

**THE IMPACT OF THE UNIVERSITY OF VIRGINIA ON THE AFFORDABLE
HOUSING CRISIS IN CHARLOTTESVILLE, VIRGINIA**

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By

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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.

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From towering student housing developments along West Main Street to colonial-style homes lining Rugby Road, Charlottesville's housing market appears to be flourishing. However, the growing number of luxury residence options and single-family homes stand in stark contrast to the rapidly declining availability for lower-income families to find affordable housing in Charlottesville. The City of Charlottesville found that 3,318 households have unmet housing needs, with an estimated 4,020 families who could not afford housing in 2040 if current trends continue (Charlottesville Low-Income Housing Coalition [CLIHC], 2020, p. 9). Furthermore, Schuyler (2021) determined that an average family consisting of one working parent and two children would need to earn at least \$46,450.59 each year just to afford the basic necessities of life in Charlottesville (p. 28). To put this into perspective, a full-time worker making minimum wage would earn \$15,080 per year, which could not cover housing costs, let alone all other costs of living.

The affordable housing crisis is a deeply complex and multifaceted socio-technical system involving hundreds of stakeholders that interact in a myriad of ways. One cannot possibly hope to offer a sweeping solution and deceive others into thinking this problem is easily solved. That being said, extensive research of existing literature paired in tandem with personal interviews of various stakeholders provide the basis necessary for this report whose aim is to shed light upon the University of Virginia's impact on the affordable housing crisis in Charlottesville. An alternative solution, a UVA-sponsored Payment in Lieu of Taxes program, is proposed as a way to expand on the University's current housing initiative and mitigate the affordable housing crisis for extremely and very low-income families in Charlottesville.

Professor Leidy Klotz is the Copenhaver Associate Professor in the Department of Engineering Systems and Environment at the University of Virginia who served as the technical

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HISTORY OF CHARLOTTESVILLE’S URBAN PLANNING POLICIES

In Charlottesville, as in most cities around the country, affordable housing is inextricably linked to the fight for racial justice. These problems did not occur incidentally nor did they occur overnight. The blatantly racist segregationist policies, racial covenants, racial zoning masked as single-family zoning, and urban renewal practices throughout the 1900s are all directly responsible for the issues that plague Charlottesville today. In August 2017, white supremacists in Charlottesville horrified the nation with a vulgar display of racism and demonstrated what anyone familiar with these issues already knew – this is far from over. The ensuing paragraphs provide a brief timeline of Charlottesville’s housing policies that are paramount to understanding in order to contextualize the current affordable housing landscape.

In 1912, the Charlottesville City Council overrode a mayor’s veto and unanimously passed an ordinance prohibiting racial mixing in residential areas (CLIHC, 2020, p. 21). Although the United States Supreme Court ruled five years later that explicitly racist segregation laws were illegal in *Buchanan v. Warley*, the ordinance created a demographic map that provided the blueprint for future segregation in Charlottesville (Rothstein, 2017, p. 46). Following this decision, Charlottesville increased the use of racial covenants, which prevented the sale of certain properties to non-white individuals. These covenants effectively tied home equity to race and served as mechanisms for institutional racism that perpetuated for generations (CLIHC,

2020, p. 22). Interviews with long-term residents also indicate that Charlottesville upgraded infrastructure and utilities, such as water and sewer lines, paved streets, and maintained electric and telephone lines in white neighborhoods while ignoring petitions to do the same in black neighborhoods (Adel, 2019). From 1920 to 1950, hundreds of homes were built around Charlottesville, creating many predominantly white neighborhoods that still make up the vast majority of Charlottesville's single-family housing stock.

Once the Supreme Court declared the enforcement of racial covenants as unconstitutional in 1948, Charlottesville aimed to achieve segregation through a different name: single-family zoning. Harland Bartholomew, once a prominent civil engineer and urban planner who was the mastermind behind Newark, St. Louis, and Memphis among other American cities, was hired to form Charlottesville's first Comprehensive Plan. Ostensibly enacted to promote the "elimination of slums, traffic congestion, and inadequate parking," Bartholomew's true motivations were to "prevent movement into 'finer residential districts... by colored people'" (Rothstein, 2017, p. 49). Bartholomew used a labyrinth of zoning, homeownership financing, and covenants to achieve his supposed ideal vision. White neighborhoods were zoned with large, single-family lots while restrictions concentrated development of industry in historically black neighborhoods, thereby forcing black communities to bear the brunt of density and environmental repercussions.

