

Network-Based Development in Chattanooga, Tennessee: Processes and Potentials

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ABSTRACT

Chattanooga is a city of networks. The goal of this project is to provide examples of how developers, by tapping into Chattanooga's most vital networks, can create buildings that speak to the city's unique character, build interest in the city, and foster a stronger future for Chattanooga.

Chattanooga has four networks that serve as its backbone. They are the Cultural Network, the Blue Green Network, the Fiber Optic Network and the Dwelling Network. These networks are linkages between people and places, bound by common hopes and affinities. They are platforms for social connection, economic growth and physical change.

Three developments serve as examples of the development logic employed for this project. They are situated on a site in Chattanooga that sits in close proximity to powerful elements from each network, just north of the Tennessee River and the heart of downtown. These buildings illustrate a new kind of development logic, one that asks how to tap into the city's strongest networks, and by doing so, strengthen the key elements of a city's cultural, ecological, economic and technological future.

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CHAPTER I - INTRODUCTION

Chattanooga is a city of networks. For the past thirty years the city has undertaken a process of self revitalization, and has remade itself from ‘the dirtiest city in America’ (“Case Study: Chattanooga Shapes a Sustainable City”) to a two time winner of Outside Magazine’s ‘Best Town Ever’ (Thompson, 2011).

Due to community led city planning, the quality of life in Chattanooga has skyrocketed, and continues to attract more residents, and more development in the downtown area.

This goal of this project is to provide a few examples of how developers, by tapping into Chattanooga’s most vital networks, can create buildings that speak to the city’s unique character, build interest, and foster a stronger future for the city by strengthening network activity.

Chattanooga enjoys four networks that provide the backbone for its current superstar status. These networks are linkages between people and places, bound by common hopes. They are the platforms for social connection, economic growth and physical change.

The first network is the Cultural Network. In response to over pollution and economic and social decline spurred by the departure of industry in the late 70’s the Chattanooga Chamber of Commerce launched Chattanooga Venture, a non-profit with the goal of reshaping the city. Chattanooga Venture held a series of public forums in which thousands of city residents came together to discuss their hopes for the city’s future. Through this process of public visioning, Chattanooga Venture established 40 goals for Chattanooga, and then funded various initiatives to execute these goals (Skeele, 2011).

One of the most significant projects that arose was a University of Tennessee Architecture Studio called the Urban Design Studio, which launched in 1981 with the goal of revitalizing downtown. The Urban Design Studio’s impact on the city cannot be understated. As described by studio lead Stroud Watson, the goal was to simultaneously educate architecture students and Chattanooga residents on urban design principles (“Urban Design Studio Chattanooga: Collected Works 1981-

2004”)

The urban design studio engineered a series of design interventions that completely reshaped Chattanooga. They began with a city center, moved towards the river where they brought in an aquarium and created a ‘front porch for the city,’ and proposed the Tennessee Riverwalk, which is 21 miles of interconnected trails.

The city turned Walnut Street Bridge into a pedestrian park, and connected downtown to the North Shore across the river. By 1999, over 100 acres of disused space had been transformed to vital public space that serves as an attractor, a destination and a meeting place for residents and visitors.

The urban design studio’s vision was a success. Chattanooga still uses public visioning to set goals which then receive city funding (“Best Practice: Chattanooga Venture/Community Vision,” 2007). Its citizens believe in the process, as they believe in the power of design to transform a city and create endless new opportunities for civic engagement and economic growth.

The second network is the Blue Green network. Chattanooga is two time winner of Outside Magazine’s Best Town Ever Award, which called the city the “ultimate dream town, a perfect base camp that offers everything from epic singletrack to progressive city planning” (Thompson, 2011). It is this planning that has made Chattanooga so attractive to the Outside Set. A primary goal of the Chattanooga Venture process was preservation of the city’s existing green space.

Numerous organizations have funded the preservation of tens of thousands of acres of green space. This preserved, along with the city’s greenways, create invaluable habitat and migration corridors for countless species. As well as the stunning vistas Chattanooga is known for.

As well, Chattanooga’s network of preserved greenspace has attracted outdoor enthusiasts, and the mountain biking, climbing, kayaking, trail running and river swimming scenes are thriving. The river downtown is dotted with paddleboards. With the preservation of a 93 acre ridge in the heart of the north shore neighborhood which became a single track mountain biking and running trail, the newest trend is green space in walkable or bikeable distance to downtown (“Stringer’s Ridge”).

This ease of access to green space is the primary attractor for outdoor enthusiasts. It has also drawn the attention of outdoor-based competitions, namely the Iron Man, which made Chattanooga one of only ten cities in the world to host two Iron Man events a year.

Chattanooga’s green spaces create economic benefits by attracting investors to the city and raising home and property values. They also serve as air and water filters, and greatly increase the physical and mental health of the city (“Regional Ecosystem Analysis”).

Third is the Fiber Optic Network. In 2012, Chattanooga became home to the fastest internet service in the world with the help of a federal grant. Fiber optic internet service is provided by the city’s municipally owned electric company, EPB, meaning that Chattanooga’s internet is independent from giant service providers such as Verizon, Xfinity + AT&T. This enables the city to make its own decisions about internet cost and availability (Rushe, 2014).

As a result, innovation is blossoming in Chattanooga. Wallethub ranked Chattanooga #4 in the 2015 list of best cities to start a business. Investment has poured in and incubators like Lamppost serve as major resources for tech entrepreneurs. People now look at Chattanooga as a place to start a business, and the city is attracting huge companies alongside the tech startups. Amazon and Volkswagen opened branches here, and last week Google announced it was building a \$600 million data farm just outside the city (Omarzu, 2015). The combination of Chattanooga's independent spirit, its natural beauty and its upward momentum make it extremely attractive to new business.

The fourth and final network is the Dwelling Network. In many ways, Chattanooga's Dwelling Network is the least progressive of all. Chattanooga residents are heavily reliant on automobiles, with 80% of people commuting to work in their own car. Growth patterns show an emphasis on sprawl.

Currently, new developments coming up in Chattanooga are falling short on both of these goals. Sites are fully paved, and efforts to design for the inclusion of any green space are minimal at best. New developments tend to be weakly linked to the community around them, and generally don't provide any of the amenities Chattanoogaans have demonstrated interest in.

In an effort to learn what Chattanoogaans want, and in the spirit of public visioning, I created a survey called Future Chattanooga, in which I asked Chattanoogaans questions about their ideal home, neighborhood and community. Over 100 Chattanoogaans responded.

The most important aspect of a home, according to the survey, is that it has access to nearby greenspace. Personal outdoor space comes second, followed by natural light. In terms of location, a sentiment echoed again and again was that an ideal home was 'away from it all, but in the middle of everything.' Surrounded by greenspace, but with access to the city's parks and amenities. The viewpoints expressed in this survey served as the basis for my design process.

