacturing); and Apparel Manufacturing (the sum of the occupations listed in Table 1). This data was then combined with information from the Census Bureau to estimate direct receipts as a function of employment and wages.

Table 2: Austin MSA Fashion & Apparel Direct Footprint (2013)

Industry	Output/Receipts	Earnings/Payroll	Employment
Artisan Fashion Design	\$9,019,250	\$4,090,500	210
Apparel Manufacturing	\$37,613,500	\$15,045,400	670
Total	\$46,632,750	\$19,015,900	880

Source: Occupational Employment Statistics, U.S. Bureau of Labor Statistics; Non-employer Statistics, U.S. Census Bureau; TXP, Inc.

Economic Impact Methodology

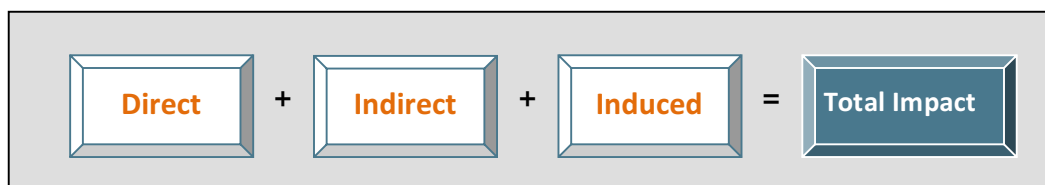
Input-output analysis includes three types of expenditure effects: direct, indirect, and induced. Direct effects are production changes associated with the immediate effects or final demand changes. The purchase of fashion goods by a buyer is an example of a direct effect.

Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly affected industries – typically, additional purchases to produce additional output. In order to produce a fashion line, a designer will need to buy materials, as well as contract with professional services providers (lawyers, accountants, etc). These downstream purchases affect other local merchants and workers.

Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects. The designer, the clothing manufacturer, and their workers see increased compensation from their efforts, for example, as do the establishments that provide the necessary materials or other services to the designer and/or the producers. Induced effects capture the way in which this increased income is in turn spent in the local economy.

Once the ripple effects have been calculated, the results can be expressed in a number of ways. Three of the most common are “Output,” equivalent to sales or receipts; “Earnings,” which represents the compensation to employees and proprietors; and “Employment,” which refers to permanent, full-time jobs that have been created in the local economy. The interdependence between different sectors of the economy is reflected in the concept of a “multiplier.” An output multiplier, for example, divides the total (direct, indirect and induced) effects by the direct effect.

Figure 5: The Flow of Economic Impacts



Results

In 2013, the fashion and apparel sector employed a total of 880 workers in the Austin MSA, creating direct annual compensation of just over \$19.3 million. Per the discussion above, this data is used as inputs into local models of the regional economy; when the multiplier effects are included, the translation is \$86.3 billion in annual economic activity, total compensation of \$34.1 million, and 1,326 total jobs. Summary results follow; see Appendix 1 for a detailed breakdown of the impact of Fashion Design and Apparel Manufacturing individually.

Table 3: Total Economic Impact of Fashion & Apparel by Input Sector (\$2013)

Industry	Output/Receipts	Earnings/Payroll	Employment
Artisan Fashion Design	\$16,892,153	\$7,071,656	363
Apparel Manufacturing	\$69,419,476	\$27,014,016	963
Total	\$86,311,629	\$34,085,672	1,326

Source: TXP

Table 4: Total Economic Impact of Fashion & Apparel by Industry (\$2013)

Industry	Output/Receipts	Earnings/Payroll	Employment
Agriculture, etc.	\$27,264	\$7,040	0
Mining	\$161,859	\$50,187	1
Utilities	\$1,062,932	\$307,255	4
Construction	\$331,169	\$170,268	5
Manufacturing	\$42,230,654	\$14,017,769	611
Wholesale Trade	\$3,207,464	\$1,491,449	24
Retail Trade	\$2,599,625	\$1,260,671	62
Transportation/Warehousing	\$828,567	\$417,781	12
Information	\$2,798,304	\$950,612	20
Finance & Insurance	\$3,952,753	\$1,576,865	49
Real estate	\$6,232,112	\$738,808	52
Prof./Technical Services	\$12,718,742	\$7,259,223	222
Management of Companies	\$686,465	\$423,429	7
Admin./Waste services	\$2,766,120	\$1,755,010	89
Educational Services	\$391,312	\$224,979	11
Healthcare & Social Services	\$2,669,433	\$1,781,231	58
Arts, Entertainment, etc.	\$312,003	\$157,093	11
Accommodation	\$427,594	\$176,603	9
Food services, etc.	\$1,305,888	\$582,709	45
Other services	\$1,601,368	\$690,829	24
Households	N/A	\$45,861	8
Total Annual	\$86,311,629	\$34,085,672	1,326