Restricting home construction to one dwelling per lot created an economic barrier to black people who often needed to borrow money at higher interest rates and from less reliable sources than their white counterparts (CLIHC, 2020, p. 24). This economic discrimination was a major force in preventing black homeownership and the accumulation of intergenerational wealth, which are often recognized as determinants in keeping certain groups in poverty. Bartholomew's exclusionary approaches have since been discredited; however, the land-use map

he created has not changed significantly from his original designs and his impact on the current landscape of Charlottesville cannot be overstated. Figure 1 below shows Harland Bartholomew's first comprehensive plan proposal to the City Council in 1957.

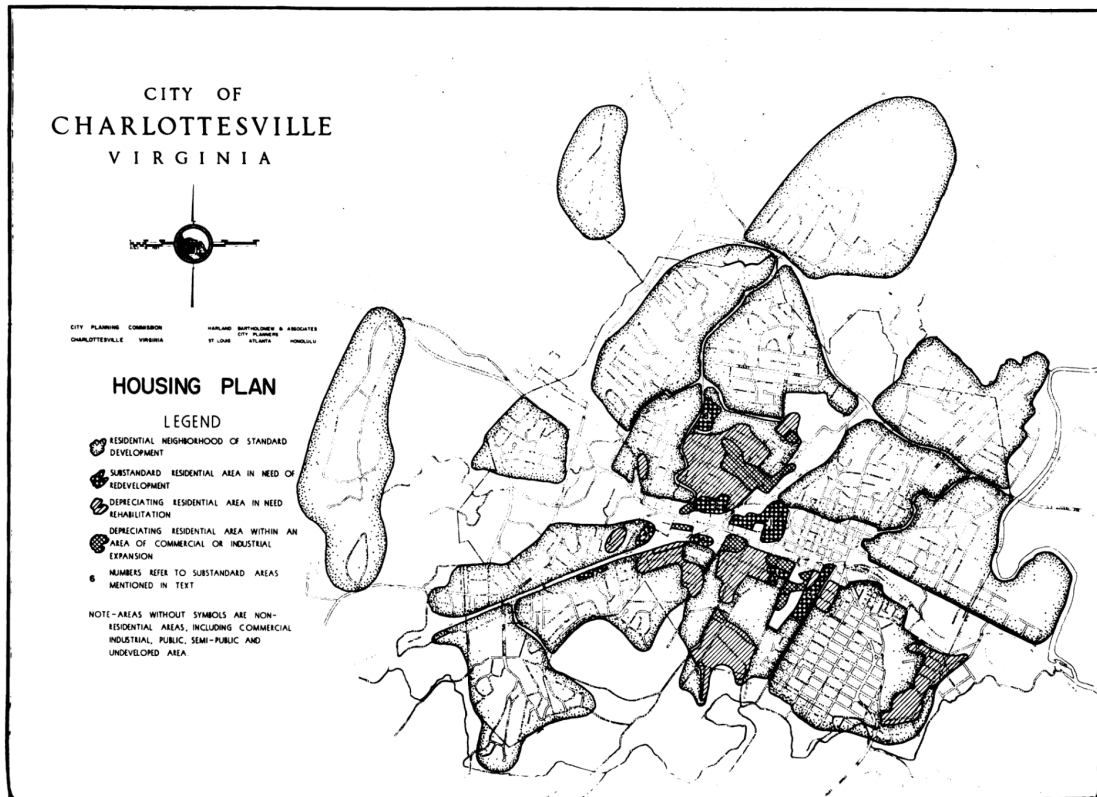


Figure 1: Harland Bartholomew's Original Proposal to the Charlottesville City Council for the First Comprehensive Plan. Areas in need of "redevelopment" or "rehabilitation" as marked by the shaded zones were almost entirely historically black neighborhoods (Harland Bartholomew & Associates, 1957, p. 58).

Feeling his work during the 1950s was incomplete, Harland Bartholomew then set his sights on disrupting existing black communities in Charlottesville. The former engineer advised the City Council to cut new roads through predominantly black neighborhoods, which set the stage for the utterly devastating urban renewal policies of the 1960s. In 1964, the City of Charlottesville razed Vinegar Hill, a predominantly black neighborhood, which displaced about 500 people from their houses and destroyed numerous black-owned businesses in the process

(CLIHC, 2020, p. 28). The cleared land sat empty for almost 20 years, a visible representation of the racist ideologies held by local urban planners and the Charlottesville City Council. Since 1990, the areas originally reserved for white families have largely remained as such, and neighborhood associations fight changes to the contrary.

So, where does UVA fit in all of this? Are they innocent of the displacement and gentrification of black communities in Charlottesville? No. In the 1960s, UVA bought up land for its expanding medical campus in a historically black neighborhood called Gospel Hill. Documents from this time period demonstrate that UVA neglected input from Gospel Hill residents who opposed the development (Yager, 2017). Figure 2 illustrates how UVA was able to silently erase the Gospel Hill neighborhood off the map over several decades to make way for their own endeavors.



