

CENTER FOR ENTREPRENEURIAL STUDIES



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FROM FACTORY TOWN TO VIBRANT INNOVATION CENTER: THE ENTREPRENEURIAL ECOSYSTEM IN DURHAM, NC

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Preface

An ecosystem is an environment that contains interacting organisms. An entrepreneurial ecosystem (EE) consists of people affiliated with organizations interacting within a physical environment with the goal of promoting entrepreneurship. This case study describes the EE in Durham, North Carolina – the people and organizations primarily located downtown who embrace this mission. I interviewed the individuals acknowledged in Appendix A and drew from reports, blog posts, newspaper articles and data sources to write the case study.

I frame this study in two ways. First, while important in their own right I do not examine social ventures or local ventures – startups that serve and entirely depend upon the local market. Instead, I focus on suc-

cessful startups that can grow to have major impacts on the city's economic base. Since these new firms tap regional, national and/or global markets, they are not constrained by the size of the local market. These companies exemplify growth entrepreneurship.

Second, Durham is part of the growing Research Triangle region. The region's EE developed before the EE in Durham and continues to support it in various ways. The people and organizations located in downtown Durham help budding and established entrepreneurs thrive. In an era of internet-based social media and virtual communication, I underscore the importance of having a vibrant downtown, and I consider how its density, compactness, connectivity and walkable design have enhanced growth entrepreneurship.

Introduction

Durham is part of the Research Triangle. Although divided by the U.S. Census Bureau into the Raleigh-Cary metro area and the Durham-Chapel Hill metro area, the region actually functions as one market of more than 2.0 million people. The map in Figure 1 shows the three core counties and other important features of the region. Three universities form the corners of the triangle: Duke University in Durham, North Carolina State University in Raleigh and the University of North Carolina at Chapel Hill. Table 1 in Appendix B shows impressive population growth in the three core counties since 1900.

The Research Triangle Area (RTA) got its name from the Research Triangle Park (RTP), which was established in 1958 in the middle of the region near the Raleigh-Durham airport (RDU). The Research Triangle Foundation, created as a fiduciary for the three universities that owned the 4000-acre RTP, was tasked with selling sites to private companies and public agencies from the U.S. and around the world. The inspiration was to mitigate the “brain drain” of scientific talent trained at the three universities by providing employment opportunities for skilled labor in the region. The Research Triangle Institute (RTI) was also established in 1958 to initiate research activity that eventually enhanced RTP’s reputation as an attractive and legitimate R&D location. Currently, RTI has over 4,700 employees worldwide.

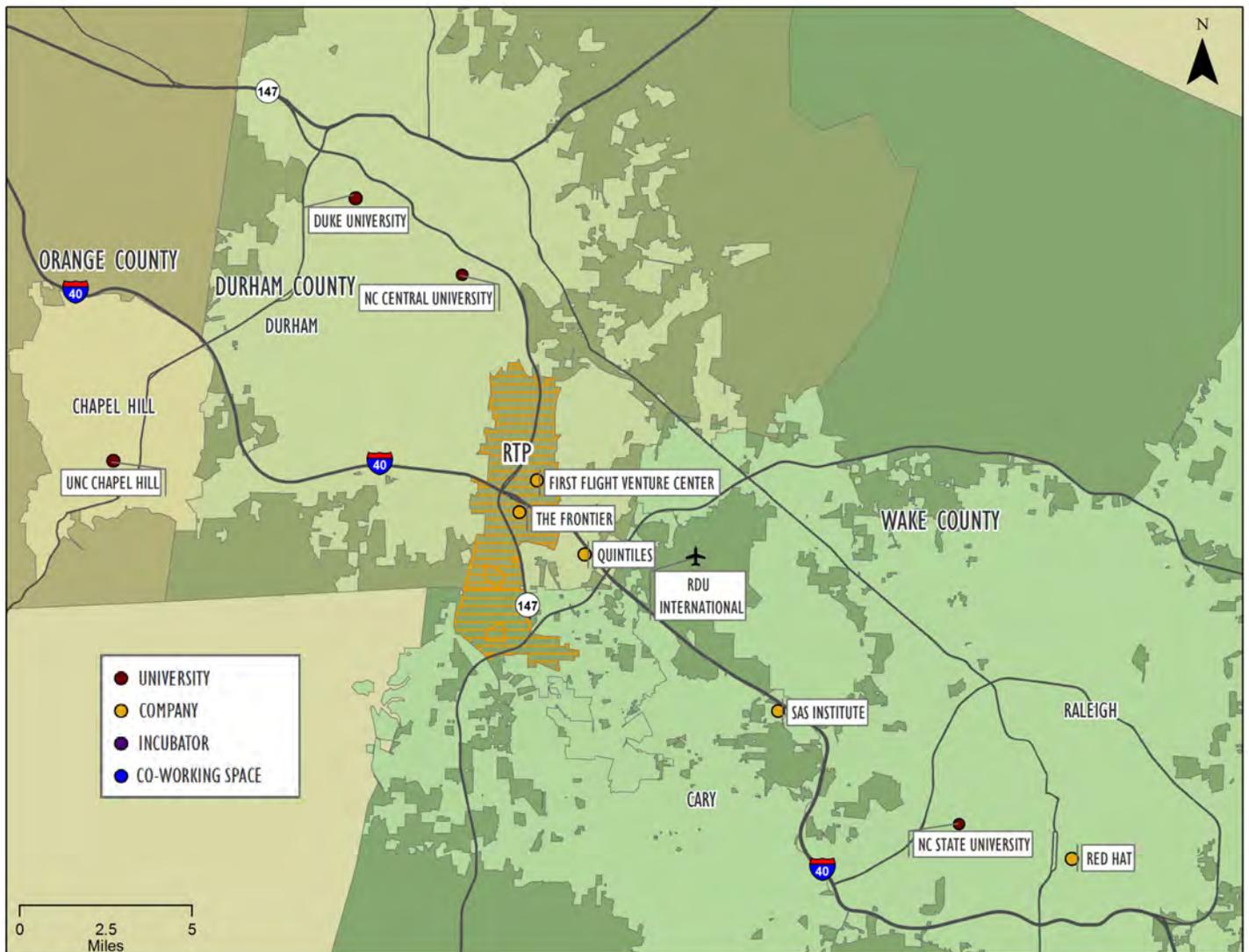
In 1984, the Wall Street Journal published an editorial on entrepreneurial regions that mentioned the Research Triangle in the same paragraph as Silicon Valley and Route 128 near Boston. The latter two areas were in fact entrepreneurial regions, but the RTA was not. At that time, the companies operating in the park were far from entrepreneurial. Only well established

companies could afford to purchase and develop RTP sites. New entrepreneurial firms prefer to rent existing space available on short-term leases. Therefore, RTP would not attract entrepreneurial firms where buildings had to be constructed and the zoning allowed development on only 15% of the site.

In fact, the business culture at that time was corporate, not entrepreneurial. The North Carolina Department of Commerce housed the lead economic development agency that primarily engaged in business recruitment activities. The combination of customized workforce training, anti-union business climate, relatively inexpensive labor, low-cost land and low state and local taxes attracted branch plants primarily from the northeast and Midwest seeking less costly locations. Similarly, most firms in the RTP were R&D subsidiaries or branch facilities of companies headquartered elsewhere. At that time, the most successful entrepreneurial firm in the region was the software company – SAS, a spinoff from NCSU that was located outside the RTP in Cary, NC. Currently, SAS has about 5,600 employees at the Cary headquarters and over 14,000 employees worldwide. Homegrown entrepreneurial firms also not associated with RTP are Quintiles located near RDU and Red Hat headquartered in downtown Raleigh. Each company had about 10,000 employees in 2017.

The economic development culture in the region began to change in the 1980s. The Council for Entrepreneurial Development (CED) was the primary catalyst. Over the next 30 years, CED offered a wide range of programs that spawned entrepreneurship in a variety of ways. It is not an exaggeration to say that CED brought together the people who created the network that built the entrepreneurial ecosystem (EE)

Figure 1. Research Triangle



in the Triangle region.

In 2010, CED moved from centrally located space near RTP into funky basement space in downtown Durham. Its relocation to the American Tobacco Campus (ATC) signaled the shift in the locus of entrepreneurial activity that had already begun from suburbia to urban areas, especially to downtown Durham. Not many would have predicted this outcome in this auto-oriented, low-density region.

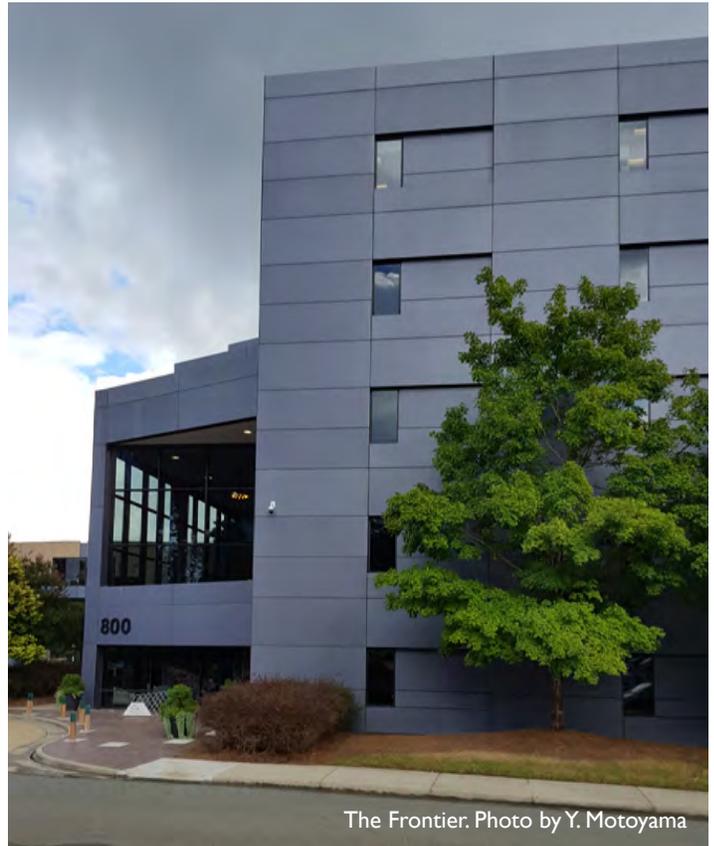
Durham-based CED has continued to serve entrepreneurs in the Triangle region as a convener, catalyst and service provider. The organization relies on volunteers who contribute time and money to mentor and advise young companies. They continue the “pay-it-forward” approach championed by founding executive director, Monica Doss years ago. According to long-

term key employee, Dhruv Patel, CED’s success was more about human agency (people voluntarily helping others) than anything else. Cashed-out entrepreneurs powered entrepreneurship in the region through episodic mentoring. As a tenant at ATC, CED helped give credibility to downtown Durham as a welcoming place for entrepreneurs. CED is discussed further in Appendix C.

In 1991, the Research Triangle Foundation established a science-oriented incubator for startups in RTP. First Flight Venture Center serves 34 companies currently. In 2014 reacting to the success of downtown Durham, the Foundation created a different type of facility – The Frontier advertised as “drop-in space” where budding entrepreneurs could plug in and collaborate. Many predicted that The Frontier would fail, but it has proven to be popular and expanded to a second

building in 2017. Would-be entrepreneurs living in this auto-dependent, low-density region apparently value this centrally located co-working facility near RDU, especially since most of the space is available at no charge and parking is ample and free.

The well-regarded Blackstone Entrepreneurs Network operates out of The Frontier. (See www.blackstoneentrepreneursnetwork.org) Life science and biotech startups continue to be located in RTP supported by Alexander Real Estate in association with the NC Biotechnology Center. Raleigh can point to the Centennial Campus at NCSU and entrepreneurial initiatives in the downtown area.



The Frontier. Photo by Y. Motoyama



The Frontier. Photo by Y. Motoyama



The Frontier. Photo by Y. Motoyama

Downtown Durham Revitalization

To anyone walking around downtown Durham in the 1980s, the prospect of revival, let alone prosperity would have seemed remote and farfetched. Downtown Durham shared the fate of many central cities across the U.S. that languished as the suburbs around them grew. When the American Tobacco Company closed in 1987, downtown had already shed its department stores and many local businesses. Neither residents nor visitors had reason to go downtown. Urban Renewal had been used as a tool to destroy numerous residences near downtown in the name of “eliminating slums and blight.” Two transportation projects sacrificed access and connectivity for greater mobility. The one-way loop around the core of downtown functioned like a medieval moat. The Durham Freeway (State Route 147) destroyed the African-American Hayti neighborhood and some of Durham’s most historic buildings.

Yet, the seeds of revitalization were sown in the late 1980s. As in many American cities, public-sector investments led the way: Durham Civic Center (1989),

Carolina Theatre renovation (1989), the new Durham Bulls Athletic Park (1995), the Downtown YMCA (1997) among others. In response, the private sector began investing near the new baseball field (Diamond View I, 1998) and in other downtown districts: Measurement Inc. (1994 and 1999), West Village apartments (1999) and Peabody Place apartments (2000). Although oriented more to Duke University’s East Campus than downtown, Brightleaf Square demonstrated the commercial potential of converting vacant industrial buildings in the early 1980s. Figure 2 shows the location of these projects. In addition, the popular 1988 movie, Bull Durham, generated positive marketing and branding for the city.