CHAPTER II - PROCESS AND PROPOSALS

The goal of this project is to demonstrate new ways of envisioning development in Chattanooga. Rather than a one size fits all approach to development, I want to show that by tapping into and promoting existing networks - cultural, blue green and fiber optic, developments can offer unprecedented amenities, increase the value of their developments, and catch the attention of a much larger demographic. By offering residents more opportunities to connect with local networks, leasability and saleability go up. So does the quality of life for residents and the health of local ecosystems.

The buildings in this project are meant to be iconic, to speak to Chattanooga's past, present and future, and to at every opportunity, exhibit signs of life happening within the development. They are designed for the kind of people Chattanooga is known for - adventurous, active, physically and civically engaged individuals who value the health of the community, the ecosystem and the residents therein.

CHAPTER III - NETWORKS

For thousands of years, Native Americans used the river banks here to cross a gap in the Appalachian Mountains, and trains sped through during the Civil War to connect the eastern and western parts of the Confederacy. In the 21st century, it is the Internet that passes through Chattanooga, and at lightning speed. (Wyatt, 2014)

Chattanooga is a city of networks. Its first settlers, Native Americans, arrived here on the network of the Tennessee River. The name Chattanooga is derived from a Native American word meaning ‘gathering place.’ By the 1930’s Chattanooga was known as the ‘Dynamo of Dixie’ for its cultural and industrial prowess enabled by the river and rail networks crossing the area. But by 1962, due to a proliferation of dirty industry and its location in the Tennessee River Gorge, Chattanooga was the dirtiest city in America (“Case Study: Chattanooga Shapes a Sustainable City”). What came next was a response to this crisis that would remake Chattanooga as a cultural and environmental success story.

In 1980, Chattanooga was experiencing economic decline. Old avenues for city revenue dried up with the departure of industry, and the disused city core and abandoned riverfront stood as obvious examples that Chattanooga was doing a few things wrong. In response, a group of city officials, civic leaders and business people formed a non-profit organization called Chattanooga Venture, with the aim of generating a better, more productive future for the city (Skeele, 2011).

Chattanooga Venture’s first project was to open a city-wide conversation with the purpose of taking record of city residents’ hopes for Chattanooga. The project was called “Vision: 2000.” Funded by the Lyndhurst Foundation, “Vision: 2000” created forums in which thousands of citizens came together to establish goals for Chattanooga’s future. The conversations broached civic life, health, education and transportation, and resulted in the creation of 40 goals for the city. Using these goals as criterion for funding, “Vision: 2000” saw the completion of over 200 projects geared toward city development (“Best Practice: Chattanooga Venture/Community Vision,” 2007).

The “Vision: 2000” goals for Chattanooga included developments along 4 major channels: environmental, economic, cultural, and domestic. These channels are the primary networks that have served for the basis of Chattanooga’s growth the past 35 years. They are also the networks I will be exploring in this thesis.

CHAPTER IV - THE BLUE GREEN NETWORK

The river has always been our lifeline - it is the reason for city's existence. We can reconnect with the river and establish a new image that becomes a generator for the future. - Stroud Watson ("Urban Design Studio Chattanooga: Collected Works 1981-2004")

In 1981, the UTK architecture school launched the Urban Design Studio in Chattanooga. UTK architecture students led a revival of downtown Chattanooga, creating a network of pedestrian spaces linked directly to the city's riverfront. In the words of lead professor Stroud Watson:

The goal in the beginning was to integrate the education of architects with the education of a community - visual literacy, principles, attitudes, goals and vision.

How the community is designed, built and cared for is a result of the community's ability to form a shared vision that is special to Chattanooga, a memorable vision that reflects its past, reinforces its present and predicts a future ("Urban Design Studio Chattanooga: Collected Works 1981-2004").

At this point, the Urban Design Studio had already identified the Tennessee River, which flows through the heart of Chattanooga, as the most significant existing network in the city. By 1985, the Urban Design Studio received approval for a Tennessee Riverwalk master plan (Vaughen, 2009). Over 1,600 people attended the unveiling of the master plan. The plan stated its goal to develop the riverfront

... under a guiding idea which will bring its banks to life, make it a central point of pride for the city's people, and move it to the forefront of national consciousness (Vaughen, 2009).

Bringing the banks of the Tennessee River to life is a statement that applies much more to the

populated strips of land just beside the banks than it does to the banks themselves, which already teem with life. In fact, Tennessee has the richest freshwater fauna of any state in the nation. Over 320 fish species alone live in the Tennessee River (“Tennessee River Gorge Trust History”). The species under the water serve as the foundation of an entire ecosystem that is based on the river. Otter and turtles cut across the surface of the river while osprey, peregrine falcons and bald eagles circle overhead.

Funded by various private and public organizations, along with the Lyndhurst Foundation, the Tennessee Riverwalk connects 21 miles of waterfront trails. These trails provide multiple points of contact between Chattanooga and the incredible array of biodiversity that takes root in the Tennessee River.

The Riverwalk master plan also included the formation of large parks and greenspaces that permanently altered the shape of Chattanooga. In 1999, Coolidge Park opened, a 13 acre public park at the base of the Walnut Street bridge. It was followed by the 23 acre Renaissance Park (“Downtown Chattanooga - Parks and Recreation”), and most recently Stringer’s Ridge, a 92 acre swath of mountaintop in the heart of North Chattanooga that was preserved by a community initiative and now serves as an urban wilderness recreation area (“Stringers Ridge”).

This linkage of green spaces fosters interaction between locals, exercise and recreation and most significantly, opportunities for Chattanooga to have an array of rich experiences here at home. The Riverwalk also provides invaluable green networks for local species. The preserved greenways alongside the Riverwalk offer space for species to breed, nest and migrate. Greenways are vital for the health of Chattanooga’s native species.

Through the emerging science of landscape ecology, we are learning more and more about the importance of the “linkage” that greenways provide in maintaining and restoring ecological processes and in maintaining the health of a landscape. Greenways connect. They tie together people, parks, historic sites, and natural areas. They follow streams and rivers, ridgelines, abandoned rail lines, hedgerows, canals, and other transportation corridors. All are unique, created through local initiative and reflecting a consensus of community needs and concerns (Spitzer, 1997).

The second phase of the Tennessee Riverwalk expansion, currently underway, is drawing the trail into the Tennessee River Gorge. Just west of downtown Chattanooga, the Gorge is a series of mountains bisected by the Tennessee River. The Tennessee River Gorge Trust, created in 1994 with the intention of preserving all of the land within the Gorge, has largely succeeded. From the group’s mission statement:

The Tennessee River Gorge Trust is the perfect example of what can happen when a small group of thoughtful citizens comes together to change their community for the better. The cooperation of landowners, TVA, the State of Tennessee and the local community has led the Trust to protect more than 17,000 of the 27,000 acres in the Gorge (“Tennessee River Gorge Trust History”).