Figure 2: Aerial View of the Gospel Hill Neighborhood in 1964 (Left) and 2016 (Right). Over the course of several decades, predominantly black residents were pushed out of their homes against their will to make way for UVA’s expanding medical campus. (Cameron et al., 2018).

The impact of these racist housing policies can still be readily felt to this day. The median income of black households grew 86% less than that of white households from 2000 to 2018 and black residents are more than three times as likely to report housing costs as unaffordable compared to white residents (CLIHC, 2020, p. 13, 19). Almost all current solutions relating to

Charlottesville's affordable housing crisis are fixated on constructing, or adding, housing to the community. Within the past five years, the City of Charlottesville has been trying to ease zoning restrictions in an effort to encourage construction of more affordable housing in wealthier neighborhoods (Robertson, 2021). In addition, the University of Virginia has committed to constructing 1,000 to 1,500 affordable housing units in Charlottesville and Albemarle County by 2030 (Hester, 2020). While these are certainly steps in the right direction, both approaches have the same underlying methodology: we can address the affordable housing crisis by outbuilding it. However, 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).

Much literature and public awareness surrounding affordable housing has been directed towards the Charlottesville City Council and local non-profit organizations, but comparatively little has yet to be written about the University of Virginia. As such, the following section analyzes how the University directly impacts the local housing market and explains how their current housing initiative, albeit positive for the community, is incomplete.

UNIVERSITY OF VIRGINIA'S IMPACT ON AFFORDABLE HOUSING

As the largest employer in central Virginia and with properties estimated at over \$4 billion, there is little doubt that the University of Virginia plays an integral role in Charlottesville's local housing trends. By forcing upperclassmen students to reside in privately-owned off-campus housing, having a monopoly on the local real estate market, and not paying property taxes on the majority of their holdings, UVA plays such an integral role in

Charlottesville's local housing trends that they cannot possibly remain idle. If they do so, then future generations will suffer from the same problems that afflict Charlottesville today.

PRIVATELY-OWNED OFF-CAMPUS STUDENT HOUSING

Approximately 13,000 students live in privately owned apartments and homes, accounting for an estimated 25% of the rental units in the City of Charlottesville and Albemarle County combined (U.S. Dept. of Housing and Urban Development, 2019, p. 11). This number continues to rise as UVA admits more and more students but fails to provide enough upperclassmen housing to accommodate this demand. The lack of student housing has allowed luxury apartments to emerge with little consideration for surrounding residents. For example, recent developments along West Main Street including The Flats at West Village, the Lark, and the Standard, have faced intense scrutiny for spiking rents in the nearby Fifeville and 10th & Page neighborhoods. Figure 3 on page 8 highlights the difference between Charlottesville's private rental market in 1994 and 2016.

Currently, UVA requires all first-year students to live on-Grounds; however, in recent years, the University has strongly considered requiring all second-years to do the same. In 2016, the University had 6,540 beds in its housing system, with 43% of second-year students and 14% of third-year students electing to live on-Grounds (Tubbs, 2016). Two upperclassmen residence halls are now being constructed along Brandon Avenue that will offer 500 more beds to the housing system; however, UVA will need to invest a significant amount of time and capital if they truly wish to house all second-year students (Perkins+Will, 2016, p. 7). Only time will tell if the University is willing to allocate these resources, but this proposal certainly has the opportunity to relieve some of the demand in the local rental market generated by students.



Figure 3: Charlottesville Private Rental Market Comparison. Left (1994) shows underutilized land and brownfields that are now occupied by luxury apartment developments shown on right (2016). (Cameron et al., 2018).

Higher rental rates 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. Smith (2004) coined the term “studentification” to describe this trend often found in college towns where privately developed student housing displaces the long-time residents of the community (p. 74). Areas characterized by studentification often lead to rapid changes in demographics that can have potentially destabilizing effects on community composition and cohesion (Laidley, 2014, p. 753). The consequences of studentification helps to explain some of the general animosity from Charlottesville residents towards UVA, which has been and will continue to be very challenging to overcome.

