UVA-SPONSORED PAYMENT IN LIEU OF TAXES PROGRAM

ACTOR-NETWORK THEORY ANALYSIS OF CHARLOTTESVILLE HOUSING

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By
Ryan Fruehwirth

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Technical Team Members:
Catherine Bunn, Emma Graham, Alexander Partridge

On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

ADVISORS

Professor Catherine Baritaud, Department of Engineering and Society

Professor Leidy Klotz, Department of Engineering Systems and Environment

Several recent studies confirm that Charlottesville is experiencing an affordable housing crisis. The City of Charlottesville found that more than 3,300 households cannot afford decent housing (Charlottesville Low-Income Housing Coalition [CLIHC], 2020, p.1). In addition, Schuyler (2018) determined that a family consisting of one parent and two children would need to earn at least $45,184.02 each year just to afford the basic necessities of life in Charlottesville (p. 11). To put this into perspective, a full-time worker making minimum wage would earn $15,080 per year, which could not even cover housing costs let alone all other costs of living. In interviews with 129 low-income residents in Charlottesville, CLIHC (2020) found that people unsurprisingly value their micro-communities and relationships with neighbors, which are established through generations of families (p. 1). They would overwhelmingly prefer to stay in their neighborhoods, so it is the responsibility of engineers to listen contextually to the needs of the community, "not just to their voices but their histories and their place in the world" (Leydens & Lucena, 2017, p. 21). If we fail to do so, then future generations will suffer from the same problems that afflict Charlottesville today.

Almost all current solutions relating to Charlottesville's affordable housing crisis are aimed at constructing, or *adding*, housing to the community. This is not a unique phenomenon as Adams et al. (2021) demonstrated that people "systematically default to searching for additive transformations, and consequently overlook subtractive transformations" when trying to improve objects, ideas, or situations (p. 258). On the technical side, I will be researching how designers make decisions in the context of affordable housing in Charlottesville and propose an alternative solution for the University of Virginia to consider implementing. The STS research is tightly coupled with the technical side and involves applying an actor-network framework to

Charlottesville's affordable housing network in an effort to map the influence of one specific actor, the University of Virginia.

Professor Leidy Klotz is the Copenhaver Associate Professor in the Department of Engineering Systems and Environment at the University of Virginia who will serve as the technical advisor for the project. He has published over 80 peer-reviewed articles and several research-based books regarding the overlaps between engineering, architecture, and behavioral science. Professor Catherine Baritaud is a senior lecturer in the Department of Engineering & Society at the University of Virginia who will act as the STS advisor for the project. The remaining group members are Catherine Bunn, Emma Graham, and Alexander Partridge who are fourth-year undergraduate students at the University of Virginia. It is important to note that each group member will complete individual projects but will continue to meet weekly in order to share concepts related to behavioral design and find commonalities across projects. Figure 1 (p. 3) provides a Gantt chart that specifies the sequencing of major phases as currently anticipated.

