

R.A.W.:

SOCIAL AND ECONOMIC COMPLEXITY IN WILMORE, NC

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ABSTRACT: Like many American cities, Charlotte, NC is undergoing a flood of in-town apartment construction that saturates the market with repetitive, single-use housing stock. This phenomenon is exacerbated as emerging professionals seek metropolitan living in the city center only to move out of the city once lifestyles mature, expanding suburbanization. Based on historical research of urban renewal in Charlotte and studies in recent demographic changes and current housing trends, locally and nationally, this paper presents R.A.W. or Residents at Work, a complex model of mixed-use, mixed-income and income-generating urban housing that responds as an antidote to the rampant quantities of large-scale, single-use, monolithic housing construction recently built in Charlotte, North Carolina.

KEYWORDS: housing, live/work, affordable housing, gentrification



Figure 1: R.A.W.: Residents at Work Proposal, Mint Street, viewing north. Source: (Authors 2016)

1.0 INTRODUCTION

In 1914, developer F. C. Abbott established the Wilmore Neighborhood in Charlotte, North Carolina. Farmland originally owned by the Wilson and Moore families was combined to create a residential neighborhood to help support the activities of industries in Charlotte's South End. These companies included Atherton Textiles, Mecklenburg Flour Mill, Charlotte Trouser Co. and Charlotte Pipe and Foundry. Historians have called this sector of town the city's first industrial park. Its rise as a production corridor featuring locally-owned businesses established a strong identity for

Wilmore. A vibrant and local social and economic complexity evolved to the benefit of those who lived and worked there.

Social complexity is the study of the phenomena of human existence and the many possible arrangements of relationships (Simon 1962 and Hayak 1964). A change in neighborhood demographics in the mid to late-1960s as a result of urban renewal, blockbusting, and white flight brought African-Americans to the area. Today, the forces of market-rate economic development near Center City are driving the next phase of change, resulting in rampant real estate speculation with the associative ill-effects of gentrification and homogenization. A phenomenon of alienation between the inhabitants and their environment has set in. Like other growing American cities, Charlotte is undergoing a flood of in-town apartment construction that saturates the market with repetitive, single-use housing stock. This phenomenon is exacerbated as emerging professionals seek metropolitan living only to move out of the city once lifestyles mature, expanding suburbanization.

R.A.W. or Residents at Work (Fig. 1) proposes a mixed-use residential-industrial urban community that re-inscribes the legacy of the Wilmore neighborhood. It attempts to offer an alternative form of development by introducing a new model of permanent, leased, and mixed-use living and work space that offer a more comprehensive, complex and sustainable urban option. The project aims to provide flexible economics that permit families to lease backyard micro-units, creating a small-scale affordable “alley urbanism.” It also permits business owners to lease live/work spaces as part of an inclusive “maker network” along Mint Street, transforming a former industrial corridor into an incubator zone for small business development. The single-family housing with accessory structures west of the site inspired the idea for affordable alley micro-units. These units are intended to be low-cost rentals of the single-family houses above that support housing for a diverse neighborhood workforce. This combination of live/work, market-rate, and affordable housing promotes diversity at both an economic and social level.

Architecture has the capacity to engender social and economic complexity in the places people inhabit. Social and economic complexity is central to an emergent urbanism driving the health and life of the city. The dynamic relation between buildings, streets, sidewalks, alleys, trees and street furniture and neighbors of different socio-economic backgrounds is the source of the vitality of the places we inhabit. This paper will present a study of the salient characteristics of social and economic complexity in the urban environment with the goal of engendering complexity in the everyday lives of fifty residents.

2.0 URBAN RENEWAL HISTORY: DOWNTOWN CHARLOTTE

Charlotte's identity as a “New South City” originates from its regional location as a trading hub during the 19th and early-20th century. Unlike Charleston, South Carolina or Atlanta, Georgia, the focus on commerce rather than agriculture is one of the identifying traits of towns in the Southeast following the establishment of industries such as mining but more importantly the textile production that lasted until the 1960s. In addition, a major factor in Charlotte's urban growth can be attributed to its role as a railroad transportation center, expanding the city's capabilities as a distribution axis from north to south as well as from the Atlantic coast westward. The growth of these industries, aligned with the flow of transportation, made a suitable place for financial institutions to take root, becoming a part of the contemporary workforce in the city today (Bank of America and Wells Fargo).