The Gorge adds value to the city of Chattanooga itself, as a nearby destination with incredible

views on the water, and as a large swath of preserved land. On any given weekend, the waters of the gorge are dotted with paddle boarders, kayakers, boaters and swimmers who come to enjoy the natural beauty and spot the multitude of species who live here.

There are a number of organizations in Chattanooga dedicated to preserving land within city limits as well. The Trust for Public Land is a major player, and their mission statement calls for creating a series of preserved parks and greenways fanning out from the Gorge and the Tennessee Riverwalk parks. They continue to acquire and preserve land with the express intent of generating habitat, providing recreation opportunities, and increasing property values for homes in proximity to these preserved parks.

Outdoor enthusiasts are drawn to Chattanooga. In 2011, and again in 2015, Outside Magazine named Chattanooga “The Best City Ever,” calling it an “ultimate dream town, a perfect base camp that offers everything from epic singletrack to progressive city planning” (Thomspon, 2011)

Connected to the Tennessee River, approximately 1,744 miles of streams in the Lower Tennessee River Watershed drain to the river (“Total Maximum Daily Load for Siltation and Habitat Alteration in the Local Tennessee River Watershed”, 2006). Here too is an incredible range of biodiversity, which experiences a greater connection with Chattanooga’s neighborhoods and city centers.

The State of Tennessee’s 2004 303(d) List identified a number of waterbodies in the Lower Tennessee River Watershed as impaired. The primary sources of problems are siltation and/or habitat alteration associated with agriculture, urban runoff, land development, and bank modification (“Total Maximum Daily Load for Siltation and Habitat Alteration in the Local Tennessee River Watershed”, 2006).

Last year, Chattanooga Mayor Andy Berke announced the forthcoming implementation of strict stormwater management practices to control siltation and urban runoff. Resource Rain aims to engineer green infrastructure to treat stormwater onsite, and simultaneously enhance the quality of life at street level (“Rainwater Management Guide,” 2012).

Resource Rain represents a major step towards Chattanoogans managing natural resources within their own back yards, in ways that contribute to the greater ecosystem. Landscaping with water creates habitat, and opportunities for interaction with different types of species within individual backyards.

Ahead of the Resource Rain implementation, the City of Chattanooga held a design challenge in July of 2014, calling for stormwater filtration designs in four regions of interest. The goal of the competition was to raise awareness about the beautifying potential of low-cost green infrastructure. Numerous local firms submitted designs. Chattanooga Mayor Andy Berke said this about the competition:

It’s why people visit here, live here and put their businesses here.
And for us to truly be a quality-of-life place and to be a marker, we
have to have events like this to build strong neighborhoods and to
certainly build a sustainable city (Ferguson, 2014)

The launch of Resource Rain is a signal of Chattanooga's interest in not just green spaces, but green infrastructure as a means to create an enhanced quality of life in the city. Moving beyond land preservation towards human-built responsible management of resources holds great potential for generating a new kinds of interactions between citizens and the land.

CHAPTER V - THE CULTURAL NETWORK

The River is fundamental and I believe is the future. But, in fact, the first opportunity and strategically the most important, is the heart of our City, the Miller Park District. - Stroud Watson (“Urban Design Studio Chattanooga: Collected Works 1981-2004”)

Beginning in the 1980’s, Chattanooga’s green network began to serve as the basis of a revitalization of its cultural network. The downtown portion of the Riverwalk drew \$800 million tourist dollars to Chattanooga last year. And for locals, the network of park and pedestrian space serves as a canvas for festivals, farmer’s markets, neighborhood revitalization and countless activities. Nothing draws a crowd in Chattanooga like an outdoor activity, and this sure thing has become the bedrock of the city’s social and commercial life, and indeed of its reputation nationally.

This cultural renaissance began, again, with a design proposal by UTK’s Urban Design Studio. The studio saw a great need to recentralize Chattanooga’s cultural heart within the actual heart of the city. In 1984, the studio proposed creating what would become Miller Plaza and Miller Park in the historical center of downtown. The proposal included a pedestrian thoroughfare to connect the downtown site with the riverfront (“Urban Design Studio Chattanooga: Collected Works 1981-2004”).

After Miller Park was completed, the city saw that its best hope for revitalization was to tie most cultural development to the river in some way. To reflect that, In 1991 the city launched its Target 96 plan, which sought to synthesize economic and social growth in Chattanooga with environmental responsibility (“A New City Emerges,” 2009).

In 1993 the Tennessee Aquarium opened, creating a new epicenter for pedestrian-friendly downtown Chattanooga activity and bringing thousands of tourists to the city each year (Glick, 1996). The goal for the Tennessee Aquarium was to create a ‘front porch for the city,’ a meeting place on the river (“Urban Design Studio Chattanooga: Collected Works 1981-2004”). Also

in 1993, due to community fundraising and a DOT grant, the Walnut Street Bridge, which had sat unused for nearly a decade, was restored and opened as a pedestrian bridge (“Walnut Street Bridge (Chattanooga, 1891)”). This ‘linear park’ creates a vital pedestrian connection between downtown Chattanooga and the city’s North Shore.

The creation of parks and attractions linking the city across the river brought bigger crowds to downtown than anyone could have predicted. Jim Bowen, an original participant in the Tennessee Riverpark Masterplan development and Vice President of River Valley Partners, a public-private development company, said of Chattanooga’s riverfront:

We drove across it to go to work, but that was about it. Now, you could announce a rock throw down at the river and probably 30,000 people would come down to see it (Vaughen, 2009).

The transformation of Chattanooga through the creation of a large network of greenways and public parks has created a unique identity for the people of Chattanooga. The behavioral ecology of the city’s population was indelibly altered by these changes, and residents view themselves as part of a participatory community that continues to develop with an eye towards walkability and green, public space. Opportunities for civic recreation are sought and utilized. The parks are always full of people, and Chattanooga is discussed as a city where people get out and about.

In December 2011, PBSC Urban Solutions chose Chattanooga as the test ground for the first large-scale bike share program in North America, with the goal of making Chattanooga a town where people bike as much as they drive. Since its inception, Bike Chattanooga has provided almost 300 bikes across the city in 28 stations, making Chattanooga one of the Top 50 bikeable cities in America, promoting exercise, improving air quality, cutting transportation costs, and providing means for people to interact with the city (“Bike Chattanooga Announces Full System-Wide Launch,” 2012). Now, visitors and residents alike have an easy, affordable way to travel across the city.

All of this movement has given Chattanooga a reputation as an active, engaged city with a strong entrepreneurial spirit. In 2011, Under30CEO.com named Chattanooga its number one small city for entrepreneurs (Morrison, 2012).