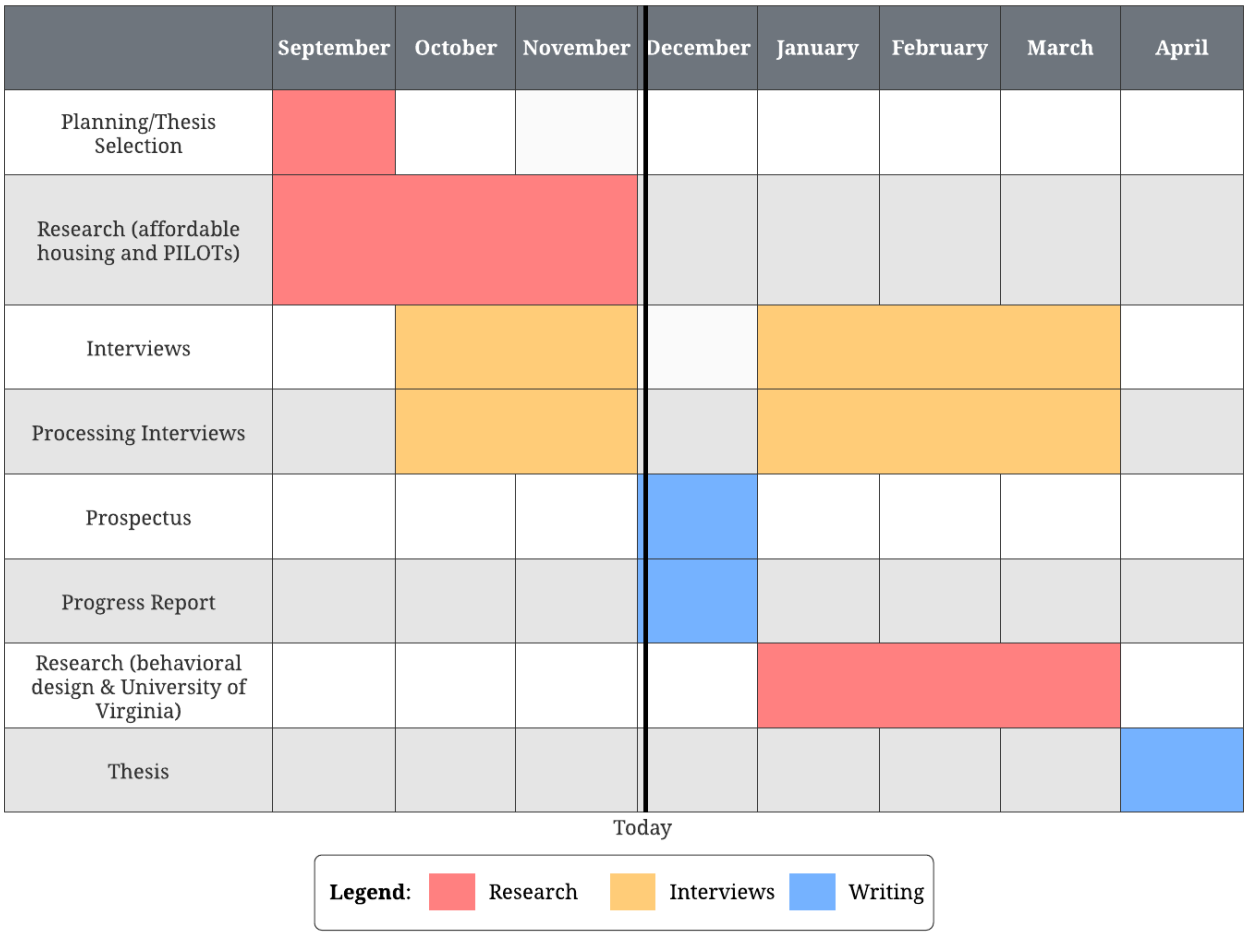

Figure 1: Project Scope and Timeline. Gantt chart showing all anticipated phases of the project and current progress. (Fruehwirth, 2021).

UVA-SPONSORED PAYMENT IN LIEU OF TAXES PROGRAM

As the largest employer in central Virginia and with properties conservatively estimated to be worth $1 billion, there is little doubt that the University of Virginia plays an integral role in Charlottesville's local housing trends (CLIHC, 2020, p. 50). Figure 2 provides a map of all UVA-owned and maintained properties within the City of Charlottesville in 2016 and serves to demonstrate UVA's extensive influence within the community.