Source: TXP

Key Growth Strategies

Strategic Initiative #1: A Fashion Incubator or Incubators Could Help Jumpstart the Local Industry

The overarching message from stakeholder input (both in the focus group and through the survey) was one of resource poverty, i.e., lack of adequate production capacity (both people and equipment) access to markets, and financing. While the details vary, incubators in general allow members/participants to develop their nascent business via resources such as access to shared equipment, one-on-one mentoring, educational seminars and master classes, shared workspace, in-house design studios, exclusive networking, promotional and marketing opportunities, and market leads. The following provides greater detail on incubators in general and possible implementation in this context.

Incubator Overview

A model that has seen success in a number of other industries, incubators have become a favored strategy among communities looking to revitalize, retain, or develop their local fashion industries. As this model of economic development has gained popularity, the term “incubator” has been applied to a diverse group of organizations that employ different strategies for supporting their client businesses. As of 2012, the NBIA estimates there are approximately 1,400 business incubation programs in North America. The majority of these are nonprofit organizations that partner with economic development organizations, local government agencies, and academic institutions. Incubators prioritize creating jobs and supporting local entrepreneurs. “Accelerators,” by contrast, tend to provide quick market validation of a business concept and many are for-profit enterprises. Incubators also tend to work with early-stage companies all located in one physical space, while small business development programs often provide similar business support services to small businesses at any stage of development. Likewise, research parks may allow businesses in the same or complementary industries the opportunity to network due to their proximity, but incubators specifically try to foster cross-pollination and cooperation among their co-located businesses.

One of the longest running fashion incubators, the Toronto Fashion Incubator (TFI) was established in 1987 to stimulate business growth and ensure the vitality of Toronto’s second largest industrial employer. Housed in an 8,000 square foot historic building in downtown Toronto, the TFI works with designers at different parts of their careers, offering assistance to recent fashion school graduates, designers who are just starting out, and more established brands alike. To accomplish this, TFI has two different membership levels. Outreach members have access to the incubator’s business training, mentorship, and networking resources while Resident members have access to these services as well as renting subsidized private or shared studio space at the incubator. Like many incubators, the TFI is funded through a combination of membership fees and grant funding from both public and

private institutions including the Federal Innovations Program of Employment, Immigration Canada, the City of Toronto Economic Development Corporation, and the City of Toronto.

From the gold-standard Toronto model, communities have adapted the fashion incubator to fit their specific needs and goals. Most of these initiatives were begun in the past five years or less and are still in the early phases of establishing and refining their models. Each incubator seeks to support fashion designer's enterprises as businesses, not just as an expression of creativity. This is accomplished through some combination of access to low cost studio space, use of expensive professional equipment, professionalization, business mentoring, educational seminars, and networking opportunities. For many communities, the incubators grew out of a desire to retain the design talent native to each community and allowed the local fashion industry to organize around a central locus. From these similar goals, four distinct models of fashion incubators have emerged.

Disrupting a mature fashion industry: New York's CFDA Fashion Incubator

New York is the center of the fashion and design world for many and home to some of the most famous designers and their businesses. As such, it is a common destination for new up-and-coming designers looking to build their own businesses, capitalizing on the networking opportunities, availability of materials and labor, and reputation of New York's fashion industry.

However, such an established, mature industry means that many hard-working, talented new designers find it incredibly difficult to grow their businesses. Competition is fierce and very few designers manage to move from "new and innovative" to "iconic brand." One of several fashion-centric incubators in New York, the Council of Fashion Designers of America (CFDA) Fashion Incubator seeks to address this issue by tailoring its support to the "next generation" of New York's fashion designers. It works specifically with established smaller scale designers looking to scale up and compete with international brands. The program was introduced in 2009 as a partnership between the New York City Economic Development Corporation (NYCEDC) and the CFDA.