Although these investments represented an increase in downtown activity, the American Tobacco redevelopment was the catalytic project that altered the investment landscape downtown. Indeed, the revitalization of the American Tobacco complex became strategically important spurring redevelopment elsewhere in downtown. After 2005 when both phases of

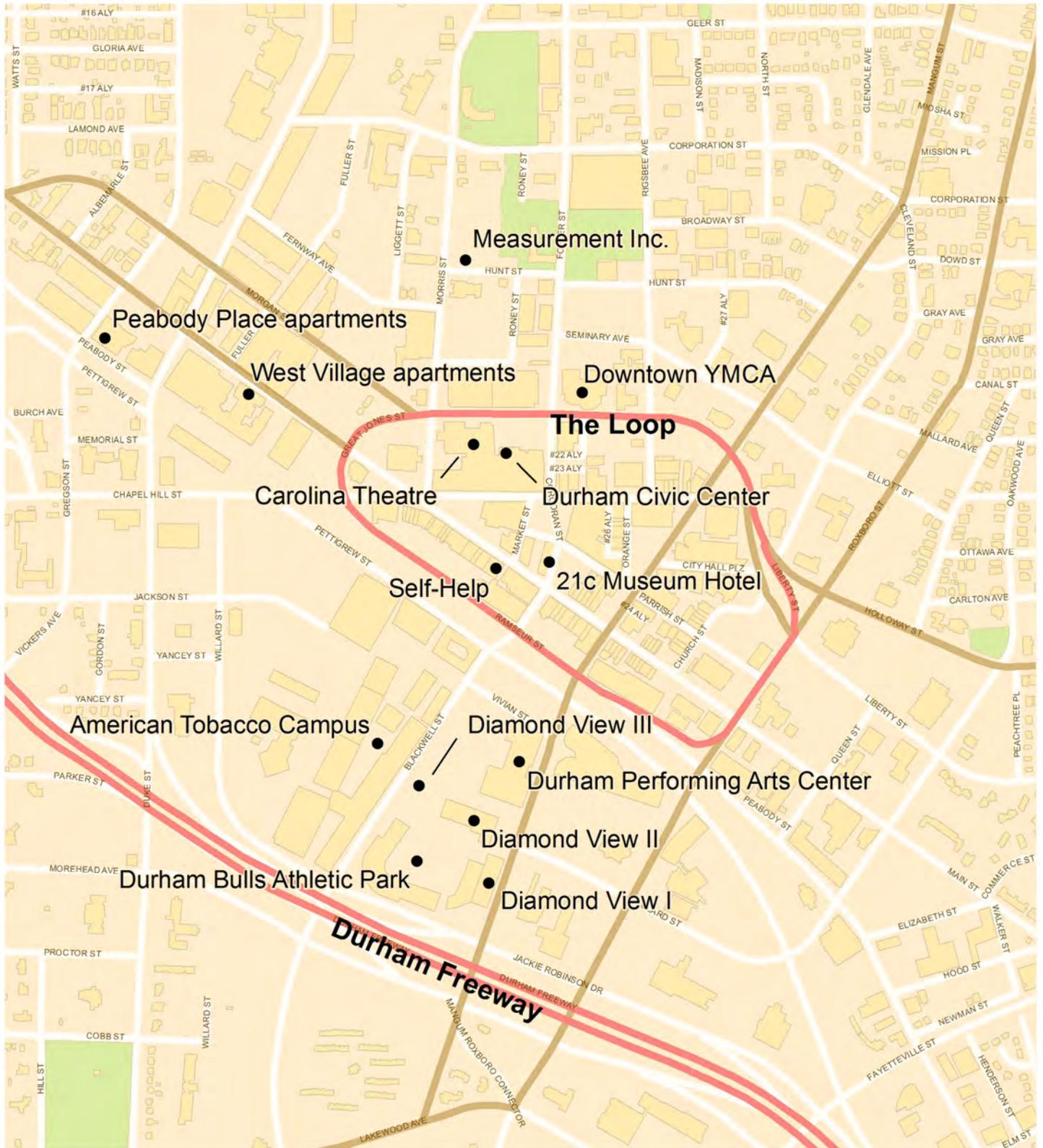


American Tobacco Campus.
Photo from PLAN 575 Class



American Tobacco Campus.
Photo by Plan 575 Class

Figure 2. Downtown Durham Revitalization



the American Tobacco Campus (ATC) were completed, the pace of redevelopment accelerated with 16 major public or private projects in the next five years. Appendix D covers the redevelopment of the ATC.

The vintage of office properties clearly shows this trend. From 1970 through 1989, there were only four new or renovated office buildings in downtown Durham, one every five years. From 1990-1999, another four were added doubling the rate. In the next 10-year period, more than one per year was completed. Furthermore, after the Great Recession, apartment construction boomed with five major projects completed (856 units) and another three under construction (644 units). Since 2000, downtown Durham has benefitted from over \$1.3 billion in private real estate investment. Over 2,500 residents now call downtown home.

Downtown rents and property values increased significantly over this time-period. The resulting increase in the Durham's tax base provides resources to continue to support growth as well as to mitigate the negative impacts of successful revitalization. One

of the major players in the American Tobacco project and in downtown redevelopment more generally has been Self-Help, the largest community development financial institution in the country located within downtown Durham's Loop. There is a brief discussion of Self-Help in Appendix E.

As strategically important as American Tobacco was, it did not diverge from the trend in the revitalization of downtown Durham. Like the revitalization in the Brightleaf district that preceded it, ATC did not connect well to the Loop with railroad tracks forming a barrier. In fact, ATC was rather self-contained. The project in the American Tobacco district that forged much stronger connections to the City Center district within the Loop was the Durham Performing Arts Center (DPAC) project.

In the early 2000s, Duke considered building its own performance facility on west campus. Eventually, Duke and the City of Durham decided to team to construct one center downtown. In November 2008, the DPAC opened. It is the largest performing arts venue in North Carolina. Attendance and revenues



have exceeded all expectations. The project cost \$48 million. Phillip Szostak Associates from Chapel Hill and a Dallas firm developed the project. Szostak was the architect who designed DPAC. Although the city provided about \$34 million in funding, Duke contributed \$7.5 million without which the project would not have moved forward. (See Wikipedia on DPAC.) Duke University has played important roles in downtown redevelopment and entrepreneurship promotion as summarized in Appendix F.

The resurgence of downtown Durham that enabled the EE to emerge can be summarized through the lens of Downtown Durham Inc. (DDI) Durham's downtown advocacy organization. In the 1990s, its focus was on improving the physical place by adding arts, entertainment, restaurants and other amenities. DDI was wise by not attempting to compete with suburban retail during this time. These efforts supported the successful recruitment of two headquarters to ATC: McKinney advertising in the Reed building and later Burt's Bees in the Hill building. These two large employers valued the diversity and culture emerging downtown. The gradual influx of Millennials reinforced this trend. Then, DPAC provided the

venue that attracted visitors from within and outside the region. Since the mid-2000s, downtown Durham has evolved from an undesirable scary place to a hip vibrant center.

Over the past three years, two projects have strengthened the City Center area directly across from American Underground on West Main Street. The former Central Carolina Bank building is now a 21c Museum Hotel. A public-private partnership redeveloped this beautiful historic bank for \$48 million that combined \$22 million of bank debt and \$8 million of developer equity with \$18 million from the public sector (\$10 million in historic tax incentives, \$4 million in New Markets Tax Credits and \$4 million from the City of Durham). A new 27-story high-rise office tower is under construction (May 2017) directly across the street from the hotel that will include 600 high-end residential units. Greenfire Development, who owned both properties has facilitated their redevelopment. Two venues in 21c becoming popular meeting places. The Counting House is the increasingly popular bar and restaurant on the first floor of the hotel. The Vault located in the basement is reserved for lunches and small meetings.

Building Durham's Entrepreneurial Ecosystem

As noted in the Preface, this study focuses on how the community of people and organizations located in Durham has supported growth entrepreneurship. To provide broader context, Table 3 in Appendix B shows the number of startups per 100,000 persons in high-tech sectors for 20 years in both the Raleigh and Durham metro areas. The table also presents statistics for Austin and San Jose (Silicon Valley) for comparisons. The people who built the EE in downtown Durham or benefited from it were interviewed to tell their story (see Appendix A).

In retrospect, several conditions that existed in the early-2000s turned out to facilitate the development of the EE in downtown Durham. First, the regional economy was strong and growing. Second, Duke, representing a large successful university on the west side of town anchored the economic base. North Carolina Central University (NCCU), a prominent HBCU on Durham's east side was another steadfast contributor to the local economy. Most important, downtown space was cheap and plentiful with an inventory of underutilized but very attractive and functional old buildings. Fourth, downtown had suffered long-term decline. Walking inside the downtown Loop was considered dangerous. Prospects for downtown were not bright. Yet these negatives became the positives that enabled the ecosystem builders to be creative and take chances; after all, there was little to lose. Fifth, the Durham culture was tolerant and open. The Afro-American middle class was well established. For example, one unique area downtown is called "Black Wall Street." Finally, there was no deeply imbedded hierarchy of power and influence. These last two conditions enable newcomers to feel welcome and access people easily.

The ecosystem builders wanted to help others succeed. Their open mindedness, creativity, and willingness to listen and take risks proved very effective. Interviewees often referred to Durham as a "giver community" where you can meet with almost anyone for half an hour. The EE has grown impressively for the past decade as a result.

Perhaps the most-unique feature of the EE in downtown Durham is the laser focus on diversity and inclusiveness. The major players described this feature of the Durham EE as providing a counter narrative to Silicon Valley. Entrepreneurs and established companies alike identified Durham's diversity and cultural tolerance as important attractions. For example, see *Thriving Cities, Case Study of American Underground*, pp. 13-15.

American Underground. The major linchpin of Durham's EE is American Underground (AU) that has become the entrepreneurship hub and startup incubator downtown. American Underground first occupied the basement space of the Strickland Building on the ATC originally conceived to provide much cheaper space than the refurbished office space on the floors above. When AU opened in 2010, mostly entrepreneurial service providers were in the space: Groundworks Labs, The Startup Factory, CED, etc. As these service providers attracted clientele, the startups associated with them began to occupy AU space. Today, many successful entrepreneurial companies occupy space in buildings on the ATC. (For example, see Table 5, Appendix B.)

Adam Klein was the first employee of AU in the role of chief strategist. The affordable space available on a short-term basis addressed the real estate problem entrepreneurs typically face. In addition to service

providers, 35 startups came to occupy space in the Strickland building basement. Since its launch in 2010, AU has grown impressively leasing space in two buildings on West Main Street as well as space in downtown Raleigh. The original basement area at American Tobacco is now called American Underground@ATC. The space rented from Self-Help on West Main Street is called American Underground@Main Street. The most recent addition in a building around the corner owned by Greenfire Development is called American Underground@Market Street. (See Figure 3.)

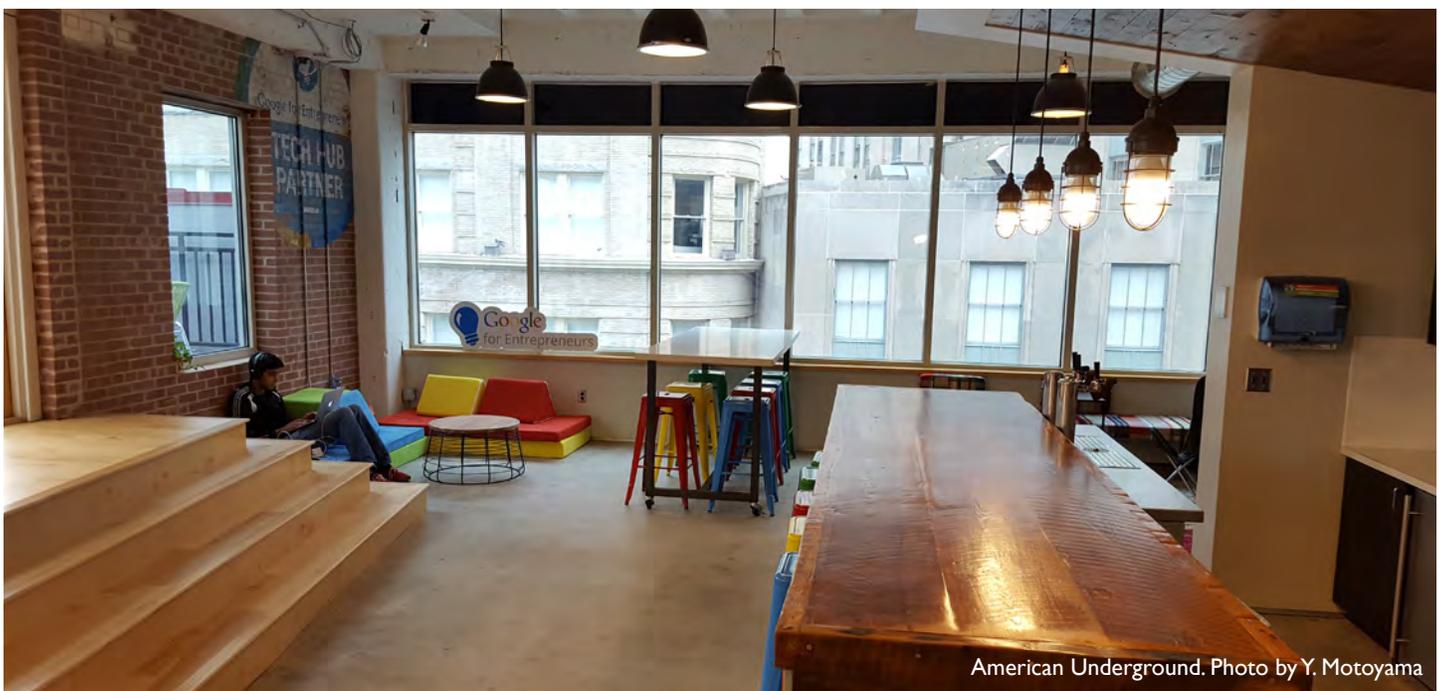
Howie Rhee who leads Duke's Innovation & Entrepreneurship program (I&E) has been working with AU for the past several years. Duke rents office

space at American Underground@Main Street, which is offered to Duke-connected entrepreneurs at no cost to them. Five startups including Mati Energy and BioMetrix have occupied this space. Through I&E, many Duke students and alumni have access to the co-working space in the basement at the Main Street location. For the past several years, Duke's I&E and AU have partnered to offer American Underground College Night that brings together several hundred current students interested in entrepreneurship from the four area universities to meet founders of local startups based at AU locations.

AU tries to present a "complete ecosystem" model for entrepreneurs 48% of whom are either minority



American Underground. Photo by Y. Motoyama



American Underground. Photo by Y. Motoyama

or female led. Currently, AU claims an impressive level of positive economic impacts on Durham. They account for over 1,000 new jobs and over \$3.5 million in spending at downtown businesses. AU is the subject of Appendix G.

How did AU come about?

Casey Steinbacher led the Durham Chamber of Commerce from 2007 to 2015. When she began her tenure, she recognized that the Durham Chamber like most chambers did not attract entrepreneurs and was doing very little to promote entrepreneurship. She hired Adam Klein who had worked at the chamber in Chapel Hill to address this problem. Adam collaborated with Matthew Coopedge then working at Downtown Durham Inc. for Bill Kalkhof. After spending four months reaching out and listening to entrepreneurs, Adam and Matthew developed the Bull City Startup Stampede. The idea was to bring entrepreneurs together to increase the density of startups downtown by providing free space, advice and other forms of assistance. Casey negotiated free space from Self-Help located at 201 West Main St. and collected furniture from Goodwill for the space. The chamber developed a simple website and hoped for replies. The response was overwhelming: more than 3,500 hits from the U.S. and from 30 foreign countries. From the 78 formal applications, the chamber selected 11 companies to come to Durham.