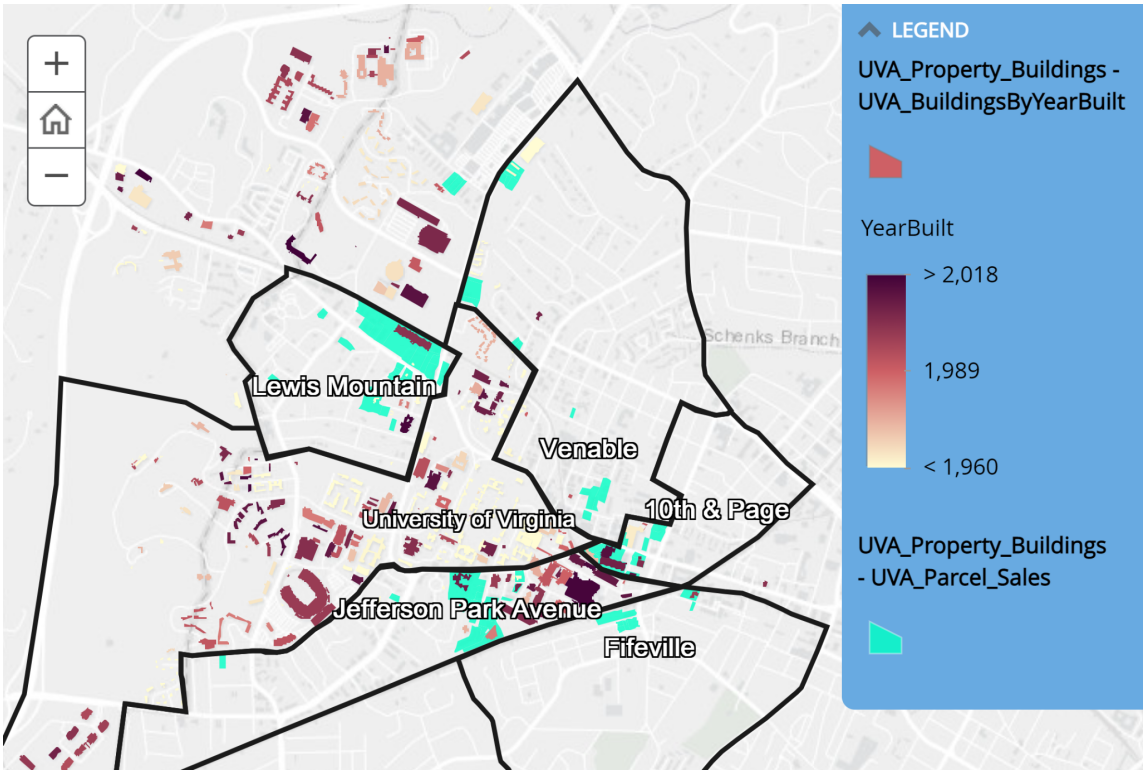

Figure 2: University of Virginia Parcel Sales in the City of Charlottesville. Recent expansion into the Fifeville and 10th and Page neighborhoods has caused concern among local residents. (Cameron et al., 2016).

The City of Charlottesville and the University of Virginia exist as fundamentally separate entities; however, this should not serve as justification for UVA to lay idle. By forcing upperclassmen students to reside in privately-owned housing, having a monopoly on the local real estate market, and not paying property taxes on its holdings by virtue of being a nonprofit institution, the University of Virginia has far too much influence on Charlottesville's affordable housing market to remain complacent.

In fairness, the University is aware of its impact, and in 2019, President Jim Ryan and the Board of Visitors made the historic decision to increase the minimum wage of all employees to $15 per hour (Hester, 2019). Furthermore, in early 2020, President Ryan established a goal to support the development of 1,000 to 1,500 affordable housing units in Charlottesville and

Albemarle County over the next decade on land owned by the University and the UVA Foundation (Hester, 2020). This will be done in conjunction with the City of Charlottesville's new Comprehensive Plan, which proposes to ease some of the zoning restrictions in an effort to encourage construction of more affordable housing in wealthier neighborhoods (Robertson, 2021). While this is certainly a step in the right direction, both approaches have the same underlying methodology: we can address the affordable housing crisis by outbuilding it. CLIHC (2021) demonstrates that, unless targeted specifically and carefully for extremely low-income residents, the construction of new buildings risks sending signals to the market that such neighborhoods are desirable for wealthier residents, thereby creating induced demand and further elevating the crisis (p.13).

Rather than an additive solution, one alternative approach is a UVA-sponsored Payment in Lieu of Taxes (PILOT) program. For this type of program, UVA would conduct a self-assessment of their real estate holdings and determine how much it would pay in taxes if it were not tax-exempt (Di Miceli, 2013, p. 836). It would then negotiate a portion of this amount to be donated annually to the Charlottesville Affordable Housing Fund (CAHF) with the City of Charlottesville. Similar programs have been implemented, relatively successfully, by other prominent universities, such as Harvard, Yale, University of Pennsylvania, Stanford, Boston College, Carnegie Mellon, and the University of Pittsburgh (CLIHC, 2020, p. 51). Figure 3 (p. 6) offers statistics of PILOT programs for nonprofit educational institutions in Boston during the 2009 fiscal year. Research for the thesis involves analyzing case studies of similar universities to determine which factors lead to a more successful PILOT program.