It is important to note that the impact of privately-owned student housing on the surrounding housing market is heavily debated as it is difficult to pinpoint an exact cause for a general rise in rental rates. As McKee (2018) writes, “these complexes should alleviate student pressure on the wider rental market, which over time will at least slow the rate of rent increase in

the remaining housing supply” (p. 210). This argument aligns closely with “trickle down” housing theories, which contend that building more housing at the upper end of the market will increase the availability of affordable housing at the lower end of the market. However, the housing market rarely works like this. As CLIHC (2021) explains, housing is, in reality, heavily segmented so it does not behave in accordance with the traditional supply and demand theory of other markets (p. 12). Rather than everyone “leveling up” when more luxury housing is developed, the increased supply of higher priced units will likely attract a greater number of wealthy residents to Charlottesville, thereby exacerbating the problem.

MONOPOLY ON LOCAL REAL ESTATE MARKET

The University itself acts as a giant real estate broker, holding more land in the Charlottesville area than any other stakeholder besides the City itself (Cameron et al., 2018). The UVA Foundation typically purchases land for significantly more than it is currently worth and holds onto it for decades, effectively eradicating all competition and negating any other possible land uses in the area at the time. This practice is known as “land-banking” as described by Tim Rose, the former CEO of the UVA Foundation: “we buy the land, stick it in the ‘bank,’ and let it sit until that time when UVA needs it for some other purpose” (McNair, 2012). Since the University’s timescale is far longer than any other stakeholder and it has far more resources than any other economic force in the region, UVA maintains free reign over the real estate market in the immediate vicinity (Dunkelbarger et al., 2020).

An example of UVA engaging in aggressive land-banking practices is, as meticulously detailed by Dunkelbarger et al. (2020) in their report *Land and Legacy*, the Emmet/Ivy Corridor. This stretch of land connects central Grounds to northern Charlottesville, and is the site of major redevelopment efforts led by the University. Since 1983, UVA and the UVA Foundation have

made numerous purchases along this corridor, including “the Cavalier Inn, the Villa Diner, and the building that used to be the restaurant Buddy’s, a site of numerous sit-ins during the civil rights era” (Dunkelbarger et al., 2020). Records show that several property owners were adamantly interested in holding out, but this did little to discourage UVA. They reached into their seemingly endless pockets and paid these owners an exorbitant amount of money, including offering \$6 million for the EconoLodge along Emmet Street in 2008. (Dunkelbarger et al., 2020). For reference, the City of Charlottesville assessed this property at \$1.94 million in 2008 according to GIS records. The Emmet/Ivy corridor is currently being developed to house the 60,000 square-foot School of Data Science along with a 223,000 square-foot hotel and conference center (Hall, 2020).

The University’s extensive and growing influence within the community is frequently met with intense opposition from existing residents. As one long-time community member lamented, “I grew up in Charlottesville and I notice changes in racial makeup. Our neighborhood is becoming an extension of UVA” (CLIHC, 2020, p. 19). In fairness, the University is not alone in this endeavor as numerous other colleges throughout the country have used real estate to make up for a consistent drop in state funding during the past few decades. Figure 4 on page 11 shows the University of Virginia’s state appropriations as a percentage of operating budget since 1990. To a certain extent, the University’s hands are tied and land-banking serves as a reliable long-term investment strategy to offset a consistent decrease in state funding.