For much of its early development before the 20th century, Charlotte was an integrated city. Home ownership in the City's four wards created a diverse urban core that was occupied by white and black families. After the turn of the century, new segregation laws and the physical separation of the public services under Jim Crow orders created a new hierarchy in the urban fabric. This continued with the New Deal in the 1930s and also suffered under the mandates of urban renewal in the 1960s (Hanchett, 1998).

Arguably, the current day dilemma of affordability in Charlotte is connected to these complex series of events that stratified wealth and led to the physical and social division of Charlotte's housing opportunities. This pattern continues today in the wake of lucrative business transactions and the pro-developer atmosphere of the City.

3.0 CHARLOTTE DEMOGRAPHICS

With a population of 827,097 (U.S. Census Bureau, July, 2015), Charlotte is the 17th largest city in the United States. To the surprise of many, the city of Charlotte is twice the size of the city of Atlanta (463,878). The county seat of Mecklenburg County, Charlotte is the second largest city in the southeastern United States, just behind Jacksonville, FL, and the largest city in the State of North Carolina. The percentage change in population between 2010 and 2015 is 12.4%. 66.5% of the population is between the age 18 and 65 years old. 25% of the population is under the age of 18 and 8.5% of the population is over the age of 65. 50% of the population is White, 35% is Black or African-American, 13% is Hispanic or Latino, and 5% is Asian. The female population is 52% and the male population is 48%.

Table 1: Top 20 Incorporated Cities by Population Estimates. Source: (U.S. Census Bureau, July, 2015)

City	Population	City	Population
(1) New York, NY	8,550,405	(11) Austin, TX	931,830
(2) Los Angeles, CA	3,971,883	(12) Jacksonville, FL	868,031
(3) Chicago, IL	2,720,546	(13) San Francisco, CA	864,816
(4) Houston, TX	2,296,224	(14) Indianapolis, IN	853,173
(5) Philadelphia, PA	1,567,442	(15) Columbus, OH	850,106
(6) Phoenix, AZ	1,563,025	(16) Fort Worth, TX	833,319
(7) San Antonio, TX	1,469,845	(17) Charlotte, NC	827,097
(8) San Diego, CA	1,394,928	(18) Seattle, WA	684,451
(9) Dallas, TX	1,300,092	(19) Denver, CO	682,545
(10) San Jose, CA	1,026,908	(20) El Paso, TX	681,124

Between 2011-2015, 88.4% of the population in the city of Charlotte was a high school graduate. During this same period, 41.3% of the population held a Bachelor's degree or higher. In 2015, there were 305,488 family households with 2.55 persons per household. 20.5% of the population in Charlotte speaks a language other than English at home. The median household income is \$53,637 and per capita income in 2015 was \$32,254. The percentage of persons in poverty is 16.8%.

In analyzing the top 100 most populous cities in the U.S. by comparing quality of life, value, job market, desirability and net migration, Charlotte was recently ranked one of the Top 20 Livable Places in the U.S. (4). In 2017, Charlotte received an overall score of 7.1 out of 10, up from 6.9 in 2016.

Table 2: 2017 Top 20 Livable Places Criteria. Source: (US News and World Report, February 2017)

Criteria	Category Weighting
Job Market Index	20%
Value Index	25%
Quality of Life Index	30%
Desirability Index	15%
NettMigrationIndex	10%

4.0 IN-TOWN CHARLOTTE APARTMENT CONSTRUCTION

According to Real Data which tracks multi-family apartment markets, more than 12,300 units are currently under construction in Charlotte with about 13,500 more planned.⁷ As of September 2016, the apartment vacancy rate in the city of Charlotte is 5.9% with an average rent of \$1,052 and a Market Rank of 97 (5).