Chattanooga is now one of only two cities in the world to host two different kinds of Ironman races, and the city continues to brand itself as a location for exciting, outdoor-centric competitions. Millions of dollars stream into the city with each of these competitions, shoring up the small businesses that serve them.

In 2011, Chattanooga reprised its community surveying technique from “Vision: 2000” in a new initiative called “Thrive 2055.” The results of a three-year survey of residents showed that Chattanoogaans want to increase economic development while preserving the area’s “natural treasures” (Pare, 2014). Judging by the past, those two elements working together just might be the best hope for Chattanooga’s future.

CHAPTER VI - THE FIBER OPTIC NETWORK

“The Gig,” as the taxpayer-owned, fiber-optic network is known, “allowed us to attract capital and talent into this community that never would have been here otherwise” ... The city has welcomed a new population of computer programmers, entrepreneurs and investors (Wyatt, 2014).

In 2012, Chattanooga became home to a new network. The fiber optic grid. By making the fastest internet in the Western Hemisphere publicly available, the fiber optic grid is the newest network leading a social and commercial renaissance. It also earned Chattanooga the new moniker, “Gid City” (Wyatt, 2014).

Chattanooga’s fiber optic internet service was rolled out by the city’s municipally owned electric company, EPB. EPB’s high-speed network came about after it decided to set up a smart electric grid, which can quickly reroute power around damaged lines in the event of outages. EPB raised a \$170m through a municipal bond to pay for the new network. Then, in 2009, in the wake of the recession, president Obama launched the American Recovery and Reinvestment Act, a stimulus programme. EPB was awarded \$111m towards its smart grid (Rushe, 2014). President Obama said, in a speech on January 14, 2015:

Today, a new generation of engineers and entrepreneurs have moved down to Chattanooga ... It’s unleashing a tornado of innovation -- the city is even testing out futuristic technologies like 3-D holograms (Flessner, 2015).

‘The Gig’ has drawn millions of investment dollars to the city and spurred a flurry of business development. In the words of Mayor Andy Berke:

Mid-sized southern cities are not generally seen as being ahead of the technological curve, the Gig changed that. We now have people coming in looking to us as a leader (Rushe, 2014).

Incredibly significant too, is the fact that EPB's fiber optic system is independent from major communications companies like AT&T and Verizon (Rushe, 2014). This allows the city to make its own decisions about internet cost and availability. As described by EPB Vice President Danna Bailey:

We don't have to worry about stockholders, our customers are our stockholders. We don't have to worry about big salaries, about dividends. We get to wake up everyday and think about what, within business reason, is good for this community. The private sector doesn't have that same motivation. It's perfectly fair, they are motivated by profits and stockholders. they have a lot of capital already invested in existing infrastructure. It would be costly to overbuild themselves (Rushe, 2014).

The innovations blossoming in Chattanooga as a result of this super-fast, independent network are exciting. Each summer, Chattanooga hosts a technological development camp for young programmers. As well, the city has been putting the fiber optic grid to work for the community.

Code for America Chattanooga is cooperating with City Hall to make government data accessible and usable, and to foster an ecosystem of citizen data use ("The 2014 Fellowship in Chattanooga," 2014). The Chattanooga Open Data Portal aggregates data including governmental, public safety, transportation and population surveys and provides a platform from which to view it ("Chattanooga Open Data Portal"). The Civic User Testing group is a place where 'civic hackers' can bring their websites and apps to a public forum where users are paid to test their work and provide feedback. The goal is to create websites and apps that connect Chattanooga citizens and allow them to trade and utilize data ("Join Us, Be a Tester").

Thanks to the gig, and to Chattanooga's independent internet, the future of the city seems wide open. With dozens of well-funded incubators nurturing small businesses, Chattanooga's reputation as an oasis for the active and culturally engaged makes it easy for startups to attract the talent they need.

Chattanooga's reputation is now built on four networks - the blue-green grid, the cultural grid, the smart grid, and a third, the dwelling grid. The dwelling grid is comprised of the neighborhoods linked by the other three networks.

CHAPTER VII - THE DWELLING NETWORK

Renderings make it look mod, this narrow house balanced atop a hill, with air flowing through it in a climate-controlling pattern and patios that lend to sweeping views. Soon it should be real. In March, ground is scheduled to be broken, making way for what is expected to be Chattanooga's first net-zero-energy home, a home that produces at least as much energy as it consumes, over the course of a year (Malek, 2015).

Although there are some walkable, tree-covered in-town neighborhoods, in many ways Chattanooga's dwelling network has been the least progressive network of all. Chattanooga residents are heavily reliant on automobiles, with 80% of people commuting to work in their own car. Only 2% of county residents use public transit, and in the city of Chattanooga, less than 50% of people live within a quarter of a mile of a bus stop ("Chattanooga Climate Action Plan," 2009).

Growth patterns show an emphasis on sprawl, with most new home sales occurring in the less densely developed outside edge of the city ("Chattanooga Climate Action Plan," 2009). The Chattanooga Regional Planning Agency recommends and emphasis on renovation or replacement of existing homes. Existing green space should be protected and conserved, and linked with other green space, rather than being used for new development ("Comprehensive Plan 2030: A Strategy for Good Growth Summary," 2005).

5,000 people commute to Hamilton County each day, and 3,000 commute from Hamilton to another county. Within the county, 141,000 people commute to work each day (Thrive 2055, Commuting Data Maps).

Chattanooga's urban forests serves the important role of filtering the air of sulfur dioxide, carbon monoxide and ozone, but has drastically decreased in size in the past 50 years. Currently, the majority of the city has less than 20% tree cover, owing to sprawl development. Strategically

planting trees in urban and suburban areas and increasing tree cover to 40% would provide sizable economic and ecological benefits, including improved air quality, stormwater filtration, energy conservation, greenhouse gas sequestration, habitat enhancement and increased quality of life (“Regional Ecosystem Analysis in Chattanooga”).

In September 2014, the City of Chattanooga announced the receipt of a \$400,000 federal grant “to study the potential of transforming existing, neglected railways to provide a light-rail passenger system within the city limits.” Putting the old industrial and passenger rail lines to use, the city hopes the light-rail will boost economic activity and decrease environmental costs of transportation, while “connect[ing] our most disadvantaged neighborhoods to jobs, classrooms, grocery stores and health care facilities” (Anderson, 2014).

As well, there is wealth disparity in Chattanooga. Some of its residents receive the best of the best - the best homes, schools and living conditions, while others remain cut off, without access to the city’s wonders.

The average household income in 2013 was \$47,700 (“Chattanooga, Tennessee, Household Income”). The median home price is \$131,000 (“Best Places for Businesses and Careers”). The home ownership rate is 69%. 10% of families live in poverty. 68% of Hamilton County residents do not meet physical activity recommendations (“Chronic Disease Health Profile” 2011).