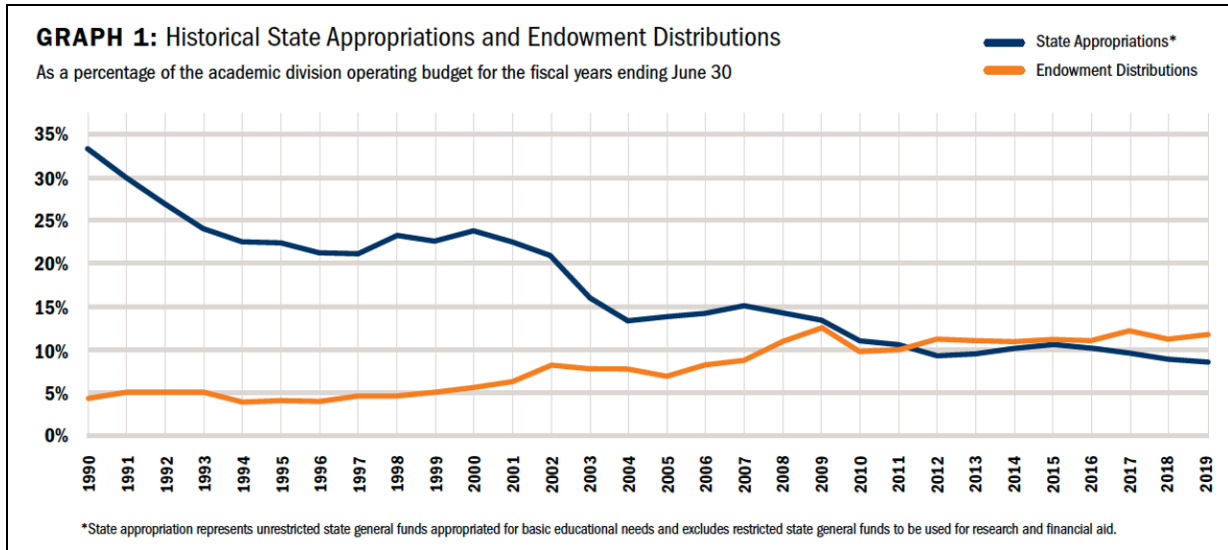


Figure 4: Historical State Appropriations and Endowment Distributions at the University of Virginia from 1990 to 2019. Blue represents State appropriations and orange represents endowment distributions. (University of Virginia Investment Management Company, 2019, p. 7).

NON-PROFIT PROPERTY TAX STATUS

Perhaps their most significant impact on the housing market, however, is realized through their status as a non-profit institution. By virtue of being a non-profit organization, UVA does not pay property taxes on the vast majority of their land holdings. Kenyon and Langley (2010) explain that universities 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, this exemption is imprecise as it primarily benefits nonprofits with the most valuable landholdings, especially universities, not those providing the greatest public benefits. Furthermore, UVA depends critically upon the infrastructure maintenance, fire and police services, and sewer and stormwater management services funded by Charlottesville’s taxpayers. They do so while contributing very little *directly* to the City’s budget, with the exception of a few isolated cases as outlined below.

In 2021-2022, the City of Charlottesville collected \$74,476 in “service charges,” \$63,801 in “property maintenance charges,” and \$353,000 in fire protection services from the University,

accounting for a total of \$491,277 (City of Charlottesville, 2021, p. 48). Furthermore, Albemarle County's fiscal year 2022 budget includes a \$170,777 payment "from the State for service charges incurred by the University of Virginia in lieu of property taxes," and notes a joint agreement between the County and the University to decommission the Ivy Landfill (County of Albemarle, Virginia, 2022, p. 50, 194). These payments demonstrate that the University is willing to think proactively about investing in the community; however, as McKee (2018) explains, these payments account for a very small fraction of the total taxable value of UVA's properties (p. 207).

The University would almost certainly refute their need to pay property taxes by pointing to the remarkable amount of economic revenue they produce for the entire central Virginia region. Indeed, the University generated \$600 million in direct economic impact, \$1 billion in indirect and induced economic impact as well as 11,391 directly created jobs and 9,179 indirect and induced jobs in 2016 (McKee, 2018, p. 207-208). These numbers are compelling and it goes without saying that the entire Thomas Jefferson Planning District commission area, which includes the City of Charlottesville, Albemarle, Fluvanna, Green, Louisa, and Nelson counties, benefits enormously from the University's presence. However, it is critical to consider who this economic impact truly benefits. The University serves the region, the state, and even the country, but they do little to address the crippling effects of racism and poverty on their own doorstep. Overall economic impact and student volunteerism "have not and will not be enough to resolve these nearby problems" (McKee, 2018, p. 208).

In recent years, President Ryan and the University have demonstrated an increased awareness of their growing impact on the immediate Charlottesville community. The ensuing section outlines the status of their current affordable housing initiative to address these issues.

UNIVERSITY OF VIRGINIA'S AFFORDABLE HOUSING INITIATIVE

In March 2020, President Jim Ryan announced a goal to support the development of 1,000 to 1,500 affordable housing units over a decade on land owned by UVA or the UVA Foundation (Hester, 2020). An audacious goal, this was one of five main pieces in President Ryan's overarching aim to become a 'Great and Good University.' Aware of their inexperience and past transgressions with influencing the local housing market, UVA hired an outside consultant, Gina Merritt of Northern Real Estate Urban Ventures, who has significant technical expertise and experience with engaging local communities throughout the development process. For the past two years, Gina Merritt and UVA have met with individual community members and representatives from more than forty local organizations, including city and county representatives, community stakeholders, and community groups engaged in work related to affordable housing (Teahan, 2021). On December 14, the University publicly announced the location of three sites for these affordable housing units, which are depicted below in Figure 5.



Figure 5: UVA or UVA Foundation Sites for Affordable Housing Initiative. From left to right: the Piedmont community off Fontaine Avenue, 1010 Wertland Street, and portions of North Fork UVA discovery park on US 29 North. (Entzminger, 2022).

The University has consistently maintained that their contribution to this process will be limited to the land and human capital itself, indicating that a private developer will be needed to fund the cost of construction and maintenance of these properties. Fronting the cost of land is significant, especially in Charlottesville, and it will hopefully incentivize developers to design for lower income brackets.