Institution	Exempt Value (FY2009) ($)	Property Tax Revenue if Taxable ($)	PILOT Amount ($)	PILOT as % of Revenue if Taxable
Educational Institutions				
Boston University	2,115,919,700	57,362,583	4,892,138	8.53
Harvard University	1,477,225,500	40,047,583	1,996,977	4.99
Suffolk University	237,230,300	6,431,313	375,290	5.84
Berklee College of Music	161,741,600	4,384,815	361,222	8.24
Boston College	561,952,500	15,234,532	293,251	1.92
Mass. College of Pharmacy	106,910,300	2,898,338	227,980	7.87
Tufts University	151,760,200	4,114,219	152,159	3.70
Emerson College	177,826,400	4,820,874	139,368	2.89
Showa Institute	54,718,800	1,483,427	120,966	8.15
Wentworth Institute of Technology	207,977,400	5,638,267	40,747	0.72
Northeastern University	1,351,225,100	36,631,712	30,571	0.08
Simmons College	152,572,500	4,136,240	15,000	0.36
New England Law Boston	15,888,500	430,737	13,125	3.05
Emmanuel College	165,162,000	4,477,542	0	0.00
Fisher College	16,719,000	453,252	0	0.00
Wheelock College	60,362,200	1,636,419	0	0.00

Figure 3: Estimated Property Tax Revenue if Taxable and PILOTs for Nonprofit Universities in Boston (FY 2009): Note that the PILOT as percent of revenue of taxable ranges from 0 to approximately 9%. Preliminary calculations conservatively assumed that the University of Virginia would pay 6% of revenue if taxable. (Kenyon & Langley, 2010, p. 23).

Kenyon and Langley (2010) explain that universities and hospitals provide "benefits to society, including reducing the services that need to be provided by the government," and in this way, are deserving of a tax subsidy (p. 10). However, the greatest tax savings go to nonprofits with the most valuable properties, not those that provide the most valuable services (Kenyon & Langley, 2016, p. 3). In addition, nonprofits should pay for public services they consume, such as police and fire protection, street maintenance, and snow removal. Otherwise, it falls upon local homeowners and businesses to pay more taxes in order to cover these costs (Kenyon & Langley, 2016, p. 3).

PAYMENT IN LIEU OF TAXES RISKS AND CHALLENGES

While PILOT programs are most effective for nonprofits that own large amounts of tax-exempt properties like the University of Virginia, there are arguments against PILOT programs which warrant consideration. As Kenyon and Langley (2010) discuss, since PILOTs are inherently voluntary payments, they can depend more on the aggressiveness of municipal officials rather than the actual property values (p. 32). In addition, PILOTs are often short-term agreements, which can leave towns uncertain that they will continue to raise sufficient revenue in the future. UVA could also elect to pass on the cost of these PILOTs to students by raising tuition or to staff members by cutting wages. There are strategies to alleviate these concerns, such as maintaining transparency with the whole community and ensuring the capital is directed towards a specific cause. However, if not vigilant, PILOTs can severely deteriorate the relationship between the university and the local community (Kenyon & Langley, 2010, p. 32).

CHARLOTTESVILLE AFFORDABLE HOUSING FUND

The Charlottesville Affordable Housing Fund (CAHF) was established in 2007 by the City of Charlottesville to provide a flexible funding mechanism for housing-related projects. The purpose of the CAHF is to provide housing services to low-income households, preserve and promote quality affordable housing options, and offer support for nonprofit organizations actively addressing the housing needs of the community (City of Charlottesville, n.d.). Not only does the CAHF promote new housing but they also help maintain the affordability of existing housing by providing housing vouchers and rental assistance programs to those in need. Currently, the majority of the funding derives from for-profit developers who pay to receive special use permits to build at higher density on their property per Virginia law (CLIHC, 2020, p. 11). Figure 4 (p. 8) shows the historical allocation to the CAHF from the City of Charlottesville.