Table 3: Vacancy and Market Rate.³ Source: (Real Data 2016)

City	Vacancy Rate	Average Rent	Market Rank
Charlotte, NC	5.9%	\$1,052	97
Charleston, SC	5.6%	\$1,113	93
Greensboro, NC	5.6%	\$796	91
Greenville, SC	7.9%	\$905	92
Nashville, TN	5.7%	\$1,110	96
Norfolk, VA	5.7%	\$1,010	91
Richmond, VA	6.5%	\$987	89

Despite the flood of new supply, vacancy rates in Charlotte remain low due to strong demand. As a result, for the past two years, owners or landlords have been in a position to raise rents. The average apartment rent in Charlotte hit \$1,000 in 2015 for the first time since 2008, straining affordability. This is particularly true closer to downtown, when the average rent for an apartment is \$1,694.

According to the forecast of the 2016 Greater Charlotte Apartment Association, Charlotte's apartment boom is not expected to slow down. The factors behind the acceleration of apartment construction aren't cooling off, and developers plan to keep building. The share of renters in Mecklenburg County is about 43 percent of current households, according to the U.S. Census Bureau. Ken Szymanski, the association's executive director reports that's a major shift, up from 36 percent in 2005. He tells us:

That's unprecedented ... [i]t was always in the 30 [percent range]. In case you've missed the forest of cranes and new construction: Charlotte is in the middle of a record-breaking boom in apartment construction.

Seven features of the 2016 apartment boom in Charlotte include:

1) Rising Demand, Rising Rent

As thousands of new apartments enter the market between 2017-2018, rents will trend higher, powered by an increasing number of renters.⁴

2) Amenities Expand

The amenities expected by renters in new apartments increases yearly. Pet washing stations, dog walkers, dry cleaning and laundry delivery, package storage and polished demonstration kitchens were all cited as important features.

3) Financial Flow

Institutional investors and private equity firms with billions of dollars to spend are increasingly looking to acquire and finance apartment buildings, as many other assets are more volatile with lower returns on investment.⁵

4) Global Markets

While North Carolina's population growth was ranked 4th in the U.S. in 2016, with much of the growth is streaming to Charlotte, developers are more concerned about external market risks: stock and oil price declines, an economic slowdown in China, political turmoil.⁶

5) Design Demand

With a plethora of new 4-5 story wood-framed apartment buildings constructed around a parking deck, there have been calls for better urban and architectural design.⁷

6) Technological Change

Like other sectors of the economy, apartment developers are managing increasing amounts of technological change. How apartments adapt or fail to adapt to changing technology will determine which projects succeed, from social media to Google Fiber to Airbnb.

7) Aging Population

While much of the focus of new multi-family housing has been on millennials, downsizing baby boomers are seen as another major source of demand. Projections show about 20 percent of renters nationwide will be 50 or older by 2020.⁸

5.0 AFFORDABLE HOUSING IN CHARLOTTE

Charlotte's housing stock has really declined in affordability in recent years.

- Dionne Nelson, CEO, Laurel Street Residential, Affordable Housing Developer

The city of Charlotte is working to create or preserve 5,000 affordable housing units over the next three years. Selling city-owned land to affordable housing developers is one of their strategies. The key to growth and long-term viability is diversity of housing options. Unlike other metropolitan centers, Charlotte does not mandate that new multi-family housing projects maintain a percentage of affordable units. Though city leaders like Hugh McColl (former CEO of Bank of America) and Harvey Gantt (the City's first African-American mayor and professional architect) have called for such plans, the State of North Carolina, rather than its municipalities, have established laws restricting integrated affordable units within market-rate projects.