One concern that warrants consideration is who these developments will target once they are constructed. The University has announced that they will retain ownership of the land once these properties are constructed, which has raised criticism from some in the community who question the long-term affordability of these units (Entzminger, 2022). As Michael Payne, a Charlottesville City Councilor expressed, “our biggest need, and the most difficult affordable housing to build, is having units at 0 to 30 percent AMI” (Coleman, 2022). The AMI, or area median income, in 2020 was \$93,900 for a family of four in Charlottesville (Lucas, 2020).

Private developers are often constrained to design affordable housing for low-income households (50-80% AMI) in order to make any economic profit on their developments. As a result, very low-income (30-50% AMI) and extremely low-income (0-30% AMI) households can get squeezed out of the market because private developers simply cannot afford to build new housing for them. Despite having the greatest need, these families often have nowhere to turn and must search for alternative solutions to pay their rent.

UVA-SPONSORED PAYMENT IN LIEU OF TAXES PROGRAM

One such opportunity that a growing number of universities have adopted is a 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). The University would then negotiate a portion of

this amount to be donated annually to the City of Charlottesville. Similar programs have been implemented, to varying levels of success, by other prominent universities, such as Harvard, Yale, Pennsylvania, Stanford, Boston College, and Carnegie Mellon (CLIHC, 2020, p. 51). Typically, universities in PILOT programs donate between 5 and 10 percent of their forgone property taxes (Kenyon & Langley, 2010, p. 30).

Figure 6 below summarizes the University of Virginia’s land holdings in the City of Charlottesville and Albemarle County in 2021, which was aggregated from over 300 University-owned properties on GIS. Notably, the University avoids paying approximately \$36.56 million per year in property taxes to the City of Charlottesville and Albemarle County. To put this into perspective, the entire annual budget of the City of Charlottesville in 2022 is \$192 million, so UVA’s tax exemption status is worth an astounding 20% of the City’s budget (City of Charlottesville, 2021). Assuming the University would enact a 10% PILOT program similar to other universities, they could donate \$3,655,890 per year to the Charlottesville City government. The question becomes, then, where should this money go?

	City of Charlottesville	Albemarle County	Total
Total Land Value	\$1,616,543,200.00	\$2,729,211,704.00	\$4,345,754,904.00
Taxable Property Value	\$49,102,300.00	\$191,950,154.00	\$241,052,454.00
Exempt Property Value	\$1,567,440,900.00	\$2,537,261,550.00	\$4,104,702,450.00
Property Tax Rate	0.95%	0.85%	-
Exempt Property Taxes	\$14,890,688.55	\$21,668,213.64	\$36,558,902.19

Figure 6: Land Holdings for the University of Virginia in 2021 by Jurisdiction. Calculations demonstrate how the value of exempt property taxes were determined. (Fruehwirth, 2022).

CHARLOTTESVILLE SUPPLEMENTAL RENTAL ASSISTANCE PROGRAM

One way to specifically alleviate extremely low-income residents in Charlottesville is to direct this capital towards the Charlottesville Supplemental Rental Assistance Program (CSRAP). Designed to target extremely low-income to low-income households, the CSRAP was

renewed by the City Council in 2021 and provides housing vouchers to those who need help paying rent in the City of Charlottesville. With a budget of \$900,000 in 2021, CSRAP was able to provide funding for 70 households, 35 of which were considered homeless before they entered the program (Bixby, 2021). Individuals in this program are expected to contribute no more than 30% of their monthly income to their rent while the subsidy covers the remaining amount (O'Hare, 2021). According to John Sales, the executive director of the CRHA, there are 122 families on the waiting list to receive CSRAP assistance, with likely hundreds more who would join if funding increased (Bixby, 2021). The only barrier to the CSRAP, therefore, is their budget.

For the purposes of this report, an average family can be assumed to receive \$12,857 from the CSRAP, as calculated by dividing \$900,000 across 70 families. This is, of course, a flawed assumption as each family would receive varying amounts from the CSRAP depending on their monthly income. Regardless, with an additional \$3,655,890 to the CSRAP, the University of Virginia could directly supplement the rent of an estimated 284 *additional* extremely low-income to low-income families in Charlottesville per year. This allocation to the CSRAP would completely eliminate the current waiting list, and remaining funds could be directed towards a similar housing voucher program in Albemarle County.

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). For instance, the University of Pittsburgh recently canceled their PILOT program with the City of Pittsburgh in 2021 due to mounting disputes over PILOT payments which worsened the relationship between the two entities (Mayo, 2021).