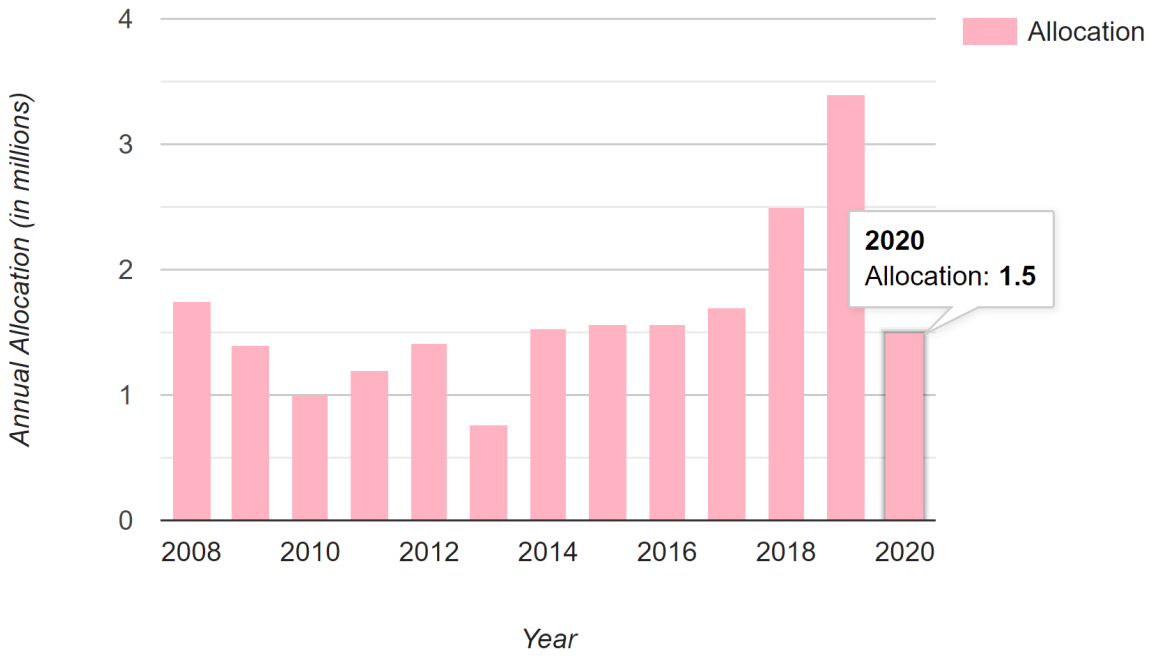

Figure 4: Annual Allocation to the Charlottesville Affordable Housing Fund. Data provided by the City of Charlottesville from 2008 to 2020. (Fruehwirth, 2021).

Preliminary calculations show that if UVA were to adopt a PILOT program similar to Harvard or Boston University as seen in Figure 3 (p. 6), they could reasonably provide approximately $3,000,000 per year to the CAHF, which is double the $1,500,000 allocated to it in 2020 as seen in Figure 4. A PILOT program between the University and the City of Charlottesville, therefore, has great potential to impact and alleviate the community. That being said, these calculations involved several major assumptions including the value of UVA's land, the property tax rate, and the percentage of forgone property tax that UVA would pay. In reality, this number would be determined using the level of reliance on the City's infrastructure systems and would have to be negotiated by the City of Charlottesville. Through conversations with UVA administrators and members of the UVA Foundation, I hope to eliminate some of these assumptions and reach a more accurate estimate of the total number.