Beyond the typical 300+ unit single-use apartment complex – a formula that is the profit threshold for developers – Charlotte must provide incentives for smaller and more diverse housing morphology, including duplexes, granny flats, four-plexes, townhouses, and 1-2 story six-to-eight unit courtyard housing. While multi-family construction continues to expand in and around Charlotte, only a slight percentage of new rental properties fall within the affordable housing category. In Charlotte just 4.2% of new apartments built between 2014-2016 have median rents in the least-expensive third of rental properties.¹ That's the lowest percentage of the nation's 15 major housing markets. Denver and Seattle follow Charlotte in that measure. High-end rental units built during that same time span in Charlotte account for 71.3% of overall new apartment construction.

The year-over-year rental increase for low-end properties in Charlotte is 12% versus a 3.4% bump in the entire rental market. However, Charlotte's costlier properties saw rents rise the highest, at 14% annually." "There's a growing divide in the rental market right now," reports Zillow Chief Economist Svenja Gudell. "Very high demand at the low end of the market is being met with more supply at the high end, an imbalance that will only contribute to growing affordability concerns for all renters." Jenna Martin of the Charlotte Business Journal concurs, reporting that:

We're simply not building enough at the bottom and middle of the rental market to keep up with demand. As a result, these segments are becoming very competitive, as both new renters look to find their first place and existing renters get shut out of homeownership because of extremely limited for-sale inventory. Apartment construction at the low end needs to start ramping up, and soon, in order to see real improvement." Sacramento had the greatest rental cost disparity in low- end apartments (32.7%) when compared to the overall market (7.4%) (Martin, 2016).

6.0 PARKING PLANS AND IMPEDIMENTS

In the "Texas Doughnut" model (Fig. 2), apartments wrap around a central parking garage where residents live near their cars, with dedicated parking places, hidden from view, requiring a minimal additional outlay of land. The problem is that most Texas doughnuts are single-use massive structures that require at least two acres of land for above ground parking with no infrastructure for people to walk around and interact with one another. In the "Podium" model (Fig. 3), apartments are stacked above ground floor parking and as a result are immediately unfriendly to the pedestrian and passerby, deadening "life on the street."



Figure 2: Texas Doughnut Diagram. Source: (Authors 2016)



Figure 3: Podium Construction Diagram. Source: (Authors 2016)

One of the biggest impediments to affordable housing is the cost of parking requirements associated with the construction of multi-family housing. According to a 2012 affordable housing study by the Bureau of Planning and Sustainability in the city of Portland, Oregon,

... a low-end rental unit in a building with no parking is \$800 a month. Rent in the same unit in a building with podium parking is \$950 a month and with surface parking is \$1,200 a month, a 50% rise in cost. In a building with underground parking, the low-end rent is \$1,300 a month."

One can draw the conclusion then that replacing the construction cost of parking spaces with transit passes makes multi-family housing significantly more affordable.

7.0 R.A.W.: RESIDENTS AT WORK PROPOSAL

R.A.W. proposes a different model upon which affordable residences coexist with the history of the industrial roots of the Wilmore neighborhood and the mixed use structures in this the area's commercial corridor. The approach embraces a new "alley urbanism" that layers in a miniature residential corridor separate from the main street. While the latter harbors commercial and retail in the traditional manner, alley life is built upon the existing service lane typically found in Charlotte's inner blocks with the hopes of creating a more complex and public use of these small streets (Fig. 4).