The CFDA's 10,000 square feet of studio and workspace is located in New York's Garment District. This gives resident designers access to the resources of the Garment District at subsidized rents while at the same time it has helped to stem the exodus of smaller businesses from the neighborhood resulting from the trough of the global financial crisis. The CFDA Incubator's 2-year business development program has some of the more stringent requirements. It requires that the designers have been in business for at least two years, maintain a staff (paid or volunteer), and be able to demonstrate notable press recognition and orders from top-tier retailers.



Continuing education: the Philadelphia Fashion Incubator at Macy's City Center

The Philadelphia area is home to many universities and technical schools with fashion design and apparel merchandising programs. In an effort to retain talented aspiring designers educated in these programs, the City of Philadelphia launched a fashion incubator in 2012 in partnership with Macy's and a consortium of the local educational institutions. The incubator's focus is supporting newly graduated fashion design students as they launch successful Philadelphia-based businesses.

Working closely with the educational institutions, the Philadelphia Fashion Incubator identifies top designers from the year's graduating class and a juried selection of four Designers-in-Residence receive assistance moving from the classroom to the workroom. The 800 square foot space provides the Designers-in-Residence access to office and design/work space, a showroom, a classroom, monthly workshops with curriculum focusing on essential business tools for fashion enterprises, and mentoring resources. The partnership with Macy's is essential for providing the designers with the resources, equipment, supply chain, and experts used by the national department store.

Reimagining the apparel industry: the Seattle Fashion Incubator

Seattle has the fourth highest concentration of fashion designers in the country and is home to major brands and retailers. Even so, the region's fashion and apparel industry has faced the same downward pressure on commodity prices as other manufacturing communities in the United States.

In order to reclaim the area's legacy as a leader in the apparel industry and support this sector as it competes in the current global market, the Seattle Fashion Incubator was created in 2011. The SFI is envisioned as the anchor of a planned Seattle Garment District that will unify the regional fashion industry, shorten its supply chain, and increase access to wholesale suppliers for area designers.

The SFI model capitalizes on historic strengths of the fashion, apparel, and textiles industries in the greater Seattle area. This includes networking with major international retailers headquartered in Seattle. The SFI also partners not only with fashion, design, and textile programs at local educational institutions but also with the Entrepreneurship Innovation Institute at the Samuel Curtis Johnson Graduate School of Management at Cornell University to provide the opportunity for MBA students to vet the business models of the designers as well as assist with financial modeling, market planning, or other consulting services.

Similar to the TFI model, the SFI offers multiple levels of membership. The Designer-in-Residence program houses independent fashion brands full time based on a juried selection process with access to dedicated work and show room space, business coaching, and use of

production equipment. The Associate Resident program offers targeted services and equipment use in a part-time capacity for a monthly membership fee. Finally, general members are able to access general mentoring, networking, and marketing services. The SFI model envisions an ongoing process of cooperation and assistance among the members of the Seattle fashion industry, with the fashion incubator providing a central locus for these efforts.

Collaboration between creative sectors: London's Fashion Lab at the Trampery

The Fashion Lab at the Trampery is located at the third of four (soon to be five) Trampery co-working sites around London. The Trampery designs and operates workspaces to promote entrepreneurship, creativity, and innovation among a multidisciplinary community. Each site houses a range of technology and creative enterprises, carefully chosen to create an innovative, dynamic community.

The Trampery's London Fields site focuses on the potential nexus between fashion and technology. It is located in the heart of Hackney's fashion and creative district, has large open-plan space as well as studio spaces for designers, freelancers, and small businesses. The Fashion Lab occupies the first floor of this space. It provides specialized professional equipment for graduates and early stage businesses that may struggle to access the necessary equipment to produce and grow their brands. The Fashion Lab is equipped with key machines, such as industrial quality sewing and overlock machines, fusing press, ironing stations and pattern cutting tables. It also provides mentoring and professionalization assistance with expert guidance in the fields of finance, legal, manufacturing, and marketing.

The Fashion Lab is an attempt to address the challenges faced by new designers by implementing innovative strategies that have been successful in the technology industry – including angel funding, lean methodologies, and ecosystem development. Likewise, by offering both individual studios as well as open-plan space for fashion-related businesses, The Fashion Lab encourages cross-pollination of ideas between designers, fashion app developers, photographers, agents, and others. Moreover, residents at The Fashion Lab have access to the entire network of the Trampery's residents in its other locations.