On April 1, 2010, the entrepreneurs arrived. During the next 60 days, they received technical assistance from local experts and opportunities to network with founders of successful Durham startups. Mentors visited on Fridays over pizza and beer. The chamber repeated the Stampede two more times. From the 36 startups, 23 stayed in Durham. The objective of attracting more entrepreneurs and connecting them in one place proved successful. (See RTRP, Research Triangle News.)

The Goodmons who owned ATC had been mulling over whether to expand AU. The Stampede's immediate success verified the interest among entrepreneurs and provided evidence of the need for more space. AU began to investigate a bolder vision for what it wanted to be and what the Durham EE could become.

Also in 2010, Casey successfully recruited Dorian (D)

Bolden to downtown where he opened Beyu (be-you) Caffe. Dorian graduated from Duke in 2002 and, from work experience in restaurants and retail, developed the idea of a place that was a coffee shop, restaurant, bar and jazz club. Beyu was an immediate success, becoming the gathering place for entrepreneurs working downtown among others. For example, one founder who now leads a fast-growing tech company located in downtown Durham previously worked for an earlier startup software company on the ATC. When not at work, he would often walk to Beyu to develop his entrepreneurial concept. Beyu recently moved from its original location at 335 West Main Street to its current location two buildings down at 341 West Main Street.

Many North Carolina localities invited Adam Klein and Matthew Coppedge to visit and discuss the Stampede with the idea of replicating it in their town. On one of these trips, Adam and Matt devised the idea of The Smoffice. In 2012, the Durham Chamber announced The Smoffice, the "world's smallest office," to be located in the bay window of Beyu. The winning entrepreneur would have free office space and a free condominium residence for six months. By this time, downtown Durham had gained enough recognition as a hotbed of entrepreneurship to receive many video applications. More importantly, this clever idea generated considerable national and global publicity for Durham. The chamber won an international chamber award in 2013. Both the Stampede and Smoffice were primarily marketing initiatives that successfully introduced the rest of the world to the growing number of startups in downtown Durham. These initiatives were successful in part because Adam and Matthew with open minds asked the entrepreneurs in downtown Durham "What do you need us to do?"

The Startup Factory. Founded by Chris Heivly and Dave Neal and an early AU tenant, The Startup Factory became a major catalyst supporting startups. Before establishing The Startup Factory, Chris sought the advice of Brad Feld and David Cohen, co-founders of Techstars, a mentor-driven accelerator program that connects entrepreneurs in many countries around the world. Feld was the cashed-out entrepreneur who led the EE in Boulder, Colorado. The fundamental principle offered by Feld was to pay it forward (give first). Feld's framework for an EE described in his

book, *Startup Communities*.

Chris Heivly came to the Triangle area in 2005. At that time, fewer than 700 people lived downtown. He had been associated with several highly successful entrepreneurial companies including Mapquest. Chris became committed to helping entrepreneurs start growth companies. He began by testing the waters; he sponsored two entrepreneur-only events two months apart to enjoy pizza and beer that attracted 120 people. He then spent considerable time meeting experienced entrepreneurs in the region to determine their interest in serving as mentors or investors. Chris had about 275 meetings in 2009 and eventually made over 1500 contacts. Chris sensed that the area was “less than the sum of its parts.”

After experimenting with several models, Chris with David Neal founded The Startup Factory in 2011. They had become the first tenant in AU leasing 2,400 SF in October 2010. They had \$6.5 million to invest in 5-7 cohorts of startups two times per year. They initially solicited applications that came from both inside and outside North Carolina. Founders of the selected companies came to Durham for at least three months where they would receive intense mentoring. If the idea proved scalable, Chris and David would help the founders seek funds from angel investors.

The Startup Factory offered a three-level mentorship program drawing from 150 potential mentors that Chris had earlier identified. The most intense mentoring came from one or two whose company was in a similar sector and 2-6 years ahead of the entity on the growth curve. These mentors devoted at least one hour each week for 12 weeks at “board meetings” with the participants. About 15-20 other mentors visited several times for at least 3 hours to address very specific problems facing the entity. They talked to the entire cohort but also provided one-on-one technical assistance. Another 30-40 mentors attended regular networking events usually held in Bay 7 at ATC.

The Startup Factory operated for over four years until the end of 2015. During this period, 35 entities participated. Inclusivity was important from the outset. About one-third of the entities were female led; another third were minority firms. Overall, 22 companies received additional funding to move on to the next stage.

Chris and David wanted to expand the program and take it regional. They devoted considerable time in 2016 raising funds. When they raised only half of their \$25 million goal, they dropped the idea. During this time, Chris brought together his ideas on entrepreneurship, which are in his 2016 book, *Building the Fort*.

By September 2013, efforts to build an effective EE in downtown Durham received validation when [Google](#) announced the selection of American Underground as one of seven cities to be in its [Tech Hub Network](#) along with Chicago, Denver, Detroit, Minneapolis, Nashville and Waterloo, Canada. Google has supported the network with cash, technology products, mentoring and networking opportunities with Google engineers. The selection presaged the eventual installation of ultra-high speed fiber in the Raleigh-Durham area. One positive by-product has been going from one cable service provider in Durham to four ISPs. (See TBJ, 09/25/2013.)

[Google Demo Day](#) is part of this program. Google invites the best teams from each hub to pitch to Bay area investors. The team representing American Underground has won two of the three annual events (Windsor Circle and Mati Energy).

[NC IDEA](#). Currently directed by Thom Ruhe, NC IDEA has the mission “to foster economic development in North Carolina by helping young startups commercialize their innovations.” (See NC IDEA website.) In 2016, NC IDEA created a new grant program to build EEs throughout the state. Durham-based recipients included AU, CED and Duke University. The \$100K grant to AU is to support continuation of the Stampede program. CED received \$150K to expand the Connections for Capital program, which qualifies entrepreneurs and matches them with sources of capital. Duke University received \$150K to support the angel networks in the region and ones associated with Duke.

Through these grants and other ecosystem grants, Ruhe tries to create synergies among entities in the same EE. He focuses on what appears to be working, encouraging entities to stay the course and “keep grinding it out.” Thom advocates ideas about entrepreneurship spelled out in a book he encouraged – *Who Owns the Ice House?*

NC IDEA has two subsidiaries. Groundworks Labs, run by John Austin, is an accelerator. From formal applications, Groundworks selects 10 entities involving 15-20 individuals. For four months, experienced entrepreneurs mentor the cohort at no charge. Many mentors are graduates of this accelerator program, another example of the giveback, pay-it-forward culture in the Durham EE. Participants learn how to generate forward momentum to move from “concept to commerce.”

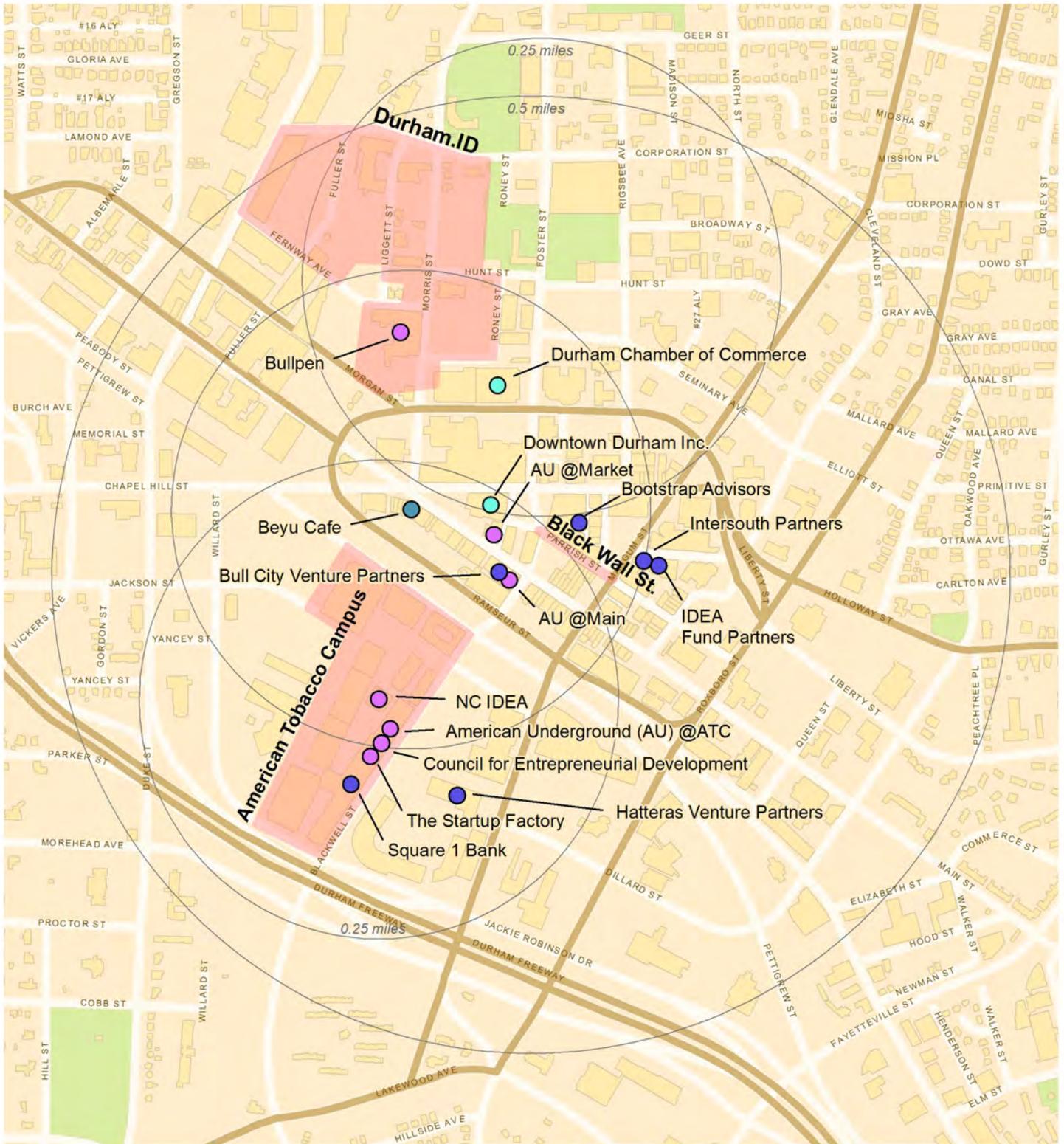
SoarTriangle is the second subsidiary of NC IDEA run by Reagan Reynolds, which is set up as an advisory to promote entrepreneurship among women. SOAR was initiated with funding from Google when Durham became one of its Tech Hubs. The original core advisory group included John Austin, Adam Klein, Lauren Whitehurst, founder of Sidekick Consulting and Dr. Kimberly Jenkins who was affiliated with Duke University’s Innovation & Entrepreneurship program.

In 2015, Duke University opened The Bullpen at 215 Morris Street on the third floor of a beautiful renovated brick building owned and primarily occupied by

Measurement Inc. Although closely associated with Duke’s Innovation and Entrepreneurship program, the Bullpen has been available to local entrepreneurs and sponsored events. Managing Director, Howie Rhee and his staff occupy offices around the perimeter of the open interior space. The interior area has moveable tables and chairs that primarily accommodate participating students from Duke University.

Clearly, the people and organizations that deliver services valued by growth entrepreneurs are the building blocks of the downtown Durham EE. Yet from the perspective of many successful growth entrepreneurs, perhaps the most valuable feature of the EE was hosted events that facilitated interaction. Each entrepreneur built his or her business network from planned rendezvous and chance contacts (“collisions”) at events sponsored by AU, CED and others. Bay 7 on the ATC was the location of many events. AU’s 2015-16 Annual Report amplifies this feature. In 2015-16, AU hosted 125 events attended by 11,312 people. Beer, coffee and pizza were the primary “fuels” that enabled networking.

Figure 3. Durham's Entrepreneurial Ecosystem



- Third Place
- Entrepreneurship Facilitators
- Entrepreneurship Support
- Venture Capital Firms

Investments from the Durham EE

Successful EEs need investors in addition to peer entrepreneurs, mentors and advisors. Startups that can achieve scale with funds from the founder or from initial sales are not likely to become growth companies. One surprising feature of Durham and the Triangle region, which hosts no major venture capital firm, is the amount of capital that has become available to growth companies. Investments come from angels and angel funds, venture capital companies, private equity firms and, through CED, direct investments from private foundations.

With funding originally from the dissolution of the state-funded Microelectronics Center of North Carolina, NC IDEA began making grants of up to \$50K in 2010 to provide seed capital to growth entrepreneurs. Over the past seven years, 27 Durham startups, 31 startups in the RTA and 14 others located elsewhere in NC have received funding. (See Table 4, Appendix B.) Since the program's inception in 2006, NC IDEA originally under Dave Rizzo's leadership has given about \$5 million to 119 companies. In turn, these companies have raised capital exceeding \$100 million. Collectively, the companies account for more than 1,000 employees.

Three features of NC IDEA's seed grant program are noteworthy. First, the NC IDEA is a non-profit designed to promote the public interest through economic development. Second, the grantees are very early stage and therefore very high risk. Recipients must have a viable business concept and talented founders but are not expected to have substantial revenue. Third, because the funds are grants, not investments, the timely early cash infusion does not dilute the ownership of the startup. One creative feature of the grant review process is the involvement of investors as judges, which gives them early exposure

to emerging startups and garners free expertise for NC IDEA.

IDEA Fund Partners has been actively funding growth entrepreneurship in the Triangle since 2003. For the past several years, managing partners John Cambier and Lister Delgado have provided venture capital to firms primarily based in Durham and Raleigh from offices in downtown Durham. They have often brought capital from outside the region to Durham-based deals. Compared to their previous centrally located but isolated offices near RDU, they appreciate the benefits of the density and proximity they enjoy downtown. For example, they were an early investor in Windsor Circle, which was spawned by AU and is currently located on West Main Street relatively close to the offices of IDEA Fund Partners.

John views the Durham EE as effective in supporting and housing early-stage growth companies, but challenges are increasing as successful companies grow. First, very little local capital sources are investing more than \$1.0 million in early stage ventures. The region needs more serial entrepreneurs who can lend talent to and invest larger sums of money in growth companies moving to the next level. Second, space for companies with more than 20 employees is now hard to find. More office space is coming on line, but several growing companies have left downtown to occupy larger spaces at lower SF rents near RDU.

Cofounders Capital, based in Cary, is a seed-capital fund primarily focused on software companies. In 2015, serial entrepreneur David Gardner assembled this \$12.0 million fund and organized over 70 investors. David started this fund after participating in tech startups as an angel investor for several years. Although formally a venture capital fund, the investors

participate quite actively more like angel investors providing intensive mentoring and support to first-time entrepreneurs. The group has brought in local investors more for their expertise to help a particular startup than for their funding. Cofounders has partnered with other funds based within and outside of this region. David is also running an accelerator for the Town of Cary. He has brought together many years of experience stating, growing and selling companies in *The Startup Hats: Master the Many Roles of the Entrepreneur*.