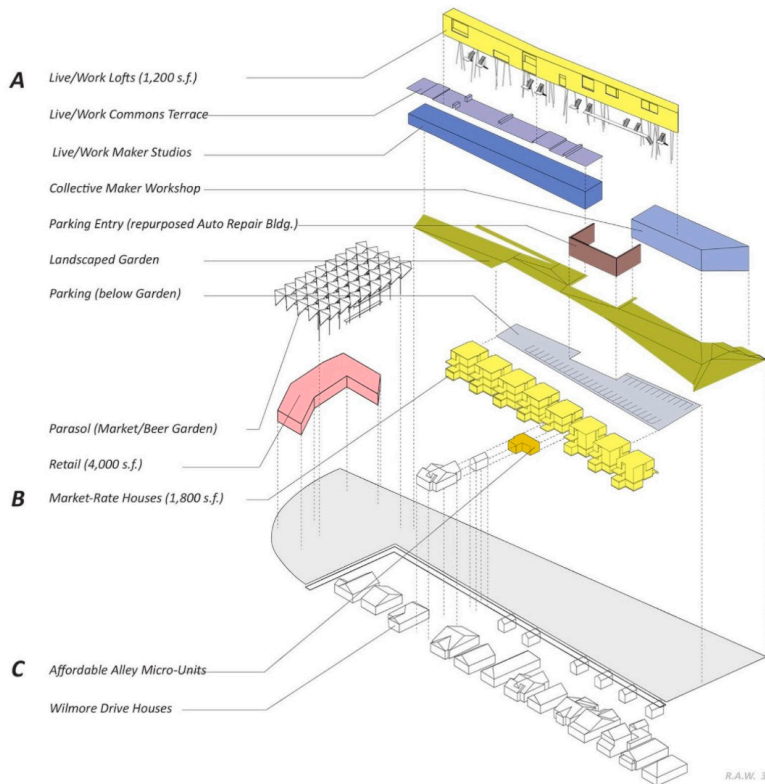


Figure 4: R.A.W.: Project Program Distribution. Source: (Authors 2016)

The proposal provides a complex mix of leasable and/or affordable micro housing within the communal alley lane. Renters and/or owners would qualify for reduced costs based on income level, with sales or lease expenses controlled at a rate different than the normal market rate (Fig. 5).



Figure 5: R.A.W.: Residents at Work Proposal, Alleyway of Affordable Units. Source: (Authors 2016)

The commercial side of the site would retain an existing auto repair building that would be emptied and hollowed (the roof removed and turned inside-out). The repurposed space would serve as a landscaped entrance to a sub-level parking area. The ground surrounding this reused structure is lofted to establish a new landscaped podium (Fig. 6). This platform is constructed in post-tension concrete similar to today's typical podium apartment model but subverted as a semi-public space with a planted green surface. The varying heights and levels of this surface differentiate degrees of privacy and ownership for the market-rate housing on the inner block and the perimeter live/work studio units that are built over the maker spaces and retail/studio fronts that line the main street corridor (Fig. 7 and Fig. 8).

The northern end of the project supports retail businesses, a local produce market, a beer garden and other public amenities. This area is shaded by a hovering solar and evaporative cooling parasol that alters the microclimate of the site.



Figure 6: R.A.W.: Residents at Work Proposal, Podium Level. Source: (Authors 2016)



Figure 7: R.A.W.: Residents at Work Proposal, Diagram from alley (left) to main street (right). Source: (Authors 2016)

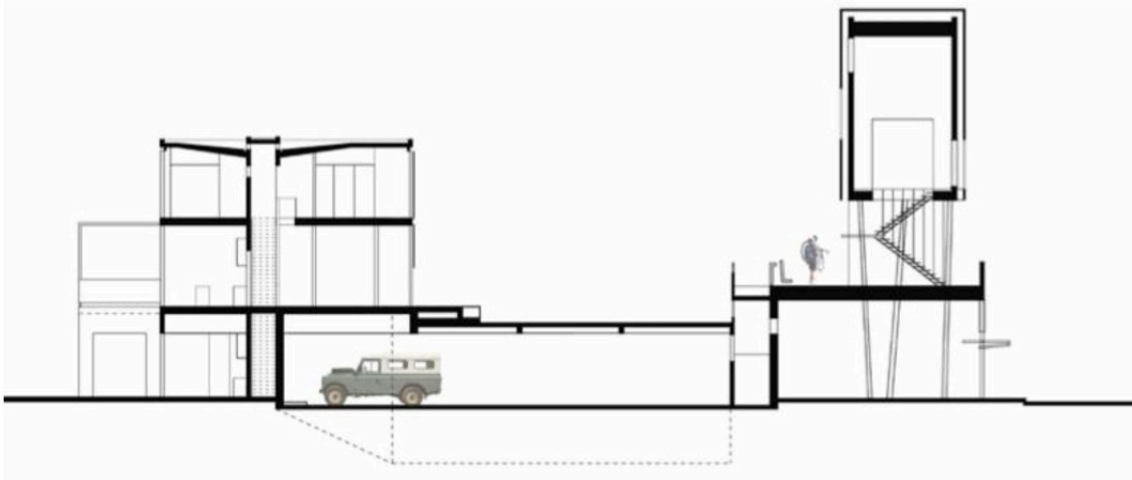


Figure 8: R.A.W.: Residents at Work Proposal, Section Drawing through Three Housing Types. Source: (Authors 2016)