The space, program, and mission of the Lab were developed in collaboration with the Designer-Manufacturer Innovation Support Centre (DISC) at the London College of Fashion, the Centre for Fashion Enterprise (CFE), and Hackney Community College. The equipment at the Lab was paid for with a municipal grant, and financial support has also been provided by the European Union. These collaborations are vital to the work of the Trampery, not only from a financial standpoint, but for their valuable assistance in tailoring the technology incubator model and the Trampery's tested growth strategies to the specific needs of the fashion industry.

Implications for Austin

As discussed above, resource poverty is a common theme in conversations with fashion stakeholders, with an incubator structure a logical avenue to address at least a portion of the problem.² Per the case studies, there is a range of organizational and business structures that fall under this broad umbrella, and there may well be room for more than one. However, the lack of a historic local cluster and concentration in this industry, along with the strong human and space-related resources at UT, ACC, Texas State, and McCallum High School suggest that an academically-housed organization might make sense. In particular, preliminary conversations with ACC have been positive, with the possibility that the City may be able to participate in providing equipment and other technical resources. Given this initial momentum, the next step would be to create a business plan that fleshes out the details on organizational structure, operating procedures, services offered, and ongoing financial parameters (including membership costs and/or structure).

Strategic Initiative #2: Austin could be a Center of the Creation of Apparel-Related Wearable Technology

The history of wearable technology dates back to the early 1960's when an MIT mathematics professor created the first wearable computer to cheat at roulette in the casinos. The device was successful, giving the wearer a 44 percent edge in the game. Calculator wristwatches followed in the mid 1970's and digital hearing aids in the late 1980's. Wearable technology began taking off at the beginning of the 21st century with Bluetooth headsets, followed by the inventions of digital pacemakers, Fitbits, smart watches, and Google Glass. 2014 was officially christened "The Year of the Wearable" by a multitude of tech publications due to the flood of new and innovative wearable technology.³

The Emergence of Wearable Tech in the Fashion Industry

Wearable devices as gadgets worn on the body and as promoted by the health and fitness industry have taken the country by storm. According to a recent report by Gartner, a technology research and advisory firm, shipments of health and fitness tracking wearables are forecast to reach 91.3 million by the end of 2016.⁴ Smart phone technology has also entered the wearable, with the development of smartwatches and jewelry. Gartner also predicts that smartwatches will be more popular than fitness bands in 2015 with the market growing from 18 million sold this year to 21 million.⁵

² And a common approach in Austin, as the Greater Austin Chamber lists there being 46 incubator/accelerator organizations in the region.

³ Knoblauch, M. (2014, May 13). The History of Wearable Tech, From the Casinos to the Consumer. Retrieved February 28, 2015, from <http://mashable.com/2014/05/13/wearable-technology-history>

⁴ Kansara, V. (2014, November 30). Amanda Parkes on Why Wearable Tech is About More Than Gadgets. Retrieved February 28, 2015, from <http://www.businessoffashion.com/2014/11/amanda-parkes-wearable-tech-gadgets.html>

⁵ Boxall, A. (2014, November 29). Forget Smart Watches and Glasses, Smart Clothing Will Be the Hottest Trend of 2015. Retrieved February 28, 2015, from <http://www.digitaltrends.com/wearables/smart-clothing-garments-at-ces-2015-and-beyond/>

However, the tech industry has historically been focused primarily on utility, and style was considered by most engineers to be a pesky diversion from the primary mission of making devices that were increasingly efficient. Things are changing, as noted by Kate Losse:

The tech industry is no longer satisfied with being the shy engineer tinkering in a Palo Alto garage: It wants to be a major player in the culture at large. It wants to lead not just how we communicate, but what we talk about, watch, read, and even wear, which is why companies like Apple and Intel are building out entire teams dedicated to fashion and style.⁶

Early wearable gadgets had aesthetic shortcomings that were hard to overcome for many consumers – they were bulky, squared off, masculine, and were usually made of plastic. But, recent studies show that 51 percent of consumers who are interested in buying a smartwatch wouldn't consider it unless it fits with their personal style.⁷ The fashion industry has taken note of this, and designers are jumping into the wearable tech space: Rebecca Minkoff and Opening Ceremony are two designers who introduced wearable accessories at New York Fashion Week last year, and Tory Burch teamed up with Fitbit to release a line of accessories compatible with the Fitbit Flex device. Ringly is another recently launched device that is a fashionable ring that alerts the user to incoming calls, texts, or social media.⁸