One unique foundation-funded program led by Julie Siler is NOME, which stands for Nordic Mentor Network for Entrepreneurship. Although Julie works throughout the RTA, the first cohort of four ventures worked from downtown at the Chesterfield building on West Main Street during their visit in September 2016. The basic idea is to bring the founders of new life-science ventures from Scandinavia here to assess the potential of locating in the RTA. The program assigns two mentors to provide high-touch contacts to help the founders make their assessment. The connections generate knowledge about potential customers, smart money, regulators, politics, etc. From Julie's perspective, "interconnectivity is everything". The critical mass of people in close proximity downtown facilitates this outcome.

Growth entrepreneurs who were interviewed usually framed their story in terms of successive rounds of funding with larger and larger amounts invested from seed capital and/or angel investing to venture

funding (Series A and B and sometimes C). In the process of securing rounds of funding, the founders built their team with strategic hires over time. For one founder, a peer-entrepreneur in his sector made two important connections to initial funding and to an attorney-advisor. The funder then helped the founder secure initial seed capital, which also led to an introduction that resulted in an early hire. The attorney got the founder involved with a peer-entrepreneur advisory group. One member of that group eventually became a VP in the company and brought on a colleague from his former employer. He also generated six important contacts. These contacts, in turn, enabled the company to find sublet space as well as identify eventual board members and debt capital. Most important, one contact made the introduction to the person that led the Series-A round while another contact made the connection to the fund that led the Series-B round. The founder's original attorney introduced the founder to his eventual COO. A Durham-based venture firm decided not to invest in this company but still provided contacts that led to one critical hire, one board member and slots at conferences where the company gained exposure. The founder admits that he has omitted other contacts who contributed to his company's success, but this overview gives a sense of the richness of the EE in Durham and the RTA. It specifically shows how the founder's expanding network resulted in three rounds of funding. Equally important, the founder was able to bring on the people who became the executive leadership of the company.

Evaluating the Durham EE

Has the Durham EE effectively generated growth entrepreneurship in downtown Durham? Successful cashed-out and serial entrepreneurs that were interviewed thought so. Furthermore, the following statistics are revealing. Over the past several years, about 400 companies have started in downtown Durham with 257 associated with American Underground. Almost \$1.5 billion has been invested in successful “exits” from ATC alone. Interestingly, whereas by definition, exits involve ownership changes, seven of the last eight exits have stayed in downtown Durham. The new owners value the talented employees at these companies and apparently view downtown Durham as an asset to help retain them and to recruit others. Table 5 in Appendix B shows six recently purchased firms that are still in downtown Durham.

A related feature of the EE is the ability of downtown Durham to retain its newcomers. Obviously, many young entrepreneurs have business ideas that fail to gain traction in the market. At some point, they face the choice of whether or not to stay. One viable option is to seek employment at one of downtown’s successful growth companies. Interviews with successful entrepreneurs documented the difference between the first 10 hires and subsequent ones. The latter were looking for career-building jobs; the earlier hires were looking for a challenging, engaging experience and one that included an equity stake in the young company. This feature of the EE is access to talented committed employees, sometimes working for equity instead of pay, that facilitate firm growth at an early stage.

Unlike other regions, the RTA has few major corporate headquarters (6 compared to over 30 in Atlanta, Washington, San Francisco and San Jose, and many more in LA or NYC). Instead of spinoffs from estab-

lished firms, Durham-based entrepreneurs are more likely to be young, first-timers or older experienced entrepreneurs moving here for personal reasons. At times, promising ideas die because first-time entrepreneurs pursue overly ambitious growth goals. However, young entrepreneurs who team with experienced gray-hairs appear to achieve more success.

One continuing challenge for all participants in the Durham EE is achieving the goals of diversity and inclusion. Serious efforts continue. First, SOAR Triangle includes highly qualified African-American women among the female board members who assist new female entrepreneurs. Second, the entrepreneurship concentration at NCCU’s School of Business provides a source of minority talent. NCCU students and alumni frequently use NCCU’s office at American Underground@Main Street. Third, American Underground has tapped advisory talent to promote firms led by African-Americans. Until recently, Jessica Averhart was on AU’s staff as director of community engagement. Talib Graves-Mann as AU’s Entrepreneur-in-Residence focused on diversity. Jessica and Talib along with Tobias Rose, a local entrepreneur, and Dee McDougal at Square 1 Bank created Black Wall Street Homecoming, which celebrates the unique history of black businesses on Parrish Street while promoting minority entrepreneurship. The first two homecomings occurred in October 2015 and 2016. In October 2017, plans are to hold another homecoming and add American Underground’s Google Exchange Program for Black Entrepreneurs.

Another challenge is attracting investments over \$1.0 million locally. To attract additional outside investors may require more robust air service than is currently available. Not being the leading place in the country for one specific growth sector (for example, gaming)

is another handicap. Durham could use the support that would come from one or two new headquarters like Red Hat. On the other hand, aiming companies to garner investment north of \$10.0 million may undermine some companies that could operate profitably with far less capital. Overall, Durham's EE is off to a very impressive start. From a national perspective, the Durham EE should be considered emerging.

In conclusion, interviewees who built the EE in Durham used the word – curate – as a verb to describe what they are trying to do. To curate usually

means to select, organize and look after works of art in a gallery or museum. In the EE context, curation involves sifting through the voluminous amount of information on entrepreneurship to find the right information. What is the right information depends on the founder, the concept and the stage of business development. In other words, proper curation is contextually and chronologically accurate. It helps the founder make the right decision and take action at the right time. With more precise curation, the EE's ability to spawn and grow new companies successfully should increase.



Downtown Durham.
Photo from PLAN 575 Class

Downtown Durham in 2017

Downtown Durham is becoming an increasingly vibrant center to work, play, learn and live. A growing number of entrepreneurs, their employees and employees of established companies call downtown Durham home. As noted, Burt's Bees and McKinney are headquartered at the ATC. In 2017, Burt's had 228 employees; McKinney had 141. Bronto Software has kept 230 employees in Durham post buyout. Seattle-based Avalara occupied office space on South Mangum Street in 2015 overlooking the Durham Bulls Athletic Park hiring 165 employees.

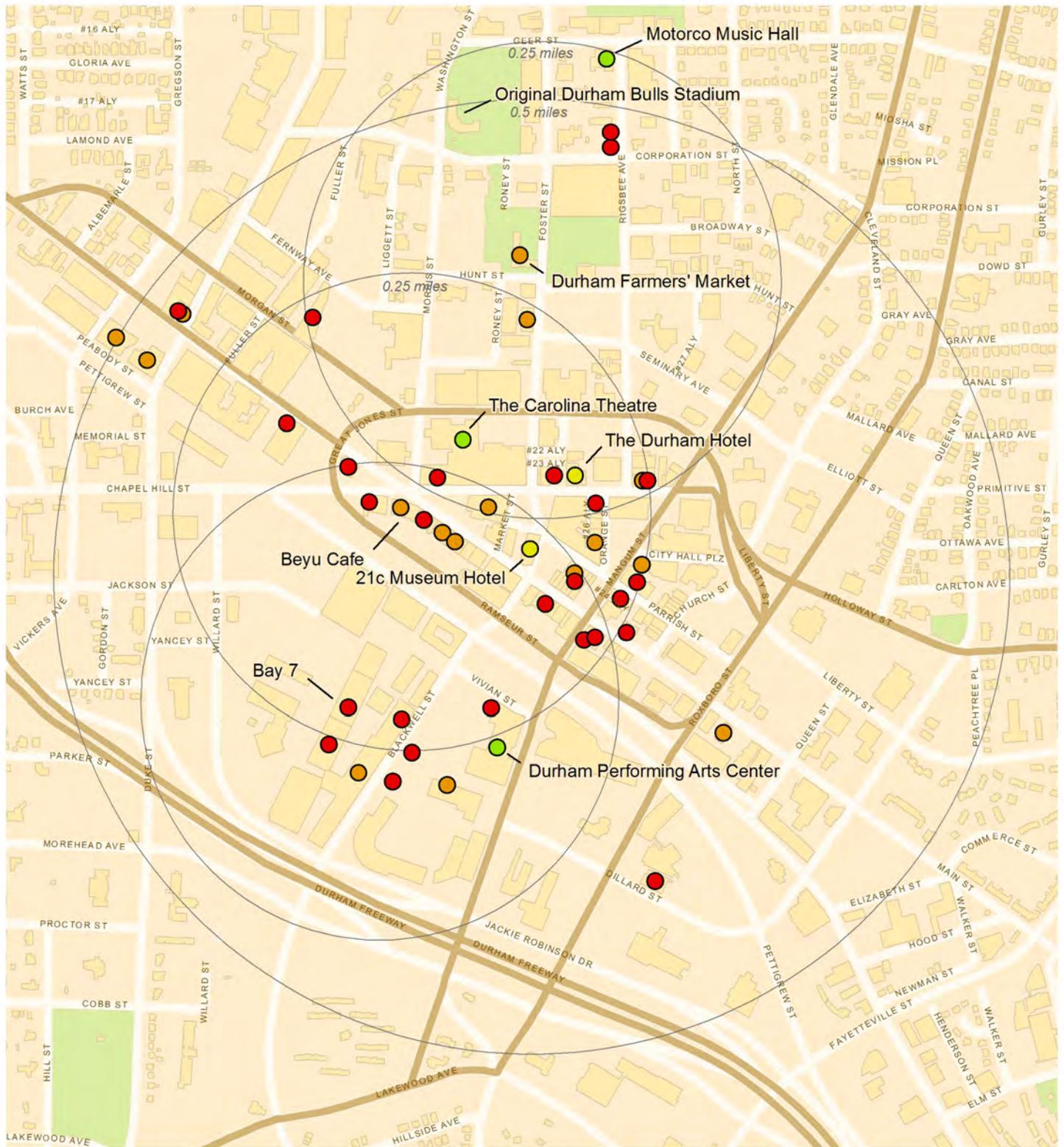
Many downtown workers and residents are Millennials (Gen Y) who share values quite different from Gen X. In general, they value easy access more than permanent ownership. They seek out interesting experiences. They move seamlessly from work to learn to play. They are willing to share when it expands opportunities and lowers cost. They are frugal consumers of things – cloths, cars, houses, toys – but are willing to pay for a good meal with a bottle of wine and good entertainment. Access, convenience and options correlate with city living. Downtown Durham, which remains an important regional employment node, has been adding residents and amenities. It has become more dense, compact, connected and walkable as a result.

The Durham EE continues to support entrepreneurship successfully because it is spatially concentrated. The built environment is authentic and attractive for reuse. The public realm that enables collisions has been created on private property (ATC) and more so through improvements to public spaces. Vibrant downtowns also have “third places” where entrepreneurs gather that are neither their workplaces nor residences. Beyu has fulfilled this function since its opening. The 21c Museum Hotel could become an-

other third place or perhaps another one will emerge on the ground floor of the new high-rise under construction across the street. Having such places creates an interesting and fun scene. Compactness allows talent to move easily between live, learn, work and play. One advisor/mentor/investor is routinely dropped off in City Center in the morning when his wife is driving to work and spends the rest of the day in meetings or working alone. He walks to offices, coffee shops, restaurants or bars where he conducts business.

One noteworthy Durham asset is its restaurant scene. Over the past 30 years, its growth is a story of local entrepreneurship worth studying in its own right. Southern Living, Southern Neighbor and the New York Post have published stories about the food scene in Durham (see References). Bon Appetit named Durham “America’s Foodiest Small Town” in 2008. Given Durham’s political persuasion, ‘Foodistas’ may be a more appropriately label for foodies there. Restaurateur-chefs like Ben and Karen Barker, Scott Howell, Mattie Beason, Will Holloway, Phoebe Lawless and others have not just mentored chefs but have developed restaurant owner-entrepreneurs. Important to this success has been the supply chain from farm to intermediary suppliers to restaurants. This supply chain was established in Durham long before “farm-to-fork” became popular. These suppliers are often affiliated with organic and health-oriented grocers and with the Durham Farmers Market, which is one of the largest in the state. In recent years, growing demand has prompted young adults to become farmers in this region, quite different from the national trend. Restaurants located downtown are shown in Figure 4. Included is Angus Barn at Bay 7. This very prominent restaurant located near RDU operates a catering service there.

Figure 4. Downtown Durham in 2017



- Bars & Restaurants
- Coffee Shops & Lunch Places
- Hospitality
- Arts & Entertainment

As noted above, Millennials are willing to devote time to and spend money on entertainment. Durham is trying to improve its venues and events for music, art and other cultural activities. DPAC and The Carolina Theatre are the most popular existing venues. One of the most prominent and promising events is Moogfest, a music, art and technology festival held each May. The organizers of the event hope to provide quality entertainment but also to stimulate business opportunities and attract talent to Durham. Not surprisingly, American Underground is one of the two major sponsors. They are aware of how SXSW (South by Southwest) has put Austin, Texas on the map as one of the sexy places in the country with “buzz.” Entertainment events create emotional ties to places that may lead visitors to become residents.

The physical form of downtown Durham offers more positives than negatives. As the half-mile and quarter-mile circles in Figures 3 and 4 show, most destinations are within walking distance. The urban fabric and iconic, historical buildings offer authenticity and uniqueness that increase walking. The overall grid street pattern and relatively small block sizes enhance connectivity. The three core downtown districts play

different roles to some extent. The American Tobacco and City Center districts are centers of employment with associated places offering amenities and housing. American Tobacco is more hip and informal; City Center is more formal, expensive and diverse. Central Park is the family-oriented district with outdoor venues and parks.

Downtown has liabilities including the one-way Loop and parking decks that separate the City Center from American Tobacco and Central Park. Bus transit is decent but not widely used. The railroad tracks may someday host light rail, but currently present a barrier between City Center and American Tobacco. Very little cycling for utilitarian purposes exists downtown because the infrastructure for cycling is poor. Perhaps, more use of the ELF, a motorized bicycle manufactured in downtown Durham by Organic Transit, could mitigate these negatives to some extent. (See www.organictransit.com.) More attention should be devoted to activating the streets. The guiding mantras should be ‘promote every transit mode that can reduce car use’ and ‘energize the pedestrian.’



Downtown Durham.
Photo from PLAN 575 Class

Conclusions

Although case studies are not designed to provide generalizations, they often stimulate thoughts that support or contradict established ideas. As shown in Appendix H, EEs are combinations of people performing different but complementary roles through organizations. The connections between and among these entities generate the EE network. Yet that characterization may miss a more important point. Networks connect individual entrepreneurs as well as organizations in the ecosystem.