9.3% of the population lives in a food desert, where there is no easy access to a grocery store. Despite this fact, the CDC found that the percentage of Chattanooga resident’s calories that are supplied by fast food is actually declining. Currently 10% of Chattanoogans’ calories come from fast food (“Thrive 2055 Trends and Forces Report” 2013.)

According to a 2011 Benwood Foundation funded study by the Appalachian Sustainable Agriculture Project (ASAP), as part of the Food and Farm Assessment for Chattanooga, there is a high demand in Chattanooga for fresh, locally grown food. However, only a fraction of the food consumed in Chattanooga is produced locally. The ASAP study suggest that because of high demand for locally grown food, the region’s fertile soils, a long growing season and a historically strong farming economy and networks, a local food economy could increase by tens of millions of dollars in retail spending.

The population of the metro Chattanooga area is 541,000 (“Best Places for Businesses and Careers”). Hamilton County itself has a population of 350,000 (“Hamilton County QuickFacts” 2015). Within the city limits the population was 171,000 in 2012, with 98% of those people living in urban areas. In Hamilton County, dwelling patterns trend much more toward suburban and rural.

The population of the city of Chattanooga is 52% female, and the median age is 37. The growth rate is about 3%. 58% of the population is white, 35% is black. The population of Hamilton County is 75% white and 20% black (“Hamilton County QuickFacts” 2015).

The land area of Hamilton County is 542 square miles with a population density of 620 people per square mile. The land area of the city of Chattanooga is 137 square miles, with 1,200 people per square mile (“Hamilton County QuickFacts” 2015). The population of downtown Chattanooga has increased 30% since 1990 (“Chattanooga’s Riverfront Parkway”).

In 2015, Green|Spaces, a Chattanooga non profit working for sustainability in the area, announced plans to begin building Net-Zero homes in Chattanooga. The goal is to demonstrate to Chattanooga residents that zero energy housing can be affordable, buildable, and good looking (Malek, 2015).

It is with these developments in mind - the net-zero housing and the light rail to link all of Chattanooga's neighborhoods, not just the wealthy ones, that the city hopes to move its dwelling network forward to a much brighter future.

CHAPTER VIII - DESIGNING FOR NETWORK OVERLAP

Following the concept of system that pervades ecology, it becomes clear that although urban systems can be examined as collections of human or natural subsystems for the sake of convenience, in fact these parts cannot be separated from one another. Cities and other urban ecosystems are jointly biological, social, built, and geomorphic. This is the essence of urban ecology (S. T. A. Pickett, M. L. Cadenasso, and Brian McGrath 2013).

If we can show people another way, we want them to then ask for that from their home builder. - Michael Walton, Green|Spaces Executive Director (Malek, 2015)

The goal of this project is to take Chattanooga's four dominant networks, the blue-green, the cultural, the fiber optic and the dwelling, and to combine them in various ways resulting in new design interventions. The project is a series of experiments asking what happens when Chattanooga's networks are combined together on one site. The hope is that by executing these experiments, I will generate new kinds of development models that will demonstrate potential directions for development in Chattanooga.

The goal is to demonstrate that by tapping into and promoting Chattanooga's existing networks on a particular site, developers can create an environment that will be much more attractive than anything on the market today, draw a larger demographic, and have greater market value.

By offering people more opportunities to connect to their cities networks, people have access to a much greater range of amenities, can be a part of a more sustainable community, and can experience a much higher quality of life.

Current developments in Chattanooga are static, underperforming, and disconnected from the city's most vital networks. The buildings generated in this experiment ask the viewer to consider

what a connected space looks and feels like.

This project is a series of drawings that serve as posters of Chattanooga's future. These sample moments are rich with causal relationships - what happens when the fiber optic network overlaps with the blue green network? What kind of building details create this relationship?

The proposed developments are meant to be distinctly Chattanooga. They market the confluence of the city's networks and introduce a new development ethos. They ask the question - by understanding Chattanooga's history, along with its present needs, how can a building create a set of possible solutions?

For the dwelling elements of this project, I pulled from a survey I wrote called "Future Chattanooga: Your Ideal Home". Over 100 Chattanoogaans responded with their opinions about what makes an ideal home. The questions covered size, style, location, interior environment, proximity to neighbors, and relationship to wilderness and the city.

A few themes emerged in the responses that stood out clearly. The first is that a majority of respondents said that the most important aspect of a home for them was that it have proximity to a public green space. Along that theme, the reigning desire for the location of a home was that it be both convenient and walkable to amenities such as shopping, dining and education, while feeling like it was surrounded by green space. People want to be able to walk home from a cultural hub, but once they arrive, feel close to nature.

Other highlights of the survey included respondents' desires for flexible space, and spaces for reflection. Many respondents placed a high value on having not just humans, but animal species as neighbors. It was with the desires expressed in the survey in mind that I approached the design of the dwelling elements of this project.

For the blue-green elements of the project, I did a great deal of research into Chattanooga's ecosystems and the species therein. As well, I implemented the city's Resource Rain guidelines for stormwater catchment on site. When the development called for a linkage of the blue-green network, I tried to create landscape that would mimic native habitats, and serve as attractors for the city's native species.

For the cultural elements of the project, I looked at Chattanooga's history as a city for outdoor activity and its current role as host for outdoor competitions. I think that there is great promise in continuing to build for this kind of growth, as it has shown a high level of interest, participation and economic generation for the city so far.

I also drew from the city's history as a place that is connected by public space, and sought to generate spaces that would provide for unique interactions between multiple kinds of people. The goal is that these interactions spur collaboration, innovation and new energy for the city.

For the fiber optic elements of the project, I sought to tap into the fiber optic grid's power to connect people. Beyond that though, my goal was to give expression to the fiber optic grid, and to show it at work. In its essence the fiber optic network transmits light, and this was the basis for how I designed with the grid. Whenever possible, I sought outlets for the grid to visibly respond to activity on the site.

CHAPTER IX - PROPOSED DEVELOPMENTS

I generated three developments for this project, which I situated on a site in town that sits in close proximity to powerful elements from each network, at 1010 Dallas road just north of the Tennessee River and the heart of downtown.