The Evolution from Devices to Smart Textiles

As popular as wearable devices are, many in the wearable tech industry believe the future belongs to smart textiles. These experts maintain that for wearables to truly take off, “technology must become deeply embedded into the clothing we already wear, starting at the level of the fibres and fabrics.”⁹ Ralph Lauren debuted a tech-infused tennis shirt worn by ball boys at the 2014 U.S. Open that monitors heart rate, breathing, and stress levels. This technology will be able to create outfits for children that tell if they are getting enough exercise, jackets warning if the wearer's blood pressure is too high, and even tops that change their pattern and color depending on the wearer's mood.¹⁰

⁶ Losse, K. (2014, October 18). Silicon Valley Has a Fashion Problem. Retrieved February 28, 2015, from <http://www.style.com/trends/fashion/2014/fashion-tech-problem-silicon-valley>

⁷ High-Tech Meets High Fashion: The New Look of Wearable Technology. (2014, December 10). Retrieved February 28, 2015, from <http://www.theguardian.com/technology/2015/feb/14/fashion-phones-wearable-technology>

⁸ Arthur, R. (2014, September 3). Designers are Jumping Into The New Wearable Tech Space This New York Fashion Week - Should We Care? Retrieved February 28, 2015, from <http://www.forbes.com/sites/rachelarthur/2014/09/03/designers-are-jumping-into-the-wearable-tech-space-this-new-york-fashion-week-should-we-care/>

⁹ Kansara, V. (2014, November 30). Amanda Parkes on Why Wearable Tech is About More Than Gadgets. Retrieved February 28, 2015, from <http://www.businessoffashion.com/2014/11/amanda-parkes-wearable-tech-gadgets.html>

¹⁰ Walker, R. (2015, February 14). Fashion's Big Brands Follow the Money to Join the Wearable Tech Revolution. Retrieved February 28, 2015, from <http://www.theguardian.com/technology/2015/feb/14/fashion-phones-wearable-technology>

Dr. Amanda Parkes, wearable tech designer and chief of technology and research at the hybrid fashion incubator Manufacture New York, believes that wearable textiles do not have to involve traditional circuits and batteries, but rather a true integration of fibres and electronics. This will enable textiles to explore the entire landscape of the body, moving beyond the wrist and head.¹¹ Many experts believe that in five to ten years, all the gadgets that we all carry around – mobile phones, cameras, bracelets – will disappear and everything will be integrated into a garment.¹² Some examples of next-generation wearable tech include:¹³

- Cityzen Sciences' project, codename D-Shirt: a top and a pair of cycling shorts that detect movement, heart rate, speed, breathing patterns, and GPS location.
- Visijax Commuter Jacket: a waterproof jacket for cyclists with a rechargeable battery pack that powers white and red car-style indicators even when the rider has two hands on the handlebars.
- LikeAGlove: a piece of clothing worn by a user inside the house where it takes exact measurements, thereby ensuring that clothes ordered online fit perfectly.
- Synapse Dress: a 3-D printed garment that leverages the wearer's own electrical currents that run through her body to create different colors, lighting, etc.
- Exmobaby: smart pajamas for babies containing a thermometer, movement sensors, and an ECG monitor woven into the fabric.

So, what's next with regard to smart fashion and fabrics? Kristine Upesleja, the Textiles & Materials Manager at FIDM/Fashion Institute of Design & Merchandising in Los Angeles, believes the new areas of exploration will be:¹⁴

- Fibers made from food leftovers (corn, milk, crab shells, coffee grounds, coconut)
- Nanotechnology and high performance textiles (engineered molecules of the fiber)
- Unimaginable varieties of 3-D printing
- Biotechnology: garments that are grown in the lab (leather from animal stem cells, garments grown from red wine, Bioprinting, etc.)
- Fabrics that do many things that traditional fabrics won't

¹¹ Kansara, V. (2014, November 30). Amanda Parkes on Why Wearable Tech is About More Than Gadgets. Retrieved February 28, 2015, from <http://www.businessoffashion.com/2014/11/amanda-parkes-wearable-tech-gadgets.html>

¹² Walker, R. (2015, February 14). Fashion's Big Brands Follow the Money to Join the Wearable Tech Revolution. Retrieved February 28, 2015, from <http://www.theguardian.com/technology/2015/feb/14/fashion-phones-wearable-technology>

¹³ Boxall, A. (2014, November 29). Forget Smart Watches and Glasses, Smart Clothing Will Be the Hottest Trend of 2015.