The affordable housing crisis is a deeply complex and multifaceted socio-technical system involving many stakeholders. I cannot possibly hope to offer a concrete solution and deceive others into thinking this problem is easily solved. That being said, by conducting extensive research of existing literature in tandem with interviews of various stakeholders surrounding the issue, I intend on creating a discussion paper that examines the aforementioned problems. This discussion paper will assess how designers systematically default to looking for additive transformations at the expense of searching for subtractive or preservative solutions when trying to address the affordable housing crisis. Furthermore, the impact of the University of Virginia on Charlottesville's affordable housing crisis will be explored and a UVA-sponsored Payment in Lieu of Taxes program will be suggested as a possible, albeit incomplete, way to mitigate the problem.

ACTOR-NETWORK THEORY ANALYSIS OF CHARLOTTESVILLE HOUSING

Actor-Network Theory (ANT) is a framework of analysis in which all actors, whether human, non-human, and/or conceptual, exist in constantly changing networks of relationships (Law & Callon, 1988, p. 285). Notably, ANT posits that all relevant factors in the network are on the same level, and allows designers to explore the relational ties within a network. Johnson (n.d.) writes that "actor-network theory takes as its unit of analysis the systems of behavior and social practices that are intertwined with material objects" (p. 1792). Actor-Network Theory is not necessarily a "theory" in the traditional sense as it does not explain why or how a network was formed (Latour, 2005, p. 7) Instead, it serves as a methodology to thoroughly describe all relevant stakeholders in a social network. Applying an Actor-Network Theory framework can be useful when trying to grasp the social complexity of affordable housing markets. Figure 5 provides an ANT framework of the Charlottesville affordable housing climate.