Developments

1 - “Victory Apartments and Filtered Swimming Pond”

10% Fiber Optic, 40% Dwelling, 20% Cultural, 30% Blue-Green

Figure A-1

2 - “Victory Lap Hotel and Track”

5% Fiber Optic, 15% Dwelling, 75% Cultural, 5% Blue Green

Figure A-2

3 - “The Ledge Apartments, Office and Park”

15% Fiber Optic, 10% Dwelling, 30% Cultural, 45% Blue Green

Figure A-3

Network Maps

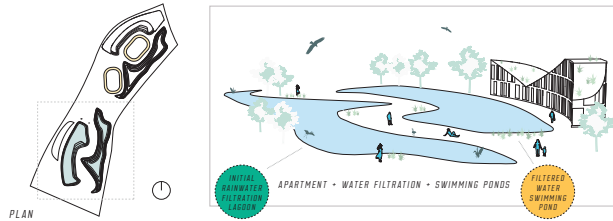
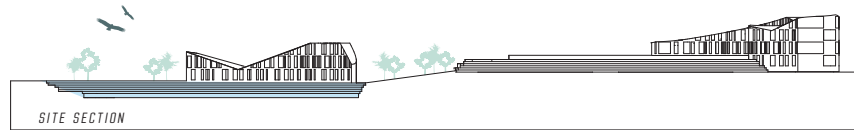
1 - “Chattanooga’s Networks”

Figure A-4

2 - “Proposed Development Site”

Figure A-5

Figure A-1 “Victory Apartments and Filtered Swimming Pond”



WITH THE MAJORITY OF NETWORK INFLUENCE COMING FROM THE DWELLING AND BLUE GREEN SECTORS, THIS APARTMENT DEVELOPMENT SEEKS TO PROVIDE UNPRECEDENTED AMENITIES TO ITS INHABITANTS.

THE APARTMENT'S DESIGN IS ROOTED IN THE RESULTS OF THE 'FUTURE CHATTANOOGA' SURVEY, WHICH ASKED CHATTANOOGA RESIDENTS TO DESCRIBE THEIR IDEAL HOME. THE MOST COMMON SENTIMENT EXPRESSED WAS THE DESIRE TO BE CLOSE TO THE CITY, BUT IMMersed IN GREEN SPACE.

THE RAINWATER FILTRATION + SWIMMING PONDS ALIGN WITH CHATTANOOGA'S RESOURCE RAIN INITIATIVE TO CAPTURE ALL STORMWATER ON SITE. • USES IT TO ADD VALUE + ATTRACTIVENESS TO THE DEVELOPMENT.

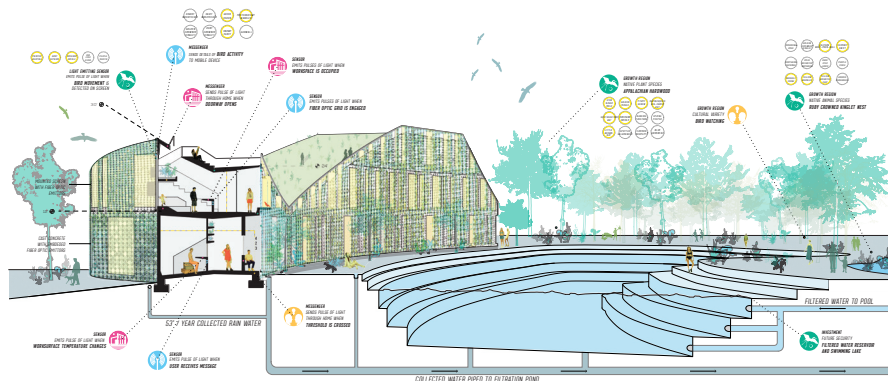
THE FACADE OF THE APARTMENT FEATURES A SERIES OF L.E.D. LIGHTS MOUNTED ON AN EXTERIOR SCREEN. THE LIGHTS RESPOND VIA SENSORS TO ACTIVITY AROUND THE SITE. THE FACADE IS PLANTED WITH VINEY PLANTS. • SERVES AS A SOLAR SCREEN AS WELL AS CARBON FIXER + HABITAT.

BY TRANSFORMING THE SITE THROUGH WATER, HABITAT + UNIQUE LIVING SPACE, THE DEVELOPMENT BECOMES A FORUM FOR CONSERVATION, RECREATION + EDUCATION. • SETS A NEW STANDARD FOR WHAT A RESIDENTIAL DEVELOPMENT CAN BE.

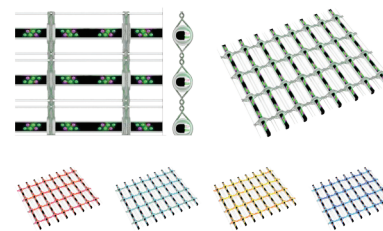
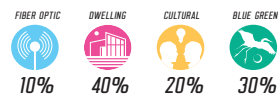
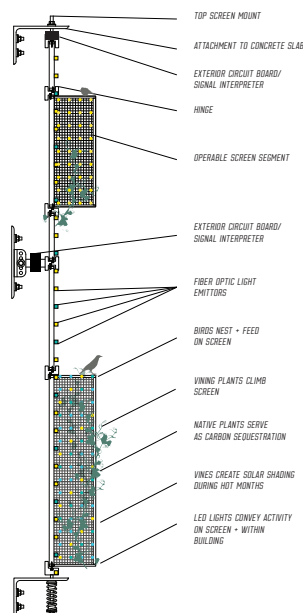


UNPRECEDENTED AMENITIES

VICTORY APARTMENTS AND FILTERED WATER SWIMMING LAKE



WALL SECTION:
EXTERIOR MOUNTED OPERABLE MESH SCREEN
WITH FIBER OPTIC LIGHT EMITTERS



GKD MEDIA MESH
SCREEN MOUNTED OPERABLE L.E.D. LIGHT EMITTING MESH FACADE SYSTEM

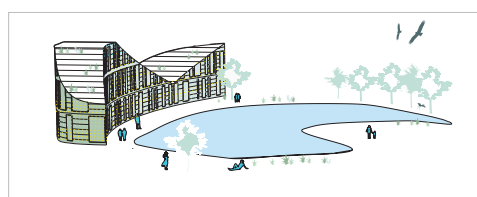
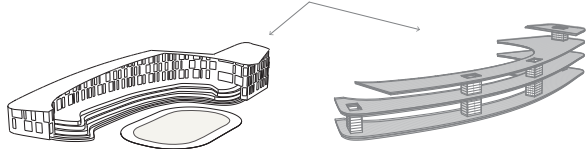


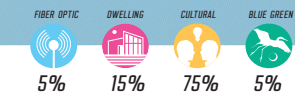
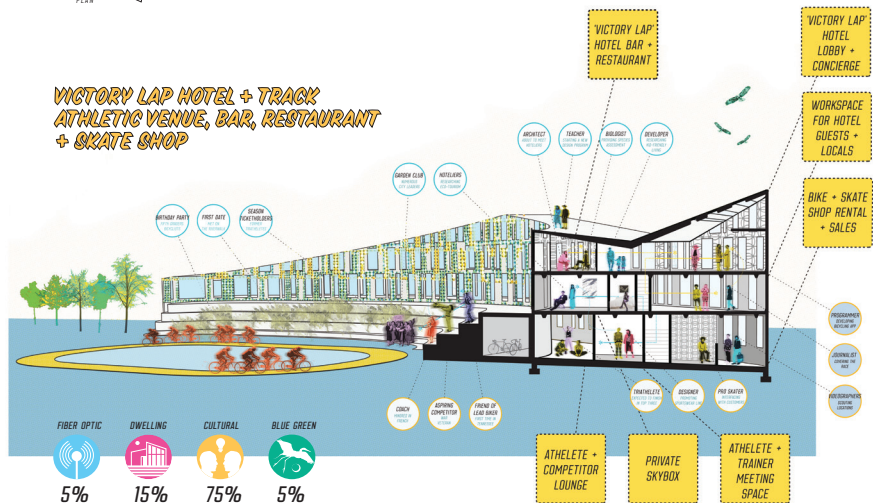
Figure A-2 “Victory Lap Hotel and Track”