Figure 9: R.A.W.: Residents at Work Proposal, Mint Street Elevation. Source: (Authors 2016)



Figure 10: R.A.W.: Residents at Work Proposal, Plans of Live/Work Studios along Mint Street. Source: (Authors 2016)

8.0 CONCLUSIONS

Charlotte, like other growing American cities, is witnessing the pressures of near-town apartment construction, saturating the market with homogenous housing stock that does not support affordable options or a long-term solution to permanent residential options in the urban core. At face value this form of development tends to answer to the trend of recharging our urban centers and creating a more sustainable and walkable living environment. However, this development model forces those who are on limited incomes to seek housing at the edges of the city where rents are generally lower. Moreover, center city millennials who enter leases in these urban apartments are more likely to transition in three to five years to the city outskirts in search of single-family options as they settle into suburban lifestyles. This speculative and short-term developer's model is not sustainable and is simply a catalyst for continued suburbanization.

R.A.W. is merely the first look at how design research and urban awareness might provide some relief to the problem of 21st century affordable in-town housing strategies. The complexities inherent within this problem are many and further definition of appropriate rubrics and solutions are rich with potential.

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ENDNOTES

1 According to Simon, social complexity reflects human behavior as it is exercised in ongoing and increasingly broader and more complicated circumstances of individual and collective existence. Social complexity has emerged as the conceptual and practical framework wherein these phenomena and their relationships can be studied.

2 Real Data tracks multi-family apartment markets in major metro markets of the Southeast. Apartment statistics are based on 100% market survey versus sample data, tracking statistics on over 1,000,000 multi-family units in North Carolina, South Carolina, Florida, Virginia, Georgia and Tennessee.

3 Market Rank score is based on a city's occupancy rate, employment growth, development pipeline, demand and rent growth. A higher score is more favorable with scores typically ranging from 90-95.

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5 Charlotte City Council is considering a plan to sell 11.6 acres on West Tyvola Road to a developer who would build affordable housing on the site. Located across from the City Park development at the former Charlotte Coliseum site, the land would accommodate up to 200 units. Laurel Street Residential, a Charlotte-based developer is offering \$1.2 million for the site, currently vacant. Laurel Street Residential plans to build a "mixed-income" development, which typically include market-rate units and some units reserved for people making less than the area's median income. "The property on West Tyvola Road is located in an area experiencing new market rate developments with little to no affordable housing," the city of Charlotte said in a news release. City Council will be asked to approve the sale to Laurel Street on Feb. 13, 2017.

6 Greystar, an apartment management company, recently built a 33-story residential tower at Third and Poplar streets in downtown Charlotte. Rents increased by 6.3 percent in 2016.

7 According to Malcolm McComb, vice chairman of brokerage CBRE, federal tax rules changed in 2015, making it easier for foreign investors to invest in the U.S. apartment market.

8 Ben Collins, VP at Crescent Communities, reports that an unexpected shock could lead to "the R word," or another recession, and pressure apartment developers with loans coming due.

9 According to Crescent Communities, there is a lot of media attention on multi-family design in Charlotte, challenging developers and designers for more innovative, creative and distinct design.

10 Although many of the new apartments under development are studio and one-bedroom units with reduced square footage geared toward young renters, a bigger supply of larger units with multiple bedrooms and more square footage could be needed to meet older renters' demands (Crescent Communities).

11 Seattle-based online real estate firm Zillow, Housing Report 2016. The rise in rent among low-end apartments is outpacing the overall rental markets in 15 major metro areas.