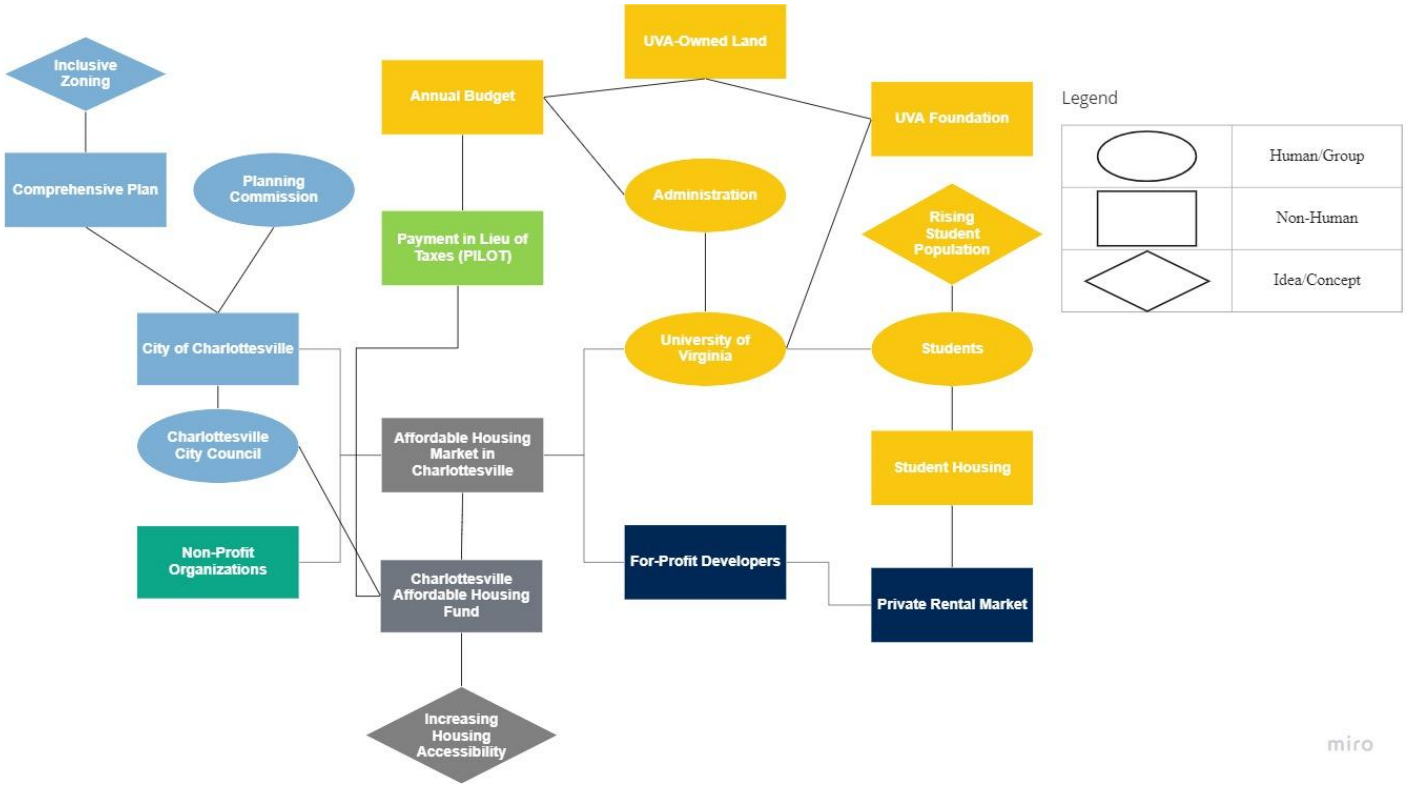

Figure 5: Charlottesville Affordable Housing Network: Consists of human and non-human actors as well as ideas or concepts. (Fruehwirth, 2021).

MAJOR ACTORS IN CHARLOTTESVILLE AFFORDABLE HOUSING NETWORK

There are multiple key actors involved in Charlottesville's affordable housing network, and as mentioned earlier, these actors do not exist in isolation from each other. First, the Charlottesville City Council is responsible for approving all housing developments and determines how much of the budget goes towards the CAHF each year. Another critical actor is nonprofit organizations, such as the Charlottesville Low-Income Housing Coalition, Habitat for Humanity, and the Piedmont Housing Alliance. For-profit developers, such as Woodard Properties, Management Services Corporation, and Education Realty Trust, are involved as they pay directly into the CAHF when building at higher densities. These for-profit developers are responsible for constructing large-scale apartments on underutilized land and brownfields along 14th Street and Wertland Street. For example, recent developments along West Main Street

including The Flats at West Village, The Lark, and The Standard have faced intense scrutiny for their proximity to 10th and Page's public housing complex built to house displaced Vinegar Hill residents (Cameron et al., 2016).

Higher taxes from wealthier student populations often force lower-income residents to move to more affordable areas, typically in surrounding counties, such as Albemarle, Buckingham, Fluvanna, Greene, and Nelson counties. Laidley (2014) used the term "studentification" to describe the trend often found in college towns where privately developed student housing displaces the long-time residents of the community (p. 753). As one resident explained, "I grew up in Charlottesville and I notice changes in racial makeup. Our neighborhood is becoming an extension of UVA" (CLIHC, 2020, p. 19). This practice of studentification helps explain some of the general animosity from Charlottesville residents towards UVA, which has been and will continue to be very challenging to overcome.

Moving further, there are the communities and neighborhoods who are impacted by this issue and must be involved in all phases of planning. Historically, voices from predominantly black neighborhoods have been given little consideration as seen when the City of Charlottesville razed Vinegar Hill and the University of Virginia destroyed Gospel Hill to make way for their expanding medical campus (CLIHC, 2020, p. 18). The University itself is a critical actor, and my solution is targeted towards them. Much literature and public awareness has been directed towards the Charlottesville City Council as they are directly responsible for setting the city-wide budget each year. However, relatively little attention has been directed towards UVA. The remainder of the STS research will involve studying the University's role in the affordable housing climate and continuing to map their social connections with other actors in the network.

THE ENGINEER: A CRITICAL LINK BETWEEN UVA AND THE COMMUNITY

The University of Virginia has far too much influence on the local affordable housing market to remain idle in Charlottesville's affordable housing crisis. By reading existing literature and conducting interviews with various stakeholders, I hope to broaden my perspective and contextualize a Payment in Lieu of Taxes program to the University of Virginia and the City of Charlottesville. The contextualization of the program will require a deep understanding of the social links within Charlottesville's affordable housing network, which can be accomplished by using an actor-network framework of analysis. Engineers have the ability and power to alleviate the affordable housing crisis, but change starts with the sincere recognition that this is not, nor will it ever be, a purely technical problem.

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