CAST CONCRETE CONSTRUCTION



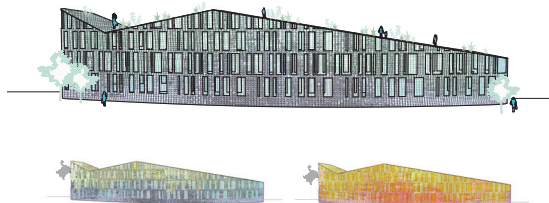
**VICTORY LAP HOTEL + TRACK
ATHLETIC VENUE, BAR, RESTAURANT
+ SKATE SHOP**



'VICTORY LAP' HOTEL - VIEW FROM STREET



FACADE WITH FIBER OPTIC
LIGHT EMITTERS



CAPITALIZING ON THE SITE'S LOCATION AT THE CROSSING OF CHATTANOOGA'S CULTURAL, GREEN BLUE AND DWELLING NETWORKS, THIS ICONIC NEW HOTEL AND VENUE PRESENTS A NOVEL APPROACH IN WHICH HOSPITALITY MEETS PHYSICAL VITALITY.

PRESENTING UNPRECEDENTED NEW OPPORTUNITIES FOR CROSSOVER BETWEEN THE CITY'S CULTURAL MOVERS AND ITS PHYSICAL POWERHOUSES, THE VICTORY LAP HOTEL IS THE CENTERPOINT OF A NEW CELEBRATION OF CHATTANOOGA'S UNIQUE IDENTITY.

WHEN NOT IN USE AS THE 'VICTORY LAP' FOR TRIATHLONS, MARATHONS + BIKING EVENTS, THE TRACK IS OPEN TO THE PUBLIC FOR SKATING AND BIKING.

THE HOTEL, WITH ITS LOUNGE AND WORK SPACE, BECOMES A MEETING POINT FOR LOCALS AND VISITORS Alike.

THE PROJECTABLE GLAZING OF THE HOTEL GIVE IT LIFE AS A VENUE AND TRANSMITTER OF ART, NEWS, COMMERCE + ENERGY AT A MULTITUDE OF LEVELS

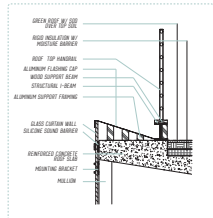


Figure A-3 “The Ledge Apartments, Office and Park”

Figure A-4 “Chattanooga’s Networks”

Figure A-5 “Proposed Development Site”



CHATTANOOGA, TENNESSEE A CITY OF NETWORKS

CULTURAL: "HOW THE COMMUNITY IS DESIGNED, BUILT AND CARED FOR IS A RESULT OF THE COMMUNITY'S ABILITY TO FORM A SHARED VISION THAT IS SPECIAL TO CHATTANOOGA. A MEMORABLE VISION THAT REFLECTS ITS PAST, REINFORCES ITS PRESENT AND PREDICTS A FUTURE."

BLUE GREEN: "ULTIMATE DREAM TOWN. A PERFECT BASE CAMP THAT OFFERS EVERYTHING FROM EPIC SINGLETRACK TO PROGRESSIVE CITY PLANNING."

DWELLING: "A NEIGHBORHOOD IS SOMEWHERE IN BETWEEN CONVENIENT TO EVERYTHING, BUT AWAY FROM IT ALL."

FIBER OPTIC: "IN THE 21ST CENTURY, IT IS THE INTERNET THAT PASSES THROUGH CHATTANOOGA, AND AT LIGHTNING SPEED."

THE GOAL OF THIS PROJECT IS TO CREATE A NEW METHODOLOGY FOR DEVELOPMENT IN CHATTANOOGA. RATHER THAN A ONE SIZE FITS ALL APPROACH TO DEVELOPMENT, I WANT TO SHOW THAT BY TAPPING INTO + PROMOTING EXISTING NETWORKS, DEVELOPMENTS CAN OFFER UNPRECEDENTED AMENITIES, INCREASE THE VALUE OF THEIR DEVELOPMENTS, + CATCH THE ATTENTION OF A MUCH LARGER DEMOGRAPHIC, BY OFFERING RESIDENTS MORE OPPORTUNITIES TO CONNECT WITH LOCAL NETWORKS. LEASABILITY + SALEABILITY GO UP, SO DOES THE QUALITY OF LIFE FOR RESIDENTS + THE HEALTH OF LOCAL ECOSYSTEMS.

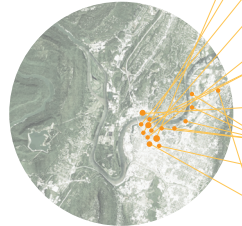
THE BUILDINGS IN THIS PROJECT ARE MEANT TO BE ICONIC, TO SPEAK TO CHATTANOOGA'S PAST, PRESENT + FUTURE, AND TO AT EVERY OPPORTUNITY, EXHIBIT SIGNS OF LIFE HAPPENING WITHIN THE DEVELOPMENT. THEY ARE DESIGNED FOR THE KIND OF PEOPLE CHATTANOOGA IS KNOWN FOR - ADVENTUROUS, ACTIVE, PHYSICALLY + CIVILLY ENGAGED INDIVIDUALS WHO VALUE THE HEALTH OF THE COMMUNITY, THE ECOSYSTEM + THE RESIDENTS THEREIN.

CHATTANOOGA'S NETWORKS - AN INTERWOVEN GRID OF CULTURAL, ENVIRONMENTAL + TECHNOLOGICAL RESOURCES GENERATING A UNIQUE COMMUNITY

THE CULTURAL NETWORK

BEGINNING IN 1981, 15TH ARCHITECTURE STUDENTS LED A REVIVAL OF DOWNTOWN CHATTANOOGA, CREATING A NETWORK OF PEDESTRIAN SPACES DIRECTLY TO THE CITY'S RIVERFRONT. THE GOAL OF THE PROJECT WAS TO INTEGRATE THE LOCATION OF ARCHITECTS WITH THE CREATION OF A COMMUNITY + VISUAL IDENTITY, PRINCIPLES, ATTITUDES, GOALS AND VISION. THIS REVITALIZATION CREATED A CITY-WIDE BELIEF IN THE POWER OF REAPPROPRIATING PUBLIC SPACE.