Each entrepreneur who wants to build a company with significant growth potential needs experienced helpers as advisors, mentors, partners or financiers. The business idea needs nourishment to take root. The founder must have enough support to test and validate his or her idea. The entrepreneur needs different resources at different times. Although some

entrepreneurs do build their company on their own, such examples are rare. As Chris Heivly said, “Entrepreneurship is a team sport.”

An effective EE in essence is one that generates connections. Thus, everyone in the EE is a connector whatever their role. The people, programs and organizations featured in this case study are helping entrepreneurs directly. In addition, the EE affords entrepreneurs opportunities to make connections, primarily by sponsoring events that bring everyone together. For some successful entrepreneurs, meeting peers at such events by intention or by accident was the most valuable EE service. Such interaction cannot occur in virtual reality. Real places are required. Downtown Durham offers the denser, connected, walkable place that makes its EE more effective.

Epilogue

The RTA enjoys a very favorable international reputation. The economic developers in the region market an impressive list of assets including major universities, research-oriented business development, several major headquarters and state government, reasonable living and business costs, etc. Economic growth has been the focus of their attention. Although growing regions are more prosperous than stagnant ones, economic growth is not the same as economic development. Regions achieve economic development when the economy, firms and households get better. For households this means higher real income, better employment opportunities, affordable housing, decent health care and a reasonable degree of economic security. Firms should become more productive and innovative, not just narrowly strive to increase shareholder value. More productive, innovative firms should make the regional economy more competitive. The economy affords more opportunities for entrepreneurship when the market is strong; less income inequality would increase aggregate demand. Will the region achieve greater economic development as it continues to grow?

Downtown Durham has made an amazing comeback offering a vibrant live-work-play environment. Property values have risen sharply benefiting the local tax base. Yet affordable housing is becoming less available; office space is more expensive and vacancy rates are at historic lows. Durham's impressive success is challenging its diversity. Local government and socially oriented investments in the 1990s sparked downtown Durham's come back. Anchor institutions, socially oriented investors and local government again need to step up with strategic investments and nimble regulations to keep Durham from becoming less diverse, inclusive and widely affordable.

Finally, several very large positive exits and the capital generated from them could elevate Durham to the major leagues with New York City, Los Angeles, the Bay Area and other money centers. These exits would create local liquidity, provide inspiration, and encourage imitation among Durham-based entrepreneurs. The bench strength of experienced executives would increase. On the other hand, Durham could remain, like its Bulls baseball team, in the AAA league. Local leaders could try to leverage growth entrepreneurship beyond the outcomes of becoming bigger and more expensive. Durham could also become a better place with higher wages, less poverty, more opportunity, better public health, more public wealth, and an exemplary tolerant, inclusive culture.

What do you think?

Acknowledgements

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About the Center for Entrepreneurial Studies (CES)

Ranked in the top 20 nationally, CES is the leading program at UNC Kenan-Flagler offering entrepreneurship curricular and co-curricular programs, and sponsoring cross-campus activities including the Carolina Challenge – a campus-wide venture competition, 1789 – a design lab, Launch Chapel Hill – a nationally recognized venture accelerator, and the Adams Apprenticeship – a long-term talent coaching system for entrepreneurial alumni of UNC, among others. CES is a central catalyst for the entrepreneurial ecosystem at UNC and serves as a major contributor to the culture, leveraging the assets of the Kenan-Flagler Business School. CES's operating model is Learn-Launch-Lead where the program leads the curriculum, the experience, and the network that drives the university's entrepreneurship program.

The CES director is Dr. Ted Zoller, T.W. Lewis Distinguished Clinical Scholar and Professor of Strategy and Entrepreneurship. Dr. Zoller has taught entrepreneurship courses in the MBA, BSBA, MBA@UNC, and other Kenan-Flagler programs since 1998. Overseeing the Center's teaching and outreach programs, he is the primary business school liaison to UNC's university-wide Innovate @ Carolina initiative as well as to partners in the Research Triangle's entrepreneurial community. Dr. Zoller's research focuses on developing high-performance entrepreneurial ecosystems and firms, private equity and venture capital, and deal-making networks. He is the Immediate Past President of the United States Association for Small Business and Entrepreneurship, the largest American association of academics and practitioners dedicated exclusively to entrepreneurship. Additionally, Dr. Zoller consults with the Ewing Marion Kauffman Foundation, helping with the development of core entrepreneurship strategies. Dr. Zoller is also an active entrepreneur.

About the author

Emil Malizia is Professor of City and Regional Planning and Director of the Institute for Economic Development at the University of North Carolina-Chapel Hill. He has actively participated in Innovate @ Carolina since its inception. His expertise spans the related areas of regional economic development, real estate development, and urban redevelopment. For almost five decades, he has conducted research, taught graduate-level and in-service courses, and engaged in consulting for private, non-profit, and foundation clients. His current research and practice focuses on vibrant employment centers in the U.S. Several of his recent studies demonstrate synergies between vibrant centers and growth entrepreneurship.

Dr. Malizia has written five books, including Sustainable Development Projects and Understanding Local Economic Development. He is author or co-author of over 180 scholarly articles, monographs, and other publications. In addition to serving as department chair from 2002-12, he has held positions of senior real estate adviser in a major life company, visiting professor, special assistant in Federal service, and Fulbright Senior Scholar in Colombia. His memberships include the American Institute of Certified Planners (FAICP), the American Real Estate Society, the American Planning Association, the International Economic Development Council, and the Urban Land Institute. He received his baccalaureate from Rutgers University and his Master's and doctoral degrees from Cornell University. He served in the U.S. Marine Corps Reserves.

Sources

References:

- “American Tobacco Phase 2 Profile.” Enterprise Community Investment Inc. 2008 <https://www.enterprisecommunity.org/sites/default/files/media-library/financing-and-development/nmtc/american-tobacco-phase-2-profile.pdf>
- “American Underground: A Startup Incubator in Durham, North Carolina,” Thriving Cities Case Study, December 2016.
- Blackstone Entrepreneurs Network
<https://www.blackstoneentrepreneursnetwork.org>
- Cirillo, Christopher M. “Birth of an Idea: The Creation of Research Triangle Park and Its Sustained Economic Impact on the Research Triangle Area « Urban Economics.” April 28, 2013. <https://sites.duke.edu/urbaneconomics/?p=899>.
- CoStar database for current and historical information on inventory, asking rents, vacancy rates and other real estate data for downtown Durham
- Donegan, Mary. “Innovation from the Edge: Universities, Entrepreneurship, and the Rise of Localism.” Center for Community Capital,” UNC-CH, December 2016.
- Durham Performing Arts Center. Wikipedia, January 2017.
- Feld, Brad. Startup Communities: Building an Entrepreneurial Ecosystem in Your City, Hoboken: John Wiley and Sons, Inc. 2012.
- Gardner, David. The Startup Hats: Master the Many Roles of the Entrepreneur. 2014
- Heivly, Chris. Build the Fort: Why 5 Simple Lessons You Learned as a 10 year-old Can Set You Up for Startup Success, Kindle Edition, 2016.
- Kueber, Gary. “Blackwell’s Durham Tobacco / American Tobacco Co.” Open Durham. Accessed February 21, 2017. <http://www.opendurham.org/buildings/blackwells-durham-tobacco-american-tobacco-co>.
- Levine, Dan. “Revitalizing Downtown Durham: Building on the Past, Forging the Future.” Master’s Paper: University of North Carolina at Chapel Hill Department of City and Regional Planning, 2006.
- Link, Albert N. and John T. Scott. “The Growth of Research Triangle Park.” Small Business Economics, 2003 20 (2): 167–175.
- Mati Energy Website
- Miller, Michael W. “Unions Curtail Organizing in High Tech: Unions Largely Quit Efforts to Organize High-Tech Workers.” The Wall Street Journal, November 13, 1984.
- Mock, Geoffrey. “Duke Goes Downtown.” Duke Today. December 5, 2007. <https://today.duke.edu/2007/12/downtown.html>.
- NC IDEA Website
- Organic Transit Website
- Research Triangle Regional Partnership (RTRP), Research Triangle News, accessed January 2017.
- Taulbert, Clifton and Gary Schoeniger. Who Owns the Ice House? Eight Life Lessons from an Unlikely Entrepreneur. Cleveland: Eli Press, 2010.
- Thriving Cities Case Study. American Underground: A Startup Incubator in Durham, North Carolina. December 2016. Triangle Business Journal (TBJ) September 9, 2013.
- Wong, Amanda Frazier Wong and Sarah Wolff. “New Markets Tax Credit Impacts: A Case Study in Durham, North Carolina.” Durham: Self-Help, March 2010.
- www.southernliving.com/travel/tastiest-town-durham-north-carolina
www.southernneighbor.com/the-rise-if-durhams-culinary-kingdom
www.nypost.com/2016/06/14/go-to-Durham-the-foodie-capital-of-the-south

Figures:

Figure 1 by Sarah Odio

Source Data:

2016 TIGER/Line Shapefiles, prepared by the U.S. Census Bureau, 2016; City of Durham and Durham County Government, 2015 (<https://opendurham.nc.gov/explore/dataset/rtp0/information/>)

Figures 2-4 by Hannah Reckhow

Source data:

City of Durham/County of Durham Geographic Information Systems Digital Data Portal. NC Durham Highways. City of Durham, 2014.

City of Durham/County of Durham Geographic Information Systems Digital Data Portal. NC Durham Roads. City of Durham, 2015.

City of Durham/County of Durham Geographic Information Systems Digital Data Portal. NC Durham Parks. City of Durham, 2014.

North Carolina Spatial Data Download. Statewide Building Footprint Layer. North Carolina Floodplain Mapping Program, 2016.

Photographs:

Frontier: Y. Motoyama, September 20, 2016

DPAC: <http://garfieldtraub.com/blog/garfield-traub-development-dpac-rated-1-top-selling-theater-in-u-s/>

American Underground: Y. Motoyama, September 20, 2016

American Tobacco Campus: Presentation from PLAN 575 Class, Spring 2017

Downtown Durham: Presentation from PLAN 575 Class, Spring 2017

Appendix A Interviews

The question of whether the Durham EE has effectively generated growth entrepreneurship downtown cannot be answered definitively given the constraints of this case study. Service providers, financiers, mentors, advisors, serial entrepreneurs, growth-company entrepreneurs and budding entrepreneurs all have legitimate opinions and insights. I decided to focus primarily on successful, cashed-out and serial entrepreneurs for the evaluation of the EE because they had worked within the EE under different circumstances for the longest time and had used it effectively. In addition to these entrepreneurs, I interviewed many of the leading actors who built the EE. The names and associations of the 39 of them follow. I conducted half of the interviews in person and the rest by phone or email as noted.

Robbie Allen, Founder & CEO Automated Insights (by phone)
Jessica Averhart, Executive Director, Leadership Triangle
Tatiana Birgisson, Founder Mati Energy (by phone)
Bruce Boehm, Chapel Hill-based serial entrepreneur
Laura Braverman, Editor, ExitEvent
John Cambier, Managing Partner, IDEA Fund Partners (by phone)
Jason Caplain, General Partner, Bull City Venture Partners (BCVP) (via email)
Ronnie Chatterji, Associate Professor, Fuqua School of Business, Duke University (by phone)
Kim Chin, Managing Partner, McChin Healthcare Solutions
Joe Colopy, former CEO of Bronto Software, purchased by NetSuite
Matthew Coppedge, former Downtown Durham Inc. employee (by phone)
Maureen Costello, GM, Organic Transit (by phone)
Rob Cotter, Founder & CEO, Organic Transit (by phone)
Jan Davis, Triangle Angel Partners
Mike Dial, Principal, Hatteras Venture Partners
Mike Doernberg, Co-Founder & CEO, Reverbnation (by phone)
Mary Donegan, PhD, entrepreneurship researcher and Durham expert
Monica Doss, founding executive director of the Council for Entrepreneurial Development
David Gardner, Founder & General Partner, Cofounders Capital
Kelly Garvy, Program Coordinator, The Bullpen, Duke I & E
Matt Gladdek, Director of Policy and Planning, Downtown Durham Inc. (by phone)
Chris Heivly, Founder, The Startup Factory
Aaron Houghton, CEO, BoostSuite, founder iContact (via email)
Kathryn James, Program Director, Blackstone Entrepreneurs Network, formerly with CED
David Jones, General Partner, Bull City Venture Partners (via email)
Bill Kalkhof, former executive director, Downtown Durham Inc. (by phone)
Adam Klein, Chief Strategist, American Underground
Henry McCoy, School of Business, North Carolina Central University
Bonnie Moellenbrock, Executive Director, Investors' Circle
Dhruv Patel, Square One Bank, formerly with CED (by phone)
Howie Rhee, Managing Director, The Bullpen, Duke I&E (by phone)
Thom Ruhe, President & CEO, NC IDEA
Julie Siler, Project Manager, Nordic Mentor Network for Entrepreneurs (by phone)
Bill Spruill, The Global Data Consortium (via email)
Casey Steinbacher, former president & CEO, Greater Durham Chamber of Commerce
Doug Strasnick, Moogfest staff
Matt Williamson, Founder & CEO, Windsor Circle
Miriam Wilson, Vice President, Investor Relations, Council for Entrepreneurial Development (by phone)
Ford Worthy, Partner, Pappas Ventures

Appendix B Tables

Table 1: Total population by county, 1900-2014

County	1900	1950	2000	2010	2014
Durham	26,233	101,639	223,314	267,587	282,422
Orange	14,690	34,435	118,227	133,801	137,275
Wake	54,626	136,450	627,846	900,993	952,513
Total	95,549	272,524	969,387	1,302,381	1,372,210

Source: U.S. Census Bureau, 1990, 1950, 2000, and 2010 Decennial Census (Prepared by Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011.

Table 2. Sources and Uses

B. Sources and Uses

The following table provides a summary of the proposed sources and uses for the project.

Uses		Sources	
Building Acquisition	4,750,000	Fletcher Ground Lease	4,750,000
<u>Hard Costs</u>		<u>Debt</u>	
Rehab	46,553,000	Self-Help Loan	40,000,000
Tenant Improvements	13,638,184		
<u>Soft Costs</u>		<u>Equity</u>	
Development Fee	1,246,750	BofA Investment (to date)	18,378,132
Architecture & Engineering	1,693,785	BofA Investment (to be paid)	5,000,000
Financing Costs	1,036,866	CBC Investment (to date)	4,556,043
Legal	1,450,000	<u>CBC Investment (to be paid)</u>	<u>2,782,762</u>
Leasing Commissions	903,352	<u>Subtotal</u>	<u>30,716,937</u>
<u>Other Soft Costs</u>	<u>4,195,000</u>		
<u>Subtotal</u>	<u>10,525,753</u>		
Total	\$75,466,937	Total	\$75,466,937

This statement for Phase I of ATC does not include the \$37 million that the City of Durham spent to build two parking decks or the additional \$6.7 million contributed by the city and county to support the project.