Retrieved February 28, 2015, from <http://www.digitaltrends.com/wearables/smart-clothing-garments-at-ces-2015-and-beyond/>

¹⁴ Are Fashion Trends Evolving With Technologies Getting Closer To The Body? (2015, February 17). Retrieved February 28, 2015, from <http://www.smartfabricsconference.com/news/are-fashion-trends-evolving-with-technologies-gett>

Amanda Parkes cites companies such as MC10, which makes circuit tattoos, Modern Meadow, which is growing leather in a lab, and Dan Steingart at Princeton for his work with printable fibre batteries as examples of future wearable tech innovators.¹⁵

Wearable Tech in Healthcare

Whereas wearable health began with fitness tracking, healthcare experts believe that a growing force of early stage innovation is completely rethinking how wearables can change health and wellness. Wearable technology has already revolutionized healthcare by assisting doctors in the operating room, but patients can now wear devices that track everything from blood pressure to heart rates to oxygen saturation.¹⁶

People with chronic medical illnesses such as emphysema, diabetes, or congestive heart failure are perhaps the biggest beneficiaries of this increased technology. Being able to monitor a patient with a chronic medical condition in a home setting would revolutionize the medical field, and there is a growing acceptance among physicians toward adopting digital technology in their medical practices. Of course, there are regulatory and logistic hurdles to overcome, including HIPAA and the FDA. But, just as the banking and retail sectors use technology to improve efficiency, healthcare must also embrace digital technology as a fundamental way to deliver high quality care.¹⁷

Implications for Austin

The intersection of fashion and healthcare recently added a fitness leg of the stool in Austin with the announcement that clothing manufacturer Under Armour's first-ever "Connected Fitness" digital headquarters is coming to Austin. Located at the Seaholm development downtown, the Connected Fitness program focuses on the company's digital products and powers various health and fitness applications, including UA Record, MapMyFitness, Endomondo and MyFitnessPal. Company officials said that their office currently employs 120 people, and it will be hiring an additional 100 people, with most of the jobs based in Austin.

The technology is interesting in and of itself, as MapMyFitness is an open platform, "seamlessly integrating with more than 400 fitness tracking devices, sensors and wearables." Perhaps even more interesting is where this could go, as this type of technology could soon be literally woven into the fabric of clothing of all kinds, creating the possibility of real-time health monitoring, detection, and early intervention. The timing also appears right, as it has

¹⁵ Kansara, V. (2014, November 30). Amanda Parkes on Why Wearable Tech is About More Than Gadgets. Retrieved February 28, 2015, from <http://www.businessoffashion.com/2014/11/amanda-parkes-wearable-tech-gadgets.html>

¹⁶ Afshar, V. (2014, May 4). Wearable Technology: The Coming Revolution in Healthcare. Retrieved February 28, 2015, from http://www.huffingtonpost.com/vala-afshar/wearable-technology-the-c_b_5263547.html

¹⁷ Glatter, R. (2014, November 20). Wearable Technology and Digital Healthcare Strategies Should Shift Focus to Chronic Medical Illness. Retrieved February 28, 2015, from <http://www.forbes.com/sites/robertglatter/2014/11/20/wearable-technology-and-digital-healthcare-strategies-should-shift-focus-to-chronic-medical-illness/>

just been announced that Athenahealth, also located at Seaholm, is launching the More Disruption Please accelerator. According the Statesman article, “the program will provide seed funding, free office space, technical and marketing assistance and other resources to startups that are addressing problem areas in the health care delivery system. . . . Athenahealth has launched similar accelerators at its Boston and San Francisco offices. The Austin program will accept applications on a rolling basis, with an expected residency of eight to 12 months for each member company.” The new medical school at UT only enhances the possibilities in this space, and suggests that now is an optimal time for the City to serve as a convening force to bring stakeholders to coordinate and leverage the resources of each toward making Austin a center of the design and production of wearable technology.