THE NETWORK OF PARK AND PEDESTRIAN SPACE SERVED AS A CANVAS FOR FESTIVALS, FARMERS MARKETS, NEIGHBORHOOD REVITALIZATION AND COUNTLESS ACTIVITIES. THE BEHAVIORAL ECOLOGY OF THE CITY'S POPULATION WAS INDEEDLY ALTERED BY THESE CHANGES, AND RESIDENTS VIEW THEMSELVES AS PART OF A PARTICIPATORY COMMUNITY.



- 1981 DOWNTOWN STUDENTS CAME TOGETHER TO REIMAGINE THE CITY'S RIVERFRONT, CREATING A NETWORK OF PEDESTRIAN SPACES DIRECTLY TO THE CITY'S RIVERFRONT.
- 1982 ARCHITECTS WITH THE CREATION OF A COMMUNITY + VISUAL IDENTITY, PRINCIPLES, ATTITUDES, GOALS AND VISION. THIS REVITALIZATION CREATED A CITY-WIDE BELIEF IN THE POWER OF REAPPROPRIATING PUBLIC SPACE.
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THE BLUE GREEN NETWORK

AS THE RESULT OF CONSERVATION EFFORTS SPARKED IN THE 1980'S, CHATTANOOGA IS HOME TO THOUSANDS OF ACRES OF GREEN SPACE, WHICH FOSTER INTERACTION BETWEEN LOCALS, EXERCISE AND RECREATION AND MOST SIGNIFICANTLY, OPPORTUNITIES FOR CHATTANOOGANS TO HAVE AN HEAVY OF KEY EXPERIENCES HERE AT HOME. THE RIVERWALK ALSO PROVIDES INVALUABLE SCAP NETWORKS FOR LOCAL SPECIES TO MIGRATE, NEST AND REPRODUCE.

IN 2011 AND AGAIN IN 2015, OUTSIDE MAGAZINE NAMED CHATTANOOGA "THE BEST CITY EVER," CALLING IT AN "ULTIMATE DREAM TOWN, A PERFECT BASE CAMP THAT OFFERS EVERYTHING FROM EPIC SINGLETRACK TO PROGRESSIVE CITY PLANNING."

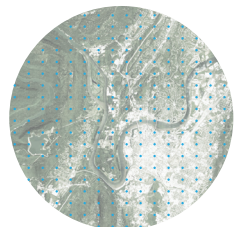


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THE FIBER OPTIC NETWORK

IN 2012, CHATTANOOGA BECAME HOME TO THE FASTEST INTERNET SERVICE IN THE WORLD. FIBER OPTIC INTERNET SERVICE IS PROVIDED BY THE CITY'S MUNICIPALLY OWNED ELECTRIC COMPANY, EPA. CHATTANOOGA'S INTERNET IS INDEPENDENT FROM GIANT SERVICE PROVIDERS SUCH AS VERIZON, SPRINT + AT&T, ENABLING THE CITY TO MAKE ITS OWN DECISIONS ABOUT INTERNET COST AND AVAILABILITY.

INNOVATION IS BLOSSOMING IN CHATTANOOGA AS A RESULT OF THIS SUPER-FAST, INDEPENDENT NETWORK. WALLETHUB RANKED CHATTANOOGA #4 IN THE 2015 LIST OF BEST CITIES TO START A BUSINESS.

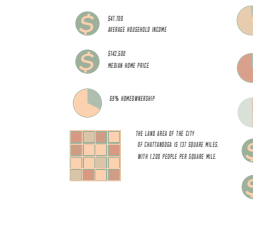


- 2009 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
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- 2014 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2015 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2016 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2017 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2018 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2019 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2020 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2021 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2022 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2023 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2024 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2025 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2026 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2027 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2028 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2029 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.
- 2030 EPA BECAME THE FIRST MUNICIPALLY OWNED ELECTRIC COMPANY IN THE WORLD, PROVIDING FIBER OPTIC INTERNET SERVICE TO THE CITY'S RIVERFRONT.

THE DWELLING NETWORK

IN MANY WAYS CHATTANOOGA'S DWELLING NETWORK HAS BEEN THE LEAST PROGRESSIVE NETWORK OF ALL. CHATTANOOGA RESIDENTS ARE HEAVILY RELIANT ON AUTOMOBILES, WITH 80% OF PEOPLE COMMUTING TO WORK IN THEIR OWN CARS. DOWNTOWN PATTERNS SHOW AN EMPHASIS ON SPREAD, WITH MOST NEW HOME SALES OCCURRING IN THE LESS DENSELY DEVELOPED OUTSIDE EDGE OF THE CITY.

CHATTANOOGA REGIONAL PLANNING AGENCY RECOMMENDS RENOVATION OR REPLACEMENT OF EXISTING HOMES. EXISTING GREEN SPACE SHOULD BE PROTECTED AND CONSERVED, AND LINKED WITH OTHER GREEN SPACE, RATHER THAN BEING USED FOR NEW DEVELOPMENT.



CHAPTER X - CONCLUSION

Each of the three developments is a product of utilizing, and thereby serving, each of the networks in different proportions. The result is three different developments, each of which hold potential as the next great hub of growth and activity in Chattanooga. They serve as outlets, switchboards, and expressions of Chattanooga's four vibrant networks. They speak to the city's past as a cultivar of community-led growth, its present as a hub of outdoor activity and community gathering, and its future as a leader in urban design and conservation.

These developments are examples of what can result from using a new logic of development. By building with the goal of plugging into available networks, buildings become much more than leasable square footage. They strengthen the key elements of a city's cultural, ecological, economic and technological future. They serve as parks, icons, catalysts for new kinds of interactions between species and citizens, and means by which a safer, more successful city is built.

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VITA

Kathryn ‘Kate’ Taylor was born and raised in Chattanooga, Tennessee. Growing up, she was enlisted as an assistant by her father who renovated and sold houses to pay for her high school education at the Baylor School. The experience would prove to be formative. After graduating from Washington University in Saint Louis with a Bachelor of Arts in International and Area Studies, Kate began working as a journalist at CNN in Atlanta. After two years of reporting and writing for CNN.com and a year in television production, Kate left CNN to attend graduate architecture school. Throughout graduate school, Kate made time to engage various design build projects, most significantly, a fly fishing lodge in Rewa, Guyana. She defended her Masters of Architecture thesis at the University of Tennessee, Knoxville, in July 2015, and began working at River Street Architecture in Chattanooga, Tennessee, the same month as a residential architect. She hopes to design beautiful, functional spaces that enrich all of Chattanooga’s networks, and enhance the lives of the spaces’ inhabitants.