Source: Self-Help

Table 3. High-Tech Startup Rates for All Metro Areas, Austin, San Jose and Raleigh-Durham from 1990 to 2010

		Metro	Areas		%
Year	U.S.Ave.	Austin	San Jose	Ral-Dur	Dur/Ral
1990	3.144	12.081	15.628	8.093	49.2
1991	3.405	8.072	22.126	8.811	54.6
1992	5.278	15.915	36.525	12.092	62.4
1993	4.124	12.462	22.902	9.711	61.4
1994	6.173	17.442	25.456	20.603	66.2
1995	5.398	16.293	32.201	16.509	62.5
1996	7.670	24.621	41.088	23.433	71.0
1997	7.131	19.726	37.623	22.166	51.6
1998	6.416	22.562	45.288	19.237	43.4
1999	5.735	19.410	42.349	19.598	76.2
2000	7.709	22.668	50.319	25.634	70.0
2001	11.637	29.448	54.439	32.158	56.6
2002	7.366	18.659	35.668	21.035	56.6
2003	4.915	14.732	24.728	13.773	81.1
2004	6.828	15.997	26.975	18.195	87.7
2005	8.118	15.368	24.093	19.499	54.4
2006	5.385	11.588	17.744	13.971	91.6
2007	6.977	17.913	18.474	14.032	70.1
2008	6.995	17.496	21.186	14.809	69.7
2009	5.406	14.552	17.253	12.699	81.9
2010	7.263	18.334	27.004	19.524	83.8

Source: Y. Motoyama, Kauffman Foundation

High-tech firms are likely to fall in the growth entrepreneurship category since they have significant growth potential to serve national and global markets. Dun and Bradstreet maintains the National Establishment Time-Series (NETS), which contains sector data used to identify high-tech firms. Yas Motoyama at the Kauffman Foundation purchased these data and compiled them in 2013. He applied the Bureau of Labor Statistics definition of high-tech industries to find the number of high-tech startups for 366 metro areas defined by the Census Bureau in 2009.

Figures are for all metro areas and for the metro areas of Austin, San Jose (Silicon Valley) and Raleigh-Durham, which is the combination of the Raleigh-Cary metro and the Durham-Chapel Hill metro. The data for all areas clearly shows the cycle of increasing startup rates in the 1990s to the peak in 2001. The “dotcom” bust accounts for declines for several years followed by the Great Recession. Startup rates rebound in 2010.

The high-tech rates in Austin, San Jose and Raleigh-Durham closely follow the national cycle. San Jose clearly has the most impressive startup rates, but Austin and Raleigh-Durham converge on these rates in the period from 2006 to 2010. Austin and Raleigh-Durham startup rates track very closely for the 21-year period and are far above the all-metro average.

High-tech startup rates have been higher in Raleigh-Cary than Durham-Chapel Hill for the entire period

primarily reflecting the impact of the engineering and technical programs at North Carolina State University. The rates in Durham-Chapel Hill were about 60% of the Raleigh-Cary rates through 2002. For the period from 2003 to 2010 however, the rate increased to 78%. Successful growth entrepreneurship in downtown Durham is responsible for much of this convergence.

Table 4. NCIDEA Grantees by Geographic Area, 2010 to 2016

See Grants	Durham	RT Area	Other NC
2010	3	6	1
2011	4	3	3
2012	7	2	1
2013	3	4	3
2014	6	5	0
2015	2	7	2
2016	2	4	4
Totals	27	31	14

Source: Compiled by the Author from the NC IDEA website

Table 5. Exits Remaining in Downtown Durham Post Buyout

Company	Current Address	Purchased by:	Purchaser's HQ
Ansible	280 S. Mangum Street	Red Hat	Raleigh, NC
Appia	406 Blackwell Street	Digital Turbine	Los Angeles, CA
Automated Insights	406 Blackwell Street	STATS	Chicago, IL
Bronto Software	324 Blackwell Street	Net Suite	San Mateo, CA
Digitalsmiths	320 Blackwell Street	TiVo	Santa Clara, CA
Two Toasters	318 Blackwell Street	Ticketmaster	Beverly Hills, CA

Source: Laura Braverman, Exit Event, AU, and the author

Appendix C Council for Entrepreneurial Development

Monica Doss

Background

On January 12, 1984, the Research Triangle area witnessed the first official meeting of a new organization, the Council for Entrepreneurial Development (CED) that would be the catalyst for the region's next generation of economic development and job creation at a time when economic development and large company recruitment were synonymous. CED was the first of its kind in the nation; a new species of entrepreneurial organization autonomous and self-mandated (not linked to government or any university) grassroots, and entrepreneur focused. From the start, CED was self-funded by its own programming, by membership and by support from businesses, individuals and foundations who believed that entrepreneurs and innovation were key to future opportunity and prosperity.

CED's strategy was to link the entrepreneurial, business, research and university communities across the Research Triangle region, especially those that tapped novel ideas, discoveries and technologies from the research, engineering and science talent at Duke, UNC-Chapel Hill, NC State University and the companies and research institutions in the Research Triangle Park. CED focused on a single mission – to identify, enable, promote and build innovative high-impact, high growth companies. The challenge in the 1980s was to figure out how to do that in a region that was geographically dispersed, economically complacent, and culturally risk-averse.

In the 1980's, the RTA lacked the urban density associated with entrepreneurial vitality. The sprawling suburban region consisted of three distinct cities and counties, anchored by three research universities (UNC, Duke and NCSU). No metropolitan center existed whose institutions, entertainment and commerce might draw diverse people together. The Research Triangle Park itself was an unincorporated area almost completely within Durham County and 12 minutes from downtown Durham via Highway 147 (known as the Durham Freeway). The Research Triangle Park was primarily home to siloed research divisions of large corporations headquartered elsewhere. Notwithstanding its renowned innovation engines and knowledge assets, the RTP had no residential zoning, no schools, no gathering places, only a few services (post office, bank, hotel), strict development covenants and no public transportation or amenities. The 7,000-acre Research Triangle Park population was 35,000 by day and 0 by night. RTP formed an unnatural barrier to connecting entrepreneurial ideas, people and serendipity among the surrounding communities.

With less than a half-hour commute to downtown Raleigh, Durham or Chapel Hill, RTP's placement was ideal for drawing together employees and graduates living in these surrounding communities. On the other hand, RTP was a 600-pound gorilla at the center of the region, straddling I-40 and the Durham Freeway and hindering serendipitous collisions and flow-through of entrepreneurial ideas, people and resources across the region. RTP's low-density, park-like covenants and self-sufficient campuses caused the same problems for the technical and research talent working for corporate tenants within RTP.

What could be done to turn this around?

Entrepreneurs, businesspeople and financiers from both Raleigh and Durham scouted out their counterparts and recruited peers from Chapel Hill and champions from engineering and business programs at Duke, UNC and NC State. They met quietly as the Triangle Venture Committee throughout 1983. In 1984, they established a 26-member founding board of directors, chaired by Fred Hutchison, and launched the Council for Entrepreneurial Development (CED) as a non-profit volunteer organization. When 200 people from throughout the region showed up at the first CED meeting in January 1984 to learn about financing technology startups, the self-deprecating joke that all the Triangle's tech entrepreneurs could fit in the back seat of one BMW was resoundingly refuted. There was strong, if latent, demand. Entrepreneurs and professionals from both Raleigh

and Durham learned that they had counterparts and began to work together.

At its core, CED was launched to answer three questions:

1. Why, with three top tier research universities and one of the nation's largest and foremost industrial research parks, was the Research Triangle NOT experiencing the same type of entrepreneurial start-ups and spinouts, technology commercialization and capital formation that seemed to be a natural result in places like Silicon Valley and Boston?
2. What would it take to intentionally recreate or adapt an entrepreneurial culture and experience those results in the Triangle?
3. Could an entrepreneur-based sector become an organic and transformational job creation engine for the region, complementing the Research Triangle's large corporate tenants, which were largely headquartered outside of North Carolina?

What CED's founders envisioned for the long-term vision was a base of home-grown, high growth, locally headquartered corporations that served large, growing national and global markets.

Over its 33-year history, with the benefit of real-time insights from its members, industry leaders and a team that engages hands-on with startups, funders and innovators, CED has focused on anticipating trends, fixing gaps and obstacles and being open to reinvent itself to meet new opportunities. A guiding principle is to "skate to where the puck is going."

CED Catalyzes a Robust Entrepreneurial Ecosystem

In its first year, CED launched a newsletter, a monthly program, solicited members and prepared to hold a first "do-or-die" Southeast Financing Conference that same spring at Duke University to showcase entrepreneurial companies to potential investors. It was chaired by Dennis Dougherty, who, a year later, founded Durham-based Intersouth Partners, the region's first venture capital fund. Today Durham continues to be the Triangle and North Carolina's venture capital hub as home to Intersouth Partners, Hatteras Ventures, AM Pappas Funds, Bull City Ventures, SJF Ventures, Aurora Funds, Excelerate Health Ventures and several angel funds and networks. Still a volunteer-driven organization, CED hired Monica Doss, its first full time President in August 1986 and she remained CED's leader for 22 years.

In its first decade, CED began tackling the essential question – why weren't we seeing the same trajectory of new entrepreneurial ventures as were regions with similar educational, economic and innovation resources? Shortage of venture and angel capital was an obvious obstacle. But lack of capital is also a symptom of ineffective networks, institutional barriers to transferring or commercializing technology, risk aversion (investors and founders) and lack of demonstrated entrepreneurial know-how and success.

Starting from scratch and without a robust complement of seasoned technology entrepreneurs, CED's members and board tapped their own regional and national networks to recruit mentors and role models and to developed programs needed to share first-hand entrepreneurial knowhow.

The original 26 members, 400 companies and nascent entrepreneurs reached nearly 8,000 active members. About 1500 member companies had broad national reach in the venture capital industry. Over its history 75% of CED members identified themselves as active entrepreneurs, or as either corporate or academic "refugees" working on startup ideas, learning the ropes and building networks but not quite ready to make the leap.

Keeping pace with its growing community, CED added peer industry roundtables, which grew from informal small group lunches at each others' offices to monthly forums drawing 50-100 enthusiasts. The roundtables

rapidly spawned and provided leadership for larger programs, including CED's Life Sciences Conference and the InfoTech conference, which has become CED's TechVenture Conference.

CED itself evolved from a support organization into a "movement" whose direction was set by the needs and opportunities articulated by its entrepreneurs and innovators and supported by its expanding programs and membership revenues. As Max Wallace (former Duke University technology transfer turned biotech startup CEO and CED Board Chair) put it, "CED meetings were like the Bar Scene from Star Wars where a hundred or so "aliens" of different species thrived with each other. Whether we we're in biotech, info tech or investors, we spoke the same language."

CED was widely recognized for its programs, which at their peak during the late 1990's startup boom averaged eight sessions per month. CED's connectivity, autonomy and reputation for mission integrity created its role as convener, spokesperson, supporter and sometimes even a "Switzerland" of sorts. At CED, the trump card was always what was best for entrepreneurs and the entrepreneurial economy in the long term. This role has afforded CED opportunities to be at the table, to lead and help shape important regional, state and national issues that impact entrepreneurs, venture investment, infrastructure and policy.

By 1994, CED's early impact was showing results. As larger corporations like Glaxo and IBM were beginning to restructure, there was growing appreciation for the role that entrepreneurs play in economic growth and in bringing new products to market. CED's President and Board determined that the region was poised for significant corporate upheaval and entrepreneurial opportunity. They decided that CED needed to take on that challenge head on. One year later, CED launched Future Focus - a \$2 million fundraising campaign for a 5-year work program. The program was to build resources, programming, entrepreneurial capital resources and to create the Research Triangle Entrepreneurship Center, which occupied a 1960's-era NIEHS building. This space accommodated an expanded staff and classrooms. The building was easy to reach at I-40 and Alexander Drive, literally at the center of the region and the RTP.

Since 1984, the CED Venture Conference has been the primary mechanism for connecting the region's most promising and scalable startups with national and regional venture capital for investment and branding. In 2001, it was split into two sector events: TechVenture and Life Sciences due to its scope and size.

In the 2000s, typical annual programming looked like the following.

Capital Formation: CED works to increase the amount of capital available for start-up companies from angel investors by sponsoring angel capital networking and educational events, co-sponsoring the Southern Technology Council's VentureSouth initiative, and promoting development of private and public seed funds, in addition to ongoing recruitment trips to Boston and Silicon Valley, and the annual Venture conference.

Statewide Network of Entrepreneurial Councils: CED helps other N.C. regions develop their own entrepreneurial organizations and serves as a hub for this network, providing assistance with organizational development, administration and programs. Sites include Charlotte, Asheville, Rocky Mount, and Greensboro/Winston-Salem (Triad) and Wilmington.

Public Policy: CED compiles and disseminates information and data to assist those shaping public policy and economic development strategies, and monitors legislation and other policy that could affect entrepreneurs.

Over the years, CED has ascribed to an unusually collaborative approach, guided by two principles that define the Triangle's entrepreneurial community three decades later

1. A rising tide lifts all boats.
2. Inclusiveness. When it comes to CED, competitors must "leave their guns at the door."

By 2010, a growing critical mass of entrepreneurs throughout the region made a centralized headquarters less necessary. Capitol Broadcasting's Jim Goodman, a longtime supporter of CED, championed a start-up supportive strategy to revitalize Durham's downtown. Tying together its history and future, CED welcomed the invitation to move its headquarters to the American Underground in the ATC.

Appendix D Redeveloping the American Tobacco Campus

This section draws heavily on Sarah Wolff and Amanda Wong, March 2010

American Tobacco Company, once the center of Durham's identity and its primary employer, abandoned its large manufacturing facilities of approximately 1,000,000 SF at the south end of downtown in 1987 and moved its remaining production operations to rural Reidsville, NC. The departure left vacant 14 acres with magnificent brick buildings. Although the city identified this area as key to downtown revitalization early on, it took 15 years to begin the revitalization of the property.

Although several developers tried to redevelop the campus, no one could put a deal together. Capitol Broadcasting owned the Durham Bulls AAA team that played in the Durham Athletic Park across the street from the American Tobacco Campus (ATC). Capital Broadcasting's President, Jim Goodman obtained an option to purchase the complex in 1999. It took three years to consummate the purchase. The city-county incentive package of \$43.2 million, including two new parking decks for \$37 million made the purchase in April of 2002 financially feasible. Goodman proposed redeveloping the ATC and adding three new Diamond View office buildings on the north and east sides of the ballpark.