Another challenge worth consideration is the Dillon Rule, which mandates that local governments in the State of Virginia can only exercise powers expressly granted to them by the State (Writ, 1989, p. 2). If in effect, the Dillon Rule could significantly delay the process of establishing a PILOT program between UVA and the City of Charlottesville. However, it is unlikely the Dillon Rule would impact this situation so long as the University *voluntarily* provides payments to the City of Charlottesville. The existence of the aforementioned smaller-scale PILOT programs with the City of Charlottesville and Albemarle County also suggest that the University may be able to bypass the Dillon Rule. Nevertheless, the definition and application of the Dillon Rule is intricate and would likely require further consultation with the City of Charlottesville.

On a higher level, if UVA were to supply the CSRAP with \$3.65 million per year, it is unclear exactly how the affordable housing market would react. There is a risk that, with an increased number of people who can suddenly afford their rental payments, landlords would elect to raise rents on their properties. This issue ties directly into the larger challenge at hand — very few case studies of PILOT programs dedicated specifically towards affordable housing

exist. If UVA were to adopt a PILOT program that targeted local housing issues, they would be one of the very first universities to do so. That being said, this risk can translate into monumental success as UVA could become a role model for other schools around the country to follow.

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. It is recommended that the University strongly consider implementing a Payment in Lieu of Taxes program with the City of Charlottesville. A PILOT program that specifically targets extremely and very low-income families paired in conjunction with their current initiative to construct 1,000 to 1,500 affordable housing units would allow the University of Virginia to truly alleviate the 3,318 households who cannot afford housing in our community.

In interviews with 129 low-income residents in Charlottesville, CLIHC (2020) found that people heavily 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). This must come from an understanding that this is not, nor will it ever be, a purely technical problem. The history of racist urban planning policies and discriminatory zoning practices are directly responsible for the current situation and demonstrate that affordable housing is truly a socio-technical problem.

The University of Virginia is at a critical point – it can either maintain the status quo and perpetuate the effects of gentrification or it can choose to accept social responsibility and address racial inequities within its own community. This report, hopefully, will serve to steer the University towards the latter.

REFERENCES

- Adams, G. S., Converse, B. A., Hales, A. H., & Klotz, L. E. (2021). People systematically overlook subtractive changes. *Nature*, 592(7853), 258–261. <https://doi.org/10.1038/s41586-021-03380-y>
- Adel, C. (2019, January 23). Zoned out: How neighborhood associations and zoning regulations have shaped our city. *Cville*. <https://bit.ly/3y2wn93>
- Bixby, G. (2021, May 18). City council renews supplemental rental assistance program agreement. *The Daily Progress*. <https://bit.ly/3qwodRz>
- Cameron, B., Feldenkris, M., & Arnold, A. (2018, May). Housing the University: Student housing and displacement in Charlottesville, Virginia. <https://bit.ly/3E8FK6T>
- Cameron, B., Feldenkris, M., & Arnold, A. (2018, May). *Aerial View of the Gospel Hill Neighborhood in 1964 (Left) and 2016 (Right)*. [Figure 2]. Housing the University: Student housing and displacement in Charlottesville, Virginia. <https://bit.ly/3E8FK6T>
- Cameron, B., Feldenkris, M., & Arnold, A. (2018, May). *Charlottesville Private Rental Market Comparison*. [Figure 3]. Housing the University: Student housing and displacement in Charlottesville, Virginia. <https://bit.ly/3E8FK6T>
- Charlottesville Low-Income Housing Coalition. (2020, February). *The impact of racism on affordable housing in Charlottesville*. <https://bit.ly/311BhEV>
- Charlottesville Low-Income Housing Coalition. (2021, April). *Why building more market-rate housing will not solve Charlottesville's housing crisis*. <https://bit.ly/3jzNpmU>
- City of Charlottesville. (2021). Operating and capital improvement budget. <https://bit.ly/36nNPsE>
- Coleman, A.-P. (2022, February 19). As city wrestles with budget, councilor looks to UVA's property taxes. *CBS19News*. <https://bit.ly/37K5vzm>
- County of Albemarle, Virginia. (2022). FY adopted budget. <https://bit.ly/37TEWsb>
- Di Miceli, M. F. (2013). Drive your own PILOT: Federal and state constitutional challenges to the imposition of payments in lieu of taxes on tax-exempt entities. *Tax Lawyer*, 66(4), 835-872.
- Dunkelbarger, J.S., Kenaston, C.S., Roth-Rowland, N., Nest, L.V., Wells, C.D. (2020, July). Land and legacy. *University of Virginia Library, Scholars' Lab*. <https://landandlegacy.scholarslab.org/>
- Entzminger, B. (2022, January 26). Moving in: UVA wants to build more affordable housing. Where should it go? *Cville*. <https://www.c-ville.com/moving-in>