Conclusion

The world is beating a path to Austin’s door, with widespread opportunities in the creative sector clearly a major factor. Austin is a place that appreciates creativity and culture in a variety of evolving forms, which serves to both attract and retain talented people. This in turn has a significant impact on business recruitment, retention, and expansion, as well as local entrepreneurship. At the same time, “Brand Austin” increasingly means more than music, as local artisans and craftspeople of all types leverage not only what they make but where they make it. These trends are only enhanced and enabled by that fact that technology continues to realign almost every aspect of modern life. To cite but two examples, the reality of mass production is becoming more individualized and custom, while information technology is close to ubiquitous. As a result, design is an increasing piece of the overall value created for customers, who also want to know who made something and how it was produced. Taken together, its not hard to imagine all of these currents combining to create strong interest in Austin-based fashion. The initiatives identified in this report are designed to help translate that interest into tangible economic development.



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Appendix 1: Detailed Total Impact Figures

Table A1.1: Total Economic Impact of Fashion Design Activity (\$2013)

Industry	Output/Receipts	Earnings/Payroll	Employment
Agriculture, etc.	\$7,289	\$905	0
Mining	\$34,014	\$7,239	0
Utilities	\$195,987	\$43,434	1
Construction	\$87,465	\$35,290	2
Manufacturing	\$393,594	\$90,488	4
Wholesale Trade	\$370,918	\$129,398	5
Retail Trade	\$685,955	\$260,606	24
Transportation/Warehousing	\$177,360	\$74,200	4
Information	\$724,829	\$183,691	8
Finance & Insurance	\$1,072,261	\$337,521	19
Real estate	\$1,589,764	\$137,542	20
Prof./Technical Services	\$9,063,193	\$4,670,098	180
Management of Companies	\$67,219	\$30,766	1
Admin./Waste services	\$588,771	\$288,658	28
Educational Services	\$103,663	\$47,054	4
Healthcare & Social Services	\$707,822	\$370,097	22
Arts, Entertainment, etc.	\$88,275	\$34,386	4
Accommodation	\$127,959	\$41,625	4
Food services, etc.	\$379,017	\$134,827	19
Other services	\$426,799	\$144,781	9
Households	N/A	\$9,049	3
Total Annual	\$16,892,153	\$7,071,656	363

Source: TXP

Table A1.2: Total Economic Impact of Apparel Manufacturing Activity (\$2013)

Industry	Output/Receipts	Earnings/Payroll	Employment
Agriculture, etc.	\$19,976	\$6,135	0
Mining	\$127,844	\$42,948	1
Utilities	\$866,944	\$263,821	3
Construction	\$243,703	\$134,978	3
Manufacturing	\$41,837,060	\$13,927,280	607
Wholesale Trade	\$2,836,546	\$1,362,051	20
Retail Trade	\$1,913,670	\$1,000,065	38
Transportation/Warehousing	\$651,207	\$343,580	8
Information	\$2,073,475	\$766,921	13
Finance & Insurance	\$2,880,493	\$1,239,344	30
Real estate	\$4,642,348	\$601,266	32
Prof./Technical Services	\$3,655,549	\$2,589,124	42
Management of Companies	\$619,246	\$392,663	6
Admin./Waste services	\$2,177,349	\$1,466,352	61
Educational Services	\$287,650	\$177,926	7
Healthcare & Social Services	\$1,961,612	\$1,411,134	36
Arts, Entertainment, etc.	\$223,728	\$122,707	6
Accommodation	\$299,635	\$134,978	5
Food services, etc.	\$926,871	\$447,882	26
Other services	\$1,174,570	\$546,048	14
Households	N/A	\$36,812	5
Total Annual	\$69,419,476	\$27,014,016	963

Source: TXP

Appendix 2: Austin's Fashion Industry Stakeholder Meeting

Themes discussed at the meeting included:

- the importance of cross-pollination between different creative sectors in Austin
- diversity
- the Austin brand
- transportation hub of Texas
- consumer education
 - tourism spending
 - “is this locally made?”
- UK connection
- Need for manufacturing capabilities
 - Interest among existing designers to move to Austin
 - It is hard to make a living
- Production/training/sourcing
- Education: both technical skills and professionalization
- Lead times, transportation costs, and increased use of technology are driving up demand for local production
- Capitol Factory as an incubator example from another industry in Austin
- Tension between “buy local” and increased cost that entails
- Whole Foods is a big local client for apparel?
- Consumer education regarding the garment production process
- When imported fabrics are used, the “made in USA” label cannot be used
- Mills and cotton industry in Texas
- Story of Austin's creative sectors: the artists are here; the industry is not
- Training program for sewing as a career; however sewers need stability in their income streams (possible that technology will make this moot)
- Levi's left Texas; manufacturing is leaving Central Texas
- No large retailers are based here. Austin is missing this layer of the industry. This means that there are no internships.
- The turn-over is nothing new
- It is important to focus on the fundamentals
- Fashion Industry Think Tank
- Example of fashion shows in High Point, NC
- YWCA and battered women's shelter in Fort Worth have partnered to create a training and employment placement program with sewing
- The fashion industry is fractured
- There is a difference between fashion, style, and sewn-goods
- Accelerator @ Highland ACC
- Strengths of the Austin Fashion Industry
 - Schools (potential for training programs)
 - Workforce (including refugee population)
 - Volume of designers per capita (and retention)
 - Movie industry
- Weaknesses
 - Wage protections

- Stability of productions
- Buyers don't come here; have to chase them. This is a chicken and egg issue with regards to production capacity
- Lack of concentration of retail
- Production capacity
- No equipment sales; no technicians
- Training to go from home sewing to industrial sewing because demand exceed supply for sewers
- There are different skill sets for production management, sewing, and designing and different training required for each role
- Consumer awareness to improve connection between price, quality, and sourcing
- Financing needs to include entrepreneur training and capacity-building regarding norms and requirements (as well as a vetting process for VC/loans)
- Mentorship program for the business side

Appendix 3: Austin's Fashion Industry Survey

Fashion Industry Demographics

1. Are you the primary owner of the fashion-related firm you are associated with?
 - Yes
 - No

2. What was your firm's annual revenue in 2013? (This information will not be shared at an individual response level.)
 - Less than \$10,000
 - \$10,001 to \$49,999
 - \$50,000 to \$99,999
 - \$100,000 to \$249,999
 - \$250,000 to \$499,999
 - More than \$500,000

3. How many full-time employees does your company/organization employ? Please include yourself (i.e. an individual who is self-employed with no additional employees would select "1").
 - 1
 - 2 to 5
 - 6 to 10
 - 11 to 20
 - 21 to 50
 - More than 50 employees

4. What is your primary role in the fashion industry? Please choose one.
 - Designer
 - Manufacturer
 - Buyer
 - Production staff
 - Production management
 - Retailer
 - Marketing/PR/Advertising
 - Journalist
 - Stylist
 - Model
 - Costume designer
 - Educator
 - Other (please specify)

5. Do you have additional roles in the fashion industry? Please select all that apply.

- Designer
- Manufacturer
- Buyer
- Production staff
- Production management
- Retailer
- Marketing/PR/Advertising
- Journalist
- Stylist
- Model
- Costume designer
- Educator
- Other (please specify)


Strengths/Assets

6. During the initial stakeholder meeting on September 30th, a number of strengths or assets of the Austin fashion industry were identified. These included the potential for cross-pollination between the many creative people and businesses in Austin, the Austin brand, Austin' geographic location, tourists and tourism spending, and the volume of designers per capita. Please provide any additional comments on existing assets in Austin for the fashion industry. (Is there anything that was missed? Are any of these more important than the others?)

Weaknesses/Challenges

7. A number of issues have been identified as potential challenges for or weaknesses in Austin's fashion industry. Please rank the following in order of importance. That is, the issue ranked "1" is the most critical challenge facing the Austin fashion industry.

- Access to markets/clients/buyers
- Competition
- Consumer awareness/education
- Distribution channels
- Production capacity – technology, equipment, or space
- Labor force/training
- Materials sourcing
- Financing
- Regulatory/legal issues

- 
8. Please briefly describe why the issue your ranked “1” is the most critical challenge facing Austin’s fashion industry.
 9. Please provide any additional comments regarding the weaknesses or challenges facing the Austin fashion industry.

Best Practices in the Promotion of the Fashion Industry

10. Are there any communities or program which you would point to as examples Austin could learn from in the growth and promotion of its fashion industry?