Still, it took another two years to secure permanent financing. Capitol utilized its business relationships to recruit anchor tenants that initially attracted lenders. But even with GlaxoSmithKlein, Compuware and McKinney advertising as major tenants, conventional lenders showed little interest after conducting due diligence on this mammoth proposed project in a disinvested downtown. Historic Tax Credits and newly minted New Markets Tax Credits helped the pitch, but Capitol still could not get a bank to commit to permanent financing of the facility. All of the factory buildings (warehouses, cafeteria and a power plant) had been vacant since 1987. Substantial water damage was evident in each of the structures and it was difficult to imagine a Class-A complex in the midst of this downtrodden neighborhood. "The property was a mess" recalls Downtown Durham Inc.'s former President Bill Kalkhof, "it cost \$100,000 just to remove the pigeon droppings from the buildings." According to Capitol Broadcasting's Vice President Michael Goodman, "We were proposing to double the amount of Class A office space in Downtown Durham. We were just laughed at by conventional lenders."

Without support from traditional lenders, Capitol reached out to Self-Help, a nationally prominent CDFI (see Appendix E) but one that had never made a loan over \$10 million. Headquartered just across the railroad tracks from American Tobacco and recently certified to use New Markets Tax Credits (NMTC), Self-Help worked with Capitol to recruit investors for the deal. A \$40 million permanent NMTC loan launched Phase I. NMTCs also supported Phase II of the redevelopment over the next three years. By 2006, Durham had received more NMTC investment per capita (\$750) than any other city in the country.

The factor that enabled Goodman to attract the \$30 million in private investment needed to complete the funding for Phase I was the master lease signed by Duke University. Not only did Duke sign up for significant square footage on the American Tobacco Campus (more than 240,000 SF) but it also agreed to vacate space when additional tenants were signed. Having a credit tenant on board paying pro forma rents for that much space lowered the financial risk considerably. Bank of America became the lead investor.

The revitalization project proceeded in two phases. During the first phase, Capitol Broadcasting rehabbed half of the historic vacant facility and added two parking decks. Phase I opened in 2004 with 500,000 square feet of primarily Class A office space along with a few restaurants and the large public space with an added water feature. Phase II continued the historic renovation and included apartments in addition to the development of Class-A Office space. NMTC financing contributed a third of the total project cost for the second phase. Table 2 in Appendix B above shows a copy of the uses and sources of funds for Phase I.

Although revitalization projects were underway in the late 1990s, local development professionals agree that the American Tobacco project accelerated the pace of revitalization downtown. Kalkhof surmises, “If American Tobacco were still vacant we’d still be seeing spotty development here and there, but my guess is that downtown would be 10 to 20 years behind where we are today (circa 2010).” Not only did the completion of American Tobacco encourage further development, it sent a message that downtown Durham was an interesting place—a vibrant center to “work, learn, live and play.” For the second time in Durham’s history, American Tobacco had begun to ignite the community. In 2010, The Triangle Business Journal named American Tobacco the Redevelopment Deal of the Decade. The renovated buildings of the ATC are shown on page 4.

Appendix E Self-Help

Sarah Odio

The Center for Community Self-Help is a community-based, non-profit group headquartered in Durham, NC, with a mission to create and protect ownership and economic opportunity. The Self-Help group functions as a family of financial and advocacy non-profits, including Self-Help Credit Union, Self-Help Federal Credit Union, Self-Help Ventures Fund and the Center for Responsible Lending (CRL). As a community development financial institution (CDFI), the group works independently and partners with major lenders and organizations across the country to deliver consumer financial services, provide technical support and advocate for low-wealth families in low-income communities.

Since its founding in 1980, Self-Help has provided over \$7 billion in financing for hundreds of homebuyers and small businesses each year, as well as other nonprofits, child care and community health facilities, public charter schools, and residential and commercial real estate projects. The MacArthur Foundation's profile of Self-Help highlights that "the organization welcomes customers who have been underserved by most banks; yet Self-Help's loss ratio is lower than or comparable to that of commercial banks." Today, the two credit unions serve over 120,000 members and are embedded in communities across North Carolina, California, Florida and Illinois.

Martin Eakes, Self-Help's current CEO, and Barbara Wright launched Self-Help with a \$1,700 loan, enabling a group of laid-off textile workers to finance a community bakery. Self-Help opened its first office in 1982, choosing Durham as a base because it was a microcosm of the changing North Carolina economy and contained a "mix of rich and poor, academics and factory workers." In an interview with the Babcock Foundation, Eakes explicitly rooted the organization's work in North Carolina's transitioning economy. In the early 80s, the state was undergoing a massive transformation from a manufacturing to a service economy, and at the time had more industrial shutdowns than any other state in the country. Eakes and Wright started out by focusing on worker ownership – creating cooperatives that would enable employees to take ownership of their businesses. Demand for Self-Help's services grew since few banks took risks on North Carolina's low-income and minority populations. The initial strategy gave way to a range of programs in lending areas tailored to increase wealth through home and business ownership.

The Self-Help Credit Union was capitalized in 1983 with \$77 in equity raised at a bake sale, aided by a local Self-Help-financed bakery. The credit union now provides a full range of consumer financial services, home and small business loans with a particular focus on reaching people of color, women, rural residents and low-income people and communities. Membership has topped 60,000 North Carolinians, with over \$650 million in assets and 20 branches around the state, in addition to online services.

The Ventures Fund was created in 1984 to expand Self-Help's financing capabilities beyond the credit union's "more conventional lending standards." The fund is capitalized with private and public loans and grants from foundations, religious organizations, corporations and government sources. The 501(c)(3) Ventures Fund manages Self-Help's higher-risk business loans, real estate development and home loan secondary market programs.

In 2002, Self-Help established the Center for Responsible Lending (CRL), a non-profit, non-partisan organization that conducts research on the extent and impact of predatory lending. CRL's advocacy focuses on influencing policy around consumer lending practices, in particular as they relate to primary mortgages, payday loans, credit cards, bank overdrafts and auto loans. The organization contributed to North Carolina anti-predatory lending laws and the creation of the federal Consumer Financial Protection Agency, among other successes.

The Self-Help Federal Credit Union was chartered in 2008 to extend the group's mission across the country, building a national network through a series of mergers, acquisitions and new branch launches in California, Florida and Chicago. Self-Help Federal now reaches over 80,000 underserved individuals with \$680 million in assets across 20 national branches.

It is clear that Self-Help is a powerful organization in Durham's EE. It has promoted entrepreneurship by providing project financing, most notably to American Tobacco, and by renting commercial space in downtown buildings it acquired earlier primarily to non-profits.

Their properties inside the Loop include:

- City View, multi-tenant office building of 41,000 SF at 123 West Main St
- City Center, multi-tenant office building of 65,000 SF at 201 West Main St which is the location of American Underground@Main Street
- Self-Help Headquarters, single-tenant office building of 50,000 SF at 301 West Main St
- Center for Responsible Lending's headquarters occupying 21,000 SF at 302 West Main St
- MDC Building, a 16,000 SF multi-tenant office building featuring headquarters of MDC at 307 West Main St
- Bull City Business Center, a 63,000 SF multi-tenant office and retail building at 115 Market Street

Self-Help owns other Durham properties outside of downtown.

Appendix F **Duke University**

At an event designed to encourage high-level talent to apply for admission, Duke University and other elite private schools (Penn, Stanford, Harvard, etc.) presented videos. What was notable by its omission was that Duke University's video made no mention of the city in which it was located. Nan Keohane who served as president of Duke from 1993 to 2004 changed that during her tenure. When she took charge, Duke leased 1,500 SF of office space downtown. By 2014, Duke's footprint exceeded one million SF. Duke is now the largest tenant in downtown Durham and is expected to lease another million SF of space over the next ten years. Clearly, Duke made the decision that a first-rate university would be challenged to thrive in a second-rate city.

Duke has contributed to the EE in three ways: building an innovation and entrepreneurship program on campus, reaching out to promote entrepreneurship off campus primarily through investments, and supporting redevelopment efforts in downtown Durham. Duke's on-campus programs are outside the scope of this case study. Similar programs exist at NCCU, the University of North Carolina at Chapel Hill and NCSU in Raleigh. The activities pertinent to the other two areas are described below. An important fact about Duke to keep in mind is that it is a private tax-exempt institution. As such, Duke cannot engage in commercial, for-profit activity without jeopardizing its tax status. This factor conditions Duke's involvement with the city and the entrepreneurial community.

Downtown Redevelopment

The Chesterfield at 701 West Main Street just west of the Loop where cigarettes with that name were once produced was recently redeveloped by Wexford Science + Technology based in Baltimore. The \$128 million project begun in 2013 was completed early in 2017 adding 286K SF to the downtown inventory. Duke is the anchor tenant leasing 100K SF of space for researchers from its engineering and medical schools. BioLab NC will occupy another 42K SF. BioLab claims to support young life science companies the way AU serves tech companies. The building will be devoted to lab space, co-working space and special programming to serve the users. Scott Selig, Duke's VP Real Estate views this property as a place where the university and the private sector can "collide and collaborate." (See News and Observer, 11/10/16)

Durham.ID consists of almost 40 acres and includes about 15 city blocks directly north of the west end of the Loop in downtown Durham. The property is the assemblage of Measurement Inc., a major downtown employer. Dr. Henry (Hank) Scherich, President grew Measurement to become one of the leading companies scoring end-of-grade tests and other exams administered by school districts across the country. Measurement has completed one office building on Hunt Street that serves as its new headquarters and several other renovations. The renovated Imperial building at 215 Morris St. houses The Bullpen on the third floor. This space is the off-campus base for Duke's Innovation and Entrepreneurship (I&E) program. Measurement and Longfellow Real Estate Partners from Boston are now joint venture partners that intend to develop Durham.ID with build-out expected to continue for many years.

Another renovation begun in 2016 is the Carmichael Building at 300 North Duke Street. This 155K SF facility will serve as Duke's third Medical Sciences Research Building (MSRB III). The first two are on Duke's main campus. MSRB II built in 2006 used sustainable design with many green features. MSRB III represents another form of sustainability – rehabbing an existing building. The Carmichael renovation demonstrates Duke's continued commitment to occupying space in downtown Durham.

Fifteen years ago, the master lease that Duke signed for space in the ATC was a contract made in heaven from the developer's perspective. First, Duke became an anchor tenant with its very strong credit rating. If Duke had been the sole tenant, the developer could have created a bondable lease whereby the lender provides

funds based solely on the tenant's balance sheet rather than on the property itself. Second, Duke agreed to pay pro forma rents for space as soon as Phase I was completed even though that space would not be immediately occupied. Third, Duke agreed to vacate space when new tenants were signed and wanted space Duke was leasing. If the space were occupied, Duke would move to an unoccupied portion of the ATC. Currently, Duke University occupies considerable space in the ATC, primarily in the Lucky Strike and Reed buildings.

Duke also rents space at American Underground@Main Street, which is occupied by Duke-connected entrepreneurs at no cost to them, like Ms. Birgisson who is discussed below. Downtown Durham, Inc. keeps track of major downtown tenants and can provide information on downtown properties leased by Duke.

Entrepreneurship Promotion in Durham

Duke University's Innovation & Entrepreneurship program, like ones at UNC-CH and NCSU, is primarily based on campus. Unlike the other university programs, I&E has made connections with the EE growing in downtown Durham. Howie Rhee, who spent two years with CED before joining Duke, works with Adam Klein and rents office and co-working space at American Undergraouns@Main Street as noted above.

One positive outcome of this collaboration is Mati Energy. Duke graduate, Tatiana Birgisson began brewing high-caffeine teas as an undergraduate to fight a bought of depression. She benefitted from being an early participant in the Duke I&E program receiving a \$5,000 grant to cover summer expenses that enabled her to continue working on her business idea. She then occupied Duke's office space at American Underground@ Main Street. Tatiana became involved in activities at AU that eventually led to receiving recognition at Google Demo Day. She participated in NC IDEA's SOAR program designed to help female entrepreneurs. She convinced NC IDEA to accept her application even though they disqualified the food sector because she wanted to use the funding to build a procession facility. She and her VP for Operations renovated an aluminum warehouse in Clayton, NC over a 6-month period to create a state-of-the art facility for producing her energy drink. She borrowed technology from the craft beer brewing sector in designing the plant. Prospects for Mati are bright. The Duke endowment recently invested in Mati. See Mati Energy website

Duke has spun off some prominent entrepreneurial companies especially in the bio tech/life science sector. One example is ShareFile founded by Duke graduate, Jessie Lipson that was purchased by Citrix. However, Duke is more interested in commercialization to generate revenues than entrepreneurship per se. Compared to UNC-CH, Duke licenses to existing companies more often than helping startups. Duke's I&E program serves as a clearinghouse for commercialization resources and assists in patent development. It helps entrepreneurs access funding and other regional assets including the Duke Angel Network. This venture fund was created by Duke-affiliated individuals and funds Duke-affiliated ventures anywhere in the world. Duke University is not an investor in this network. Finally, Duke is not interested in developing incubators on campus or downtown. It will lease space in incubators that private entities develop. (See Donegan.)

Appendix G Exerpts from: Diversity as Development: Lessons from American Underground

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In early 2015, American Underground (AU) leaders went bold, publicly committing to make the AU the most diverse entrepreneurial hub in the United States.¹ In the period since then, the AU has made significant and sustained progress on the diversity front. Today 75 out of 257 AU-based companies are female-led and 73 are minority-led. In just one year, AU increased its share of female and/or minority-led firms by over 30 percent. The AU has staked its reputation on further advances, including taking steps to address Durham's elusive challenge of socio-economic inclusion.

Reporting progress through numbers is easy. The harder task is identifying the underlying processes these numerical gains represent. Popular accounts of the AU story tend to feature Durham's advantageous demographics—a racially mixed community, with a robust black middle-class, from which to draw new cohorts of AU entrepreneurs. AU's enlightened leadership team is an energized group of 30-somethings with exposure to progressive principles of community economic development through prior professional experience or academic training. Added to the mix is an enviable inventory of high-profile corporate and non-profit partnerships (e.g., Google, IronYard, Audi) and sustained external funding for innovative programming in support of racial, gender, and economic inclusion. Each of these layers adds depth and richness to the AU's well-publicized diversity story.² Still, in and of themselves, these place, partner, or people-specific elements may be difficult to reproduce in other communities seeking to draw lessons from AU's lead.

What steps has AU taken to promote and advance its diversity goals? How is AU's leadership pushing the boundaries of inclusion? What emergent constraints or conflicts are on the horizon to motivate further action?