- Entzminger, B. (2022, January 26). *UVA or UVA Foundation Sites for Affordable Housing Initiative*. [Figure 5]. Moving in: UVA wants to build more affordable housing. Where should it go? *Cville*. <https://www.c-ville.com/moving-in>
- Fruehwirth, R. (2022). *Land Holdings for the University of Virginia in 2021 by Jurisdiction*. [Figure 6]. *STS Research Paper: Actor-network theory analysis of Charlottesville housing* (Unpublished undergraduate thesis). School of Engineering and Applied Science, University of Virginia. Charlottesville, VA.
- Hall, S. (2020). Emmet-Ivy Corridor takes shape. *Virginia Magazine*. <https://bit.ly/3vY09sX>
- Harland Bartholomew & Associates, & Charlottesville (Va.) (1957). *Harland Bartholomew's Original Proposal to the Charlottesville City Council for the First Comprehensive Plan*. [Figure 1]. A Preliminary Report Upon Housing, Charlottesville, Virginia: Prepared for the City Planning Commission by Harland Bartholomew and Associates. Atlanta, Ga: Harland Bartholomew and Associates.
- Hester, W. (2020, March 10). Uva announces affordable housing goal. *UVA Today*. <https://bit.ly/3vWkvm1>
- Kenyon, D. A., & Langley, A. H. (2010). Payments in lieu of taxes: Balancing municipal and nonprofit interests. *Lincoln Institute of Land Policy*. <https://bit.ly/3BeAKf9>
- Laidley, T. M. (2014). The privatization of college housing: Poverty, affordability, and the U.S. public university. *Housing Policy Debate*, 24(4), 751-768.
- Leydens, J. A., & Lucena, J. C. (2017). Engineering justice: Transforming engineering education and practice. *Wiley*.
- Lucas, K. (2020, April 22). 2020 Area Median Income. *Piedmont Housing Alliance*. <https://bit.ly/36ilEMi>
- Mayo, B. (2021, June 26). No payment in lieu of taxes from Pittsburgh nonprofit property owners, despite OnePGH deal. *WTAE*. <https://bit.ly/380gdSX>
- McNair, D. (2012, April 19). Land banking: It's always a buyer's market for Uva. *The Hook*. <https://bit.ly/3ktzgrv>
- Nelson, L. P., Harold, C. N., & McKee, G. (2018). Race, place, and the social responsibilities of UVA in the aftermath of August 11 and 12. In *Charlottesville 2017: the legacy of race and inequity* (pp. 268–273). essay, University of Virginia Press.
- O'Hare, E. (2019, July 19). Housing voucher programs are integral to housing affordability. Here's how they work locally. *Charlottesville Tomorrow*. <https://bit.ly/3s8Lj1D>
- Perkins+Will. (2016, November). *Brandon Avenue Master Plan*. University of Virginia. <https://bit.ly/383udLw>

- Robertson, C. (2021, August 1). A fight over zoning tests Charlottesville's progress on race. *The New York Times*. <https://nyti.ms/2Znexia>
- Rothstein, R. (2017). *The Color of Law: A Forgotten History of How Our Government Segregated America*. New York, NY: Liveright Publishing Corporation, a division of W.W. Norton & Company.
- Schuyler, R. (2021, January 20). Orange Dot Report 4.0. *Piedmont Virginia Community College*. <https://bit.ly/3IxgIzV>
- Smith, D. P. (2004). 'Studentification': the gentrification factory? In R. Atkinson & G. Bridge (Eds.), *Gentrification in a Global Context* (pp. 73–90). essay, Routledge.
- Teahan, J. (2021, December 14). UVA announces three potential sites for local housing development. *UVA Today*. <https://bit.ly/3qC36NF>
- Tubbs, S. (2016, February 19). Consultant recommends new dorm for upper-class UVA students. *Charlottesville Tomorrow*. <https://bit.ly/3KCdr3B>
- University of Virginia Investment Management Company. (2019). *2018-2019 annual report*. <https://bit.ly/3vw2tbo>.
- U.S. Department of Housing and Urban Development. (2019). Charlottesville, Virginia Comprehensive Housing Market Analysis. <https://bit.ly/3wMBz0f>
- Writ, C. (1989). Dillon's Rule. *Virginia Town & City*, 24(8), 12-15. <https://bit.ly/3D9TsHd>
- Yager, J. (2017, December 1). A new page: Longtime 10th and Page residents are seeing a shift in the neighborhood. *Cville*. <https://bit.ly/3vuNrCT>