AU's diversity commitment started with meaningful and honest dialogue among three early members of AU's leadership team: Jessica Averhart, Molly Demarest, and Adam Klein. Yet for those conversations to translate into tangible gains, they needed to be acted upon. An initial catalyst came from a series of high-profile grants and awards that AU leaders secured in support of entrepreneurial programming.

In September 2013, AU was selected by Google to become one of its Entrepreneurial Tech Hub communities, a prestigious designation awarded to a handful of U.S. cities well poised to expand technology entrepreneurship beyond established tech centers like Silicon Valley or Cambridge's Kendall Square.³ With Hub Network designation, AU received technical and financial assistance to upgrade its digital infrastructure. Additionally, AU's entrepreneurs gained access to Google's mentor networks, entrepreneurial support services, and invite-only pitch events, including Tech Hub Demo Days.⁴ In early 2014, the AU secured additional Google funding to support female founders, which at that time only represented 7 percent of AU-based entrepreneurs. With this modest \$20,000 grant, AU partnered with a network of successful female technology executives in the Triangle to launch a volunteer mentoring network called SOAR. In rapid succession, AU was chosen by Google-sponsored non-profit Code2040 to help pilot a new entrepreneur-in-residence program in support of black and Latino tech entrepreneurs. In late 2014, Talib Graves-Manns was named as the first Code2040 entrepreneur-in-resi-

1 <http://www.bizjournals.com/triangle/blog/techflash/2015/02/adam-klein-american-underground-durham-startup-hub.html?s=print>

2 <https://www.theatlantic.com/business/archive/2016/03/durham-startup-entrepreneurship/475269/>; <http://thrivingcities.com/au-case-study>

3 <https://gigaom.com/2013/09/25/google-tries-to-fuel-innovation-outside-of-silicon-valley-with-new-tech-hub-network/>; <http://wunc.org/post/american-underground-selected-google-tech-hub#stream/0>

4 <http://www.bizjournals.com/triangle/news/2013/09/25/google-picks-durhams-american.html>

dence at American Underground.

Thus, when AU's Chief Strategist Adam Klein went public about AU's diversity commitment in a Triangle Business Journal interview on February 2, 2015, he was standing on a solid ground. Already in place were reinforcing initiatives, supported by high-profile institutional relationships, all helping to put AU's initial diversity goal well within reach. In this respect, Klein's well-timed media statement was less a case of outlining an ambitious or aspirational vision. As Jessica acknowledged, it was a "clarifying" moment, adding "external accountability" to help propel strategy implementation. Klein reiterated this point, "it is too easy to say it's important in a private setting, and then never put out measures or show initiatives that are demonstrably moving the needle." With this lesson in mind, AU continues to publicize its organizational goals and commitments, tracking progress with measurable metrics, visually appealing infographics, and inspiring entrepreneurial narratives. They also recognize shared success with community partners at well-publicized celebration events and through digital and multi-media platforms. As one illustration, on December 15, 2015 the AU released its annual report in the form of a rap music video performed by AU artist-in-residence Professor Toon.⁵

Still, going public via channels like YouTube and interviews with the region's business press is not without risk. As Klein acknowledged, "early on we heard criticism of diversity-for-diversity sake. . . . Some people would argue we'd compromise on quality and we wouldn't get the best teams. Not everyone was convinced." This challenge opened up a new opportunity for AU leaders to engage in constructive dialogue that could reshape public discourse and debate. AU leadership made use of published academic research and consulting reports to outline the business case for diversity.⁶ They also helped AU members internalize that message, encouraging entrepreneurial founders "to talk openly about the clear business benefit from having a diverse team." Still, as discussions progressed, AU leaders recognized the potential for further action—not just limiting the diversity push to within AU's own protective walls, but using the organization's rapid success in becoming a highly-visible, well-networked entrepreneurial hub to promote and institutionalize strategies of social and economic inclusion within Durham's larger urban boundary.

Inside Out

Code2040 entrepreneur-in-residence, Talib Graves-Manns, was instrumental in helping AU's leadership team turn outward. He motivated this reorientation with the concept of "exposure," noting that AU could help more Durham residents—women, people of color, as well as economically disadvantaged youth—envision an alternative economic future by creating opportunities for them to engage with large numbers of tech-entrepreneurs from similar backgrounds. An initial step involved reaching out to Durham's Public School system and scheduling AU tours for elementary and high school students so they could observe first-hand AU's diverse technology community. As Klein put it, AU started with "something as simple as school tours so kids could see groups of founders who looked like them." AU has deepened its commitment to educational diversity through on-going partnerships with the IronYard Coding School located in AU@ATC and with Code the Dream. The latter, now called Uniting NC, creates opportunities in computer programming for immigrant families, as well as individuals facing economic adversity, including homelessness.

AU leaders have recognized their ability to bring in new partnerships and resources in support of existing Durham-based minority and women-owned businesses. With that in mind, Jessica and Talib launched Black Wall Street Homecoming in 2015, a three-day event co-sponsored by American Underground involving over 400 participants from across the United States, including Black-owned venture capital firms and investment funds.⁷ The name, Black Wall Street, is a historic reference to Durham's Parish Street from the late 1800s when it was

5 https://www.youtube.com/watch?time_continue=1&v=m10ao4globs

6 <https://www.usatoday.com/story/tech/columnist/2015/12/17/american-underground-durham-north-carolina-entrepreneurs-diversity-talib-graves-manns-adam-klein/77439972/>

7 <https://www.facebook.com/komplekscreative/videos/10153632587383600/>

home to dozens of black-owned businesses, banks, and financial service institutions. In October 2016, Black Wall Street Homecoming expanded to Washington DC, helping to elevate the national conversation around diversity, technology, and entrepreneurship.

Additional efforts are in the works. The AU is exploring new partnerships to support small businesses in personal or household services, including landscaping, home-repair, and housekeeping where the share of black or Latino owners is relatively high. One concept under consideration would involve co-sponsored events to connect black and Latino business owners to AU's technology experts that can help navigate e-commerce and digital platforms. In line with AU's broader mission, the ultimate goal is to expand who participates in Durham's growing tech economy.

In early 2017, the AU also revived the Startup Stampede, expanding the scope to entrepreneurial businesses in consumer products.⁸ In broadening their focus beyond digital technology, Klein acknowledges the “lines between technology companies and consumer product companies are getting a lot blurrier and (with this Retail Stampede) we’re connecting them.” This move was also inspired by the success of two early AU firms, including MATI, a woman-owned business that produces an all-natural energy drink now sold in over 500 stores in the US south.⁹ With grant funding from the foundation NC IDEA,¹⁰ six consumer product firms participate in a two-month incubation program designed to support growth through an e-commerce platform.

The 2017 applicant pool for consumer products was significantly more racially and ethnically diverse compared to earlier Stampedes with a narrower tech-orientation. Yet as Klein also acknowledges, this broader focus enhances AU's commitment to exposure, “as consumer products inspire kids like digital tech does not!” When asked why, Klein explained, “because it is tangible—something they can hold.”

Looking to the future, Klein also hopes expansion into consumer products will result in good paying manufacturing jobs in and around downtown Durham. This means creating an additional point of economic tangency around which to apply diversity principles by pushing strategies of inclusive innovation beyond entrepreneurial development¹¹ to help position frontline manufacturing workers as revered actors within Durham's creative talent pool.¹²

Looking Ahead

In early 2015, the AU set a clear diversity challenge for itself and more than met its self-imposed deadline of December 2016. By then, however, AU leaders had added a new set of development challenges to the mix. They acknowledge more on the horizon, including emergent threats of economic displacement in downtown Durham resulting from reduced commercial vacancy, rising real estate prices, a lack of affordable housing, and transportation constraints. AU leaders are now reworking the development narrative, tethering the future of diversity in Durham to comprehensive planning solutions in support of spatial inclusion and physical mobility. As with earlier actions, it all starts with conversation. As Klein acknowledges, “what I hear now from entrepreneurs is ‘what can I really do?’ They don’t know how to swim in that pond.” For AU, the future of inclusion in Durham requires moving beyond a sink-or-swim proposition.

8 <http://americanunderground.com/american-underground-startup-capital-of-the-south-receives-nc-idea-support-for-retail-stampede/>

9 <http://durhammag.com/2017/03/04/fast-growing-energy-drink-company-founded-by-duke-grad/>

10 <http://www.ncidea.org/>

11 <http://www.newsobserver.com/news/business/article38444964.html>

12 <http://www.metropolitiques.eu/Reskilling-Urban-Manufacturing.html>

Appendix H **Durham's Entrepreneurial Ecosystem**

The framework used here to map Durham's EE in static terms began with Brad Feld's, which describes the EE in Boulder, Colorado. Unlike Boulder, serial entrepreneurs do not dominate the leadership group in Durham. Various actors have contributed in different ways to building the Durham EE. The categories below pertain to the major purpose of the organizations and role of affiliated persons. In fact, many individuals played different roles at different times.

Entrepreneurship Facilitators

Monica Doss, Founding Executive Director

Joan Sieford Rose, Executive Director (2008-16), Council for Entrepreneurial Development, American Underground, American Tobacco Campus (see Appendix C)

Adam Klein, Chief Strategist, American Underground, incubator and startup hub, three locations: American Tobacco Campus-318 Blackwell Street, 201 West Main Street and 212 West Main Street (see Appendix G)

Chris Heivly, Managing Director

David Neal, Managing Director, The Startup Factory, well capitalized accelerator American Underground, through 2016

Dave Rizzo, Founding President & CEO

Thom Ruhe, President & CEO, NC IDEA, Power Plant, American Tobacco Campus

NC IDEA Subsidiaries:

Groundworks Labs accelerator, formerly Joy Stick Labs for gaming, Power Plant, American Tobacco Campus

John Austin, Director

Soar Triangle advisory promoting female entrepreneurship American Underground, 201 West Main Street

Reagan Reynolds, Program Manager

Howie Rhee, Managing Director, The Bullpen, Duke Innovation & Entrepreneurship, 215 Morris Street

Mentors

There are more than 150 active mentors interacting with Durham-based entrepreneurs.

Blackstone Entrepreneurial Network, The Frontier, RTP

Peter Bourne, serial entrepreneur, Mentor in Residence

Over 70 affiliated mentors with Cofounders Capital (see www.cofounderscapital.com)

The 14 member advisory board includes **Brent Burgess**, **Anthony Dilweg**, **Whitney Rowe**, **David Schantz** and **Scott Wingo**

Groundworks Labs

Tom Collopy, Startup Mentor, Advisor and CEO Coach, **Bryan Hassin** and **Scott Barstow**

Nordic Mentor Network for Entrepreneurship (NOME-US)
Julie Siler, Project Manager through Commonweal at The Frontier, RTP

NC Spark, private peer mentoring group for founders and CEOs of tech startups in the RTA
David Hadden, Co-Founder

SOAR Triangle co-founders and mentors, **Kimberly Jenkins**
Lauren Whitehurst and **Vickie Gibbs** also at Groundworks Lab

Forty-five mentors associated with The Startup Factory including **James Avery, Joe Colopy, Henry Copeland, Chaz Felix, Taylor Mingos, Scott Moody, David Spitz** and **Matt Williamson** (www.thestartupfactory.co/mentors)

Venture Mentor Service, Council for Entrepreneurial Development
Jay Bigelow, Director

Advisors (Selective)

Talib Graves-Manns, Entrepreneur-in-Residence
Doug Speight, Entrepreneur-in-Residence, CODE 2040, American Underground

Casey Steinbacher, former Executive Director, Durham Chamber of Commerce

Miriam Wilson, Vice President, Investor Relations, Council for Entrepreneurial Development

Entrepreneurship Support

American Tobacco Campus, Capitol Broadcasting Company– space for companies and places for events
Michael Goodman, Vice President, Capitol Broadcasting Company, Inc. (see Appendix D)

Downtown Durham, Inc. – making downtown attractive environment to private investment
Nicole Thompson, Executive Director

Durham Chamber of Commerce – business development and support
Geoff Durham, President & CEO

Investors (Selective)

Angels

Bruce Boehm, serial entrepreneur, Chapel Hill

Duke Angel Network, five-person operating team including **Eric Toone**, Director and **Howie Rhee**, Managing Director

Investors' Circle, **Bonnie Moellenbrock**, Executive Director, AU, 201 West Main Street, Durham

LaunchBox Digital, **John McKinley**, Co-Founder, 334 Blackwell Street, ATC, Durham
(No longer active)

RTP Capital Associates, **Mark Friedman**, President and **Elaine Bolle**, Past President, 10 Laboratory

Dr. RTP

Triangle Angel Partners, **Stephen Clossick**, Fund Manager, **Jan Davis**, Past-President, 6002 Meadow Run Court, Chapel Hill

Venture Capital Firms

Bootstrap Advisors, **Jay Mebane** and three other partners, 120 West Parrish St.

Bull City Venture Partners, **Jason Caplain** and **David Jones**, General Partners, AU, 201 West Main Street

Cofounders Capital, **David Gardner**, Founder and General Partner, Cary, NC
Hatteras Venture Partners, **Christy Shaffer**, CEO, 280 S. Mangum St.,
Life science focused

IDEA Fund Partners, **John Cambier** and **Lister Delgado**, Managing Partners, 104 City Hall Plaza

Intersouth Partners, **Dennis Dougherty**, Founder, **Mitch Mumma**, and **Kip Allen Frey**, 102 City Hall Plaza, Durham

Pappas Ventures, **Art Pappas**, **Scott Weiner** and **Ford Worthy**, Partners
Life science focused, Meridian Parkway near RTP

Venture Debt

Square One Bank, ATC, 406 Blackwell Street

Service providers (Highly Selective)

Glen Caplan, Robinson Bradshaw (Law)

Fred Hutchison, Hutchison PLLC (Law)

Brooks Malone III, CPA, Hughes Pittman & Gupton, LLP

Merrill Mason, Partner, Smith Anderson (Law)

The Iron Yard, AU national organizational with Durham and Raleigh presence that trains programmers for websites, apps and tech companies, American Tobacco Campus, 334 Blackwell Street
Durham leadership team of eight including **Peter Barth**, CEO and **Jessica Mitsch**, Executive Director, Code School

iNvictus Office Center, minority focused co-working space, 601 Fayetteville Street

Universities

Duke University, through its participation in downtown revitalization and the Innovation & Entrepreneurship program and (see Appendix F)

North Carolina Central University, especially its entrepreneurship activities in the School of Business

Government

City of Durham

Durham County

Large companies

Self-Help, large socially oriented investor, major employer and property owner downtown, 301 West Main Street (see Appendix E)

Measurement, Inc., large employer and major property owner in the area designated as Durham.ID, 404 Hunt Street



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